

Urban Informal Sector: How Much Women Are Struggling for Family Survival

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The paper analyses the contribution of informally employed women (for the age group of 16–60 years) to their household budget. The urban informal sector largely absorbs women workers. We examine the determinants of their contribution to their household budgets for the survival of the families. Applying the OLS model to 937 observations, it is found that women as heads of household, women's education, and ownership of assets by woman have a positive effect on their contribution. The burden of the large family size, household poverty, and loans availed by the household are shared by the informally employed women, as these variables positively affect their contribution. Age of the woman has a non-linear effect on woman's contribution. The contribution first increases and then decreases by an increase in the age of the woman. Married women and women living in nuclear families contribute more to the household budget. The household per capita income and number of children (5–15 years) in the household have shown a negative effect on the contribution of women to the household budget. The household's economic vulnerability due to unemployment of husband and lower productivity caused by lower education of husband are also largely shared by the urban informally employed women, i.e., they struggle more for family survival. However, the number of adult males in the household decreases the volume of contribution by women and the burden on women is relaxed.

JEL classification: J160, J220, J13, O150

Keywords: Women, Household Economics, Labour Supply, Female Employment, Poverty

INTRODUCTION

Women labour force participation rate in Pakistan, according to old data collection technique, was exceptionally low at just 14.4 percent, as compared to 70.3 percent for men,¹ while unemployment rate was 16.5 percent for women and 6.7 percent for men [FBS (2003), pp. 15, 30]. The share of women's earnings in earned income of household was 26 percent of that of men earnings while their economic activity rate as percentage of that of men was 40 percent [MHDC (2000)]. According to revised data collection technique of Federal Bureau of Statistics, women's participation rate has been increased to 50 percent instead of 14.4 percent in 2003. According to revised data collection if a

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¹Women labour force participation in Bangladesh was 42.4 percent; India, 32.4 percent; Myanmar, 43.4 percent; Nepal, 42.5 percent; and Sri Lanka, 36.8 percent in the same time-period.

woman is involved doing work such as harvesting, sowing seeds, cotton-picking, maize and rice husking, livestock and poultry breeding, agricultural farming activities, construction work, collection of fire-wood and cotton sticks, fetching water, making clothes, sewing, knitting, marketing and preparation of goods and material, she will be included in labour force. It explained that informally employed women have increased the labour force participation rate of women up to 50 percent. How much these women are contributing in their households' incomes and GDP is still unexplored, along with determinants of their contribution.

Informal sector employment is generally a larger source of employment for women than for men in the developing world. In the developing countries, 60 percent or more women workers are informally employed (outside agriculture), though in Asia the proportion of women and men is roughly equivalent [ILO (2002)]. Informal employment include all remuneration work, both self-employment and wage-employment, that is not recognised, regulated, or protected by existing legal or regulatory framework and non-remunerative work undertaken in an income-producing enterprise. Most informal workers including both self-employed and wage-workers are deprived of secure work, workers' benefits, social protection, and representation or voice. The self-employed have to take care of themselves and their enterprises. Moreover, they often face a competitive disadvantage *vis-à-vis* larger formal firms in capital and product markets. Informal wage workers also have to take care of themselves as they receive few (if any) employer-sponsored benefits. Moreover, both groups receive little (if any) legal or social protection. As a result of these and other factors, a higher percentage of people working in the informal sector, compared to those working in the formal sector, are poor. In the situation women employed in informal sector are vulnerable to exploitation. But they are struggling for their family survival by contributing in their household budgets. What determines their contribution needs attention to make the policy proposals for increasing their contribution.

The women labour force participation in informal sectors (as well as in formal sector) has been analysed by a number of studies but the contribution of women in their household budget that makes proxy for struggle of women for family survival has not still been examined for Pakistan. We assume that ratio of contribution of a woman is a better indicator of her struggle for family survival than her employment or income. This draws attention to the analysis of women's contribution in household budget. Moreover, majority of the women in Pakistan is working in informal sector, i.e., 73 percent of all economically active women and 61 percent of urban working women are involved in informal sector.² It needs to focus on informally employed women.

Generally, economic literature has stressed on working women irrespective of the situation that they are working in formal sector or the informal sector. However, significant part of the literature has analysed the informally employed women. Many areas of these women are still to be explored, i.e., the typology of their work which differs from region to region, skill requirement by these women, credit constraints faced by them, exploitation by employers/contractors/sub-contractors, their health status and working environment, their living conditions and status in the household,

²While in Bangladesh 83 percent, India 41 percent, Nepal 80 percent, and in Sri Lanka 9 percent of working women are engaged in the informal sector.

marketing problems if they are producers, role of NGOs or semi-government institutions for their welfare, and even the bonded labour in some professions, etc. One of the aspects extremely ignored by the researchers is their contribution in household budget that is focus of present study. A major hurdle in the way seemed to be the lack of data about these women [see Charmes (2000)]. We tackle this problem by taking primary data.

A few studies have attempted to analyse the determinants of contribution of informal sector women in their household budgets by using primary data. For instance, recently Khan and Khan (2007, 2008) have analysed the contribution of women in household budget for overall areas (urban and rural). The phenomenon of urban informal sector is conceptually different from that of informal agricultural and non-agricultural rural informal sector. Although urban and rural informal sector workers often have the same individual and household characteristics and it seems an artificial division of economy that researchers and policy-makers have created. It further reflects their lack of understanding of multiple economic roles that individuals play in either urban or rural informal settings. But justification of this division in practical terms, is that the urban informal sector is generally more accessible to researchers and thus yields more complete data. When studying the informal sector with a view to education, training and micro-finance, it seems likely that greater coverage and efficiency can initially be achieved in the urban settings. However, it would be overly ambitious to implement recommendations which are feasible in urban areas to overall areas. It may be hoped that lessons learned in the urban context may be useful in the formulation of future comprehensive plans for development which may take place in rural areas. It is necessary to analyse the rural and urban areas separately.

The objective of our study is to estimate the determinants of contribution of urban informal sector women that stand for their struggle for family survival, by using the primary data. On the basis of results we will make some policy proposals.

LITERATURE REVIEW

In the earlier studies Bell (1974) estimated the contribution of working women in family income. The study concluded that women who held some employment contribute only 16 percent of total family income, median income of these families was 23 percent higher than in families with non-working wives. The full-time working wives provided 39 percent of total family income. The families where the wife has a full-time job enjoy a median income more than 50 percent higher than those where the wife is not employed outside the home. The share of family income, however varies significantly between occupations. The highest percentage contribution comes from professional and managerial workers, who provide about 38 percent of the total family income. The lowest percentage comes from the women who are employed as service workers that amount on average to one-fifth of their total family income. Concerning the wife's contribution in household income, Cancian, *et al.* (1991a) have focused on changes in the level and distribution of earnings of men and women and their impacts on the distribution of family income among married couples, and among all households. The study concluded that husbands earnings rose very little and wives' earnings increased substantially between 1968–1988. The rise in married women's earnings reflected an increase in the proportion

of married women who work as well as increased weekly earnings for working wives. As an impact of wife's earnings on household income, it is estimated that without wives' earnings, 9.2 percent of families would have been below the poverty line, and 26.4 percent would have had income between one and two times the poverty line. Over the period, the increased mean earnings of wives were only able to offset a small part of the decline in the growth of their husband's earnings. Borooah and McKee (1996) have analysed the role of wife's income in income inequality in United Kingdom. One of the causes of rise in income inequality was found as growing polarisation between dual-earners and no-earner families. For US, Cancian, *et al.* (1991b) found that wives' earnings reduced inequality by about 20 percent. For Britain, a same type of study by Machin and Waldfogel (1994) measured the impact of wives earnings on family income inequality. It concluded that wives' earnings reduced inequality by about 27 percent. The study further concluded that a substantial contribution was made by the husbands and a relatively minor contribution by the wives towards income inequality.³ Charmes (2000) have analysed the contribution of informal sector and of the women involved in informal sector to GDP in African countries [see also, Charmes (1998) for Kenya]. It aimed highlighting the underestimation of women's activities in national accounting. The study estimated that in most countries, the share of women in informal sector GDP is much lower than their share in informal sector employment. Hoffmann and Leone (2004) have estimated the women's contribution in household income and its impact on inequality in household per-capita income for Brazil for the years 1981-2002. The decomposition of the Gini index by income shares has shown a decrease in the contribution of men's earnings, and an increase in the contribution of both women's earnings and pensions, in the inequality of per-capita household income. The increase in the contribution of women's earnings to inequality is mostly due to significant increase in the share of their earnings in the household income. Shaw (2005) suggested that women have made both direct and indirect contribution to increase in trend productivity in Europe. The direct contribution has come from their role as workers in the paid economy. They have contributed indirectly to increase productivity and long-run economic growth through unpaid work, both at home raising children and in their communities.⁴ Khan, *et al.* (2005 for Pakistan) have investigated the contribution of women and children involved in home-based work⁵ in family income. They have also analysed the impact of increased earnings of women on household nutrition, health and education.

Plethora of studies in Pakistan has probed the contribution of women in household income. These women were from different areas, employment sectors and age-groups. Shaheed and Mumtaz (1981) conducted a study on informally employed women in Kot Lakhpat (Lahore). The study seemed to be the first on concerning informally employed

³See also the other studies who focused on women's earnings causing inequality in household: Karoly (1991), Wion (1990) and Danziger (1980) for UK.

⁴See also Camps-Cura (1998) for women's and children's earnings impact on family income and household structure; Buvinic and Gupta (1993) for female-heads contribution in household; Louat, *et al.* (1993) for welfare effect on household by female heads; and Gonzalez (2004) for single mother's work and income impact.

⁵There are studies who have focused on different industries, professions, jobs and employment categories of informal sector. For instance, Mohiuddin (1982) for female handicrafts of Pakistan; Pangestu and Hendyio (1997) for textile, garment and footwear industry of Indonesia; Ramachandran (2001) for Indian village workers; Khatak and Sayeed (2000) for sub-contracted women workers in Karachi; and La Ferrara (2002) for informal settlements of Nairobi.

women. Majority of the women were found working in their homes. *Purdah* (veil), male-resistance, pre-occupation in the household chores were the hindering factors for better jobs outside the home which may increase their contribution. Mohiuddin (1982) investigated the socio-economic aspect of the female domestic servants specifically focusing on female-headship⁶ in Karachi. The women were found poorest of the poor despite their contribution in household income. Kazi and Sathar (1986) mainly focused on productive and reproductive behaviour of informally employed women in urban areas of Karachi. They found that informal nature of the job attracts the women to work and support their families.⁷

There are plenty of studies who have focused on the determinants of work decision of women, working hours and income/wages in formal and informal sector. They may be connected with the contribution of women in household budget and help us for identification of variables to see the determinants of contribution of women in household income. Hartog and Theeuwes' (1986) econometric analysis is based on Heckman's (1974) participation-cum-hour model to estimate the integrated labour force participation and hours of work. They have also compared the results of maximum likelihood model with probit model to identify the possible biases. Sultana, *et al.* (1994) analysed the labour force decision of women by tobit and OLS models. The study was based on Beckerian approach. The results indicated that poor women were more likely to do paid-employment. The age, education, male-wage rate and distance of main market from home negatively affect their labour force participation.⁸

In the recent studies, Azid, *et al.* (2001) have analysed the economic behaviour of female workers involved in the business of embroidery in Multan. The study has shown that poverty force the female members of the household to engage in economic activity in informal labour market. Naqvi and Shahnaz (2002) have indicated that the women who were older, better educated, head the household, or come from smaller, better off urban families were more empowered to take employment decisions on their own. About the impact of provision of infrastructure on women's time allocation among market work, leisure and water collection is investigated by Illahi and Grimard (2000). The study was based on home production and time allocation framework developed by Becker (1980). The results have shown that time allocated to market work declines with distance to collect water. A positive relationship between household poverty and poor infrastructure existed. An improvement in water supply infrastructure may lower poverty through increase in time for income generating activities by women.⁹ Mehrotra and Biggeri (2002) have attempted to estimate the

⁶The socioeconomic status and work decision by female-head of household, married women and single mothers differs based on the need for their contribution in household income. Some studies have focused on these specific groups of women. See for instance, Jones, *et al.* (2003) for married women's labour supply and Gonzalez (2004) for single mother's work supply.

⁷See also earlier studies who have recognised the significant part of women's contribution in household income: Hamid (1991) for poor settlements of formal and informal sector of urban areas of Rawalpindi; Alderman and Chistie (1991) for market oriented work of rural women of Pakistan; Kazi and Raza (1991) for working women in Pakistan; and Buvinic and Gupta (1993) for women-headed and women-maintained families in developing countries.

⁸See also, Hamid (1991) for determinants of female labour supply in Pakistan; Duncan, *et al.* (1993) for women's labour market decisions; Hafeez and Ahmed (2002) for labour force participation decision of Pakistani women; Naqvi and Shahnaz (2002) for why women decide to work in Pakistan; and McGrattan and Rogerson (2004) for changing working hours of women.

⁹See also, Hartog and Theeuwes (1986) for work participation hours of women; and McGrattan and Rogerson (2004) for changing working hours of women.

determinants of income and health status of home-based women workers in five Asian countries; two lower-income (India and Pakistan) and three middle-income (Indonesia, Thailand and Philippines) where home-based work is widespread. For India and Pakistan, the age of the woman, input like the use of electricity, and years of experience of woman have shown non-significant results. Education of women influenced the productivity positively. Membership of women's association also influenced the productivity positively. Fafchamps and Quisumbing (2003) have investigated that how human capital, learning by doing, gender and family status affect the division of labour within household. The data was taken from 12 rounds of household survey conducted by International Food Policy Research Institute (IFPRI) in four districts of Pakistan.¹⁰

There are studies having focused on other areas of women employment but they ultimately are related with women income and contribution. Escriche, *et al.* (2004) have explained the existence of gender discrimination in labour market and focused on the intergenerational transmission of preferences related to the women's approach towards jobs and market. The results explained the process of convergence to a non-discriminatory steady state, which has been evidenced by narrow gender gap in most western countries. Eapen (2004) has attempted to analyse the issue of segregation of jobs and its perpetuation over time as a disadvantage for women workers. The study found that in informal sector women are more mobile between establishments for higher remuneration but hardly have obtained vertical mobility. Almost all the studies concerning informally (as well as formally) employed women reveal that they are struggling for their family survival.¹¹

The studies reviewed above have analysed the contribution of women in household income and GDP, labour force decisions of women, working hours, or wage/income of the women. They are inter-linked with each other. The link between working hours, wages/income and contribution seems strong but in fact for informal sector it may be weakened. For the informal sector, there are no fixed working hours and wage/income. Even the labour force activity is frequently disconnected and re-continued. For instance, if the daily/weekly hours are higher and wages are lower the contribution may be lower and vice-versa. Similarly, if the income of a woman is high but the household income is comparatively high, the woman's contribution will remain low. The notion leads to analyse the determinants of contribution instead of working hours and wages/income. It is the woman's contribution which enhances her status and bargaining power within the household. Even it may pull the household out of poverty. That is why, we are interested to estimate the determinants of women's contribution in household budget. We will focus on urban informal sector women. The use of primary data will be another novelty of the study.

¹⁰See also the other studies who have focused on factor and determinants: Irfan (1983) for Pakistan; Kozel and Alderman (1990) for urban Pakistan; Alderman and Chistie (1991) for rural Pakistan; Hamid (1991) for Pakistan; Duncan, *et al.* (1993) for marital status and children's impact on labour market choice; Lokshin, *et al.* (2000) for effect of childhood development programmes on female labour force participation in Kenya; Coady, *et al.* (2001) for impact of community programmes on women labour force participation in China; Iacovou (2001) for fertility as determining factor of female labour supply; Hafeez and Ahmed (2002) for labour force participation of married women; and Jones, *et al.* (2003) for work decision of married women.

¹¹See other recent studies who accepted the contribution of women: Khattak and Sayeed (2000) for subcontracted women workers in Pakistan; ILO (2002) for informal sector of developing countries; Eapen and Kodoth (2002) for women in Kerala (India); Hafeez and Ahmed (2002) for women in Punjab (Pakistan); and Hoffmann and Leone (2004) for Brazil.

CONCEPTUAL INTERPRETATION OF WOMEN'S STRUGGLE

Women working in the informal sector are at the lowest end of the socio-economic spectrum. They are uneducated, work as low status worker, having lack of capital and mostly live below poverty line. Generally these women are ill-informed about the market and mostly depend upon contractors and middle-man having no legal protection. The women in this sector are mostly engaged in home-based enterprises like piece-rate workers, family business, domestic workers, self-employed enterprises and casual workers. These women usually take up such jobs because they are unable to get alternative employment. There are strong rigid cultural constraints, which restrict their mobility and handicap them for having employment outside the home for remuneration. However, their struggle for their family survival is accepted. In this section we will see how different socio-economic factors (although cultural, political and religious factors are equally significant) affect their struggle that is proxied by their contribution. On this basis we will select the variables for our analysis. The life cycle of an adult may affect his/her financial support to household budget. Two hypotheses about the effect of a woman's age on her contribution in household income may be postulated. Firstly, the increase in age may raise her contribution due to (i) larger family size and income dilution effect (ii) work experience and high wages in the latter age, (iii) awareness positively correlates with age, (iv) presence of offspring in the household to look after household chores freeing mothers for labour, and (v) the fact that older women have more and relaxed social contracts as compared to younger women. Second hypothesis is that elder women have comparatively elder off-spring as compared to younger mothers and in poor households the children give financial support to household by participating in the economic activities so women in latter age are less required to contribute in household budget. In the empirical studies, which are mostly concerned with work participation of women, Hartog and Theeuwes (1986) opined that younger women are more concerned with participation decision while older women are more concerned with working hour's decision. Lockshin, *et al.* (2000) have revealed that mothers in the age group of 26–35 years are more likely to be economically active as compared to other age groups. As concerns the formal and informal sector, formal sector employees reach at their maximum earnings in between 35–45, and informal sector employees reach at their maximum earnings between 35–54 years of age [Kozel and Alderman (1990)]. La Ferrara (2002) has found a negative relationship between age and woman's time allocation to work. Azid, *et al.* (2001) have found a linear positive relationship between age and woman's participation in economic activities. La Ferrara (2002) concluded that earnings of the women increase with age and job experience but returns increase at decreasing rate.¹² Illahi and Grimard (2000) have concluded that age of the woman has concave relationship with time spent in work. Time spent in work rises reaches a maximum, and the falls again. Naqvi and Shahnaz (2000) have estimated a positive relationship between age of the woman and her economic activity (for the age group of 15–49 years). All these studies are differing on the matter, but life-cycle of the woman affects the work participation. We are concerned with contribution of woman in household budget. It may be postulated that age of the woman affects her contribution in the household budget. We will include the age of the woman as an explanatory variable for her contribution.

¹²Fafchamps and Quisumbing (2003) have taken the age and age-squared of the woman as a proxy of job experience and found a positive relationship between income and job experience.

Individual characteristics of the women influence the level of her contribution in household budget. Education is perceived as the major characteristic, though in the informal labour market, the employed-women have comparatively lower educational level. The educational level of a woman may work in two ways to affect her contribution. For example, if education increases her productivity in home tasks then she would prefer to stay at home and contribute nothing to household budget but if the opportunity cost of staying at home is larger, then she would devote time in the market for earning and contribute to household budget. The third option may be combination of the both. In the previous literature, the education has shown contradicting effects on labour force participation decisions and earned income. La Ferrara (2002) concluded that education of both male and female workers in informal sector has no significant effect on their earnings. Naqvi and Shahnaz (2002) estimated that more-educated women are more likely to participate in labour force. Hamid (1991) concluded that educational level of women negatively affects their labour force participation decision. Eapen and Kodoth (2002 for India) explained that improved endowment rates in India has not played the transformative role as expected, even higher education has not motivated the women to challenge the gender role assumptions. Despite these contradicting evidences of role of education in work decision, working hours and gender discrimination challenges, the struggle of the women for family survival may be hypothesised to be positively affected by the education of the women. It may be through the enhanced productivity and awareness.

The marital status of a woman is not only concerned with whether a woman is married or not but it has reference of dowry system, family structure and inheritance of property rights. These references are ultimately connected with their struggle for family survival. Eapen and Kodoth (2002) concluded that families mediate employment and education of women towards the marriageability of girls. It is further evidenced [see, Pangestu and Hendytio (1997); La Ferrara (2002)] that socio-economic status of an individual within household is determined by his/her marital status. For the work decision, Gonzalez (2004) concluded that married women (with or without children) devote more time to work than never married [see also, McGrattan and Rogerson (2004)]. Naqvi and Shahnaz (2002) concluded that married women are less likely to participate in economic activities. Jones, *et al.* (2003) have also shown that married women and single women have different approaches towards work-hour and wage rate. For the urban informal sector, we hypothesised that woman contribution in household budget may have different pattern concerning marital status of women. Women in this strata usually do not work before marriage and if they work they show a casual approach towards work. They usually support their mothers' work in household enterprises and home-based contracted work. Even some time they go out for factory work if they are skilled. All that is done to collect the dowry. They do not have commitment to their work but after marriage they are forced by their circumstances to seek employment in order to support their growing families.

Head of the household is a person who bears the chief responsibility of economic maintenance of the household. Alternatively, head of the household is the person, who provides most of the needs of the household and is familiar with all the activities of the household. In the absence of any male head of household, female heads the household.¹³

¹³Though Abadian (1996) reported that sometimes woman does not act as head of household, even when woman is the sole source of economic support in the household.

Female-headed households are identified as vulnerable households. They are increasing in number and needing policy attention [Buvinic and Gupta (1993)]. Although, female-headed household as a marker for poverty and vulnerability has come under criticism.¹⁴ Widow-headed households are particularly vulnerable households. Srinivasan and Dreze (1995) opined that single widows as well as widow-headed households with unmarried children are among the highest poverty stricken households. Mason and Lampietti (1998) narrated that female-headship is one of the most useful indicators of vulnerability in the absence of anything better. Ray (2000) concluded that in South Africa, female-headed households are unconditionally poorer but in Pakistan, in the presence of economies of household size and adult/child consumption relativities the female-headed households are poorer than others, but not in the per-capita income perspective. Female-heads are identified as indicators of family disintegration. Life is difficult for them, not least because of prejudice, but social stigma. They have far more difficulty in maintaining their families. They are generally more common in Latin America, Africa and Caribbean than in Asia and Pacific—where widows, divorcees and lone women are likely to be absorbed into extended family households. In Pakistan, social norms discourage the second marriage of females but the relatives usually care for widows and abandoned women, though the economic circumstances of such women are not so good at large. Our objective to include the women as head of household as an explanatory variable is to see, does such women's contribution in household budget differ from their counterparts, where heads of household are men.

The ownership of assets by a woman is an important indicator of the socio-economic standing of a working woman in informal sector. The ownership of assets implies a relative degree of security to woman. Theoretically the ownership of assets may impact the contribution of a woman by two ways. In one way, the assets make the woman/household richer and financially stable through the un-earned income and woman is less likely to contribute in household budget. In the other way, if the woman owns assets, it may be easier for her, specifically in informal sector to work at household-enterprise. Generally, in the low-income households, the presence of assets increases the demand for labour, which is partially filled by working women of the household. Sultana, *et al.* (1994 for rural Pakistan) have used asset value as a proxy for non-wage income of the household and found that a change in non-wage income has a negative effect on a woman's time allocation in the market as well as at home since it increases the consumption of leisure. We will include a binary variable, i.e., whether the informally employed woman has assets or not, in our model. If a woman having assets contribute more, policy may be proposed to increase the assets of the women.

The characteristics of household members also play an important role to determine the struggle of a woman for family survival. The life-cycle, education, gender, income level and employment characteristics of the adults in the household are important actors.

¹⁴Critics have pointed out the diversity of female-headed households, in particular the difference in economic conditions between single-person elderly (usually widowed) female-headed households and households with children headed by females in the absence (temporary or permanent) of adult males [Varley (1996)]. The latter category often fails to distinguish sufficiently between whether or not economic support is provided by the absent males [Rosenhouse (1989)]. Some have argued that the differential poverty of female-headed households may be small and have little welfare effect given their different spending patterns [Louat, *et al.* (1993)].

Specifically the characteristics of husband and head of household play a vital role. In a society like Pakistan, husband usually acts as head of household and is always the main bread winner of the household and steers the activities of household members. We will include the life-cycle, education and employment status of the husband as explanatory variables for women's contribution in their household incomes. The variable will help us to identify the characteristics of the households whose wives are contributing more or less in the household income. Though in the previous literature, there are conflicting views about the effect of husbands' education on female labour force participation. Duncan, *et al.* (1993) have concluded that husband's education positively affects the probability of a woman's earning income while Sultana, *et al.* (1994) revealed that husband's education has negative impact on work participation of women.

As concerns the husband's employment status it may be a critical variable for a woman's contribution in household budget. Generally woman's contribution is determined by household's economic vulnerability which depends upon employment status of the husband who is usually head of the household and responsible for household expenditures. Sultana, *et al.* (1994) have found that an increase in male wage rate reduces the female's time in market work. For the informal sector, the unemployed husbands often rely on their women. Even men do not try hard to find work and remain unemployed. They take women employment as substitute of their employment [Khan, *et al.* (2005)].

According to neoclassical economists, education of a woman is the key determinant of her labour force participation decision. We may connect it with her contribution in the household. A woman with higher level of education is more likely to enter labour market [see Becker (1980)]. On the other hand structuralist school argues that there are many other factors besides education which compel a woman to enter labour market [see Benham (1980)]. The major one of them is household income. A woman is more likely to enter labour market, if she belongs to a household of lower-income group. Along with this, an understanding of the inspiration and motivation of a woman to enter labour market and contribute in household budget is important for analysing her share of contribution. Aspiration is determined by socio-cultural and economic factors like cultural influences, education, religion, and norms adopted by the community (the value, position and role of women accepted by the community), unemployment level in the region and general standard of living. Most of all, a woman has aspiration for financial welfare of the household. In this way household income determines the motivations of a woman to work and contribute in household budget. Alderman and Chistie (1991) argued that an increase in household income reduces work by women in the market leaving work at home unchanged. To investigate the perception that informally employed women belonging to lower-income households contribute more or less in their household budget, we will use per-capita household income per month (in hundred rupees) as an explanatory variable in the model.¹⁵

¹⁵Some studies have used the characteristics of adult members of the household like the educational level and employment status of head of household as a proxy for household income, due to the problem of endogeneity of explanatory variables. To overcome the problem of endogeneity of household per capita, we have used the sensitivity test, i.e., by including and excluding the HHPCY (household per capita income) in the model the econometric estimates remained unchanged. So we have included the household per capita income as explanatory variables in the model.

Conceptually, two alternative hypotheses may be postulated about the impact of household size on a woman's struggle for family survival. One is that in a larger household, there is surplus of labour supply within the household and a woman needs less to contribute in household budget. The other equally compelling argument explaining the mechanics of larger household is that there are more mouths to feed so a woman has to contribute more to the household budget. Furthermore, in a larger household, the family members may support a woman in house-keeping and child-care and make her free to economically contribute in household budget. Such type of support may be provided by sisters, daughters, or mother-in-law. Alderman and Chistie (1991) have found that an increase in number of adult females in the household reduces the work burden of a woman at home and an additional male or child increases such work-load.

Household size and structure are inter-related concepts. In determining a woman's contribution in household budget the household structure (nuclear family system or combined family system) becomes relevant. Joint family system is prevalent in Pakistan. In a joint family system a woman apart from her husband and children, lives with her in-laws comprising her husband's parents, grand parents, brothers, sisters and some-times some other family members. In a nuclear family she simply lives with her husband. For a working woman nuclear family system has disadvantages in child-care, home-management, and care for husband. On the other hand in combine family system the disadvantages are the zero-saving by woman due to extra-burden of in-laws and some times working woman may be dictated by in-laws. Her mobility may be subject to permission by co-residents which hinder her to have some paid-activity. Furthermore, the distribution of resources within the household is influenced by bargaining power of the individuals or groups within the household which may reduce the contribution of a woman, as generally in-laws have higher bargaining power. On the other hand, in nuclear family system a working woman has advantages of absence of interference from co-residents and in combined family system, the co-residents support in home-care management making her free to contribute in household budget. To detangle the effect of household size and nuclear family structure on a woman's contribution in household budget, we will include two types of explanatory variables in the model. They are (i) continuous variable, i.e., number of household members, and (ii) binary variable, i.e., whether the household is nuclear or have combined family. The variables will help us to identify that whether the larger households are taking more contribution for women or the smaller ones. Similar identification will be for the nuclear or combined households.

The volume of a woman's contribution in her household budget may be influenced by demographic characteristics of the household like the number of children, their gender and age. Even the activities of these children, i.e., child labour, schooling or home-care may also determine the contribution of a woman. The infants and school-age children in the household may differently affect the mother's contribution in household budget as both require different tasks of child-caring. The infants need full-time care and presence of mothers with them in the absence of other household members caring for them, while school-age children comparatively need less time from mothers. An additional requirement by the school-age children may be the help in home-work of schools. But school-age children consume more of the household resources on food, clothing and specifically on education. In this case, mother may increase household resources by

contributing in household budget. As concerned the school-age children, Camps-Cura (1998) explained that with the beginning of second industrial revolution child labour was replaced by that of woman, even by that who was reported as housewife in the Municipal Census. A smaller number of children and their mandatory schooling along with an improvement of woman's position within the factory with respect to man explain this substitution. Duncan, *et al.* (1993) argued that the presence of children in the household significantly affect the probability of a woman's labour force participation.¹⁶ In a society like Pakistan, where worth of a woman is attached with the number of children (especially boys) she bears, the number of children in the household may exert an impact on her contribution in household budget. The pressure of household tasks on woman due to presence of the children in the family may cause woman to spend more time at home and may limit her financial contribution in household budget. Furthermore, if the children are involved in paid-work, that is a prevalent phenomenon in poor communities of Pakistan, the contribution by these children may substitute the woman's contribution. The number of children may exert pressure on woman's contribution in household budget in other ways, i.e., (i) large number of children need more household resources which are partially provided by woman's contribution, and (ii) the households containing a large number of children are more likely to be living in poverty. For example, in Pakistan poor households have 75 percent more children as compared to non-poor households [ADB (2002)]. It may compel the woman to contribute more in household budget. We will include the number of school-age (5–15 years) children in the household as an explanatory variable for the contribution of a woman in her household budget.

In the Pakistani culture, the primary responsibility for a mother is home-care and child-care while head of household (usually husband) is mainly responsible for living cost. A woman's contribution in household budget is determined to some degree by comparing her productivity at home and in the labour market. Infants require constant care, so mother's productivity at home is higher in this case than potential returns from outside work. Lokshin, *et al.* (2000) concluded that economic incentives in the form of child-care centres by public sector have a powerful effect on the work behaviour of a woman. Unlike the developed economies, there is less opportunity of day-care centres in developing countries. In Pakistan specifically, where the fertility rate is higher and women have larger number of children, the concept of day-care centre is invisible. So the number of infants in the household is speculated to influence the woman's contribution in household budget negatively.¹⁷ Empirical evidences have shown conflicting effects of number of infants on labour force decision of the women. For example, Iacovou (2001) has found that children under five years of age have no effect on their mother's labour. Khan and Khan (2008) have estimated a negative impact of number of infants on woman's contribution in household budget.

The adult members of the household generally in the combined family system are comprised of the prime-age children, brothers and sisters of the head of household, father and mother of the head of household, and similarly, brother, sister, father and mother of the wife of the head of household. Even sometimes, the spouses of the children, if they

¹⁶Though, Sathar and Kazi (1989) concluded that working status of the women affects the fertility and desired family size.

¹⁷The exemption may be where woman is employed in home-enterprise and there is great likelihood of flexibility of working hours, thereby woman's work does not conflict with child-care.

are married and brothers and sisters of the main couple (head of household and his/her spouse) becomes the members of the combined family system. In the nuclear family, the adult members may be the prime-age children.

The presence of prime-age children (16 years or above) in the household may differently affect the contribution of a woman in the household income as compared to infants and school-age children. The prime-age children belong to working-age group so they may increase household resources by joining labour force and may decrease the contribution of a woman. Even the presence of male and female prime-age children in the household may differently affect woman's contribution as female prime-age children have comparatively less opportunity for labour force participation and more consumption expenditures due to be in marriage-age group and presence of dowry system. We will include the number of prime-age male children and number of prime-age female children as explanatory variable in our model. The other adult members of the household may also affect the contribution of a woman in household budget in a number of ways, i.e., (i) through their characteristics like education, gender, age, employment and income status, (ii) through their time consumption in home-care activities and production activities, (iii) their behaviour towards the female contribution in household budget which is basically based on the socio-cultural norms of the household and community, (iv) allocation of resources within the household adult members, and (v) bargaining power of the members or groups of members within the household. So brothers and sisters of the major couple may differently affect a woman's contribution from mother and father of the couple. We will divide the adult members into two groups, i.e., adult males and adult females.

It is usually accepted that access to financial services significantly impacts the lives of the poor. Empirical evidences have shown that, among the poor, those who participated in micro-financing programmes were able to improve their living standard, both at individual and household level, much better than those without access to financial services. For example, the clients of BRAC (Bangladesh Rural Advancement Committee) increased their household expenditures by 28 percent and assets by 112 percent. Similarly, the impact studies have shown that in poor households with access to financial services, children were not only sent to school in large number, including girls, but they also stayed in school longer time. In Bangladesh, almost all girls in Grameen client households had some schooling, compared to 60 percent of non-client households. It explained that financing availed by the woman or household make the woman to contribute more in household budget. It further makes the woman more confident, more assertive, and better able to confront systematic gender inequalities. Loaning enables poor women to become economic agent of change by increasing their employment opportunities, productivity, and income accessing markets and information, and decision-making. In Indonesia, female client of Bank Rakyat Indonesia (BRI) were more likely than non-client to make joint decisions with their husbands regarding allocation of household money, children's education, use of contraceptive and family size, and participation in community events.

The most common loans for informal workers are micro-credit loans. These loans are enough for hard-working micro-entrepreneurs to start or expand small business such as raising live stock, buying whole sale products to sell in a market, and buying embroidery and sewing-machines, etc. Incomes from these businesses provide better

food, housing, health-care and education facilities for entire families. Most importantly, additional income provides hope for a better self-employment.

The literature on informal sector has shown that most of the families working in informal sector of Pakistan were highly indebted. These loans were taken from the *thekadar* (contractor) or sub-contractors for the purpose of treatment of a household member, house construction or marriages. These workers were reported to be exploited through payment less than the contracted rates [Khattak and Sayeed (2000)]. Some times these loans were also used for investment. There are lesser facilities of loaning from the formal institutions so majority of the informal workers take loans from informal sector. As concerns the women, it is very rare, that women involved in informal sector activities are taking loan from formal sector. We will include in our study, a binary variable representing whether the household is availing the loan (either from formal sector of informal sector) or not. If the household is availing loan and woman is contributing more in the household, from the policy perspective the results may have a significant measure to increase the contribution of women.

ANALYTICAL FRAMEWORK

The phenomenon of market-based informal sector is different from home-based informal sector. The women are mostly involved in home-based informal sector but market-based informal sector also absorbs the females. Our concern would be the contribution of women so broadly the informal sector comprising of both market-based and home-based will be covered. In our framework, we will take two types of the variables, i.e., the variables to identify the women who are struggling comparatively more for their families, so the economic significance of these women for their households may be explained. For instance, the variable may be the age of the woman and we suppose that estimation shows that older women are contributing more or struggling harder for family survival. The target group may be the older women for explaining their significant struggle and maintaining their contribution or younger women for a need to increase their contribution. The other identifying variables are the marital status, headship of the household, husband's age education and employment status, nuclear status of the household, household per-capita income, poverty status of the household and household size and its composition. The second type of variables may demonstrate the policy proposals to increase the contribution of women. The variables are education of the women, ownership of assets by the women and loan availed by the household. In this way, the analysis have two dimension, firstly to identify the women who are struggling harder than others for family survival and secondly to frame the policy proposals to target these women. The data collection, defining of variables and model specifications are presented in the next section.

DATA COLLECTION AND ESTIMATION MODEL

We have used primary data¹⁸ that was exclusively collected for the study by cluster sample technique. The informally employed women are residing in clusters of poor

¹⁸The official data on women's labour force has serious problems and underestimations, inconsistencies, and biases. Some are based on projections rather than actual figures, others have known biases, and many are extrapolated from partial information [Behrman and Rosenzweig (1994); Srinivasan (1994); Chanie (1994)]. Even the reliability and compatibility of the gender-disaggregated tables produced by UNDP or the World Bank are also questioned [see Srinivasan (1994)].

community. These clusters are formed spontaneously by the demand of informal labour market. For instance the women working on ladies dresses are present in inner city and domestic servants and home-based handicraft workers are present in slums of city, so cluster sample technique has been adopted. A survey of 945 urban households of district Bahawalpur in March and October 2005 which have at least one working woman in the age group of 16–60 years made the information valid.¹⁹ Keeping in mind the variation of income in different seasons, survey has been done in two sessions. The sample was consisted of six clusters having variations of socio-economic situation but concentration in informal employment. Data was collected by door to door survey and questions were asked to working women. Income of the working women was taken in rupees per month. Income in the form of kind, which is frequent in informal sector, was converted into cash at market price. In the case woman was working on piece-rate or self-employed, that is usual for informal sector, the value added in the product or the rate agreed between contractor and women was the wage/income received by the woman. Market price for the used products given as wage and food was taken from the market near to the cluster or from the market of used goods. Similarly, the daily or weekly income of the woman and household is converted into monthly income. If the woman is employed in a household enterprise and the whole family work for it, the share of the woman has been segregated by the share of the number of working hours on the assumption that capital and resources were equally contributed to the enterprise.

To capture the contribution of informally employed women in the household budget (in urban areas) we estimated on the OLS model, in which contribution of a woman was a function of several socio-economic variables. These socio-economic variables are related with women characteristics (woman's age, education, marital status, woman as head of household, ownership of assets by the woman),²⁰ and household characteristics (husband's age, education and employment status, household per capital income, household poverty status, household size, nuclear or combined family structure, number of children in the household, number of infants in the household, adult male members of the household, adult female members of the household and the loan obtained by the household).²¹ The community characteristics are also important for determining the woman's contribution. They may be presence of working women's association, presence of any micro-financing institution in the community, community-based child-

¹⁹Though a significant part of the females under 16 years of age is economically active in Pakistan and they are contributing a lot in household income but we assume them child labour. Naqvi and Shahnaz (2002) have analysed the working women in the age group of 15–49 years. In this case the upper age limit is low, as after 49 years of age women remain involved in economic activity.

²⁰Some other woman characteristics like the health status of woman [Mehrotra and Biggeri (2002); Eapen (2004) for India and Pakistan], type of the job, work experience of the woman [Mehrotra and Biggeri (2002)], learning by doing characteristics, childhood nutrition measured by height [Fafchamps and Quisumbing (2003)], skill obtained from any formal institution, vocational or technical training of the woman, membership of any working women's organisation and *prudha* (veil) [Azid, *et al.* (2001)] are equally important factors determining the contribution of women in household but due to time and data constraint we have not included them in the study.

²¹The other household characteristics that may affect the contribution of women are provision of electricity in the household [Illahi and Grimard (2000); Mehrotra and Biggeri (2002)], provision of water supply in the household [Illahi and Grimard (2000)], earned and non-earned income of husband, distance of the household from market [Sultana, *et al.* (1994); Azid, *et al.* (2001)], household living index, ratio of school-going children to school-going-age children and distance to school from the household [Khan, *et al.* (2005)], and wages offered to other household members [Lockshin, *et al.* (2000)], etc.

care centres [Eapen (2004)], dowry-related customs and crimes [Eapen and Kodoth (2002)], inheritance of property rights, and occupational segregation. These variables are out of the scope of present study.

Khan and Khan (2007) have analysed the contribution of women in household income focusing on the individual characteristics of the women. Khan and Khan (2008) have focused on household characteristics of urban and rural women involved in informal sector. The contribution of women in both studies was defined as the ratio of the woman's monthly income to the total income of the household. It may have some degree of slack in measuring the contribution of women, in cases like that if the woman has obtained loan for the household enterprise and she is paying it back from her income. Similarly, some part of the income may go to the transport expenditures for the woman that may be significant amount in urban areas. Some times dress and food are provided by the employee to woman involved in informal sector, so we have taken the contribution as the ratio of woman's expenditures for the household to total expenditures of the household. Another originality of the present study is that it has focused on the urban areas as they have different socio-economic status of the women, infrastructure, labour market, skill development opportunities, transport and energy facilities, micro-credit facilities and household living cost. The contribution of woman in household budget was defined as the ratio of the woman's monthly expenditures to the total monthly expenditures of the household.²² Though Doss (1996) concluded that income controlled by the woman is spent differently than income controlled by men, but we have assumed that income earned by a woman working in informal sector becomes the part of the household budget. The economic activity is defined as the paid-employment, self-employment, or employment in family enterprise.²³ Some studies [see for instance, Pangestu and Hendytio (1997)] have defined the working women as women who are working for other people or legal entities and are compensated in financial terms or payment in kind. They have ignored the self-employed and women involved in family enterprises. In Pakistan specifically in urban informal sector, a number of women are involved in these two kinds of employment. So we have considered these women as labour force participating women. The reference period for woman contribution was taken two months as informal sector has the characteristic of change of job frequent occurrence of transitory unemployment along with seasonal unemployment. The reference period for husband employment is taken one month.

The widespread prevalence of working women in every country gives the contemporary mathematical models. For instance, Duncan, *et al.* (1993) have used probit model, Sultana, *et al.* (1994) OLS and Probit model, Illahi and Grimard (2000) have used probit, OLS and tobit models for a series of functions, Naqvi and Shahnaz (2002) logit and probit model, Mehrotra and Biggeri (2002) ordered logit model and Fafchamps and Quisumbing (2003) tobit model, and Khan, *et al.* (2005) have applied binary logistic model.

²²The use of wage rate and working hours as continuous variable are conventional in the literature to proxy for employment status and income [see for instance Azid, *et al.* (2001) and Hartog and Theeuwes (1986) who have used working hours]. It may be proxy for contribution of woman in household budget. As the wage rate or working hours in the informal sector is much fluctuated and it is difficult to obtain the information in the survey due to preconceptions of the individual, so we have taken the ratio of the monthly expenditure to household budget as contribution of women in household budget.

²³We are concerned with only economic activities of the women, if all the activities of women would have been taken in the model (assuming that all activities contribute to household budget, directly or indirectly), the activities would be paid-employment, self-employment, employment in household enterprise, and home-care activity, and/or combination of some or all of these.

All of these studies were concerned with work decision of women having binary variable or limited variables. Most recently to estimate the contribution of woman in household income Khan and Khan (2007, 2008) have used OLS model. We are also concerned with the contribution of a woman that is continuous variable, so we have estimated contribution of woman in the household budget through OLS model. The function is

$$COW=f(X_1, \dots, X_n) \quad \dots \quad \dots \quad \dots \quad \dots \quad \dots \quad \dots \quad (1)$$

Where COW is the contribution of women in household budget. $X_1, \dots, X_n$ are the exogenous socio-economic variables influencing her contribution. To check the presence of multicollinearity, we have used Durbin-Watson test. One common problem encountered in cross-sectional studies is heteroscedasticity, whose existence renders the OLS estimators inefficient. White's heteroscedasticity test is carried out to examine whether heteroscedasticity is a problem in our study, and estimation procedure is adopted accordingly. The definitions of dependent and explanatory variables are shown in Table 1.

Table 1

Definitions of Dependent and Explanatory Variables Used in the Model

Variables	Definitions
Dependent Variable	
COW (Woman's contribution in household budget)	• Ratio of woman's monthly expenditures in the household to the total monthly expenditures of the household
Independent Variables	
WAGE (Woman's age)	• Her age in completed years
WAGESQ (Woman's age squared)	• Her age squared
WEDU (Woman's education)	• Her completed years of education
WLIT (Woman's literacy status) ²⁴	• 1 If she is literate, 0 otherwise
WMAR (Woman's marital status)	• 1 If she is married, 0 otherwise
WHEAD (Woman as head of household)	• 1 If she is head of household, 0 otherwise
WASST (Woman's ownership of assets)	• 1 If the woman owns assets, 0 otherwise
HAGE (Husband's age)	• Husband's age in completed years
HEDU (Husband's education)	• Husband's completed years of education
HLIT (Husband's literacy status)	• 1 If the husband is literate, 0 otherwise
HEMP (Husband's employment)	• 1 If husband is employed, 0 otherwise
HHCPY (Household's per capita income)	• Household's per capita income (in 00 Rupees) per month
POVTY ²⁵ (Household's poverty status)	• 1 If household's per capita income per month is Rs 848.79 or below, 0 otherwise
HHSIZ (Household/family size)	• Number of household/family members
HNUC (Nuclear status of household)	• 1 If household is nuclear, 0 otherwise
NCHILD (Number of children in household)	• Number of school-age children (5-15 years) in the household
PRIMM (Number of male prime-age children in household)	• Number of male children (more than 15 years) in the household
PRIMF (Number of female prime-age children in household)	• Number of female children (more than 15 years) in the household
INFANT (Number of infants in household)	• Number of infants (up to 5 years) in the household
ADLM (Number of adult males)	• Number of adult males in the household
ADLF (Number of adult females)	• Number of adult females in the household
HLOAN (Household's availability of loan) ²⁶	• 1 if the household availed loan, 0 otherwise

²⁴The official definition of literacy in Pakistan is "one who can read a newspaper and write a simple letter". Though the literacy so defined cannot be accepted "functional literacy" that is what an individual needs to function in a society which is becoming increasingly complex, we have included the official definition of literacy in the model due to the fact that working women in informal sector are poorly literate.

²⁵The official Poverty Line of Pakistan is Rs 848.79 per capita per month [Pakistan (2004)].

²⁶Loan utilisation includes loaning from formal and informal modes of financing.

RESULTS AND DISCUSSION

The summary statistics and OLS results are given in Table 2. The majority of the results are statistically significant and are consistent with the theoretical implications of women's contribution in household budget. The Durbin-Watson test clears the presence of multicollinearity among the explanatory variables. The White test encountered the problem of heteroscedasticity.

Table 2

<i>Summary Statistics and OLS Results for Women's Contribution to Household Budget</i>				
Variables	Mean	Standard Deviation	Standard Coefficient Beta	T-values
Constant	—	—	179.946	2.8765
WAGE	31.7352	25.2187	1.79092	1.4256*
WAGESQ	983.24	207.269	−0.0258	−1.9678**
WEDU	3.0162	9.6141	0.1380	2.0667**
WLIT	0.3766	0.5347	0.3009	2.6291**
WMAR	0.6931	0.5973	6.0191	1.7072**
WHEAD	0.1668	0.5248	1.2714	1.7674**
WASST	0.2943	23.6971	2.9886	1.2674*
HAGE	39.4850	23.6576	1.2756	0.6557
HEDU	3.5918	12.1338	−0.1815	−1.7938**
HLIT	0.4251	0.6934	−1.2713	−2.0953**
HEMP	0.5395	0.3128	−2.0017	−2.6941**
HHPCY	770.37	698.25	−1.9485	−1.9367**
HPOVTY	0.5983	0.5460	1.1473	2.8567**
HHSIZ	8.1435	1.3294	1.6467	2.0285**
HNUC	0.3273	0.2475	1.8140	1.6473**
NCHILD	3.2464	1.9732	−1.0931	−1.9763**
INFANT	0.2735	0.1637	−1.9555	−1.8668*
PRIMM	0.2417	0.1469	1.2139	2.1581**
PRIMF	0.3763	0.1973	−2.0153	−1.9259**
ADLM	0.2340	0.1283	−2.7354	−2.6473**
ADLF	0.3485	0.2160	−4.0718	−0.3786
HLOAN	0.1945	0.1802	2.9245	2.4057*
Number of Observations			937	
R-squared			0.7319	
Percent Correct Predictions			0.7456	
Durbin-Watson Stat			2.1046	
F-statistic			1648.3049	
Prob (F-statistic)			0.0000	

** Indicates significant at 5 percent level, and * indicates significant at 10 percent level.

The following features of the results are worth noting.

Woman's Age

It is found that for the women in the age bracket of 16–60 years, there exists a non-linear relationship between age of the woman and her contribution in household budget. The contribution increases by increase in age but in the later age the contribution decreases.²⁷ It may have different explanations, foremost may be that age alternatively job experience does not enhance the income in a linear way. Secondly, in the age group of 16–60 years, the comparatively younger women are physically more productive where unskilled labour is concerned and that is the characteristic of informal sector, while in the older-age group the women are physically less productive. Thirdly, in the older-age group women have adult offspring, which contribute household budget consequently woman's contribution decreases. We have mentioned in the analytical framework that age of the woman is included in the model to identify the women/households where women are struggling more rather than less. The results explain that in urban households where women are employed in informal sector activities, the households having middle-age women (in the age group of 16–60 years) take more contribution in household income as compared to the households having younger and latter-age women. To increase the contribution, the households with younger women and older women would be the target households in policy framework.

Woman's Education

To capture the effect of women's education on their contribution, we have included two types of explanatory variables regarding women's education,²⁸ i.e., continuous variable representing the number of completed years of education of a woman, and binary variable representing whether the woman is literate or illiterate (same types of variables have been used to capture the effect of husbands' education on women contribution).²⁹ The objective for inclusion of this variable is to reach the policy proposals to increase the contribution of women by educational facilities. We have found a positive relationship between the number of years of education (as well as literacy status as a binary variable) and contribution of woman to family income. It supports the neoclassical hypothesis [see Becker (1980)] that a woman's labour market activities are positively related with level of education. It also supports the views of structuralist school [see Benham (1980)] that within a specific income group an increase in education results in to increase in supply of a woman labour force and its returns. Our results make it imply on the income group of informally employed women workers of urban areas of Pakistan. Alternatively, the literate women are successfully struggling for their family survival. The possible explanation may be that level of education among women implies to improve their skill through training. It creates an opportunity for them to adopt changing technology. The better-trained workers lead to increased productivity and wages. The other aspects of women's education on her contribution in

²⁷The contribution is maximum at the age of 35.2 years as coefficient of woman age = 1.7909 and woman age square = -0.0258.

²⁸The educational level of women may stand proxy for wages or earned income, so we have not included the wage rate of women in our analysis as an explanatory variable.

²⁹To make a comparison of literate women to illiterate women, we have used binary variable of literacy status of women.

household budget may be: the education increases a woman's efficiency in household task and reduces the time in home production, so more time is devoted to paid work and more contribution is done in household budget; females with more education may have a strong tendency to perform fewer household chores; education is positively associated with women's control over earned-income, which provide an incentive to paid-work and contribute in household budget; education makes the exposure of a woman to the other world and enhance aspiration for quality of life, which give motivation to earn more and spend on household items, children's education and family health; and education positively influence a woman's health, which results into higher productivity/earned income and higher contribution in household budget. From the policy perspective, provision of female education may play an important role to boost the contribution of a woman in household budget and ultimately her status.

Marital Status of Woman

We have estimated that married women are contributing more to their household budgets as compared to single women. On our sample they comprised of 69.31 percent of the women. It supports the notion that circumstances most probably the expenditures of rearing the children force the married women to contribute in household budget and to become second earners of the household. On the other hand, based on our assumption that contribution of women reflects her status in the household, it may be concluded that married women are enjoying better status in the household. The results are corroborated by the coefficients of woman age, i.e., the contribution of woman increases up to the age of 35.2 years. This age shows that women have been married as in the informal sector households usually females are married in earlier age. But the contribution decreases after this age, though the women have been married. One explanation may be that after this age there is initiation of these women to become mother-in-law due to earlier marriages of their children.

Woman as Head of Household

We have found that women as head of household are contributing more to their household budget.³⁰ An important and clear explanation may be that no-body other than children or old-age household members are present in the household and burden of household members, specifically children compel them to contribute more and more in household budget. From the policy perspective, the target group needing support for increment in household contribution would be the female-heads of the household. In our sample 16.68 percent of the women heads the households. As we have assumed that greater contribution by the women in the household stands for her good status in the household is confirmed by the results.

Ownership of Assts by Woman

The ownership of assets by the woman, as a variable was included in the model for policy formulation. That is, whether by enhancing the ownership of assets can increase

³⁰It contradicts the findings by Naqvi and Shahnaz (2001), that is female heads of the household are less likely to participate in economic activity.

the contribution of women or not. We have found that if the woman involved in informal sector has assets, she contributes more to the household budget.³¹ The possible explanation may be that ownership of assets by the woman enhance the productivity, ultimately she contribute more to the household budget. The ownership of assets makes availability of financing to the woman for an enterprise which enhance the income of the enterprise and contribution of woman in household budget. In the policy formulation, it may be recommended to increase the ownership of assets by the women.

Husband's Educational Level and Employment Status

We have estimated that husband's education (as continuous variable as well as binary variable) negatively affects the contribution of women. Conceptually it may be a unique result because educated husbands are assumed no-biased towards negative social and cultural norms and encourage the wives for paid-work and to enhance financial status of the household for the welfare of household members. But for the informal labour market, where women are involved, the households have unique characteristics, i.e., illiteracy, poverty, under-employment and socio-economic backwardness. When husbands are likely to have more income due to more years of education, it results into comparatively good economic status of the household so wife's contribution remains low. It may be explained on the assumption that if leisure is a normal good, the husband purchases more leisure as his income increases. Traditionally, it may be in the form of wife's non-participation or less participation in labour market. Such effect is caused by transfer of intra-household income from husband to non-earning or less-earning wife. We have further found that a woman from literate husband (as a binary variable) contributes less in household budget. It again shows that uneducated husbands have low productivity in the labour market so the income level of households remains low and women of the household have to contribute more to household budget. It may also be argued that uneducated or illiterate husbands have larger number of children as compared to educated husbands so the household is more likely to be poor. Furthermore, illiterate head of household and larger number of children are the characteristics of poverty. In this perspective, poverty of the household is the main factor causing woman to contribute more in household budget and make more struggle for financial status of the household.

We have further found that a woman from unemployed husband contributes more in household budget. The driving force behind the contribution of woman in household budget is to supplement family income that has been eroded by unemployment of husband. The other explanation may be that in the absence of social security benefits, woman's income is the only source of household expenditure, if husband is unemployed.

Household Per Capita Income

It is estimated that mean per-capita household income in the sample is Rs 770 per month. The poverty line for Pakistan is Rs 848.79 per capita, per month [Pakistan (2004)]. By this benchmark, on average the households having informally employed women are living below poverty line. The variable of household per-capita income was

³¹We have included in the model the ownership of house, shop, land, and business assets like machinery and equipment, etc., as asset.

included in the analysis to identify the household in the aspect of household income, for which the woman is contributing more or less. Econometric estimates have shown an inverse relationship between household per-capita income and contribution of a woman. This implies that a woman belonging to low per-capita family is more likely to contribute in her household budget and harder to struggle for family survival. In other words women choose to work to support their poor households [see also Hafeez and Ahmed (2002) for Pakistan; Kazi and Raza (1991)]. The results are logically supported by a number of studies. For instance, Lodhi and Haroon (1996 for Pakistan) demonstrated that an improvement in the economic status of households leads to decreased probability for paid-work. On the other hand, as we have assumed that higher contribution by women in the household budget represents her better status in the household, becomes trivial. Our results explain that women in the lower per-capita income households enjoy good status in the household but evidences show that in the lower strata households women have no status even they are economically active [see Naqvi and Shahnaz (2002)].

Household Poverty Status

Conceptually, it is assumed that the distribution of a woman's time between labour market, household enterprises, non-market work (domestic processing and maintenance) and leisure is effected by the household poverty. We have included the household poverty status as a binary variable (whether the household is living below national poverty line or not) to explain that informally employed woman living in the household below poverty line is contributing more in the household or *vis-à-vis* a woman living in household above poverty line. Our analysis has shown that a woman from the household living below poverty line is contributing more in the household budget. Out of the sample households, 59.83 percent are living below poverty line. It supports the notion that burden of poverty is shared by the informally employed women by their contribution [see also Khan and Khan (2008) for urban and rural areas].

Household Size and Structure

We have found that contribution of a woman is positively related with the household size. More precisely, it is income dilution effect, i.e., larger family size compels a woman to contribute more in the household budget. The other explanation may be that, adult household members other than the working woman, especially non-working members, may participate in household chores and substitute the working woman as child-care providers when she works. Furthermore, the families where women are involved in informal labour market, they live at their subsistence level and an increase in the number of household members increases living expenditures which compels a woman to contribute more. One of the characteristics of informal sector is that it absorbs women and children. On the other hand the households involved in informal economy depends upon women and children's income. The adult males specifically married ones remained economically inactive which increases the women's contribution. Our study further indicated that a woman from nuclear family contributes more to her household budget.³² It may be explained

³²It contradicts the findings of Naqvi and Shahnaz (2002), where women living in nuclear families are less likely to participate in economic activities.

that in nuclear family the earning member may only be the husband so the ratio of the contribution of the woman in the household budget remains high. It may be concluded that in informal sector the household depends upon the woman's income [see also Khan, *et al.* (2005); Khan and Khan (2008)]. The results signify the struggle for family in the larger households.

Number of Infants and School-age Children

We have found that presence of infants in the household decreases the woman contribution in household budget. The explanation may be that the woman devotes more time for infants within the household so her contribution remains low. As concerned the day-care centres, they rarely exist in urban areas. The informally employed woman has no access to these centres due to cost as well as distance. The nature, place and timings of the work of an informally employed woman varies time to time so child-care centres utilisation becomes impracticable for her. Here the woman may take the advantages of combined family system. For the policy formation, the provision of day-care centres may increase the contribution of women. It is found that school-age children in the household negatively impact the woman's contribution in household budget.³³ It explained the phenomenon that woman contribution is substituted by children income as in such households, children are involved in economic activities.

The Adult Members of the Household

It is found that presence of male prime-age children decreases the contribution of a woman in household budget and presence of female prime-age children increases the contribution.

The presence of adult male members in the household has shown negative effect on the contribution of a woman in household budget. The phenomenon has shown a substitution effect, i.e., the adult male member of the household and working woman in informal sector are substitutes for their contribution in the household.

Financing Availed by the Household

In our sample, 19.45 percent of the households have availed the loaning facility either from formal or informal financing institutions. It is concluded that a woman from the household having loan is contributing more to her household budget as compared to a woman belonging to household without loan. The explanation may be that burden of the loan on household compresses the household members specifically women to contribute more in their household income. If the loan was utilised for a small business adventure the woman is participating in the business of the household and if the loan was utilised for consumption, the woman is sharing the consumption expenditures of the household. Precisely, a woman involved in informal sector shares the burden of the loan, availed by the household.

³³The gender of the child also accounts for the contribution of a woman, as there exists a gender disparity in the consumption and investment on children. Due to data constraint we have included only the number of children irrespective of their gender.

CONCLUSION AND POLICY RECOMMENDATIONS

The results have important economic and policy implications. The main finding of the analysis is that economic burden of the household in the form of woman's contribution (who is informally employed in urban labour market) in the household income increases by all the aspects of poverty, i.e. household per-capita income, poverty status according to the official poverty line, and unemployment and lower-educational status of husband as an indicator of poverty. It reflected that majority of the women working in informal sector are mainly contributing in household budget due to pressure of unmet household budget. They are struggling for family survival. So an increase in income and productivity of informally employed urban women may have trickle down effects on reduction of household poverty and burden on women. Following recommendations are made to increase the contribution of women.

- To enhance the contribution of a woman in household budget, the policy on women's employment is to be carefully planned. As poverty is the main cause of women's contribution, the minimum wage legislation should receive the great deal of attention.³⁴ If minimum wage legislation is maintained, it should be further ensured that the increases in wages be realistic.
- The government can intervene for the establishment of educational and training institutions for adult women, so that they can increase their productivity and contribution, and support the financial burden of the household.
- The government should also ensure the provision of subsidised childcare facilities. In this way the mothers may get relaxed from child-care duties and could participate in economic activities and can enhance their contribution in household budget.
- The larger households have been identified as the households absorbing more of the contribution of women. It signifies the women contribution in the household. Such type of women/households needs attention of Department of Labour and Manpower, and Department of Social Welfare for their wages/income and health and safety measure as they may be the main bread-winners of the households.
- Woman as head of household has been found to contribute more in household budget. As female-headed households are more vulnerable to poverty so this group of women be targeted in the policy formation from the income and wage perspective.
- The life cycle of a woman has shown that her contribution in household income increases by increase in age but decreases after some years. It may be maintained by providing them social security benefits, standard wages, benefits of annual increments and benefits like pension and employee's old-age benefits. All they lie within the responsibility of Provincial Department of Labour and Manpower, Department of Social Welfare and Pakistan Old-age Benefits Institutions.
- As an increase in the household per-capita income has shown sliding down effect on the contribution of a woman, it shows that poor households absorb

³⁴Under the Labour Protection Policy 2006 workers in the informal sector would be benefited from minimum wages where an employer-employee relation is evident [Pakistan (2006)].

more contribution of women. It identifies the poor households are as policy target to enhance their welfare by further increasing the productivity and income of the women.

- The more contribution of a woman in her household budget from low per-capita household, and belonging to low-educated, illiterate, and unemployed husband reflects that the informal sector is absorbing lower strata of female labour force. Woman is sharing the burden of poverty, and household vulnerability in the case of unemployment of husband. Such type of identified households, although they are already taking significant part of their expenditures from women contribution needs attention in the perspective of social security benefits for women from Department of Social Welfare. In this regard these households may be kept at specified level of living. Otherwise they may further fell into poverty.
- The women in informal sector who have availed loan contribute more to the household budget. The ownership of assets like machinery, shop, business equipment, etc., may be a good measure to increase the contribution of women in household budget and ultimately elevating the household welfare. In this regard the financial institutions, NGOs, Bat-ul-Mal can play an important role.
- Programmes may be designed to provide credit to informal sector households without collateral, so the informal sector households can remove economic constraints for the income-generating activities. The micro-credit institutions like the micro-finance bank, Khushhai Bank along with the first woman bank can play an important role. The NGOs may also participate in financing enterprises and projects with women workers in the informal sector.

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