

THE IMPLICATION OF FEMALE LABOUR FORCE PARTICIPATION ON ECONOMIC GROWTH IN CAMEROON

Njimanted Godfrey Forgha, Ph.D and Mukete Emmanuel Mbella

¹Associate Professor of Economics, Department of Economics and Management, University of Buea, SWR

²Graduate Research Assistant, Department of Economics and Management, University of Buea, SWR

ABSTRACT: *This paper is design to investigate the determinants of female labour force in Cameroon and its influence on the economic growth of the country using a times series approach for 37 years (1980-2014). Adopting a Generalized Method of Moment technique of estimation with two models we observed that dependency ratio, fertility rate, male labour force and per capita income are clear determinants of female labour force in Cameroon. The economic growth equation shows opposite significant between female and male labour supply on economic growth over our period of the study. Based on these findings, we recommend that there is need to change social norms and to directly target a potentially large and important cohort of Jordan's labor supply.*

KEYWORDS: Female Labour Force Participation, Economics Growth, Poverty among Women, Casual-workers, Job Security, Hazardous Working Conditions, Poor Working Environments

INTRODUCTION

In the world today women account for more than half of the world's population, perform two-thirds of the hours work, receive one-tenth of the world's income, and have less than one hundredth of the world's property registered in their names (ILO, 2013). In most countries however, women contribute much less than men towards the value of recorded production both quantitatively in labour force supply and qualitatively in educational achievement and skilled manpower (Olukemi, 2008). Female deprivation is particularly acute in the developing countries with high levels of poverty, though in affluent nations women also suffer low status due to conservative attitudes. Despite its significance for the development of women, the Labour Force Participation Rate (LFPR) of women has remained substantially lower than that of men in the world such that there were only 68 women per 100 men participating in wage earning productive activity in the 2001 (UNDP, 2003). The Labour Force Participation Rate (LFPR) of women varies widely from one country to another as well. In 2001, LFPR of women while staying below 30% in countries like Oman, Malta, Belize, it was above 60% in countries like Iceland, Sweden, and Canada. The situation in some countries is somehow different when looking at the estimates presented by UNDP (2003), female labour force participation rates in 1998 were about 77% in Canada, 95% in France, 74% in Germany, 67% in Japan, 84 percent in Sweden and 77 percent in the United States (Ehrenberg and Smith, 2000).

Since the pioneering works of Mincer (1962) and Cain (1966), there have been numerous studies on Female Labor Force Participation (FLFP). These studies have highlighted 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 (Hill 1983). Some of the studies have documented strong ties between women's work patterns and changes in their family status (Ellingsaeter and Ronsen, 1996; Rindfuss et al. 1999). That is, 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. The labour force participation rate of women increased considerably in the developed countries in recent years. In contrast, in many developing countries and in Nigeria specifically Northern areas like Adamawa State show declining trend.

Evidence from literature (Kaur and Tao, (2014), and Tam, (2011)) suggest a U-shape relationship between economic growth and female labour force participation and this is based on structural change and shifts. As countries follow their specific development plan changing pattern of structural change will affect women participation in the labour market (Gaddis and Klasen, 2014). This follows that in the initial stage of economic growth when there is limited access to education and as a result majority of the people are low skilled, the economy will not be performing well and a vast majority of the labour force is in the agricultural sector. This implies that at the initial stage female labour participation is relatively high but as the economy proceeds along the growth patterns where the industrial sector is gradually substituted for the agricultural sector, female participation falls. This is due to the fact that activities in this sector like mining and construction creates less favourable ground for female participation in the labour market. Again moving to the next stage where the service sector gradually becomes dominant, Cavalcanti and Tavares (2011) opined that the labour market offers more jobs to the female hence given rise to the U-shaped hypothesis. Durand (1975) as cited in Lechman and Kaur (2015) emphasize that this relationship between female labour force participation and economic growth varies across countries due to the fact that the industrial sector employed different amount of economically active women based on discrimination.

Boserup, (1970) argued that in developing countries, the bulk of women's work takes place in non-market activities in the home or the informal sector. However, in some developing countries women participation in the labour force has increased due to three reasons. First, with economic development and the ensuing shift of population from rural and agricultural sectors, more women choose to participate in the labour force. Second, due to higher level of 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.

In Africa and most third world countries, the place of the woman was known to be in the kitchen and also for childbearing. But as pointed out, evolutions in human rights and the deteriorating conditions of families today have made this phenomenon to become mundane and outdated such that women have become full members of the labour force. A significant trend has been growing self-employment among women (and men), especially among those who have failed to secure paid jobs. According to the United Nations (2000a), the proportion of self-employed among non-

agricultural women workers doubled in sub-Saharan Africa (excluding Southern Africa) from 44 percent in 1970 to 90 in 1990. The proportion also increased in Northern Africa.

In Cameroon, the World Development Indicators (2013), shows that the literacy rate among females of 15 years and above is 68 percent. Fewer girls are enrolled in secondary schools compared to boys with an 80 percent ratio of female to male secondary enrolment. Over half of adult women participate in the labour force that mostly involves work in agriculture and education in the primary and secondary school teaching. Following studies carried out by the Department of Human Resource of the University of Yaoundé-II in analysing female labour market behaviour in urban Cameroon, it was revealed that out of 2096 women aged 18-64 living in Yaoundé and Douala 59.92 percent are working and 43.08 percent not working. Taking into consideration the different sectors of the labour market, it appears that the informal sector has the highest proportion of women in Cameroon (27.3 percent in Yaoundé and 25.71 percent in Douala) (ECAM III). Indeed, the formal segment of Cameroon's labour market could be said to be male-dominated because employment in that sector is contingent on participants' education and skill acquisition, among others, requirements that tend to be met more by males than females for various reasons (notably financial, institutional and cultural). In urban Cameroon, taking into consideration the different sectors of labour market, urban labour market is characterized by two homogenous sectors (public and formal private), and a heterogeneous one, the informal sector (Abessolo, 2001). The informal sector comprises of self-employed, unpaid family-workers and casual-workers with reduced job security, hazardous working conditions and poor working environments. The economic participation of women is important not only for lowering the disproportionate levels of poverty among women, but also as an important step toward raising household income and encouraging economic development in countries as a whole.



Figure1 Cameroon Male and Female Labour Supply

Source: Computed by the Authors (2015). 2015 = estimated value*

The above figure shows the trend of female and male supply of labour in Cameroon from 1980 – 2015. It can be observed from figure 1 that over the period male labour supply exceed female labour supply. From 1980 female labour supply was approximately 40% of the female population ages above 15 years and increases a little around 52% in 1990. From 1990 it increases slightly where it has remained almost the same up to 2010 and then it reduced in 2015.

It is as a result of this that the government and other stakeholders has put in place measures to improve on female labour force supply. There have been positive supports to women who are relentless in their struggle for equality from the United Nations International Conferences on Women which began in 1985. These conferences and regional follow-up conferences have provided a forum for African women to faithfully pursue their own interests first for the first time in modern African history. Also is pressure from the World Bank, ILO and others, thereby causing many African governments to create special ministries designated for women's welfare (women empowerment centres), appointing women to high government positions, increase funding for the education of females, and also increase technological facilitated networking opportunities between women's organizations worldwide. Despite these measures, the level of female participation in the labour force remains comparatively small. In the new era of globalization in which many African women including Cameroonian women are seen to be the backbones of their families, patriarchal inclinations continue to manipulate the gender division of labour in favour of men, reason been that men are "providers and supporters" of the family while women are dependent and mere caregivers. This brings forth the following questions; what are the determinants of female labour force participation in Cameroon? What influence does female labour force supply have on economic growth in Cameroon? It is for this reason that this study sets out to investigate the determinants of female labour force participation in Cameroon and its influence on economic growth.

A number of studies have been carried out in this area and that includes that works of; Abdullah and Bakar (2011), Verena *et al* (2011), Aminu (2010), H'madoun (2010), Fatma and Feyza (2009), Sackey (2005), Aromolaran (2004) Serumaga-ZakeandKotze(2004), Guiso, Sapienza and Zingales (2003), Serumaga-Zake and Naude (2003), Bhorat and McCord (2003), Engelhardt, Kogel and Prskawetz (2001), Pampel (2001). However, with careful evaluation of these studies we observed that most of these studies have focused on very limited time periods such as one year. Hence, we cannot say with certainty that they evaluate and pin-point the correlates of the changes in African women's labour force participation. More so, some of the studies employed a purely descriptive approach which does not show the relative impacts of the determinants on female labour force participation and others used household survey data with the help of probit and logit models which again are subject to numerous limitations. In this paper, we aim to contribute to the debate by investigating the macro determinants of women'slabour force participation using data provided by world bank(for 1980 to 2014) with the help of the Generalised Method of Moment Technique and the Vector Error Correction model to capture the determinants of female labour force participation and its effect on economic growth. The rest of the paper is organised as follows; the second section looks at the literature review, followed by the methodology in section three, section four deals with the presentation of empirical results and section five involves policy recommendations and conclusion.

LITERATURE REVIEW

From the World Bank 2006 version, labour force supply is the proportion of the population ages 15 and above which is economically active: all people who supply labour for the production of goods and services during a specified period. Since the unemployment rate is defined as the percentage of active job seekers in the labor force, a decrease in the labor force participation rate can affect the unemployment rate whether or not the actual number of job seekers changes.

According to the African Development Indicators (2013), female labour force supply rate is the proportion of the female population ages 15 and older that is economically active: all women who supply labour for the production of goods and services during a specified period. Porter and King (2009) estimated the causal impact of fertility on women's labour supply. Using the occurrence of twins and the sex in first births as measures of exogenous shock to fertility since twins at first births occur relatively rarely in a country that uses available demographic and health's survey. The study revealed that women in developing countries have more children if they had twins in their first birth and if the first two births were the same sex or if the first two births were girls. Women in sub-Saharan Africa, Latin America and the Caribbean and East Asia also have more children if they had one or two boys in their two births. Women in Sub-Saharan Africa, Central America and the Caribbean are more likely to participate in labor force when they have twins in the first birth. With the exception of Asia, women whose first one or two births are boys, are less likely to participate in the labor force, in Asia the effect differs by age.

Verena *et al* (2011) investigate the factors that encourage and discourage women from working. Using household survey data and logistic regression modeling for Mauritius from 2006-2008. Their findings corroborate with previous evidence for developing countries and indicates that the higher a woman's educational level, the better her ability to supply her skills for productive services; and that older woman participate more, though the rate of growth of this effect decreases. In addition, secondary education proves to be a significant determinant of female labour force participation rate in Mauritius. Their results also reveal that married women are less likely to participate in the labour market. In fact, marital status is one of the most important factors averting them from work. This is in line with the works of Fatma and Feyza (2009)

Engelhardt, Kogel and Prskawetz (2004) examined causality and parameter instability in the long-run relation between fertility and female employment. This was done by cross national comparison of macro-level time series data. By applying error correction model they found causality in both directions and this was consistent with simultaneous movements of both variables brought about by common exogenous factors such as social norms, social institutions and financial incentives.

Abdullah and Bakar (2011) investigate the causal relationship between Total Fertility Rate (TFR) and Women Labour Force Participation Rate (WLFPR) in the Four Selected ASEAN countries covering the period of 1980-2008. They implement the Engle-Granger test for causality. Specifically, a unit root test is performed for all variables using ADF test. Their results reveal that all the variables in the four countries were confirmed to be integrated of orders one or I (1). Confirming this, the cointegration tests were employed to see the existence of long run relationship among variables, using the Johansen test. Their findings indicate that the exist long run relationships among variables in the four countries.

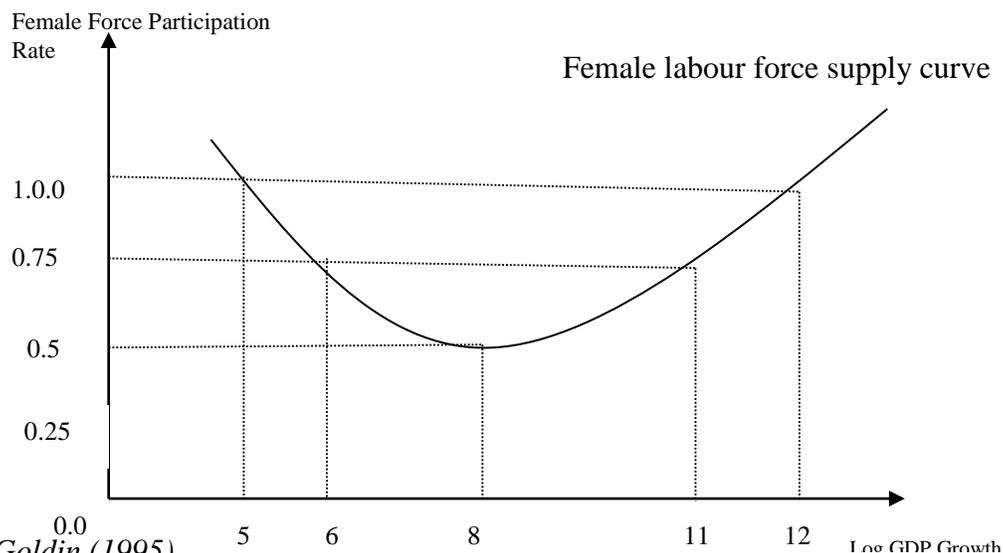
Sackey (2005), used data from the Ghana Living Standard Survey (GLSS4 and GLSS3) to estimate the female labour force supply and fertility models. It was assumed that the two concepts—labor force participation and fertility decisions—are strongly linked and as such they should be studied together. To do this, a probit and a multinomial model types were specified and estimated. Significant contribution of this study is the negative effect of education on fertility while education and reduced family size increase labour force participation rate in Ghana.

H'madoun (2010) specified and estimated a probit model with a vector of religious variables among other exogenous predictors to examine the influence of religion on female labour force participation across countries. The data for the study were obtained from the 2005 wave of the World Value survey, where 26,711 women in the age range 18 to 55 years in 48 countries were selected for the study. Like many other studies of this nature, the religious women were found to participate less in labour market activities than the non-religious women after controlling for other social and economic variables in the model. The shortcoming of the study, in our view, is the fact that all the 48 countries were lumped together in the analysis without being disaggregated for country-specific peculiarities. Even when one of the regression equations reported country-fixed effects, no clear explanation was given for how this was carried out. A disaggregation by, for instance, level of economic and social development might possibly have shown different results for developing countries (like Mali, Rwanda, etc.) and developed ones (like France, Britain, Sweden, etc.)

THEORETICAL LITERATURE

The U-shape hypothesis of female labour force supply shows that at low levels of income when agriculture is the dominant form of economic activity women supply of labour force in large numbers often as unpaid family workers on the family farm or business.

This can be illustrated using the figure below;



Source: Goldin (1995)

During the process of development, economic activity shifts from home-based production to market oriented activities. Family production for own use diminishes, and consumption goods are produced outside the family in specialized enterprises (Boserup, 1990). The expansion of markets or the introduction of new technology may contribute to a rise in incomes. As incomes rise, women's labour force participation rate falls. Increased mechanization in agriculture reduces employment opportunities for both men and women, but more so for women. A reduction in the relative price of home produced goods, as well as a decline in the demand for women's labour in agriculture may also play a role. Social custom or employer preference may hinder women's employment in manufacturing. In the growing industrial and service sectors women may not be able to compete with men because of their lower educational attainment.

As women's education improve and as their wages relative to the price of goods rise, their participation increase as in the rising portion of the U-shaped curve. Expansion of the tertiary sector increases the demand for women's labour. Income and substitution effects are hypothesized to operate during this process. The income effect is the change in labour supply as a result of a change in household income. The own-substitution effect is the change in the labour supply of individuals with respect to a change in their wage, holding income constant. The declining portion of the U-shaped curve suggests that a strong income effect dominates a small own-substitution effect. In the rising portion of the U-shaped curve the substitution effect of higher wages (away from home to market activities), dominates the small income effect. Mincer (1962), Killingsworth and Heckman (1986) and Goldin (1995) provide a theoretical exposition of these stages. Hills (1983) points that the countries on the left side of the U curve represents the share of labour force associated in the agriculture sector and the Gross Domestic Product generated from the agrarian economy (developing countries especially those in Africa) while the countries on the right side portion shows that industrial activities are dominant (developed countries) and the share of GDP is high as compare to the GDP from the agriculture sector.

Also is the Neo Classical theory of allocation of time which explains how an individual values her time according to her preferences that maximize her utility and decides to participate or not to participate by comparing the values of her time in the labour market with the values of her time spend on nonmarket activities. If the value of her time spent on market activities is higher than the value of non-market activities the person decides to participate or vice versa. The value of market activities depends on the wage rate prevailing in the market while the value of nonmarket activities is determined by the tastes and preferences of the individual as well as the demands placed on an individual's nonmarket time such as the number of children and dependents in the family and non-market income of women. Since women are mostly expected to be the homemaker and the caretaker, the reservation wage (the value woman places on her time at home) has been high for women preventing the participation of women to the labour market. In addition to the neoclassical theory of allocation of time, the factors determining the women's labour supply decisions can be explained by patriarchal structures. Walby (1994), patriarchy in household, state and culture is one of the reasons affecting women's labour supply negatively.

With regards to the human capital theory, as investment in human capital increases and as more women participate in the labour market, the fertility behaviour of households is bound to change, in favour of fewer children (Singh, 1994). Human capital assumes that female labour force participation (L) is influenced by women's productive opportunities as reflected by their level of

education (E), their non-human capital assets (A), the presence of children and/or the child survival rate (S), and their social environment (T). The models for female labour supply and fertility could be written as follows:

$$L = f(E, A, S, T)$$

Women's education is generally expected to have a positive impact on labour market participation, and at the same time to reduce the number of children born to the woman.

This essentially derives from the high opportunity cost of having many children and not participating, after having acquired higher education. The direction of impact of a woman's nonhuman capital, i.e., assets, on fertility and participation, are somewhat uncertain. Improvement in the child survival rate implies a reduction in the child mortality rate. Therefore the contraceptive effect of breast feeding can, on average, be maintained for longer periods. This results in a reduction in fertility and is further reinforced by the "insurance effect" whereby in the presence of low child survival rates, parents may have more births than they otherwise might have had (Montgomery et al., 1995). On the other hand, improvements in child survival will most likely have a positive effect on female participation, since with fewer children women will be better positioned to avail themselves for work outside the home. The presence of older children is expected to encourage female participation since women are likely to get help in home production activities. Similarly, fewer children are envisaged to encourage female participation.

The effects of the woman's social environment, as proxied by her residence, ethnicity and religion, on fertility and labour participation could be ambiguous. However, urban residence is believed to be associated with various factors that help in reducing fertility and increasing a woman's participation rate. It must be noted, nevertheless, that a two-way effect could emerge from urbanization. There is a tendency for urbanization to increase women's opportunity cost of time by providing better earning possibilities as well as to reduce the cost of child quality by providing easier access to schooling. In a sense, therefore, the overall effect of urban locality on female labour participation and fertility could be said to be more of an empirical issue.

METHODOLOGY

This study covers a period of 37 years (1980 to 2014) because it is within this period that data for the study is available and also given the fact that the period is long enough to take care of any reforms that have been put in place in the female labour market in Cameroon. This will enable us examine the significant determinants of female labour force participation and its effect on the economic growth of Cameroon hence a causal research design. Two models are adopted for this study. The first model captures the determinants of female labour force participation in Cameroon while the second captures the impact of female labour force participation on the growth of Cameroon.

The human capital theory and other empirical evidence suggests that high fertility rates would require that women stay out of the labour force to take care of their children and as such, increases in birth rates would require that female labour supply would reduce. Meanwhile, a high

dependency ratio within a family would warrant women to increase their rate of partaking in economic activities so as to sustain the family. In some circumstances, the more men are devoted to partaking in the labour force, the lesser the rate of female labour supply. This is due to the fact that some women become contented with their husbands' earnings. Hence, the model for female labour force is expressed as

$$\text{Log FLS}_t = \lambda_0 + \lambda_1 \text{FR}_t + \lambda_2 \text{Log DEPR}_t + \lambda_3 \text{Log MLFP}_t + \lambda_4 \text{Log PCI}_t + \varepsilon_t \dots \dots \dots 3.1$$

Thus, a priori ; $\lambda_0 \neq 0$, $\lambda_1 < 0$, $\lambda_2 > 0$, $\lambda_3 < 0$, and $\lambda_4 > 0$.

Where; FLS= Female Labour supply rate based on International Labour Estimate (ILO) estimates, FR= Fertility Rate, DEPR= Dependency Ratio (% of working population), MLS= Male labour force participation rate, PCI= per capita incomes, t= time and ε = Error Term

For the economic growth model, borrowing from the work of Barro and Sala-i-martin (2004), economic growth with GDP as a proxy is influenced by fertility rate (FR), Dependency Ratio (DEPR). Female labour force participation is also vital since labour is an essential input in the production process such that increases in it would lead to increase in output. Meanwhile, increase dependency (DEPR) would mean more resources are devoted for consumption than for investment and also that calorie intake would be low. This will rather reduce the growth of output.

$$\text{Log GDP}_t = \beta_0 + \beta_1 \text{Log FLS}_t + \beta_2 \text{Log MLS}_t + \beta_3 \text{Log DEPR}_t + \beta_4 \text{Log FR}_t + e_t \dots \dots \dots 3.2$$

A priori; $\beta_0 \neq 0$, $\beta_1 < 0$, $\beta_2 > 0$, $\beta_3 < 0$, and $\beta_4 > 0$.

This study makes use of the Generalized Method of Moments (GMM) in the estimation of the parameters of our specified models. GMM estimation has been used in this study because of its large sample properties that facilitate comparison and also due to the fact that such estimators shows asymptotic efficiency. The method also provides a natural way to conduct tests which take account of both sampling and estimation error. Also its estimators can be constructed without specifying the full data generating process. This characteristic has been exploited in analyzing partially specified economic models in the studying of mixed-specified dynamic models designed to match target moments, and in constructing stochastic discount factor models that link asset pricing to sources of macroeconomic risk. The GMM is noted to have provided a consistent coefficient in the case of an over identified equations like ours. The GMM modifies the strategy of minimizing the generalized least squares as it is in the case with the use of the Ordinary Least Squares technique. It also minimizes the weighted sum of the squared deviations in which the weights reflect the variances and the covariances of the variables. Also the GMM provides a consistent estimator, and its weighting scheme is more efficient than the simpler of the unweighted scheme. GMM provides a powerful tool for finding consistent estimators in models that are otherwise mathematically cumbersome.

Therefore, the validity of the estimated coefficients of our parameters are conducted based on testing the stationarity properties of the time series data using conventional unit root tests such as the Augmented Dickey and Fuller (ADF) test and the confirmatory Phillips Perron (PP) test.

Presentation of Results

Before presenting the results of the two models specified above, we start by testing for the stationarity of the variables used in our models. Firstly by examining their graphs to ascertain whether they have trends or they are without trend. Also the study investigates if any trend that exists exhibits random walk with drift or without drift. Since the graphs are too many, they are not presented in this work due to space. However, the graphs exhibit no particular trends within our period of study (1980-2014) instead they are stochastic with drift. Hence in testing for stationarity using the Augmented Dickey Fuller and Philip Perron Test, we observed that all the variables in the models achieve stationarity after their first difference except DEPR. Stationarity test conducted on the residuals shows that they are stationary as presented on the table below.

Table 4.1 The Stationarity Test for Our Variables Understudy

Variables	ADF At levels	ADF First Difference	PP Test at First Difference	T-statistics at 5%
FLS	1.53089	5.42808	5.42798	2.95402
FR	2.12901	3.60718	3.53714	2.95402
DEPR	0.38142	2.26509	1.36965	2.95402
MLS	1.99639	5.75062	5.75167	2.95402
PCI	1.53617	5.60052	5.60322	2.95402

Source: Computed by the Author from the data set

From the above stationarity test result presented above it can be observed that all the variables when compared with their t-statistics are not stationary at level but they gain stationarity after their first difference with the exception of DEPR. This further led to conducting a stationarity test on the residual to free the result from spuriousity. The result on the residual shows that they are stationary. This implies that our regression model is not spurious. As such the variables in the models are co-integrated which implies that they exist long run relationships between them

Female Labour Supply Equation

$$\begin{aligned}
 \text{FLS} = & -38.952 + 0.6277\text{DEPR} - 0.2368\text{FR} + 1.10277\text{MLS} - 0.00949\text{PCI} \dots\dots\dots 3.1 \\
 & (0.0343)** \quad (0.0068)* \quad (0.0000)* \quad (0.0000)* \quad (0.0117)**
 \end{aligned}$$

Adj. R-squared = 0.8148 * = significant at 1%

Durbin Watson stat = 1.95564 ** = significant at 5%

Degree of freedom = 32 *** = significant at 10%

From the above results it can be observed that dependency ratio (DEPR), and male labour supply (MLS) exerts a positive influence on female labour supply (FLS) in Cameroon over our period of study. The variables, fertility rate (FR) and per capita income (PCI) indicates that they negatively affect FLS in Cameroon. The constant term which captures the variables that are not included in the model denote that they negatively affect FLS in Cameroon. It is important to note that the influence of all variables in the model whether positive or negative is significant at 5 percent two

tail test. Therefore we can say with 95 percent confidence that they are clear determinants of FLS in Cameroon. Specifically, a percentage increase in DEPR and MLFP, the reaction will be the increase in female labour supply by 0.6277 percent and 1.103 percent respectively. With regards to FR and PCI, a percentage increase in them will reduce FLS by 0.237 and 0.01 percent respectively. The adjusted R-square shows that 81 percent variations in FLS is jointly accounted for by the variables included in the model with 19 percent explained by the stochastic error term. The Durbin Watson statistics indicates that our result is free from autocorrelation as such should be free from long term policy recommendation.

Economic Growth Equation

$$\text{GDP} = -14.992 - 4.47864\text{FR} - 21.153\text{FLS} + 37.8579\text{MLS} + 4.67945\text{DEPR} \dots \dots \dots 3.2$$

$$(0.7166) \quad (0.3210) \quad (0.0518)^{***} \quad (0.0335)^{**} \quad (0.8654)$$

Adj. R-squared = 0.34395

* = significant at 1%

Durbin Watson stat = 1.89760

** = significant at 5%

Degree of freedom = 32

*** = significant at 10%

Based on the economic growth results presented above, we can infer that female labour supply has a negative effect on economic growth as oppose to its male counterpart. While the female labour supply is negatively significant at 10 percent, the male labour supply is positively significant at 5 percent. In terms of magnitude, a percentage increase in female labour supply will retard economic growth in the country while a percentage increase in male labour supply will increase Cameroonian economic growth. The coefficient of multiple determination, that is, the adjusted R-square indicates a very low predictive power of our dependent variable. The test of autocorrelation which was carried out by Durbin Watson test statistics indicates that our result is free from autocorrelation.

Looking at the female labour supply equation (equation 3.1), we observe that increased fertility rate would instead reduce female labour force. This is so because the more children women put to birth the more intensive care they need to give to these children. This forces them to make a trade-off between taking part in the labour force and taking care of their children and family. The ultimate choice is often family concerns and the opportunity cost is taking part in the labour force. The results are also consistent with the findings of Porter and King (2009) and the human capital theory. Meanwhile, the outcome of dependency ratio is invariably true given that households with high dependency ratios are most prone to abject poverty. To overcome this, women would increase their activity rates so as to supplement the incomes of the independent or to increase the household income especially in cases where the woman is the family head. This is in conformity with the Life Cycle theory of Labour Supply. The MLS shows that when it increases FLS will also increase which is not in line with our a prior and the neo classical theory of the allocation of time. This goes further to explain that women are not contented with the wage brought by their male counterpart so they too have to participate in the labour force.

Based on equation 3.2 which is the economic growth equation labour is a veritable factor of production especially in third world countries like Cameroon where inputs into production particularly capital is a limiting factor. As such, increases in labour input supplied by men would increase the output of employing firms on the assumption that the supplied labour is equally productive. This will eventually increase the levels of investments and thus growth. The results tie with the findings of Tsani *et al.* (2012) and also the Cobb-Douglas production thesis. But this differs with the FLS. The findings for female labour force participation in particular are not in line with the U-shaped hypothesis discussed earlier.

RECOMMENDATION AND CONCLUSION

From the above result, we recommend that more effort should be made in reducing the fertility rate in the country through education since the two will improve on female labour force participation as seen from the human capital theory. This can also be done through increased family planning awareness and utilization through outreach campaigns and messages in the media, enlisting community leaders and women's groups, providing quality family planning services that include counseling and advice, focusing on young and poor populations. More so, emphasis should be made to increase the income available for women through qualitative directives where the government through central bank can instruct the commercial banks to give out more loans to women who are willing to carry out investment. In addition women should be more involved in training programmes especially technical training as this will increase their participation leading to the growth of the country. In sum female labour force participation is there to complement male labour force in terms of family income and the growth of the country as a whole. We suggest that policies aiming at the removal of region-specific barriers to female labour force participation may lead to economic growth in the region. Efforts should be made to promote further female labour force participation as the entire country will benefit from the growth that it generates. Such efforts could include the adoption of policies designed to remove or lower barriers to women's entry into the labour force - barriers such as the way in which social and cultural norms are reflected in legal codes.

REFERENCES

- Abdullah, N. and Abu Bakar, N.A. (2011), "The Causal Relationship between Fertility and Women Labor Force Participation: Evidence for the Four Selected Asian Countries", *European Journal of Social Sciences*, 26(2), pp. 154-158
- Abessolo, Y. (2001). Segmentation du marché du travail urbain et pauvreté dans les pays en développement: le cas du Cameroun. *Revue Africaine des Sciences Economiques et de Gestion*, 3(1), 81-111
- Aminu A. (2010): Determinants of Participation and Earnings in Wage Employment in Nigeria Paper Presented in 5th IZA/World Bank Conference on Employment and Development; 3rd - 4th May.

- Aromolaran, A. (2004): 'Female Schooling, Non-Market Productivity, and Labor Market Participation in Nigeria' *Economic Growth Centre, Discussion Paper 879*, Yale University, USA.
- African Development Indicators (2013), <http://publications.worldbank.org>
- Bhorat, H and McCord, A. (2003). "Employment and Labour Market Trends", Chapter 5, HRD Review.
- Cain, G.G. (1966). *Labor Force Participation of Married Women*. Chicago: University of Chicago Press.
- Cavalcanti, T. V., Tavares, J. (2011), Women prefer larger governments: Growth, structural transformation, and government size, *Economic Inquiry*, 49(1), pp.155-171.
- Durand, J. (1975), *The Labour Force in Economic Development: A Comparison of International Census Data, 1946-1966*.
- Ellingsæter, A.L. & Ronsen, M. (1996). The dual strategy : mother hood and the work contract in Scandinavia. *European Journal of Population*, 12, 239–260.
- Engelhardt, Henriette, Tomas Kögel, and Alexia Prskawetz. (2004). Fertility and Women's Employment Reconsidered: A Macro-Level Time-Series Analysis for Developed Countries, 1960-2000, *Population Studies* 58(1): pp. 109-120.
- Gaddis, I., Klasen, S. (2014), Economic development, structural change, and women's labor force participation, *Journal of Population Economics*, 27(3), pp.639-681.
- Goldin, C. (1995). The U-Shaped Female Labor Force Function in Economic Development and Economic History, in T.P. Schultz (ed.). *Investment in Women's Human Capital*, Chicago: The University of Chicago Press.
- Guiso, L., Sapienza P. and Zingales L. (2003) "People's Opium? Religion and Economic Attitudes", *Journal of Monetary Economics*, 50(1), pp. 225-82
- Hill, M.A. (1983). Female Labour Force Participation in Developing and Developed Countries: Consideration of the Informal Sector. *The Review of Economics and Statistics*, 65(3), 459–468.
- H'madoun M. (2010): 'Religion and Labor Force Participation of Women Faculty Of Applied Economics, University of Antwerp. Downloaded from <http://www.ua.ac.be/tew>; accessed on 21st December, 2010
- ILO (2012). *Labour Review Report*
- International Labour Organization (ILO). 2013. *Global Employment Trends 2013: Recovering from a second jobs dip* (Geneva)
- Kaur, H. Tao, X. (Ed.). (2014), *ICTs and the Millennium Development Goals: A United Nations Perspective*, Springer.
- Killingsworth, M.R. and J.J. Heckman (1986). Female Labor Supply: A Survey, in O. Ashenfelter (ed.): *Handbook of Labor Economics*, Vol. 1, Amsterdam: North-Holland, pp. 103-204
- Lechman, E., Kaur, H. (2015), Economic growth and female labor force participation – verifying the U-feminization hypothesis. New Evidence for 162 countries over the period 1990-2012, *Economics and Sociology*, Vol. 8, No 1,
- McCabe, J.L.; Rosenzweig, M.R. (1976). "Female labor force participation, occupational choice, and fertility in Developing countries", *Journal of Development Economics*, Vol. 3, No. 2, pp.141-160.

- Mincer, Jacob (1962): 'Labor Force Participation of Married Women: *A Study of Labor Supply*' Aspects of Labor Economics - A Conference of the Universities: National Bureau Committee for Economic Research, Princeton University Press, NJ USA.
- Montgomery, M., A. Kouame and R. Oliver. 1995."The tradeoff between number of children and Child schooling: Evidence form Cote d'Ivoire and Ghana". LSMS Working Paper Number 112, The World Bank, Washington, D.C.,.
- Porter M. & King E.M. (2009) Fertility and women's labour Force Participation in Developing Countries; University of Chicago.
- Olukemi I. L. (2008) Female Laour Force Participation in Nigerian: Determinants and Trends; Oxford Business and Economic Conference Programme.
- Rindfuss, R.R., Cooksey, E.C. & Sutterlin, R.L. (1999). Youngadult occupational achievement: Early expectations versus behavioural reality. *Work and Occupation*, 26, 220–263.
- Sackey, H.A. (2005): 'Female Labor Force Participation in Ghana: *The Effects of Education*'. AERC Research Paper 150, Nairobi.
- Serumaga-Zake, P.A. and Kotze, D. (2004). "Determinants of Labour Force Participation for Married Women in South Africa," *Journal of Studies in Economics and Econometrics*, Vol. 28, No. 3, pp. 99-111
- Singh, R.D., 1994. "Fertility-Mortality Variation Across LDCs: Women"s Education, Labour Force Participation and Contraceptive Use." *KYLOS*. 47:2 pp 209 - 229.
- Serumaga-Zake, P-A.E and Naude, W.A. (2003). "Determinants of Labour Force Participation in North West Province of South Africa", *Development Southern Africa*, 20 (4) pp 505-514.
- Tam, H. (2011), U-shaped female labor participation with economic development: Some panel data evidence, *Economics Letters*, 110(2), pp.140-142.
- Tsani, Stella; Leonidas Paroussos, Costas Fragiadakis, Ioannis Charalambidis and Pantelis Capros (2012). Female Labour Force Participation and Economic Development in Southern Mediterranean Countries: What scenarios for 2030? MEDPRO Technical Report No. 19/December
- UNDP, United Nations Development Fund. 2003. Human Development Indicators 2003. New York: Oxford University Press.
- United Nations (2000a). The World's Women 2000 Trends and Statistics. ST/ESA/STAT/SER .K/16. New York.
- WALBY, S. 1994. Methodological and Theoretical Issues in the Comparative Analysis of gender Relations in Western Europe. *Environment and Planning*, 26, 1339-1354
- World Bank Development Indicators (2013) database:<http://data.worldbank.org/data/catalog/world-development-indicators>
- World Bank March 2009 Pop/Pov Research Network Conference Cape Town, South Africa January 2010