CHAPTER II

Review of Related Literature, Conceptual Framework, and Hypotheses Development

2.1 Literature Review

The discussion of this sub-chapter is begun with the theory of FDI and then followed by the determinants of FDI inflows. Forward, the potential determinants of inward FDI are elaborated in theoretical and empirical perspectives. To summarize the empirical evidence, a list of related previous studies is presented in Table 2.

2.1.1 Foreign Direct Investment (FDI): Theory

Foreign direct investment (FDI) is defined as a long-term investment which is directly conducted by foreign investors in particular domestic industry/industries. FDI is a relatively stable investment in a long-run. This criterion is believed can support the economy as an alternate funding source and a significant job creator. Moreover, the presence of FDI in a host country reflects the foreign investors’ confidence to do their economic activities in that country which leads to capital inflows’ uplift.

FDI conducted by countries in the world is initially put forward by following notions (Banga, 2003):
1) Market imperfection theory (Hymer, 1960), which posits that FDI is a direct effect of market imperfection.

2) Internalization theory (Rugman, 1986), where FDI is used by multinationals to take the advantages from host countries internal efficiency.

3) Eclectic approach (Dunning, 1987), where FDI is utilized to take ownership, internalization, and locational benefits.

2.1.2 Determinants of FDI: Theory Overview

There are many theories that try to elaborate the determinants of FDI. These theories are essential phases towards the development of a systematic framework for the emergence of FDI. The theory proposed by Dunning and Lundan (2008) is one of the most quoted by authors working on FDI. They describe three major types of FDI, namely (1) market-seeking FDI, (2) resource-seeking FDI, and (3) efficiency-seeking FDI. These types of FDI are based on the investments’ rationale from the viewpoint of the investing firm.

Market-seeking FDI is the first type of FDI which aims to cater local and regional markets. It is also called horizontal FDI since the investing firms duplicate the same activities and production facilities in the host economy. Tariff-jumping or export-substituting FDI is a variant of this type of FDI. Market size and market growth of the host nation significantly attract this kind of FDI because the reason for horizontal FDI is to better serve the local market by local production. Moreover, tariffs, transport costs, and other factors that hinder MNCs to accessing local markets also encourage this type of FDI.
A second type of FDI, resource-seeking FDI, intends to obtain resources that are not available or limited in the home country, such as natural resources, raw materials, or low-cost labor. This type of FDI is also called vertical or export-oriented FDI. When MNCs, especially in the manufacturing sector, directly invest to export, cost becomes their main consideration. Thus, vertical or export-oriented FDI requires relocation of all or part of production chain to the host country, where the low-cost labors are available. Naturally, FDI in the resource sector, such as oil and natural gas, is attracted to countries with abundant natural endowments.

The third type of FDI, called efficiency-seeking, takes place when the firm can gain from the common governance of geographically dispersed activities in the presence of economies of scale and scope. Efficiency-seeking FDI is not only export-oriented, but also key to export diversification. Even though it typically harder to attract, efficiency-seeking FDI can create more diversified new jobs with greater productivity and value. It can also lead to expertise and technology transfers, boosting R&D and economic upgrading in the process.

2.1.3 FDI and Market Size: Theory and Evidence

The economic literature on FDI considers the size of the market in the destination or host country to be vital determinant of investment. The size of the market or per capita income is an indicator of the sophistication and breadth of the domestic market. Through market size, investors can measure the potential of local sales, greater profitability of local sales to export sales, and relatively diverse resources, which make local sourcing more feasible. Thus, a large market size
provides more opportunities for sales and also profits to foreign firms and therefore attracts FDI, which is well-known as the size-of-market theory (Balassa, 1966; Scaperlanda and Mauer, 1969).

The nexus of GDP and FDI also can be explained by the acceleration principle, which states that an increase or decrease in the demand for consumer goods will cause a greater increase or decrease in the demand for machines required to make those goods. In other words, there is a direct relationship between the rate of output of an economy and the level of investment in capital goods.

In econometric studies, market size, commonly quantified by GDP or GDP per capita, is apparently the most solid FDI determinant. Boateng et al. (2015) confirmed that market size, represented in real GDP and sector GDP, positively and significantly affects FDI inflows when they examined the impact of macroeconomic factors on FDI inflows in Norway under the location-specific advantage. Similarly, Kaliappan, Khamis, and Ismail (2015) also found a robust effect of market size in service sectors FDI inwards in ASEAN countries, along with human capital, the availability of quality infrastructures, and trade openness.

Besides GDP, population is also frequently used as a proxy of market size. Large populations indicate a large market for products and services offered by foreign firms, a large labor force and sometimes a vast skill base. In empirical terms, Aziz and Makkawi (2012) found a positive relationship between population and FDI when they analyze the relationship between FDI and country population by utilizing the Pearson correlation method. Similarly, Hasen and Gianluigi (2007) examined the determinants of FDI inwards in Greek regions and concluded that
foreign investors choose to locate in regions with larger consumer demands and larger populations.

2.1.4 FDI and Infrastructure Availability: Theory and Evidence

The availability of quality infrastructure, particularly electricity, water, transportation, and telecommunications, is a crucial determinant of FDI (Sahoo, Nataraj, and Dash, 2014). Infrastructure has a direct impact on cost of production, as good infrastructure increases effective utilization of labor force and minimizes cost of production. In addition, proper infrastructure will ease the access of output distribution and that will improve the efficiency and effectiveness of production.

Most of the empirical work on FDI produced conclusive evidences, which support the positive relationship between FDI and infrastructure availability. For instance, Bao, Chen, and Song (2011) verified a positive and significant role of road development in attracting foreign funds into China. Furthermore, Shah (2014) claimed that qualified and well-developed infrastructure that is measured in telephone-density positively stimulates FDI inflows as it potentially increases the productivity of investments in 90 developing countries.

2.1.5 FDI and Human Capital: Theory and Evidence

The hypothesis that human capital in host countries is a catalyst of foreign investment has been embodied in the theoretical literature. When multinationals transfer their operations to other countries, they are motivated by reduction in transaction costs. They look for destinations where the transaction costs of training
workers to use new technologies are minimized. Therefore, this view justifies the importance of human capital as a determinant of FDI inflows.

In accordance with the nexus between human capital and FDI inflows, (Zhang and Markusen, 1997) developed a model where the availability of skilled labor in the host country is a direct requirement of multinationals and affects the volume of influx FDI. Their theory hypothesizes an inverse U-shaped relationship between human capital and foreign direct investment (see Figure 3). It means that multinationals will not invest, even if the wages of unskilled-labor in the host country are very low, due to insufficient human capital.

![Figure 3. The Inverse U-Shape of FDI/GDP and Human Capital](image)

*Source: M. S. Akin, V. Vlad, the relationship between education and foreign direct investment: testing the inverse U-shape, European Journal of Economic and Political Studies, 2011, p.28*

In empirical study, various scholars haven taken different proxy for human capital development with mixed results. Petrakou (2013), for example, found that share of population with tertiary education as a proxy of human capital, significantly and positively influences FDI inflows in the Greek regions along with
market size, geographic position, and the presence of localization economies. Similarly, by using panel data of 57 low and lower middle income countries from 2000 to 2009, Hussain and Kimuli (2012) also discovered that availability of skilled labor force is one of the most significant determinants which promote FDI in developing countries. Conversely, Hassaballa (2014) utilized secondary school enrollment ratio to investigate the effect of human capital on FDI inflows in 22 developing countries over the period 1990-2010. The results show that there is no significant impact of secondary school enrollment ratio on FDI inflows.

2.1.6 FDI and Environment: Theory and Evidence

Concerning environment as a determinant of FDI inflows, the classical trade perspective of comparative advantage considers environment as another factor of production where stringent environmental laws increase production costs. Accordingly, developed economies with stringent environmental laws will have relatively high production costs. Consequently, these countries will not have comparative advantage in polluting industries as they cannot compete. While developing nations with loose environmental policies will have comparative advantage in polluting industries due to relatively lower production costs. Hence, developing countries specialize in polluting industries and their environmental regulations will attract polluting FDI.

Based on the pollution haven hypothesis, there is a positive nexus between FDI inflows and weak environmental policies. This is because the freer the trade and movement capital is, the greater the shift of polluting industries from countries
with strict environmental policies to countries with loose environmental policies will become. Two empirical results could be deduced from this hypothesis. First, there is a positive relationship between lax environmental laws and FDI inflows in developing countries. Also, there is a positive relationship between FDI outflows and stringency of environmental laws in developed economies.

Opposite to this, the neo-technology trade perspective states that FDI and the environment exhibit a positive relationship. For example, the pollution halo hypothesis believes that FDI inflows can have a positive effect on the environment. This is through the transfer of environmentally friendly techniques of production via FDI from developed countries to the developing ones that rely on environmental damaging techniques.

In empirical work, there are some variables that have been recently employed to quantify the laxity of environmental regulations, such as environmental quality indexes, CO₂ emissions, land degradation, and others. Interestingly, empirical evidence on whether environmental degradation and lax environmental policy attract inward FDI is inconclusive. On the one side, by using Granger causality test, Hoffmann et al. (2005) found that CO₂ levels cause inward FDI flows in low income countries. In addition, industrial Sulphur Dioxide (SO₂), industrial dust, industrial polluted water, and industrial solid wastes are also empirically proven to be the attracting factors of FDI inflows in China (Bao et al., 2011). Moreover, by observing FDI of several US industries, Xing and Kolstad (2002) also discovered that the laxity of environmental regulations in the host country is a significant determinant of FDI for heavily polluting industries. On the other, Kirkpatrick and
Shimamoto (2008) utilized a logit model to observe the impact of the environmental degradations in host countries on the Japanese FDI decision-making. The results imply that inward Japanese FDI appears to be attracted to countries which have committed themselves to a transparent and stable environmental regulation.

Table 2. List of Related Previous Studies

<table>
<thead>
<tr>
<th>Authors</th>
<th>Method</th>
<th>Location</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boateng et al., (2015)</td>
<td>FMOLS and VAR/VECM</td>
<td>Norway</td>
<td>Real GDP, inflation rate, exchange rate, money supply, unemployment and trade openness have significant impacts on Norwegian FDI inflows.</td>
</tr>
<tr>
<td>Kaliappan et al., (2015)</td>
<td>Pooled OLS</td>
<td>ASEAN countries</td>
<td>FDI is positive and significantly determined by human capital, the availability of quality infrastructures, market size and trade openness.</td>
</tr>
<tr>
<td>Bao et al., (2011)</td>
<td>Three-stage least square (3SLS)</td>
<td>29 provinces in China</td>
<td>Road length, SO2, industrial dust, polluted water, and solid wastes are major FDI inflows’ determinants.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Larger market size increases FDI inflows.</td>
</tr>
<tr>
<td>Hussain and Kimuli (2012)</td>
<td>OLS and TSLS</td>
<td>57 countries (low and lower middle income)</td>
<td>Market size (GDP per capita) is the most important determinant of FDI.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Availability of skilled labor (secondary school enrollment rate) and developed financial sector promote FDI.</td>
</tr>
</tbody>
</table>
2.2 Conceptual Framework

In accordance with the theory and empirical studies regarding to the determinants of inward FDI that have been elaborated in the preceding paragraphs, the author formulated a conceptual framework as follows:

![Conceptual Framework Diagram]

Figure 4. Conceptual Framework
2.3 Hypotheses Development

In previous paragraphs, this paper has presented facts, figures, theory, and evidence regarding the determinants of FDI. Those discussions have led the author to formulate the following hypotheses:

1) From a theoretical viewpoint, a larger market size is assumed to imply better market opportunities and greater attractiveness for FDI. Considering the above discussion, market size, which is measured by Gross Regional Domestic Product (GRDP)\(^1\) and population in this research supposedly has a positively affects FDI inflows in Indonesia.

2) The amount, availability, and quality of supportive infrastructure is critical for smooth functioning of production and trade activities. Proper infrastructure can significantly abate overhead costs (Asiedu, 2005) and thereby positively affect investor’s location decision (Z. Shah and Ahmed, 2003). In line with the above argument, infrastructure availability supposedly has a positive effect on FDI inflows in Indonesia.

3) Countries with a large supply of human capital attract more FDI, particularly in sectors that are relatively intensive in the use of labor. Therefore, the hypothesis in this study is the availability of skilled labor force has positive effect on inward FDI in Indonesia.

4) Given the fact that during the period of study, the rising trend of FDI inflows has been followed by higher levels of several environment degradation indicators. Based on that, the author assumes that PHH exists in Indonesia. Accordingly,

\(^1\) Gross Regional Domestic Product (GRDP) represents the market size in regional level.
the hypothesis is the laxity of environmental laws, that is reflected in environmental quality, positively influences FDI inflows in Indonesia.