E-government : A Stimulus for FDI

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Presentation Organization

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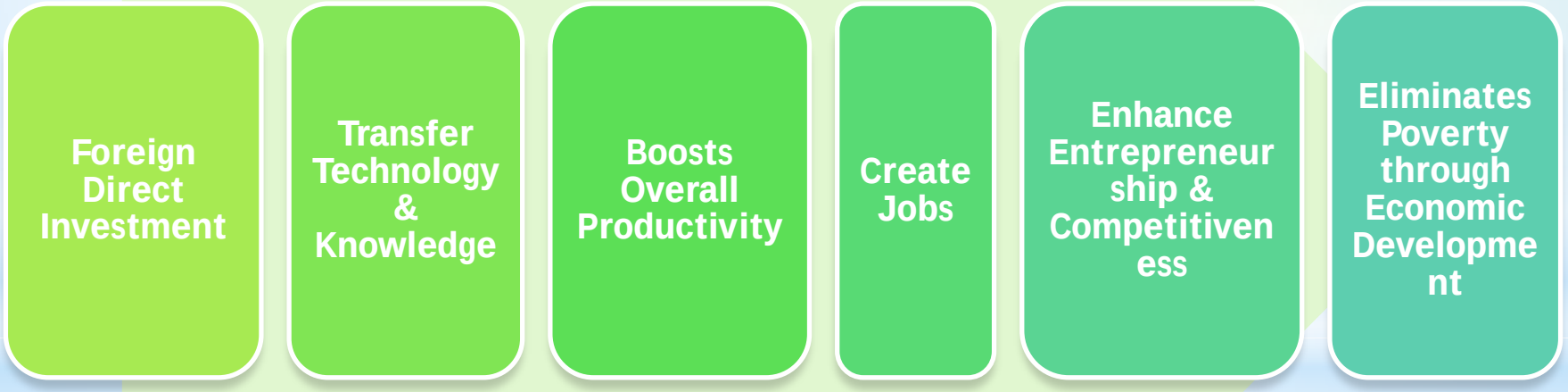
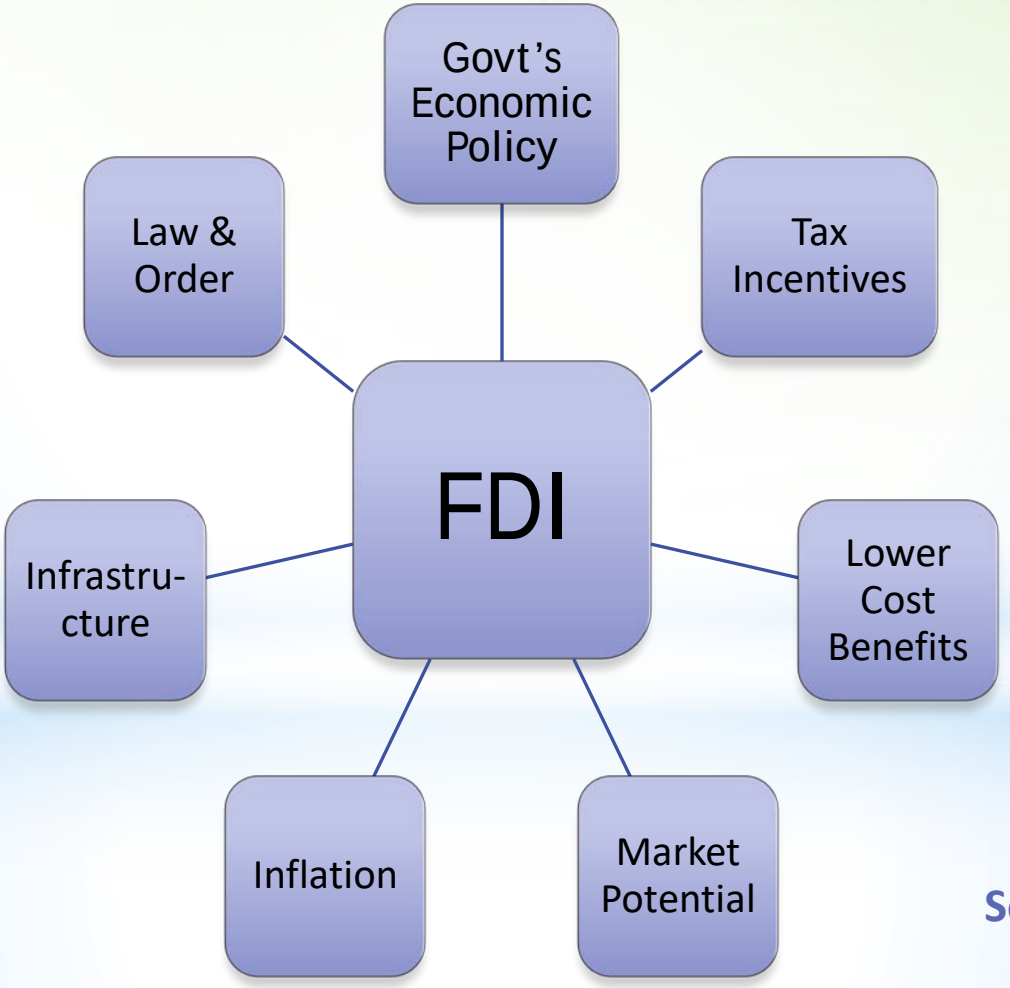
Introduction

Foreign Direct Investment is an investment in the form of controlling ownership in a business enterprise in one country by an entity based in another country. FDI is the sum of equity capital, other long-term capital, and short-term capital.

*Foreign Direct Investment



*FDI Depends on

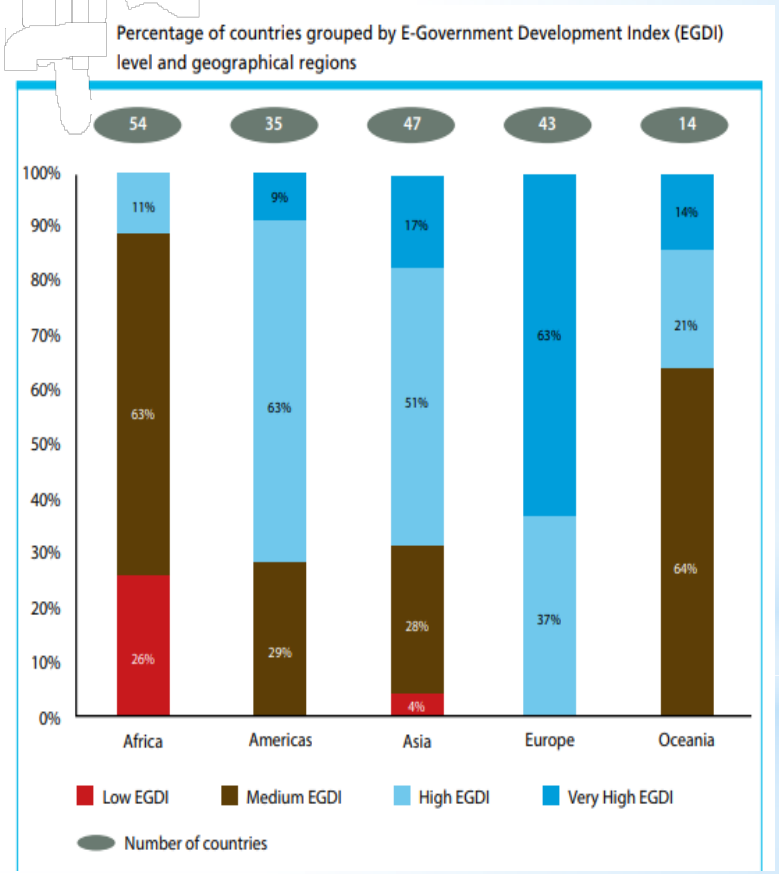


So on……

- Similarly, like other determinants of FDI as mentioned above, information and communication technology also plays its role in attracting foreign investors. In the domain of information technology, e-government is a prominent application area.

E-Government

- E-government is a process where governments interact with people, conduct business meetings for private and public companies and deliver services through tools of Information Communication Technology (ICT) such as fixed landlines phones, mobile phone, broadband internet, search engines, e-mail and World Wide Web (www) (United Nations Report, 2001; World bank, 2001; West, 2001).



UN E-government Survey 2018

*E-Government & FDI

- E-government services can be utilized as promotion technique that help to eradicate foreign direct investment barriers.
- E-government provides an opportunity for investors to reduce the cost and time which investors spend on getting various information about host country's government rules, regulations, institutions and in submission of different permits and forms.

*E-Government & FDI

ICT adoption → lessen transaction & Information cost → Encourage FDI

(Jeon et al.,2005; Ojha et al.,2008; Brown 2009)

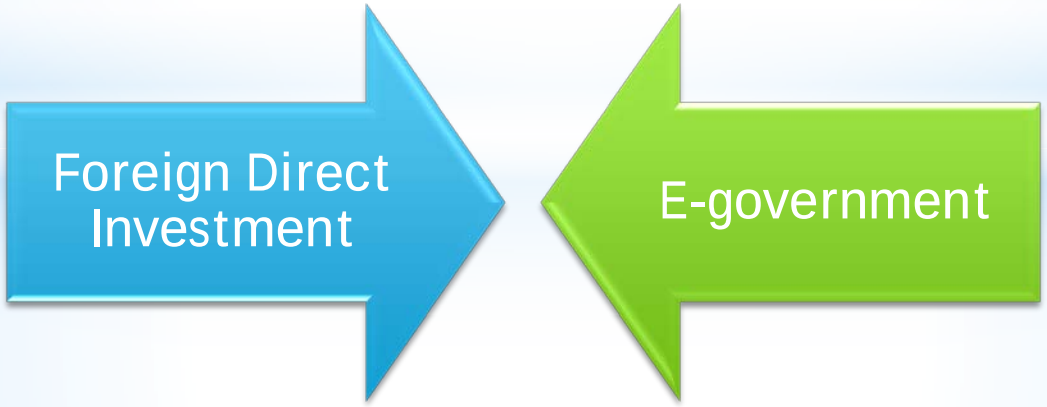
Some other studies have investigated relation of FDI with ICT and Internet (Choi, 2003; Jeon & Zhu, 2005; Kachwamba & Saebo, 2012) .

Research Problem

- A vast literature back up the argument that ICT adoption has impact on FDI. However, empirical evidence to favor this view with e-government is limited.

*Research Questions

- Does e-government implementation an important enterprise to attract foreign investment?
- Does FDI Granger cause e-government in a country?



*Contribution

- **Firstly**, this study incorporates a sufficiently large data set for empirical investigation.
- **Secondly**, addressed the problem of endogeneity in model by using a variety of external as well as internal instruments.
- **Finally**, in the end we extend our investigation to further check whether results are sensitive to other determinants of FDI.

*Methodology

In our study relationship of FDI with other variables is functionalized as:

FDI = f (e-government, market size (GDP), trade openness, government stability, population growth, inflation, Infrastructure (electricity consumption))

For the estimation purpose variables are transformed in natural log:

$$lFDI_{it} = \beta_{it} + \beta_1 egi_{it} + \beta_2 yg_{it} + \beta_3 ltr_{it} + \beta_4 gsta_{it} + \beta_5 popg_{it} + \beta_6 linf_{it} + \beta_7 lepc_{it} + \varepsilon_{it}$$

Techniques used in this study include OLS method, Two Stage Least Square (2sls) method, system GMM regression and sensitivity analysis to check the robustness of our results.

*Methodology

The independent variable e-government is theoretically endogenous in this study. We have used Two Stage Least Square (2SLS) in cross sectional data and System GMM in panel data to tackle this problem.

In first stage equation of (2SLS) technique, endogenous variable 'e-government' is regressed on exogenous instruments; Internet users, telephone subscription, urban population and initial value of e-government.

$$e-government_{it} = \theta_{it} + \theta_1 internet_{it} + \theta_2 telephone\ subscription_{it} + \theta_3 Urban\ population_{it} + \theta_4 initial\ e-government_{it} + \vartheta_{it}$$

Now the main equation of e-government can be written in 2SLS second stage final equation form as following:

$$lFDI_{it} = \beta_{it} + \beta_1 \hat{egi}_{it} + \beta_2 yg_{it} + \beta_3 ltr_{it} + \beta_4 gsta_{it} + \beta_5 popg_{it} + \beta_6 linf_{it} + \beta_7 lepc_{it} + \varepsilon_{it}$$

Here $\hat{egi}$ is predicted value of e-government variable.

* Data sources and Period of analysis selected for the study

The panel data is used for the period of 1984 to 2014 for 132 countries. The main sources consulted to acquire data for all the indicators used in the present study are

- United Nations Conference on Trade and Development
- International Country Risk Guide
- United Nations Public Administration Projects
- World Bank (WDI)

* Empirical Results and Estimations

Cross sectional results

	Dependent Variable: Log FDI	
Variables	**OLS Results**	**2SLS Results**
E-government index	1.614**	2.338**
	(0.668)	(1.100)
GDP growth	0.0979**	0.226
	(0.0374)	(0.225)
Log trade	0.694***	0.779***
	(0.119)	(0.194)
Government stability	0.155**	0.248**
	(0.0701)	(0.125)
Population growth	-0.158***	-0.213*
	(0.0587)	(0.111)
Log inflation	0.139***	0.215***
	(0.0431)	(0.0460)
Log energy consumption	-0.174**	-0.241
	(0.0793)	(0.141)
Constant	-3.263***	-4.719***
	(0.613)	(1.164)
Observations	114	94
R-squared	0.424	0.364
Over identification test for 2SLS		P = 0.502
Endogeneity test for 2SLS		Robust score P = 0.4951 Robust regression P = 0.4520
Parentheses containing standard errors *** p<0.01, ** p<0.05, * p<0.1		

Panel Results

Dependent Variable: Log FDI		
Variables	**OLS**	**System GMM**
L.log FDI		0.859***
		(0.158)
GDP growth	0.0213***	0.0219
	(0.00626)	(0.0147)
Log trade	0.647***	0.233
	(0.0707)	(0.179)
Government stability	0.0451*	0.0745
	(0.0248)	(0.0658)
Population growth	-0.0280	0.00325
	(0.0216)	(0.0317)
Log inflation	0.103***	0.287**
	(0.0383)	(0.127)
Log energy consumption	-0.0408	-0.116
	(0.0481)	(0.0839)
E-government index	0.989***	1.350*
	(0.375)	(0.695)
Constant	-2.592***	-1.843**
	(0.367)	(0.855)
Observations	790	752
Number of countries	0.140	112
AR (1)		0.009
AR (2)		0.465
No. of instruments		20
Sargan test		0.188
Hansen test		0.361
Parentheses containing standard errors *** p<0.01, ** p<0.05, * p<0.1		

- Gholami et al., (2006) have examined that for developed countries, ICT infrastructure that already exists attract FDI but for developing countries this causality direction is from FDI to ICT means FDI inflow causes the need to increase development in ICT.

- Results of our study indicate that there is strong causality from e-government towards FDI as the probability value is less than 0.05. On the other hand, FDI also Granger cause e-government at 10 percent level of significance.

Granger Causality test for panel data		
Null Hypothesis	**F-statistic**	**Probability**
E-government does not Granger cause FDI	4.2162	0.0155
FDI does not Granger cause e-government	2.5120	0.0826

Conclusion

- Findings suggest that e-government implementation is an important initiative in order to attract more foreign investors and there is a bi-directional causality between FDI and E-government in case of panel data.
- Results are also robust with the inclusion of unemployment, Government expenditures and law & order variables in sensitivity analysis.

Policy Recommendations

- For high FDI inflows, the development of communication infrastructure especially e-government should be on priority list for countries.
- Government can also provide subsidies to enhance e-government projects.
- Government may also need to assign more resources to train citizens and officers on e-government services to increase the participation of people in e-government.
- Organizational measures are necessary for the proper implementation of any national initiative.


thanks