# Employment Status and Workforce in the Formal and Informal Sector: A Case Study of district Lahore

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#### Abstract

The present study highlights the employment status and work force in the formal and informal sector in the urban labor market. The effects of socio-economic and human capital variables are analyzed on the formal and informal sector employment. A household survey is conducted in urban areas of district Lahore. Data is collected from 321 participants of the urban labor market. The multinomial log it results indicate that education, age, gender, father's education and presence of assets are the most important factors which determine the employment status of workers in urban areas of district Lahore. The results suggest more employment opportunities to absorb the rapidly growing population in urban areas of district Lahore.

**Key Words:** Employment Status; Formal and Informal Sector; Economic Growth and Labour Market.

#### I. Introduction

Historically, high population growth rate has been considered as an essential factor in overall economic development of Pakistan economy. The government made commitments to allocate funds and to measure on an innovative policy in order to highlight the issue seriously managing growth in population and the labor force. However, population is growing at a very high rate but the employment opportunities are limited to employ this high labor force. Improved health facilities and promoted population welfare activities through the Ministry of Population Welfare declined the crude birth and fertility rates significantly, that causes a curtailment in the average growth of the population accompanied by an increased labor force participation rate.

In fact, the formal sector is incapable to absorb a growing labour force in the economy. However, formal sector also generate employment too for the labour force and its role is also important in employment. So that's why a greater part of labor force is forced to work in informal sector employment. The role of informal sector is imperative to create more employment opportunities in labor market in Pakistan economy. It provides jobs and also diminishes unemployment. It is also true that the productivity of labor is at low

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level and workers are not given protection against exploitation by the employers. Consequently, the informal sector must be promoted to employ the surplus labor. Govet should enhance the labor productivity in the informal sector and to protect the workers from exploitation in informal sector.

The table shows the share of the informal sector participants. The employment status predominantly consists in the categories of employees (46.4%) and own-account workers (41.9). The former organizes the largest share of females (49.1%) and latter, of males (42.4%). It is observed that about one in ten (9.6%) as contributing family worker and near one in fifty (2.1%) comprises employers. It is also reported that male contributing family workers (9.2%) are about two-third of females (12.9%). As far change during the comparative periods, all seem to be declining except own account workers (40.5%, 41.9%).

Table 1: Informal Sector by Employment Status and Gender (%)

Table II illiai decidi by Ellipicy illiaide alla dellaci (70)									
	2012-1	3	2013-14						
Total	Male	Female	Total	Male	Female				
2.5	2.7	0.3	2.1	2.3	0.1				
40.5	41.3	33.4	41.9	42.4	37.9				
10.2	9.4	17.7	9.6	9.2	12.9				
46.8	46.6	48.6	46.4	46.1	49.1				
100.0	100.0	100.0	100.0	100.0	100.0				
	2.5 40.5 10.2 46.8	2012-13  Total Male 2.5 2.7  40.5 41.3  10.2 9.4  46.8 46.6	2012-13  Total Male Female 2.5 2.7 0.3  40.5 41.3 33.4  10.2 9.4 17.7  46.8 46.6 48.6	2012-13       Total     Male     Female     Total       2.5     2.7     0.3     2.1       40.5     41.3     33.4     41.9       10.2     9.4     17.7     9.6       46.8     46.6     48.6     46.4	2012-13       2013-14         Total       Male       Female       Total       Male         2.5       2.7       0.3       2.1       2.3         40.5       41.3       33.4       41.9       42.4         10.2       9.4       17.7       9.6       9.2         46.8       46.6       48.6       46.4       46.1				

Govt has been identified different strategies tocreate new opportunities, and to decrease underemployment and unemployment. There is a serious need to create employment opportunities due to higher labor force growth rate as compared to population growth. The informal sector is defined to include the wage workers, own-account workers, employers and unpaid family workers because these workers are participating in small-scale economic activities to generate income. The share of informal sector is high in the urban labour market. Due to its importance, this study attempts to highlight its role in the employment and income generation. The major objective of the study is to highlight the determinants of different employment status in the urban informal sector of district Lahore.

#### **II. Literature Review**

The literature on informal sector is reviewed. As Shah (1975) worked on determinants of labor force participation. The author used data from survey 1968-69 (PIS). The results showed that there was a positive relationship that forty and above age group, greater period of marriage and to a lesser extent the numbers of surviving children and labor force participation. Conversely, highly educated women with highly educated husbands were negatively related with labor force participation. The results also indicated that labor force participation decreased with ownership of agricultural land and durable items.

Simpson et al. (1997) investigated the estimates of casual employment from 1984 to 1993 in Australia. The study results indicated that it expanded over the period very quickly as a ratio of the total workers. It was also found that the casual employment was considered a separate industrial distribution in Australia. Moreover, casual employed workers were comprised more than 40 percent in other professions. By using secondary data, Hout and Rosen (2000) worked on the importance of self-employment. A logistic regression model was used. The study results indicated that the self-employment status of parents was the main factor that forced the people to work as self-employed. The self-employment was influenced by ancestry and immigration.

Gallaway and Bernasek (2002) worked on the labour force participation in sector of employment for men and women by using a household survey in Indonesia. The results showed that age has decreased the female informal sector employment. However, it has increased the employment in the informal subsistence sector. The highly educated persons seemed into wage or formal sector employment while low educated was enforced to work as informal sector employed. The results showed that formal sector was comparatively better.

The determinants of wages were analyzed by Terrell (1989) by using data from the labour force survey in Guatemala. The regression results indicated that returns to education and experience were low and positive. The education and earnings with large differentials were positively associated. The result also found the inter industry wage differential was limited to large groups (i.e. modern and traditional). The returns to hours worked were found to be negative. The study results showed the sex discrimination in the formal sector occupation among the wages of street vendors and shop assistance. The results also found that schooling affected more wages of shop assistants as compared to the earnings of street vendors. Moreover, job tenure did not determine the wages in either of these occupations and a negative association was found between working hours and earnings of the street vendors.

Maloney (1999) focused on informality segmentation in urban labour market in Mexico by using data from National urban employment survey. The author estimated the earnings differentials and multinomial logit model was used in the study. A relationship between the formal and the informal sector was found in the study. The informal sector workers forcefully worked in the sector due to inefficiencies and low productivity levels of the labour in developing countries. The study concluded that mobility from formal to informal and earnings differentials showed the participants' willingness to detain or engage them in the informal sector.

Attanasio et al. (2003) studied the trade reforms and wage inequality by using data of the household National survey from 1984, 1986, 1988, 1990, 1992, 1994, 1996 and 1998. The authors showed the effect of drastic tariff reduction of the 1980s and 1990s on the wage distribution. The results revealed that the increased skill premium was mainly focused by skilled technological change that was biased. Though, the sectors with the very low tariff reductions were those with the severe strise in skilled workers' share. The characteristics of informal service employment were discussed by Dasgupta (2003). The primary data source was used and survey was conducted in New Delhi. Regression results indicated that employment in informal services sector did not require complex skills yet experienced people were involved into this type of employment. The result also indicated that workers worked due to lack of education. Additionally, poor people strained in the informal service activities because of lesser credit facilities. The main conclusion was that lack of education and credit facility determined workers towards the informal service employment while they did not gain low incomes in the economy.

Baudar (2008) used primary data and found that the origin and background of immigrants caused for self-employment. The results also highlighted that female participation rate was low in the self-employment. Mundalmen and Montes Rojas (2009) worked on self-employment and micro-entrepreneurship by drawing data from urban drawing data household surveys in 1995-2003. The regression result indicated that the earnings of the workers in informal sector were much lower than formal sector workers.

### III Data and Methodology

## a) Data Collection

The primary data is collected with the help of a household's survey in the urban areas of district Lahore. Here, sample consists of 321workers in both the sectors (formal and informal). The present study has used simple random sampling and stratified sampling techniques.

## b) Methodology

A multinomial logit analysis is made, where socio-economic factors influence the probability of wage workers and own-account workers, employers and unpaid family workers. The dependent variable takes four mutually exclusive and exhaustive values, J=1,2 3 and 4. The model is as follows.

Probability (Yi= j) = 
$$\frac{e^{\beta_j X_i}}{\sum_{m=1}^3 e^{\beta_{mX_i}}}$$

Yi =1 if one works as wage worker

Yi =1 if one works as own account worker

Yi =1 if one works as employer

Yi =1 if one works as unpaid family worker

## **Model Specifications**

The sample models for employment are given in the following.

#### Model I

# a) The Wage-employment Model

WWE =  $(_0 + _1 \text{ BMLEDU} + _2 \text{ MLEDU} + _3 \text{AMLEDU} + _4 \text{CYAGE} + _5 \text{SEX} + _6 \text{MRS} + _7 \text{FLEDU} + _8 \text{MLEDU} + _9 \text{SPLEDU} + _{10} \text{NDP} + _{11} \text{FSP} + _{12} \text{PASTS} + \mu_i)$ 

## a) Own-accountant Employment Model

OAWE = ( $_0$  +  $_1$  BMLEDU +  $_2$  MLEDU+  $_3$ AMLEDU +  $_4$ CYAGE +  $_5$ SEX +  $_6$ MRS +  $_7$ FLEDU+  $_8$ MLEDU +  $_9$  SPLEDU+  $_{10}$ NDP +  $_{11}$ FSP +  $_{12}$ PASTS+  $\mu_i$ )

## b) Employer's Employment Model

EMPE =  $(_0 + _1BMLEDU + _2MLEDU + _3AMLEDU + _4CYAGE + _5SEX + _6MRS + _7FLEDU + _8MLEDU + _9SPLEDU + _{10}NDP + _{11}FSP + _{12}PASTS + \mu_i)$ 

## d)Unpaid family Worker's Model

UFWE = (  $_0$  +  $_1$  BMLEDU +  $_2$  MLEDU+  $_3$ AMLEDU +  $_4$ CYAGE +  $_5$ SEX +  $_6$ MRS +  $_7$ FLEDU+  $_8$ MLEDU +  $_9$  SPLEDU+  $_{10}$ NDP +  $_{11}$ FSP +  $_{12}$ PASTS+  $\mu_i$ )

#### Model II

## e) Model With Complete Years of Education

WWE =f (  $_0$  +  $_1$  CYEDU +  $_2$  CYAGE +  $_3$ SEX +  $_4$ MRS +  $_5$ FLEDU+  $_6$  MLEDU+  $_7$  SPLEDU+  $_8$  NDP+  $_9$ FSP +  $_{10}$  PASTS+  $\mu_i$ )

## f) Own-accountant Employment Model

OAWE =f ( $_0$  +  $_1$  CYEDU +  $_2$  CYAGE +  $_3$ SEX +  $_4$  MRS +  $_5$ FLEDU+  $_6$  MLEDU+  $_7$ SPLEDU+  $_8$  NDP+  $_9$ FSP +  $_{10}$  PASTS+  $\mu_i$ )

## g) Employer's Employment Model

EMPE =f (  $_0$  +  $_1$  CYEDU +  $_2$  CYAGE +  $_3$ SEX +  $_4$  MRS +  $_5$ FLEDU+  $_6$  MLEDU+  $_7$  SPLEDU+  $_8$  NDP+  $_9$ FSP +  $_{10}$  PASTS+  $\mu_i$ )

## h) Unpaid family Worker's Employment Model

UFWE =f (  $_0$  +  $_1$  CYEDU +  $_2$  CYAGE +  $_3$ SEX +  $_4$ MRS +  $_5$ FLEDU+  $_6$  MLEDU+  $_7$  SPLEDU+  $_8$  NDP+  $_9$ FSP +  $_{10}$  PASTS+  $\mu_i$ )

In the above models the independent variables are below matric level education, matric level education, above matric level education, complete years of education, age of the worker in complete years, sex, marital status, father's education level, mother's education level, spouse level of education, number of dependents, family set up and presence of assets.

## **IV** Statistical Analysis

Variables	Variables Wage Workers			ccount	Emp	loyers	Unpaid Family Workers	
	Mean	S.D.	Mean	S.D	Mean	S.D	Mean	S.D
Below Matric Level education	0.2787	0.4521	0.4211	0.4970	0.3265	0.4738	0.15	0.3663
Matric Level Education	0.2951	0.4599	0.2895	0.4565	0.3673	0.4871	0.35	0.4894
Above Matric Level Education	0.0984	0.3002	0.1711	0.3791	0.2041	0.4072	0.3	0.4702
Complete Years of Education	6	4.6690	8.0658	3.8552	8.7551	3.6488	8.75	4.6778
Complete Years of Age	29.9672	10.2826	46.4868	13.0522	47.7755	12.9924	25.25	7.5385
Sex	0.8360	0.3733	0.8026	0.4007	0.9388	0.2422	0.95	0.2236
Marital Status	0.6230	0.4887	0.8947	0.3089	0.9388	0.2422	0.55	0.5104
Father's Education Level	0.2623	0.4435	0.2632	0.4433	0.3061	0.4657	0.35	0.4893
Mother's Education Level	0.1311	0.3404	0.0789	0.2714	0.1224	0.3312	0.2	0.4104
Spouse Education Level	0.2131	0.4129	0.3026	0.4624	0.4286	0.5	0.15	0.3663
Number of Dependents	2.5737	1.3959	3.1316	1.7914	3.6327	2.0483	2.95	2.0641
Family Set up	0.6230	0.4887	0.7368	0.4433	0.7551	0.4345	0.65	0.4894
Presence of Assets	0.0984	0.3003	0.6184	0.4890	0.7755	0.4216	0.65	0.4894

The study is based on statistical and empirical analysis of factors influencing different employment status in the informal sector i.e., wages workers and own-account workers, employers and unpaid family workers to partake in the informal sector. Table 1 shows the basic statistics of some independent variables. The wage workers have an average below middle level education. Own-account workers, employers and unpaid-family workers have an average middle level education. In general, the people are marriedand male workers. Mostly workers of the informal sector are those who haveuneducated parents. Almost own account workers and employers have assets.

	Variables	Wage W	orkers	Own-accoun Workers		Employers		Unpaid Family Workers		
	Below Matric Level educatio n(yes=1,	0.0045** (1.95)	ļ	0.1929** * (3.69)		0.0461** * (2.64)		-0.0658 (-0.01)		-z ə.
	Matric Level Educatio n(yes=, no=0)	-0.0071* (1.70)	l	0.0942** * (2.88)		0.0764** (2.80)		-0.0021 (1.21)		ıthesis ar
	Above Matric Level Educatio	-0.1014 (-0.60)		0.0278 (0.63)		-0.0042 (0.33)		-0.0069		the parer
	Complete Years of Education		-0.0123*** (-4.77)		-0.0124*** (-4.66)		-0.007***6 (-4.30)		-0.0008*** (-2.99)	Note: The table indicates the estimated average marginal effects whereas the values in the parenthesis are statistics. *, ** and ***are significant at 1%, 5% and 10% level of Significance
ssion	Complet e Years of Age	- 0.0047** (-2.31)	- 0.0047** (-2.12)	0.0054 (1.52)	0.0060**	0.0043** (1.87)	0.0039*	0.0068**	- 0.0064** * (-3.40)	ereas the ificance
IV. Results and Discussion	Sex(mal e=1, no=0)	0.0171 (-0.36)	0.0009 (-1.11)	-0.1360* (-1.69)	- 0.1380** (-2.19)	0.0741 (0.15)	0.0686	0.0727 (1.01)	0.0603 (0.47)	dicates the estimated average marginal effects whereas th ***are significant at 1%, 5% and 10% level of Significance
	Marital Status (marrie d=1, no=0)	0.0243 (0.25)	0.0164 (-0.13)	0.0423 (0.59)	0.0105	0.0375 (0.62)	0.0367	0.0144 (0.41)	0.0241	ırginal ef 10% lev
	Father's Educatio n Level(ye s=1,no=	-0.0013* (-1.67)	0.0177	- 0.0489** (-2.38)	- 0.0440** (-1.82)	-0.0224 (-2.03)	-0.0201* (-1.57)	- 0.0462** (-2.40)	- 0.0433** (-1.98)	erage ma 5% and
	Mother's Educatio n Level(ye s=1,no=	- 0.0235** (-2.22)	-0.0113* (-1.66)	- 0.0599** (-2.48)	- 0.0615** (-2.09)	0.0020** (-1.84)	-0.0054 (-1.52)	0.0149 (-1.02)	0.0196	mated av ınt at 1%,
	Spouse Educatio n Level(ye s=1,no=	-0.0266* (-1.84)	-0.0243 (-1.53)	-0.0282* (-1.62)	-0.0113 (-1.05)	0.0430 (-0.58)	0.0503	- 0.0624** (-2.42)	- 0.0595 (-2.20)	s the estii e significa
	Numbe r of Depen dents	0.0057 (-0.49)	0.0094	-0.0036	0.0015	0.0182 (0.73)	0.0164 (0.63)	0.0105	0.0061 (0.18)	indicate ∩d ***are
	Family Set up(joint family= 1, no=0)	-0.0161 (1.04)	0.0145	0.0773* * (2.53)	0.0738* * (2.28)	0.0412* * (2.17)	0.0391* * (1.98)	-0.0179 (0.32)	-0.0071 (0.57)	he table inc s. *, ** and
	Presenc e of Assets(y es=1, no=0)	- 0.2337** (-3.42)	- 0.2102** (-2.38)	0.0765	0.0989**	0.1021**	0.1128** (2.63)	0.1000**	0.0917**	Note: The statistics.

The multinomial logit model estimates the different employment statuses in the informal sector regarding wage employment and own-account workers, employers and unpaid family workers in district Lahore is showed in the table-2.

Generally education has an important influence on workers' employment. The estimated coefficient of the variable below matric level education is positive and has statistically significant impact on wage-employment in model (1). The persons having below matric level education have a preference to work as wage worker. The coefficient of the variable matric level education is negative which indicates that participants with high education level work in the informal sector however the low educated workers work as wage workers.

The variable complete years of education is negative and has a statistically significant impact on wage employment. The reason can be that educated workers prefer to engage themselves in the formal sector as compared to informal sector. The result is similar with Gallaway and Bernasek (2004). Age has also a vital impact on wage worker's choice in the labor market. Both the coefficients are negative and statistically significant. It indicates that workers with initial basic education participate in the informal sector as wage employee at early age.

Theoretically, the workers with educated parents are less likely to work as wage workers. A negative effect of variable father's, mother's education and spouse education on wage employment is found. The jobs in the formal sector are low and workers with fundamental education work as wage workers to fulfill their needs. The coefficients of the variable presence of assets are significantly negative in both the models. The reason can be that having assets, people are less willing to work.

The education fundamentally affects the workers' decision in labor market. The result of the own-account workers in model (2) indicates that both the variables below matric level education and matric level education have a positive and statistically significant influence on own-account workers' decision in the labor market The result concludes that people having low education are less willing to be own-account workers in urban areas of district Lahore. The variable age has also positive impact on the own-account workers' decision. The result in model (2) is significant. The results reveal that male workers are less willing to be employed in the account work. The reason can be that it does not correspond with their high education level.

Result shows that the coefficient of the variable educated mother is significant for self-employed. The parents think and make a preference for their children

to work in the informal sector. The variable joint family set up is positive and statistically significant. It can be argued that almost family members having low education and high financially pressure involve into own-account employment. The variable presence of assets has also a strong effect on own-account employment in model (2).

Results make clear that the below matric level education and matric level education variable influence the employer's decision in the informal sector. The possible reason can be that workers with higher education participate in the formal sector, on the other hand, the low educated workers become employer in the informal sector. The years of education variable is significant and negative. The variable age has positively affects the employer's decision in the labor market. This positive coefficient indicates that the workers having low education cannot get easily job in the formal sector. The parents' education also affects the employer's decision to work in sector of employment.

The variable spouse education is negative and significant in model (2). The study results also show that variable joint family setup positively influence employer's decision to work. The possible reason can be that family members with low education and higher financially pressure work as an employer. The study results indicate that both the coefficients of the variable presence of assets are positive and statistically significant.

Age also affects the unpaid family workers' decision to work. The coefficient is positive. The variable education in complete years is negative. The workers having educated mothers are less willing to be unpaid family workers in model (2). The result also shows that the coefficient of the variable spouse education is negative and statistically significant. Both the coefficients of presence of assets are positively significant.

## IV Conclusion and Suggestions

The study shows the determinants of various employment statuses in the urban informal sector of district Lahore. The findings highlight that socio-economic and household variables have significant influence on different employment statuses. It is also found that older workers have higher chances of working as own-account employment and employer in urban areas of district Lahore. Moreover, educated workers prefer to work in the formal sector. The workers are less involved into different employment status whose parents and spouses are educated. The result also reveals that workers are more employed into different employment status having assets.

A proper policy is required for quality education of the workers in the urban areas of district Lahore. Government should provide more employment opportunities in both the formal and informal sector. Government should make available more training and educational facilities for the improvement of the productive employment in urban areas of district Lahore. Furthermore, government should establish more labor intensive and small industries to enhance the employment opportunities in district Lahore. There is a severe need for more jobs and employment opportunities to employ the people according to their talent.

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