

**THE POWER TO CHOOSE:  
WOMEN AND LABOUR MARKET DECISIONS IN MAURITIUS**

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*Abstract. The objective of this paper is to analyse female decisions to enter the labour market. Using household survey data for Mauritius from 2006 to 2008, we investigate the factors that encourage and also deter women from entering the labour market. Our findings corroborate with previous evidence for developing countries and indicate that the greater a woman's educational level, the greater her participation; and that older women participate more, though the rate of growth of this effect decreases. In addition, secondary education proves to be a significant determinant of female labour participation rate in Mauritius. Our results also reveal that married women are less likely to enter the labour force. In fact marital status is one of the most important factors averting them from work.*

### **1. Introduction**

The economics of female labour force participation has been extensively studied since the pioneering works of Mincer (1962) and Cain (1966). Female labour force participation and female labour supply in developed countries has been treated in a number of studies (Smith, 1980). For developing countries, Boserup, (1970) documented women's participation in the labour force and contribution to development. In these countries the bulk of women's work takes place in non-market activities in the home or the informal sector. The contribution of women to modern sector activities has been increasing with the expansion of the market economy and advances in women's educational attainment. It is imperative, therefore, to understand the factors that lead to decisions by women to enter the labour market and how their labour supply responds to market wage earnings, income and other variables.

Existing studies highlight that women's labour supply depends upon economic and demographic characteristics such as female earnings, male earnings, non-earnings income, schooling, age and the number of children (see Hill, 1983 for a review). Some of the studies have documented strong ties between women's work patterns and changes in their family status (Ellingsæter and Rønsen, 1996; Rosenfeld, 1996; Rindfuss et al. 1999). Overall, these studies provide evidence on the fact that women who work for pay have fewer children (on average) than women who do not, and that mothers spend less time in paid employment (on average) than childless women. Further, existing work has also demonstrated that health was one of human capital characteristics (Scheffler and Iden, 1974; Bartel and Taubman, 1979; Parsons, 1980) and as such, health status variables influence labour force decisions. Bound et al. (1996) found that health has positive and significant effects on labour force participation in the United States. While there is evidence that fertility is endogenous to labour force decisions (Cramer, 1980; Mroz, 1987; Angrist and Evans, 1998), Stern (1989) and Leung and Wong (2002) documented the fact that health and labour force participation are interrelated (see also Haveman et al., 1989; Lavy et al., 1995).

Mauritius has often been cited as an outlier in the Sub Saharan African region with a stable economic growth and sound macroeconomic conditions. Nonetheless, female unemployment remains a major problem of the Mauritian society. Over the years the labour-intensive manufacturing textile and clothing sector in EPZs has been absorbing an increasing number of women; indeed, since the late 1970s the sector has

been the country's major private employer, particularly of women. This is partly due to the fact that alternative employment opportunities for women in the Mauritian labour market are relatively limited. However, since the end of the Multifibre Arrangement under the World Trade Organization trade regimes in December 2004, the country has been experiencing economic difficulties. Despite the long-expected expiry of the quota system and the lead time for its termination, its effect on employment in Mauritius has been quite drastic. Thousands of workers, mostly women, have been retrenched from textile and clothing manufacturing, particularly since 2004. Furthermore, with the EU Sugar reforms namely the declining price of sugar by 36 percent, many sugar factories have closed down and workers have lost their jobs. With major trade-related downturns in the mainstay of the economy, Mauritius is attempting to turn the economy around, from one based on low technology and labour-intensive production to one that features higher technology, as well as knowledge-based and more value-added industries and services. However, most female workers in the EPZ and sugar sectors who lost their jobs are unskilled and the possibility of moving to other sectors is very minimal. The social impact of globalisation on Mauritius is thus characterised by a feminine face. The overall unemployment rate has been rising, particularly since 2004 and the unemployment rate for women has more than double relative to men with the male-female unemployment gap widening over the years. In 2010, 64 per cent of the unemployed were women. Among the 36 percent of males being unemployment, the majority – 80 percent was single while among females, the majority – 67 percent was married.

The objective of this paper is to analyse the factors that encourage and also prevent women to enter the labour force in a small island economy of Mauritius. This study takes a different bearing by examining the root of the problem through household survey data from 2006 to 2008. To the best of our knowledge, no study has focused on analyzing female labour participation using micro data for Mauritius. We analyse the determinants of female participation in the Mauritian labour force and investigates the factors that may not only encourage but also prevent women to enter the labour market. Our findings corroborate with the results of previous work for developing countries and indicate that the greater a woman's educational level, the greater her participation; and that older woman participates more, though the rate of growth of this effect decreases. Secondary education proves to be a significant determinant of female labour participation rate in Mauritius. Our results also reveal that married women in Mauritius are less likely to enter the labour force. In fact marital status is one of the most important factors averting them from work.

The paper is structured as follows. Section 2 reviews the literature on the determinants of female labour participation. Section 3 analyses female labour participation rate in Mauritius. Section 4 analyses the survey data and sets out the methodology used. The results are discussed in section 5 and we finally conclude in section 6.

## **2. Literature Survey**

Over the life cycle, female labour force behaviour is governed by various factors. Very complex mechanisms determine the decision to enter, stay on, or leave the labour market (Lelièvre-Gauthier, 1994). These include economic (that is the labour market structure), individual (skills, marital status, labour force attachment, incentives and career expectations), and household characteristics (structure, domestic workload, presence and number of children). Many studies aimed at analysing trends (Chase, 1995; Bonin and Euwals, 2002), economic and social determinants of labour force decision (Benjamin, 1992; Hausman, 1980; Hill 1988, 1994; Saget, 1999; Fong and Lokshin, 2000) either at micro or macro level (see Griliches and Intriligator, 1986 for a review).

Individuals enter the labour force as they want to earn more income (Psacharopoulos and Tzannatos, 1989). From the income-leisure model, individuals work as long as the benefits from work exceed the benefits from household activities. Time is thus split into two namely work and leisure. The decision to work or not depends on wage rate, tastes, number of working hours and other non-labour income. Work becomes more attractive if the wage rate is higher. Higher wages will encourage participation in the labour force and for those already working; a higher wage makes work more attractive than leisure. The work-leisure model has been extended further by adopting a household perspective and allowing for multiple uses of time (Becker, 1970). The household is used as a decision unit where the decision of one household member on how to spend his/her time is influenced by the decisions of the other household members. The household also acts as an economic unit producing utility yielding commodities and uses the time available for three activities. Time can first be sold in the labour market to obtain money income. Second it can be used in household production and lastly it can be used in actual consumption of goods and services. As wages rise, women have an incentive to reduce time allocated to households and enter the labour force. However, the effect of increased wages on the decision of women to enter the labour force depends on substitution and income effects. Through the substitution effect, higher wages act as an incentive for women to enter the labour force while via the income effect, as income rises; demand for leisure also increases and may lead to lower female participation.

The decision not to participate in the labour force does not necessarily reflect a woman's own choice, nor does it always correspond to the optimum use of household resources World Bank (1995b). Furthermore, the market wage does not take cognizance of the social benefits of educating and hiring women. Discrimination in households and in the market carries not only private costs for individuals and households, but social costs for society as well. Women as heads of households have assumed the role of providing income as well as other resources for their households. Women, who have largely been the principal caregivers, are playing an increasing role in the labour market and have become particularly vulnerable to the stresses inherent in juggling the demands of family and work responsibilities. It is argued that women have lower participation rate than that of males because women have lower opportunity costs of non-participation when their wages are low (Dwyer and Coward, 1992). Further, unemployment rates are often higher among women because their opportunity costs of job search are low and discrimination in hiring leads to a lower job-opening rate for them.

Female participation curve is also linked with economic development (Psacharopoulos and Tzannatos, 1989) and it is often explained in terms of a U-shaped long-term relationship where female labour force participation at first declines and then rises as the country develops. Rapid development is often accompanied by higher female participation, higher levels of schooling for girls and lower fertility rates. For instance, migration reduces the domestic supply of male labour, inducing the entry of women into the labour force (World Bank, 1995). Mammen and Paxson (2000), on the other hand, show that although the participation of women in the labour force first declines and then increases with income levels, higher income is unambiguously associated with a higher participation of women who receive wages and a reduction in the total fertility rate. On labour market demographics, Mackellar and Bird (1997) note that demography and labour force participation are inextricably linked. From their perspective, changes in fertility rates affect women's labour force participation and vice-versa. In less developed countries, ageing is increasing the size of the labour force; the proportion in the middle age group remains constant and population is redistributed,

from the under-15 age group, where labour force participation is very low, to the 60-plus age group, where labour force participation is substantial.

Further, age is a key factor in influencing female labour participation and usually depicts a concave relationship with the decision to work, where highest participation is observed in the mid-30s (Contreras, Bravo and Puente, 2005). Similarly, the decision to work may depend on cultural and social factors. Cultural characteristics namely machismo and values impact female participation. The higher the level in which women have internalized cultural values, the less likely they will be participating in the labour market. The more conservative a woman is concerning values, the lower will be her participation. Educational attainment also encourages a person to enter the labour force. The link between education and female decision to enter the labour market can be discussed in terms of three main arguments namely the opportunity cost, the relative employment opportunity and the aspiration arguments. From the opportunity cost argument, education is an investment which enables a person to acquire more earnings and consequently, it increases the opportunity cost of economic inactivity (Bowen and Finnegan, 1969). The second argument rests on the fact that employers seek for workers with more educational qualification. The third argument emphasizes that better educated women are more aspired towards higher income and thus tend to be more active in the labour force.

Female labour force participation decisions have also been found to depend strongly on the marital status of women. In addition, economic theories of marriage imply a strong correlation between a female's return in the labour market and her 'return' in the marriage market, measured in terms of utility gains from marriage. For example, according to Becker's (1973, 1974) theory of marriage, marital gains can be derived from the specialisation of labour within the household, which is found to depend negatively on the ratio of the wife's to the husband's wage rate. Gains from marriage and therefore marital status decisions will thus in general depend on a female's (potential) wage rate. If gains from marriage are greater for low-wage women, this will imply higher marriage and lower divorce rates and a resulting self-selection of low-wage women into the married state. Decisions to enter or exit the married state, and the timing of entry or exit, are therefore also likely to depend on female wages and previous work experience. Being married or not may also influence a woman's decision to work. In the first instance, a married woman may have a lower probability of participating in the labour force due to increased family responsibilities and more time needs to be devoted to the welfare of the family. The impact of the number of children on how likely a woman will go out to work, and if she does go out to work, for how many hours is very important (Iacovou, 2001).

Fertility rate is a major determinant in influencing women decision to work. Lehrer and Nerlove (1986) and Brewster and Rindfuss (2000) observe a negative association between fertility and female labour participation rate. One may argue that a woman with more children will be less inclined to go out to work, since the time she spends at work will be time foregone with her children, and the expense of childcare will reduce her effective wage. On the other hand, children are extremely expensive, and a mother may have to work more with every additional child to maintain the family income. As a consequence, there is no reason to believe a priori that the effect should go in either direction (or be positive or negative). A married woman with a larger family size may thus be encourage to work, to contribute to the family's income and needs. Fosu (1999) concludes that cost of living is non-extraneous within the labour force participation model and it exerts a positive impact on the latter. Moreover, the willingness of married women to participate in the labour force stems from a desire to provide their families with a higher standard of living. This finding is important since it underscores the welfare improvement rationale for female labour market participation.

However, a reciprocal relationship exists between fertility and female labour force participation (Weller, 1977 and Cramer, 1980). There are four possible explanations of the association between fertility and female labour force participation: women’s fertility influences their labour force behaviour; women’s labour force behaviour influences their fertility; a reciprocal relationship exists between the two variables; and the association is spurious, reflecting other factors. If some evidence supports the first three hypotheses, the fourth one has proven more difficult to support. Furthermore, most estimates of this relationship have found a negative relationship between the number of children and a woman’s labour supply (see Brewster and Rindfuss, 2000 for a review). The problem with these estimates is that they cannot say anything about causality.

Fertility is also linked with the educational attainment of female workers. Countries which have the lowest fertility rates are usually characterised with high levels of literacy and education attained by women. Economic theory suggests that a simultaneous consideration of the effects of schooling on fertility and labour supply as well as on wages and investments in children could be more revealing than focusing on a single outcome. Similarly, Lam and Duryea (1999) explore the effects of schooling on fertility, labour supply and investments in children. They observe that the impact of schooling on the relevant variables could theoretically be conceived of as being driven by trade-offs along two margins. In the first of these margins is the race between home productivity and labour market productivity, which invariably gives direction to the extent to which better educated women are drawn into the labour force by higher wages. The second margin revolves around the adjustment that has to be made in terms of child quantity and quality that result from the effects of schooling on home productivity. The authors find that women’s first eight years of schooling exert a strong negative impact on fertility. Labour force participation of wives, however, shows little responsiveness to schooling of either spouse until around eight years of schooling. Furthermore, rising divorce rate has encouraged many women to establish and maintain labour market ties.

It is interesting to query the relationship between an individual’s health status and his work behaviour. The impact of health status on an individual’s productivity and about the interaction between health and labour market decisions and outcomes become pertinent when we analyse a woman’s decision to work. Velkoff and Adlakha (1998) stressed the fact that female health problems in India are related to or exacerbated by high levels of fertility. Jejeebhoy and Rao (1995) showed that numerous pregnancies and closely spaced births increase health risks for mothers. Unwanted pregnancies terminated by unsafe abortions, diseases like malaria, HIV/AIDS, tuberculosis, also have negative consequences for women’s health. Through the negative effect of poor health on birth outcomes, health status affects fertility. In the context of high fertility rates such as in many developing countries, women are exposed to much fertility related health problems and health matters are likely to determine their fertility choices. Thus, health problems are likely to have a negative bearing on female participation rate.

The relationship between female labour force participation and child mortality is even more complex. On the one hand, labour force participation can have an adverse impact on child health as the child will not get full attention from its mother and may even forgo the benefits of breastfeeding. This will probably happen in those families where because of poverty the mother must participate in the labour market soon after delivery. For instance, Basu and Basu (1991) report an adverse impact on child mortality of the mother’s participation in the labour force. The authors trace this to the inability of working mothers to give adequate care to infants and to breastfeed them properly. On the other hand, the mother’s work force participation will enhance the family income which will in turn have a positive impact on child nutrition and health. Thus, the eventual outcome of female labour force participation on child mortality

depends on the relative influence of these two routes of causation. The empirical evidence on this issue also reflects this conflict. Many of the international studies cited in Dwyer and Bruce (1988), suggest an inverse relationship between child health and female labour force participation. Some studies suggest that, after controlling for family income, children are better fed and looked after in households where women work. In such households, a larger proportion of the family's earnings are expended on child care and related activities. A study by Kumar (1977) in Kerala indicated a positive association between female earnings and child nutrition, but a similar association between paternal income and child nutrition was not found. Another study of poor households in Kerala and Tamil Nadu categorically states that eliminating female work, even if it means some improvement in male employment, would have a very negative effect, not only on the females themselves, but also on the families they support (Mencher 1988). Schultz (1994), finds evidence at the household level suggesting that fertility and child mortality are related to such factors as women's education and family planning.

The results from the many studies on gender aspects of labour market issues have been quite insightful. Fosu (1999), Lam and Duryea (1999), Van der Klauw (1996) and Sprague (1988) link labour force participation, fertility and schooling decisions. Meanwhile, Mammen and Paxson (2000) study the linkages between women's work and development, while others like Collier et al. (1994) and Edwards and Edwards (1994) focus on a wide range of labour issues within the context of structural adjustment.

Studies analysing determinants of female labour force are rather limited for the African region. For instance, Sackey (2005) studies the link between female labour force participation and education in Ghana. Their findings reveal that female schooling matters in both urban and rural localities; both primary and post-primary schooling levels exert significant positive impact on women's labour market participation, and have an opposite effect on fertility. Further, education enhances female human capital and productive employment with favourable impacts on perceptions of ideal family size and fertility preferences. Maglad (1998) shows that education and post schooling experience have positive and significant influence on female labour participation in Sudan. Yakubu (2010) postulates that the education of women is positively related to the likelihood of their labour force participation in South Africa.

The scant studies on Africa focus on the link between education and a woman's decision to work. In addition, several life-cycle models have been developed and estimated and have addressed mainly the relation between life-cycle fertility and female labour supply (Heckman and Willis (1975), Hotz and Miller (1988) and Moffitt (1984)). The interaction between marital status and labour supply decisions, on the other hand, has received considerably less attention. The objective of this paper is thus to focus on the factors which influence a woman's decision to participate in the labour market with particular emphasis on her marital status. Further, to our knowledge, there is no study modelling female labour force participation rate for the small island economy of Mauritius.

### **3. Female Labour Force Participation in Mauritius**

Women participation in the labour force has increased in many developing countries in recent years. There are at least three factors that explain this trend. With economic development and the ensuing shift of population from rural and agricultural sectors, more women choose to participate in the labour force. Studies on migration and urbanisation in several countries suggest a higher rate of participation for women. Second, with higher education, women tend to participate in greater numbers in order to capture returns on their investment. Third, falling real incomes of households and rising

poverty in certain countries seem to have persuaded women to participate in the labour force in greater numbers. There are however important gender disparities in Africa’s labour market. Overall there is a 17 percentage-point difference between the labor force participation rate for men (78.3 percent) and women (61 percent) in Africa (World Bank, 2010). Women’s participation rates in the labour market range from under 40 percent in Ethiopia, Kenya, Malawi, and Uganda, to 80 percent and above in Burkina Faso, Burundi, Gambia, Ghana, Guinea, and Sierra Leone. For Sub-Saharan Africa as a whole, women’s employment ratio is 25 percent lower than for men, respectively at 53 percent and nearly 70 percent.

In Mauritius, total employment stood at 536,100 (345,700 males and 190,400 females) in 2010 (see table 1 below). The employment to population ratio was 73 percent for males and 38 percent for females. On average, the workforce comprised around twice as many men as women and was concentrated in the age group 30 to 50 years. The mean age of a worker was 40.4 years for males and 39.4 years for females. In 2010, the workforce was mainly made up of married persons (68.1 percent), followed by persons in the single state (24.5 percent). A small proportion of the employed were widowed, divorced and separated (7.4 percent). Compared to the male workforce, the female workforce consisted of a higher proportion of widowed, divorced and separated persons (14.8 percent compared to 3.4 percent).

**Table 1: Labour Force and Employment in 2010 by Age and Sex**  
**Labour force Employment**

Age Group	Male	Female	Both sexes	Male	Female	Both sexes
16-19	10,700	6,600	17,300	7,900	3,500	11,400
20-24	35,100	26,200	61,300	29,000	19,700	48,700
25-29	45,400	28,800	74,200	42,300	24,300	66,600
30-34	51,100	33,200	84,300	49,900	28,400	78,300
35-39	43,900	28,800	72,700	42,800	25,800	68,600
40-44	45,900	29,200	75,100	45,300	26,600	71,900
45-49	46,500	25,600	72,700	46,000	23,400	69,400
50-54	39,200	19,200	58,400	38,500	18,000	56,500
55-59	28,800	13,600	42,400	28,500	13,100	41,600
60-64	9,900	5,000	14,900	9,600	4,900	14,500
65 and over	5,900	2,700	8,600	5,900	2,700	8,600
Total	362,400	218,900	581,300	345,700	190,400	536,100

Source: Central Statistical Office

The number of unemployed persons numbered 45,200, comprising 16,700 males and 28,500 females. The unemployment rate was 7.8 percent, higher among females (13.0 percent) than among males (4.6 percent). In 2010, unemployed women outnumbered unemployed men at all ages though they were generally more qualified. Women represented 63 percent of the total unemployed and they outnumbered men by 11,800. In the same year, the number of inactive women was significantly higher than that of men at all ages. There were also fewer women than men among the employed at all ages and as from age 20 to 24 years, the number of unemployed generally tends to decrease as age increases.

Previously the Mauritian labour market was male dominated in almost all sectors. Gradually an increase in female labour participation has been observed. From 2001 to 2010, employment in the tertiary sector rose from 245,800 to 336,100; its share over total employment also increased from 52 percent to 63 percent (see figure 1 below). In contrast, employment in the primary and secondary sectors has been declining over time. In the primary sector, employment went down from 57,300 in 2001 to 45,700 in

2010 mainly due to a decline in the agricultural sector. In the secondary sector, employment declined from 172,500 to 154,300 mainly due to a decreasing workforce in the manufacturing sector.

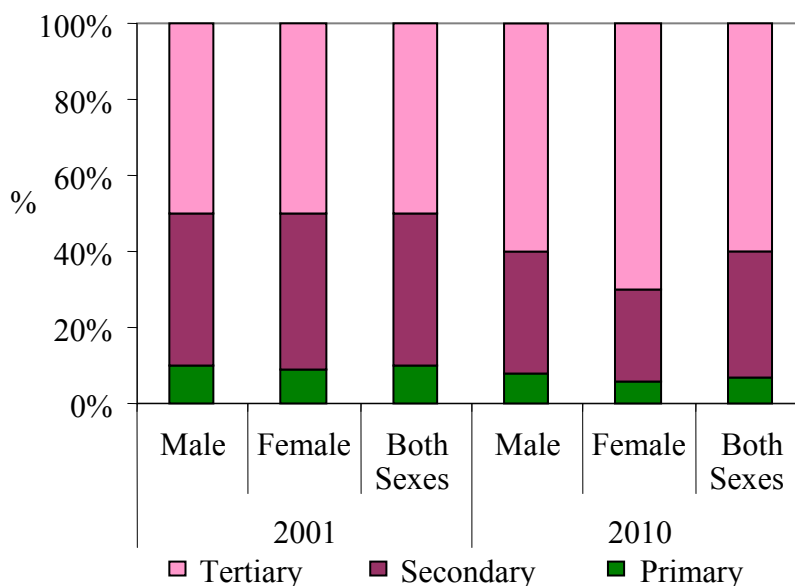


Figure 1: Employment by Industry and Sex

#### 4. Survey Data, Data Analysis and Methodology

##### 4.1. Survey Data

We use data from the Continuous Multi Purpose Household Surveys from 2006 to 2008. Our sample size covers 7,258, 12,681 and 12,614 women, aged between 18 to 65 years in the respective years from 2006 to 2008. A rich database is available for marital status, experience, education, residence and employment. The employment variable includes the woman's decision to work or not. Educational data includes school attendance, level of education and other qualification. The survey also includes demographic data on members of the household such as age, sex and marital status. Data on household assets, labour income and non labour income are also provided in the survey.

The sampling method used for the household survey is a stratified two-stage design which ensures representativeness of all regions and all households in the economy.

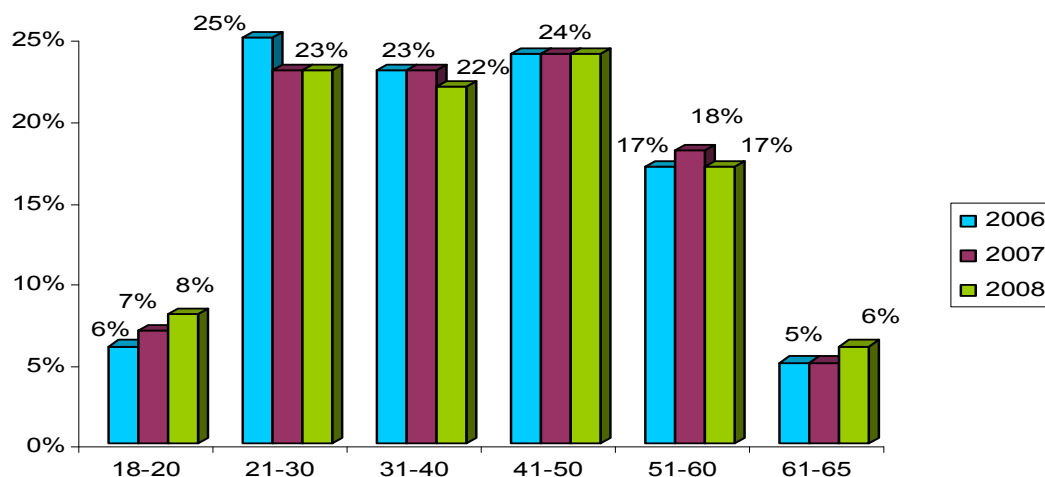
Estimates worked out from household survey data are inevitably subject to sampling variability since they are based on information collected from only a sample of households rather than from all households.

##### 4.2. Data Analysis

From the household surveys, we note that there is a good age distribution of working women (see figure 2 below). Over the years, the number of women engaged in the labour force in the range of 18 to 20 years has been rising while those in the age bracket of 21 to 40 years declined. The number of working women in the age group of 41 to 50 has remained constant over the years. With the retirement age rising to 65, it can be said that more women have stayed in the labour force in 2008.

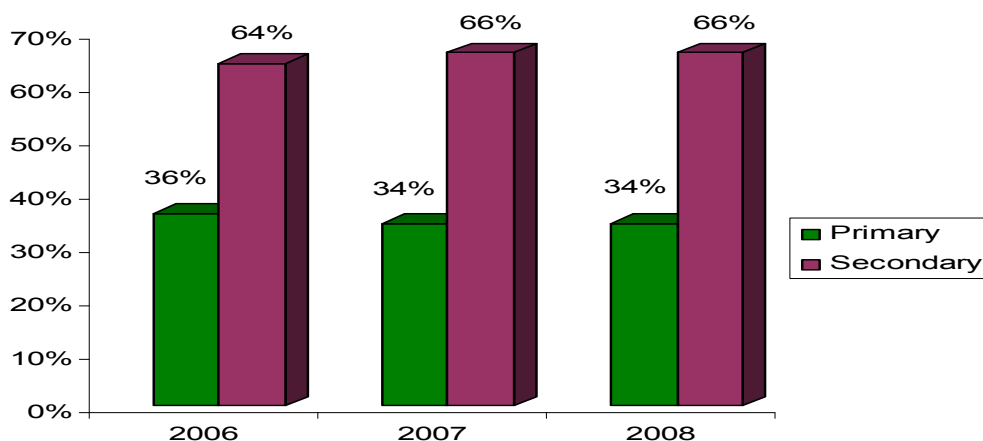
In terms of educational background, 36 percent of working women have primary education in 2006 relative to only 34 percent in 2007 and 2008. Similarly, 66 percent of working women have been to secondary schools for the year 2007 and 2008 as compared to 64 percent in 2006. This is shown in figure 3 below.





**Figure 2: Age of Working Women**

Source: Authors’ Calculation (CMPHS, 2006, 2007 and 2008)



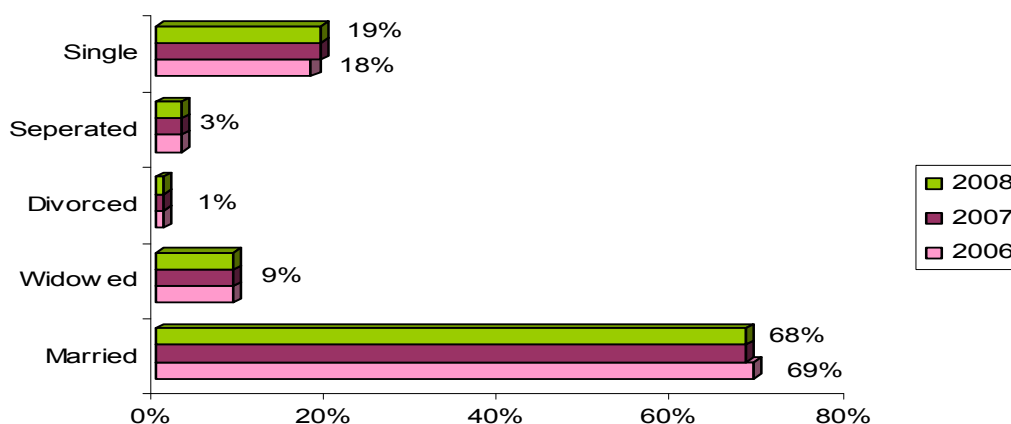
**Figure 3: The Education Level of Working Women**

Source: Authors’ calculation (CMPHS, 2006, 2007 and 2008)

We observed that an average of 68 percent of working women are married, 9 per cent are widowed, 1 per cent divorced, 18 percent are single and 3 percent are separated as shown by figure 4 below. Further, we observe that 31 percent of the working women live in urban areas while 69 percent live in rural areas.

### 4.3. Methodology

In a simple model of labour market participation, an individual maximises her level of wellbeing subject to a restriction of income and time. It is assumed that wellbeing depends on consumption of goods and leisure. In order to consume, she must sacrifice part of her leisure and generate income. She then confronts a trade-off of working in order to generate income and thus satisfy her needs for consumption. However, this is a decision where individuals confront a wide array of restrictions, such as non labour income, number of children, marital status and social constraints. For instance, when a high percentage of a person’s income comes from non-labour activities, she can dedicate less time to her job and yet consume the same level of goods. All else equal, a woman with two children or a married woman will have more restrictions on her ability to work than a woman who has only one child or a single woman.



**Figure 4: Marital Status of Working Women**

Source: Authors' calculation (CMPHS, 2006, 2007 and 2008)

In general, the decision to participate in the labour market is made after comparing the reservation wage (shadow price) to the market wage. If we control for variables such as number of children, age, marital status, cultural aspects and values, we can approximate to the reservation wage ( $W_r$ ). Also, variables associated with age and human capital are proxies of the market salary ( $W_m$ ). The individual will participate in the labour market if  $W_m \geq W_r$ . This study examines the determinants of female participation through the following model. The econometric specification corresponds to:

$$Y_i = \alpha + \beta X_i + \varepsilon_i \tag{1}$$

where  $Y_i$  is the dichotomous dependent variable. It is assigned the value one (1) if the person is employed or seeking employment and zero (0) if that is not the case.  $X_i$  represents the standard variables such as education, age, age squared, marital status, regional dummies, household assets and non-labour income and  $\varepsilon_i$  is the error term.

Equation (1) can be written as follows:

$$FemEmp_i = \beta_0 + \beta_1 Age_i + \beta_2 Age_i^2 + \beta_3 MaritalStatus_i + \beta_4 PrimEduc_i + \beta_5 SecEduc_i + \beta_6 Region_i + \beta_7 Assets_i + \varepsilon_i \tag{2}$$

The starting point is to estimate equation (2) as our basic linear regression. We then estimate equation (3) by including non labour income to check the robustness of our results obtained by estimating equation (2). Equation (3) is as follows:

$$FemEmp_i = \beta_0 + \beta_1 Age_i + \beta_2 Age_i^2 + \beta_3 MaritalStatus_i + \beta_4 PrimEduc_i + \beta_5 SecEduc_i + \beta_6 Region_i + \beta_7 Assets_i + \beta_7 Innon - labInc_i + \varepsilon_i \tag{3}$$

where  $FemEmp$  is a dummy variable taking a value of 1 if the woman's decision is to work and 0 otherwise,  $Age$  is the age of the woman and  $Age2$  is age square which is a measure for experience of the worker.  $MaritalStatus$  indicates if the person is married in which case dummy being one or otherwise,  $PrimEduc$  represents education at

the primary level and SecEduc is education at the secondary level. Region denotes where the respondent is presently living, dummy being 1 if she lives in the urban region and 0 if she lives in the rural region. Assets measures as to whether she has a personal computer or not, lnnon-labInc is the log of non labour income which consists of transfer income and finally  $\varepsilon$  is the error term. The variable fertility could not be used due to unavailability of data. We estimate female decision to work using the linear probability model and the logit estimation technique.

Age is expected to be positive. There is evidence that female labour participation rate follows a concave pattern with the highest participation at the age of 36 years (Dante Contreras et al, 2005). Initially as a woman completes her education, she will join the labour market and continues to work till a maximum level of participation is reached. Age is thus expected to have a non-linear link with female labour participation, increasing at first and then decreasing later in life. Age square is thus included to capture this inverted U-shaped relationship and may also account as a proxy for experience. Age squared is expected to be negative. As a person attains her working age, her probability of getting employed is very low but as she gets a job and obtains experience she has more chance in the labour market in terms of getting a better job. As evidenced by Sackey (2005) for Ghana, the coefficient of age square turned out to be negative.

Studies by Johnson and Skinner (1986), and Shapiro and Shaw (1983) provide evidence for the fact that women increase their labour force participation prior to dissolution of a marriage. On one side, marital status may cause women to enter the labour market as with a married life comes more responsibilities of the family and children as well as a need for more income, so the incentive to enter the labour market rises. However, a married life also implies more time to be devoted to the family and children needs and less time dedicated to work. Marital status in this case will impact negatively labour force participation. Education is expected to have a positive impact on female labour participation since an educated woman acquires more skills and has a higher probability of being employed in the formal labour market. In fact, access to schooling is important for women to benefit from modernisation and gain access to rewarding jobs (Boserup, 1970).

Region is likely to show that there are better job opportunities in urban regions relative to rural areas. Female labour participation is likely to be higher in cities due to spatial accessibility of jobs and in many countries people can move easily from rural to urban area. Household asset is proxied by the ownership of a personal computer. Having a personal computer enables a person to get better education thus increasing job opportunities. However, it may also imply that the person is better off if she can afford a personal computer and may actually not enter the labour market. This implies a negative link with female participation rate (A similar result was obtained by Sackey (2005) for Ghana). Non-labour income is made up of transfer and property income where transfer income may be in terms of pensions or unemployment benefits. The coefficient of non-labour income is expected to be negative because the higher the non-labour income, the lower the incentive to participate in the labour force.

## 5. Findings

Our first set of results use the linear probability model with the basic OLS estimation technique. The regression is as per equation (1) where the dependent variable is the decision of a woman to work. Independent variables are age, age2, education, region, marital status, ownership of household assets. Then, equation (2) extends on the first specification with the inclusion of non-labour income. The results are shown in table 2 below.

**Table 2: Determinants of Female Labour Participation – OLS Estimation**  
Technique Result 1 Result 2 2006 2007 2008 2007 2008

Variables	Coefficient	Coefficient	Coefficient	Coefficient	Coefficient
Age	0.062 (0.0028)***	0.064 (0.020)***	0.0661 (0.002)***	0.0581 (0.005)***	0.0497 (0.006)***
Age2	-0.0008 (0.00003)***	-0.001 (0.0002)***	-0.0008 (0.00002)***	-0.0007 (0.00006)***	-0.0006 (0.00006)***
MaritalStatus	-1.53 (0.0126)***	-0.140 (0.0096)***	-0.135 (0.001)***	-0.155 (0.0148)***	-0.151 (0.016)***
PrimEduc	-0.029 (0.015)**	-0.012 (0.012)	-0.027 (0.012)**	-0.063 (0.0213)	0.0076 (0.022)
SecEduc	0.211 (0.014)***	0.209 (0.0099)***	0.215 (0.011)***	0.158 (0.0315)***	0.129 (0.034)***
Region	0.018 (0.0116)	0.002 (0.0089)	0.010 (0.009)	-0.183 (0.0175)	-0.021 (0.018)
Assets	-0.014 (0.0128)	-0.042 (0.0089)***	-0.031 (0.009)***	-0.389 (0.0168)**	0.023 (0.022)
Innon-labInc	-	-	-	-0.084 (0.0159)***	-0.118 (0.0163)***
Constant	-0.673 (0.0502)***	-0.709 (0.0376)***	0.748 (0.038)***	-0.146 (0.168)	
No of observations	7256	12681	12614	2257	2220
R2	0.101	0.106	0.106	0.142	0.125

Robust standard errors are in brackets.

\*significant at 10% \*\*significant at 5% \*\*\*significant at 1%

We observe that the coefficient of the age variable is positive and highly significant. In fact the age coefficient rises over the period 2006 to 2008 while age2 is negative and significant. As expected, we note the concave relationship between age and female labour participation. Initially as a woman completes her education, she will join the labour market and continues to work till a maximum level of participation is reached (Dante Contreras et al, 2005) and then leaves the labour market. Marital status has a highly significant negative effect on labour participation. From table 1, marital status is the most important factor that prevents women to enter the labour market in Mauritius. It can be argued that Mauritian women value their married life more than work. A person usually derives utility from leisure and the consumption of a composite good. The woman in particular derives utility from leisure, consumption but also from being married and also the presence of her children (Van Der Klaauw, 1996). In addition to the direct utility derived from being married, marriage may provide additional utility gains through an increase in income as well as a possibly higher utility derived from having children when married. However, a major problem in Mauritius is lack of facilities in terms of day care centres for children. In fact many women when married and having children are not able to work since they have to take care of their children. Another reason which may explain the negative link between marital life and work is the lack of flexible working hours.

Further, education has an important impact on female labour participation. Education is split into primary education and secondary education. Our findings reveal that primary schooling has a negative effect on a woman's decision to work. However this result is not robust and is no longer statistically significant once we add variables such as non-labour income. Mauritius having a highly literate population, a large proportion of Mauritians has at least secondary education so that primary education alone does not help in any way to get a job. This is confirmed by the positive and significant coefficients of secondary schooling in table 1. It can be argued that

secondary education is the most important factor that encourages a woman to enter the labour market. The coefficient has been rising over the years and is robust even if we extend the equation to include non-labour income. The region dummy is insignificant meaning that there is not much difference in whether a person lives in rural or urban areas in Mauritius. In fact, the disparity between the urban and rural area is very minimal in the island economy.

In addition, household assets affect negatively the decision to work but the magnitude of the coefficient declines over time and even becomes statistically insignificant once we account for non-labour income in 2008. This can be explained simply by the fact that over the years, standard of living has been rising and also personal computer has become an essential tool for the family and for children’s education in particular. The price of a personal computer has also declined considerably over the last few years to encourage people to invest their time in information and communication technology. From a macroeconomic perspective, the Information and Communication Technology (ICT) sector has also been booming and its contribution to GDP has reached 8 percent and has generated 29,000 jobs and employs nearly 90 percent of those individuals who graduated in ICT in 2010. Government is also enabling an ICT-ready environment through the increase usage and adoption of ICT by inculcating a ‘technology temper’ among the citizens. We further check the robustness of our results by including log of non- labour income as per equation (3). However data on non labour income for 2006 is not available from the household survey. As expected the coefficient is negative and significant which implies that the incentive of a woman to enter the labour market lowers with availability of non-labour income.

Our second set of results is based on the logit estimation technique which is more appropriate given that the dependent variable is a dummy variable. Logistic regression is used in cases of various deformations in assumptions like the normality assumption (Tathdil, 1992). The findings are presented in table 3 below.

**Table 3: Determinants of Female Labour Participation – Logistic Regression**  
**Result 1 Result 2 2006 2007 2008 2007 2008**

Variables	Coefficient	Coefficient	Coefficient	Coefficient	Coefficient
Age	0.318 (0.0159)***	0.327 (0.119)***	0.333 (0.012)***	0.414 (0.455)***	0.333 (0.046)***
Age2	-0.0041 (0.0002)***	-0.0041 (0.001)***	-0.0042 (0.0002)***	-0.0048 (0.0005)***	-0.0039 (0.0005)***
MaritalStatus	-0.747 (0.061)***	-0.695 (0.047)***	-0.668 (0.048)***	-1.344 (0.160)***	-1.26 (0.162)***
PrimEduc	-0.139 (0.075)**	-0.048 (0.058)	-0.114 (0.057)**	0.0807 (0.148)	0.064 (0.139)
SecEduc	0.923 (0.065)***	0.925 (0.045)***	0.945 (0.049)***	0.965 (0.195)***	0.701 (0.204)***
Region	0.0756 (0.056)	0.0033 (0.042)	0.0418 (0.042)	0.162 (0.127)	-0.139 (0.124)
Assets	-0.059 (0.059)	-0.197 (0.041)**	-0.132 (0.044)***	0.253 (0.114)**	0.180 (0.142)
Innon-labInc				-0.5099 (0.103)***	-0.73 (0.109)
Constant	-5.85 (0.284)***	-6.06 (0.217)***	-6.18 (0.216)***	-4.84 (1.329)***	-1.57 (1.352)
No of observations	7256	12681	12614	2257	2220
Pseudo R2	0.082	0.083	0.086	0.153	0.131
Wald chi2 (7)	674.94	1197.47	1188.89	247.04	213.90

Robust standard errors are in brackets.

\*significant at 10% \*\*significant at 5% \*\*\*significant at 1%

We observe from table 2 that age has the same positive and significant link with female participation rate while age2 is negative and significant confirming the inverted U-shaped relationship. For our education variables, we note that women with only primary schooling are less likely to enter the labour force while those with secondary education find it easier to be on the labour market. The magnitude of the coefficient of secondary education of the logistic regression is larger relative to the coefficient of the same under OLS technique. Marital status has a negative effect on the woman's decision to work and this negative impact is larger under the logistic approach. Even with the inclusion of non-labour income, the effect of marital status stays robust. It can be argued that Mauritian women value their married life more than work. Usually married life also implies young children where more time needs to be devoted to them.

## **6. Conclusion**

This paper focussed on the factors influencing the Mauritian woman decision to enter the labour market. We focus on different elements like age, location of the worker, marital status, education level, ownership of household assets and non-labour income. Our results first confirm the inverted U-shaped link between age and labour participation. This is in line with existing work (Dante Contreras et al, 2005) where initially as a woman completes her education, she will join the labour market and continues to work till a maximum level of participation is reached. Our second set of findings reveals that secondary education encourages woman to enter the labour market while primary schooling does not have the expected effect. This is true in the Mauritian context where the literacy rate is very high and where primary school education does not help individuals to get a job. Third, income from other sources such as transfer and property income exert a negative influence on female participation as individuals receive non-labour income, they will be less willing to engage in the labour market.

Further, we also observe that being married poses a problem for women to work. Marital status has a strong negative effect on the woman's decision to enter the labour market. It can be argued that the Mauritian woman values their married life more than work. The woman derives greater utility from being married and spending time with her children. However, in Mauritius there is also a lack of facilities in terms of day care centres for children. In fact many women when married and having children are not able to work since they have to take care of their offspring. Though, over the years, there has been a significant increase in the number of day care centres by private individuals and institutions, which was geared more towards involving women in the economic development, the poor quality of the service has been a real setback. Mothers lack confidence in the service provided by the day care centres and are thus less likely to leave their children and go to work. Another reason which may explain the negative link between marital life and work is the lack of flexible working hours.

The participation of Mauritian women in the work force is not only a matter of social justice but, also one of economic efficiency arising from the necessity to effectively employ the important economic asset that Mauritian women represent. The greatest need of the hour is to change the social attitude to women. Women's empowerment means a lot, but the ultimate goal of the equalization of man and woman would materialize only when her complimentary role is recognized by the society. This increased participation of women who are mothers of young children and who are in the labour force has generated an increased need for the provision of good early childhood services. Policies need to cater for the needs of the working woman in terms of flexible working hours, the establishment of a system of good quality child care and re-skilling of women who have lost their jobs in the primary sector with the EU Sugar reforms or in the secondary sector with the dismantling of the Multi Fibre Agreement. Adult

education should also be one area where policy makers can focus whereby enabling women to learn further and become more employable.

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