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GENDER AND URBAN INFORMAL SECTOR EMPLOYMENT: AN ANALYSIS FROM SOUTHERN PUNJAB, PAKISTAN

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ABSTRACT

The decision to work in the labor market commonly depends on a decision by the participants between two options: to work or not to work. However, the priorities are different. Some females prefer to involve themselves in some economic activities (paid work) at home and some market activities. This research investigates the factors that motivate males and females to engage in informal employment. The data has been used collected from a household survey. This survey is made from three divisions of Southern Punjab, where the majority of the population resides. The survey is premeditated to gather some information of the households regarding demographic, social, and economic factors. The present study investigates the factors of employment by using the logit model. Findings show that low educated, married and aged people are working in the informal sector. Formally trained workers and workers of highly educated parents are switching to the formal sector. Those having assets are working in the informal sector. Those female participants having adults are participating in the informal sector. Based on study results, it is suggested that government must provide more employment opportunities in urban areas of Southern Punjab.

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INTRODUCTION

The informal sector comprises small units making products or services for the source of earnings to the participants. These activities generally do not come under the formal statistical account and are away from the formal social protection system. The small-scale units functioning informally absorb more labor but work is usually casual. These actions are based on local and regional demand to a large extent. The informal sector has been defined in a different way. However, according to the informal sector defined by the 15th and 17th international conference of labor statistics, federal board of revenue of Pakistan, and ILO (2003), it is based on the involvement of laborers in firms hiring less than five non-professional and non-technical employees, unpaid family workers, casual workers, and all self-employed workers. The urban labor market played an essential role in employment creation for both workers (i.e., urban dwellers and rural migrants). Hence, it fulfills the growing population's needs or absorbs this population. However, job chances are observed to be very low for the increasing labor force in the formal urban sector in Pakistan. This increases the participants' engagement in informal activities. The developed and developing economies are facing transformations in the structure of the labor market.

This is the result of globalization and economic restructuring. The formal sector is not sufficiently providing jobs to the people in Pakistan. So, the majority is involved in the informal sector. In Pakistan, this sector contains a lot of labor market activities, and its role is worthy.

In Pakistan, GDP growth for the year 2020-21 has been observed as 3.94 percent, and it is high as compared to growth recorded in the previous year. The agriculture and large-scale manufacturing sectors' growth have been observed as 2.77 and 8.99 %, respectively. Both the growth rates are greater as compared to the growth in the previous year. The population working is declined to 35.04 million during this year compared to the last year (GoP, 2021). The informal sector provides work and decreases unemployment, but most jobs are low paid. It is important to study this issue because the informal sector provides jobs to about 44.28 percent of the labor force. About 88.33 percent of males and 11.67 percent of females are working in the informal sector. Rural informal employment (50.77 percent) is higher than urban informal employment (49.23 percent). Overall, the contribution of both sectors has been enhanced. In Pakistan, up to 6.31 percent of female labor

force participants are working in the informal sector, especially in urban areas (GoP, 2019).

The review of important studies is discussed here in this section. Funkhouser (1996) conducted a household survey to determine the factors that force the participants to work in both sectors in America. The author finds that the workers gain higher returns because of their higher education and experience in the labor market. Those having male children decrease their participation in informal employment in some countries of America. It is concluded that level of development is considered an important motive to work as an informal worker. Roberts (2001) determines the employment decision by using data from Shanghai. The multinomial logit results show that personal and village-based networks force workers to work in occupations and destinations. The majority of the participants are illiterate in farming; however less are in the construction sector. One of the important findings is that educated people preferably have options to work. Gallaway and Bernasek (2002) highlight why does labor force participate in employment (i.e., wage and self). The result shows that women take decisions distinctly to choose sector workplace and the informal sector is relatively inferior to the formal sector. The result finds a negative relationship between infants and women working in paid employment and a positive association between the presence of toddlers and informally employed women. The workers with the highest education levels partake in wage or formal sector, and those with low education work in the own or informal sector. Bulutay and Tasti (2004) use household survey data in the Turkish labor market and find that the informal sector is dominant or great movement related to population and employment expansion, not to the income growth. Moreover, the workers' earnings and wages are low, and the self-employed are less.

Marshall and Oliver (2005) analyses how capital influences entrepreneurship in Indiana. A binomial logistic regression result shows that the personal characteristics and human capital determine the success of entrepreneurs or start their business. The result shows that highly educated participate more in the process of starting up in entrepreneurial activity. So, higher education and skill-training facilities necessarily are required to prop up continuously to make the higher participation in entrepreneurship with a higher level of education in a start-up. Valodia et al. (2006) use survey data and work on informal employment in South Africa. The participants in informal employment are black, married and the majority of the workers are young. The results indicate that highly educated most preferably get a highly paid job, and those having low human capital are in a position to get more precarious employment and have not concerned with unions. Gunatilaka (2008) also highlights the employment and determinants of wages by using a survey in 2006. The multinomial results show that contributing family workers are female and married. Those having better education are switching into formal sector employment. The important conclusion is that precariousness is a major characteristic of informal employment, and it favors males compared to female workers. Wamuthenya (2009) finds the employment determinants by using survey data. He finds that personal and

household characteristics influence the working decision in sectors. The result also shows that employment increases with age. Moreover, the workers having low education are informally employed. Angel-Urdinola and Tonabe (2012) investigate the factors of employment. It is concluded that the size of the public and agriculture sectors are possibly the key associates of informality.

Doğrul (2012) investigates employment in Turkey by using survey data in 2000. The multinomial model result shows that marital status, household headship, and education determined the choice of the sector. Williams et al. (2016) investigate the determinants of the degree of informality by using primary data in Lahore. The results show that women, educated, and entrepreneurs with higher income employing workers in the manufacturing sector are related to lower informality. Yah et al. (2018) examine informal sector employment determinants in the urban areas of Cameroon by using survey data.

The logit model results show that the determinants of informal employment in the urban labor market differ with gender and age group. Results also show that household headship, household size, tertiary education, and marital status determine the choice of the employment sector. Etim and Daramola (2020) use a systematic comparative review to explore the factors determining informality in South Africa and Nigeria. The primary studies data reveals that joblessness, income disparity, extreme tax loads, extreme administrative hurdles, inflation, poor corruption control, GDP per capita, and tendencies of lack of social protection survival are drivers to the informal sector in Africa and Nigeria. Khuong et al. (2021) re-examine the influence of the informal economy on economic growth in Pakistan. The result indicates that 56% informal economy of GDP exists in Pakistan. Engle-Granger causality test show that the growth rate of real GDP causes the Granger to GDP at 5%. The above literature indicates the informal sector provides that much employment. The literature also shows that females' involvement in an informal activity is also noteworthy. Generally, some of the informal activities are done at home by females. Moreover, the informal sector shows the importance and contribution to the growth potential of the economy.

Neo-Classical Individual labor Supply Theory is in view of the decision regarding participation and number of hours has worked in general modeled within the framework of a standard neoclassical microeconomic model. This theory is viewed as a major standard theory as it has been widely used in the analysis done empirically on supply of labor (Maassen Van den Brink, 1994; Heckman, 1979; Killingworth, 1983, and Becker, 1965). The basic assumption of this theory is utility maximization subject to budget constraints. It assumes that economic agents make rational decisions with certain information about prices, wages, and budgetary constraints that individuals face independent of others. Therefore, it is like a consumer behavior theory regarding the achievement of maximum utility. The theory shows that firstly, an individual decides to supply or not supply labor to the market. Secondly, whether he is working or not, it is certain by labor demand, incentive try to find a job quickly and to accept any job chances (Maassen Van de Brink, 1994).

Previous research has been done to analyze different aspects of the informal sector's growth. This research basically determines the partaking decisions of females and males to do informal work in urban areas of Southern Punjab. Some variables such as formal training, presence of children and adolescents that affect the participants to involve in informal work at home are incorporated in the study. Moreover, Southern Punjab is an important location for studying this issue, and females' participation in informal economic activities has been expanding speedily in Southern Punjab, Pakistan. A lot of studies have been observed on a different aspect of the informal sector, but hardly any study is found on informal employment in Southern Punjab. So, this study analyses the factors of working in the informal sector in some districts of Southern Punjab.

METHODOLOGY

In this section, the source of data collection and methodology are presented. The empirical analysis depends on survey data of Southern Punjab. These three districts are selected for the sample size because these districts provide a lot of employment opportunities to different segments of society. These districts are centers of growth of the labor market participants in Southern Punjab. The data has been used collected from a household survey. For the survey, 1503 households were interviewed. The survey covered three districts In Southern Punjab, majority of the population resides. The survey was premeditated to gather some information of the households regarding demographic, social, and economic factors. So, the samples of urban male and female workers aged 18 to 64 are collected. Of these samples, 567 males and 936 females are working in both sectors. The formal sector is taken as the base category. The variables affect the male and female decisions differently. For the male sample, some important variables are significant. However, female workers' education and family setup, and adult children are important factors that determine to employ in the formal sector. A labor market participation decision is presumed as a function of the variables that affect one's expected offer and reservation wage. An individual will

decide to work in the labor market if they offer a wage that exceeds the reservation wage. Human capital variables may affect offer wage; however, household characteristics may affect the reservation wage by influencing productivity at home and the leisure demand. If the choice is about to work or not to work, a binary logit model can be a proper technique for this participation decision. Some of the variables have an effect on a person's decisions to partake in the ith sector of employment. However, the explanatory variable is qualitative and is based on the chance of contributing in the informal sector or not; it is found that:

$$Y_i = 1 \text{ if } Y_i^* > 0$$

$$Y_i = 0 \text{ if } Y_i^* \leq 0$$

Where;

$$Y_i^* = \beta_0 + \beta_1 X_i + \mu_i \tag{1}$$

Equation 1 indicates probability of contributing in informal sector Y_i^* and it is explained as:

$$\Pr(z_i = 1|X) = \Pr(z_i > 0|X) = \Pr[\mu_i > -(\beta_0 + \beta_1 X_i) | Y] = F(\beta_0 + \beta_1 X_i) \tag{2}$$

Hence, the regression equation is written as:

$$UIE_i = \alpha + \beta_1 X_i + \mu_i \tag{3}$$

Where

UIE_i is the probability of the i th worker doing informal work. The sample model is followed as in this model, three levels of education are used, and illiteracy is used as the base outcome. In the 1st model, three educational dummies are incorporated.

$$UIE = f(\alpha_0 + \alpha_1 BMLEd + \alpha_2 MLEd + \alpha_3 AMLEd + \alpha_4 CYAG + \alpha_5 MRTL + \alpha_6 FRTRN + \alpha_7 FEDUL + \alpha_8 MEDUL + \alpha_9 SPEDL + \alpha_{10} FMSTP + \alpha_{11} NDPN + \alpha_{12} SPNEC + \alpha_{13} PASST + \alpha_{14} PADLT + \alpha_{15} PMADL + \alpha_{16} PFADL + \mu_i) \tag{4}$$

In equations 4 and 5, the used explanatory variables are below mtric, matric, and above matric level education, complete years of education, age, sex, marital status, formal training, father's, mother's and spouse education level, the family set up, number of dependents, spouse participation in economic activities, presence of assets, number of adults, presence of male and female adolsents. The variables and description of variables is explained in Table 1.

Table 1. Variables used in the study.

Variables	Nature of variables
BMLEd	Below matric level of education(1=yes, 0=otherwise)
MLEd	Matric level of education(1=yes, 0 =otherwise)
AMLEd	Above matric level of education(1=yes, 0=otherwise)
CYEDU	Complete years of education
CYAG	Complete years of age
MRTL	Marital status(1=marroed, 0=otherwise)
FRTRN	Formal training(1=yes, 0=otherwise)
FEDUL	Father education level(1=educated, 0=otherwise)
MEDUL	Mother's education level(1=education, 0=otherwise)
SPEDL	Spouse education level(1=yes, 0=otherwise)
FMSTP	Family setup(1-joint, 0=otherwise)
NDPN	Number of dependents
SPNEC	Spouse presence in economic activities(1=working,0=otherwise)
PASST	Presence of assets(1=having assets, 0=otherwise)
PADLT	Presence of adults(1=having adults, 0=otherwise)
PMADL	Presence of male adolsents (1=having adolsents, 0=otherwise)
PFADL	Presence of female adolsents(1=having female adolsents, 0=otherwise)

RESULTS AND DISCUSSION

The estimates in Table 2 reveal that the male and female participants work on average 41.95 % and 41 % in their old age. The mean illiteracy is higher in males as compared to female workers. On average, 9.6279 % of male workers are educated, whereas 8.14 % of females are educated. The mean level of education is higher for male workers rather than female workers. However, mean marital status and formal training are the same for both the workers. On average, 0.3642 % of the male workers

have educated fathers. On average, 0.3216 % of female workers have educated fathers. The mean level of educated fathers is higher in the male sample. On average, 0.35 % of the male workers have educated spouses. However, 0.405 % of the female workers have educated spouses. This highlights that male workers have more educated spouses as compared to female workers. On average, 0.2373 % of the males have employed spouses, and 0.4378 % of the female workers have spouses participating in some work.

Table 2. The summary statistics of the male workers.

Variables	Mean	Standard Deviation	Minimum	Maximum
BMLED	0.3171	0.4657	0	1
MLED	0.3398	0.4740	0	1
AMLED	0.3024	0.4597	0	1
CYEDU	9.6179	3.3428	0	16
CYAG	40.9594	10.7832	18	64
MRTL	0.7398	0.4391	0	1
FRTRN	0.1301	0.3367	0	1
FEDUL	0.3642	0.4816	0	1
MEDUL	0.1984	0.3991	0	1
SPEDL	0.3512	0.4777	0	1
FMSTP	0.6016	0.4900	0	1
NDPN	3.9967	2.1748	0	1
SPNEC	0.2374	0.4258	0	1
PASTT	0.7480	0.4345	0	1
PADLT	0.6114	0.4878	0	1
PMADL	0.3886	0.4878	0	1
PFADL	0.5756	0.4946	0	1

Table 3. The summary statistics of the female workers.

Variables	Mean	Standard Deviation	Minimum	Maximum
BMLED	0.3892	0.4882	0	1
MLED	0.3892	0.4882	0	1
AMLED	0.2351	0.4247	0	1
CYEDU	8.1378	4.4105	0	16
CYAG	41.0081	10.1646	18	64
MRTL	0.7432	0.4374	0	1
FRTRN	0.1351	0.3423	0	1
FEDUL	0.3216	0.4677	0	1
MEDUL	0.1541	0.3615	0	1
SPEDL	0.4000	0.04905	0	1
FMSTP	0.7135	0.4527	0	1
NDPN	3.1946	1.8596	0	15
SPNEC	0.4378	0.4968	0	1
PASTT	0.8054	0.3964	0	1
PADLT	0.6054	0.4894	0	1
PMADL	0.4324	0.4961	0	1
PFADL	0.6108	0.4883	0	1

In Table 3, on average, 0.7135 % of female participants have a joint family setup that is high. The mean family setup is comparatively higher in female than male workers. On average, 0.6114 % of the male workers have a presence of adults, and 0.6054% of female workers have a presence of

adults. The female participants have mean assets (0.8054 %) is greater than that of male workers (0.7084%). The female workers have mean male adolescents (0.4324 %) is higher rather the mean male adolescents of male workers (0.3886%). The estimate also shows that female workers have mean

female adolescents (0.6108 %) is higher rather the mean female adolescents of male partners. In this section, we empirically analyze that how variables affect the decision of informal employment. Table 3 indicates how socio-economic and household-related variables affect the male and female workers' contribution in the informal sector. The result indicates that both workers who are below matric level are more likely to work in the informal sector. Findings are similar to Wamuthenya (2009) and Valodia et al. (2006). Results also show that female participants with higher education prefer the formal sector (Gunatilaka, 2008). They are switching out towards the formal sector to improve themselves financially. The educated ones do not prefer informal work. Furthermore, the trained are less engaged in informal work.

In Table 4, results show that workers join the formal sector to work more according to their ability. The study results also show that these workers having educated parents hardly prefer informal work to those workers whose parents are educated. The variable spouse level education and joint family setup are significant. At the same time, those male participants with a high number of dependents prefer to do informal work. The presence of assets increases the participation of both the workers. Finally, those female workers having adults are more willing to do informal work. So, the presence of adults largely influences the female participation decision. However, it does not affect male workers' participation. The presence of male adolescents decreases the likelihood that both the workers will work less in the informal sector.

Table 4. Determinants of informal sector employment: average marginal effects.

Variables	Male Model (1)	Male Model (2)	Female Model (1)	Female Model (2)
BMLED (yes=1, no=0)	0.1283* (1.71)	-----	0.0972 (1.47)	
MLED (yes=1, no=0)	0.0742 (1.02)	-----	0.0217 (0.34)	
AMLED (yes=1, no=0)	-0.0588 (0.83)	-----	-0.1195** (-2.01)	
CYEDU (yes=1, no=0)	-----	-0.0228*** (-5.14)	-----	-0.0227 (-5.36)
CYAG	0.0022 (1.57)	0.0020 (1.43)	0.0004 (0.26)	0.0001 (0.09)
MRTL (married=1, no=0)	0.0178 (0.51)	0.0191 (0.56)	0.0279 (0.76)	0.0293 (0.79)
FRTRN (yes=1, no=0)	-0.1596*** (-5.26)	-0.1528*** (-4.99)	-0.1205*** (-3.89)	-0.1170*** (-3.78)
FEDUL (yes=1, no=0)	-0.0951*** (-3.38)	-0.0965*** (-3.43)	-0.1040*** (-3.27)	-0.08887*** (-2.81)
MEDUL (yes=1, no=0)	-0.1140*** (-3.92)	-0.1086*** (-3.70)	-0.1323*** (-4.31)	-0.1302*** (-4.26)
SPEDL (yes=1, no=0)	-0.0790*** (-2.85)	-0.0731** (-2.62)	-0.1154*** (-3.38)	-0.1088*** (-3.15)
FMSTP (joint family=1, no=0)	0.0175 (0.64)	0.0156 (0.57)	0.1370*** (4.52)	0.1398*** (4.58)
NDPN	0.0438*** (5.86)	0.0430*** (5.72)	-0.0044 (-0.56)	-0.0026 (-0.32)
SPNEC (yes=1, no=0)	-0.0891*** (-3.03)	-0.0984*** (-3.03)	-0.0287 (-0.86)	-0.0301 (-0.89)
PASTT (yes=1, no=0)	0.0650** (2.20)	0.0755** (2.54)	0.0825** (2.37)	0.0901** (2.57)
PADLT (yes=1, no=0)	-0.0161 (-0.59)	-0.0144 (-0.52)	0.0946*** (2.99)	0.0916*** (2.87)
PMADL (yes=1, no=0)	-0.0831*** (-2.79)	-0.0902*** (-3.02)	-0.0715** (-2.19)	-0.0739** (-2.24)
PFADL (yes=1, no=0)	0.0787*** (2.66)	0.0917*** (3.10)	0.1113*** (3.36)	0.1086*** (3.24)
Number of observations	936	936	567	567
R ²	0.27	0.27	0.45	0.45

CONCLUSIONS

The present study investigates the factors that affect the participants' work decisions. Following the human capital theory, the formal sector earnings are more than the earnings in the informal sector. So, participants join the informal sector.

So, the study concludes that higher-level education is related to higher earnings. The parental or closed relative's education also plays a significant role in their decision. The workers of the educated parents are more willing to do informal work. However, having a joint family system for females leads to a

higher probability of doing informal work. Having more number of dependents leads to males' participation more in the informal sector. Females having adults are easily absorbed in informal employment. Moreover, female adolescents lead to a higher probability of working. This point demands concentration for providing higher employment opportunities in both sectors in Punjab, Pakistan. On the basis of these results, it is suggested that formal sector employment is more preferable. So, the government must necessarily provide employment opportunities in both sectors. The focus should be made on the free-of-cost education level and higher female education. Government must provide more training opportunities and technical institutions to improve the skills and education level of the people of the economy. The presence of assets makes the workers more financially stronger, so there is a serious need to provide more easy credit facilities for these people.

REFERENCES

- Angel-Urdinola, D.F., Tanabe, K., 2012. Micro-determinants of informal employment in the Middle East and North Africa region (No. 66594). The World Bank.
- Becker, G.S., 1965. A Theory of the Allocation of Time. *Econ. J.* 75, 493–517.
- Bulutay, T., Taştı, E., 2004. Informal sector in the Turkish labour market. Discussion Paper.
- Doğrul, H.G., 2012. Determinants of formal and informal sector employment in the urban areas of Turkey. *Int. J. Soc. Sci. Humanit. Stud.* 4, 217–231.
- Etim, E., Daramola, O., 2020. The informal sector and economic growth of South Africa and Nigeria: A comparative systematic review. *J. Open Innov. Technol. Mark. Complex.* 6, 134.
- Funkhouser, E., 1996. The urban informal sector in Central America: Household survey evidence. *World Dev.* 24, 1737–1751.
- Galloway, J.H., Bernasek, A., 2002. Gender and informal sector employment in Indonesia. *J. Econ. Issues* 36, 313–321.
- GoP, 2019. Labor Force Survey (2018-2019), Federal Bureau of Statistics, Islamabad.
- GoP, 2021. Pakistan Economic Survey (2020-2021). Ministry of Finance. Islamabad.
- Gunatilaka, R., 2008. Informal Employment in Sri Lanka: Nature. *Probab. Employ. Determ. Wages, ILO–Asia Pacific Work. Pap. Ser.*
- Heckman, J.J., 1979. Sample selection bias as a specification error. *Econom. J. Econom. Soc.* 153–161.
- ILO, 2003. Report of the Conference, Seventeenth international Conference of Labour Statisticians (Geneva, 24 November–3 December 2003), Report of the Conference; Doc. ICLS/17/2003/R; International Labour Office, Geneva.
- Khuong, N.V., Shabbir, M.S., Sial, M.S., Khanh, T.H.T., 2021. Does informal economy impede economic growth? Evidence from an emerging economy. *J. Sustain. Financ. Invest.* 11, 103–122.
- Killingworth, M. R. (1983). *Labour Supply*, Cambridge University Press, New York.
- Maassen van den Brink, H., 1994. *Female Labor Supply, Child Care and Marital Conflict*. Amsterdam: Amsterdam University Press.
- Marshall, M., Oliver, W., 2005. The effects of human, financial, and social capital on the entrepreneurial process for entrepreneurs in Indiana, in: *Allied Social Science Associations Annual Meeting*, Philadelphia, PA, January. pp. 7–9.
- Roberts, K.D., 2001. The determinants of job choice by rural labor migrants in Shanghai. *China Econ. Rev.* 12, 15–39.
- Valodia, I., Lebani, L., Skinner, C., Devey, R., 2006. Low-waged and informal employment in South Africa. *Transform. Crit. Perspect. South. Africa* 60, 90–126.
- Wamuthenya, W., 2009. Gender differences in the determinants of formal and informal sector employment in the urban areas of Kenya across time, in: *Recuperado de* https://Editorialexpress.Com/Cgibin/Conference/Download.Cgi?Db_name=IAFFE2009&paper_id.
- Williams, C.C., Shahid, M.S., Martínez, A., 2016. Determinants of the level of informality of informal micro-enterprises: Some evidence from the city of Lahore, Pakistan. *World Dev.* 84, 312–325.
- Yah, N.C., Tingum, N.E., Kum, F.V., 2018. Determinants of Informal Sector Employment in Urban Labor Markets in Cameroon. *J. Ekon. dan Stud. Pambang.* 10, 140–152.

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