

TOWARDS A COHERENT ENERGY POLICY IN ASEAN USING ECONOMETRIC AND STRUCTURAL EQUATION MODELS

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ABSTRACT

The ASEAN Economic Community is an emerging regional market with people experiencing an aggregate output growth which drives them to increase their energy consumption. With the imminent integration in the region, energy consumption in each of the member countries varies in details and dimensions defined by the internal experiences inherent to the country. This study aims to articulate the coherent energy policy in ASEAN which is a significant step towards the formulation of explanatory parameters for the regional bloc and eventually identify possible policy implications. This paper examines the impact of regional trade, direct investment, public investment, and per capita income on the energy consumption of the 10 ASEAN member countries. Drawing information from the Asian Development Bank, World Bank, and BP World

Energy Statistics Review databases, panel data sets were subjected to a sequence of econometric tools prior to the utilization of the structural equation model through AMOS version 19. Data specifications and diagnostic tests were completed to verify the acceptable good to fitness of the data as well as the model itself. Two classified classes of fit indices were employed and these are the discrepancy functions and comparative tests between target and null models. The discrepancy functions are exemplified by chi square test and the root mean square error of approximation. While the comparative tests between target and null models are defined by the normal fit index, goodness of fit index, and comparative fit index. The results from the study manifest that (1) public investment, per capita income, and regional trade has a significant impact on the ASEAN energy consumption, (2) direct investment has no substantial effect on the region's energy consumption, and (3) there is a sizeable correlation between direct investments with its co-explanatory variables.

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