International Journal of Sciences: Basic and Applied Research (IJSBAR)

ISSN 2307-4531
(Print & Online)

http://gssrr.org/index.php?journal=JournalOfBasicAndApplied

The Impact of Population Growth on Economic Growth of Pakistan

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Abstracts

In literature, it appears a divergence of opinion among different economists and social scientist regarding the impact of growing population on economic growth. The main objective of this paper is to analyze the impact of population growth on the economic growth of Pakistan, to what extent the growing population contributes in the economy. In order to empirically investigate the scenario quantitative techniques have been used. Both the dependent and independent variables are numerical of the simple regression analysis is enough to analyze the power of the model. The findings of this empirical study indicates that there is a positive relationships between population growth and economic growth but there is a negative relationship between growth and youth unemployment.

KeyWords: Economic Growth; Population Growth.

1. Introduction

Analyzing the significance of growing population on the process and rapidity of economic growth is not a new theme, many of the early economists have a considerable contribution in this area.

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According to [18], growth in the population of an economy can result in the reduction in output per capita, the reason behind is that, on one hand population grow at geometrical rate on the other hand the production of goods in an economy grows at reckoning rate and it is very difficult to balance both. Researchers argued that increase in the population growth rate ultimately reduce the steady sate output per worker along with the capital per worker, as a result the determinants to the economic growth and productivity can be achieved with the help of increased population. Some optimistic economists argues that growth in the population can ultimately have a positive impact of the growth of an economy. Economists also believed that the bigger population can lead to 'demand pull' and 'technology push', the higher population means more demand which will lead to technological development and ultimately the living standards will rise. The main objective of this paper is to analyze the impact of population growth on the economic growth, specifically in the context of Pakistan.

Many of the social scientist and economists have indulged the debate regarding the ultimate consequences of rapidly growing population. The economists and scientists with an optimistic view of population growth have come up with three major arguments; In many developing countries growing population is a desirable state, reduction in the population growth is a plot of capitalists in order to keep developing countries under their dependence, population growth is not the real problem but mismanaging it can cause many problems.

One of the main political social and economic problem of Pakistan is the rapidly growing population, In 1947, the accumulated population of both east and west Pakistan was about 32.5 million which makes the Pakistan 13th most populated country in the world, By 1996 it was 7th with a population of 140 million, currently it is at 6th number with the population of 162 million. It is expected that till 2050 Pakistan will become the 5th most populated country in the world.

2. Research Question

What is the impact of population growth on the economic growth of Pakistan?

Sub question

What is the impact of youth unemployment on economic growth of Pakistan?

3. Literature Review

Solow developed a neo classical growth model that focuses on creating a differentiation between steady state and transitional effects in any given country. The higher population growth rate in steady state is likely to result in reduction in income per capita, but it is not going to impact the growth of per capita income potential. Thus, in the steady state the economy of the country is like to grow with the population growth, which highlights per capita growth is not related to population growth in steady state. In transition the increase in population is going to effect the per capita income growth. The argument given in the support of negative impact of population growth with respect to income per capita growth in steady and transition has large amount of similarities with the argument in the model which highlight that increase in population growth compels the countries to utilize their saving in capital widening instead of capital deepening opportunities 8.The intensity of the impact is not

very high as there is a decline in marginal return to capital.

4. Principle of Population

The whole debate was started by Reverend [22] who provided two different propositions in a research named as First Essay on Population, the first proposition stated that there would be a geometric growth rate in population the main reason responsible for this would be the lack of conscious restraints exercised by individuals on fertility and the second proposition states that there would be an arithmetic growth rate with respect to availability of food which is largely due to the diminishing rate of return and limited resources available as land. The outcomes from this situation would be food shortages leading to starvation and deaths. The size of population in the long run would be under the influence of food availability and morality. Increase in population would serve as a restrain in growth in per capita income to lower level which is termed as Maltusian Trap, research was not largely supported by the findings of the next centuries as couples were not engage in producing off spring without different types of restraint, instead they were exercising conscious efforts in order to control fertility in accordance to their changing needs and requirements. The issue of supply of food due to limited supply of land does not excessively restrained as technological innovation enabled increased in food production in geographic locations in which [22] focused in his studies. Food surpluses were also witnessed in some countries forcing government to limit farm production.

Thus the views given by [22] with respect to link between growth in population and economic connection were not complete and comprehensive and more profound analyses were needed in this context. The urgency for these types of researches was result of many demographic events. For example in the mid of the 20th century it was revealed that the decrease in the mortality rate and increase in the fertility sustainability were leading to high population growth in developing countries. A major concern that surface in this context was that these rates would be not be sustainable in the long run. In the past the fertility rate have shown a decline, and the outcomes of such declines and its effects on welfare, economic prosperity and the environment and the pace of such events was not very much clear. Consequently [22] Problem resurfaces and researches focused on examining population consequences have taken into account different tasks, triggering the need for fresh reassessment initiative in this context

5. The United Nations (1953)

The first study that focused on examining the economic demographic interactions was highlighted in a seminal study [27] termed as the Determinants and Consequences of Population trends. This research provided a comprehensive and balance view. This study focused on 21 economic linkages with demographics. The study highlighted impact of population on these factors the findings revealed positive impact of some of these factors which was due to the economies of scale whereas negative effect was due to diminishing return, in addition some factors depicted a neutral outcome such as technological and social prosperity concerns. The overall negative impact of related to undetermined size was largely visible in developing countries and UN forecasted diverse nature of effect according to different conditions prevailing in a country.

6. Population Growth and Economic Development

Second most prominent contribution that focus on assessment of demographic was given by [27].The findings derived from simulation results that was based mathematical model from Indian data, the researchers highlighted that development and prosperity in India can be significantly enhanced through reduction in population rates. The analyses rest upon two main concepts .The first concept is based on the idea that large the size of family greater would be the impact on its household saving and ultimately saving at macro level, and the government initiatives in this context and its stimulation efforts would not very closely in line with requirement and demands for increased capital in order to mange this population. Secondly, the investment in economy would also be directed away to other social expenditures such as spending on health and education. This shifting of productive investment in other areas was associated youthful age composition that fall in the domain of population groups that have high fertility, population density and growth was not linked to this investment shifting, this research significantly affected population policy decision making initiatives. This study has also gain popularity among academic scholars due to its inclination on the concept of physical capital as compared to [21] orientation towards the concept of land.

According to While [9] is of the view that mortality decline is the main factor responsible for economic development, Reference [21] is of the view that we need to alter the direction of causality i.e the increase in the standard of living is responsible for lower death rates.

References [10,23] highlighted that higher standard of living that was result of industrialization in cities of Europe in nineteen century might have resulted in increase in mortality rates. However the evidence derived from the developing economies highlights that it is the decline in mortality rate that have lead to economic growth, as it is responsible for triggering the increase in physical and human capital due to increase in saving and education [3,15]. In addition there is decline in mortality rate due decline in death rates due to various contagious diseases. Decline in the death rates due to such diseases have increased the nutritional health status of children as a result more healthy labor force is available for future. Reference [24] are of the view that healthier workforce result in higher level of productivity. In pre transitional societies the increase in population resulted in lower level of standard of living as the extent of technical innovation in agriculture limited as a result productivity remains lower [19]. It was the influence of this concept that [6] highlighted that income levels that prevailed in the nineteenth century were not able move away from [21] equilibrium as the technological advancement in such economies were not very high. Other school of thought such as Neutralist or Revisionist are of the view that increase in the population of the developed countries in twentieth century have not significantly increased the per capita GDP growth [18,16,17]. According to [25] are of the view that increase in population growth will have positive influence on per capita GDP in the long run by increasing productivity by focusing on generations of new ideas and learning initiatives. However there is growing consensus that prevail these days that increase in population negatively effects the economic growth in the countries which was highlighted by [2,1,12].The evidence generated from recent experience have indicated a decline in fertility in developing countries that falls in geographic locations of Asia and Latin America have resulted in reduction in country dependency ratios ,which in turn have lead to increased economic growth due to higher number of savings and investment in the fields of physical (public goods)and human capital which includes initiatives

such as higher educational and training opportunities for every individual worker especially for a extended period which result in increase in labor productivity as a more rapid pace as compared to the human capital pool of dependent people [13,20,3].As a result of this decline ,these geographic regions are going to witness a rise in old age dependency ratio a situation commonly seen in Europe and Japan[5].Thus increase in rate of population ageing will have negative consequence for economic growth .

Thus increase in number of people that belong to aged group is likely to generate negative impact for the country economic growth potential. Issues such as Slums near big urban cities pollution and congestion are result of urban growth in developing countries some times are often termed as engines of growth [14,7,4].The large concentration of population in these cities also result in availability of concentrated markets creating many opportunities to generate economies of scale with respect to product ion and transportation cost involved in this process. The firms settled in urban areas are in a better position to inline their skill labor requirement with the production initiatives, the return derived from infrastructures such as road and utilities is also greater due to concentration of large number of firms in a single area. According to [11] who developed analyses on the data derived from the period since year 1975 and highlighted that there is positive connection among growth in urban areas with per capita GDP. By focusing on the idea that demographic transition has resulted in economic growth, this paper will try to highlight the impact of various dimensions that fall within the domain of transition on per capita GDP growth by analyses of data obtained from a sample obtained from forty three developed countries selected for this analyses.

7. Research Methodology

Ontological Question

First of all the Ontological question have been elaborated in the introductory part of this research paper, explaining the main objective of writing this paper. **Question: What is the impact of Population growth on economic growth of Pakistan?**

Epistemological Issues

Secondly the epistemology of this paper have been defined in the Literature review section, explaining the dependent variable(economic growth) and independent variable (population growth) with the help of theory and research articles.

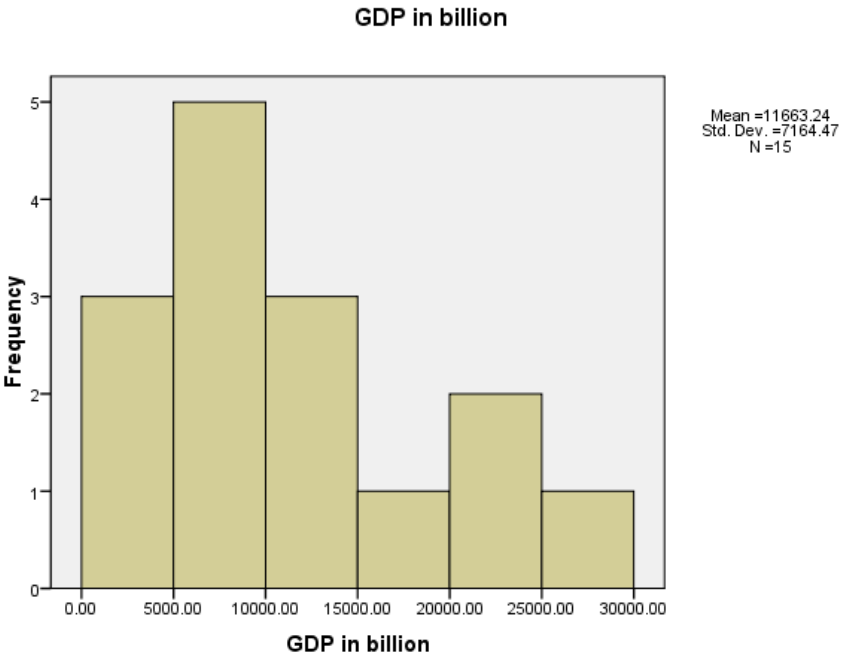
Criteology

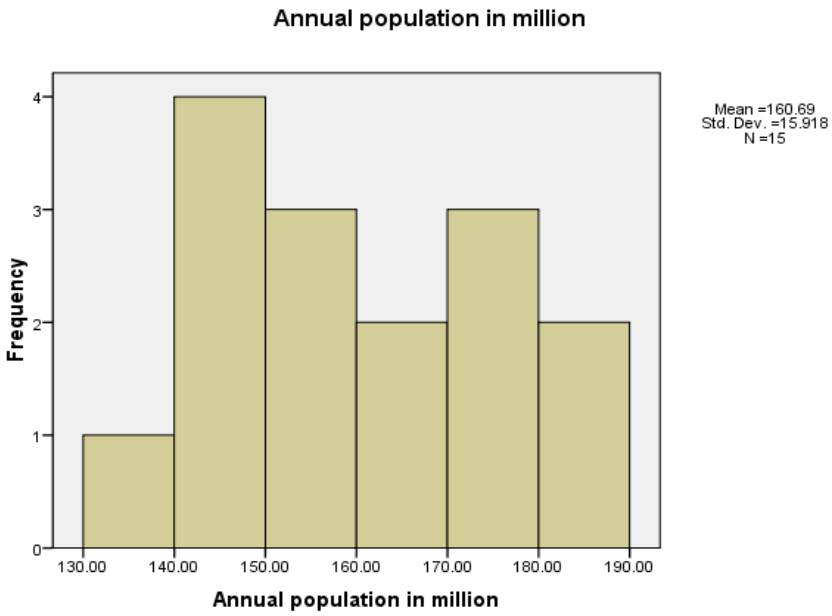
Thirdly, the criteria of analyzing the variables of interest have been given below:

- In order to gather empirical evidences quantitative techniques will be used.
- It is hard to find primary data on Population and Growth so secondary data will be used.
- Following statistical techniques will be used; Mean, Standard Deviation, Variance and important of all Regression.

8. Statistical Analysis

Mean and Standard Deviation of GDP in billions and Population in millions





The bar chart below shows the trend between Annual Population in million and Annual GDP in billions, on x axis we have annual population millions and on y axis we have GDP in billions. The trend is very clear that over the period of time with the increase in population the GDP has also increased.

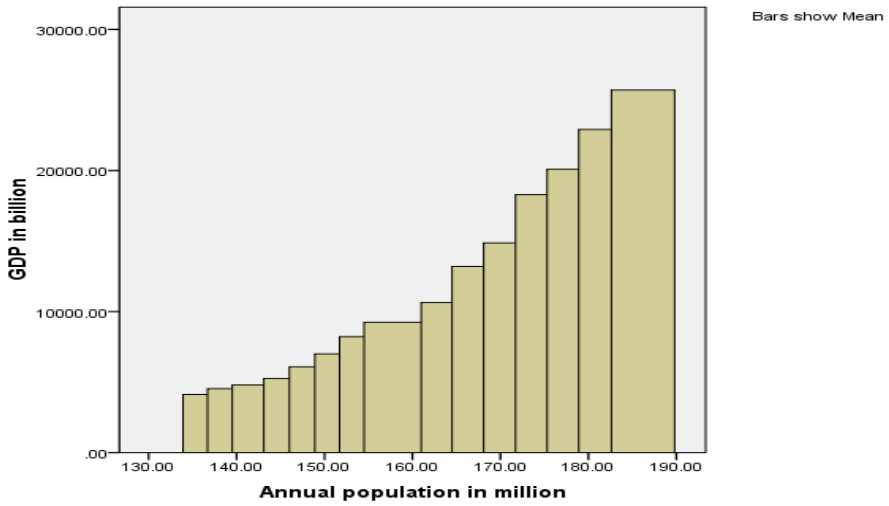


Figure1: Trend between GDP in billions and Population in millions

9. Regression Analysis

Table 1: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.988[a]	.975	.969	1267.60650

a. Predictors: (Constant), youth unemployment rate, Annual population in million, unemployment rate in %

The value of Adjusted R square will determine the power of this model, in this case the value of Adjusted R square is 0.969 which means that this is a very strong model.

Table 2: Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-65747.208	6382.592		-10.301	.000
	Annual population in million	483.580	25.437	1.074	19.011	.000
	youth unemployment rate	-416.219	174.171	-.146	-2.390	.036

a. Dependent Variable: GDP in billion

Dependent variable is GDP and independent variables are: population and youth unemployment. There is a positive relationship between GDP and Population, with 1.8 billion increase in population GDP will increase by 483.58 billion. There is a negative relationship between youth unemployment and GDP growth, with the increase in youth unemployment by 1 % GDP will decrease by 416.219 and vice versa.

10. Conclusion

The literature indicates two extremes of population growth and economic growth, on one hand some economists and social scientist claims that there is a negative relationship between population growth and economic growth on the other hand some researchers claims that there is a positive relationship between growing population and economic growth. The main objective of this paper is to analyze the impact of population growth on economic growth specifically in the context of Pakistan, for this purpose the data of last 15 years regarding economic growth and population growth have been gathered. The empirical evidence which have been gathered from the statistical analysis of this research clearly indicate that there exists a positive relationship between and population growth and economic growth of Pakistan. The value of adjusted r square is 0.969, which indicates that this is a very strong model and can be recommended for the future research purposes.

Youth unemployment is one of the major economic, social and political issues of Pakistan. The empirical evidence of this research indicates that there exists a negative relationship between economic growth and youth unemployment so government should take serious initiatives in order to minimize the youth unemployment rate which will ultimately contribute in the economic growth of Pakistan.

In this era of post modernism, achieving a knowledge economy is a dream for every developing and under developing country. Our neighboring country India have gained considerable economic growth during last five years, and the credit of this economic growth goes to the initiatives which Indian government took towards the formation of knowledge economy. The growing population is basically an opportunity to maximize the intellectual capital in an economy, provided that the population is given proper education, skills and technology. The future researchers are suggested to study the impacts of intellectual capital on the growing economies.

11. Limitations

1. The scope of this study is limited to the context of Pakistan.
2. Another limitation of this research is the consideration of Goods dominant logic view of the economy.
3. This study considers the population without any segregation.

12. Future Research Direction:

1. Future researchers are suggested to conduct this research in other countries.
2. Researchers are also suggested to consider the Service Dominant Logic view of economy.
3. Researchers are also suggested to consider demographic factors.

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