

# **Neo-Classical Theory Holds in Case of Pakistan: Evidence from Micro Data**

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## **Abstract**

Migration is an active procedure and it plays a vital role in the growth of the country. There are many determinants and factors of migration, such as wage, employment, education, age, marriage, and job-related variables (Job search, transfer of job) (Labor Force Survey of Pakistan). Migration may be internal, external, regional, and rural-urban. The current study examined the intertemporal analysis of rural-urban migration in Pakistan by using micro data (Labor Force Survey of Pakistan). The study also investigated “Neo Classical Theory of Migration” holds in case of Pakistan by using different datasets of (1999-2000, 2005-06, 2009-10, 2014-15 and 2017-18) These regimes were selected with four years gap and the last one is the recent dataset. The dependent variable was migration which is binary or dichotomous. Therefore, the objectives of the current study were estimated by the logistic regression model. The results showed that the neo-classical theory exists in case of Pakistan and wage is the most significant and positive determinant of migration in Pakistan.

**Keywords:** intertemporal analysis, labor force survey, migration, neo-classical theory, wage

## **Introduction**

Migration is a widely recognized term nowadays which is used almost everywhere. The word ‘migration’ refers to the mass directional movement of large number of people from one location to another. Migration is an essential, inevitable, and potentially beneficial component of the economic and social life of every state and every region. The term migration describes a different pattern of movement which is mostly used in human capital theory to explain the process. It can take place for a better and higher standard of living, or may be in search of job. Occasionally, people migrate for better climate and fertile property. People migrate towards closeness and colonial history. Some migrants may migrate to the nearest country and if

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the distance is short they prefer traveling. For longer distance migration, people often move along colonial paths towards ex-colonial powers, drawn by the language and a good knowledge of the culture (Becker, [1955](#)).

Previous literature has mentioned that the main reason for migration is usually high wage rate or employment. Kurekova ([2011](#)) mentioned in his study that wage differentials are significant predictors of migration. Edin et al. ([1992](#)) also mentioned that wage differentials are significant for inter-industry migration and labor migration due to employment hours. Brucker et al. ([2012](#)) tested the wage equation in Germany and the results showed that the immigrants focused on labor market with flexibility of wages. Korpi and Clark ([2015](#)) estimated the outcomes and returns of internal migration and their findings also proved that employment is the main reason for migration. Devillanova ([2004](#)) also discussed the interregional migration and wage rigidities. Similarly, Amara and Jemmali ([2018](#)) focused to study the internal migration and regional migration and role of demographic, socioeconomic, and geographical factors in migration. In all studies, employment and wages were found to be the main reasons for migration and for interregional migration as well. Migration is becoming an important topic due to an increase in population and most importantly due to employment opportunities in different regions.

Pakistan is facing a problem of unemployment and poverty due to increasing population and labor force. In labor force survey (LFS) of Pakistan, the population in 2012 was 180.71 million, 184.35 million in 2013, and 188.02 in 2014<sup>1</sup>. When working population increases, they start migrating to other countries for employment, because in Pakistan employment opportunities are less. In labor force survey of Pakistan questionnaires, (LFS)<sup>2</sup> defines various reasons for migration. These reasons include job transfer, job hunt, education, due to marriage including many other reasons. The determinants of migration refer to those factors that affect migration by characteristics of both, the place and person intending to migrate. The main characteristics as to why migration takes place may include education, race, and marital status. In developed countries, migration takes place in demographic transition, the transition of rural-urban migration, and sometimes international migration. In Pakistan, there

<sup>1</sup>Source: Ministry of Planning, Development and Reforms (Population Projections for the Year 2007-2030).

<sup>2</sup>Labour Force Survey

are many reasons of migration according to the labor force survey report. Overall, 17.1% population migrate due to the reason of study, 17.10% due to marriage, 42.7% moved with head, 12.08 % migrate due to job hunt and transfer of jobs, and 16.94 % migrate due to some other reasons<sup>3</sup>.

The current study is based on intertemporal analysis of rural-urban migration and neo-classical theory. The time period selected for the analysis ranged from (1999-2000), (2005-06), (2009-10), (2014-15), and (2017-18). The comparison of different reasons of migration was conducted for the mentioned years. According to neo-classical theory, wage is the most important determinant of migration. Moreover, the current study also conducted an analysis of neo-classical theory by constructing wage variables. The data from LFS of Pakistan was used and variables were constructed from relevant questions available in the LFS questionnaire.

### **Research Gap/ Contribution**

The current study focused as to which determinant is the most important for migration by constructing variables from LFS questionnaire and migration rate between rural-urban and interprovincial migration rates. The neo-classical theory of migration was also tested for Pakistan on different datasets (1999-2000, 2005-06, 2009-10, 2014-15 and 2017-18). Previous studies were based on LFS of Pakistan and determinants mentioned in the LFS, for instance health, marriage, education, employment, and estimations on old datasets. However, the current study included variables, such as wage and technical education and categorized the education level. These were constructed from LFS questionnaire and the recent dataset was also included in the current study and was compared with previous datasets.

### **Literature Review**

Migration is a global issue and is linked with economic growth, poverty, and human rights. It has multiple benefits and many challenges side by side<sup>4</sup>. In his book “The Migration of Labor” Stark (1991) discussed all phenomena and processes associated with migration. He discussed many reasons and one of them was totally based on individualistic decisions for supporting one’s family, while the second reason was wage differentials and third was perfect and complete financial institutions.

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<sup>3</sup>LFS Report 214-15

<sup>4</sup>Source: IMF Blog (Insights and analysis on Economics and finance)

Gao et al. (2020) argued that land transfers in rural areas and migration from rural areas to cities are common in China. When migrants move towards cities from rural areas they leave their lands and these lands are not cultivated. In such cases, the land should be transferred to people living in those rural areas. These people would cultivate the land and in that way the land would not be abandoned. The analysis of the study shows inward and outward transfers of lands and transfer period is the factor of rural land transfer and farm labor migration. Ayele and Degefa (2019) also discussed about temporary rural migration. They identified the determinants of migration by conducting survey from 398 households in Ethiopia. The analysis showed that the decision of migration increases with an increase in the number of adult labor. The effects of determinants of migration vary as the types of migrants in Ethiopia. The main determinants are the availability of livestock and irrigation water.

Aniche (2020) discussed the challenges and opportunities of migration and sustainable development. According to the study, migration has been dominating the regional, national, and global writers for the last many years. Poverty and inequality are the main factors for migration, therefore migration and sustainable development are reciprocal to each other. The analysis shows that an effective policy for migration can sustain the development.

Kurekova (2011) discussed theories of migration and conceptual review of migration and also tested the neo-classical theory of migration (wage, a significant determinant of migration). The data was collected from EU8 countries<sup>5</sup>, UK and Ireland. The neo-classical theory of migration has both micro and macro level explanations. The dependent variable is outflows of migrants. Two models were tested, one was neo-classical model in which dependent variable was migration flow and independent variables were wage differentials and unemployment differentials. OLS regression was applied to test the effect of wage differentials on migration. The results showed that wage differentials were a significant predictor for migration. The results of second model showed that wage differentials had a significant impact on migration, however, this impact disappeared when unemployment differentials were included in the model. The study

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<sup>5</sup> EU: Europe union

concluded that wage is the significant determinant of migration but when unemployment is included in the model, the wage becomes insignificant.

Phan and Coxhead (2007) discussed about the inter-provincial migration and inequality in Vietnam. The economic boom in Vietnam transition had a rapid growth in some sectors and provinces and due to this, poverty diminished in the whole country. OLS<sup>6</sup> and 3SLS<sup>7</sup> procedures were used to analyze the results. The results showed that migration follows the theory pattern of migrants from low to high income areas in which people migrate from low income countries to high income countries. There were liquidity constraints that effected poverty related labor immobility and secondly inequality reduced on average migration.

Nguyen et al. (2013) discussed about the rural and urban migration household vulnerability and welfare in Vietnam. They used the panel dataset of 2200 households. The data covered the years 2007, 2008, and 2010. The questionnaire covered the socio- demographic and economic conditions of households. The results showed that migration for employment takes place due to agriculture and economic shocks. Migration for educational purposes takes place due to the higher human capital or for financially better off the factors and significances of internal return migration in Thailand and Vietnam. The results also showed that migration had positive income growth effects.

Amara and Jemmali (2018) focused on internal and regional migration and role of demographic, socioeconomic, and geographical factors in migration. They used the gravity model to determine the influence of these factors and also used Poisson Pseudo-maximum likelihood model. The results showed that migration in Tunisia was affected by high population size, high unemployment rate in origin, and low unemployment rate in destinations. The results also revealed that migration flows are negatively related with job vacancies and household expenditures in Tunisia.

World system theory was developed by Wallerstein in 1989. This world system theory discussed globalization migration process and global cities created demand for work for migrants. Zolberg (2018) also discussed the migration theory for a changing world in which social realities are changing and due to globalization migration has a considerable impact on the world.

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<sup>6</sup> Ordinary Least square

<sup>7</sup> Three Stage Least Square

The new economic theory of migration is based on the analysis of geography and technology change. The human capital theory approach towards migration maintained that the main reason behind migration was employment opportunities and education.

Korpi and Clark (2015) discussed human capital theory in context of migration and their findings proved that employment was a significant factor for migration. Blaug (1976) discussed the empirical status of human capital theory. Massey et al. (2018) discussed the reason of the initiative of international migration, moreover the theories and models of migration were also discussed. The neo-classical theory is the oldest and best-known theory of migration in which wage differentials are the significant factor. The new economics of migration theory have concluded that the decision of migration is not only the decision of individual, in fact, this is the decision of the family or the head of household. There are many other theories, such as network theory (determinants are not included and continues migration in time and space) and individual theory mentioned in the study conducted by Massey et al. (2018).

Castles (2010) explained global migration as a social transformation perspective. He examined the difficulties of theory formation (Choosing right theory) in international migration. The problems in theory include finding appropriate theory and methodology to determine the complexity and diversity in migratory process. The solution for this problem was the development of a conceptual framework and detailed mapping of the factors that influence migratory process. With conceptual framework, the theory problem would be solved.

The field of migration is multifaceted and has a multiple level analysis. Different theories of migration, such as neo-classical theory, human capital theory, and world system theory were tested by different authors in their studies. The most crucial and well-known theory of migration is “neo-classical theory”. The findings concluded that wage is the main and significant determinant of migration and employment plays an important role in migration as well. Kurekova (2011) proved the statement of neo-classical theory, conceptual review, and empirical testing in the context of EU East-West Flows.

## **Table 1**

### *Theories of Migration*

S. No	Theory	Study/Authors	Level of Analysis	Variables	Findings
1.	Neo classical theory of Migration.	Kurekova (2011)	Macro what about micro	Migration rate, Wage differentials, Probability of employment	Wage is a significant determinant of migration.
2.	Human Capital theory of Migration.	Korpi and Clark (2015)	Macro	Education Gender Employment Unemployment	Employment plays an important role in migration. The decision of migration is socially contextualized.
3.	Dual labor market theory.	M. Piore (1979)	Macro	Labour Demand, FDI.	Migration decision is affected by globalization. Migration decision is not only the decision of an individual, however, this is also the decision of the family or the head of household.
4.	World system theory, Migration system theory	I. Wallerstein in 1989, Zoleberg, Wallerstein	Macro	Structural changes by the flow of capital.	
5.	New economic theory of migration.	Massey et al. (2018)	Micro	Wages, Income distribution, credit market.	

Table 2.1 presents different theories of migration. The main variables of neo-classical theory are wage and employment. Moreover, in human capital theory the variables, such as education, employment, and gender are main variables. Kurekova (2011) and Korpi and Clark (2015) used the neo-classical and human capital theories in their study and the variables were wage, employment, education, and gender. The dual labor market theory was tested on macro-level and the main variables were Foreign Direct Investment (FDI) and labor demand. World system theory and migration system theory analysis is based on macro-level. Another theory, that is, new economic theory of migration is based on micro-level and the main variables are wage and income distribution.

Khan et al. (2000) investigated the determinants of internal migration in Pakistan by using labor force survey 1996-97. Firstly, detailed statistical analysis of migrants' population was conducted. Secondly, the framework of human capital investment was employed by using maximum likelihood prohibit technique. The variables used were migrants, age, education, technical, and vocational training. Other variables were marital status and head of household. The results showed that in 1996-97, men and women both migrated due to non-economic reasons and human capital investment had a significant and positive impact on education.

### **Methodology**

The data for empirical evaluation was taken from LFS of Pakistan for different years collected by the Federal Bureau of Statistics (FBS)<sup>8</sup>. The bureau started the conduction of LFS in 1963. This survey provides information about population of country or labor force of the country which is active or not (LFS Report).

LFS is conducted to collect the figures related to the indicators of manpower planning, human resources, and economic growth. For the purpose of survey, questionnaires were designed by conducting interviews. The interviews were conducted with the head of the household. Due to the non-availability of the head, interviews were taken from the additional members of the house. The labor force survey questionnaires were revised many times and comprised the subjects, such as bordering economic activity, migration, and informal sector. The migration portion was also included in the questionnaires of LFS. According to LFS "migration is a movement from one district to another administrative district at any time of their lives and eliminates the ones moved in the current districts". The variables were selected based on LFS reports where the determinant for rural-urban migration was mentioned.

### **Dependent Variable**

#### ***Migrants***

Migration is important due to exchange of manpower, skills, and knowledge. To construct the dependent variable, migration is considered as people moving from rural to urban cities. This would become a binary variable which has two categories, that is, migrated or not migrated (0, 1).

<sup>8</sup> Federal Bureau of Statistics.



The variable is constructed by conducting the LFS of Pakistani data. Kurekova (2011) and Nguyen et al. (2013) used migrants as dependent variables. Amara and Jemmali (2018) also used the migrated as the dependent variables. The current study used the variable of migration as migrated people and people who migrated had the value 1 and who did not migrate have 0 value. The migrated variable was constructed from the question “What was the previous residence”; it has two categories rural and urban, migration from rural to urban and urban to rural.

## **Independent Variables**

### ***Unemployed***

To construct the independent variable, that is, unemployment, the question selected was “what were principal activities during most of the last 12 months”. This question has three categories, for instance person is employed, unemployed, and not in labor force. Andrienko and Guriev (2004) considered unemployment as independent variable. Borjas (2006) also used employment as an independent variable. Unemployment is one of the most important determinants of migration. Only unemployed people are included in the construction of this variable. Kurekova (2011) used the employment differential as the independent variable and showed that unemployment has positive and significant role in migration.

### ***Education Level***

To construct the independent variable, that is, “education level” the question taken into account is “what is the education level?”. This question has different categories. Furthermore, the education level has been divided into three sub categories, such as matric, graduation, and higher education and these three categories are included as independent variables in the model. Andrienko and Guriev (2004), Amara and Jemmali (2018), and Ahmed et al. (2013) used education as an independent variable since it is one of the major determinants of migration.

### ***Age***

The variable of “age” is constructed from the question “How old was he/she at his/her last birthday?”. The age would come in the form of different years. The variable of age is divided into two categories, that is, overall age and age less than or equal to 30. Khan et al. (2000) used age as an independent variable. Junge et al. (2015) used two categories of age as

independent variables. Ahmed et al. (2013) also used age with categories as independent variable, according to them age had positive and significant impact on migration.

### ***Technical Education***

The variable ‘technical education’ is constructed from the question “has anyone ever completed any technical/vocational training, such as auto or engine mechanics, carpentry, typing, computer, and tailoring?”. This question has 20 categories and all are included in the technical education variable. Ahmed et al. (2013) and Khan et al. (2000) used technical education variable on independent side to determine the impact on migration.

### ***Marital Status***

The variable of marital status is constructed from the question “what is the current marital status?”. This question has different categories including never married, married, widow/widower, and divorced. The never married, married, and widowed are included in the marital status variable. The variable is available as number of persons. Junge et al. (2015) taken the married as independent. Khan et al. (2000) also used the marital status variable as determinant of migration in their model which had a significant impact on migration.

### ***Wage***

The variable wage is constructed by the question of monthly and yearly income. The question was “how much net money did people earn from the main work last month and how much net money was received last year in bonuses?”. The variable wage is constructed by adding both questions and wage is in rupees. Phan and Coxhead (2007) used wage variable as monthly income. Borjas (2006) used wage as an independent variable. Amara and Jemmali (2018) used wage as an important determinant of migration on independent side. Obserg (1994) used wage differential on independent side and wage is a more significant variable for migration.

### ***Gender***

The variable, that is, ‘gender’ was also included on the independent side. This variable is constructed by the question “is male or female?”. Junge et al. (2015) used gender as an independent variable to determine the impact

on migration. Ahmed et al. (2013) also used variable, that is, ‘gender’ on independent side of the model.

### Kind Enterprise

The variable ,that is, ‘enterprise’ is constructed from the question “what kind of enterprise”? and this question has ten categories. The kind enterprise variable has been divided into three categories including public, private, and individual ownership and partnership. The kind enterprise is constructed with three categories (public, private, and ownership). This variable was included in the current study to determine that the public worker, private worker, and individual ownership have how many chances for migration.

### Model and Methodology

Following model was used in the current study.

$$M = \alpha + \beta_1 Un + \beta_2 Edu\_m + \beta_3 Edu\_G + \beta_4 Edu\_h + \beta_5 Age + \beta_6 Age\_30 + \beta_7 Tech + \beta_8 Mar\_status + \beta_9 W + \beta_{10} G + \beta_{11} K\_enterprise + \varepsilon \quad 1$$

M= Migrant= Migrants from rural-urban (migrants=1, Non-migrants=0)

Un = unemployed

Edu\_ m= Matric Education

Edu\_ G= Graduation

Edu\_ h= Higher education

Age\_30= age above 30

Tech= technical training/education

Mar\_ status = Marital Status

W= wage

G= gender

K\_ Enterprise= kind enterprise

The model was constructed to test the “neo-classical theory of migration”. The model has dependent variable, that is, migrant households who migrated from rural to urban areas which is a binary variable with 0 and 1 category. On independent side, unemployment and wage are included for neo-classical theory. The household characteristics (age, gender, and

marital status) are included in the model to determine the impact of these variables on migration. The other variables, such as technical education, education levels, employment status, and kind enterprise are included as control variables.

The current research was based on a study conducted on household level with the help of above-mentioned equation or model. The models can be estimated by Ordinary Least Square (OLS) technique. Consequently, OLS would provide biased and unsatisfactory results due to dummy variable introduced on the dependent side of the model. Different econometricians gave the solution of that problem by providing logit and probit estimation techniques used in the categorical type of analysis. Firstly, the econometricians provided the method of Linear Probability Model (LPM) but this method had many problems. Firstly, the estimates from LPM cannot be interpretable, secondly by using LPM the problem of heteroscedasticity arise. Thirdly, it does not represent true distribution. Lastly, the problem of boundedness arises. The logit model can solve all these problems.

On the other hand, qualitative analysis for research purposes need to be quantified. If the regressors take the value of 0 and 1 it would be called binary, categorical or dichotomous variable. Binary and dichotomous variables are called nominal scale variables. When the value of category becomes equal to 0, it means that attribute is not present and if the value of category becomes equal to 1, the attribute is present. In this case, the researchers estimate the probability associated with the attributes. Due to this reason, qualitative response models are called probability models. Three types of approaches are used for estimation and development of these models. These approaches include linear probability model, logit model, and probit model. Another technique is multinomial logit in which logistic regression is generalized with two or more possible outcomes or attributes.

### **Odd Ratios and Marginal Effects**

The coefficients estimated through logit model cannot be interpreted directly. For the interpretation of results, odd ratios and marginal effects are calculated. On dependent side, the dummy variable is introduced for migrants, for instance 1 is for migrants and 0 for non-migrants. The logit model can be interpreted through odd ratios, however, the marginal effects are a better way to explain the results. The marginal effects can be explained by one-unit change. On independent side, variable provides a change of

increase or decrease in probability of dependent side variable. This shows a marginal change in two variables by holding all other variables constant in the model.

### **Results and Discussion**

The current study attempted to test the intertemporal analysis of migration and which determinant is important for migration. The LFS was conducted to find objectives of this study. The LFS of 99-2000, 2005-06, 2009-10, 2014-15, and 2017-18 was selected for the analysis. The unit of analysis was household, since the migration decision is the decision of household and not an individual decision.

Table shows the intertemporal analysis for different years. In 2014-15, there was a positive relationship between an unemployed person and migration. If a person is unemployed, there would be more chances for his/her migration. If there is one percent increase in unemployment, there would be 0.8% chances to have an increase in migrated people. The p-value is greater than 0.1, so this is insignificant. In 2009-10, the relationship remained positive and insignificant, the year 1999-2000 showed the same results. In 2005-06, the relationship between unemployed people and migration was negative and insignificant. This variable (unemployed) is insignificant because when the variable of wage is included in the model, unemployment would become insignificant. Wage has more role in the migration.

Kurekova ([2011](#)) argues that if unemployment is included in the model, the impact of wages would become insignificant and if wages are included in the model, the impact of unemployment would disappear. Therefore, wages are more significant predictors of migration in classical theory. Table shows that if wages are included, the variable of unemployment would become insignificant. The other variable is education (matric education), then there is a positive relationship between them. In 2014-15, the matriculation education variable was positive and showed a significant impact on migration. In the year 2009-10 and 2005-06, this relationship became negative and insignificant and in 99-2000, the relationship became positive again. The 2014-15 results are more significant and related to the theory (neo-classical theory of migration). If a person is graduated, then there would be a negative relationship with migration. As a person becomes graduated and acquires education, they would not migrate. All other years

(2009-10, 2005-06, and 1999-2000) have the same results. In 1999-2000, there were 2.8% chances that people who are graduated would not migrate and it was significant at 5% level. A person with higher education had a positive impact on migration in the years 2014-15 and 2005-06, however, there was a negative impact during the year 2009-10. The variable 'higher education' is insignificant for all the years.

The variable 'age' is included in the model. This is because the researchers wanted to test that whether age has some impact on migration in Pakistan or not. Table shows that age and migration have a positive relationship. The variable 'age' was statistically significant in all years which means that it plays an important role in migration. If the age of an individual is above 30 years, then it would play an important role in migration. This is because it is also a significant variable for migration as shown in Table 6.5. If a person's age is above 30 years, he would migrate most likely.

Years	Dependent Variable. Migrated Persons Rural-Urban									
	2017-18		2014-15		2009-10		2005-06		1999-2000	
	Coefficients Std. Error	MFx	Coefficients Std. Error	MFx	Coefficients Std. Error	MFx	Coefficients Std. Error	MFx	Coefficients Std. Error	MFx
Unemployed	.1354 (1.034)	.0008	.1252 (1.054)	.0081	.1952 (1.064)	.0159	-.2748 (1.070)	-.0269	.3512 (.5503)	.0375
Edu_Matric	.1710 (.0821) **	.0113	.1745 (.1011) *	.0109	-.0060 (.0876)	-.0004	-.1268 (.0793)	-.0136	.1722 (.1172)	.0163
Edu_Graduate	-.0487 (.1254)	- .0106	-.0869 (.1463)	- .0052	-.2410 (.136) *	-.0169	-.3521 (.125) ***	-.0347	-.3269 (.1693) **	-.0283
Edu_Higher	-.0521 (.1475)	- .0065	.2440 (.1615)	.0164	-.1018 (.1671)	-.0074	.0406 (.1427)	.0044	-----	-----
Age	.0220 (.0043) ***	.0010	.0306 (.0054) ***	.0018	.0228 (.0048) ***	.0017	.0193 (.0044) ***	.0021	.0189 (.0067) ***	.0017
Age_30	.4932 (.1265) ***	.0294	.4206 (.1633) ***	.0296	.3044 (.1528) **	.02534	.1869 (.1334)	.0213	-.3223 (.1953) *	-.0278
Technical_Edu	-----		.4729 (.0967) ***	.0330	.3912 (.0998) ***	.0332	-----	-----	-----	-----
Marital Status	-.3356 (.1494) *	- .0303	-.3279 (.1912) *	- .0202	.1784 (.1819)	.0134	-.4571 (.1469) ***	-.0497	-.1120 (.2552)	-.0104
LWage	.5282 (.0695) ***	.0461	.2879 (.0803) ***	.0177	.1236 (.0658) *	.0093	.0316 (.0415)	.0034	.2014 (.0955) **	.0187
Gender(female)	.7222 (.2222) **	.0749	1.225 (.2745) ***	.0757	.2181 (.3062)	.0164	.4367 (.2716) *	.0474	-.0205 (.4949)	-.0019
Kind Enterprise	.1109 (.0153) ***	.0781	.0811 (.0984)	.0050	.1328 (.0455) ***	.0100	.2369 (.0597) ***	.0257	.0259 (.0678)	.0024

**Note.** \*\*\* for 1 % level of significance, \*\* 5 % and \* 10 % level of significance

## Intertemporal Analysis of Migration

Another variable, that is, ‘technical education’ was also included in the model to test its impact on migration. A positive and significant relationship existed between technical education and migration in 2014-15 and 2009-10. Another variable was added on independent side, that is, marital status. It determines the impact on migration that if a person is married or not. In the year 2014-15, there was a negative relationship between marital status and migration which was significant at 10% level of significance. In the year 2009-10, the relationship became positive. Similarly, in 2005-06, the relationship was negative and it was significant at 1% level of significance. In 1999-2000, the relationship remained negative.

The most important variable in the model is wage which plays a very important role in migration. During the year 2014-15, there was a significant relationship between migration and wage and it was statistically significant at 1% level of significance. In 2009-10, the relationship remained positive and significant but at 10% level of significance. Similarly, during 1999-2000, the relationship remained positive and significant. Another important variable for migration is gender which determines the chances of migration if the person is male or female. There was a positive relationship during all the years except 1999-2000. This is because, at that time the gender was not a matter of concern for migration. Kind enterprise means that if the person is publicly employed then what would be its impact on migration. There was a positive relationship between the migrated person and the kind enterprise.

Overall if a comparison is drawn of all the years (2017-18, 2014-15, 2009-10, 2005-06, and 99-2000) the neo-classical theory holds in 2014-15, 2009-10 and 99-2000. The theory does not hold during the 2005-06. There could be many reasons behind the failure of neo-classical theory during the years 2005-06, for instance the earthquake of 2005. In that year, migration took place due to earthquake and not due to the reasons mentioned in the model of the current study. According to “neo-classical theory”, wage is the significant and positive determinant of migration and this relationship existed in all the years except 2005-06. Therefore, it can be said that according to these results, neo-classical theory has a hold in Pakistan and if it does not have a hold then there would be some other reasons of migration. The other variables, such as gender, education, employment, age, marital status, and kind enterprise also have an impact on migration. These



relationships have been shown by different authors in their studies (Ahmed et al., 2013; Khan et al., 2000)

## Conclusion

The important study on population is related to migration which may take place due to political, social, and economic reasons. Migration can be beneficial for people of developing countries. This is because it can increase income, skills, knowledge, and may also improve the standard of living. The migration of labor force from one place to another is also an important topic. Different studies have mentioned the determinants of migration, however, wages and unemployment are considered to be the most significant and important determinants of migration. The most important “neo-classical theory” holds in case of Pakistan. In case of Pakistan, research on migration is conducted, however, only in the form of determinants. Many other directions are not well researched. The determinants on which the researchers conduct research are only those which are mentioned in the LFS. Recent years have witnessed an increase in the internal and regional migration.

## Limitations of Study

The limitation of the study is that when micro data or survey data is used, the construction of variables must take place according to the questionnaire. In this way, no variable can be changed. The variable should be constructed as mentioned in the survey data.

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