

Economic Interdependence: Evidence from China and ASEAN-5 Countries

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ABSTRACT

This study aimed to examine the interdependence relationship among five Association of Southeast Asian Nations (ASEAN-5) countries (Indonesia, Malaysia, the Philippines, Singapore, and Thailand) and China from a business cycles perspective. The Granger non-causality test proposed by [1] was used to examine causal linkages in business cycles. The empirical results indicated common business cycles between China and ASEAN-5 economies. This suggested that China and ASEAN-5 share similar business cycles and could complement each other in the long run. A discussion of important insights for regional economic policy coordination in which similar business cycles provide a platform for common regional trade, as well as suggestions for monetary policies, conclude the paper.

Keywords: Granger Non-Causality Tests; Business Cycles; Time-Series; Economic Integration

1. Introduction

Since the seminal work by [2], a growing number of studies have investigated international interdependence involving various countries, including the Association of Southeast Asian Nations (ASEAN) region [3-11]. Nonetheless, little work has examined international interdependence between China-ASEAN business cycles. This relationship carries importance because of the recent establishment of the China-ASEAN Free Trade Area (CA-FTA), which suggests that business cycle fluctuations may have been regularly transmitted between China and ASEAN countries.

Moreover, this study revealed the impact of economic fluctuations of a specific country on other neighboring economies. If expansion or recession in one economy is transmitted to another, they experience similar economic fluctuations [12]. This implies the need for a mutual policy to enhance economic benefits and avoid adverse shocks [6]. From this standpoint, the issue is whether there is any evidence of the impact of economic fluctuations between China and ASEAN countries. Therefore, this study intends to examine the interdependency of ASEAN-5 countries with China and to contribute to the literature with research conducted from a business cycles perspective.

To accomplish this, we extracted the business cycles series from the statistics of annual current gross domestic product (GDP) from 1967 to 2008 using the Hodrick-Prescott (HP) filter [13] and we re-sorted the time series econometrics methodology of simple correlation, Aug-

mented Dickey-Fuller (ADF) unit root test [14], and the Granger non-causality test proposed by [1]. The following section contains a review of related literature; this is followed by discussion of empirical testing procedures and data, as well as a brief explanation of our findings. Finally, the researchers provide conclusions and suggest policy implications.

2. Brief Review

The studies on international interdependence with the application of causality tests found in [2], who investigated the relationship between gross national product (GNP) and GDP ratio of Japan and Australia using F-tests causality, concluded that both countries are fairly interdependent in macroeconomics terms. Reference [3] used vector error correction mechanism (VECM) based of causality test to study the causal patterns of US and Japan as reflected in the index of industrial production (IIP) and found two-way causality between the two economies. Another study by [4] investigated the interdependency of ASEAN countries with the US, Australia, Japan, and the European Union (EU) by using annual real GDP growth rates. The findings documented that the ASEAN countries are not strongly interdependent with their partner countries.

Reference [6] examined business cycles transmission among Germany, Japan, the UK, and the US using the IIP data and the Granger non-causality test proposed by [1]. The findings revealed a weak causal relationship which indicated that the economies move independently. Ref-