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THE NEXUS BETWEEN ELECTRICITY CONSUMPTION AND OUTPUT IN MALAYSIA: EVIDENCE FROM PANEL DATA ANALYSIS

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This paper examines the relationship between electricity and output in Malaysia. We employ panel data analysis to seek concrete evidence in exploring the relationship between electricity consumption and output. We use panel data for 3 economic divisions in Malaysia, namely Peninsular Malaysia, Sabah and Sarawak for the period 2000-2013. We found that the bidirectional relationship between electricity consumption and output exists. In addition, electricity consumption and output have positive relationships. According to ceteris paribus assumption, we can say that at 1% increase of electricity consumption, it will cause a 0.71% increase of output growth. On the other hand, for every 1% increases of output growth, it causes a 1.41% increase of electricity consumption. Comparatively, the output growth causes much impact to the electricity consumption rather than the electricity consumption causes the output growth. In sum, we can say that electricity consumption is not driving much to output growth. However, an additional output produced requires much electricity in input production. Thus, our empirical result suggests that the efficiency of electricity usage needs to be improved to ensure an increase of electricity consumption is able to translate rapid output growth in Malaysia.

Keywords: Electricity consumption, Output, Panel data analysis.

JEL Classifications: Q43, Q48

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Introduction

Malaysian Economy can be divided to 3 main economic divisions namely peninsular Malaysia (consists 12 states), Sabah and Sarawak. Sarawak is the biggest state in Malaysia, followed by Sabah and another 12 states in peninsular Malaysia. However, peninsular Malaysia has the largest population in Malaysia (80%), followed by Sabah (11%) and Sarawak (9%). Table 1 shows the average share of electricity consumption and output from 2005-2013. Peninsular Malaysia is the biggest economic production in Malaysia where it contributes 82.97% share of total output compare to Sarawak (10.56%) and Sabah (6.48%). Statistically, peninsular Malaysia is dominant in the Malaysian economy. It is slightly similar