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The Role of Locational Factors in Influencing Migration towards Urban Areas Case Study of Pakistan

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ABSTRACT

Theories on migrants and migration centers around the idea that migration is a decision making process by individual to move towards areas with better earning opportunities. Especially in the context of developing countries such as Pakistan, urban centres are a great source of attraction for better and improved livelihood, thus, such region experience massive and continuous current of migration flows. For keen understanding of migration patterns towards urban areas in Pakistan, this research aimed to present social, economic and demographic characteristics of migrants in urban locality, cities and other urban areas, migrated from various parts of the country descriptively. Further, through regression analysis, it explains how the market situations and the socio-economic features of destination attract migrants from all over the country by identifying the factors at destination influencing individuals to migrate in using a penal data spread over seven years from 2005-06 to 2012-13. The results revealed that majority of the migration flows is concentrating within Punjab especially in Lahore after the port city of Sindh, Karachi. Females were found to be more migratory than males. Cities see a higher number of migrants from urban areas, whereas other urban areas have a higher number of migrants from rural areas. It has also been discovered that as individuals of the labour force advance in their education, they become more migratory. In-migration of working-age people is higher in urban areas. Cities with a higher proportion of migrants are also those with a higher economic size. As per regression results, employment, expected wages, unemployment rate, and regional economic contribution, all have a large and significant impact on in-migration and net migration flows, respectively. This research yielded a number of useful policy implications that would help the government and related agencies to better control and guide migration for the benefit of our country, bringing it closer to a path of affluent relative balancing growth and development.

***Keywords*:** Migration Pattern, Cities and Districts, GMM, Panel Analysis

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INTRODUCTION

Internal migration is a precursor for urbanization, a phenomenon whose significance as a crucial driver of economic growth has long been recognized. Structure changes in developing economies frequently have far-reaching spatial repercussions. Migration from rural to urban areas in search of work plays an important role in the urbanization

process and is commonly regarded as a labour market adjustment to the inter-sectoral shift in importance from agriculture to manufacturing and services.

According to the World Bank (2013), developing countries must plan to house an additional 2.7 billion people between now and 2050, as migrants from rural areas migrate in massive numbers to pursue their ambitions and aspirations in cities. Most of the migrants seek those jobs which are offered in cities, others come in quest of public services that are not available in rural regions, whereas some migrants seek sanctuary from climate shocks that make rural livelihoods more vulnerable. Surging populations put a lot of stress on fundamental services and urban infrastructure in developing countries, particularly in cities that lack the resources and institutions to provide all immigrants with access to jobs, housing, and basic amenities. Surging populations will place intense pressure on basic services and urban infrastructure at a time when developing-country cities still lack the resources and institutions to provide all the new arrivals with access to jobs, housing, and basic services. This issue has also been highlighted in international studies that most of the urbanization occurs early in development, before nations attain middle income levels (World Bank, 2008)

Theories related to migration centered around the idea that migration is a decision making process by individual/ household to move towards areas with better employment and earning opportunities as advocated by Haris and Todaro 1970, Bhagwati and Srinivisan 1974, Fields 1975. Though, migration can be a voluntary or involuntary decision. It is voluntary when it is made by one's own choice while it is involuntary if one has to migrate on account of facing some natural or man-made hurdles. It is voluntary if one rationally decides to migrate comparing the benefits and cost of moving out of their origin and of moving in to a particular destination. Forces that push individuals out of their current/native place become the push factors at origin while forces that attract them to a certain destination are the pull factors working at destination influencing their decision where to migrate. Ameliorate economic opportunities is major pull factor, partly due to agglomeration economies which motivates internal migration.

Though, migration is not merely confined to seek better earning and employment but to seek better education, training, healthcare, recreational activities and many more. Migration involves monetary as well as non-monetary costs. The farther a destination is, more less likely their visits back home are so as to avoid commutation cost. Hence Schwartz, 1973, Greenwood, Ladman and Siegel, 1981 are of the view that migration deters with increasing distance to destination. This may be so because of lesser knowhow about the market structure and opportunities at destination located far from the origin. Though having social network at destination is of much support in this regard. Potential migrants at origin are facilitated having concentration of the migrant pool of the same ethnic, linguistic or cultural origin or native land at destination (Huntington, 1974; ul Mustafa, Abro, & Awan, N. W. 2021). These networks not only are helpful in gathering information regarding jobs and even getting a job for the rural base migrants but also lessen the danger of homelessness, temporary unemployment and uncertainty over migratory returns. Migrant's prime concern at arriving destination is to secure a job for them given their imperfect knowledge, lower education and training skills. Informal sector at destination welcome these migrants for their initial survival and side by side they get trained and equipped educationally to compete for the destination jobs (Banerjee & Bucci; 1995). Finding a job is much easier if social networks are large at destination but the risk of congestion effect

remains as migrants compete with one another for the few opportunities that are available (Yamauchi & Tanabe; 2003).

Keeping various strands of theory in view this research aimed to present social, economic and demographic characteristics of migrants in urban locality, cities and other urban areas, migrated from various parts of the country descriptively. Further, through regression analysis, it explains how the market situations and the socio-economic features of destination attract migrants from all over the country by identifying the factors at destination influencing individuals to migrate in. The hypotheses to be checked by this research are designed to cover various strands of theory and literature available. The following are the main research hypotheses:

- Migration upsurges due to higher expected wages at destination.
- More a destination contributes towards national growth, more it experiences migration inflows.
- Employment opportunities at destination foster labour migration:
- Destinations with relatively enlarged informal sector host more migration relatively.
- Migration increases with increase in education
- Distance deters migration: With increase in distance between destination and origin, migrants had to bear more monetary and social cost accordingly. As they may be curtailing their number of visits back home to save commuting cost for such visits.
- A port city attracts more migrants then the one without a port: As a port city has relatively more opportunities than others.
- Being a destination in a developed province boost migrants towards itself.

This research is unique in the context that it investigates the characteristics of a destination in attracting migration at district level including large cities and other urban areas identified in Labour Force Survey (LFS) using a panel data spread over seven years from 2005-06 to 2012-13[1]. In a number of respects, this study contrasts from and adds to existing literature in Pakistan. Its major contribution includes compilation of LFS data for the period from 2005-06 to 2012-13 for internal migration towards fourteen major cities and twenty six other urban areas. Calculating the dependency ratio to account for all dependents who are unemployed or not a part of labour force because of any reason such as, disability, studies, age, and so on. And finally distance to destinations from various districts in Pakistan is estimated by averaging individual distances obtained from the internet.

The paper proceeds further with a review of existing literature followed by the research design discussing the econometric model, variable description, methodology adopted and the data used. Afterwards, descriptive analysis of migrant workers by their area of destination is presented. Regression results emphasizing the importance of the destination characteristics attracting migrants are reported and finally conclusion and policies are discussed at the end.

Review of Literature

Theoretical understanding of migration process commenced with Lewis (1954)Dual Sector Model, arguing that migration occurs between two sectors, one the industrial sector and the other is agricultural sector. The human capital model of migration by

[1] Labour Force Survey (LFS) is not published for 2011-12.

Sjastad (1962) emphasizes on the importance of education on migration behaviour. With time, the decision to migrate expands from individual to household/ collective basis formally presented by Oded Stark (Stark 1978, Stark 1991) as in Family/household Migration Model. It includes migration as a risk aversion process, that is, in it a household motivate its member to move to different locations to avoid any undesired circumstances concerning a particular location. According to Stark, the head of the household acts as a primary decision maker and allocate labour to various locations in order to maximize family welfare. Apart from these, there also exists forced migration in which individuals are compelled or persuaded to migrate on account of various man-made (economic, social, and political pressures) and natural (disasters) hazards. The theory was further explained by Todaro (1969).Todaro's Model presents a theoretical justification which takes migration as an economic decision where the individual/ household decides to move if there is a higher expected income in the urban areas than at origin. Disparities among origin and destination are the major cause of urban-directed migration. There exists a vast literature discussing these rural urban disparities taking various push and pull factors of origin and destination respectively. Few relevant studies are presented below. Along with other determinants of migration, Fields (1982) and Schultz (1982) took rate of employment at destination and origin as stimulus for migration, in order to incorporate Harris and Todaro (1970)'s view, and found them significant to influence migration. Fields (1982) used linear regression analysis while Schultz (1982) estimated a multinomial logit model. The gravity models highlights the distance which is an important determinant of migration. A greater spatial gap between origin and destination lower flow of migration. It is argued by Schwartz (1973) that the psychic cost of moving increases as distance increases, whereas information related to destination decreases. A greater migration distance reduces the frequency of visits back home thus increases the psychic cost though advance means of communication are important to reduce this cost to a considerable extent. Fields (1982) and Schultz (1982) found distance as a deterrent to migration decision.

Inter-regional migration determinants were analysed by Aldashev and Dietz (2011) in Kazakhstan. They used quarterly panel data on migration from one region to another for the years 2008 to 2010. As per their findings, economic factors particularly income was a strong driver of inter-regional migration there. Migration flows were more likely to be inclined towards regions with higher income levels. Gravity variables (region's population and distance between native and host region) were also significant and had their respective signs. Further high migration costs were associated with poor infrastructure. The paper suggested that convergence in Kazakhstan and improvement in living standard would be facilitated by investments in social and public infrastructure.

Internal migration flows across regions has the potential to combat inter-regional disparities and hence are of immense importance. In Italy, relative unemployment rates and relative per capita GDP were found as major drivers of internal migration during 1970 to 2002 as per Piras (2010). In Britain, wages and relative unemployment had a strong impact on mobility across region though the process of regional adjustment was quite slow, Pissarides and McMaster (1990). Similarly in Germany, Decressin and Fatás (1995) observed that welfare differences between East and West, defined the flow of migration between them but these flows failed to mitigate these differences.

Even on Pakistan a rich literature is available analysing migration descriptively as well as empirically. Following human capital model, young, energetic, experienced and educationally well equipped individuals are more likely to become migrants as supported by Li and Zahniser 2002, Ahmed and Sirageldin 1993,Ikramullah &Shair (2011) and Singh1986

The direction and incidence of internal migration was analysed by Irfan, Demery and Arif (1983) using 1979-80 Pakistan, Labour force and Migration (PLM) data. They analyse the patterns of these flows for different distance categories and net migration and concluded that, migration is a long distance phenomenon and is dominated by rural to urban migration.

Memon (2005) analysed and compared data from three different databases; Labor Force Survey, Pakistan Household Integrated Survey and Census data at district level for understanding the causes and patterns of internal migration in Pakistan. It was found that about 20% of migrants were economic migrants i.e they migrate because of economic reasons. Female migration was majorly because of non-economic reasons such as marriage or movement along family etc. Migration flows were majorly concentrated in the province of Punjab followed by Sindh, the only province with a net inflow. Naeem (2004) affirms the finding that Punjab had a negative net migration balance.

For Faisalabad, Farooq, Mateen &Cheema (2005) examined the determinants of internal migration and concluded that the proportion of individuals who migrated for economic reasons was about 50% Poor economic (80%) and educational opportunities (13%) pushed individuals out of their origin. Landlessness also dragged individuals out of their native land to search for their livelihood. Further, In a study based on the city of Sargodha, insufficient and inappropriate health, education and recreational facilities along with poor infrastructure, stagnant and limited economic opportunities motivate migration towards urban areas, Imran et. al (2013).

The Research Design

Rural-urban migration from a locational point of view and the factors fostering it are both descriptively and empirically scrutinized in this research. Tables, graphs, and pie charts are used to offer a descriptive assessment of migrant characteristics by destination area. Interpretation of regression coefficients, their signs, magnitudes, and other statistical concerns were all part of regression analysis.

For keen understanding of migration patterns towards urban areas in Pakistan descriptive investigation of migrant characteristics by their area of destination is presented. Descriptive assessment of migrant's characteristics such as age, gender, education and employment is presented through graphical presentation by time and space. The regression analysis has been conducted to explore the factors that encourage people to move from rural to urban settings. The Generalised method of moments (GMM) has been used to carry out the analysis.

Haris and Todaro (1970) was the pioneer of this work and our model is an extended model rooting from their work by taking into account expected wage differential of rural-urban and unemployment. Further it incorporates variables from other strands of theories such as human capital, informal sector, regions contribution towards national GDP, distance and lagged migration to account as a proxy for contacts at destination that help in gathering information regarding destination market structure.

Our regression model is intended to show the elements that cause in-migration from rural areas to urban areas. The major cities and other urban areas, as defined by the labour force survey, are the locations that attract migration.

The Model

Following model is estimated for rural-urban regression.

$$M_{jt} = \propto + \beta_1 EW_{jt} + \beta_2 UER_{jt} + \beta_3 IFS_{jt} + \beta_4 EMP_{jt-1} + \varphi_1 HC_{jt} + \rho_1 DR_{jt} + \gamma_1 REC_{jt} + \partial_1 D_{ij} + \gamma_3 M_{jt-1} + \gamma_4 Port_t + \gamma_5 Punjab_t + \mu_{jt} \quad (1)$$

Where, j stands for destination, i for origin and t for time

M_{jt} = Number of immigrants from all over Pakistan.

The four Labour market (LM) variables are described as follows

EW_{jt} = Expected wages.

UER_{jt} = Unemployment rate.

IFS_{jt} = Informal sector.

EMP_{jt-1} = Lagged employment

HC_{jt} = Average schooling years reflecting human capital.

DR_{jt} = Dependency ratio

REC_{jt} = Region's economic contribution calculated by real gross domestic product of destination

D_{ij} = Average distance in km between origin & destination.

M_{jt-1} = Lagged in-migration in destination.

$Port_t$ = Dummy for port city.

$Punjab_t$ = Dummy that equals 1 for destinations in Punjab.

μ_{jt} = error term.

The dataset used for estimating model comprised of 14 major cities and the other urban areas for a period of seven years; 2005-06, 2006-07, 2007-08, 2008-09, 2009-10, 2010-11 and 2012-13. The list of these cities and other urban areas is attached to annexure-table A-7**.** Variable description, their expected signs with respect to the dependent variable and the sources from where the data was gathered is presented in Table 1.

Table 1: Description of Variable and their expected signs

S. No.	Variable	Description	Expected Sign	Data Source
1	In-migration	No. of individuals who migrate in the city/urban area from allover the country.	NA[2]	LFS
2	Expected Wages	Real wages (wages/CPI) multiplied by probability to attain a job (Urban Employment/Urban Labour Force *100)	+	LFS, Inflation Monitor
3	Unemployment Rate	No. of Unemployed persons/ Total Labour Force *100	-	LFS
4	Informal Sector	Employment in all own-account businesses, regardless of size, plus employment in businesses with 10 or less employees, minus employment in businesses that are only engaged in non-market production.	+	LFS
5	Human Capital	Average years of schooling at destination	+	LFS
6	Dependency Ratio	(Region's Population - Region's employment) / region's employment	-/+	LFS
7	Employment	Number of employed persons at destination	+	LFS
8	Regional Economic Contribution	Proxy by region's gross domestic product share in total national GDP calculated using a top-down approach	+	LFS, Pakistan Statistical Year Book
9	Distance	Average distance in KM between destination and various origins within the country	-	Global Feed Distance Calculator

Source: Authors' tabulation

A destination is expected to attract migration by offering, in relative terms, high expected wages, lower unemployment rate, higher level of human capital proxy by mean years of schooling**,** larger informal sector, greater contribution towards national income, having a port, being close to origin area, being a destination in a developed province (Punjab), more employment in t-1 time and having contacts and social network at destination tend to raise in-migration to such locations.

The data for this research had been largely acquired from Labour Force Survey (LFS) published by Pakistan Bureau of Statistics (PBS), Pakistan Statistical Yearbook and Inflation Monitor published by State Bank of Pakistan for the study time period. The data for distance between origin and destination was gathered from Global Feed Distance Calculator[3], an internet website.

Methodology Adopted

A dynamic regression is used for the rural-urban empirical analysis, as lag dependent variable is involved in this study. By following Arellano-Bover/Blundell-Bond (1998)

[2] NA =Not Applicable as it is the dependent variable itself.

[3](http://distancecalculator.globefeed.com/pakistan_distance_calculator.asp)

linear dynamic panel-data approach, Generalised Method of Moments (GMM) is used for this analysis. Specially, this approach is designed to account for a panel with time (t) less than cross section units (n). Methodology of Arellano-Bover / Blundell-Bond (1998) is more appropriate than Arellano–Bond (1991). As first differences of instrument variables are uncorrelated with the fixed effects which allows introduction of more instruments and increase efficiency, hence due to this additional assumption this methodology is preferred. It formulates a system of two equations known as system GMM, the original equation and the difference equation.

$$M_{jt} = \propto + \beta \sum_{n=1}^{4} LM_{jt} + \varphi_1 HC_{jt} + \rho_1 DR_{jt} + \gamma_1 REC_{jt} + \partial_1 D_{ij} + \gamma_3 M_{jt-1} + \mu_{jt} \ (2)$$

The determinants of migration inflows are examined from equation-1 for panel data by using 39 destinations for 7 years[4] i.e. 2005-06 to 2012-13. Though, it is acknowledged from this study that several econometric problems may arise from estimation of equation-1 i.e.

- Demographics and geography may correlate with independent variables as they are time invariant destination characteristics. The fixed effects are contained in disturbance term of equation-1, which consist of the unobserved destinations specific effect and the observation specific error, e_{it}.

$\mu_{jt} = + \upsilon_j + e_{jt} (3)$

- Autocorrelation may rise due to the lag of regressand (M_{jt-1}) .
- There are more cross sectional units than time period in panel data.

The system GMM uses first difference to transform equation-1 into equation-2 to solve the problem of fixed effect.

$$\Delta M_{jt} = \propto + \beta \sum_{n=1}^{4} \Delta LM_{jt} + \varphi_1 \Delta HC_{jt} + \rho_1 \Delta DR_{jt} + \gamma_1 \Delta REC_{jt} + \partial_1 \Delta D_{ij} + \gamma_3 \Delta M_{jt-1} + \Delta \mu_{jt} (4)$$

Fixed effect problem is removed by transforming independent variables into first difference as they do not vary by time. Hence, equation-2 is transformed as:

$\Delta \mu_{jt} = + \Delta \upsilon_j + \Delta e_{jt}$

Or

$$\mu_{jt} - \mu_{jt-1} = (\upsilon_j - \upsilon_j) + (e_{jt} - e_{jt-1}) = e_{jt} - e_{jt-1} (5)$$

The past level of the first differential lagged dependent variable is also instrumented. The validity of the moment conditions determines the consistency of the GMM estimator, which may be tested using two specification tests: the Hansen test is a test of over identifying constraints, and the joint null hypothesis is that the instruments are valid i.e., no correlation with the disturbance term and the Arellano-Bond test for no second order serial correlation in the error term; and the excluded instruments are accurately excluded from the estimated equation.

[4] LFS for the year 2011-12was not published.

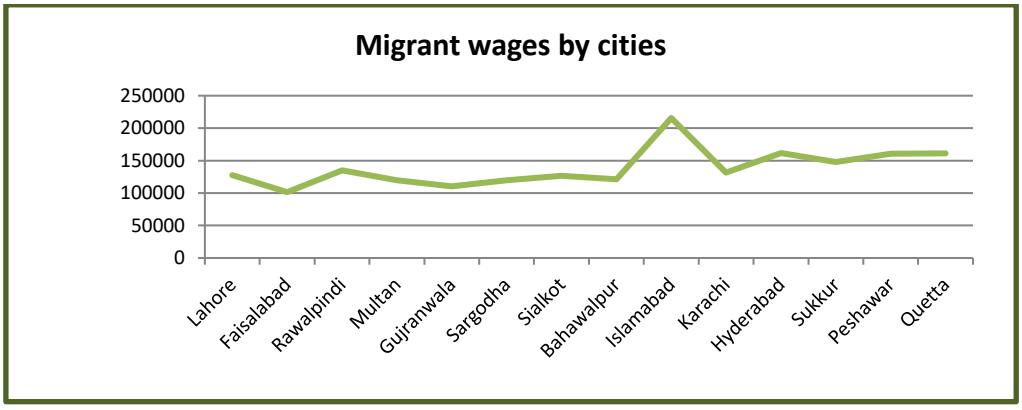
Descriptive Scrutiny of Characteristics of Migrants

Age, gender, education and skills, marital status, wages offered, employment status, area of residence are the characteristics of migrants having significant impact on the migration propensity of migrants. As compared to inhabitants of rustic regions, inhabitants of urban regions are more exposed to information and communication system. Migrant's characteristics for major cities and other urban areas are discussed concisely in this section.

Migrant Wages by Cities

Migrant wages depend on two things in a region: first is whether the migrant is skilled or unskilled and second is the growth of economic activities being executed in these regions. Regions which are more productive in socio-economic terms are due to high-paced growth acceleration potential. Diversified employment opportunities are generated in these regions as it has the power to absorb almost all types of migrants. Hence, both skilled and unskilled migrants are dragged strongly towards these regions. In such regions, migrant wages are dominated according to their occupation type (i.e. skilled or unskilled labour). Due to higher unskilled migrant labourers regions suffer from lower migrant wages and vice-versa. On the other hand, it would be unreasonable to expect skilled migrants to settle in regions with lower growth potential unless and until they were compensated for their relocation, either by public or private organizations. Hence it is justified that regions with higher migrant wages might have skilled migrants and lower growth.

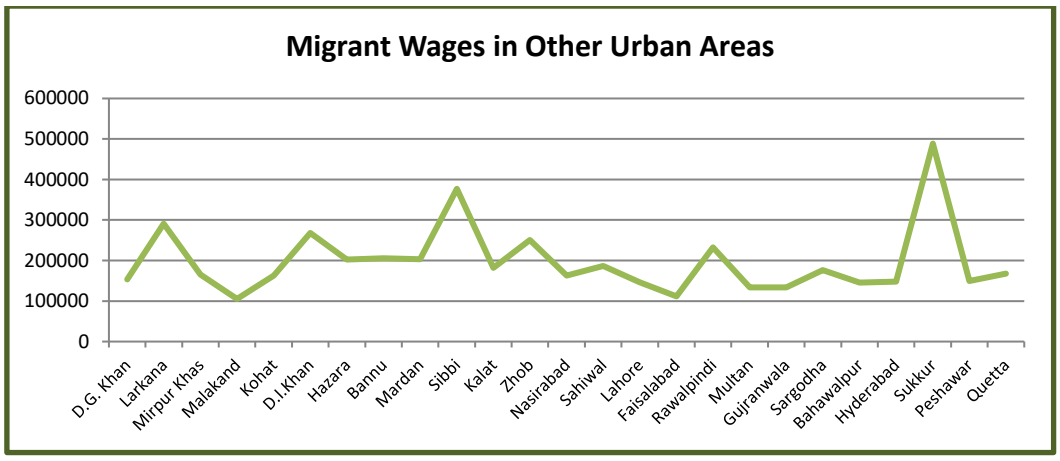
Figure 1 (a): Migrant wages by major cities



Source: Authors

Figure 1 (a) present migrant wages in major urban centres of Pakistan. Migrant wages are higher in the capital city i.e. Islamabad followed by Bahawalpur, Rawalpindi, Quetta, Peshawar and Hyderabad. Among the mega cities Karachi and Lahore are predominated by unskilled migrants, hence wages of these cities are lower as compared to other major cities. Figure 1 (b) presents migrant wages in other urban regions. For other urban areas, wages of migrants are higher in Sukkur followed by Sibbi, Larkana, D I Khan and so on. On the other hand, migrant wages are minimum in Malakand.

Figure 1 (b): Migrant wages by other urban areas



Source: Authors

Migrants by Region and Gender

47% in-migrants of major cities emigrate from rural areas which comprise 24% males and 23% females. While rest of the 53% individuals, emigrate from urban areas to major cities which comprises 25% males and 27% females.

Table 2: In-Migrants by city, region and Gender 2012-13

Migrants by City, Region & Gender 2012-13							
Names	Rural			Urban			Total
	Male	Female	Rural Total	Male	Female	Urban Total	
	%	%	%	%	%	%	%
Lahore	30.88	29.26	60.14	17.67	22.19	39.86	100.00
Faisalabad	25.82	30.75	56.57	16.31	27.12	43.43	100.00
Rawalpindi	33.04	34.93	67.97	16.68	15.35	32.03	100.00
Multan	26.86	32.12	58.98	17.19	23.83	41.02	100.00
Gujranwala	31.02	33.37	64.39	14.53	21.08	35.61	100.00
Sargodha	16.33	23.12	39.45	28.09	32.46	60.55	100.00
Sialkot	11.04	22.12	33.16	23.34	43.49	66.84	100.00
Bahawalpur	28.04	30.13	58.17	18.13	23.70	41.83	100.00
Islamabad	29.00	20.76	49.76	26.46	23.77	50.24	100.00
Karachi	17.89	14.22	32.11	34.24	33.65	67.89	100.00
Hyderabad	26.69	20.35	47.04	24.68	28.28	52.96	100.00
Sukkur	39.58	26.27	65.84	11.05	23.11	34.16	100.00
Peshawar	31.01	33.43	64.44	18.07	17.48	35.56	100.00
Quetta	19.65	22.29	41.95	31.69	26.37	58.05	100.00
Total	24.32	22.47	**46.80**	25.76	27.44	**53.20**	**100.00**

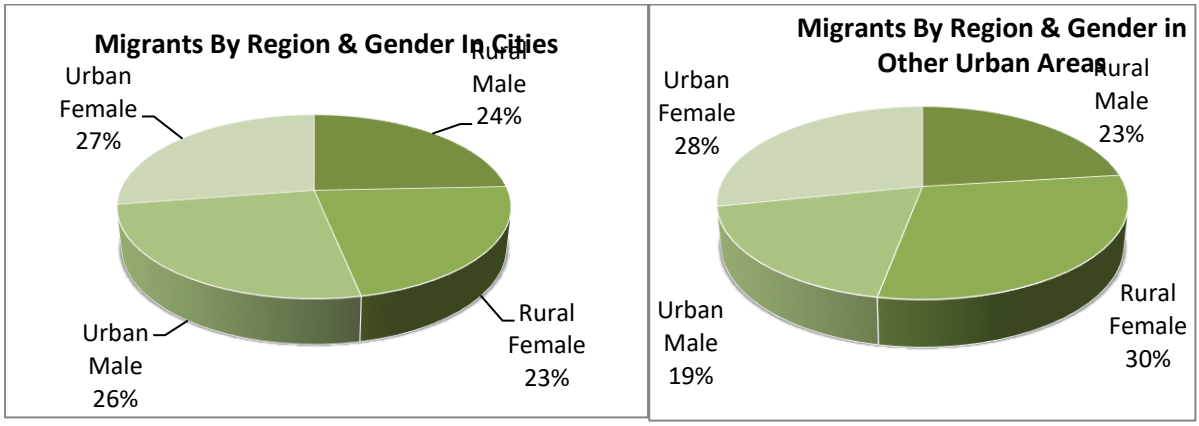
Source: Authors

In-migration from rural areas was mostly experienced by Lahore, Faisalabad, Rawalpindi, Multan, Gujranwala, Bahawalpur, Sukkur and Peshawar. The converse is

true in other cities, with the exception of Islamabad, which has a similar number of migrants from both regions. Female migration was higher in Lahore, Faisalabad, Rawalpindi, Multan, Gujranwala, Sargodha, Sialkot, Bahawalpur, and Peshawar, while male migration was higher in Islamabad and Karachi, as well as the remaining cities.

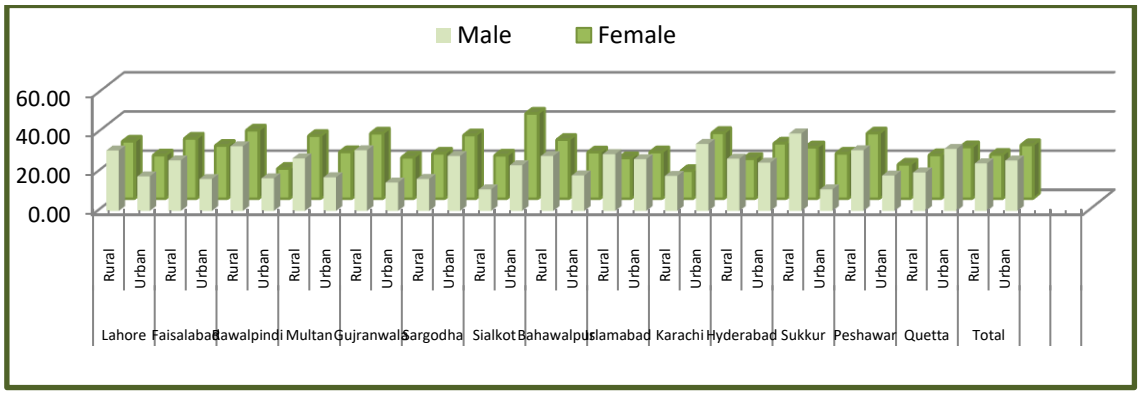
Individuals migrate from rural areas to other urban areas (53%) and in each region female migrants are higher (30% are from rural areas and 28% are from urban areas) as compared to their male-counterparts (23% from rural and 19% from urban areas). However, major cities attract more migrants but opposite case are analyzed. Majority of the rural inhabitants move to urban areas rather than cities (see figure 2 (a)) However, major cities attract more migrants either from other cities or urban areas than from rural areas.

Figure 2 (a): Migrants by region and gender in cities and other urban areas



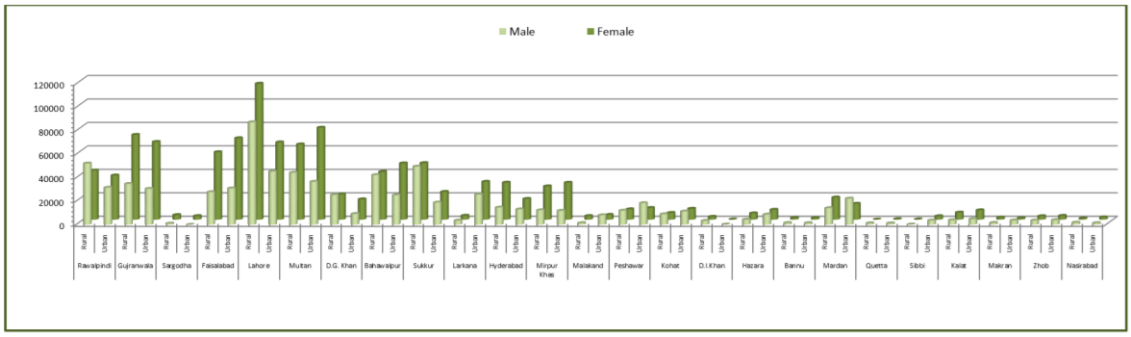
Source: Authors

Figure 2 (b): Migrants by major cities, region and gender 2012-13.



Source: Authors

Figure 2 (c): Migrants by other urban areas, region and gender 2012-13.

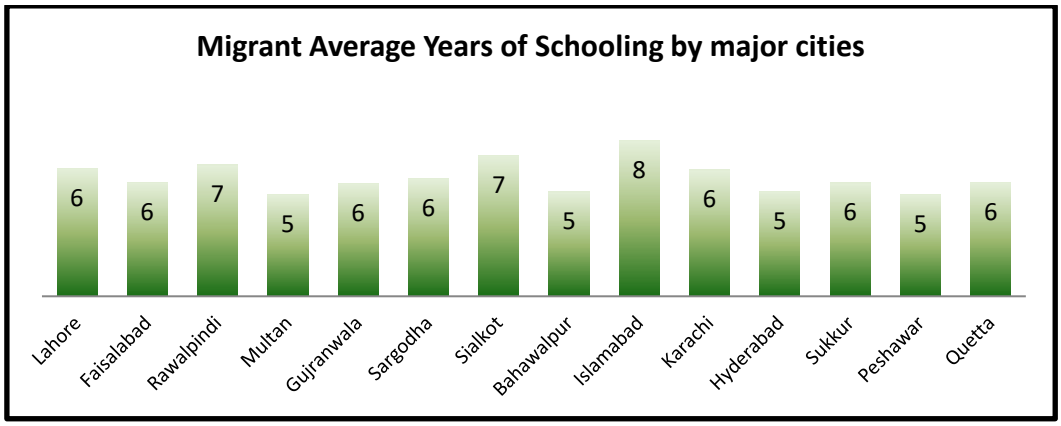


Source: Authors

Migrant's Education

Education of migrants by region is viewed in two ways i.e. by categorizing migrants by their education level or by attaining average years of schooling. Average years of schooling attained by migrants are presented first in Figure 3 (a) and (b) for major cities and other urban areas respectively.

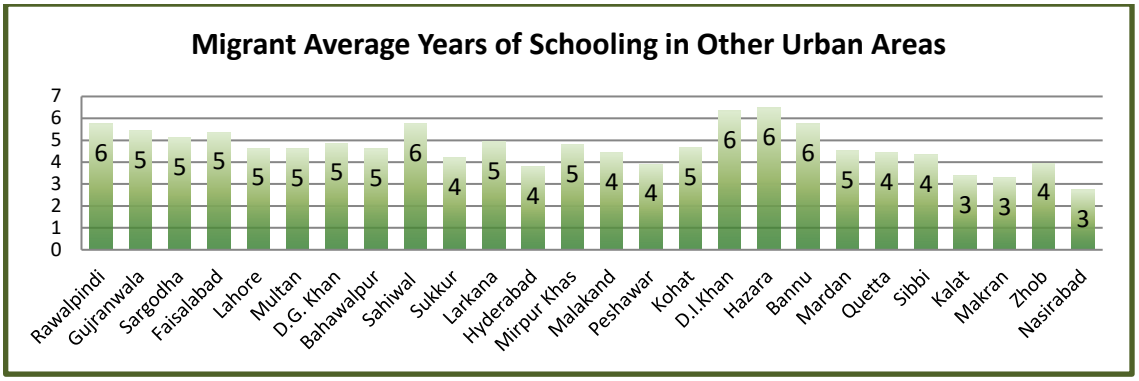
Figure 3 (a): Migrant average years of schooling in major cities 2012-13.



Source: Authors

The capital city i.e. Islamabad is popped up among other cities with higher years of schooling for in-migrants. On average Rawalpindi and Sialkot experienced seven years of schooling, whereas on average six years of schooling is grasped by the migrants of Lahore, Karachi, Faisalabad, Gujranwala, Sargodha, Sukkur and Quetta. However, the rest of the cities host immigrants with five years of schooling, on average. Same kind of count for other urban areas is presented in figure 3 (b) that can be inferred in the same manner. As compared to other urban areas, Hazara has highest migrant average years of schooling which can be seen from bar graph.

Figure 3 (b): Migrant average years of schooling in other urban areas 2012-13.



Source: Authors

The above-mentioned average years of schooling among migrants for a region do have its qualifications. The preceding averages apply to all migrants, including children, the elderly, physically or mentally handicapped people, those who migrate with others as dependents, and those who do not want to work. As a result, it includes migrants who are not part of the labour force. In the human capital framework, these migrants may not be required. Furthermore, even when calculated for migrants in the labour force, the average number fails to provide a more visible picture especially at the time of analyzing the theme of human capital model. This is because it would be unable to demonstrate a willingness to migrate or an increase in the number of migrants in the labour market or rise in number of migrants belonging to labour force with successive educational attainment. Hence, subsequently migrants of major cities and other urban areas are classified as per their levels of education attainment.

Table 3: Migrants in Labour Force by their Education Level in Cities 2012-13.

Migrants In Labour Force By Education Level In Cities 2012-13

Names	Illiterates	Pre-Primary	Primary	Middle	Secondary	Higher Secondary	Graduates	Masters	MPhil/PhD	Total
	%	%	%	%	%	%	%	%	%	%
Lahore	18.82	1.46	11.14	13.59	20.48	16.89	7.52	9.32	0.79	16.66
Faisalabad	25.45	7.23	11.68	16.38	15.45	9.80	8.88	4.64	0.49	9.96
Rawalpindi	19.98	1.28	16.95	18.88	21.92	10.04	6.79	3.54	0.61	8.94
Multan	44.96	2.12	7.22	2.67	14.98	7.76	4.53	11.20	4.55	1.88
Gujranwala	15.21	0.00	29.08	20.93	22.05	1.72	8.87	2.14	0.00	2.90
Sargodha	22.44	0.00	11.54	24.02	26.79	9.15	0.00	6.07	0.00	0.44
Sialkot	8.70	0.00	1.16	41.34	21.56	25.80	1.43	0.00	0.00	0.48
Bahawalpur	26.05	1.06	7.22	12.96	19.99	3.38	12.70	16.62	0.00	1.25
Islamabad	13.21	5.50	12.86	10.86	12.93	13.94	17.96	11.26	1.49	8.32
Karachi	24.63	1.36	13.62	16.33	18.04	8.61	14.33	2.93	0.14	40.80
Hyderabad	29.49	4.77	16.49	10.65	8.64	7.36	15.76	6.84	0.00	2.27

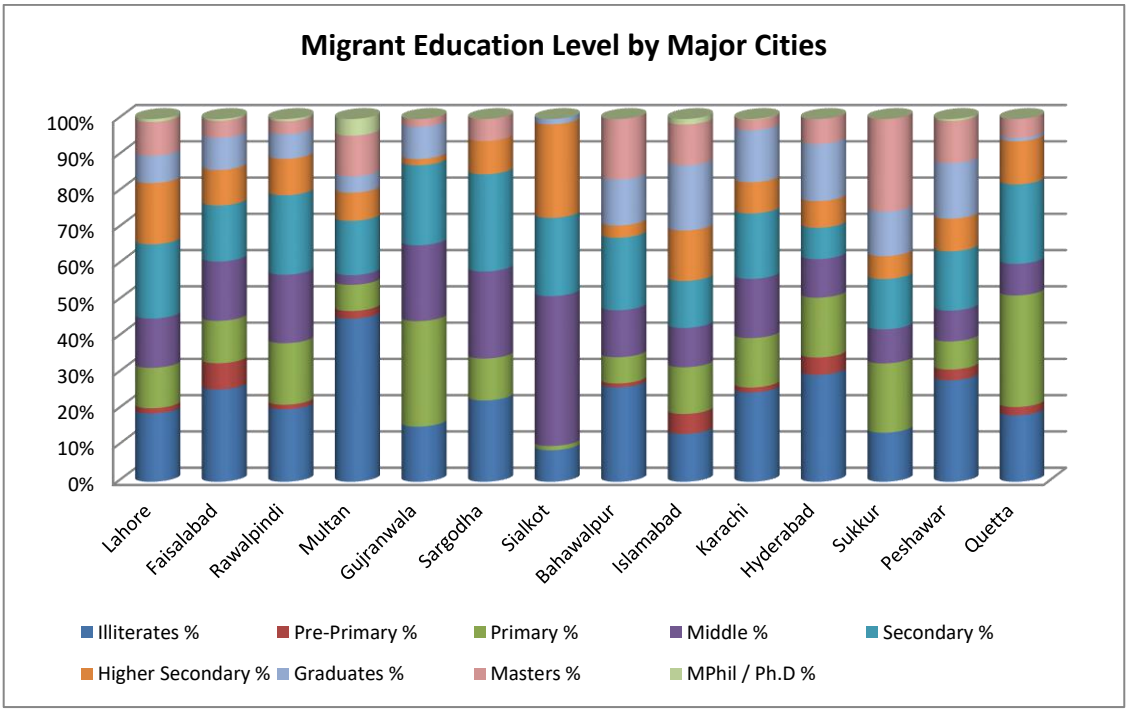
Source: Authors

In table-3 Migrants of major cities who are part of labour force (whether employed or unemployed) along with their educational attainment are discussed in detail. Although illiterate migrants are part of the labour force but they have no formal education, therefore they might be trained or have skills according to the occupation they are engaged in. The proportion of migrants increases with the level of education in all cities. As Education level increases from pre-primary to secondary migrant proportion increases from 2.42 to 17.95 %, but after that the proportion starts to declines and end

up with least proportion (0.53%) of migrants with M.Phil/Ph.D degree. In Pakistan, Average education attainment formally by majority of inhabitants is secondary education, while proportion of population who has acquired higher education is very diminutive. It is obvious from above table that as we move towards highest education level, percentage of individuals acquiring higher education level declines, hence it provides rational for declining percentage of migrants who have greater educational achievements.

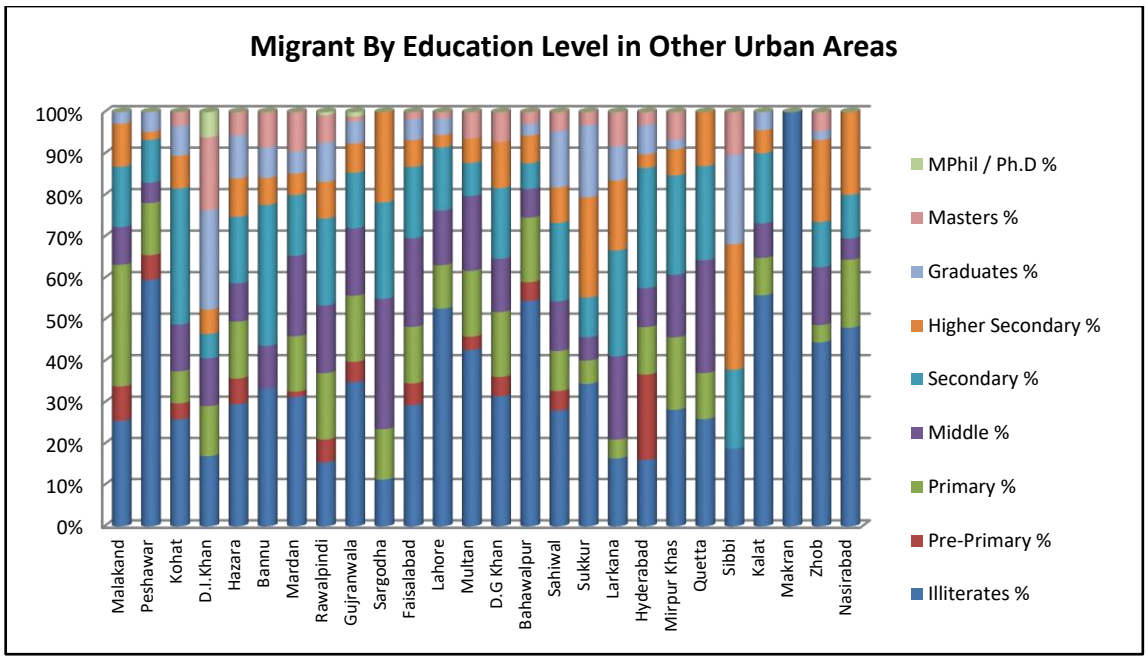
Faisalabad (7.23 percent) has the greatest number of migrants with pre-primary education, whereas Quetta (30.76 percent), Sialkot (41.34 percent), and Sargodha (26.79 percent) have the highest proportion of migrants with primary, middle, and secondary education, respectively. In addition, Sialkot has the greatest number of in-migrates with a post-secondary degree (25.80 percent). The majority of graduates (17.96%) relocated to Islamabad. More master's degree holders migrate to Sukkur (25.53 percent) than to any other city. Finally, Multan (4.55%) has the highest percentage of migrant M Phil/PhDs.

Figure 4 (a): Migrant education level by major cities 2012-13.



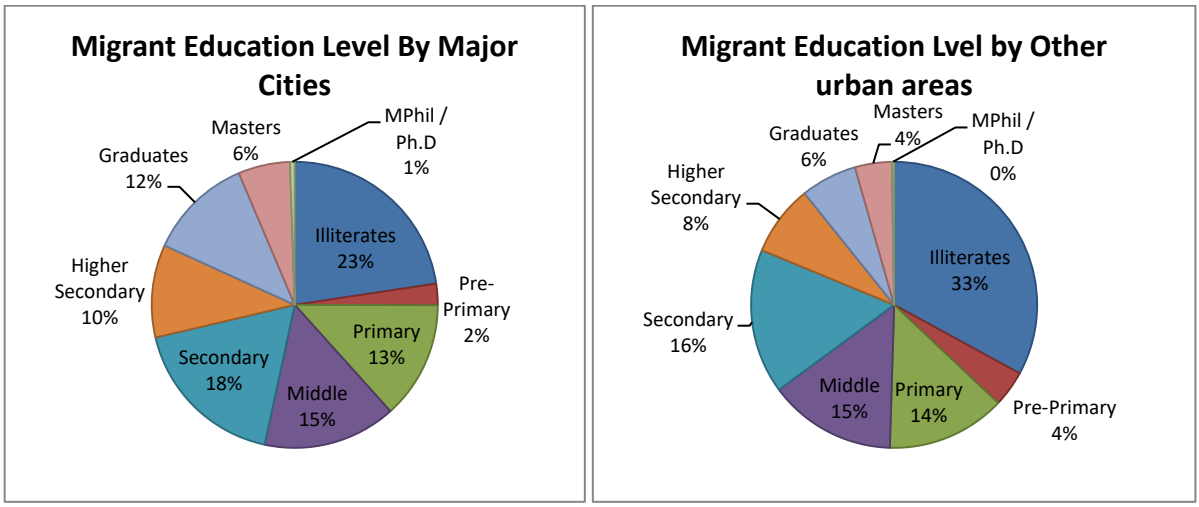
Source: Authors

Figure 4 (b): Migrant education level in other urban areas 2012-13.



Source: Authors

Figure 4 (c): Migrant education level by cities and urban areas 2012-13



Source: Authors

Sector-wise Migrant Employment

Large-scale manufacturing and service industries characterize urban areas. As a result, these industries employ more people in cities than agriculture. These urban areas, on the other hand, could be heavily involved in either manufacturing or services, or both. Services sector is flourishing at a high pace in Pakistan in relation to the other two sectors and being potential contributors of national income cities also tend to have an expanded services sector.

Table 4: Sector-wise migrant employment percentages in Major cities 2012-13.

Sector-wise Migrant Employment Shares In Cities				
Names	**Agriculture**	**Manufacturing**	**Services**	**Total**
Lahore	8.06	30.17	61.77	100.00
Faisalabad	5.89	44.35	49.76	100.00
Rawalpindi	2.96	33.71	63.33	100.00
Multan	10.51	33.61	55.88	100.00
Gujranwala	4.09	41.75	54.16	100.00
Sargodha	3.47	33.18	63.35	100.00
Sialkot	9.94	40.41	49.65	100.00
Bahawalpur	16.63	23.53	59.84	100.00
Islamabad	7.42	10.97	81.60	100.00
Karachi	3.20	38.26	58.55	100.00
Hyderabad	17.31	32.00	50.69	100.00
Sukkur	9.56	45.05	45.39	100.00
Peshawar	1.70	19.43	78.87	100.00
Quetta	5.75	26.91	67.33	100.00
Total	**5.73**	**33.71**	**60.55**	**100.00**

Source: Authors

Three major sectors of production as per the engagement of migrants are discussed in the above table. In major cities, 60.55% migrants are involved in services sector, 33.71% and 5.73% are involved in manufacturing and agriculture sector respectively. These results are in accordance with the theories regarding urbanization and urban regions. Islamabad has highest migrant employment in services sector; Sukkur and Hyderabad have highest employment in manufacturing and agriculture sector respectively. Manufacturing and services sectors have comparatively balanced migrant employment in Sukkur and Faisalabad. Sector-wise migrant employment is presented in figure 5 (a) and (b) for major cities and other urban areas correspondingly.

Figure 5 (a): Sector-wise migrant employment in major cities 2012-13.

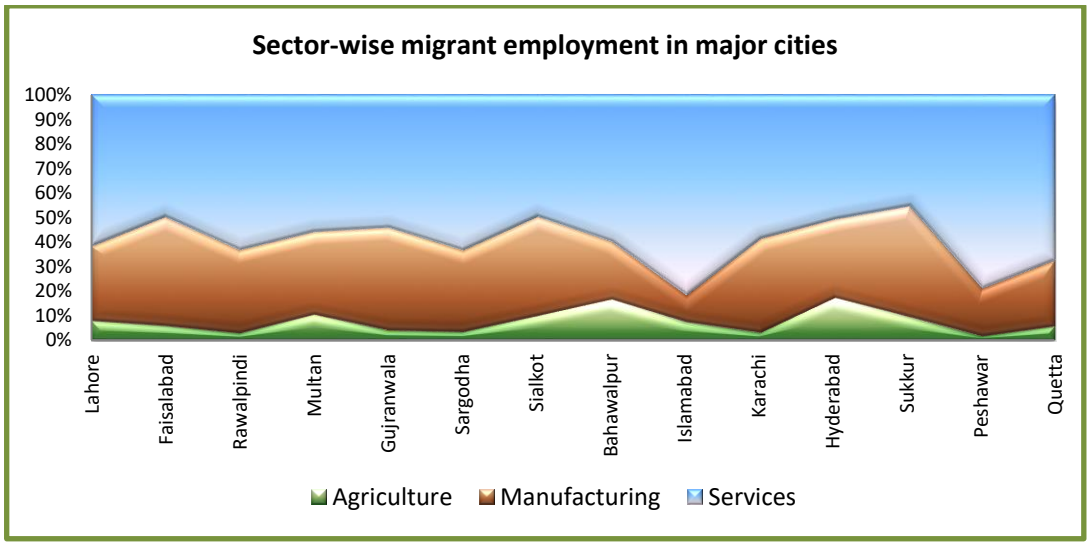
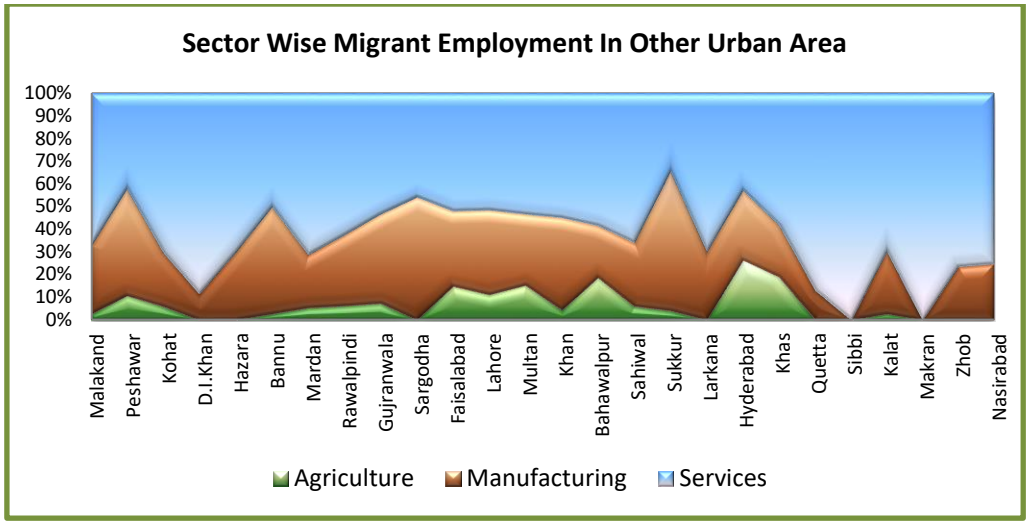


Figure 5 (b): Sector-wise migrant employment in other urban areas 2012-13.



Source: Authors

Estimation Results

The regression analysis performed in this study aims to explain features which attract migrants entering to urban areas from rural and other urban areas. Major cities and other urban divisions are included in urban areas, as per LFS classification. This regression analysis is confined to only pull factors as it involves only those features which attract migrants towards urban areas. The regression model to be estimated have a lag dependent variable in it which makes the model a dynamic model. Thus, for its estimation GMM[5] dynamic panel-data estimation is performed by following Arellano-Bover/Blundell-Bond (1998) linear dynamic panel-data estimation approach. This technique is designed to address unobserved area-specific effects and endogeneity problem among regressors in a lagged dependent regression model as it involves an instrumental variable approach and this technique is executed either in one or two-step procedure. As two steps procedure follows Windmeijer (2005) full sample correction to compensate the large downward biased in standard errors, therefore it is considered asymptotically more efficient than single step procedure. Regression is performed in two steps. A differenced equation is regressed in first step by taking exogenous variables as instruments which control for unobserved area-specific effects but a correlation between the new differenced error term and the lagged dependent variable is introduced. The lagged value of explanatory variable in level as an instrument is used in second step to correct the endogeneity issue given weak exogeneity of regressors and that the error term is serially uncorrelated. Table A-5 and A-6 of the appendix presents post estimation test for GMM estimation.

Tables A-1, A-2 and A-3 represent descriptive statistics, graphs and correlation matrix of the dataset used for the regression. High correlation (0.985) is indicated among informal sector (IFS) and real gross domestic product (RGDP) which indicates high interdependence (multicolinearity) between these variables, hence IFS is dropped from regression estimation to avoid this problem. Table 5.1 presents results of the level-level regression[6]

[5] GMM stands for Generalised Method of Moments.

[6] The model is regreesed at level as log transformation was not supported by the Davidson and McKinnon test. (see appendix table A5-4)

Table No. 5: Rural-urban regression results using dynamic panel data estimation.

Regression Results	
System dynamic panel-data estimation	
Wald chi2(11) = 414804.2	Number of observations = 234
Prob> chi2 = 0.0000	Number of groups = 39
Two-step results	**WC-Robust**
Regressors	**Coefficient**
Lag of no. of immigrants- M (-1)	0.04**
	(0.016)
Economic Contribution of Region – REC	6.5***
	(0.199)
Lag of REC (-1)	-4.7***
	(0.21)
Average Distance-D	523.3***
	(152.9)
Human Capital- HC	32476.2***
	(6573.3)
Dependency Ratio- DR	22504.9
	(18827.8)
Expected Wages-EW	1.07***
	(0.063)
Lag of employment-EMP (-1)	1493.7***
	(188.54)
Unemployment rate-UER	-1663.01***
	(157.6)
Port Dummy	1083215.0***
	(75399.8)
Punjab Dummy	405445.3***
	(41265.9)
Constant	-699917.0***
	(121994.4)

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Source: Authors

The regression results are consistent with a variety of migration theories and assumptions. Except for distance, all factors have the correct signs and are relevant in explaining migration, with the exception of dependency ratio. Lagged migration [M(-1)] is included as a representation of network effects at the destination, which aids prone migrants at origins in determining destination options. Positive and significant coefficients of lagged migration affirm this relationship and strong transmission of destination information to various origins. An increase in Regional economic contribution (REC) by one million would raise in-migration by about seven migrants on average.

Distance is found to be positively associated with migration, which can be explained in part by the ease with which people can move around inside the country, with no barriers, prohibitions, or laws limiting or guiding migration patterns. As a result, for individuals, employment prospects are more important, and they are willing to travel long distances if they anticipate to find work or a better job at their destination. Inhabitants of FATA and Balochistan are facing sectarian violence, war against terror and military operation which has compelled its natives to leave their land and move towards the areas with higher survival probabilities regardless of distance. In-migration is partly due to the notion that higher expected earnings and better

transportation eliminate the negative impact of distance, particularly in Punjab, the province with the largest of migrant movements.

Human capital is measured in terms of average years of schooling. A unit increase in human capital increases immigration in destinations by around 32.5 thousands. Likewise, in-migration move in same direction by almost same proportion (1.07) due to a unit increase in expected wages (EW) at destination. Further, an additional employment in the previous year [EMP (-1)] move 1.5 thousand migrants to the same destination in the current year. Similarly, a fall in unemployment rate at destination by 1%, would attract fewer than 1.7 thousand migrants at respective destination than otherwise expected.

Finally, the dummies for being a port city (Karachi) and being a destination in the Punjab province are found to be significant and are intended to provide a difference in the magnitude of migration for meeting the criteria, i.e. equal 1 if it's a port city or a destination in Punjab, and not meeting the criteria, i.e. equal 0 otherwise. These dummies indicate that, on average, a port city would attract 1083 thousand more migrants than any other destination, and that places in Punjab would draw 406 thousand more migrants than all other provinces combined.

Conclusion and Policy Suggestions

Migration, in Pakistan as the case with developing countries, is an urban directed phenomenon. People rush towards urban centres for many economic and non-economic reasons. This paper analysed characteristics of migrants by their urban location (major cities and other urban areas) such as their wages, education, gender and employment in sector they belong to. Further through regression analysis, it examined the factors fostering such rural to urban population shifts.

The findings indicated that migration is influenced not just by individual traits, but also by location-specific variables such as its economical significance. And because of such economic importance and ability to provide jobs, migration patterns were skewed toward metropolitan regions-cities. The majority of migrant movements are centred on Punjab. After the port city of Karachi, Lahore is establishing itself as a destination for migrants. Females were discovered to migrate more than males. Cities see a higher number of migrants from urban areas, whereas other urban areas have a higher number of migrants from rural areas. Individuals belonging to labor force are shown to be more migratory as they progress up the educational ladder, which is consistent with the human capital concept. Low migrant earnings were linked to areas with a higher number of unskilled migrants. In-migration of working-age people is higher in urban areas. Finally, in the services sector, migrant employment is significantly greater in cities.

As per Regression results employment, increase in expected wages, increase in rate of unemployment along with economic contribution of region, reflecting disequilibrium model of migration, have a substantial and significant influence on flows of in-migration. Cities with a higher proportion of migrants are also those with a higher economic size. The dummies for a port city and a Punjab region are highly significant, indicating that having a port city or an area in Punjab province is quite important to migrants. Distance has a strong positive impact on migration flows, consistent with gravity model, which is partly due to the ease with which people may travel across regions because no rules or restrictions were in place to guide or constrain them. Individuals place a higher importance on job prospects at a location than on the

distance to that destination. And partly due to the military operation, anti-terrorist campaign, and current wave of sectarian violence in the provinces of Balochistan and FATA, which forces people to flee their homes in search of economic, social, and political safety in other areas, despite the great distance between their home and the potential destination. Human capital has a significant impact on migration from rural to urban areas.

This research draws a number of valuable policy recommendations that enable government and the relevant authorities to control and direct migration for betterment of nation and converge it towards prosperous path of relative balance growth and development. The government should adjust its policies to promote balanced regional and city growth. It should create effective policy arrangements to slow down the rate of rapid urbanization, which is now concentrated in only a few regions or cities, and instead divert and enhance the urbanization process to small towns and rural areas. This would aid not just in the expansion of urban regions, but also in the stabilization of major metropolitan centres like as Karachi and Lahore. The concentration of economic activity creates job possibilities, which is a major driver of rural-urban migration and regional development. Hence, if the government desires to focus the development of various areas using a balanced strategy, economic activity should be diverted to the chosen region and cities.

Pakistan is an agriculturally based country with a larger proportion of rural than urban areas. These rural towns are being ignored as a result of the government's skewed policies in favour of urban areas. Agriculture's expansion is critical for the country's long-term viability since it guarantees food security and serves as a basis for industrialization by supplying raw materials for industry. Policies that encourage agricultural expansion should be high on the government's priority list, but they should be drafted with caution. While designing policies for agricultural development a little piece of caution should be kept in mind. Technologies used in agriculture development should be more labour-intensive rather than capital intensive as Pakistan is a labour abundant country; therefore diversified opportunities will be available for individuals in rural region and in-migration would decelerate from cities and other urban regions. Development in rural regions would increase and urbanization may boost, while the pressure on secondary cities and major cities will be released.

Main concentration of government should be on generating job opportunities. An equitable distribution should be maintained across individual income groups and across regions nationally. Inhabitants of rural region and other urban areas should be given those amenities which are available to residents of major cities. Hence, Government should concentrate on quality and standard of living across provinces and rural regions.

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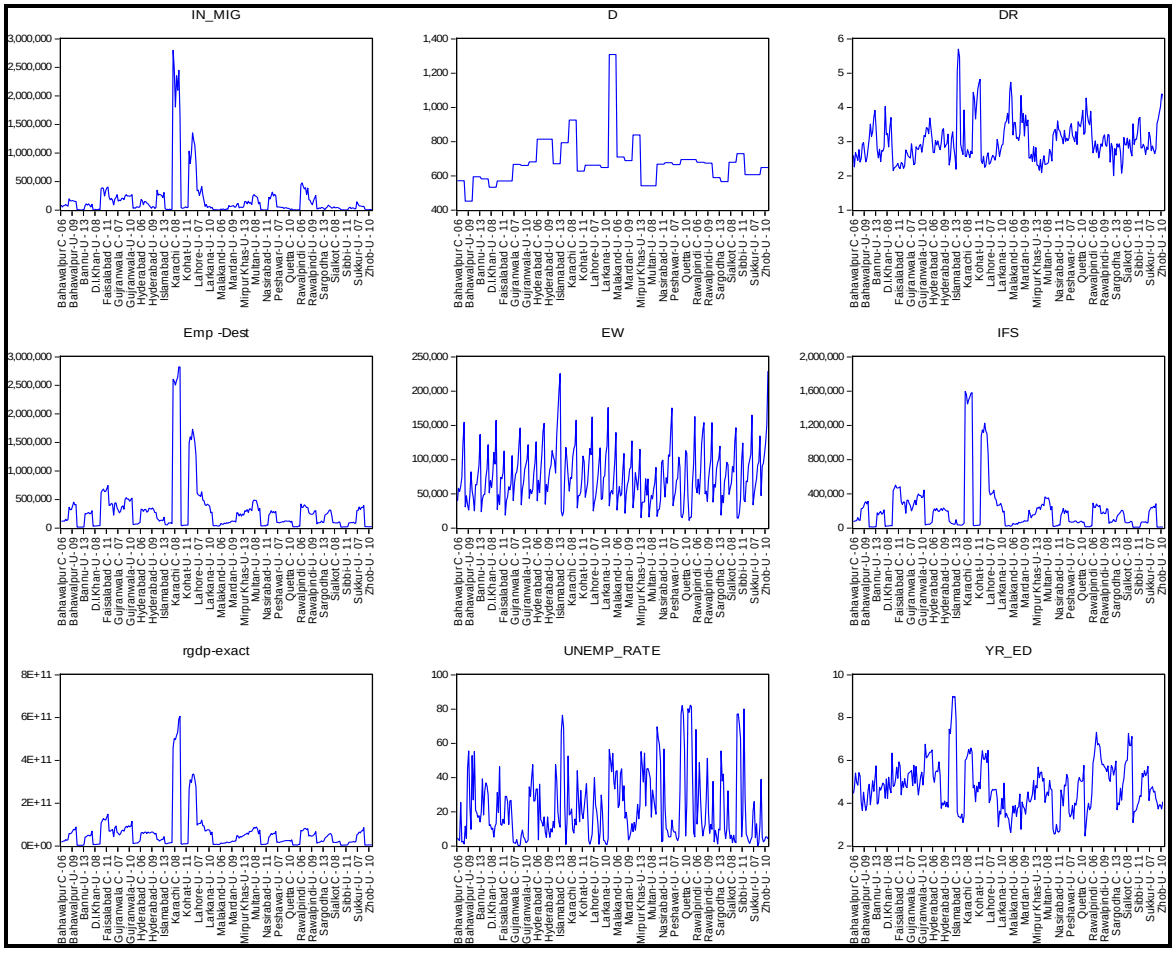
Appendix

A-1: Descriptive statistics for rural-urban regression model.

Descriptive Summary	D	DR	EMP	EW	IFS	REC	UER	HC
Mean	674.701	3.021	311722.4	75615.13	210324	60495.66	22.595	4.808
Median	665.928	2.899	225755	69693.34	153087	42001.19	15.661	4.722
Maximum	1308.643	5.705	2823727	229247.1	1595665	606593.3	82.317	8.993
Minimum	452.346	2.005	16378	11159.66	7512	3172.003	0.000	2.469
Std. Dev.	137.481	0.598	465886.4	39630.69	290454.5	92795.51	20.449	1.154
Skewness	2.544	1.304	3.723	0.898	3.193	3.876	1.177	0.665
Kurtosis	12.387	5.465	18.049	3.963	13.972	19.382	3.661	3.964
Jarque-Bera	1296.805	146.444	3206.972	47.280	1833.273	3736.143	68.075	30.669
Probability	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Sum	184193.6	824.690	85100204	20642930	57418462	16515315	6168.527	1312.687
Sum Sq. Dev.	5141066	97.421	5.901	4.275	2.299	2.345	113743.6	362.298
Observations	273	273	273	273	273	273	273	273

A-2: Graphs for individual series in rural-urban regression model.



A-3: Correlation matrix for variables in rural-urban regression model.

s

VARIABLE	D	DR	EMP	EW	IFS	REC	UER	HC
D	**1.000**							
DR	0.319	**1.000**						
EMP	0.154	-0.373	**1.000**					
EW	0.071	-0.034	0.095	**1.000**				
IFS	0.112	-0.410	0.992	0.081	**1.000**			
REC	0.162	-0.357	0.699	0.131	0.985	**1.000**		
UER	0.145	0.285	-0.157	-0.555	-0.169	-0.158	**1.000**	
HC	-0.151	-0.369	0.316	0.413	0.316	0.329	-0.235	**1.000**

A-4: Rural-urban regression model post-estimation Sargan test of over identifying restrictions.

Rural-Urban Regression Model		
Sargan test of over identifying restrictions		
H0: over identifying restrictions are valid		
chi2(34)	=	27.64007
Prob > chi2	=	0.7713

A-5: Rural-urban regression model post-estimation Arellano-Bond test for autocorrelation.

Rural-Urban Regression Model		
Arellano-Bond test for zero autocorrelation in first-differenced errors		
Order	**z**	**Prob > z**
1	-1.754	0.0794
2	1.2259	0.2202
H0: no autocorrelation		