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**THE RELATIONSHIP BETWEEN POPULATION AND ECONOMIC  
DEVELOPMENT IN THE PHILIPPINES**

**By Rosa Pabiola C. Alberto**

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**Abstract:**

The paper "The Relationship Between Population and Economic Development in the Philippines" aims to provide evidence on the relationship between the level of economic development and the level of population on one hand, and the relationship between the level of economic development and spatial distribution of population as indicated by employment on the other hand.

It was hypothesized that population is a function of the level of economic development at a given time and that the higher level of economic development, the higher the level of population. For the level of economic development, the following proxy variables were used: number of establishments; average household income; average wage rate; total number of road kilometerage; and, terrain. A statistical model was used to determine the relationship between the level of population and the level of economic development.

Linear and logarithmic models were estimated from 1991 and 1994 cross section data and from pooled time series-cross section data (1991 to 1994) at the national (Philippines) and island group levels (Luzon Visayas, and Mindanao).

The logarithmic models had higher  $R^2$  values and more statistically significant parameters. The logarithm of the number of establishments was a significant variable in all of the logarithmic models. Other major variables were logarithm of the average wage rate and logarithm of the road kilometerage. The regression coefficients of the variables also measure the elasticity of population with respect to the independent variables, i.e. the percentage change in population given a percentage change in a dependent variable.

A logarithmic model was recommended for each island group. The dependent variables are as follows: logarithm of the average wage rate and logarithm of the number of establishments for Luzon; logarithm of the average wage rate, logarithm of the number of establishments, and logarithm of the total road kilometerage for Visayas; and logarithm of the average wage rate and logarithm of the number of establishments for Mindanao. The recommended models provide alternative means of projecting the level of population given indicators of economic development in contrast to most models which depend on simple trend analysis of natural growth factors such as birth and mortality rates as well as the net migration rate.

The relationship between the level of economic development and the spatial distribution of the population as indicated by employment was likewise assessed. An assumption is that economic development dictates the pattern of distribution of the population among the different regions as people respond to the level of available economic opportunities. Thus, it was surmised that the more economically developed regions would have large population levels. Another expected spatial pattern in the more developed regions was the increasing concentration of the population in the urban areas and large proportion of the population employed in the non-primary sectors.

Using regional data on gross regional product, population, and the percentage share of the population in urban areas and those employed in non-primary industries, it was shown that the more developed regions have larger populations and their populations are increasingly being concentrated in the urban areas with workers increasingly moving to the secondary and tertiary sectors.

A shift and share analysis further showed that majority of the more developed regions had positive shifts in the secondary and tertiary sectors, or more jobs had those regions simply matched the overall national performance, whereas there were negative shifts in the primary sector. This indicates that the secondary and tertiary sectors are potential areas for further growth of the more developed regions.

The largest total net shift in the secondary and tertiary sectors occurred in Region 4, NCR, and Region 11. Among the more developed regions, Region 4 and 11 possessed the local environment that promoted the growth of the secondary and tertiary sectors while NCR had the most favorable mix of industries in the secondary and tertiary sectors. It was observed that in most of the regions, the mix and competitive components of the primary sector resulted in negative shifts. In the less developed regions, it was only Region 5 which seemed to possess the local environment conducive to agricultural growth, as evident from the large positive shift.

This paper attempted to provide insights and evidence on demographic-economic-spatial relationships, and hopefully serve as inputs in the formulation of policies and programs on regional development, particularly in effecting a more balanced distribution of population among regions and enhancing the growth of lagging regions of the country.