

Foreign Direct Investment, Trade Openness, Government Expenditure and Economic Growth in Asian-African Conference Countries, 2000-2014

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ABSTRACT

Objective –This study analyses the relationship between FDI, TO, GE and EG based on data collected from 79 member countries of the AAC. Today, the AAC has become an urgent forum for member countries as it strives to manifest the economic development and prosperity of Asian and African countries.

Methodology/Technique –This study uses correlation and the Granger Causality test to analyse data which were extracted from the World Bank database during the period of between 2000 – 2014.

Findings – The test results showed that the correlation of FDI, TO, GE may be correlated weakly, moderately, and strongly against EG. However, the Granger Causality test results indicated that not all variables have causality. In that regard, member countries of the AAC should pay more attention towards promoting economic growth through FDI, TO and GE.

Novelty – The findings of this study can be used by policy makers and economists in the respective member countries of the AAC to design an economic strategy that encourages domestic economic growth.

Type of Paper: Empirical

Keywords: Macroeconomy; AAC; Correlation, Causality Test; Foreign Direct Investment; Trade Openness; Government Expenditure; Economic Growth.

JEL Classification: F13, F21, F43.

1. Introduction

The Asian-African Conference (AAC) is a forum organized for countries in the region for the purpose of establishing mutual beneficial partnerships which aims at creating prosperity and world peace. In April 2015, Indonesia became the organizer of the 60th meeting of the AAC and the 10th NAASP (the New Asian African Strategic Partnership). Some of the outcomes derived from the meetings include:

- a) The AAC to strengthen cooperation and to bring peace, stability, and prosperity
- b) The AAC to strengthen economic cooperation, including climate change (<http://www.aacc2015.id>).

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These two outcomes place Indonesia as a strategic partner for member countries of the AAC to strengthen each other.

In looking at the economic development of member countries of the AAC, it can be said that the AAC is best described by certain economic indicators such as economic growth, foreign direct investment, trade openness, and government expenditure. With that in mind, this study focuses on understanding the relationship between these economic indicators in each of the 79 member countries of the AAC for the period between 2000-2014. The linkage among the economic indicators has become a picture for depicting the economy of each member country of the AAC. The results of this study are expected to serve as a guide for the government of each member country of the AAC as a means to maintain and sustain its positive economic conditions (growth) and stability. The research question this study aims to answer is “What is the relationship between foreign direct investment (FDI), trade openness (TO), government expenditure (GE) and economic growth (EG) in member countries of the AAC for the period between 2000-2014?”

Empirical research looking at the interrelationship of foreign direct investment and economic growth can be referred to Carkovic and Levine (2002), Lyrودي et al., (2004), Nunnenkamp and Spatz (2004), Alfaro et al., (2006), Louzi and Abadi (2011). Moreover, empirical findings of other studies also suggest that the connection between trade openness and economic growth can be explained (see Yanikkaya, 2003; Marelli & Marcello, 2011; Yeboah et al., 2012; and Hassen et al., 2013). Likewise, empirical findings showing the connection between government expenditure and economic growth can also be referred to Bose et al., (2003), Loizides and Vamvoukas (2005), Arpaia and Turrini (2008), Irmén and Kuehnél (2008), Koeda and Kramarenko (2008). By making reference to previous research and outcomes, the current study also strives to show that the relationship of the above research variables can be proved. However, it is noted that not all the variables have a significant relationship with each other. In this regard, it is asserted that economic policy makers of each member country of the AAC need to apply caution while designing macroeconomic policies for their respective countries.

2. Literature Review

2.1 Foreign Direct Investment and Economic Growth

Carkovic and Levine (2002) explained that foreign capital can be attracted by tax incentives and subsidies. This claim is also supported by macroeconomic empirical findings which note that economic growth has a positive relationship with FDI. However, Lyrودي et al., (2004) proved that the relationship between these variables is not significant.

In their study, Nunnenkamp and Spatz (2004) identified several conditions which indicate a poor connection between FDI and growth namely:

- a) FDI and economic growth can be directed to the achievement of GDP per capita, institutional development and trade openness;
- b) There are indications of causality between FDI and growth in the service sector; and
- c) The technology gap between FDI in origin countries and FDI in countries of destination indicate that it is possible to encourage an increased FDI and economic growth.

Furthermore, Alfaro et al (2006) had also illustrated that when a country's financial markets are well-developed, then the country is relatively easy to encourage an increased FDI. The FDI would boost economic growth through business activities in the sectors of industry substitution (inter-domestic industry and foreign). Specifically, Louzi and Abadi (2011) have proved that there is a correlation between FDI and growth in Jordan.

2.2 Trade Openness and Economic Growth

Yanikkaya (2003) explained that trade openness has a positive correlation with economic growth. This shows that trade promotes economic growth. Further, Marelli and Marcello (2011) had identified that the correlation

between trade openness and growth tends to be stable and continuous. However, world economic shocks can result in the correction of growth in the short term.

Yeboah et al., (2012) illustrated that trade openness has a positive and significant connection with GDP per capita in Africa. Trade openness is expected to be the booster in the improvement of economic growth and industry productivity in African countries. Additionally, Hassen et al., (2013) proved that trade openness has a positive relationship with growth in Tunisia. This is supported by the trade liberalization process undertaken by the government.

2.3 Government Expenditure and Economic Growth

Bose et al., (2003) also studied the correlation between economic growth and government spending in 30 developing countries. Their results indicated that there were connections between spending on capital expenditures including education on economic growth. In their study, Loizides and Vamvoukas (2005) explained that is a link between government spending and growth in the UK and Greece. However, in Ireland, there was no such connection between the two variables.

Looking at the European Union (EU) countries, Arpaia and Turrini (2008) noted that the link between government expenditure and growth in EU countries require different time adjustments. Meanwhile, Irmen and Kuehnelt (2008) explained that government spending can stimulate economic growth through consumption and investment. This was expanded by Koeda and Kramarenko (2008) who mentioned that the expense of the policy-setting government needs to be done carefully.

3. Method, Result and Discussion

3.1 Method

This study uses secondary data drawn from the database of the World Bank during the period between 2000 – 2014. The data includes information concerning foreign direct investment, government expenditure, trade openness and economic growth of 79 member countries of the AAC. Correlation and the Granger Causality test were used to analyse data. This former method of application was adopted from Taylor (1990) while Granger's Causality test was referred to the recommendation of White and Pettenuzzo (2010).

3.2 Result and Discussion

The results drawn from the correlation test indicated that there were variations in the correlation results between countries and variables. Table 1 illustrates the explanation of the correlation testing results. These results indicate that:

- Countries have strong correlation between FDI and EG are 9 countries (11.39%), TO and EG are 17 countries (21.52%), GE and EG are 3 countries (3.80%).
- Countries have medium correlation between FDI and EG are 17 countries (21.52%), TO and EG are 21 countries (26.58%), GE and EG are 14 countries (17.72%).
- Countries have weak correlation between FDI and EG are 53 countries (67.09%), TO and EG are 41 countries (51.90%), GE and EG are 62 countries (78.48%).

Table 1. Results of the correlation testing

Country	FDI-EG	TO-EG	GE-EG
Afghanistan	Weak and negative	Weak and negative	Weak and negative
South Africa	Weak and negative	Weak and negative	Medium and negative
Central Africa	Weak and positive	Weak and negative	Weak and negative
Algeria	Weak and negative	Medium and negative	Weak and negative

Country	FDI-EG	TO-EG	GE-EG
Angola	Weak and negative	Weak and positive	Weak and negative
Saudi Arabia	Weak and positive	Medium and positive	Medium and negative
Azerbaijan	Medium and positive	Medium and positive	Weak and positive
Bahrain	Strong and positive	Strong and positive	Weak and negative
Bangladesh	Strong and positive	Medium and positive	Medium and positive
Benin	Medium and positive	Medium and positive	Weak and negative
Bhutan	Medium and positive	Weak and positive	Weak and positive
Botswana	Weak and positive	Medium and positive	Weak and positive
Burkina Faso	Weak and positive	Weak and positive	Weak and negative
Burundi	Medium and negative	Medium and positive	Medium and positive
Caboverde	Strong and positive	Strong and positive	Weak and positive
Chad	Weak and positive	Weak and positive	Weak and negative
Democratic Congo	Weak and positive	Medium and positive	Strong and positive
Djibouti	Strong and positive	Medium and positive	Weak and negative
Eritrea	Weak and negative	Weak and positive	Weak and negative
Ethiopia	Weak and negative	Medium and positive	Weak and negative
Gabon	Weak and positive	Weak and negative	Weak and negative
Gambia	Weak and negative	Weak and negative	Weak and positive
Ghana	Medium and positive	Weak and negative	Medium and positive
Guinea Bissau	Weak and positive	Strong and positive	Weak and positive
Equatorial Guinea	Medium and positive	Medium and positive	Weak and negative
Guinea	Weak and positive	Weak and positive	Weak and negative
India	Weak and positive	Weak and positive	Weak and negative
Indonesia	Strong and positive	Weak and positive	Medium and positive
Iraq	Weak and negative	Medium and positive	Strong and positive
Iran	Medium and positive	Weak and positive	Weak and positive
Cameroon	Weak and negative	Weak and positive	Weak and positive
Kazakhstan	Weak and negative	Medium and positive	Medium and positive
Kenya	Weak and positive	Weak and positive	Weak and negative
Kyrgyzstan	Weak and positive	Weak and positive	Weak and negative
Komoro	Weak and negative	Weak and negative	Weak and positive
Kongo	Weak and negative	Weak and negative	Weak and positive
Kuwait	Weak and negative	Weak and negative	Weak and positive
Lebanon	Medium and positive	Weak and negative	Weak and negative
Lesotho	Weak and positive	Weak and positive	Weak and positive
Liberia	Strong and negative	Weak and negative	Weak and positive
Libya	Weak and positive	Medium and positive	Weak and positive
Madagascar	Weak and negative	Medium and positive	Weak and positive
Maldives	Weak and positive	Weak and positive	Weak and positive
Malawi	Weak and positive	Weak and positive	Weak and positive
Mali	Weak and negative	Medium and positive	Weak and negative
Morocco	Weak and positive	Weak and negative	Weak and negative
Mauritania	Weak and positive	Weak and positive	Weak and positive
Mauritius	Weak and negative	Weak and negative	Weak and negative
Egypt	Strong and positive	Strong and positive	Weak and negative
Mozambique	Weak and positive	Weak and positive	Weak and negative
Namibia	Weak and negative	Weak and negative	Weak and negative
Nepal	Weak and positive	Weak and positive	Weak and positive
Niger	Weak and positive	Weak and positive	Weak and negative
Nigeria	Weak and negative	Weak and negative	Weak and negative
Oman	Medium and positive	Weak and positive	Weak and positive
Pakistan	Weak and positive	Weak and positive	Weak and negative
Palestine	Medium and positive	Weak and negative	Weak and positive
Côte d'Ivoire	Weak and negative	Weak and positive	Weak and positive
Qatar	Weak and positive	Weak and negative	Weak and negative

Country	FDI-EG	TO-EG	GE-EG
Rwanda	Weak and positive	Weak and negative	Weak and positive
Senegal	Weak and negative	Weak and positive	Weak and negative
Seychelles	Weak and positive	Weak and positive	Weak and negative
Sierra Leone	Weak and negative	Medium and positive	Medium and positive
Soetome& Principle	Medium and positive	Medium and positive	Weak and positive
Srilanka	Weak and positive	Weak and negative	Medium and positive
Sudan	Weak and positive	Medium and positive	Medium and positive
Swaziland	Weak and negative	Weak and negative	Weak and negative
Tajikistan	Weak and positive	Medium and positive	Weak and positive
Tanzania	Weak and negative	Weak and positive	Weak and positive
Togo	Weak and positive	Strong and positive	Medium and positive
Tunis	Medium and positive	Weak and negative	Weak and positive
Turkmenistan	Weak and positive	Weak and positive	Medium and negative
Uganda	Medium and positive	Weak and positive	Weak and positive
United Arab Emirates	Medium and positive	Weak and negative	Medium and negative
Uzbekistan	Strong and positive	Medium and positive	Weak and positive
Yemen	Medium and negative	Weak and negative	Medium and negative
Jordan	Medium and positive	Strong and positive	Weak and negative
Zambia	Strong and positive	Strong and negative	Strong and negative
Zimbabwe	Medium and positive	Weak and positive	Weak and positive

Source: World Bank (processed)

Based on the Granger Causality test, it can be deduced that not all variables have causality. This means that these variables tend to be independent. This independence is reflected by the lack of integration of macroeconomic policy design in each member country of the AAC. Table 2 illustrates the results of the Granger Causality tests. These results indicate that:

- Countries have one direction of causality between FDI and EG are 26 countries (32.91%), TO and EG are 29 countries (36.71%), GE and EG are 26 countries (32.91%).
- Country has two directions of causality between FDI and EG is 1 country (1.27%), TO and EG is 0 (0%), GE and EG is 1 country (1.27%).
- Countries have no causality between FDI and EG are 52 countries (65.82%), TO and EG are 50 countries (63.29%), GE and EG are 52 countries (65.82%).

Table 2. Results of the Granger Causality Test

Country	FDI-EG	TO-EG	GE-EG
Afghanistan	EG \rightarrow FDI (α 10%)	EG \rightarrow TO (α 10%)	EG \rightarrow GE (α 5%)
South Africa	-	-	EG \rightarrow GE (α 5%)
Central Africa	-	EG \rightarrow TO (α 1%)	-
Algeria	-	TO \rightarrow EG (α 1%)	EG \rightarrow GE (α 10%)
Angola	-	-	-
Saudi Arabia	EG \rightarrow FDI (α 10%)	-	-
Azerbaijan	FDI \rightarrow EG (α 1%)	TO \rightarrow EG (α 1%)	-
Bahrain	-	EG \rightarrow TO (α 5%)	-
Bangladesh	-	EG \rightarrow TO (α 10%)	GE \rightarrow EG (α 10%)
Benin	FDI \rightarrow EG (α 5%)	EG \rightarrow TO (α 5%)	-
Bhutan	-	-	GE \rightarrow EG (α 10%)
Botswana	-	-	GE \rightarrow EG (α 10%)
Burkina Faso	-	-	-
Burundi	-	TO \rightarrow EG (α 1%)	GE \rightarrow EG (α 10%)
Caboverde	-	TO \rightarrow EG (α 1%)	GE \rightarrow EG (α 5%)
Chad	FDI \rightarrow EG (α 5%)	-	GE & EG (two ways; α 5%)
Democratic Congo	-	-	GE \rightarrow EG (α 10%)

Country	FDI-EG	TO-EG	GE-EG
Djibouti	-	-	-
Eritrea	FDI \rightarrow EG (α 10%)	-	-
Ethiopia	EG \rightarrow FDI (α 1%)	-	-
Gabon	EG \rightarrow FDI (α 5%)	EG \rightarrow TO (α 1%)	-
Gambia	-	-	-
Ghana	-	-	EG \rightarrow GE (α 1%)
Guinea Bissau	-	EG \rightarrow TO (α 5%)	-
Equatorial Guinea	-	TO \rightarrow EG (α 1%)	-
Guinea	-	-	-
India	EG \rightarrow FDI (α 10%)	EG \rightarrow TO (α 5%)	EG \rightarrow GE (α 5%)
Indonesia	FDI \rightarrow EG (α 5%)	TO \rightarrow EG (α 5%)	TO \rightarrow EG (α 5%)
Iraq	-	-	-
Iran	-	-	-
Cameroon	FDI \rightarrow EG (α 10%)	-	GE \rightarrow EG (α 10%)
Kazakhstan	-	EG \rightarrow TO (α 5%)	-
Kenya	FDI \rightarrow EG (α 5%)	-	-
Kyrgyzstan	EG \rightarrow FDI (α 5%)	-	-
Komoro	-	EG \rightarrow TO (α 10%)	-
Kongo	-	TO \rightarrow EG (α 5%)	-
Kuwait	-	-	GE \rightarrow EG (α 10%)
Lebanon	FDI \rightarrow EG (α 5%)	-	-
Lesotho	-	TO \rightarrow EG (α 5%)	GE \rightarrow EG (α 5%)
Liberia	-	-	EG \rightarrow GE (α 10%)
Libya	-	-	GE \rightarrow EG (α 10%)
Madagascar	-	-	-
Maldives	-	-	-
Malawi	-	-	-
Mali	-	-	-
Morocco	-	TO \rightarrow EG (α 10%)	-
Mauritania	FDI \rightarrow EG (α 1%)	-	-
Mauritius	-	-	-
Egypt	FDI \rightarrow EG (α 5%)	TO \rightarrow EG (α 5%)	GE \rightarrow EG (α 1%)
Mozambique	-	EG \rightarrow TO (α 5%)	GE \rightarrow EG (α 10%)
Namibia	-	-	-
Nepal	-	-	GE \rightarrow EG (α 10%)
Niger	FDI \rightarrow EG (α 5%)	TO \rightarrow EG (α 10%)	-
Nigeria	-	-	-
Oman	FDI \rightarrow EG (α 5%)	TO \rightarrow EG (α 5%)	GE \rightarrow EG (α 10%)
Pakistan	FDI & EG (two ways; α 10%)	EG \rightarrow TO (α 10%)	-
Palestine	-	-	-
Côte d'Ivoire	-	-	-
Qatar	FDI \rightarrow EG (α 5%)	-	-
Rwanda	-	-	-
Senegal	EG \rightarrow FDI (α 5%)	-	-
Seychelles	EG \rightarrow FDI (α 10%)	-	-
Sierra Leone	-	-	-
Soetome& Principle	FDI \rightarrow EG (α 10%)	-	-
Srilanka	-	TO \rightarrow EG (α 5%)	GE \rightarrow EG (α 10%)
Sudan	-	-	EG \rightarrow GE (α 10%)
Swaziland	-	-	-
Tajikistan	-	TO \rightarrow EG (α 10%)	-
Tanzania	FDI \rightarrow EG (α 10%)	-	-
Togo	-	-	-
Tunis	-	-	-

Country	FDI-EG	TO-EG	GE-EG
Turkmenistan	EG \rightarrow FDI (α 10%)	-	EG \rightarrow GE (α 10%)
Uganda	-	-	EG \rightarrow GE (α 5%)
United Arab Emirates	-	EG \rightarrow TO (α 10%)	GE \rightarrow EG (α 5%)
Uzbekistan	-	-	-
Yemen	-	-	-
Jordan	EG \rightarrow FDI (α 5%)	-	-
Zambia	-	TO \rightarrow EG (α 10%)	-
Zimbabwe	EG \rightarrow FDI (α 10%)	TO \rightarrow EG (α 1%)	-

Source: World Bank (processed)

Note: “-” is no causality

4. Conclusion

The conclusion that can be drawn from this study indicates that FDI, TO, GE and EG have a variation of correlation results in each member country of the AAC. These results can be seen as entry points for the respective governments of the 79 member countries of the AAC to review the policy and macroeconomic development of its country. The review of macroeconomic policy could be emphasized on the impact of changes occurring between the macroeconomic variables. Meanwhile, the causality test showed that FDI, TO, and GE have variations of causality on EG. This outcome can be used by policy makers and economists in each member country of the AAC to design an economic strategy which can encourage domestic economic growth. The macroeconomic design not only aims to stimulate domestic economic growth but also to inculcate peace in the AAC region.

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