

Impact of Labour Force participation on Economic Growth in South Asian Countries

Track: Economics

Name: Maliha Mahru Rahman

Institution: United International University

Supervisor: Farhat Tasnia Kalam Saqui

Abstract

The South Asian region has developed socially and economically over the last few decades. Economic development of this region has provided more work opportunities for underprivileged men and women, changing the employment dynamic. But women arguably have less access to these opportunities because of many social norms, lack of education and skills. This research paper aims to study the relationship between Gross Domestic Product and labour force participation of South Asian countries such as Bangladesh, India, Pakistan, and Sri Lanka. It has projected this regions countries will add 1 million to 1.2 million new participants to the work force each month for the following two decades. They will additionally contribute around 40 percent of the total new apprentice which will deliver more than 66% of worldwide GDP. In the mean time, about a fourth of the world's potential work force lives in South Asia, yet that region's offer of the worldwide economy is a little more than 3 percent. The potential work force in developing countries is assumed to develop by a average of 39 percent within the following 40 years. With this research it is found that the simultaneous increase in labor force participation has a direct impact on countries' GDP. This is a Quantitative study with Labor Force participation, Gross Capital Formation and terms of trade are used as Independent Variables and GDP is used as Dependent Variable. A long panel data model have been conducted to carry out this research paper. Secondary sources (internet), World Bank database, articles, books were used to collect data and information. We used panel data from FY 1990 to FY 2017.

Key words- labour force participation, economic growth, long panel data, quantitative study

1. Introduction

The comparative economic development of South Asia since the independence from British Empire is an engrossing tale that has encouraged us to widen our thinking about the development economics. Slowly but eventually the economies of these region have faced economic globalization. Many South Asian countries such as India, Bangladesh, Pakistan, and Sri Lanka observed remarkable economic growth considering their increasing number of labor force over the past few decades. This change could be depicted as employment rate grew proportionately with the growth of working-age (age 15-64) people in this region.

The future labor force in developing countries is expected to grow by an average of 39 percent within the next 40 years. Nearly a quarter of the world's promising labor force lives in South Asia. This paper will present segments with quantitative research which will deepen our understanding of the labor participation in increasing economic growth of this region.

Employment growth rate in such developing countries was more than in developed economies over the last two decades. The core reason could be high population growth rate. People have low per capita income and have poor living standards than those of developed nations. To improve their living conditions, they seek better earning opportunities.

In Malthus' law of population he expressed that population increases geometrically and food mathematically. That is population will lead to increase in food supply. Whereas, Marxist argue that growth of capital limit the demand for labour and which create "reserve labour force". This is the characteristic of capitalism which creates pressure on wage and increase in labour supply in economy. On the other hand Keynesian approach claimed that increase in population has adverse effect on growth. That is increasing in inhabitants will lead to decrease in saving per capita, which will affect the growth negatively. Lastly in Neo-Classical economics theory of Solow model it stated that population increase economic growth, but economic growth does not cause in increase in population. However, from this theories it can be derives that population that is part of labour force consider as an exogenous variable and economic growth as an endogenous

supported by other control variables such as terms of trade and capital formation which help to do this research.

However, Inhabitants of this region is well known for their hard work, optimistic and positive attitude, which generated the largest labor forces in the world. Investors from developed economies target this huge opportunity seeking unemployed population. The number of foreign investment projects has been raised in South Asia due to cheap labor for manufacturing.

Also, the number of labor migrated in Middle East countries, United States, European nations have increased dramatically. The migrated labor force has been sending remittances to their native countries which is a great source of revenue for developing countries.

Bangladesh, an emerging developing nation has a population of approximately 156 million. This nation has some 106.3 million working age people, of which 58 million are employed. 2.6 million meet the meaning of jobless. 37 percent of the utilized populace (around 21.5) million were between the ages of 15-29 and it estimates that 86.9 percent of the engaged employees are in the informal sector. (This data is collected from the State Department's office of Investment Affairs 2015.) However, from the South Asian region it is considered Sri Lanka has the lowest poverty rate. On this nation approximately 21.44 million populations exist. Among this almost 96% is employed and 8% is unemployed. Around 40% of the population still work under agricultural sector and from 1953 to 1981 its labour contribution to service sector has increased from 11.2% to 15.7 %. On this region Afghanistan country has around 29.7 million population and measured as least developed nation of this region which has 8.8% unemployed population and 80% workforce work in agriculture and 90% work in service sector.(Data collected from Trading Economics)

The South Asian regime is well known for their dependence on agriculture. The increase in food requirement, traditional agricultural methods, risk of unemployment, illiteracy is among many reasons of why people still heavily depend on agriculture. Almost half of Bangladeshis work in agricultural sector which is about 45 percent. 14.2 percent of the GDP was generated by the agricultural sector in 2017. Also industrial sector has been booming since the foreign investors exploited the local market. The main investors are China, South Korea, India, Egypt, United Kingdom, United Arab Emirates, and Malaysia. 20.8 percent of employed population in the

industrial sector generated about 29.2 percent of total GDP. Many countries have developed textile industry in this region. Foreign Direct Investment reached a record USD 2.4 billion in 2017.

Fertility rate in South Asian countries is falling. From year 2006 to 2016 fertility has fall from 3.2% to 4.3% (Data collected from Trading Economics). This is another prominent reason of the increase in labor force of this area. This data also states that employment of women in this area has increased rapidly since mid-1980s. Self-employment due to the intervention of micro-financial institutions caused increase in participation of women in labor force. Keeping women employment in mind, we also broaden the analysis of the reasons of such increase in labor supply. Education is another major factor which produced skilled and innovative labor force.

Therefore, study will investigate the ways as to how labor involvement contributes to the ever-growing GDP of this region. The countries we will Bangladesh, Bhutan, Nepal, Sri Lanka, India, Pakistan and Afghanistan and contribute to the literature by estimating a linear panel data showing relation of economic growth with labour force participation.

The paper is organized as follows. The second section gives a brief summary of the literature followed by research methodology section. The fourth section presents the estimation results. Under the fifth section, conclusion and recommendation are described.

1. Literature Review

The remarkable increase in women participation in the labor force has directly impacted the socio-economic development of the South Asian region. Even decades ago, gender differences created less working opportunities for women in almost every sector. Gender differences have been narrowing down substantially and the percentage of women participating in income generated activities throughout the world have increased outstandingly.

Muhammad Shahid (2014) studied on the relationship between labor force participation, gross fixed formation and economic growth. He used time series data from the time period of 1980 to

2012. This study used the Johnson Co-integration test that showed a long run relationship between the variables.¹

Bilal Kargi (2014) tried to bring a suitable explanation for the concept of the 'Jobless Growth'. The study shows that despite the high population growth rates, the labor force participation rate has been too little. In the studied period, Turkey experienced an average growth of the economy which has not created any employment. He proposed that new openings for work will be vital keeping in mind the end goal to wipe out this opposing circumstance situation align with participation of women in labor force. This will have a compelling commitment to the economic development process.²

Hulme and Lawson (2010) show that an absence of appropriate working open doors supports the outrageous destitution in numerous countries. Another recent study recommends that neediness is a critical pointer in clarifying labour market cooperation and in accordance with different examinations the proof of a positive relationship between extraordinary poverty and participation has been found. This examination was done by Sarah Bridgesa, David Lawsonb, and Sharifa Begum (2011).³ They recommend that policies must be implemented to upgrade the employability of ladies through more noteworthy access to instruction, preparing and abilities improvement, access to loans, grants for the purpose of independent worker. In Bangladesh, young women's tend to confine themselves to works like dressmaking and food processing. This restrains their employability (Rahman, 2005).

Ruth B. Dixon-Mueller (2013) investigated the benefits of funding in promising projects which helped to upgrade rural women's economic activities. These projects generated one outstanding result and that is independent source of income for rural women. She recommends that young, preferably unmarried women should be the target for any development efforts.⁴

In a study it has been clarified how the economic states of families, instruction and gender belief systems decide the investment of ladies in the work drive. This examination included women in eleven ages bunches from 117 nations including India, Pakistan, Sri Lanka. The age bunches in the vicinity of 25 and 55 years have a higher work drive support rate. These women will probably take an interest when they get open doors that additionally empower them to take care

¹ Muhammad Shahid (2014), Impact of Labor Force Participation on Economic Growth in Pakistan Journal of Economics and Sustainable Development
www.iiste.org ISSN 2222-1700 (Paper) ISSN 2222-2855 (Online) Vol.5, No.11, 2014

² Bilal Kargi (April, 2014), Labor force participation rate and economic growth: Observations for Turkey

³ Sarah Bridgesa, David Lawsonb and Sharifa Begum (May, 2011). Labor market outcomes in Bangladesh: The role of poverty and gender norms 2011 European Association of Development Research and Training Institutes 0957-8811 European Journal of Development Research Vol. 23, 3, 459-487 www.palgrave-journals.com/eidr/

⁴ Ruth B. Dixon-Mueller (2013). Rural Women at Work: Strategies for development in South Asia

of their children, as they feel unstable and perilous to leave their underage kids home while they work. In the urban zones, ladies who are upheld by paid maternity leave plans.⁵

This study also suggests enrollment in pre-primary education ensures more job opportunities for these unskilled women. If they have a little education, they are more likely to get a job than those who have no academic knowledge. Female education needs to be ensured more effectively in order to make them aware of their basic rights and the importance of participating in the labor force to contribute in the economic growth. This study also states that religious views restrict women from working in many countries. Women between 25 and 55 years of age participate less in the labor force if the country's religious adherence is higher.

Been-Lon Chen, Mei Hsu and Chih-Fang Lai (2014) have studied the labor force and the relationship between long run growth and unemployment. They believe increases in unemployment compensation, increases in hiring costs, increases in workers bargaining power all lower employment and long run economic growth affecting female labor participation.⁶

According to a study done by EwaLechman and Harleen Kaur (2015), in beginning periods of economic growth female work drive cooperation tends to fall. As a nation advances to financial improvement, its economy changes into benefit based and work all the more deliberately. This examination was finished by inspecting U-shape curve consolidating female work interest and financial development in 162 nations over the period in 1990 to 2012. The high-wage and upper-center pay regions have a U-shape curve show the relationship that is emphatically confirmed; make more open doors for women. The lower-center wage nations have a relationship which is mostly affirmed because of the irrelevant evaluations. Low pay nations have reversed U-shape curve.⁷

Odile Mackett (2016) studied gender differences across different age groups. His study shows that married men were more likely to be employed; they had more access to other opportunities as well than married women. Education, fertility, social securities are major factors for the determination offemale labor force participation. His study focused the labor market outcomes in the South African labor market.⁸

⁵ World Development (2015). Volume 74, Pages 123-141

⁶Been-Lon Chen, Mei Hsu and Chih-Fang Lai (January, 2014). Labor force and Relationship between Long-run Growth and Unemployment.

⁷ EwaLechman and Harleen Kaur (April, 2015). Economic Growth and Female Labor Force Participation: Verifying the U-Feminization Hypothesis. New Evidence for 162 countries over the period of 1990-2012

⁸ Odile Mackett (February, 2016). A Gender based investigation of the determinants of labor market outcomes in South African labor market. 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, pp. 246-257. DOI: 10.14254/2071- 789X.2015/8-1/19

A study shows the U-shaped relationship between female labor force participation on the economic growth in the South Mediterranean countries. The estimation results suggested that characteristics of these countries may play a vital part in explaining the low levels of female participation in this region. This investigation means the arrangements that are going for the expulsion of district particular obstructions to female work constrain support. These arrangements ought to choose elective which will advance the modernization of social standards and lawful codes. These incorporate change of enactment, change of educational programs in instruction framework, bolster, direction, advising, social trade and participation programs with created nations.

Olena Tkachenko and Taras Mosiychuk (2014) studied countries with post socialism economy to have a better understanding of labor force availability as the economic development factor. They have collected time series data from the time period of 1960 to 2010. These countries have lower wage share in GDP and the labor availability does not represent the changes in resource availability of professional qualifications and educational quality. Female labor participation rate is comparatively lower than other countries.^{9,10}

The effect of democracy on economic growth and participation of women in the labor force has been linked by Matthew A. Baum and David A. Lake (2003).¹¹ Their study argues that democratic nations have better job opportunities along with standard living conditions for their citizens than the less democratic nations. These democratic nations believe in women empowerment and in result increases opportunities and access to preferable wages for women. Another study suggests that short run changes may be the only way to improve long run projections in these changing times.¹²

⁹OlenaTkachenko and TarasMosiychuk (May, 2014). Labor force availability as an Economic Development factor in Socialist countries. Olena Tkachenko, Taras Mosiychuk, Labour Force Availability as an Economic Development Factor in Post Socialist Countries, Economics & Sociology, Vol. 7, No 2, 2014, pp. 64-79. DOI: 10.14254/2071-789X.2014/72/6

¹⁰ OlenaTkachenko and TarasMosiychuk (May, 2014). Labor force availability as an Economic Development factor in Socialist countries. Olena Tkachenko, Taras Mosiychuk, Labour Force Availability as an Economic Development Factor in Post Socialist Countries, Economics & Sociology, Vol. 7, No 2, 2014, pp. 64-79. DOI: 10.14254/2071-789X.2014/72/6

¹¹ Matthew A. Baum and David A. Lake (2003). The Political Economy of Growth: Democracy and Human Capital American Journal of Political Science, Vol. 47, No. 2, April 2003, Pp. 333–347

¹² Mary Daly and TaliRegev (October, 2017). An article titled “Labor force participation and the prospects for U.S. Growth”

2. DATA AND METHODOLOGY

3.1) Introduction of the Chapter

This chapter described the kind of data and econometric techniques are used to estimate the Impact of Labour Force Participation on Economic Growth of South Asian Countries. On this part it has been talk about the type of methodology that has applied to estimates the effect and the factors that has been used to find the outcome. In first area of this part discussed about the variables and data and in next segment focus on the methodology. In third segment explain the economic process which have used on this study.

3.2) Selection of Variables and Data

Model and Data

The data used in this study are panel data for the time period of 1990 to 2017. The data for all variables were collected from World Data Bank published by World Bank. To analyze the impact of labour participation on economic growth, seven selected countries of South Asian region were focused are Bangladesh, India, Pakistan, and Sri Lanka.

This study has arranged as “long panel data” that is for each year GDP with seven countries. As both time and individual countries are used it falls in the category of panel data. Selected countries observation denoted as i . Therefore, observation of $i=4$ for countries Bangladesh, India, Pakistan, and Sri Lanka and the sample size of the study is from Year 1990 to 2017. Thus, time is denoted as $t= 28$ years.

Variables

Data Description				
Serial Number	Variable	Time period	Data Type	Source of Data
1	GDP growth (annual %)	1990-2017	Panel Data	World Bank
2	Labor force participation rate, (% of population	1990-2017	Panel Data	World Bank

	ages 15+) (modeled ILO estimate)			
3	Gross capital formation (annual % growth)	1990-2017	Panel Data	World Bank
4	Terms of trade adjustment (constant LCU)	1990-2017	Panel Data	World Bank

$$GDP_{it} = \alpha_i + \beta_1 LFP_{it} + \beta_2 CF_{it} + \beta_3 TOT_{it} + \mu_{it}$$

On this study Economic growth (GDP) is used as dependent variable and as independent variable Labour Force Participation (LFP), Gross Capital Formation (GCF), and Terms of Trade (TOT). However, the above variables is apply to build up the econometric model to uncover the relationship between Labour Force Participation and Economic Growth and capital formation and terms of trade as control variables.

Therefore, *it* subscript stands for the *i*-th country's observation value at time *t* for the individual variable. α_i stand for country specific factors which were not considered in the regression but it may differ across country but not with in the country while the time is constant and μ_{it} is error term of the regression.

3.3) Economic Techniques

To make an estimate of the impact of labour force participation on economic growth initially this study used linear panel data. The use of panel data is better to control the unobserved heterogeneity than that could be done by using of cross-sectional data. Both fixed effect model and random effect model were tested and then Hausman test were done to differentiate between fixed effects model and random effects model in panel data. Followed by Breusch–Pagan test for [heteroskedasticity](#) in a [linear regression](#) model. Which allow us to check the whether the variance of the errors term on a regression is dependent on the values of the independent

variables. Further Feasible Generalized Least Squares were estimated to correct the [heteroskedasticity](#) and multicollinearity and Covariance to check whether any inaccurate dummy variables are present or not and how highly variables are correlated. However before doing this entire test all the variables were converted to logarithmic forms.

3. Econometric Analysis and results

A discussion of quantitative variables that appears in the regression is follows.

A. Descriptive Statistics

Table 4.1

Variable	Observations	Mean	Std. Dev.	Min	Max
GDP	107	1.623209	.421346	.0142934	2.328249
LFP	112	4.019428	.0557695	3.895731	4.135391
GCF	92	1.982537	.7024507	-.0953204	3.393601
TOT	50	24.9793	1.848848	19.94013	27.41191

The dependent variable GDP measured the rate of economic growth for each selected country of South Asian region in each year between 1990 and 2017. Due to missing data in selected years the outcome might not be give the true outcome or the actual impact of GDP from the model. The balanced data provide for up to 107 observations dependent on which of the independent variables are included in each regression model. This variable can be between zero (when GDP is not affected by the variables, 0%) and one (when GDP is affected by the variables, 100%). From the sample it has observed that minimum value is .0142934 and the maximum is 2.328249. The mean is 1.623209 with a standard deviation of .421346 .

In case of Independent variables it has found that highest observation in labour force participation observation is 112 with minimum value of 3.895731 and maximum value of 4.135391. This explains most countries of South Asian regions Economic Growth are mostly

depended upon labour force. However, two other control variables terms of trade and gross capital formation has minimum value from 19.94013 to -.0953204 and maximum value is 27.41191 to 3.393601. Due to absence of data of terms of trade variables has limit the available observations for panel regression analysis though GDP data was available abundantly from year 1990 to 2000.

This result has been presented graphical as well which is attached on appendix section as Figure 1. On this Figure GDP of each countries overtime outcome has obtained. The data is specified as a panel with Cross-sectional units Country and time units Year 1990 to 2017. Here GDP growth of all countries was taken with each of its explanatory variables overtime.

However, before discussing the results of Model of the regression analysis, a short explanation of fixed and random effects in panel regression is helpful. Random effects imply that there is just a single intercept that every country isn't settled after some time difference. Fixed effects imply that every country has its own intercept in order to account for fixed over time for example, establishments, culture, and arrangements. So, random effects being proper would propose that the country don't differ in establishments, and so forth, while fixed effects would recommend that the country do change in such settled after some time.

B. Hausman Test:

H_0 : use RE model

H_a : use FE model

Country cross-sectional units imply random effects estimators since countries do not vary in institutions and demographic but be time varying over time. Furthermore, Hausman test reveal that random effects estimators are the proper method for this panel analysis as opposed to fixed effects estimators. (Table 4.2) present these results. The P-value of 0.6470 which is greater than critical value $p= 0.05$ this verifies that the random effects estimators are better than fixed effects estimators for this model.

The results are best estimated through random effects estimators as it has presented on Hausman Test (Table 4.2). To get the accurate the regressions standard error value the model has been robust. Conducted test of panel regression results are obtained in (Table 4.3). However, the model is not appropriately identified because of the absence of data availability. From the table it has estimated the number of observation of the model is 42 and overall P value and also maximum individual P values of the explanatory variables are less than the significant level .05 except gross capital. This explained that labour force participation (FLP), terms of trade (TOT) has influence on GDP.

On the Model value of α_i shows that there is unobserved heterogeneity and the unobserved variables which were not considered on this regression have significant GDP of this region. This explains if those factors are increased by 1% then GDP will decrease by 8.24% On the other hand, β_1 shows that if LFP increases by 1% then GDP of the South Asian region will increased by 2.16% while holding other variables constant. The other two explanatory variables of the regression show that if β_3 is increase by 1% then GDP will increase by 3.83%. However, β_2 have no significant effect on the regression. This explains that stock of real capital in a country does not have any impact on GDP of the region.

Further on this study, Breusch-Pagan test were done to check whether the variables are cross sectional correlated or not , Heteroskedasticity test to check the size of the error term differs across values of an independent variable, autocorrelation and significance of covariance were test.

C. Testing for random effects: Breusch-Pagan Lagrange multiplier (LM)

H_0 : No cross sectional dependence

H_a : Cross sectional dependence

According to Breusch Pagan LM test for cross sectional correlation, calculated p-value= 0.0133. It is less than the critical p-value, 0.05. So, we will reject the null hypothesis. Thus, it can be concluded that there is cross sectional dependence in this model.

D. Heteroscedasticity test:

H₀ : No Heteroscedasticity

H_a : Heteroscedasticity

According to the Heteroscedasticity test, estimated p- value = 0.0003. It is less than the critical value .05. Thus, there is heteroscedasticity problem on this model.

E. Wooldridge test for autocorrelation:

H₀ : No first-order autocorrelation

H_a : First-order autocorrelation

According to the Wooldridge test, estimated p- value = 0.9673. It is greater than the critical value 0.05. So, null hypothesis will be rejected. Thus, there is no first order autocorrelation problem in our model.

F. Significant of Covariance

From (Table 4.4) it can say that there is covariance between the variables and also they are statistically significant. It presented that GCF and LFP are significantly correlated i.e. it has strong correlation among the variables were as TOT and LFP shows it is also significantly correlated but it has weak relation among them.

4. Conclusion

Although this region's economic growth remains stronger, labour force participation rate needs to be increased more. But implementing the necessary actions are quite challenging for a developing economy like ours. Such actions depend on the factors or reasons that restrict labour force participation in the first place. From an article of "*South Asia: The Robust Outlook*

*Continues*¹³ it has stated that from year 2016 to 2017 growth of this region were stronger but unexpectedly on year 2017 growth rate drops to 6.5% and it has suggested that by the year of 2018 South Asain region country will achieved 7.1% GDP except Nepal. From this study I have came to an understanding that if we increase Labour Force Participation by 1 percent, GDP will increase by 2.16 percent. So, 7.1% GDP is expected to be attainable by the end of 2018. To establish such growth rate policymakers must come up with some actions that will provide more job opportunities and will ensure financial and social stability for the labours of this region.

Therefore, further break down of the research can be done by breaking down the variables to separate female and male labour participation and analyzing the contribution to the economic growth.

¹³ International Monetary Fund

APPENDIX: A

Graph:

Linear plot

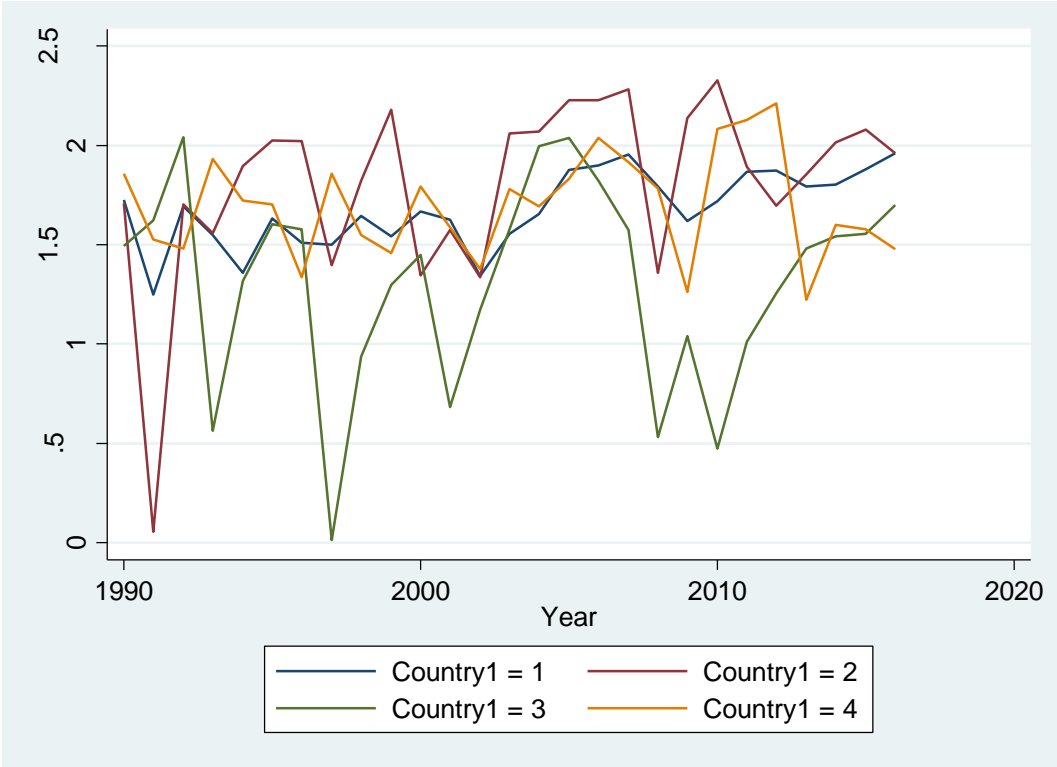


Figure 1- Linear plot representation for each GDP country group under panel dat

APPENDIX: B

Table 4.2 Hausman Test

Coefficient				
	Fixed	Random	Difference	Standard Error.
LFP	-.6738764	2.157326	-2.831202	2.294722
GF	.1226759	.1182359	.00444	.0120629
TOT	.0043616	.0383069	-.0339453	.0374673

Test: Ho: Difference in coefficients not systematic (Random is appropriate)
 Prob>chi2 (p-value) = 0.6470

Table 4.3 Regression Effect Model

Number of obs	= 42
R-sq: between	= 0.9415
Prob > chi2	= 0.0000

Independent Variable	Model
LFP	2.157326** (.1209844)
CF	. 1182359 (.0863586)
TOT	.0383069** (.0109216)

Constant	-8.239037** (.6729586)
----------	---------------------------

* Coefficients, Standard Errors, p values, and 95% confidence intervals, note: *** means statistically significant at 1% significant level. ** means statistically significant at 5% significant level. * means statistically significant at 10% significant level.

Table 4.4 Significant of Covariance

	lGDPgr~1	lLabor~e	lGross~1	lTerms~t
lGDPgrowth~1	1.0000			
lLaborforc~e	0.3336* 0.0004	1.0000		
lGrosscapi~1	0.4166* 0.0000	0.3108* 0.0026	1.0000	
lTermsoftr~t	-0.0294 0.8393	-0.3051* 0.0312	-0.1794 0.2555	1.0000

Note: * Denotes that coefficients are statistically significant at the .05 level

Reference

Muhammad Shahid (2014), Impact of Labor Force Participation on Economic Growth in Pakistan Journal of Economics and Sustainable Development, Vol.5, No.11, 2014

Bilal Kargi (April, 2014), Labor force participation rate and economic growth: Observations for Turkey

Sarah Bridgesa, David Lawsonb and Sharifa Begum (May, 2011). Labor market outcomes in Bangladesh: The role of poverty and gender norms 2011 European Association of Development Research and Training Institutes , European Journal of Development Research Vol. 23, 3, 459–487

Ruth B. Dixon-Mueller (2013). Rural Women at Work: Strategies for development in South Asia
World Development (2015). Volume 74

Been-Lon Chen, Mei Hsu and Chih-Fang Lai (January, 2014). Labor force and Relationship between Long-run Growth and Unemployment.

EwaLechman and Harleen Kaur (April, 2015). Economic Growth and Female Labor Force Participation: Verifying the U-Feminization Hypothesis, New Evidence for 162 countries over the period of 1990-2012

Odile Mackett (February, 2016), A Gender based investigation of the determinants of labor market outcomes in South African labor market.

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

Stella Tsani, Leonidas Paroussos, Costas Fragiadakis, IoannisCharalambidis and PantelisCapros (2013), Female labour force participation in the South Mediterranean countries.

OlenaTkachenko and TarasMosiychuk (May, 2014), Labor force availability as an Economic Development factor in Socialist countries. Olena Tkachenko, Taras Mosiychuk, Labour Force Availability as an Economic Development Factor in Post Socialist Countries, Economics & Sociology, Vol. 7, No 2, 2014

Matthew A. Baum and David A. Lake (2003). The Political Economy of Growth: Democracy and Human Capital
American Journal of Political Science, Vol. 47, No. 2,

Mary Daly and TaliRegev (October, 2017), An article titled “Labor force participation and the prospects for U.S. Growth”

BINAY SHANKAR, Informal sector's profile in South Asian countries