Financial Market Development, FDI and Economic Growth in Iran

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Abstract: The aim of this paper is that the role financial market developments play in mediating the impact of FDI on economic growth. Results indicate that the effect of FDI on economic growth is non-linear in nature. FDI has a negative effect on economic growth when financial development is low level but FDI has a positive effect on economic growth when financial development exceeds a threshold level. Threshold variable is the ratio of private creditors in GDP. We found threshold value about 0.005 in GDP.
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1. Introduction

There are the most studies about the effect of foreign government debt (FDI) on economic growth. In prior studies, this relationship between FDI and economic growth was ambiguous (Gorg and Greenaway, 2004). A number of economic models suggest that the relationship between FDI and growth may be contingent on other intervening factors (Saini, Law and Ahmad, 2010). Hermes and Lensink (2003) predict that the impact of FDI on economic growth is contingent on the development of financial markets of the host country. They show that well-functioning financial markets reduce the risks inherent in the investment made by local firms that seek to imitate new technologies and thereby improve the absorptive capacity of a country with respect to FDI inflows.

Alfaro, and et.al (2004) examined the various links among foreign direct investment, financial markets and growth. They modeled an economy with a continuum of agents indexed by their level of ability. They expressed that Agents have two choices: they can work for the foreign company in the FDI sector and use their wealth to earn a return or they can choose to undertake entrepreneurial activities, which are subject to a fixed cost. Better financial markets allow agents in the economy to take advantage of knowledge spillovers from FDI. Their empirical evidence suggests that FDI plays an important role in contributing to economic growth. However, the level development of local financial markets is crucial for these positive effects to be realized.

Saini, Law and Ahmad (2010) used a threshold regression model and found new evidence that the positive impact of FDI on growth "kicks in" only after financial market development exceeds a threshold level. Until then, the benefit of FDI is non-existent.

Cheng and Xu (2011) used 29 provincial regions (excluding Tibet and Chongqing) panel data, analyses through the financial development make load to the non-state sector and foreign investment sector, reducing the efficiency of the banking sector taking impact on economic growth found that: First, to increase non-state credit scale to promote economic growth in their country. But increase the size of credit scale in FDI sector had no significant effect to the central and western regions' economic growth; Second, the increase of the foreign investment sector credit scale to reduce the credit expansion negative impact to economic growth in the whole country and the eastern and western. But also the increase to non-state sector credit scale to reduce the positive effect on economic growth, this phenomenon in the central region was not significant. They found that FDI has a crowding-out effect to the domestic non-state sector in the credit markets.

The aim of this paper is that the role financial market developments play in mediating the impact of FDI on economic growth.

2. Material and Methods

We argue that a model particularly well suited to capture the presence of contingency effects and to offer a rich way of modeling the influence of financial markets on the dynamics of FDI and growth is the following threshold specification.

$$\dot{g} = \alpha X_t + \begin{cases} \beta_1 FDI_t + e_t, & FIN \le \gamma \\ \beta_2 FDI_t + e_t, & FIN > \gamma \end{cases} \quad (1)$$

where $\dot{g}$ is the average growth rates of real GDP over the 1971-2008 period, FDI is the share of foreign direct investment in GDP, and X_t is a vector of

variables hypothesized to affect output growth, which includes oil revenues growth, population growth rates, investment-GDP ratio. In this model, financial market indicators (*FIN or* **Private Creditors/GDP**) act as sample-splitting (or threshold) variables and will be explained in the following section. The above specification allows the effects of FDI on growth to take two different values depending on whether the level of financial development is smaller or larger than the threshold level. The impact of FDI on growth will be β1 (β2) in low (high) regime.

There are two issues that need to be addressed here. The first is to determine the estimate of γ and the slope parameters α and β's. We determine $\hat{\gamma}$ by experimenting Equation (1) with all possible values of γ, and $\hat{\gamma}$ is the minimum of the residual sum of squares computed across all possible values of γ (see Hansen, 2000). Once $\hat{\gamma}$ is identified, estimates of the slope parameters follows trivially as $\hat{\alpha}(\hat{\gamma})$ and $\hat{\beta}(\hat{\gamma})$. The second issue is to test the significance of threshold parameter γ. Since γ is not identified under the null, we conduct inferences via a model-based bootstrap whose validity and properties have been established in Hansen (1996, 2000).

To sum up, our goal here is to first test for the presence of threshold effect and if it is supported by the data to estimate Equation (1) so as to assess the statistical significance of β1 and β2.

3. Results

Results indicate that the effects of FDI on growth are non-linear in nature. FDI has a negative effect on economic growth when financial development is low level but FDI has a positive effect on economic growth when financial development exceeds a threshold level. Threshold variable is the ratio of private creditors in GDP. We found threshold value about 0.005 in GDP. Threshold test by bootstrapping method confirm the threshold effect.

The share of oil revenues in GDP has a negative effect on economic growth after threshold regime but this variable has not significantly effect on economic growth before threshold regime. This confirm the resource curse hypothesis in Iran economy.

Table 1. Estimation Results

	Threshold<0.005237		**Threshold≥0.005237**	
Variables	**Coefficient**	**P-value**	**Coefficient**	**P-value**
c	**-1.53**	**0.89**	**23.85**	**0.06**
Investment/GDP	**-5.06**	**0.24**	**-0.71**	**0.11**
FDI	**-5.065**	**0.04**	**2.47**	**0.00**
Oil revenues/GDP	**1.92**	**0.21**	**-5.31**	**0.00**
Population growth	**-0.73**	**0.80**	**2.43**	**0.48**
Threshold Variable (Private Creditors/GDP)	**0.005237**	**0.00**	**0.005237**	**0.00**
R^2	**0.41**		**0.89**	

In addition, other variables have not a significantly effect on economic growth in both regimes.

4. Discussions and Conclusion

One major contribution of the paper is the adoption of the regression model based on the concept of threshold effects to capture rich dynamic in the relationship between FDI, output growth, and financial markets. We find that the positive effect of FDI on economic growth only after financial markets development exceeds a threshold level. This finding underlines the importance for government to emphasize on diffusion aspect in formulating FDI policies as knowledge diffusion is not sustained on welfare ground. Therefore, policies directed towards attracting FDI should go hand in hand with, not precede, policies that aims at promoting financial market developments.

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