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2011

Online at <https://mpra.ub.uni-muenchen.de/46572/>
MPRA Paper No. 46572, posted 26 Apr 2013 19:41 UTC

THE CAUSALITY OF FDI INFLOW AND ECONOMIC GROWTH IN INDONESIA

By

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Abstract :

The causal relationship of FDI inflow and GDP growth has pros and cons in several studies. A Positive relationship between these two variables is conventionally supported by some empirical studies though there are still conflicting view of causality of FDI inflow and economic growth. This study explore the causal relationship between FDI inflow and GDP growth in Indonesia from the period of year 1970 – 2010 which can contribute to the welfare of the population. Cointegration approach will be used to analyse the time series equation the relationship between FDI inflow and economic growth in Indonesia.

Keyword : FDI Inflow, economic growth, Cointegration

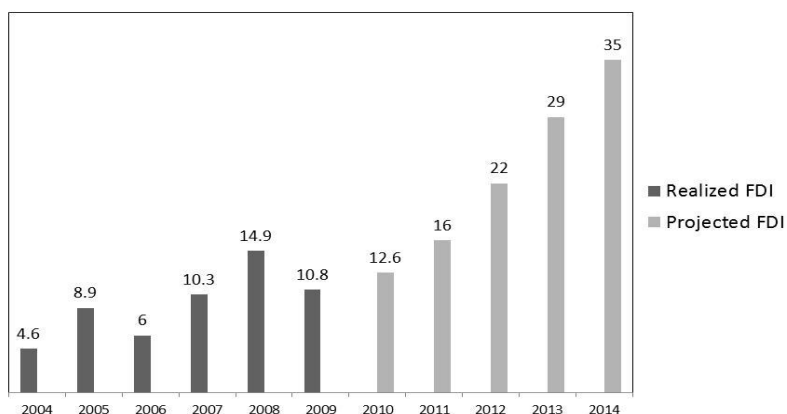
CHAPTER I. BACKGROUND

Introduction

Foreign direct investment (FDI) is a key pillar of sustainable economic growth and offers non-financial benefits, most notably positive spillovers such as productivity gains and knowledge transfers (ICB, 2010). It has also been shown that FDI works as a means of integrating developing countries into the global market place and increasing the capital available for investment, thus leading the increment of economic growth to reduce poverty and raise living standards (Msuya, 2007). Furthermore FDI benefited a host country, increase in GDP, technology transfer and job growth which occurred in China, Mexico and several countries in Central Europe.

Indonesia has opened for FDI since 1967 and has benefited its economic growth. Government of Indonesia (2008) stated that FDI inflows in Indonesia rose 73 percent to US\$10.3 billion last year in 2007. Further, the Investment Coordination Board plan to increase FDI inflow up to US\$ 35 billion in to 2014 as depicted in the following graph.

Graph 1. FDI inflow in Indonesia, measured in US\$ billion



Source : *Investment Coordinating Board.2010*

Parjiono (2003) mentioned there is bidirectional causality which support the Government of Indonesia's policy concerning attracting more FDI to foster economic growth. However, there have been pros and cons from the previous studies regarding the causality between FDI inflow and GDP growth and the effect of economic performance on FDI inflow. Kim (2004) mentioned in his study that the relationship between FDI and GDP growth has been intensely debated for decades and has been analysed across regions and countries by diverse econometric methods.

A positive relationship between these two factors is conventionally supported by some empirical studies, though there are still conflicting views on heterogeneous impacts of FDI in economic growth.

The Objective

It is important to see the causal relationship between FDI inflow and economic growth in order to see the performance within a country. In addition, this paper will explore the causal relationship between FDI inflow and GDP growth which can contribute in improving the level of welfare of the population.

Organization of the Study

The remainder of this paper will be organized as follows. Chapter 2, makes a theoretical framework and derivation of the model, review the empirical models in the literature, briefly explain the estimation methods used in this paper. Chapter 3, describe a

model from the theoretical and empirical literature, and explain the relationship between each variables. Some concluding remarks will be presented in chapter 4.

This chapter examines the literature regarding FDI inflow along with issues related to the theoretical framework and empirical evidence. The first component will discuss the theoretical framework of FDI inflow and economic growth. The next component presents the empirical results of causality of FDI inflow and economic growth.

Literature Review

Rajenthiran (2002) reported that Indonesia has the availability of vast, highly diversified natural resources, a huge potential domestic market, a competitive and productive labor force, and a market oriented economic policy, amongst other factors, that have attracted FDI inflows. Hence FDI inflow in Indonesia will be promising for MNC's to invest due to abundant resources.

FDI can be categorized into two types there are FDI inflow and FDI outflow. FDI outflow refers to direct in abroad, while FDI inflow refers to direct investment in the host countries or direct investment comes from abroad. (Azam and Lukman, 2010).

According to UNCTAD 1998, there are several factors that influence the FDI inflow position in the host countries. Host country determinants of FDI consist of 1) a host country policy framework for FDI, 2) business facilitation, and 3) economic determinants. Other research also mentioned that natural resources are a prominent FDI inflow determinant. Investment will most likely take place in countries that possess abundant resources.

There have been some studies explored the relationship between FDI inflow and economic growth, however the researches mentioned that FDI and economic performance has not been addressed specifically yet. Parjiono (2009) stated that exogenous and endogenous are appropriate to analyse the long run economic growth for an economy for the purpose of economic development.

He reported that the main difference between exogenous and endogenous models lays in the impact of the government policy on long run growth. In the exogenous growth model, any change in the factors and policy variables that can be conducted by the government has only a transitory effect, while the endogenous growth model predicts that any changes in the policy variables have a permanent effect.

To measure a time series data, cointegration and error correction model (ECM) will be employed to test the causality relationship between FDI inflow and GDP growth model. Cointegration and ECM approach demonstrates its logical system in testing both variables in the equation, which consist of FDI inflow and GDP growth. If FDI inflow and GDP growth are cointegrated then the relationship between the two can be expressed as ECM (Gujarati, 2009)

In brief, it is possible that the outcome from time series equation and cointegration and error correction procedures can be different. However, it is important to know the long run relationship between FDI inflow and GDP growth through cointegration process.

Empirical Literature

Empirical study that was conducted by Parjiono (2003) using data from 1971 – 2003 has shown that GDP growth and FDI inflow are integrated of order 1 and both variables are cointegrated of order 1, there is long run relationship between FDI and GDP growth. In addition, it is found that at 5% level of significant, there is bidirectional of GDP growth and FDI in Indonesia, in the other word there is a combination of both growth driving FDI and FDI growth at the same time.

Furthermore, there are pros and cons regarding the causality between FDI and economic growth. Previous researchers found that FDI boosted economic growth three times as much when compared with aggregate investment and FDI which has strong impact of the economic growth for developing countries, however this effect is limited to higher-income developing countries.

However, other researchers found little support for the importance of FDI in stimulating growth. They argued previous studies, which show the benefits of FDI on economic growth, have not fully taken into account the endogeneity problem. Countries with a good economic performance tend to attract more FDI. It was explored using two-way Granger causality in the relationship between FDI and China's economic growth.

Kim (2004) stated that there may be other factors that determine how much a country benefits from FDI, such as qualified of human capital in order to fully benefit from FDI and capital.

In another paper, Balasubramanyam et al. (1996) emphasise the importance of providing the right economic environment to ensure that FDI is beneficial to the economy. They find that countries with a neutral trade regime, where artificial incentives favour neither export-oriented nor domestic-oriented industries, fare better than countries where a specific

industry is favoured. This is because in a neutral regime, firms' decisions are governed by market forces rather than by artificial incentives. Moreover, a liberal regime also allows for competition between domestic and foreign firms and these in turn provide innovation and learning that contribute to economic growth.

Negative spill-over effects were found from foreign to domestic enterprises, that is productivity in domestic firms decrease as foreign investment increase. This is in contrast with most other studies that find positive spill-overs (Kim, 2004). The reason is that these studies are often estimated at the industry level and do not take into account differences in productivity across industries. Therefore, if foreign investors are attracted to more productive industries, these could lead to the (wrong) conclusion that foreign investment has positive spill-over effects on the economy.

MODEL AND METHODS OF ESTIMATION

3.1. Introduction

Ordinary Least Square model will be employed to correlate FDI inflow with the explanatory variables. The model will be based on theoretical literatures that have been mentioned in chapter 2. The relationship between dependent variable and independent variables will be defines based on theory from the expected sign.

3.2. The Model

Based on the theoretical and empirical literature, the econometric model depicted as follow :

$$FDI_i = \beta_0 + \beta_1 GDPgrowth_i + \mu_i \quad (1)$$

Where : FDI_i is Foreign Direct Investment net inflow , measured in percentage
 $GDPgrowth_i$ is Annual Gross Domestic Growth , measured in percentage
 μ_i is residual or error term
And the Subscript t denotes the time period

The data used in this paper are yearly time series data during the period of 1970 until 2010 from worldbank in the internet¹. Data in FDI net inflow and annual GDP growth are measured in percentage.

¹ <http://data.worldbank.org/country/indonesia>

3.3. Method of Estimation

This paper will use Cointegration analysis within Engle – Granger procedure and explores the causal relationship between FDI and GDP growth for period 1970 – 2010 in Indonesia. In order to employ Engle – Granger methodology of cointegration, the first step is to test for unit root using Augmented Dickey Fuller (ADF) tests. And the second step is to estimate the long run equilibrium relationship between the variables using Johansen and Coefficient cointegration. Finally, estimate the error correction model. If the model is cointegrated then the model will as follows :

$$\Delta FDI_i = \beta_0 + \beta_1 \Delta GDP growth_i + \beta_2 u_{t-1} + \epsilon_i \quad (2)$$

Where : ϵ_t is a white noise error term

u_{t-1} is the lagged value of the error term in equation 1

Cointegration approach is a relatively recent econometric method used for estimating long-run relationship between two or more variables particularly using time series data.

CHAPTER 4.

CONCLUSION

Based on empirical studies, there is positive relationship between FDI inflow and economic growth. As we can see from Parjiono (2003) research, he mentioned that there is causality relationship between these two variables.

The long run relationship between FDI inflow and economic growth can contribute in improving the level of welfare of the population.

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