The Determinants of Gender Wage Discrimination in Pakistan: Econometric Evidence from Punjab Province

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Abstract

The development of labor sector has always been on the priority agenda of every country in the world. Since gender discrimination can be categorized in various forms across countries, but this paper concentrates on the gender employment positions and wage differentials in Pakistan. The major objective of this paper is to analyze the determinants of gender wage discrimination in Pakistan using descriptive and regression analysis based on the cross-sectional data of Pakistan labor force survey. It is concluded that illiteracy, poor and low levels of education as well as low vocational, technical, and professional competence are currently important facets of the labor market participants in Pakistan. The results of empirical analysis show that dissimilarity in attainment of jobs is a remarkable phenomenon between males and females. It is also proved that some socio-economic and cultural constraints also hinder the participation of females. Finally the results show that women are not different in their productivity from men and if discrimination does not occur, women can earn more as compared to men in some cases. The governments should take some concrete steps for equitable employment opportunities, improving institutions and infrastructure, provision of quality education and proper training, gender participation in decision-making and knowledge-based economy

Keywords: Gender discrimination, Wage differentials, Female labor force participation, Pakistan

1. Introduction

The development of labor force sector has always been on the priority agenda of every country in the world. But notwithstanding the policies that have been devised so far, gender wage differentials and unemployment still remains a major issue in the economic development of many countries. The dire need to address the issue of gender in labor market cannot be overlooked as it not only hinders the progress of developing countries, but also has been addressed in various forms in developed countries. The promotion of the employment sector by reducing gender gaps in wages is important because it has a double positive impact i.e. economic as well as social.

Moreover gender bigotry against women in the market place reduces the available talent in an economy, which has negative economic consequences especially in terms of low economic growth among others. While gender discrimination against women in the labor market in developed countries is usually identified with differential wage rates, it is in developing countries that this discrimination appears to take the form of differential access to wage employment (Collier, 1994). Since gender discrimination can be categorized in various forms across countries, but major emphasis in this paper is on the gender employment positions and wage differentials in Pakistan.

Over the last six decades a series of polices have been designed for resolving the issue of unemployment in Pakistan. The government has tried to promote the labor intensive techniques by implementing the policies of tax exemptions and facilitating the medium and small industries, but the issue still remains as intense as ever. If a thorough analysis of the Government's policies for employing labor is done, it can be observed that most of these policies are not entirely free of gender discrimination. Besides the discrimination, which is clearly manifested in most of the government's polices for labor employment, there are a lot of other cultural, social and economic constraints upon the female labor force.

These constraints and polices designed so far, have given rise to the issue of gender discrimination in the labor market of Pakistan. Since most of the policies designed for the economic growth or stability in the country, are based on the promotion of export, the export industries rigidly believe in the employment of skilled or highly skilled labor force. Owing to the many socio-cultural constraints and lack of vocational training, a huge majority of the female labor force is not acquainted with the new technology. This phenomenon encourages hostility against the female labor force in the industries. To top it all, the meager wages offered to the female labor force do not prove to be much of an incentive for them.

Women have made great advances in work-related skills, in their labor force participation and in their occupational status, but unequal wages still indicate a considerable difference between the great contribution which women make and the little benefit they receive from it. According to Human Development Report (1998), in almost all the societies, relative to men, women are concentrated in low-paying jobs, generally overrepresented in clerical, sales and service occupations, often work longer hours and much of their work remains undervalued, unrecognized and unappreciated. It is still an unequal world.

The issue of gender wage inequality in the labor market is also imperative in a country like Pakistan where females constitute almost half of the population and involved in production directly or indirectly, but do not have access even to their own earnings. Similar results are also reported by Behrman and Zhang (1995), who studied gender issues and employment for Asian countries in-depth. They report that gender segregation is higher in Pakistan, Philippines, and Turkey, mainly due to the higher concentration of females in the agricultural sector. Furthermore, recent research shows that the rising unemployment rate among males and females, concentration of females in low paying jobs, and gender discrimination may affect the performance of females in the labor market (Siddiqui, 2001).

The main objective of this study is to analyze the factors that affect gender wage discrimination using econometric techniques based on latest labor force survey data. For this purpose, the technical characteristics of the labor market will be analyzed.

2. Profile and Trends of Labor Market in Pakistan

Pakistan is the 6th most populous country in the world with a population of 160.9 million in mid 2008. Annual growth rates have risen from 1 percent in the first three decades of the country to around 2 percent in the next three decades after peaking over 3 percent in the 1960s and 1970s and then below 3 percent in the 1990s. The country's population is estimated to double in the year 2045 if it continues to grow at 1.8 percent (Government of Pakistan, 2008). At present, labour market indicators receiving increasing attention in Pakistan include: generation of productive and decent employment, improvement in working conditions, strengthening social safety nets, increasing vocational and technical competence of the workforce, and design and implementation of a labour market regulatory framework that ensures safer and remunerative working conditions including decent minimum wages. Nevertheless labour market in the country is also confronted with various challenges, including: unemployment, underemployment, poor working conditions, predominance of informal economy, low literacy, poor level of skills, and miss-match between the demand and supply of educated and trained manpower. Women and youth - comprising half of the population - are at a disadvantaged position as well; they are also vulnerable to the ups and downs of the economy.

The labour force participation rate (LFPR) is an important variable which indicates the supply of labour in the economy and the composition of the country's human resource. The results show that LFPRs are low but gradually increasing over the years as is given in Table 1. The urban-rural participation rates for the last ten years also show a gradual rise both for men and women. An increase of 3 percent in the urban areas is dominated by males (4.4 percent for males as compared to 2 percent for females) while females dominate (5.5 percent of females as compared to 2.7 percent of males) almost 4 percent increase in rural areas. The higher increase in the participation rates in the rural areas, especially for females, and of males in urban areas are largely attributed to a positive outlook of the economy.

Insert Table 1 Here

The province-wise distribution is produced in table 2 which shows that the LFPRs are highest in Punjab, 32.2 percent followed by Sindh 30 percent and Balochistan 29.5 percent. The lowest participation rates are estimated for NWFP, about 26percent. An increase ranging from 2.4 percent to 6.4 percent has been observed in these rates during the last ten years; Balochistan showing the highest, while NWFP showing the lowest. The increase in Punjab and Sindh is of similar magnitude. It is important to note that the increase in the rates is a recent phenomenon as a result of robust economic growth. The mega projects started by the Government are positively contributing especially in Balochistan where increase in the participation rates is almost double as compared to other provinces. Males have higher participation rates in all provinces as compared to females but almost similar increase is noted in the rates over the last ten years. Except NWFP, the increase in the rates is more significant in rural than urban areas and in that too Balochistan showing the highest increase. This increase is more pronounced for females than males.

Insert Table 2 Here

The estimates in table 3 show that about 46.94 million people were employed in 2005-06 as compared to 42 million in 2003-04; an increase of 4.94 million work opportunities in two years. The employment growth during this period is higher. The current good performance of the economy and the pro-poor targeted programs are contributing positively in the job creation. The employment generation has been higher in rural than urban areas attributed to an expanding rural economy mainly due to the focus of the Government on agriculture and livestock, in particular dairy and milk production. A number of schemes under Public Sector Development Programme (PSDP) initiated in rural areas also contributed to job growth. Further, a robust growth in industry and services sector during the last few years, mainly in urban areas and coinciding with increasing consumer spending, has led to a rise in employment. It is worth mentioning that the low employment growth during 1990s was the result of low GDP growth and smaller PSDP allocations to the social sector.

Insert Table 3 Here

Main reason to work is to have enough earnings to support different household activities for decent and comfortable living. The LFS 2005-06 provides earning information only for "employees" category which restricts us to analyze the living conditions of all working groups. The data reveals that more than half of the employees in Pakistan earn, on average, the minimum wage of Rs. 4,000 per month (Table 4). The gender analysis shows that females are at a more disadvantageous position. More than three fourths of them earn monthly income of less than the minimum wage as compared to one half of their male counterparts. More serious is the plight of almost half of the females whose monthly income is even less than Rs 1,500. More than a quarter of males and two thirds of females have monthly income of less than Rs 2,500. The regional analysis shows that a higher proportion of females earn less than minimum wage in both urban and rural areas as compared to males. The earnings are substantially low in rural areas as a higher proportion of both males and females earn a monthly income of less proportion of such workers is almost 40 percent.

Insert Table 4 Here

Another indicator to assess the quality of work is the weekly hours they - employed - supply to the labor market. The LFS 2005-06 data indicates that 15.3 percent of the employed are working less than the normal hours i.e. less than 35 hours per week (Table 5). Among under- employed, about 4 percent worked 1-20 hours, 8 percent worked 21-30 hours and 3 percent worked 31-34 hours per week, respectively. The serious concern is, however, those 42.3 percent who work more than 48 hours per week. A higher proportion of males is an indication of tough time for breadwinners to meet the household expenditures. The over-employment (more than 48 hours a week) is also an indication of poor conditions of work in Pakistan where workers have to supply more than normal hours to survive. Urban workers are more compelled than their rural counterparts to work more due to the higher cost of living.

Insert Table 5 Here

Keeping in view the aforementioned facts, we summarize the situation of labor market in Pakistan as follows. Unemployment and under employment is quite pervasive; the underutilized labor accounts for a fifth of the workforce. Lesser remunerative and low productive work currently affects a significant proportion of the employed. Poor working conditions in significant workplaces are also not uncommon. Of the estimated over three million unemployed, a significant proportion is found to be: i) educated having matriculation and higher level of education - a scarce commodity in Pakistan, and youth, ii) chronically unemployed (39.5 percent) i.e. unemployed for more than a year, and iii) active in the job/work search for over a year (21.3 percent). In the absence of any formal social security system, this places enormous pressure on the concerned households and individuals. It is also a drain on the already meager resources of the country. According to Pakistan labor force

survey, still agricultural sector absorbs largest proportion, while manufacturing sector accounting for 13-14 percent falls even behind, slightly though, social and personal services and whole sale and retail trade. The impact of employment and labor market variables on poverty reduction has been found to be significant. The concentration of workforce in agriculture and high dependency are found to cause poverty. On the other hand, a shift of the workforce to manufacturing and education positively linked with poverty reduction.

Nevertheless problem is compounded further by inadequacy of detailed, reliable and disaggregated information on different labor market indicators. Even basic information on labor market changes, education and skill requirements, and nature and extent of unemployment by gender, areas and length of unemployment is largely not available. Consequently, employment counseling, vocational guidance and employment placement are ineffective and even non-existent. While the changes occurring in different labor markets, the consequences for educated and skilled are not properly monitored. Education and training institutions are not planning and executing their programs in this regard. Mismatch of educated and trained is then the natural outcome. The education and training system continues to have with its qualitative and bottlenecks.

3. Theoretical and Empirical Literature

Since a disparity has been observed between males and females in all dimensions of the life, especially in economic terms and one can find a wide gap in the developed world and particularly in the developing countries. In this section, an effort has been made to review and discuss the theoretical and empirical literature on the different aspects of labor markets. Substantial literature exists on the rationales that describe the gender wage divergences.

The initial descriptions come from one of the most dominant explanations of these differences is given by the human capital theorists Becker (1962) and Mincer (1962). They emphasized the role of schooling, training and other productivity-related factors in closing this gap. Mincer and Polachek's (1974) human capital theory and Becker's (1971) discrimination theory have explained that gender wage gaps are due to endowment variations in individual characteristics. Issues pertaining to differences in male-female earning structures have been analyzed by the economists over a long period of time. Mincer and Polachek (1974) laid stress on the deterioration of women's human capital during periods of intermittency due to child-bearing. Bergman (1974) presented the crowding model in which it is the employer who decides to hire a woman into an occupation and found that the employer's rational decision may be a discriminatory one, if he uses only a person's sex to disqualify her from an occupation. Roemer (1979) explains that women may be excluded if men can coordinate in penalizing those who violate a consensus against hiring women. This explanation would work well in a close-knit community. However, even in LDCs, many labour markets are essentially anonymous, especially in urban areas. In such cases, the existence of such massive coordination is simply not plausible. Polachek (1981) hypothesized that it is due to these interruptions that women enter into those occupations where cost of interruption is low. On the other hand, England (1982) has demonstrated that a woman who plans to enter into an intermittent labor market would not gain an advantage by choosing a traditional female occupation.

Though there is vast empirical literature in developed countries on this issue, for example, Cain (1986) analyzed the labor market discrimination, Jurajda and Teodora (2006) discussed the female managers and their wages in the Central Europe, Taubman and Michael (1986) discussed the same phenomenon under the title of Segmented Labor Markets. Whereas Babcock and Laschever (2003), Baker and Murphy (1988), Bell (2005), Bertrand and Hallock (2001), Black et al. (2004), Blau and Ferber (1987), Bonin et al. (1993), Gneezy et al. (2003) develop the theoretical and empirical work on the gender discrimination related to the corporate sector, Whitehouse (1992) for OECD, for Danish economy, Gannon et al. (2004) for European Economies, little research has focused on male-female earning differences in developing countries. However, one can see some studies on this particular topic such as Bardhan (1994) analyzed the South Asian economies, the case of Nepal has been studied by Acharya and Bennett (1982), Assenmacher (1990) presents the case of the third world, Birdsall and Behrman (1991) studied the gender discrimination for the Brazilian labor market, Chaudhuri (1991) discussed the case of Bangladesh, Collier (1994) presents the situation of Africa, Ecevit (1991) analyzed the condition of women factory workers, Finlay (1989) for Dominican Republic, Folbre (1984) for Philippine, Geisler (1993) for South Africa, Greenhalgh (1985) for South Asia, Ibraz (1993) for Pakistan, Kalpagam (1986) and Mathur (1994) for India, and Reilly (1997) for transitional economies, especially in Pakistan are the studies directly related to these issues but a number of attributes potentially related to earning differentials were unavailable to these studies.

There are also many studies on gender issues in Pakistan, for example, Haque(1977), Guisinger et al. (1984), Khan and Irfan (1985), Chaudhry and Khan (1987), Chishti and Lodhi (1988), Kazi and Raza (1989), Bilquees and Hamid (1989), Hamid (1991), Ahmad et al. (1991), Ashraf and Ashraf (1993 and 1996), Kemal (1997),

Alderman et al. (1996), Siddiqui and Siddiqui (1998), Siddiqui (2001) and Chaudhry (2007). Nevertheless we review some of the most recent quite significant studies in some detail as follows.

Siddiqui and Siddiqui (1998) decompose earning differential in terms of differences in personal characteristics and differences in the labor market. The results show that after adjusting for differences in individual characteristics, discrimination accounts for about 20 percent of the earning differential. Interestingly, the study reveals that wages of highly educated females are a little higher than those of males. This wage difference is also reflected by a positive wage difference for professional workers, implying that education could contribute significantly in lowering gender discrimination in Pakistan. Siddiqui (2001) concluded that though female labor force participation rates, literacy rate, and access to credit and health facilities, though rising, but still these are very low. She also concluded that gender discrimination in the labor market did not change significantly in Pakistan but poverty among male and females increased during 1993/94 and 1996/97.

Chaudhry (2007) investigates the impact of gender inequality in education on economic growth during the period 1970-2005 using econometric analysis. The results suggest that gender inequality in education directly and significantly affects economic growth by lowering the average level of human capital. It is suggested that women will have to be provided with better educational opportunities, better health care and better nutrition in order to improve their economic capacity and participation and consequently, economic growth rate will rise and it will help to alleviate poverty at all levels in Pakistan.

Though the studies address some of the significant issues relating to gender in Pakistan, but none of them has addressed the determinants of gender wage differentials directly. In order to fill this gap, this paper is undertaken to analyze the issues of wage determination and evaluates a number of possible reasons.

4. Data and Methodology

In this paper, the Ordinary Least Squares (OLS) method of regression analysis is employed for empirical explanation. The exact specification of the earning function which is adopted by this study for estimation is given below, dropping the individual subscripts and sex superscripts:

$$\text{LnWAGE} = \beta_0 + \beta_1 \, \text{SCH} + \beta_2 \, \text{EXP} + \beta_3 \, \text{EXPSQ} + \beta_4 \, \text{EXPSCH} + \beta_5 \, \text{TECHEDU}$$

$$+ \beta_6 \, \text{MAR} + \beta_7 \, \text{WID} + \beta_8 \, \text{DIV} + \beta_9 \, \text{PROF} + \beta_{10} \, \text{ADMN} + \beta_{11} \, \text{CLER} + \beta_{12} \, \text{SALE}$$

$$+ \beta_{13} \, \text{SERV} + \beta_{14} \, \text{AGRI} + \beta_{15} \, \text{KAR} + \beta_{16} \, \text{LAH} + \beta_{17} \, \text{RAW} + \beta_{18} \, \text{MUL} + \beta_{19} \, \text{GUJ}$$

$$+ \beta_{20} \, \text{PES} + \beta_{21} \, \text{HYD} + \beta_{22} \, \text{FAI} \tag{1}$$

Where the definition of the variables is as follows:

Ln WAGE   =   the natural logarithm of monthly earnings and is defined to include

                          earnings and bonuses of workers evaluated on monthly basis

SCH   =   years of schooling completed

EXP   =   experience: AGE-SCH-6

EXPSQ   =   experience square

TECHEDU   =   one if worker received technical education, zero otherwise.

MAR   =   one if individual is married, zero otherwise.

WID   =   one if individual is widowed, zero otherwise.

DIV   =   one if individual is divorced, zero otherwise.

(Unmarried individuals are reference category)

PROF   =   one if individual is a professional, zero otherwise.

ADMN   =   one if individual is an administrator/ manager, zero otherwise.

CLER   =   one if individual is clerk or related worker, zero otherwise.

SALE   =   one if individual is a sales or related worker, zero otherwise.

SERV   =   one if individual is a services worker, zero otherwise.

AGRI   =   one if individual is an agricultural worker, zero otherwise.

(Production workers are reference category)

LAH   =   one if individual is lives in Lahore, zero otherwise.

FAS   =   one if individual lives in Faisalabad, zero otherwise.

RAW   =   one if individual lives in Rawalpindi, zero otherwise.

MUL   =   one if individual lives in Multan, zero otherwise.

GUJ   =   one if individual lives in Gujranwala, zero otherwise.

SIA   =   one if individual lives in Sialkote, zero otherwise.

BAH   =   one if individual lives in Bahawalpur, zero otherwise.

(Sargodha is a reference category)

Since the OLS method for empirical analysis is used to estimate the regression coefficients based on cross sectional data from the Labor Force Survey (LFS), 2003-04, conducted by the Federal Bureau of Statistics, this survey covers 18,912 households and more than 100,000 individuals of all urban and rural areas of the four provinces of Pakistan. The entire sample of household has been drawn from 1347 primary sampling units out of which 660 are urban and 687 are rural. Since this study is based on the data from Punjab province, the entire sample of households are 8816, whereas 3096 are from urban and 5120 from rural areas. The data have been collected through a questionnaire asking several questions such as family background, age, sex, education, training, labor force participation, hours worked and wages by direct interviews on monthly basis.

The data for our study are restricted to eight self-representing cities of Pakistan including Lahore, Multan, Faisalabad, Sialkot, Rawalpindi, Gujranwala, Bahawalpur and Sargodha. The reason for this restriction is that we have comparatively rich information on wages in these cities of Punjab. Total sample size for these cities is 19,714 in which 10379 are males and 9335 are females. Furthermore, the data for our study is further confined to those individual, aged between 14-65 years, for whom wages were reported and for whom we could obtain occupations. It, in turn reduced our sample size to 3584 individuals, of which 3252 were males and 332 were females, including only paid employees who worked in public or private sector and received remuneration in terms of wages, salary, commission, tips, piece rate or pay in kind.

5. Empirical Results and Discussion

Keeping in view the model specifications and sources of data, we present empirical results in terms of descriptive and regression analysis. A useful descriptive statistics of categorical variables states that of our total sample, 91 percent are males and 9 percent are females. The categorization of the data by occupations reveals that out of 7 occupations, almost 34 percent males are concentrated into production sector, while 37 percent females are confined to lower level white collar jobs such as clerks. At the same time, women are under-represented in professional, administration, sales and agriculture sectors. However, our data set for females are not large enough to produce reliable estimates of proportion of females in each occupation. So the biases may result from poor measurement of this variable.

Surprisingly, our data in Table 6 shows that males and females attained technical education almost equally, but also this percentage is slightly better for females (11.25 percent versus 11.44 percent). It also suggests that the percentage of married male workers (33.48 percent) is greater than the percentage of married female workers (51.51 percent). On the other hand, the percentage of unmarried, widowed and divorced female workers is grater than that of their respective male counterparts. The distribution of our sample in terms of cities indicates that the largest proportion of the sample about 37 percent came from Lahore city, with 37 percent and 35 percent males and females respectively. Faisalabad and Multan have the second and third largest proportions of the sample (16 percent and 10 percent respectively while the samples from Bahawalpur and Sargodha are very unrepresentative having only 2 percent and 6 percent of the total sample respectively.

Insert Table 6 Here

The mean values of non-categorical variables in this analysis are reported in Table 7. The dependent variable is natural logarithm of monthly earnings in the analysis. The LFS asks the respondents, "How much money did you earn for the main work last week/last month?" After including bonuses, it averages 7.80 for males and 7.56 for

females, showing mean wage of Rs. 2441 for males and Rs. 1920 for females. It describes that, on average females are earning almost 21 percent less than their male counterparts.

Among other features of female workers, on average females are younger by 1 year having obtained one more year of schooling, having almost two fewer years of experience than their male counterparts- a finding that supports the Mincer and Polachek (1974) hypothesis for the cause of the observed male-female earning differentials. Lower average values of experience square and interaction of experience-schooling for females as compared to males show that labor force participation of females is often restricted to early in the life-cycle, before marriage and family formation. Table 7 also indicates that mean number of children of two age groups and mean number of males in a family are greater for males (0.62, 0.95 and 2.51) respectively as compared to females (0.44, 1.40 and 1.32 respectively). It is consistent with the finding of Table 4.1 which already showed that marriage rate for male workers are grater as compared to that of female workers.

Table 8 lists the mean values of log monthly earnings for seven occupation groups. From the tabulations, it is revealed that the production sector gives the highest mean log wages to males, approximately 6.93 (Rs. 1022), where it is already indicated in 6 that males are highly concentrated in production sector. On the other hand, Table 8 showed mean log wages to females around 5.12 (Rs. 167). While Table 6 provides evidences that most of the females are concentrated into this sector.

Insert Table 7 Here

Insert Table 8 Here

These findings are consistent with segmented labor market theorists who argued that male-female wage differential is a result of segmentation of males in high paying jobs and of females in low paying jobs. The above descriptive analysis provides and evidence for male-female earning differentials which could be explained through differences in human capital variable, or through differences in occupational distributions.

Now we come to the empirical analysis by employing estimates on the wage regression equations. This empirical analysis describes the results of the human capital and demographic variables included in the two wage equations; full-scale wage equation, and personal characteristic wage equation. The coefficient estimates of full-scale wage equation with t-statistics are presented in table 9 for the sample of 3753 individuals, of which 3409 were males and 344 females. The estimated coefficients of the human capital variables are highly significant especially for males' sample. For example on average, Schooling is associated with 7.2 percent increase in wages for males and 7.7 percent increase in wages for females, showing slightly better rate of return for females as compared to males. However, the rate of return to each year of experience pays off more to males (5.02 percent) than to females (3.81 percent). The estimated coefficients for experience-squared term are negative and significant for both males and females, confirming the concavity of the age-earnings profile. But it shows that for males' wages peak at 35.86 years of age while for females it occurs at 31.75 years of age. It may be due to the fact that potential experience (Age-Sch-6) does not capture the impact of interruptions which are frequently observed in females' labor force participation.

Insert Table 9 Here

The effect of experience on log earnings also depends on the level of schooling. The coefficient for experience-schooling interaction shows that highly educated male would not be more experienced. It may be due to the fact that the more educated will spend more years for schooling and consequently the fewer years will be available for labor market experience. Also technical education is found to be highly significant for males and increases their wages by 9.2 percent.

The coefficient estimates for marital status show the same patterns which is consistent with the human capital theory. According to this theory, it is the continuous labor force participation in which matters. We found that married males are earning more as compared to unmarried males, while positive and significant coefficient for widows is also consistent with a prior expectation. To identity seven broad occupational groups defined in the Labor force Survey, we used dummy variables. The reference category was the production sector. The coefficient estimates as well as the t-statistics were highest for both male and female workers in the professional group, and this followed by the agriculture sector.

To capture the effects of labor market conditions, geographic location and other possible effects, we introduced dummy variables for the nine cities of Pakistan. This variable is important because different cities show different patterns of females' labor force participation and different opportunities available to them. The reference category was Sargodha. The interesting result is that women from Bahwalpur earn more as compared to those of all other cities. It could be due the fact that labor force participation is constrained by cultural restrictions in

these areas, consequently only those women participate in the labor market that are more talented and more motivated. In case of male workers, except workers in Lahore and Rawalpindi, all the other cities show lower earnings as compared to Sargodha city. The largest divergence between male-female earning lies in Bahawalpur City - males from Bahawalpur are earning the lowest and females are earning the highest of those these all cities.

The estimated results from personal characteristic wage equation are presented in Table 10. While in this equation, we are not controlling occupations. Coefficient estimates show more or less the same pattern except that the rate of return to schooling are now the same for both sexes, and wages for males peak at age of 38.07 years while females' wages peak at age of 32.83 years. Furthermore marital status is not found statistically significant for both males and females.

Insert Table 10 Here

6. Conclusion and Policy Implications

This paper investigates the causes of differences in earning structures of males and females in the Pakistan's labor market focusing on what happens to the analysis of causes when occupational attainment is endogenously determined in the model.

It is concluded that illiteracy, poor and low levels of education as well as low vocational, technical, and professional competence are currently important facets of the labor market participants. The current policy "focus" on employment, HRD and raising vocational and technical competence is the only way of ensuring a fairly dispersed, beneficial and sustainable development. This is indeed contingent upon developing greater and directive linkages between setting targets with regard to GDP growth rates, investment and saving levels, fiscal prudence, taxation and monetary policy as well as inflation with considerations on effectively harnessing development and employment potential. Moreover, it also demands an institutional mechanism capable to respond effectively to the challenges, goals and targets.

The results of empirical analysis show that dissimilarity in attainment of jobs is a remarkable phenomenon between males and females in Pakistan. The results also show that women are not different in their productivity from men. It is also concluded that if there is no discrimination, women earn more as compared to men in some cases. It could be both due to differences in employer's tastes toward women and due to a lack of product-market competition. If the labor market does not have only limited traditional occupations for women, it will reduce the degree of gender occupational segregation. It is also proved that some socio-economic and cultural constraints also hinder the participation of females in Pakistan. Moreover, it is more pervasive and more serious in rural areas than in urban areas and there are also wide disparities even between regions within a country. Future research can be conducted on the rest of provinces of Pakistan based on same methodology using latest data sets.

Finally, it is concluded more specifically that the variables of experience, level of schooling, occupational groups, technical and vocational education, geographic location in terms of various cities of Pakistan and marital status are found significant affecting the gender-wage discrimination in the province of Punjab.

Keeping in view the trends and profile of labor market in Pakistan, and empirical analysis, following are some policy implications for reducing gender discrimination in Pakistan:

i.   Since it is assumed that gender limits the opportunity for many people to develop their capabilities and thereby limits their choices as to what they can earn in their lives and how can they participate in the process of earning, the authorities should take some concrete steps for creation of equal opportunities for the workers irrespective of their gender to participate in, contribute to and benefit from the opportunities which are available in the labor market.

ii.   While many governments have failed to recognize the gender bias which prevails in the social and economic sectors and the unintended and unanticipated impact that decisions taken for one gender have on others. Nevertheless gender bias phenomenon can be reduced by improving infrastructure, provision of education and a proper training can improve the present condition of this segment of the labor force.

iii.   The policies regarding globalization and emerging global trends should be enhanced as these are causing fundamental transformations in the labor force and their relationship with the market. As a result of the information revolution and the adoption of free-market economic policies, the economies in Asia and the Pacific will integrate rapidly into a global economy. Consequently this will also facilitate the female labor force participation on steady basis.

iv.   More female labor force participation can be done by enabling all to develop to their full capabilities and by removing any social and regulatory obstacles. In order to enable people, areas and regions to

develop to their full capabilities, governments must ensure access to infrastructure and services including information and credit opportunities for social and economic mobility and participation in decision-making so that more people can seize such opportunities.

v.   Education will have to prepare for change rather than for stability. Thinking schools and learning nations will be the paradigm of the twenty-first century: lifelong learning for lifelong employability. Improving education will no longer be only a matter of providing education for all, but also of enhancing the quality of education, teaching students to learn and think, to be creative, and preparing them for lifelong learning. The knowledge-based economy will require changes in the curriculum and the teaching strategy and changes in the attitude and the mindset of every member of the community: the learners, the educated, parents and society at large. While the changes will first of all affect the professionals and later the industrial workers in the economy, they will eventually have an impact on female population of the economy.

In order to bring all above policy implications in lines with practical implementation, federal government should take some constitutional steps in strengthening the institutions and making appropriate laws.

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Table 1. Crude Labor Force Participation Rates by Region and Gender (Percent)

Year	Total			Urban			Rural		
	Both	**Male**	**Female**	**Both**	**Male**	**Female**	**Both**	**Male**	**Female**
1996-97	28.7	47.0	9.0	27.2	46.6	5.9	29.4	47.2	10.5
1997-98	29.4	48.0	9.4	27.0	47.1	5.3	30.6	48.4	11.5
1999-00	29.0	47.6	9.3	27.1	46.5	6.3	29.8	48.2	10.7
2001-02	29.6	48.0	9.9	29.1	48.9	7.3	29.9	47.6	11.1
2003-04	30.4	48.7	11.2	29.2	49.8	7.0	31.0	48.2	13.2
2005-06	32.2	50.3	13.3	30.2	51.0	7.9	33.2	49.9	16.0

Source: Labor Force Surveys, Various Issues.

Table 2. Crude Labor Force Participation Rates by Province, Region and Gender (Percentages)

Year	Total			Urban			Rural		
	Both	Male	Female	Both	Male	Female	Both	Male	Female
	Punjab								
1996-97	28.7	47.0	9.0	27.2	46.6	5.9	29.4	47.2	10.5
1997-98	29.4	48.0	9.4	27.0	47.1	5.3	30.6	48.4	11.5
1999-00	29.0	47.6	9.3	27.1	46.5	6.3	29.8	48.2	10.7
2001-02	29.6	48.0	9.9	29.1	48.9	7.3	29.9	47.6	11.1
2003-04	30.4	48.7	11.2	29.2	49.8	7.0	31.0	48.2	13.2
2005-6	32.2	50.3	13.3	30.2	51.0	7.9	33.2	49.9	16.0
	Sindh								
1996-97	26.6	46.8	4.0	26.2	46.3	3.8	26.8	47.2	4.2
1997-98	26.5	46.5	4.1	24.7	44.1	3.2	28.5	48.9	5.0
1999-00	25.4	44.4	4.4	23.8	43.0	2.7	26.9	45.6	6.0
2001-02	27.3	47.8	4.1	26.9	47.3	4.0	27.6	48.4	4.1
2003-04	27.9	48.8	4.6	28.1	49.3	4.4	27.8	48.3	4.7
2005-06	30.0	51.1	6.4	28.9	50.9	4.6	31.2	51.2	8.1
	NWFP								
1996-97	24.0	41.2	5.9	24.3	43.0	3.7	24.0	40.8	6.4
1997-98	23.7	40.2	6.2	23.4	41.4	3.5	23.7	40.0	6.8
1999-00	24.8	41.1	7.9	24.7	42.5	5.2	24.8	40.8	8.4
2001-02	23.5	41.7	4.7	25.8	45.0	5.0	23.1	41.1	4.6
2003-04	24.6	42.3	6.9	25.1	44.8	5.1	24.5	41.8	7.3
2005-06	26.4	44.4	8.8	26.7	46.4	6.4	26.3	44.1	8.8
	Balochistan								
1996-97	23.1	43.1	2.6	21.4	39.1	2.2	23.5	44.1	2.6
1997-98	25.5	46.0	3.6	21.8	39.9	1.8	26.3	47.3	4.0
1999-00	24.2	44.3	3.0	21.7	38.1	3.2	24.7	45.6	3.0
2001-02	25.3	44.5	3.6	23.8	41.3	4.1	25.7	45.3	3.5
2003-04	25.7	45.0	4.8	23.4	41.3	3.9	26.4	46.1	5.0
2005-06	29.5	48.2	8.0	25.1	43.9	3.1	30.9	49.5	9.4

Source: Labor Force survey, various issues.

Table 3. Employed by Region and Gender (in millions)

Year	Pakistan			Urban			Rural		
	Both	Male	Female	Both	Male	Female	Both	Male	Female
1996-97	34.13	29.53	4.58	10.31	9.45	0.85	23.87	20.12	3.74
1997-98	35.94	30.93	5.00	10.78	9.99	0.78	25.15	20.92	4.22
1999-00	36.3	31.21	5.08	10.07	9.19	0.87	26.23	21.98	4.24
2001-02	38.9	33.19	5.69	12.2	11.00	1.22	26.7	22.19	4.47
2003-04	42.00	34.69	7.06	13.1	11.76	1.35	28.6	22.93	5.71
2005-06	46.94	37.81	9.13	14.46	12.80	1.66	32.48	25.01	7.47

Source: Labor Force survey, various issues.

Table 4. Average Monthly Income of Employees by Region and Gender (Percent)

Income group	Pakistan			Urban			Rural		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
<1500	14.4	9.5	46.2	10.8	7.5	34.0	17.5	11.2	55.2
1501-2500	17.6	17.0	21.5	13.7	13.0	18.5	20.9	20.5	23.8
2501-3900	21.7	23.8	8.3	19.9	21.4	9.8	23.3	26.0	7.1
4000 and above	46.3	49.7	24.0	55.6	58.1	37.3	38.3	42.3	13.9
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Labor Force Survey, 2005-06

Table 5. Hours of Work by Region and Gender (Percent)

Hours	Pakistan			Urban			Rural		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
01- 10	0.7	0.4	1.9	0.4	0.2	2.1	0.8	0.5	1.8
11 - 20	3.6	1.8	11.1	1.6	0.7	8.7	4.5	2.4	11.6
21 - 30	7.9	4.1	23.7	3.8	2.1	17.6	9.7	5.2	25.1
31 - 34	3.1	2.4	6.0	2.0	1.4	6.7	3.6	3.0	5.8
35 - 48	42.3	41.6	45.5	43.1	42.1	50.3	42.0	41.3	44.5
48 +	42.3	49.6	11.8	49.1	53.5	14.6	39.3	47.6	11.2

Source: Labor Force Survey 2005-06

Table 6. Distribution of the Sample across Categorical Variables (Frequencies and Percentages in Parentheses)

Variables	Total Sample	Males	Females
Gender	100	90.74	9.26
Occupations			
Prof	14.26	14.98	7.23
Admin	4.58	4.64	3.92
Clerks	13.42	11.01	37.05
Sale	6.70	6.70	6.63
Services	23.24	24.32	12.65
Prod	33.62	34.44	25.60
Agri	4.19	3.90	6.93
Technical Education			
Trained	11.27	11.25	11.44
Untrained	88.73	88.75	88.55
Marital Status			
Unmarried	32.39	32.01	35.84
Married	65.09	66.48	51.51
Widow	2.06	1.20	10.54
Divorced	0.47	0.31	2.11
Cities			
Lahore	36.91	37.08	35.24
Faisalabad	16.21	15.62	21.99
Rawalpindi	6.22	6.00	8.43
Multan	7.31	7.20	8.43
Gujranwala	5.94	6.33	2.11
Sialkot	9.43	9.32	10.54
Bahawalpur	2.03	2.21	0.30
Sargodha	5.61	5.97	2.41

Source: Labor Force Survey, 2003-2004

Table 7. Descriptive Statistics for Non-categorical Variables (Averages and numbers in parentheses are standard deviations)

Variables	Total Sample	Males	Females
Lnwage	7.78	7.80	7.56
	(0.72)	(0.71)	(0.08)
Age	33.68	3376	32.86
	(11.84)	(11.86)	(11.56)
Sch	8.14	8.05	8.98
	(6.24)	(6.14)	(7.11)
Exp	19.56	19.72	1795
	(12.93)	(12.80)	(14.06)
Expsq	549.84	552.91	519.40
	(641.73)	(638.70)	(671.28)
Expsch	125.84	128.13	103.05
	(140.94)	(140.90)	(139.49)
Child0-6	0.61	0.62	0.44
	(1.04)	(1.05)	(90)
Child6-14	0.95	0.95	0.90
	(1.41)	(1.41)	(1.40)
Malpres	2.45	2.51	1.87
	(152)	(1.52)	(1.32)

Source: Labor Force Survey, 2003-2004

Table 8. Mean Values of Log Monthly Earnings by Occupation and Gender

Variables	Total Sample	Males	Females
Prof	5.70	5.69	7.09
Admin	6.38	6.48	5.51
Clerks	6.44	6.69	5.12
Sale	6.42	6.59	8.06
Services	6.12	6.60	6.97
Prod	6.63	6.93	6.81
Agri	6.76	6.56	7.09

Source: Labor Force Survey, 2003-2004

Table 9. Coefficient Estimates of Full-Scale Wage Equation by Gender (Dependent Variable = Natural Log of Wage)

Variables	Males	Females
Constant	6.5095**	6.5578***
	(83.46)	(22.25)
Sch	0.0607***	0.0660***
	(15.07)	(5.27)
Exp	0.0491***	0.0270***
	(-8.26)	(2.25)
Expsq	-0.0006***	-0.0005***
	(-8.26)	(-2.35)
Expch	-0.0009***	0.0000
	(-5.16)	(0.08)
Tech	0.0807***	0.0713
	(2.16)	(0.69)
Marital Status		
Mar	0.0468*	0.0228
	(1.69)	(1.18)
Wid	-0.0109	0.1462*
	(-0.10)	(1.56)
Div	-0.1989	0.0921
	(-1.08)	(0.30)
Occupations		
Prof	0.1117***	0.1668**
	(6.62)	(1.78)
Admin	0.0399	0.1668**
	(0.66)	(1.78)
Cler	0.0476	-0.0934
	(1.52)	(-1.00)
Sale	-0.0621	-0.0245
	(-1.57)	(-0.11)
Serv	-0.0203	-0.0089
	(-1.02)	(-0.06)
Agri	0.0551	0.1410*
	(1.08)	(1.54)
Cities		
Lah	0.0570***	-0.0619
	(3.45)	(-0.66)
Fai	-0.0106	-0.2941
	(-0.22)	(-1.23)
Raw	0.0003	-0.2087
	(0.01)	(-1.22)
Mul	-0.0696	-0.3743*
	(-1.12)	(1.83)
Guj	-0.0487	-0.0238
	(0.88)	(-0.00)
Sia	-0.1700***	0.1260
	(-3.37)	(0.24)
Bah	-0.0076	-0.4108**
	(-0.23)	(-2.05)
Sample Size	3409	344
Adjusted R^2	0.2923	0.3687
F-Value	67.04	13.34

Notes:

    i.   Numbers with * are statistically significant at the 10 percent level, with ** at the 5 percent level and *** at 1 percent level, two-tailed test.

   ii.   Numbers in parentheses are t-values.

  iii.   Unmarried, production sector and Sargodha City are reference categories.

Table 10. Coefficient Estimates of Personal Characteristics Wage Equation by Gender (Dependent Variable = Natural Log of Wage)

Variables	Males	Females
Constant	6.4666**	6.5769***
	(83.45)	(22.32)
Sch	0.0670***	0.0660***
	(16.05)	(5.73)
Exp	0.0422***	0.0172**
	(10.17)	(2.24)
Expsq	-0.0005***	-0.0004**
	(-8.62)	(-2.25)
Expch	-0.0008***	0.00000
	(-5.02)	(0.02)
Tech	0.0684**	0.0914
	(2.24)	(0.81)
Marital Status		
Mar	0.0346	0.0393
	(1.22)	(1.23)
Wid	-0.0038	0.1929
	(-0.04)	(1.21)
Div	-0.1090	0.0949
	(-1.08)	(0.31)
Cities		
Lah	0.0433***	-0.0758
	(3.25)	(-0.73)
Fai	-0.0222	0.2227
	(-0.55)	(-1.35)
Raw	-0.0023	-0.2275
	(-0.55)	(-1.39)
Mul	-0.0758	0.4552***
	(-1.40)	(-2.51)
Guj	0.0654	-0.0298
	(-1.16)	(-0.32)
Sia	-0.1653***	0.3005
	(-3.39)	(0.51)
Bah	0.0330	-0.4568**
	(-0.70)	(-2.23)
Sample Size	3409	344
Adjusted R^2	0.1898	0.3462
F-Value	86.87	17.11

Notes:

    i.   Numbers with * are statistically significant at the 10 percent level, with ** at the 5 percent level and *** at 1 percent level, two-tailed test.

   ii.   Numbers in parentheses are t-values.

  iii.   Unmarried, production sector and Sargodha city are reference categories.