

## **A dynamic analysis of output, energy consumption, and CO<sub>2</sub> emissions in Malaysia**

### **ABSTRACT**

Present paper analyzes the interrelations between output, energy consumption, and carbon emissions in light of Malaysia's development experience from a commodity-based economy to an industrial-based economy by means of a vector autoregression (VAR) framework. The results suggest substantial interactions among the three variables. Moreover, manufacturing output tends to exert persistent influences on carbon emissions, energy consumption, and non-manufacturing output. Meanwhile, the significant causal relations from non-manufacturing output to energy variables are found for first few years. These results are robust to the inclusion of additional variables – namely, trade openness, investment, and population – in the system.

**Keyword:** CO<sub>2</sub> emissions; Causality; Energy–macroeconomy relations; Impulse–responses; Malaysia