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Does Rural–Urban Migration Improve Employment Quality and Household Welfare? Evidence from Pakistan

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Abstract: Urban migration unlocks new employment opportunities for rural dwellers in a productive manner. This study assessed the quality of employment of migrant workers, and its effect on rural households' welfare. To this end, we used primary data collected from the four major districts of Lahore, Gujranwala, Faisalabad, and Sialkot in Punjab, Pakistan. These data include 504 immigrant and non-immigrant families in rural areas, and 252 migrant workers in urban destinations. We use IV probit and two-step sequential estimation methods for the empirical analysis. The study provides new insights for migration in Pakistan. First, migrant workers are better off in their new urban settings in terms of improved incomes and living conditions, but their social protection status is still poor. Second, the results of the employment quality models show that migration is a successful strategy for rural households to improve the quality of their employment. In addition, the characteristics of migrants and native households affect the relative improvement in the quality of employment and migrants' conditions. Third, the results of the propensity score matching technique suggest that migration has a positive impact on rural households' income, and these impacts are more pronounced in large cities. Based on the findings, the study recommends that the government should invest in quality education in rural areas, and ensure that social security schemes are provided for migrant workers in urban areas.

Keywords: rural–urban migration; employment quality; sustainable development; rural planning; household welfare; Pakistan

1. Introduction

The nexus between migration dynamics and agricultural change is a growing concern for many researchers in the recent decade [1]. The movement of rural dwellers leaving the traditional agricultural sector for better economic activities to meet their livelihood needs in urban areas is an essential component of the development process in developing countries. Similar to other developing countries, Pakistan has experienced an exponential increase in the movement of people both within and across its borders. It has significant implications for rural areas i.e., migrants' places of origin, and the quality of life of migrants in the places of destination. However, it is almost ignored or has not been analyzed in the literature. The present study attempts to examine the impact of migration on rural households'

well-being, and the success of migration regarding improving employment quality i.e., the working and living conditions of migrant workers in the Punjab province of Pakistan.

Human migration from rural to urban settlements is a widespread phenomenon in developing countries [2]. People move to the urban sector as developing economies shift from the agricultural sector to the manufacturing and industrial sectors. Reasons for migration include trade, searching for safer locations, sustainable livelihood options, and capacity-building [3]. Due to the absence of social safety nets and rural livelihood support programs, rural workers frequently move to confront these difficulties on their own [4]. Migration provides opportunities for rural households to diversify their sources of income and overcome the adverse welfare effects of social, economic, and institutional constraints in ecologically vulnerable regions [5,6]. Furthermore, the industrialization of the 21st century has put a burden on the cities, as people started moving from their native places to the urban cities due to the several unpredictable events threatening their livelihoods in rural areas [7,8]. These events include economic shocks such as price fluctuations and natural shocks from climate change such as floods and droughts. Although international migration has also increased over time, a significant proportion of global migration is internal (about 80%); most of it is from rural areas to urban settlements [9]. It is estimated that by 2030, the global urban population will rise by 59% [10].

Similar to global trends, migration in Pakistan has also been driven by rural households moving to urban areas to seek better livelihood opportunities and quality of employment. As a result, the country's rural population has fallen by 10% from 1996 to 2015, while the urban population has increased by 22% over the same period [11].

The agriculture sector in Pakistan employs approximately 44% of the work force (66% in rural areas) [12]. However, rural poverty is widespread in the country, especially in arid and semi-arid regions. Low agricultural productivity and profitability force rural workers to migrate to urban centers. Another reason for rural migration to cities is the structural transformation of the country's economy. Currently, the urban population, which accounts for one-third of Pakistan's total population, contributes 78% to the country's gross domestic product [11,13]. Government estimates show that by 2030, more than half of Pakistan's population will be in urban areas [12]. However, the rapid increase in urban population does not match with an adequate increase in municipal infrastructure and services. At the same time, gainful employment, even for the educated youth, remains elusive [14]. The severity of challenges may only increase due to the current unemployment rate and large influx of rural migrants into urban areas.

Due to the low profitability in agriculture enterprise, migration has become a strategy for rural households in Pakistan to diversify their sources of income. However, the living standards of rural residents have not improved with the passage of time [15]. This is in part because of a lack of the knowledge and necessary skills that are required to find gainful employment in the cities. Additionally, the lack of implementation of labor laws and affordable health services has further made the migrants vulnerable in their places of destination.

There is a need to pay attention to rural–urban development planning in the country because of the looming migration issue. The existence of poverty in rural and urban areas influence migration and a rapid increase in urbanization, but the government's Poverty Reduction Strategy Paper (PRSP) and vision 2025 fail to provide a strategy related to urban planning and migration [16]. The primary objective of this study is to investigate the rural–urban migration phenomenon as a risk-management and livelihood support strategy for families who send their members to urban areas. To this end, we surveyed not only the original households in rural areas, but also the migrant members in the urban areas. The quality of employment of migrant workers and its determinants were assessed by analyzing data from various indicators of work and living conditions. By comparing the welfare outcomes of migrant and non-migrant households through propensity score matching techniques, the impact of migration on rural households' well-being was studied.

The rest of the paper is organized as follows: Section 2 reviews the leading theories on the migration and the relevant empirical evidence from the developing countries, including Pakistan.

The dataset and methodology applied to explore the research objectives in Punjab, Pakistan is described in Section 3. Section 4 presents the empirical findings of the study. The conclusions and policy implications are described in the final section of the paper.

Review of Literature

Most of the economics literature on migration assumes that individuals rationally consider various locations and choose the one that maximizes the gains from migration. The private and social costs, and anticipated benefits from migration, rest on various factors, which include personal characteristics and experiences, vulnerability to poverty, social networks, the market structure and revenue policies of the states and local governments, and resource mobility. Different models and concepts have been advanced to highlight the importance of these factors in different ways.

One of the seminal works on migration theories was done by Ravenstein, who viewed migration as being the result of surplus labor moving to deficit labor areas [17,18]. He also developed the idea of 'pull' and 'push' factors of migration. Pull factors include social, economic, and environmental incentives at the place of destination, whereas the push factors are insufficient job opportunities, insecurity regarding economic, social, or political conditions, or the loss of wealth due to unavoidable circumstances [19]. Other notable theoretical frameworks for migration include the work of Sjaastad, and Harris and Todaro [20,21]. Sjaastad views migration as an investment in human capital, and concludes that age is a significant variable in influencing migration [21]. This work was later extended by Harris and Todaro, who theorized that migration is based on a rational decision by economic agents who compare the anticipated benefits from migration with their current wages in the rural sector occupations [20].

A few years later, Stark and Bloom developed a fundamentally different migration theory called the New Economics of Labor Migration (NELM) [22,23]. These authors posit that migration is a joint family decision, in which households decide on the migration of a few members in order to minimize the risk to household income and survival. The strategy ensures sustainable livelihoods for migrant families through the spatial/local diversification of household resources such as labor.

In addition to risk and wage differentials, other models link migration to social capital, social networks, and migration institutions [24]. In later papers, some researchers viewed migration as ex-ante risk mitigation and ex-post coping strategy [25,26].

Studies on migration also depart from the NELM approach to identify the determinants of migration and the well-being of migrant households. For example, some studies that have been conducted in Africa have attempted to identify the determinants of migration. The results of these studies indicate that migration decisions depend on positive urban–rural wage differences [27], education and migrant networks [28], the ecological vulnerability of communities [5], and employment opportunities in rural areas [7].

Some studies have also empirically analyzed the impact of migration on rural households' well-being and the working and living conditions of migrants in the destination places. However, the results of these studies are still inconclusive. On the one hand, Lipton [29] argued that internal remittances exacerbate rural inequalities in India, because they are mainly from high-income villagers. Evidence from Mali and Senegal also suggested that remittances cause rural households to reduce their work effort, thereby reducing the effectiveness of migration as an instrument for poverty reduction [30]. On the other hand, evidence from Mexico indicated that remittances from internal and international migrants have an egalitarian impact on rural income distribution [23]. Recent studies from Thailand and Vietnam also showed that migration reduced the rural income inequality through a balanced distribution of productive assets [31], and had a positive impact on poverty status [7]. Studies that analyzed the impact of migration on the well-being of the migrant households in the destination places concluded that the degree of success of migrant workers depend on human and social capital [32,33], the length of the migration period, the quality of working conditions, and the existence of social networks [34].

In theory, if migration is successful after several years of migration, then it should have a positive impact on the rural–urban income gap. However, as the World Development Report 2008 shows, this is not the case, and Pakistan is still one of the countries with a high rural–urban divide [15]. In Pakistan, most of the analysis on migration used the primary data from population censuses, labor force surveys, and special surveys such as migration and labor force surveys. Several studies have analyzed the patterns and trends of internal and external migration, covering a wide range of issues, including interprovincial and intraprovincial migration [35], determinants of internal migration [36–39], the gender dimensions of internal migration [40], and the impact of migration on development [41]. However, with the exception of Rashid [35] and Irfan [42], no studies have been conducted to determine the impact of migration on rural households' well-being. Moreover, to the best of our knowledge, no studies have attempted to determine the impact of migration on the quality of migrants' employment. In addition, studies using official datasets have the disadvantage of not being able to link migrants to their native households, and therefore cannot accurately estimate the impact on household welfare.

The motivation for this study was the lack of literature on the impact of migration on rural households' welfare and the quality of employment of migrant members. In addition, previous studies have encountered problems due to unreliable datasets. This study uses a unique dataset of migrant and non-migrant families in rural areas, and a follow-up survey linking migrants to households in their places of origin. It aims to provide new insights into the success of migration as a livelihood support strategy for rural households in Punjab, Pakistan. The rest of the paper addresses three main research questions. First, are migrant workers in urban areas better off regarding living and working conditions? Second, what are the determinants of the employment quality of migrant workers? Lastly, what is the impact of migration on rural households' well-being?

2. Materials and Methods

2.1. Description of the Study Area and Data

For data collection, we used a multi-stage random sampling technique. In the first phase, Pakistan's Punjab province was chosen, because more than 50% of the country's population lives in Punjab [12]. In the second phase, we purposely selected four districts of Punjab, namely Faisalabad, Lahore, Sialkot, and Gujranwala. We chose these districts because of the agricultural bases in the rural areas of these districts and the agriculture-related industries in the neighboring cities. In the third phase, 10 villages in each district were randomly selected. In the final phase, eight migrant and non-migrant families were randomly selected from each village. These households were randomly selected from a list of migrant and non-migrant families of a village, which was prepared with the help of village leaders called *lambardars*. We tried to reduce the potential for interviewer misconduct by ensuring that different interviewers selected the households and conducted interviews. However, we note that according to Bauer [43], a random sampling of households in this way still violates the assumption of equal selection probabilities, which may result in biased expected values of multiple variables.

We defined a migrant household as those from which a former household member had migrated to other places in the past five years, was gone for at least three months, and was living elsewhere at the time of survey. Prior to data collection, the purpose of the research was described to respondents, and a verbal consent was obtained from all of the respondents. Participation in the survey was entirely voluntary. We ensured participants of the anonymity and confidentiality of their responses. Data was collected by trained enumerators who were graduate students in agricultural economics. A structured survey instrument was used for data collection.

Initially, 320 migrant and 320 non-migrant households were surveyed from 40 villages in the four districts. The equal proportion of migrants and non-migrants in the sample represents the existing situation in the sample districts. However, when we interviewed migrant households in urban areas through telephonic surveys, only 252 migrants were available (a non-response rate of 22%). In some

cases, more than one member of a family may migrate to an urban area. However, in this study, we used the household as the unit of analysis, and only interviewed one migrant member during the follow-up survey. The choice of migrant members was based on their close ties with rural families. In Pakistan, families tend to be larger, and older parents are less likely to migrate with their migrating children. In addition, it is not uncommon for a migrating adult to leave his or her children and spouse with their grandparents and siblings. However, some migrant members permanently shifted to the urban area, their immediate family members were with them, and they did not send money to parents who live with other brothers and sisters. We excluded these migrant members from the follow-up survey and interviewed only those who had close relationships with their native households in rural areas. Therefore, the survey, by design, compares rural households according to the existence of migrant members, and does not represent urban migrants.

For rural households, we included only those households in the final sample that could also be interviewed in the tracking survey. Therefore, we used data from 252 migrant households in rural areas. Due to the comparative nature of the study, the number of non-migrant households in the final sample was the same. This is done by randomly selecting the number of non-migrant families in a village, which is equal to the number of migrant families with a migrating member available for the follow-up survey. However, the results of the study remain largely unaffected after inclusion of data on all 320 non-migrant households in the sample. A full set of results is available from the authors upon request. The final sample used for analysis included three categories of respondents: 252 non-migrant and 252 migrant households from rural areas, and 252 migrant members from the tracking survey. Our data represent only Punjab because of the different rural-to-urban migration rates in the other provinces in the country.

2.2. Empirical Model

2.2.1. Quality of Employment and Its Determinants

This study attempts to provide a deeper understanding of how the internal migration, especially rural–urban migration, provides new, better, and more productive employment opportunities for migrants. More importantly, we investigated all of the important factors that may affect the likelihood of finding better-quality employment opportunities in urban areas, conditional on migration decisions. In doing so, the primary concern is endogeneity, as the decision to migrate and better-quality employment in urban areas may be affected by the correlation of unobservable heterogeneities. Therefore, using a simple logit or probit model, in this case, may result in inconsistent and biased estimates [32,44]. If one of the independent variables is endogenous, the maximum likelihood estimator through the probit model may also lead to inconsistent estimates. To overcome these problems, we use an instrumental variable (IV) probit for a subjective indicator of employment quality, and two-step sequential estimates for the employment quality index, which is an objective measure of the employment quality.

In both models, a residual is defined for the equation of the employment quality model, and the IV estimator is used based on the originality of the instrument and this residual. Following Cameron and Trivedi [44] and Amare et al. [32], the first-stage equation representing the migration decision is specified as follows:

$$MD = \beta_0 + \beta_1 HHC + \beta_2 IF + \beta_3 LD + \beta_4 WI + \beta_5 Shocks + \mu_i \tag{1}$$

And the second-stage equation for the employment quality determinants is as follows:

$$EQI = \alpha_0 + \alpha_1 MD + \alpha_2 MIC + \alpha_3 HHC + \alpha_4 WI + \alpha_5 Shocks + \epsilon_i \tag{2}$$

where;

EQI = outcome indicator of employment quality of the migrant

MD = migration decision

MIC = migrant's characteristics, e.g., age, education, etc.

HHC = migrant's household characteristics, e.g., family size, agriculture land size, income, etc.

IF = rural infrastructure facilities

LD = location dummies

WI = wealth of the household

Shocks = floods, famines, terrorism, and conflicts in rural areas

Since the infrastructure facilities (Equation (1)) do not directly affect the quality of employment, therefore we use this variable as the IV. The assumption that ($\mu_i \& \epsilon_i$) are jointly normally distributed is usually required for identification. We run Equation (2) (employment quality indicator) on Equation (1) (migration decision) to assess the impact of migration on the quality of employment. We use two indicators to measure the quality of employment: employment quality proxy and the employment quality index. Employment quality proxy is simply measured by a binary variable. We asked the respondents if their work and living conditions improved after immigration. If the working and living conditions are improved, the value of the variable is 1; otherwise, it was 0. The employment quality index is created based on various indicators of quality employment. All of these indicators have a binary nature, with a value of 1 indicating a positive response; otherwise, it was 0. These indicators are as follows:

I.   Overall better working conditions for migrants compared to the last job

II.   Improved livelihood conditions since the migration decision

III.   As compared to previous year, migrants feel better off

IV.   Written and permanent working contracts

V.   Migrant reports a stable income

VI.   Migrant's income is above average

VII.   Migrant has accumulated savings

VIII.   Migrant has one or more insurance contracts

2.2.2. Impact of Migration on Rural Households' Well-being

In assessing the impact of migration on rural households' well-being, there is a problem regarding selection bias. The comparison between migrant and non-immigrant households is biased, because the characteristics of the two groups are different. One way to solve this problem is to use a difference-in-difference propensity score matching (PSM) estimator [7,32]. The PSM estimator constructs a reasonable comparison group by using a list of control variables to match migrant households to non-migrant households. Our main interest is to assess the average treatment effect (migration) on the treated (rural households with migrants). It can be written as:

$$ATT = E(P_1 - P_0 \mid D = 1) = E(P_1 \mid D = 1) - E(P_0 \mid D = 1) \tag{3}$$

where *D* = 1 means the household experiences of treatment, i.e., migration, and *D* = 0, otherwise. Similarly, *P* = 1 is the outcome variable when the household experiences the treatment (i.e., migration), and *P* = 0 otherwise. We use the PSM method, because we cannot simultaneously observe two outcome variables. The propensity of the migration decision is presented as:

$$MD_i^* = F(HHC, \; IF, \; LD, \; W, \; Shocks) \quad \text{with}$$
$$MD = \begin{cases} 1 & if \; MD_i^* = 0 \\ 0 & otherwise \end{cases} \tag{4}$$

The PSM in Equation (2) matches the migrant and non-migrant households based on the observable factors used in the equation such as household characteristics (*HHC*), infrastructure

facilities (*IF*), location dummies (*LD*), wealth indicators (*W*), and the shocks experienced by the rural household. The primary assumption underlying the matching estimator is the conditional independence assumption, which states that non-migrant households have the same mean outcome as migrant households under a given set of observable variables [32,45]. In our case, the outcome variable is total income of migrant and non-migrant households.

3. Results

This section presents the descriptive and empirical results of this study. In Section 3.1, we present the descriptive analysis from the survey of migrants and non-migrants. Section 3.2 presents the econometric results of the employment quality model. Section 3.3 discusses the impact of migration on rural households' well-being.

3.1. Descriptive Results

The selected descriptive statistics in this section illustrate the important characteristics of migrants and non-migrants that describe the migration process. These results support the underlying hypotheses of this study, and highlight the important variables that are later used for modeling. Table 1 shows a comparison of migrant and non-migrant characteristics. We noticed a statistically significant difference in the mean of some variables. For instance, the family size of migrant households is smaller than that of non-migrant households, suggesting that smaller families are more likely to have migrant members. The mean age of a migrant household is lower than that of non-migrants, indicating that younger households are more likely to have migrant members. The mean difference between migrant and non-migrant education is statistically significant, and migrants are more educated, indicating that apparently households with a more educated head are more likely to have migrants.

Table 1 also shows that the average difference in the farm size of migrants and non-migrants is statistically significant, and households with less agricultural land prefer to migrate due to lower agricultural income to meet their livelihood needs. Another important reason behind migration is agriculture and health-related shocks. The results show that migrant households face more agriculture and health-related shocks than non-migrant households. The access to education and market facilities in the rural areas is another important distinction between migrant and non-migrant households, as it is more difficult for a migrant household to access such facilities. This is why people leave their native places. Finally, the distance from the city center shows a statistically significant difference between migrant and non-migrant households. Since the average distance of migrant households is smaller than that of non-migrant households, households close to cities tend to move more.

Table 1. Summary statistics of the households by migration status.

Variable	Unit	Migrant	Non-Migrant	Diff. Sig.
Family size	No.	4.35	4.54	**
Age of the household head	Years	41.60	44.65	NS
Mean age of the household	Years	29.36	31.15	**
Household head education	Schooling years	7.14	6.43	***
Dependency ratio		2.67	2.51	NS
Income per capita	Pak Rupees	3995	3676	*
Land per capita	Acres	1.29	1.48	**
Household reporting demographic shocks	Percentage	13	10	NS
Household reporting health shocks	Percentage	18	10	*
Household reporting agricultural shocks	Percentage	21	15	**
Household reporting economic shocks	Percentage	5	2	NS
Access to a health facility	Percentage	43	52	NS
Access to educational facility	Percentage	44	49	***
Access to recreational facility	Percentage	62	68	NS
Access to the market facility	Percentage	43	51	**
Average distance from a city	Km	26.72	30.79	**

***, **, * and [NS] significant at 1%, 5%, 10%, and non-significant, respectively. Source: Survey results.

Table 2 lists the percentage distribution of the reasons behind the migration. It is worth noting that most people migrate to urban centers in order to receive higher education because of the lack of educational facilities in rural areas. The second most important reason for migration is the lack of funds and food. People migrate to cities to generate income to meet their basic needs. The third important reason for the migration is employment, which can also be seen in other categories of responses. People migrate to find better jobs in the city. Other reasons for rural–urban migration include family reunification in urban areas, as well as conflicts and natural disasters in rural areas.

Table 2. Reasons behind migration.

Reasons	Percent
Education	37.17
Lack of money/food/debt	20.11
Job opportunity	15.83
To follow family	9.69
Conflicts	5.31
Natural disaster	2.00

Source: Survey results.

The descriptive results on the employment quality proxy and employment quality index are presented in Table 3. This shows that 82% of migrants believe that working conditions have improved after migration. According to the employment quality index, migrants seem to have improved their income and living conditions since they left their village. For example, 75% of respondents felt better off than the previous year, about 60% said that their income is stable, 53% said that their living conditions improved after migration, 52% said that their income was above average, and 40% said that they had accumulated savings. However, the social protection status of migrants is still very poor, as 82% of respondents did not have any insurance contracts, and 85% of respondents said they did not sign any written or permanent work contracts with their employers.

Table 3. Employment quality: selected indicators for migrants' working and living conditions.

Indicator	Percent
Employment quality proxy	
Improvement in the working situation since the last job	82
Employment quality index (EQI)	
Living conditions improved since the departure from the village	53
Migrant feels better off than the previous year	75
Written and permanent working contracts	15
Migrant reports a stable income	60
Migrant's income is above average	52
Migrant has accumulated savings	40
Migrant has one or more insurance contracts	18

Source: Survey results.

Table 4 shows the summary statistics of the variables used in the employment quality model to assess the determinants of employment quality in Punjab, Pakistan. It presents the characteristics of migrant members and their native households in the rural areas. The migrants' native households are the same as shown in Table 2. A comparison of Tables 2 and 4 shows that migrant members have lower education levels than household heads, and most of them are younger family members, because their age is lower than the mean age of the household.

Table 4. Summary statistics of variables used in the migrant employment quality model.

Variables	Unit	Mean	Std. Dev.
Migrant characteristics			
Age of the migrant	Years	25.60	3.71
Current job experience	Months	51.98	63.86
Education	Schooling Years	6.96	3.05
Monthly wage	000' Rupees	14.80	13.91
Owned house	Yes = 1	0.60	0.40
Debt	Yes = 1	0.30	0.48
Migrant's native household characteristics			
Household experienced shocks (agricultural, health-related, natural disasters, etc.)	Yes = 1	0.57	0.65
Household experienced conflicts	Yes = 1	0.30	0.45
Household access to a health facility	Yes = 1	0.43	0.55
Household access to educational facility	Yes = 1	0.44	0.54
Household access to recreational facility	Yes = 1	0.62	0.46
Family size of the household	Numbers	4.35	0.85
Landholding size per capita	Acres	1.29	1.40
Wealth of the rural household per capita	000' Rupees	3.99	5.95

Source: Survey results.

3.2. Econometric Results

In addressing the main research questions of this study, we first identified the determinants of the quality of employment of migrants. Two indicators are used to measure the quality of employment. First, a subjective assessment of the quality of employment was made by asking migrants whether there was a change in their working conditions after migration. This was used as a proxy for employment quality (hereafter referred to as subjective EQ). Second, we created the Employment Quality Index (hereafter referred to as objective EQ) using the eight criteria described above.

The IV probit model was used to identify the determinants of subjective EQ. If the working conditions improved after the migration, we defined the dependent variable as 1; otherwise, it was 0. We used a two-stage sequential estimation model to identify the determinants of objective EQ. In the first stage, we used the binary dependent variable to estimate the migration model. The predicted values of the migration model were further used in the second stage, which are presented in Table 5.

The results of both models show that migration is a successful strategy for migrant households to improve the quality of employment. First, we discuss the results of the IV probit model shown in the first column of Table 5. From the migrants' characteristics, if migrants have more job experience, better education, and a better monthly wage, they are more likely to report higher subjective EQ. This means that they are more likely to accumulate savings by using these qualities. The characteristics of the migrant's household also affect their chances of finding a better job. The results show that per capita land, shocks, and conflicts, as well as access to health facilities in their places of origin, help increase the likelihood of migrants getting better-quality employment. Location dummies indicate that migrants from Lahore and Faisalabad are more likely to find better-quality employment than those from Gujranwala and Sialkot. This is because Lahore and Faisalabad are the major economic hubs of Punjab [12].

The results of two-step sequential estimation are shown in the second column of Table 5. These results reinforce the results of the first model, with the exception of a few variables. Here, we find that the wealth of rural households is an additional variable that can increase the chances of migrants obtaining better-quality employment. This means that wealthy rural households make better migrants, which is a conclusion that may explain the Kuznets paradox of rising inequalities in rural areas [46]. We also note that the Lahore and Faisalabad regions are not significant predictors of migrants' objective EQ in this model. The overall results of both models suggest that if a rural has a migrant in the

household, there is a higher probability that he/she will be better off based on the criteria chosen for the quality of employment in the study.

Table 5. Results of the econometric models used for employment quality.

Independent Variables	Employment Quality Proxy	Employment Quality Index
	IV Probit Model	Two-Stage Estimation Model
Migration	2.412 *	0.951 ***
Migrant characteristics		
Age of the migrant	−0.047 NS	−0.253 NS
Current job experience	0.586 **	1.025 ***
Education	0.693 ***	0.958 *
Monthly wage	1.061 *	1.089 **
Owned house	−0.031 NS	−0.056 NS
Debt	−0.059 NS	0.891 NS
Natal household characteristics		
Family size of the household	0.025 NS	0.69 NS
Land per capita	0.219 **	0.235 **
Household experience shocks	0.332 **	0.631 ***
Household experience conflicts	0.521 ***	0.891*
Household access to health facility	0.785 **	0.365 **
Household access to an educational facility	1.061 NS	0.925 NS
Household access to a recreational facility	−0.603 NS	−0.463 NS
A wealth of the village households per capita	0.231 NS	0.325 ***
Lahore district	0.462 **	0.652 NS
Faisalabad district	0.391 ***	0.422 NS
Sialkot district	−0.233 *	0.329 ***
Constant	2.112 **	−3.012 NS

***, **, * and NS indicate significance at 1%, 5%, 10%, and non-significant respectively. Source: Survey results.

The model fitness criterion for the two models are shown in Table 6. It shows that both models are suitable for the dataset used in this study.

Table 6. Model fitness criterion.

Model Criteria	IV Probit Model	Two Stage Estimation Model
Rho	−0.531 **	
Sigma	0.219 *	
N	504	504
Wald Chi^2	59.21	
Log pseudo likelihood	−57.99	
R^2	0.41	0.24
Test of endogeneity		4.21 **

** and * indicate significance at 5% and 10% respectively. Source: Survey Results.

3.3. Effect of Migration on Rural Households' Well-Being

From the perspective of rural households, migration is a livelihood support strategy. However, there is evidence that migrants do not fare equally well in terms of the quality of employment in urban destinations. Therefore, migration may have different effects on the welfare of rural families. In this context, we measure the impact of migration on rural households' well-being. We compare household with migrants and those without migrants to study the impact of migration on household income.

We estimate the impact of migration on rural households' well-being from difference-in-difference estimations of propensity score matching. Summarized in Table 7, the results show that typically, migration has a significant positive impact on rural household income. Depending on the estimation

method, migration can increase household income by 22–25%. Consistent with the results of the IV probit model described above, we find that migration effects in the Lahore and Faisalabad regions are more pronounced, and that this difference is not statistically significant for the Sialkot and Gujranwala regions.

Table 7. Increase in income for propensity score matching (PSM) methods.

Increase in Income %	PSM Method	With Migrant	Without Migrant	Diff. in Aver. Outcome
All districts	Kernel	1.33	1.11	0.22 **
All districts	Neighborhood	1.33	1.08	0.25 *
Lahore	Kernel	1.96	1.57	0.29 ***
Faisalabad	Kernel	1.56	1.29	0.27 ***
Gujranwala	Kernel	1.20	0.96	0.24 NS
Sialkot	Kernel	1.07	0.80	0.27 NS

***, **, * and NS indicate significance at 1%, 5%, 10%, and non-significant respectively. Source: Survey results.

4. Conclusions and Recommendation

This study investigates the effect of rural–urban migration for economic progress in the four districts of Punjab province. It provides answers to three questions. (1) Are migrants better off in their urban destination places in terms of work and living conditions? (2) What are the determinants of the quality of employment of migrants? (3) Does migration improve the welfare of migrants' natal households in rural areas? To answer these questions, the study used a unique primary dataset of 504 migrant and non-migrant households in rural areas and a migrant tracking survey of 252 respondents in urban destinations.

The data were analyzed using descriptive analysis and econometric models. The descriptive analysis provides some information about the reasons behind migration, and the living and work conditions of the respondents. To look at the quality of employment of migrants, we used two different methods to measure the quality of employment. First, a subjective assessment of the quality of employment is made using a dichotomous variable that measures short-term improvements in the working and living conditions of migrants. Second, based on the employment quality index created by the eight indicators of employment quality, the quality of employment is objectively measured. We use IV probit and two-step sequential estimation methods to identify the determinants of the quality of employment. Finally, to assess the impact of migration on rural households' welfare, we used difference-in-difference estimations of propensity score matching.

The descriptive analysis shows that the pursuit of higher education and better employment opportunities are the main reasons behind migration. Subjective and objective employment quality indicators show that overall, migrants are better off in their new urban settings, because they report increased income and improved living conditions. However, the social protection status of migrants is still very poor, as most of them have neither insurance contracts nor written and permanent work contracts with employers.

The econometric results of employment quality models show that migration is a successful strategy for migrant households to improve the quality of employment. In addition, the personal characteristics of migrants, such as education, job experience, and monthly wages have a significant positive impact on the quality of their employment. From the perspective of rural household characteristics, land size, conflicts, and shocks have a significant impact on the quality of employment of migrant workers. We also used location dummies in our models, suggesting that migrants are more likely to find better-quality employment in large and industrialized cities. Finally, the PSM results show that migration has a positive effect on the income of rural households. To this end, our results show that migration can increase household income by 22–25%.

Two specific policy recommendations emerge from these results. First, the government should pay more attention to educational facilities in rural areas. Second, the government should strive

to implement labor laws so that migrants can obtain health insurance and social security in their employment places, thus providing better-quality employment for migrant workers.

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