

## ARIMA MODELING OF BIRTH, MARRIAGE AND POPULATION GROWTH RATES IN TAIWAN

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### (ABSTRACT)

Due to the rapid growth of population in Taiwan, the study of demography has always been the interest of the sociologist. Moreover, the three dynamics of indexes of population growth, birth and marriage rates have an apparent interdependent relationship, and they play an important role in the study of demography.

In this paper, we will focus on these three indexes and explore in terms of the time series model. Furthermore, the comparison and analysis will be made utilizing univariate ARIMA model, transfer function model and multivariate ARIMA model accordingly. The seasonal factor will also be considered. Lastly, the prediction will be made on the short term growth rate of these three indexes, and we will also estimate the monthly sum of population of the next two years in Taiwan.

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