

A STUDY OF CAR DEMAND AND ITS INTERDEPENDENCY IN SARAWAK

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ABSTRACT

Several developing Asian countries recorded a high level of private based motorisation, specifically car and motorcycle ownership. Continuous rise in the level of private motorisations may lead to issues such as traffic congestions, high fuel consumption and pollutions. For that reason, there is a need to investigate the determinant of car ownership and the interdependency between car and motorcycle ownership in Sarawak, Malaysia. This study used time series annual data using vector error correction model (VECM) from 1980 to 2018. Based on the analysis, it is found that gross domestic product, fuel price and population density are significant determinants of car ownership. The findings revealed that as the standard of living rises, car demand increases. At the state aggregate level, it is found that there is a substitution relationship between both modes. This indicates that people are highly likely to shift from motorcycle ownership to car ownership in the long run. Based on the findings, the policy recommendations in the study include encouraging shifts to alternative modes of transport through public transport reforms as well as improving facilities for a more sustainable mode of transportation in Sarawak.

Keywords: Car ownership; motorcycle ownership; interdependency; vector error correction model; fuel price; gross domestic product, SDG7

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1. INTRODUCTION

Since the discovery of the vehicle in the 19th century, the role of cars has become considerably vital all over the world. Originally, the needs of possessing cars were primarily due to economic expansion, which leads to shifts in trends in employment, societal surroundings, and infrastructure advancement. Moreover, the capacity to gain access to rural areas and the convenience achieved via mobility allowed individuals to participate in economic endeavours. The necessity to travel in the period of the industrial revolution fundamentally led to the development of the car manufacturing sector, generating jobs and also government income via taxation. Internationally, there was a significant growth in the number of registered cars, rising by 45 per cent between 2005 and 2015 (OICA, 2018). Nevertheless, over the past few years, the increase in population, urbanisation and the economy has altered the patterns in travelling in various territories of the world, which brings our interest to Asian developing nations. This is specifically crucial as the Asian region is predicted to have 60 per cent of the world's population by 2050. Provided the

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