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Labor Participation Decision and Preferences Towards Different Employment Status in Response to Remittances in Pakistan

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ABSTRACT

This study has examined the effect of remittances on the labor force participation decisions and preferences of individuals towards different employment statuses and work categories. The data from the rural and urban areas of the two provincial capitals of Pakistan has been collected to cover the main range of the topic. The study adds to existing literature the three major implications of labor market outcomes in response to remittances. First, the Logit and Probit model estimates suggest that remittances significantly increase the likelihood of not participating in the labor force. In addition, the differential effect of remittances depicts that as monthly remittances increase from 10,000 to 500,000PKR, the likelihood of participating in the labor market decreases from 0.84 to 0.30 respectively. Second, estimates of the multinomial logit model reveal that among different employment categories, remittances increase the likelihood of participating in non-employment. While in the case of participation in the labor market, they are more likely to prefer full-time self-employment status. Third, estimates of the multinomial logit model depict that remittances increase the likelihood of participating in self-employment and employer profession among different work professions. The study's results suggest that policy implications on reallocating labor from non-employment to self-employment or employer can generate productive outcomes. Furthermore, incentives in the adoption of self-employment and improvement in ease of doing business are essential to spill over the effect of remittances as job creators.

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1. Introduction

The labor diaspora of Pakistani workers remains persistent and has become more prevalent. The number of workers Pakistan exports to other countries annually depicts a general upward trend from 113,781 in 1990 to 147,422 in 2000 and 362,904 in 2010 to 625,203 in 2019 (BOEOE, 2019). The estimated stock of Pakistani migrants till 2019 stretched to 4 million, 2% of the population and 10% of the labor force. Remittances to Pakistan from migrants surged to US$22 billion in 2019 by comparing with US$2 billion in 2001 and accounted for about 8% of the country's GDP (World Bank, 2019).

Remittances can better the position of macroeconomic indicators in developing economies. Remittances are a major source of foreign exchange reserves; it supports meeting the current account deficit, stabilizing the exchange rate and economic growth (Ratha, 2005). Remittances are returns on labor migration in source countries, generating economic activities when utilized at the household level. Therefore, recent concerns regarding the effect of remittances on microeconomic outcomes are important, especially regarding the labor participation of non-migrant members. The decision to labor participation depends upon the difference between reservation wage and existing market wage. The reservation wage is a positive function of non-labor income. It implies that remittances (part of non-labor income) increase reservation wages, increasing the likelihood of not participating in the labor market (Jadotte, 2009; Justino and Shemyakina, 2012). In addition, remittances can affect the labor supply due to the income or conjugal home-time effect. The income effect increases leisure consumption (leisure is also good), and the conjugal home-time effect increases the individual's responsibility at home and works fewer hours (Cabegin, 2006).

The inflow of remittances to Pakistan after the 9/11 incident increased from US$2 billion in 2000 to US$21 billion in 2018. Interestingly, the labor force participation rate depicts a sharp decline from 84% in 2000 to 79% in 2012, approaching 81% in 2018. All these facts give an intuition to conduct a study to explore the relationship between remittances and labor force participation. Unfortunately, there are few studies conducted on the effect of remittances on labor force participation. According to the best of our knowledge, an available study in the context of Pakistan (for example, Kozel and Alderman, 1990; Mughal and Makhlouf, 2013; Shair and Majeed, 2020). Nevertheless, these studies either use traditional econometrics approaches or focus only on the effect of remittances on labor supply and ignore individuals' preferences toward different employment forms and professions.

The contribution of this study is threefold. First, it presents casual evidence on the impact of remittances on individuals' preferences towards work or leisure. In addition, the differential effect of remittances on the likelihood of participating in the labor market is also observed. Second, the study attempts to determine the effect of remittances on individuals' preferences towards employment forms like full-time: wage or self-employment, part-time: wage or self-employment, or non-employment status. Third, the impact of remittances on individuals' preferences toward different professions is also examined in the case of participation in the labor market. The

different types of professions include formal work, farming, self-employed, and employer.

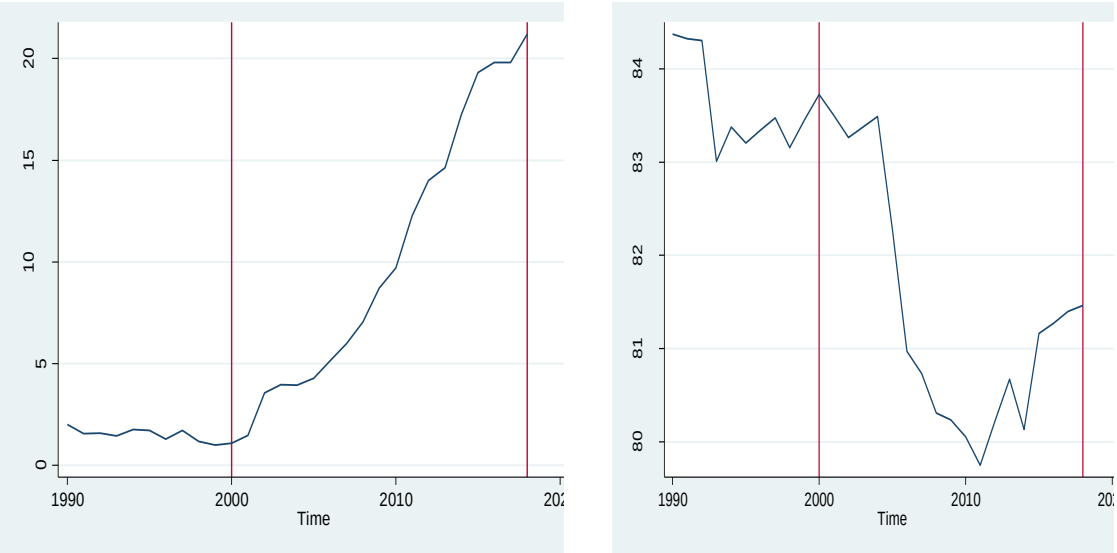

Figure 1. The Pattern of Remittances and Labor Force Participation Rate over the Time
Source: World Development Indicator (WDI, 2018).

This study examines the effect of remittances on labor participation decisions and preference towards different employment forms and professions by surveying the household level. The demographic characteristics of individuals and households determine the decision to participate in the labor force. For empirical analysis, we collected data from the capital of two major provinces of Pakistan named Punjab and Khyber Pakhtunkhwa (KPK). The importance of these two provinces emerges from the fact that they supply about 75% of the total migrants in Pakistan (BOEOE, 2019). We used the Logit and Probit models to determine the likelihood of participating in the labor market in response to remittances. Furthermore, the multinomial logit model determined the individuals' preference towards different employment forms and professions.

This study, organized as the next part, describes a brief literature review; part 3 follows the theoretical relationship between the variable and the econometric model. Part 4 explains the data collection method and descriptive analysis of the variables. Part 5 follows the key findings of the results; in part 6, we have concluded.

2. Literature Review

The neoclassical labor and leisure choice model states that every individual derives utility from consuming goods and leisure. While deriving utility from consuming goods and leisure, an individual has to face time and income constraints. However, income constraints can be softened with the rise in non-labor income, which raises the utility level with increased leisure hours. Recent pieces of literature highlight the factors affecting leisure and working hours. Amongst these factors, non-labor income (remittances, property, income, dividends, and lottery prizes) significantly affect the individual’s leisure and working hours. In this section, we will discuss the previous

literature, which highlights the effect of non-labor income (remittances) on the individual's labor supply.

2.1 Country-Specific Study

The previous literature in the context of remittances and labor supply shows the ambiguous and contradictory nature of the effect. For instance, remittances significantly negatively affect labor supply (Itzigsohn, 1995; Kim, 2007). Remittances increase the reservation wage, a negative function of labor supply (Alcaraz et al., 2010). The effect of remittances on labor participation varies based on gender (Acosta, 2006; Airola, 2008) and the individual's age (Grigorian and Tigran, 2011). Remittances allow the household member to stay out of the labor force and increase leisure consumption. In addition, remittances divert household members' preferences towards flexible work rather than hard one. Contrary, some studies (Cox-Edwards and Rodríguez-Oreggia, 2009; Jadotte, 2009) find that remittances did not affect the labor market outcomes of non-migrant members. The neutrality of remittances explains that persistent remittance flow is an integral part of a household's strategy to generate income, and the emigrant worker is a member of the household who is remitting to replace his/her lost contribution to the household due to emigration.

It is also worthwhile to note that remittances have a positive effect on the labor supply of non-migrant members of the household (Emilsson, 2011). It has been observed that remittances made the members of households self-sufficient because remittance-receipt is sufficient to overcome the credit constraint (Bussolo and Danis, 2008) and able to generate employment opportunities at the household level (Piracha et al., 2013). The positive impact of remittances on labor market outcomes can be channelized through the skill formation of young household members and increased investment attributed to remittances (Dávalos et al., 2017).

The existing literature incorporates remittances and found an association between migration and labor participation. Several studies, such as (Rodriguez and Tiongson, 2001; Hanson, 2007; Lokshin and Elena, 2009), compare the household's labor market outcomes with- and without-migrant. These studies' results suggest that household members with-migrant are relatively more likely to participate in the labor force than households without-migrant. Similarly, Görlich et al. (2007) found that migration increases the probability of being inactive for non-migrant members of the household. The non-migrant members of households participate in higher education, childcare, subsistence farming, and other household duties without participating in the labor.

On the contrary, the study of Cox-Edwards and Rodríguez-Oreggia (2009) suggests that remittances have a neutral effect on labor participation. The theoretical reasoning is that remittances did not create a surplus in the household's budget because migrants send money to compensate for the household's expenses during their migration. It follows that remittances have no real effect on the labor market outcome.

Finally, in the context of work choice, Cabegin (2006) study found that migration of Filipino spouses is associated with a shift in the preferences towards non-employment than other employment forms like paid/self-employment in part/full-time format.

Similarly, household member migration also shifts women's preferences from wage work to non-wage work due to the rise in reservation wage (Binzel and Ragui, 2011). While robust evidence found on preferences towards self-employment in the presence of remittances receipt, for instance, divert from salary and casual wage worker to self-employed worker (Khan and Valatheeswaran, 2016); from unpaid wage to self-employed (Mendola and Calogero, 2012); from the private/public sector to self-employed (Stanley, 2014). It implies that remittances have a major share in household income and create a surplus sufficient to overcome the credit constraint (Acosta, 2020). Interestingly, a recent study by Dary and Ustarz (2020) attempts to explain the impact of internal remittances on employment choices and found that internal remittances reduce the likelihood of participating in self-employment but increase the likelihood of participating in family employment.

2.2 Cross-Country Study

Posso (2012) examined the association of remittances with aggregate labor supply using a panel of sixty-six developing countries from 1985 to 2005. The results suggested that remittances are positively associated with aggregate labor supply because remittances overcome the credit constraint in developing countries which helps to expand the business and generate employment. Similarly, Jackman (2014) analyzed the association of remittances with unemployment using the panel data of 18 Latin American and Caribbean countries from 1991-2010. The result suggested that a neutral relationship exists between remittances and unemployment due to the non-linear relationship. The non-linear relationship indicates the presence of a threshold. It suggests that when the remittance to GDP ratio is below 3.25%, remittances have a positive relationship with unemployment, and above, it has a negative relationship.

2.3 Pakistan-Specific Study

The study of Kozel and Alderman (1990) for the urban area of Pakistan suggests that remittances have a negative effect on the labor supply of non-migrant members. Remittances allow educated household members to extend their job search time until they find it per their taste. Contrary, Mughal and Makhlouf (2013) argued that domestic and foreign remittances did not affect the quantity of labor supplied; however, an increase in remittances was associated with a lower likelihood of labor market participation. Likewise, remittances divert individuals' preferences towards self-employment and cultivating one's land than wage employment. At the same time, Shair and Majeed (2020) study examined the effect of remittances on the labor market outcome of left behind. Their study reveals that remittances lower the labor supply, decrease the likelihood of an employed person participating in the labor market, and increase the likelihood of being voluntarily unemployed.

The study's objective is to add some extent of the labor market outcome of members of the migrant household in the existing literature. First, we will examine the effect of remittances on labor participation decisions and, after determining next, the likelihood of participating in the labor market against the different amounts of remittances receipt. Second, we will use the multinomial logit model to explore preferences toward different

employment forms and professions categories. This study will help labor economists channel the spillover effect of remittances in employment generation by promoting entrepreneurial activities in remittance-receiving households.

3. The Empirical Model

This study aims to analyze the effect of remittance on the labor participation of the household head. For this purpose, we will determine the labor participation of the household's head by using the following reduce form labor supply function:

$$H = h(R, E\ H_c, X_c) \quad (1)$$

In equation H is the hour of work in a day, R is the monthly remittances received. According to the neoclassical model of labor leisure choice, non-labor income negatively affects labor supply and raises the reservation income, which keeps the individual outside the labor market. E is the household's monthly expense, which states that higher household expenses might lead to a higher labor supply. Hc is a vector of variables consisting of household head characteristics, i.e. age, education, gender, and relationship with a migrant. Xc is a vector of variables that includes the demographic and household characteristics, i.e. dummy of province and area, and the ratio number of males to household size.

3.1 Switching Regression Model of Labor Force Participation

This study aims to determine the likelihood of labor force participation in response to remittances. In the sample, more than one-third of the head of household does not participate in the labor market and is not a part of the labor force. For this purpose, we would have to convert our model of equation 1 into the labor force participation model by taking the labor force participation decision as a binary dummy dependent variable. The most appropriate model in the literature is the Logit and Probit model used by Acosta (2006); Hanson (2007); Lokshin and Elena (2009); Jadotte (2009); Alcaraz et al. (2010); Binzel and Ragui (2011) to analyze the effect of remittances on the labor market outcomes.

The model for labor force participation (LFP):

$$Pi = E\left(Li = 1 \,\middle|\, Xi\right) = \Lambda\,(Z) = \frac{e^z}{1+e^z} + Ui \quad (2)$$

L_i is equal to one if the head of the household participates in the labor market, zero otherwise, and $Z = X\beta$. X is a vector of regressors and $\Lambda(Z)$ is a logistic cumulative distribution function.

3.2 Multinomial Logit Model

An alternative econometric specification used to determine the likelihood of a person's preferences towards different employment forms is the multinomial logit model. We modified our baseline equation into the multinomial logit model used by Cabegin (2006) and Görlich et al. (2010) in the existing literate to determine the likelihood of participation in different employment forms. To apply the multinomial logit model, we define our dependent variable in more than two nominal categories: wage-employed, self-employed, and no-employed. Similarly, based on the working hour, we further

divide the wage-employed and self-employed into full-time and part-time employment. We define part-time employment so that a person with less than 8 hours falls under part-time employment, and a person with 8 or more working hours in a day falls under full-time employment.

The following model:

$$L_c = \alpha + X\beta + \gamma R + \varepsilon \quad (3)$$

X is a vector that includes the variable on household's head characteristics, a dummy of geographical location, monthly expense, β is a vector of coefficient, and R is the number of remittances and L_c is a categorical dependent variable with the following five categories:

$$Lc = \begin{cases} L = 1\ if\ employment\ status\ no - employment \\ \mathrm{L} = 2\ \text{if employment status, part} - \text{time wage} - employed \\ \mathrm{L} = 3, \text{if employment status, part} - \text{time wage} - \text{employed} \\ \mathrm{L} = 4, \text{if employment status, part} - \text{time self} - \text{employed} \\ \mathrm{L} = 5, \text{if employment status, full} - \text{time self} - \text{employed} \end{cases}$$

4. Data and Descriptive Analysis

In the literature, several studies used different secondary data sources to investigate the effect of remittances on socioeconomic outcomes. Many were limited due to a lack of relevant variables because the secondary data sources did not focus on specific aspects of information related to migrant status. However, in our study, we used primary data based on the survey to cover a wide range of information on the remittance and labor supply of the household head. We collected data from the provincial capital of Punjab and KPK, Lahore, and Peshawar, respectively. The importance of these two provinces emerged from the fact that they share 75% of the total migrant (BOEOE, 2019). Moreover, the selection of provincial capital is for the sake of comparison.

We designed the questionnaire to cover a wide range of information related to the demographics of households and migrants. The questionnaire used in the study consists of information on the household, household's head, migrant, migrant's family, source of income, and their utilization. We consider the characteristics of Lahore and Peshawar's residents heterogeneous and split into two strata; then, each stratum divides into sub-strata of urban and rural. The sample size for each stratum is equal but different for sub-strata. The total size of the sample is 600, and each stratum contains a sample of 300. However, the sample of sub-strata for Lahore and Peshawar consists of one-third (100 observations) for urban and two-thirds (200 observations) for rural, respectively. In our sample, we gave more weightage to the village because variation in the working hour comes from self-employment, and most of the people from the village interlinked with self-employment. On the other hand, a person from urban areas is mostly interlinked with wage-employed work and supplies fixed labor hours.

We used a non-random sampling technique because data on migrants were not easily accessible. There is not any public institute that keeps a record of migrants at the district level to help the researcher to identify the household with the migrant. Furthermore,

several migrants migrate to other countries illegally; therefore, the household having migrants are hidden and not known. In this case, a type of non-random sampling technique named the snowball sampling technique is more appealing. In the snowball sampling technique, the researcher asked the respondent to help identify a person with similar attributes in the given area.

The description of the variable which we shall use in our analysis is given in Table 1.

Table 1. Definition of Variable

Variable Names	**Description**
Weekly Working Hour	For variation in the labor supply, we asked in a questionnaire about working hours in a day and weekly working day then obtain weekly working hour
Hourly Wage Rate	We asked for monthly labor income in the questionnaire and then convert it into hourly wage by computing monthly labor hours and divide on monthly earned income
Log Remittances	Monthly remittance receive by household
Age	Age of the household's head
Age Square	Square the Age of the household's head for a non-linear relationship between age and weekly work
Min. Education	The dummy variable coded 1 if the head of household is literate, 0 otherwise
Nuclear family	The dummy variable coded 1 if the head of household is a son or wife of a migrant, 0 otherwise
Lahore	The dummy variable coded 1 if the head of household from Lahore, 0 otherwise
Urban	The dummy variable coded 1 if the head of household from urban, 0 otherwise.
Ratio male to household size	Total number of males in the household divided by household size
Log Expense	It includes expenses on education, non-durable goods, and basic needs

Source: Research findings.

Table 2 presents the descriptive statistics of explanatory variables against five employment categories. In the sample, about 40 percent of the household heads reported no they are not actively participating in the labor market. The difference in working hours persists with the difference in hourly wage. As depicted in Table 2, the upward trend in hourly wage associated with a slide in working hours indicates the dominance of the income effect of the wage increase. According to the theory of labor leisure choice, a rise in wage rate increases leisure consumption, lowering the working hour (backward-bending labor supply curve). There is a tendency for full-time self-employment with a higher level of remittances and part-time self-employment with a lower level of remittances. Interestingly, higher remittances depict lower working hours in wage employment and higher working hours in self-employment.

Table 2. Number of People with Different Employment Status Receiving Monthly Remittances and Hourly Wage

Category	**N**	**Weekly Work**		**Hourly Wage**		**Remittance**	
		Mean	**Std. Dev.**	**Mean**	**Std. Dev.**	**Mean**	**Std. Dev.**
Non-employed	246	0	0	0	0	68349.6	71001
Wage-employment							
Part-time	20	31.2	10.1	354.2	382.3	75000	67864.2
Full-time	142	53.8	11.8	159.1	116.4	62781.7	50062.9
Self-employment							
Part-time	80	29.3	8.2	233.3	355.9	47375	34042.7
Full-time	112	66.9	17.7	186.1	286.4	86321.4	83331.8

Source: Research findings.

An alternative work category specification is formal workers, farming, self-employed, and employer. The first category, 'formal worker,' consists of the person working in the public or private sector. The second category, 'farming,' includes the person interlinked with the farming profession. The third category, 'self-employed', comprises the person running their own business with no employee. The final category, 'employer', includes the person running their own business and employing more than one person. Table 3 depicts the average weekly work, hourly wage rate, and remittances against different professions categories. It shows that higher wage rates associated with higher working hours indicate the dominance of the substitution effect of wage rises across different professions. While households receiving a higher level of remittances hold an employer profession across the different profession categories. It indicates that a higher level of remittances may create surplus savings, which may turn into investment and increase employment opportunities.

Table 3. Number of People with different Professions Receiving Monthly Remittances and Hourly Wage

Category	N	Weekly Work		Hourly Wage		Remittances	
		Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
Formal Worker	162	50.8889	13.755	183.186	180.1834	64290.1	52225.4
Farming	100	48.52	25.93732	156.331	112.3422	77960	79973.97
Self-employed	44	55.2273	21.72322	114.515	121.9824	39136.4	28577.87
Employer	48	53.3333	19.87497	392.322	568.5489	82083.3	67355.59

Source: Research findings.

Table 4 shows the summary statistics of the explanatory variable. The household demographics show that 35 percent of the household belongs to the urban area, and 15 percent live in a nuclear family. The characteristics of the household head indicate that 87 percent of the household heads are male and greater variation is observed in the age of the household head. While 84 percent of the head of household is literate, the rest are illiterate.

Table 4. Descriptive Statistics

Variable	Mean	Std. Dev.	Min	Max
Weekly work	30.1	29.34	0	105
Hourly wage rate	115.3	223.21	0	2309.47
Age	44.6	15.49	18	85
Remittances	67811.7	65869.02	10000	600000
Gender	0.87	0.37	0	1
Punjab	0.5	0.50	0	1
Nuclear	0.15	0.35	0	1
Urban	0.35	0.47	0	1
Monthly expense	52855	40685.63	10000	300000
Min. education	0.84	0.37	0	1
Ratio Male to household size	0.51	0.14	0.15	0.86

Source: Research findings.

5. Results and Interpretation

5.1 Participation in Labor Force

In the literature on remittances and labor supply, the potential endogeneity in remittances may persist due to unobserved characteristics which jointly affect the

remittances and labor supply. For the detection of endogeneity in remittances, a Hausman specification test was proposed by Hausman (1976). The p-value of the Hausman test shows that we did not reject the null hypothesis "variable is exogenous". The following literature also supports the homogeneity of remittances: Itzigsohn (1995); Rodriguez and Tiongson (2001); Funkhouser (2006); Hanson (2007); Kim (2007); Airola (2008); Emilsson (2011); Grigorian and Melkonyan (2011); Posso (2012); Mughal and Makhlouf (2013); Jackman (2014); Raihan et al. (2018); Shair and Anwar (2023).

Table 5. Hausman Test of Endogeneity

Ho: variables are exogenous		
	Score	P-value
Robust score chi2(1)	0.469228	0.4933
Robust regression F(1,588)	0.446136	0.5047

Source: Research findings.

In the sample, more than one-third of the respondent does not participate in the labor market. It follows that the likelihood of participating in the labor market can be determined; however, the logit and probit model is most appealing for this purpose. The significance and sign of the regressors in the logit and probit model do not vary, but the magnitude of the regressors differ across the model. For the magnitude of the coefficient, the rule of thumb is that the logit coefficient is 1.6 times of probit coefficient (Cameron and Pravink, 2005).

In Table 6, the estimates of labor force participation are presented. The semi-log coefficient converted into elasticity found elasticity of remittances -0.78 from the logit model estimates. The elasticity can be interpreted as a 10% increase in the monthly remittances associated with a decrease in the likelihood of participating in the labor market by 7.8%. In the sample, households receive about 70,000PKR remittances monthly, and one-fourth of the household receive remittances above 70,000PKR. It implies that the effect of remittances is stronger for households receiving above 70,000PKR. In this context, we predict probability at a different level of remittance in Figure 2. The trend of the line in the graph shows that at the initial level when monthly remittances of 10,000PKR, the likelihood to participate in the labor force is 0.84, but as the level of remittances rises indefinitely, the likelihood to participate in the labor force slide down to 0.3. Finally, remittances can be predicted to increase the reservation wage, a negative function of labor participation.

The results suggest that an increase in age is significantly associated with a rise in the likelihood of participating in the labor force. At the same time, a nonlinear relationship exists between age and the likelihood of participating in the labor market. The nonlinearity implies that the likelihood to participate increases with age, but after a threshold level, the likelihood to participate decreases with an increase in age. The results suggest that a male-headed household is likelier to participate in the labor market than a female-headed household. Moreover, a household head from a more developed provincial capital is more likely to participate in the labor market than a household head

from a less developed provincial capital. It implies that the opportunity differential at the provincial level may lower labor participation in less developed regions.

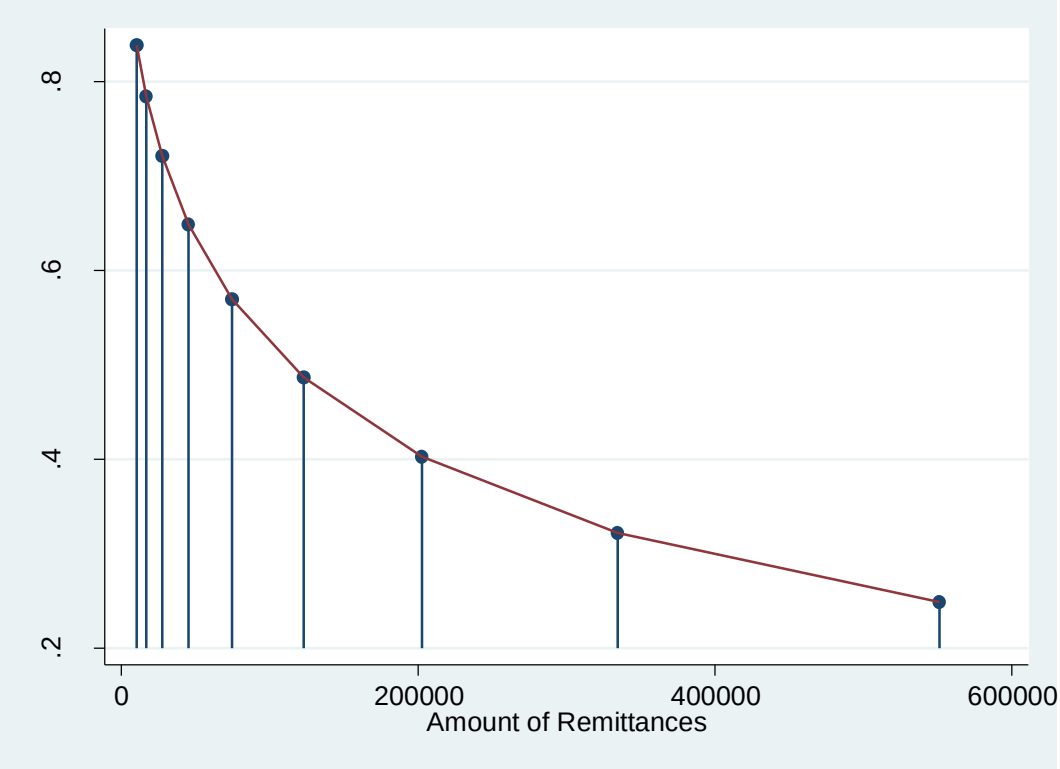

Figure 2. Relationship between Probability to Work and Remittances
Source: Research findings.

On the contrary, the head of the household from urban is less likely to participate in the labor market because, in the urban area, most people prefer to work in the private or public sector and try to get a job according to their taste. However, due to technological advances, their skills expired. They could not survive in the advanced labor market, which encourages them to quit the labor force and increase the dependency ratio in the presence of remittance receipts. While in rural areas, most people prefer self-employed status (farming or shopkeeping), which is an easy and accessible form of work, while wage employment is a hard, complex, and inaccessible form of work. As expected, the coefficient of expense shows a significant positive effect on the likelihood of participating. The coefficient of expense converted into elasticity, interpreted as an increase in the monthly expense by 10%, is associated with a 3.6% increase in the likelihood of participating in the labor market to maintain the household's standard of living by keeping the purchasing power constant.

Table 6. Determinants of Labor Force Participation

Variable	Logit			Probit		
	Coef.	z-stat	dy/dx	Coef.	z-stat	dy/dx
Log Remittances	-0.965***	-4.27	-0.2134***	-0.5381***	-4.28	-0.1954***
Age	0.1498***	2.80	0.0331***	0.0764***	2.73	0.0278***
Ages	-.0018***	-3.05	-0.0004***	-0.0009***	-3.04	-0.0003***
Gender (Male=1)	2.3362***	6.20	0.5233***	1.321***	6.46	0.4905***

Variable	Logit			Probit		
	Coef.	z-stat	dy/dx	Coef.	z-stat	dy/dx
Min. Education	0.4181	1.46	0.0962	0.2359	1.42	0.0881
Nuclear	-0.9246***	-2.96	-0.2194***	-0.5653***	-3.06	-0.2167***
Lahore	1.6243***	7.09	0.3466***	0.9308***	7.40	0.3284***
Urban	-0.6283***	-2.60	-0.1431**	-0.3221**	-2.35	-0.1194***
Male to HH Size	-1.3783*	-1.91	-0.3047*	-0.8079*	-1.89	-0.2935***
Log Expense	1.0400***	4.58	0.2299***	0.5960***	4.53	0.2165***
Constant	-4.6700**	-2.22		-2.6079**	-2.15	
Wald chi2	93.90			117.47		
Pseudo R2	0.2333			0.2300		
N	600			600		

Source: Research findings.
Notes: Z-stats in parentheses * p<0.1, ** p<0.05, *** p<0.01.

5.2 Multinomial Logit Model for Employment Status

In this study, we used a multinomial logit model (MNL) to analyze the effect of remittance on preferences toward different employment statuses. We did not give the odd and relative risk ratios but the marginal effects of different categories in Table 7. The results reveal the two important implications of the empirical aspect. First, remittances allow the household member not to participate in the labor force. Second, if the household's members want to participate in the labor force, then it is most likely to participate in full-time self-employment in response to higher remittances. The likelihood of participating in non-employment is higher than participating in full-time self-employment. It follows the "reservation wage effect" of non-employment when the amount of remittance is insufficient to finance the commencement of the self-employment business. However, when remittance receipt exceeds a given limit, it becomes a "work effect" because it increases the likelihood of participating in full-time self-employment. On the other hand, the likelihood of participating in wage-employment and part-time self-employment is negatively associated with remittances, and its effect is insignificant.

The results suggest that a rise in age is associated with being less likely to be non-employed and more likely to be full-time employed in wage/self-employed. It implies that an increase in age is associated with household responsibilities and financial pressure on the head, which insists on him/her working in the labor market. Likewise, the male-headed household is less likely to be non-employed and more likely to be full-time employed in wage/self-employed than their female counterparts. As expected, the head of household with a higher level of education is more likely to be full-time wage/self-employed. Higher human capital supports the enlargement of entrepreneurial activities in the remittance-receiving household.

The results show that the head of the household from the nuclear family (son or wife of the migrant) is more likely to participate in non-employment and less likely to participate in any employment than the non-nuclear family's head. It portrays that the

"inactivity effect" of remittances is dominant in nuclear families. Furthermore, a household head from a more developed provincial capital is less likely to participate in non-employment and more likely to participate in full-time self-employment than a person from a less developed provincial capital. As expected, a person from an urban area is less likely to participate in non-employment and self-employment than a person from a rural area. It infers that, in practice, a person from an urban area is mostly literate and prefers to participate in public or private sector jobs.

Table 7. Marginal Effects of Variable on Labor Participation

Variable	C1	C2	C3	C4	C5
	dy/dx	dy/dx	dy/dx	dy/dx	dy/dx
Log Remittances	0.2677*	-0.00052	-0.09319	-0.1381*	0.0369*
	(1.69)	(-0.01)	(-1.49)	(-1.91)	(1.72)
Age	-0.0754	-0.00098	0.0417***	.0055	0.0291**
	(-1.07)	(-0.01)	(2.89)	(0.52)	(2.37)
Ages	0.00085	0.000012	-.00051***	-.00002	-.00033**
	(1.02)	(0.01)	(-3.03)	(-0.15)	(-2.44)
Gender (Male=1)	-0.4454**	-0.00045	0.2623**	-.002001	0.1856**
	(-2.05)	(-0.01)	(2.33)	(-0.03)	(2.22)
Min. Education	-0.1264	0.0495	0.2113***	-0.1507*	0.0162
	(-1.23)	(0.01)	(4.10)	(-1.94)	(0.27)
Nuclear	0.3648***	-.0025	-0.0753	-.1197	-0.1672*
	(4.01)	(-0.01)	(-0.82)	(-1.63)	(-1.73)
Lahore	-0.3809**	-.00026	0.1042	0.0935	0.1835**
	(-2.12)	(-0.01)	(1.58)	(1.63)	(2.04)
Urban	0.1466	0.0016	0.0615	-0.09209*	-0.1177**
	(0.97)	(0.01)	(0.76)	(-1.78)	(-2.00)
Male to HH Size	0.3255	-0.0036	0.0882	-.14296	-0.2671
	(1.21)	(-0.88)	(0.47)	(-0.79)	(-1.12)
Log Expense	-0.26502**	0.00116	0.0955	0.0429	0.125513*
	(-2.26)	(0.01)	(1.10)	(0.81)	(1.73)
Wald chi2	1368.89				
Pseudo R2	0.2191				
N	600				

Source: Research findings.

Notes: T-stat in parentheses * p<0.1, ** p<0.05, *** p<0.01, C1= Non-employed, C2= Wage-employment, Part-time, C3= Wage-employment, Full-time, C4= Self-employment, Part-time, C5= Self-employment, Full-time.

5.3 Multinomial Model for Profession Category

In this section, we analyzed the effect of remittances on the choice of different profession categories by excluding non-employment. The marginal effects of the multinomial logit model suggest that remittances significantly decrease the likelihood of participating in formal work but increase the likelihood of participating in self-employment and employment. Remittances have a stronger effect on the likelihood of participating in employer than self-employment because remittances may overcome financial constraints and help expand the micro-enterprise and family business. Furthermore, remittances increase entrepreneurial activities among non-migrant members, and its spillover effect may serve as a source of job creation.

The results show that a wage increases the likelihood of participating in farming because an increase in wage rate is associated with increasing return to scale, and farming has the potential to increase return to scale by adopting modern technology. At the same time, an increase in the age of the household's head is associated with an

increase in the likelihood of participating in self-employment because self-employment is relatively less complex and can continue till older ages. On the other hand, an educated person has more likelihood to participate in an employer profession than an illiterate person. It implies that an educated person can run a business smoothly because he/she may understand the complexity of business, finance, and accounts. A person from an urban area has more likelihood to participate in formal work due to more opportunities in public and private enterprises. Similarly, a person from an urban area has more likelihood to participate in the employer profession because in urban areas, financial markets are more developed, and one can overcome credit constraints by getting flexible loans from the financial institution and may start small and medium enterprises (Tagoe et al., 2005).

Table 8. Marginal Effects of Variables on Labor Participation

Variable	P1	P2	P3	P4
	dy/dx	dy/dx	dy/dx	dy/dx
Log Remittances	-0.04022*	-0.08946	0.04738**	0.06018**
	(1.7)	(1.1)	(2.1)	(2.4)
Log Hourly Wage	0.02843	0.00405*	-0.03981	0.00733
	(0.6)	(1.8)	(0.2)	(0.3)
Age	-0.0098	0.00955	0.00054*	-0.00029
	(0.04)	(0.03)	(1.68)	(0.72)
Min. Education	0.49868	-0.42563	-0.13800	0.06495**
	(0.13)	(0.14)	(1.09)	(2.17)
Nuclear	-0.13167	0.25123	-0.09679	-0.02277
	(0.25)	(0.15)	(0.04)	(0.006)
Lahore	-0.11436	0.11276	-0.00317	0.00478
	(0.21)	(0.19)	(0.24)	(0.0045)
Urban	0.3796*	-0.40831*	0.026604	0.00214**
	(1.76)	(1.87)	(1.02)	(2.04)
Log Expense	0.02593**	-0.02508	-0.00705	0.00619**
	(2.11)	(0.1)	(0.021)	(2.05)
Male to HH Size	0.70587	-0.62868	-0.0877	0.0105*
	(0.36)	(0.35)	(0.08)	(1.69)
Wald chi^2	2956.18			
Pseudo R^2	0.2505			
N	354			

Source: Research findings.

Notes: Z-stats in parentheses * p<0.1, ** p<0.05, *** p<0.01, P1=formal worker, P2=farming, P3=self-employed, P4=Employer.

6. Conclusion

This paper studies the effect of remittances on the labor force participation decision of the individual and preferences towards different employment statuses and work categories. We collected data from the rural and urban areas of Pakistan's two provincial cities to cover the topic's main range. Using the logit and probit model, we estimated the effect of remittances on the likelihood of labor participation. The estimates suggest that remittance significantly increases the likelihood of not participating in the labor force. The magnitude of the coefficient converted into elasticity and interpreted that a 10% increase in the monthly remittances decreases the likelihood of participating in the labor market by 7.8%. The differential effect of remittances depicts that as monthly remittances increase from 10,000 to 500,000PKR, the likelihood of participating in the labor market decreases from 0.84 to 0.30, respectively. It implies that the presence of

remittance receipts increases the non-labor income of non-migrant members, which is a positive function of reservation and reservation wage, in turn, a negative function of labor force participation.

We applied a multinomial logit model to analyze the effect of remittance on the choice of different employment statuses. The results revealed that among different employment categories, remittances increase the likelihood of participating in non-employment. While if a household member wants to participate in the labor force, he/she is more likely to participate in full-time self-employment in response to higher remittances. It follows the "reservation wage effect" of non-employment when the amount of remittance is insufficient to finance the commencement of the self-employment business. However, when remittance receipt exceeds a given limit, it becomes a "work effect" because it increases the likelihood of participating in full-time self-employment.

Furthermore, the effect of remittances on the choice of different professions depicts that remittances increase the likelihood of participating in self-employment and employer profession. Remittances have a stronger effect on the likelihood of participating in employer than self-employment because remittances may overcome financial constraints and help expand the micro-enterprise and family business. Moreover, remittances increase entrepreneurial activities among non-migrant members, and its spillover effect may serve as a source of job creation.

These findings focus on labor market outcomes and reveal that reallocating labor from non-employment to self-employment or employer can generate a fruitful outcome. Initially, some policy measures need to channel the effect of remittances at the micro-level. For instance, incentives in the adoption of self-employment and improvement in ease of doing business are mandatory to spill over the effect of remittances as job creators. Moreover, credit facilities to remittance-receiving households may partially overcome the financial constraints to accelerate employment opportunities. It implies that capital accumulation may result in hiring labor and increased labor productivity (Lucas, 1987).

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