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# Impact of Population Growth and Unemployment on Pakistan Economy

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**ABSTRACT**

**Purpose:** This study examines the impact of population on unemployment, and economic growth of Pakistan.

**Methodology:** The ARDL bounds testing approach is used to explore the long-term relationship between population growth, unemployment, and economic growth in Pakistan. The data used in this study is annual and spans from 1990 to 2017.

**Findings:** The findings show that there is a long-term relationship between population growth, unemployment, and economic growth in Pakistan, supporting the Population and Unemployment-Led Economic Growth Hypothesis.

**Suggestion:** It is suggested that the government of Pakistan increase the level of per capita technology, as this would promote the use of economic resources and, as a result, lead to a significant decrease in the unemployment rate.

**Keywords:** Economic growth, unemployment, population.

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## 1. INTRODUCTION

The issue of population glut is seen as a global phenomenon that demands increased attention, while in developed countries the effect is more catastrophic. Such as Pakistan and many others, which tend to lead to increased unemployment, poverty, and inequalities? The existence of efficient and successful human capital formation has become recognized over the years as the key to economic development in every country. These stalks occur in all other facilities, and this is a key to this discovery that is required to drive economic development through the availability of human resources. It is therefore necessary to observe that the ever-increasing population leads to a compromised situation that often leads to job employment, rising inflation, and testability in prices due to market forces under the spell of government interventions. Thus, certain resources are placed to cater to the teeming population. The implications driven by these facts can either come from the negative or the positive ends, depending on the policy change and orientation applicable within the given economy. When studied, it is evident that resources are well managed, controlled, and fully utilized in order to gain increased national output within the country. Hence, every country is facing one macroeconomic problem or the other.

One of the major economic problems facing Pakistan's economy is the combination of unemployment and an ever-increasing population influx, which has maintained a rising trend over the years. Unemployment is seen as an economic limitation as well as a social problem in most developing economies. The case of underemployment is bound to occur on the basis that the current jobs available within a given economy are not sufficient enough for the teemed working population, or when an economy due to stag inflation is matched to retrenched workers on a non-producing basis. Thus, these macroeconomic problems, such as unemployment and the ever-increasing population prevalent in Pakistan, show that the point of growth in national output will be inversely related.

However, overpopulation is described as a situation where the total number of people is far greater than the number of housing needs (Bloom, 2001). The actual object of global and national action to increase the welfare and capital development of the economy is to match population growth with economic growth. The continuous shift in size, sectoral distribution of the human race often leads to certain approaches for managing economic development within a given population size. (Imran *et al*., 2015) claims that population growth is impacted by the interaction between the three main demographic fertility, migration, and mortality processes. This is what (Jaffry, 2004) opines causes shortage of food consumption with an increased population.

The issues of population glut and unemployment in Pakistan have affected the country's national output in a wider socio-economic context. In particular, unemployment among graduates hinders progress in Pakistan in various respects, since the growing population of graduates is not creating jobs. Therefore, the concern for total economic unemployment, apart from the economic waste in the country, is heightened. The case of unemployment in Pakistan is not encouraging and is often tied to population increase. Today, this trend of increasing population glut and issues of unemployment have led to endogenous crimes and social vices, which are prevalent in the domestic economy, thus contributing to distortion in the national output. Therefore, this paper shall investigate various problems like unemployment and the increasing population glut in Pakistan with the goal of relating these facts to economic development and growth, and thus these questions shall be answered as does What is the long-run effect of population growth, unemployment, and national income proxies by the growth of Pakistan's economy? The remaining part of this paper is further divided into four other sections.

## 2. RELATED LITERATURE REVIEWS

### Conceptual Issues of Population, Economic Growth, and Unemployment

The Rev. Thomas Malthus postulated over two centuries ago in his "Population Principle Essay", bringing the population points to this population glut that it was certain that the result of life-sustaining resources would not be enough to support a human population that was increasing at an age-sustaining rate. However, the population may probably come back to scale. It would be vital to note that the issues aren't because of a lack of resources, but rather misdirection and corruption. In the general sense of the term, population growth is seen as the case where the inhabitants of a geographical area increase in human numbers at a given period of time. We can also define population growth as a rise in population distribution, especially in human beings.

### Concept of Unemployment

(Fraja *et al*., 2010) exemplifies unemployment as a scenario where workers who are willing and able to work cannot find adequate-paying jobs. He argues that the higher unemployment rates are, the greater the population's glare, poverty, and related social problems. However, Keynes (1936) stated that the term "unemployment" applies to people without jobs in the spirit of the word, even though in modern social realization it has become more precise in economic policy. (Fraja *et al*., 2010) considered that unemployment should be characterised as the jobs of individuals who belong to the overall work force and are viewed by those

who are able to work. (Tiwari, 2013) recognised welfare protection in Asian countries, with a particular focus on poverty and vulnerable employment, so they stand out from these crisis governments' expenditure on education, health, and social protection, as well as employment levels for all individuals.

In economics, the impact of population increase, unemployment, and poverty on economic growth is a disputed topic. Unemployment in Pakistan, as well as the relationship between population increase and economic growth, have been the focus of a significant number of empirical and theoretical studies in these domains. The influence of unemployment and population density in Punjab, Pakistan (Kassem *et al*, 2019) was investigated. Unemployment and population density both have a favourable impact on crime rates, according to the findings. Controlling unemployment and population density, according to this study, can help to reduce crime. The conclusion has been reached that unemployment is the mother of crime, based on prior and contemporary literature and facts. Whereas, Labor is the most essential and dynamic factor in all economic activity, natural growth, and social welfare, according to (Fahrudin *et al*, 2000). Even if the construction of labour is limited to those who engage actively in the productive business cycle, that method is geared ultimately to distinctive and satisfying the requirements for commodities and other commodity services to the population as a whole. In practice, national output cannot be defined as fixed where the population is fixed or declining. Accordingly, in business cycles of activities in the economy has an unsteady progress in economic activities trends to lead to a decrease in disposable income for consumption and within the living and welfare standards of the individuals. The general idea, therefore, that the progressives of output per capita, the gross domestic product and therefore the improvement of population living standards are achieving, by economists and by everyone engaged in economic affairs, is that, whether expressly or quietly, economic growth is, in alternate words, the final aim. The general idea, therefore, that the progressives of output per capita, the gross domestic product and therefore the improvement of population living standards are achieving, by economists and by everyone engaged in economic affairs, is that, whether expressly or quietly, economic growth is, in alternate words, the final aim.

(Todaro, 2003) asserts that continuous new streaming in the population leads to negative retrogression of the population glut for growth and economic growth, financial situation, distinction, and education, housing, food and the environment, and foreign migration are grouped into parts of development in economic development.

## 3. THEORETICAL REVIEW

### Malthusian Population Theory

The Reverend Thomas Malthus was an English clergyman and economist who in 1778 published a work called "Essay on the Principle of Population." It has had a great effect on planning for the advancement of society ever since. According to Thomas Malthus's review on population growth, he perceived the critical importance of population increase to the standard of living in the nineteenth century. He believes that there are two relationships involving an increasing rate. In Malthus, while the population was growing at a geometric progression (e.g. 1,3,9,27,81, etc.), which increased in this example by 3 per cent per period. And the agricultural output was increasing at arithmetic progression (2,4,6,8,10) where increasing in this example is 2 units per period. As a result, if these relationships continued, population growth would outrun the available resources, and this signified disaster. Malthus, therefore, suggested checks as a means of checking the population growth rate. The Malthus forecast of economic decline did not come true because, alongside the population growth, there was an advance in technology which improved agricultural production.

Improved effectiveness in the transport system enables areas that have a need for materials to get them. The individual revolution made land as a fixed factor of production change. Better farming techniques were evolved, and more output was obtained to match a rise in production. In some regions where the population is

increasing faster than agricultural efficiency, the Malthus prophecy is said to be vindicated. In Pakistan today, the argument is for decreasing the family size to match the means available for supporting the individuals.

**The Marxian Theory of Unemployment**

Some workers have to overwork within the appalling scope of the market economy index of production, while the remainder remains a drawn up army of dismissed people. In addition, Marxists share the economic theory that the connection between jobs and economic demand leads to a necessary reduction in demand for the country's economy, causing unemployment to increase and low activity within periods before the market systems are likely to cut wages and reduce labour participation at the level of associated enterprises. The social class in the capitalistic system produces a "work reserve army" that continually decreases wages. This is achieved by dividing the social class into excess employees and the unemployed. The left-untapped labour force makes low-wage labour their priority. Based on Marx's assertion, he opined that the only way to remove unemployment could be to remove all market-driven conditions in the economy and to make a shift to the state economy where interventions are part of government stabilisation policy for the economy.

## 4. METHODOLOGY

The study examines population, unemployment, and Pakistan's economic growth. Thus, this paper shall adopt a certain estimation procedure as a working methodology for the paper, which shall be used mainly to evaluate the research functionality of the various underlying theories and their impact on the study, making hypothetical expressions of population growth rate and unemployment rate as a function of gross domestic product, upon which time variant scopes shall be used.

These procedures shall deal with the data utilisation method, the estimation approach, and the ways in which data is being analysed with respect to the master plan for executing the research work. Efforts are made to identify possible solutions to the issues of population, economic growth, and unemployment in Pakistan.

The Autoregressive Distributed Lag (ARDL) Wald bounds test approach shall be used to ascertain the long term equilibrium. The model tries to examine the relationship between population growth, unemployment, and economic growth in Pakistan. Between 1990 and 2017, the functional relationship is specified thus:

$$A(L)yt = m + B0(L)yt\text{-}n + B1(L)x1t + B2(L)x2t + \cdots + Bk(L)xkt + ut, \qquad (1)$$

*where:*

$$a(L) = 1 - a1L - \ldots\ldots - apLp; \qquad (2)$$

$$b(L) = b0 + b1L + : + bn\,Ln \qquad (3)$$

ARDL-Wald bound shall be applied for the Equation (1) as stated above:

$$GDP_t = f\,(UMP_t, POP_t) \qquad (4)$$

The functional relationship of the Ordinary least square is given as;

$$Y = A_0 + A_1X_1 + A_2X_2 + \mu \qquad (5)$$

Mathematically, we have the regression equation as;

$$GDP_t = \beta 0 + \beta_1 UMP_t + \beta_2 POP_t + U_t \qquad (6)$$

Where:

GDP = Gross domestic product

UMP = Unemployment Rate in Pakistan

POP = Population Rate in Pakistan

$\mu$ = Error Term

$\beta 0$ = Intercept

$\alpha 1s$ = Coefficients to be estimated and their prior expectations are as follows; $\beta_1 < O$; $\beta_2 > O$

it's important to note that the lag length criterion shall be selected to order the breaks in the model using the ARDL Wald estimate

**Data Sources:** The data series of this paper are indictors of countries yearly report of the World Bank database through the world development index (WDI) for Pakistan.

## 5. RESULTS AND DISCUSSION

The initial point of analysis shall be to test for the standard status of the time series data chosen to ascertain their integration order. The study has conducted the Augmented Dickey-Fuller (ADF) and KPSS tests for both variables, and the results are presented in Table **1** and **2**. The unit root test findings indicate that population, unemployment, and the series of economic growth are integrated by I (0) and I (1), respectively. Then, we employed an ARDL bound estimate in order to ascertain the influence of population and unemployment on economic growth in Pakistan.

**Table 1. ADF-GLS Unit Root Test Result.**

| Series | T statistics | Critical Value | Order of cointegration |
|---|---|---|---|
| **GDP** | -5.868316 | -3.540328 | 1(0) |
| **UMP** | -7.331903 | -3.544284 | 1(1) |
| **POP** | -3.966997 | -3.552973 | 1(1) |

** given 5% level of significance**

**Table 2. Kwiatkowski-Phillips-Schmidt-Shin Test Statistic Unit Root Test Result.**

| Series | LM Statistics | Critical Value | Order of cointegration |
|---|---|---|---|
| **GDP** | 0.500000 | 0.146000 | 1(1) |
| **UMP** | 0.153532 | 0.146000 | 1(0) |
| **POP** | 0.162081 | 0.146000 | 1(1) |

** given 5% level of significance**

**Table 3. ARDL Bounds Test of Cointegration.**

| Model | F-Statistics | Lower Bound | Upper Bound |
|---|---|---|---|
| **GDP=f(POP, UMP)** | 26.84244 | 3.23 | 4.35 |

@ 5% level of significance. ***Source:*** Authors' Computation.

Table **3** shows the lag conditions of the ARDL estimate using the Bound test to check for the nexus in long-term variations in population, unemployment, and economic growth in Pakistan. The sufficient conditions are for the F statistics to correlate higher orders within their lower and upper limits by higher orders.

The ARDL bound test for cointegration reveals that for there to be a meaning influx that opposes the null hypothesis, the sufficient condition must be obeyed and aligned to what was conducted above, and hence the result as stipulated confirms that there is a long-term variation for all variables to adjust to disequilibrium for the periods under review.

**Diagnostic Test Results**

ARDL is functional to test for the necessary and confiding diagnostic and stability tests. Thus, the normality test of Jarque Bera shall be analysed to see if the model follows a random walk process in the slope line.

**Table 4. Diagnostics Specification.**

| Specification | Normality Test |
|---|---|
| **Jarque Bera Normality** | |
| Stat | 7.51409 |
| P-value | 0.023 |

***Source:*** Authors' Computation

Table **4** shows that our model is in best form in the regression slope and no form of externalities exist in the model hence there is normality in the model.

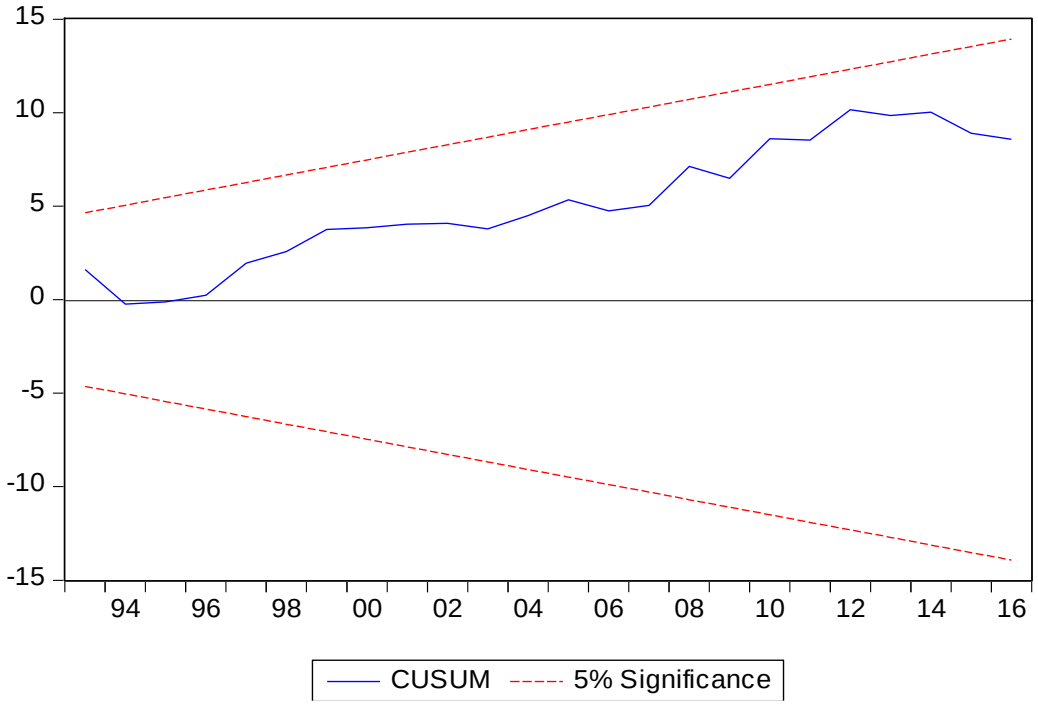


**Figure 1.** CUSUMs graph of stability.

It is important to examine whether the long-term relationships referred to above have been stable for the entire study period. To this end, the stability of model parameters based on the method of testing for CUSUM has been investigated. The breakpoints are phrased by CUSUM. We can see from the Figure **1** that the blue line is contained within the two red lines, indicating that the model maintains a high level of stability and all measures of dispersion.

## 6. CONCLUSION AND POLICY RECOMMENDATION

The ARDL bounds testing approach was used to explore the long-term nexus of population growth, unemployment, and economic growth in Pakistan. Evidently, analysis reveals that there is a long-term stable nexus in the relationship between population growth, unemployment, and economic growth in Pakistan. In particular, the result does confirm the fact that there is a direct relationship first between population growth and the economy, given that as population trends to rise, given the same measure of human capital formation, economic growth as proxied by gross domestic product also tends to increase in the long run. Nevertheless, the unemployment rate could mediate when necessary inputs are not put in place necessary among the working population ages of 18 to 60 years, which then induces the national output. Based on the results of this work, a set of policy recommendations that will apply to the population growth in Pakistan to positively influence economic growth are required to allow the level of capital technology to rise. This would improve the economy's use of resources and drastically reduce the unemployment rate. That Pakistan's average population growth rate should be preserved as it is found to positively influence Pakistan's economic growth during the study period.

## REFERENCES

Ahmad, A., & Khan, F. (2018). Investigating the determinants of youth unemployment in Pakistan. *Pakistan Journal of Humanities & Social Science Research*, *1*(1), 1-12.

Aqil, M., Qureshi, M. A., Ahmed, R. R., & Qadeer, S. (2014). Determinants of unemployment in Pakistan. *International Journal of Physical and Social Sciences*, *4*(4), 676-682.

Bloom, D. E., Canning, D., & Sevilla, J. P. (2001). Economic growth and the demographic transition.

Cheema, A. R., & Atta, A. (2014). Economic determinants of unemployment in Pakistan: Co-integration analysis. *International journal of business and social science*, *5*(3).

Fahrudin, A., Baco, B. S., Hj Abdul Malek, M. D., & Haji-Yusuf, M. (2000). Disaster management and postdisaster social services: The need to prepare social work students to practice in disaster setting.

Furth, D., Heertje, A., & Van Der Veen, R. J. (1978). On Marx's theory of unemployment. *Oxford Economic Papers*, *30*(2), 263-276.

De Fraja, G., Oliveira, T., & Zanchi, L. (2010). Must try harder: Evaluating the role of effort in educational attainment. *The Review of Economics and Statistics*, *92*(3), 577-597.

Jaffry, S., Pickering, H., Ghulam, Y., Whitmarsh, D., & Wattage, P. (2004). Consumer choices for quality and sustainability labelled seafood products in the UK. *Food Policy*, *29*(3), 215-228.

James, P. (2013). *Population Malthus: His life and times*. Routledge.

Imran, M., Mughal, K. S., Salman, A., & Makarevic, N. (2015). Unemployment and economic growth of developing Asian countries: A panel data analysis. *European Journal of Economic Studies*, (3), 147.

Leontief, W. W. (1936). The fundamental assumption of Mr. Keynes' monetary theory of unemployment. *The Quarterly Journal of Economics*, *51*(1), 192-197.

Maqbool, M. S., Mahmood, T., Sattar, A., & Bhalli, M. N. (2013). Determinants of unemployment: Empirical evidences from Pakistan. *Pakistan Economic and Social Review*, 191-208.

Kassem, M., Ali, A., & Audi, M. (2019). Unemployment rate, population density and crime rate in Punjab (Pakistan): an empirical analysis.

Kripfganz, S., & Schneider, D. C. (2016, July). ardl: Stata module to estimate autoregressive distributed lag models. In *Stata Conference, Chicago*.

Tiwari, I. P. (2013). State welfarism and social welfare in ASIA. *Journal of Arts and Humanities*, *2*(2), 64-78.

Todaro, M. P., & Smith, S. C. (2003). Economic Development 8th ed India.

Yusuf, S., Wu, W., & Evenett, S. J. (Eds.). (2000). *Local dynamics in an era of globalization: 21st century catalysts for development*. World Bank Publications.