Diaspora în Cercetarea Ştiinţifică şi Învăţământul Superior din România

Workshop: Cultură, Drept și Dezvoltare Economică

BANQUE DE FRANCE
EUROSYSTÈME

UNIVERSITE D'ORLEANS

Investiții străine, instituții si creștere economică

Cristina JUDE
Banca Națională a Franței

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Structura prezentării

- **Natura duală a investitiilor straine directe**
- **Contributia ISD la progresul tehnic. Focus Romania**
- **ISD si acumularea de capital. Focus Europa Est**
- **Rolul mediator al institutiilor**

Prezentarea se bazeaza pe rezultatele a trei articole:

1. Jude C., Levieuge G. (2016). “Growth Effect of Foreign Direct Investment in Developing Economies: The Role of Institutional Quality » *The World Economy* (2016), doi: 10.1111/twec.12402
2. Jude C. (2015) Technology Spillovers from FDI. Evidence on the Intensity of Different Spillover Channels, The *World Economy* (2015) doi: 10.1111/twec.12335
3. Jude C. (2015). "Does FDI Crowd out Domestic Investment in Transition Countries?," LEO Working Papers / DR LEO 2301, Orleans Economics Laboratory / Laboratoire d'Economie d'Orleans (LEO), University of Orleans.

Conceptual framework

Dual nature of FDI

Capital flow	Technology flow
• Contribution to capital accumulation	• Contribution technical progress
• Transitory effect on growth	• Long-run effect on growth
• Exogeneous perspective on growth	• Endogeneous perspective on growth

Institutions: catalytic role

Overall effect on economic growth

1. Technology spillovers from FDI

- FDI : a viable solution to spur economic growth, through productivity improvements (deMello, 1997) and the associated multiplier effect

- Most innovation created in developed countries.
- FDI is “the cheapest” and “the most effective form” of technology transfer (Blomstrom and Kokko, 1998 ; Campos and Kinoshita, 2002)

- Channels of technology transfer through FDI: competition, demonstration/imitation, labor mobility, inter-sectoral linkages

- Central and Eastern Europe:
  - in need of technology transfer
  - Special incentives to attract FDI. Are they justified ?

What is the direction and the intensity of FDI technological spillovers in Romania?

How do we investigate technology spillovers ?

Are foreign firms technologically superior to domestic firms ?

Yes

Are there strong linkages between foreign and domestic firms ?

No

No potential for technology transfer and productivity enhancement

No

Low potential for technology transfer

Yes

High potential for technology transfer

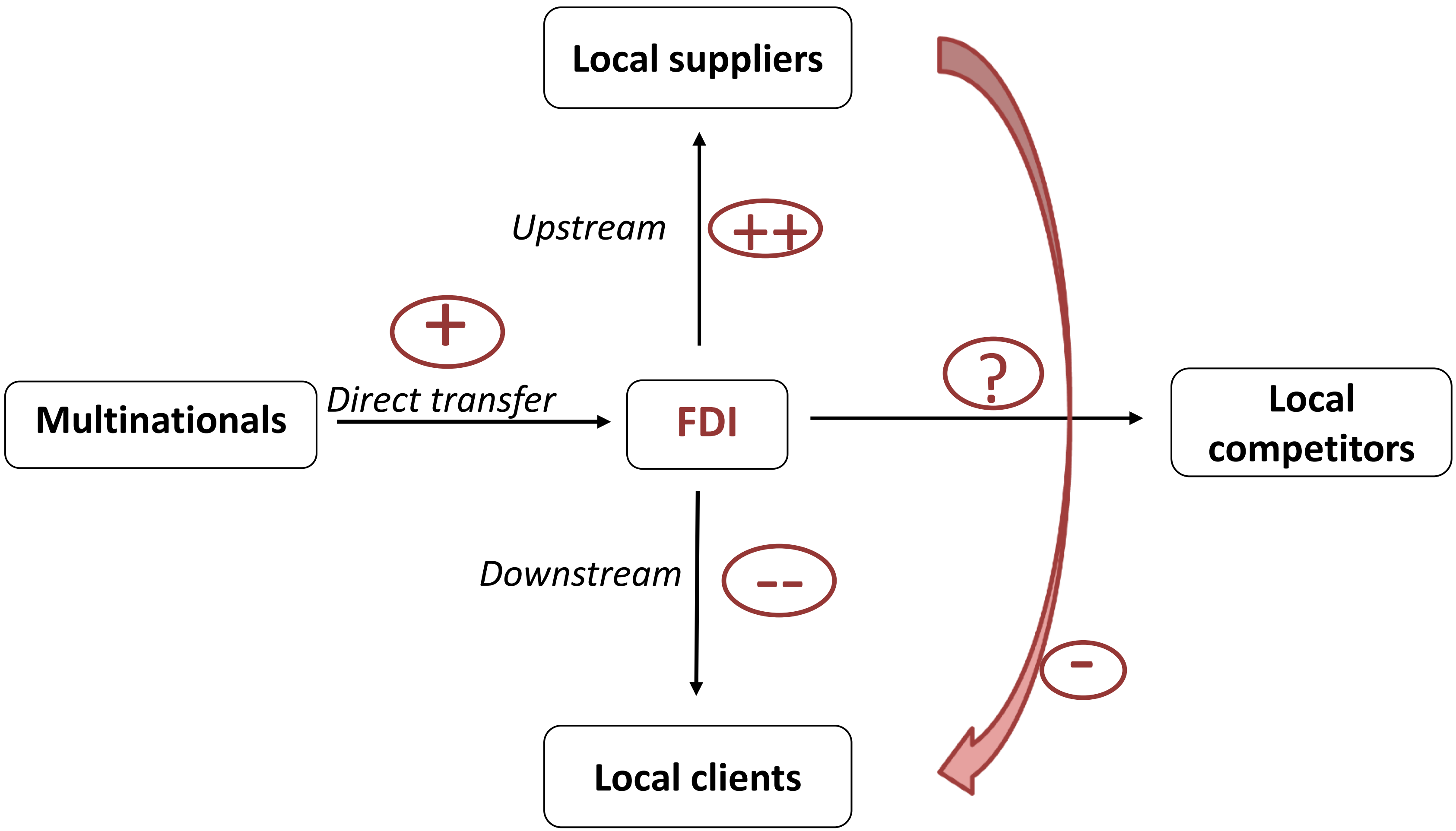
Absorptive capacity of local firms

Technological spillovers leading to increase/ decrease in domestic firms' productivity

Empirical analysis

- Micro level data:
  - ~2000 Romanian firms, from 33 industries (whole economy)
  - 1999-2007 period
  - 6 Input-Output tables
- Empirical analysis based on sectoral proxies for the different spillover effects
- Absorptive capacity proxied by: human capital, R&D, technological gap

Technological spillovers from FDI in Romania



The position in the supply chain is essential !

2. FDI and capital accumulation

- Direct and <u>indirect</u> contribution to capital accumulation

Real market	Financial market
FDI affects the demand addressed to local firms	FDI improves access to finance for local firms
(competition, use of local inputs)	(financial resources, interest rates)

Substitution (crowding-out) effect
Complementarity (crowding-in) effect

- Does FDI really contribute to capital accumulation in CEE?
- Does it crowd-out or stimulate local investors?
- Do different types of FDI matter?

Empirical framework

- Difficulty in empirically disentangling foreign from domestic investment (BOP statistics vs national accounts).
- FDI is not a net addition to the existing capital stock !
- Short and long run elasticities based on a dynamic investment function

$$GFCF_{it} = \alpha GFCF_{it-1} + \beta_1 GDP_{it-1} + \beta_2 INT_{it} + \beta_3 FDI_{it} + \beta_4 K_{it} + \beta_5 X_{it} + \upsilon_i + \varepsilon_{it}$$

Hypotheses on the effect of FDI on domestic investment:

	Short term	Long term	Impact
H1	+	+	Crowding-in
H2	+	-	Temporary crowding-in
H3	-	-	Crowding-out
H4	-	+	Creative distruction

Data and main results

- Data for the empirical analysis:
  - Panel of 10 CEEC (Bulgaria, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia, Slovenia)
  - Period 1990-2010

- Results for Central and Eastern Europe :
  - *short term substitution* between FDI and domestic investment
  - the intensity of crowding-out decreases with time
  - However, no long run complementarity identified

- FDI seems to discourage domestic investment in CEE

Greenfield and M&A

- FDI usually seen as a homogeneous capital flow
- However, greenfield and M&A have potentially different implications for K accumulation due to the *motivation* of foreign investors

Greenfield FDI

- net addition to the K stock
- export oriented
- interaction on the real market

M&A

- no immediate addition to the K stock
- locally oriented
- Interaction on the financial market

	Short-term	Long-term	Conclusion
FDI - total	**-**	**-/0**	Crowding-out
Greenfield	**-**	**+**	Creative destruction
M&A	**0**	**0**	No relationship

The mediating role of financial development

- What *mechanism* is at work, real or financial interaction? Different policy implications
- Overall, no significant interaction between foreign and domestic investors on the financial market
- Financial markets in CEE are still developing. Financial interaction should be all the more present as financial markets are developed
- Financial development acts as a mediating factor only for M&A.
- Conclusion: While M&A have no independent contribution to capital accumulation, a developed financial system favors a crowding-in effect on domestic investment.

3. Is the growth effect of FDI conditional on institutional quality ?

- Institutional quality : an important driver in the growth process

  ➡ *Economic problems in developing countries caused by poor institutions*

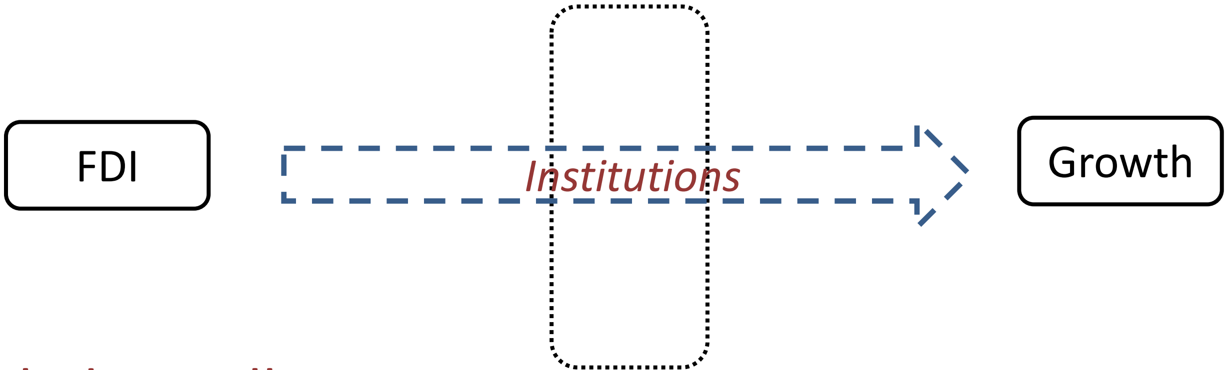
- We know that FDI inflows are attracted by better institutions (Busse and Hefeker, 2007; Ali et al. 2010)

- Still, countries with the same level of FDI experience very different growth outcomes. *Why?*

- Local conditions modulate the effect of FDI on economic growth, among which *institutions.*

  Host country heterogeneity, as given by institutions, could be a plausible explanation for the inconclusive results of existing empirical studies.

Arguments in favor of a modulating role



- Knowledge spillovers
  - institutions shape the relationship between foreign and domestic firms
  - Direct technology transfer and property rights
  - The entry mode of FDI
  - The quality of FDI and the potential for spillovers
  - Transaction costs and risk for long term contracts

- Capital accumulation
  - political stability reduces the crowding-out effect
  - sound financial institutions favor a crowding-in of domestic investment

Methodology for investigating conditionality

Assumption: The impact of FDI on growth is not constant along the cross-sectional and the time dimensions

Panel Smooth Transition Regression (Gonzales et al. 2005)

- Regime-switching model allowing for a small number of extreme regimes
- The coefficient of FDI depends on a transition variable (institutions)

$$y_{it} = \mu_i + \beta_0' FDI_{it} + \beta_1' FDI_{it} g(I_{it};\gamma,c) + \alpha' z_{it} + u_{it}$$

$$\frac{\partial y_{it}}{\partial FDI_{it}} = \beta_0 + \beta_1 * g(I_{it};\gamma,c)$$

- The values of the institutional indicator I_{it} determine the switch from a regime to another, according to a smooth transition function *g(.)*

Data

- Sample: 94 developing countries, over the period 1984- 2009
- Institutions: 11 indicators from the International Country Risk Guide (political risk, government stability, investment profile, internal conflicts, external conflicts, corruption, military in politics, law and order, ethnic tensions, democratic accountability, bureaucracy)
- Control variables (initial GDP/capita, population growth, investment, trade openness, government consumption, inflation)

The non-linearity hypothesis

Is there a heterogeneous (nonlinear) relationship between FDI and economic growth conditional on institutional quality?

Heterogeneous relationship	Homogeneous relationship
• Political risk • Investment profile • Internal and external conflicts • Democratic accountability • Bureaucracy quality • Military in politics • Law and order • Ethnical tensions	• Political stability • Corruption control

How do we interpret non-linearity?

(1) What is the independent effect of FDI on economic growth?
(2) What is the indirect conditional effect given a certain level of institutions?
(3) What is the value of the threshold level of institutional quality?
(4) Is the switch from a regime to another smooth or sudden?

	Threshold variable:	Law and Order	Ethnical tensions	Democratic accountability	Bureaucracy quality
(1)	β_0: FDI	$2.4\ 10^{-4}$	0.003	0.011	-0.062
		(0.035)	(0.036)	(0.030)	(0.059)
(2)	β_1: $FDI \times g(q_{i.t-1};\gamma;c_1)$	0.126***	0.163***	0.214***	0.212***
		(0.046)	(0.063)	(0.057)	(0.089)
(3)	Location parameter (c_1)	2.093	3.916	4.088	0.695
		(0.068)	(0.077)	(0.093)	(0.247)
(4)	Slope parameter (γ)	136.84	3.861	2.654	2.183
		(6.638)	(0.634)	(0.509)	(0.936)

Discussion (1)

- The *slope of the transition function* influences the marginal effect

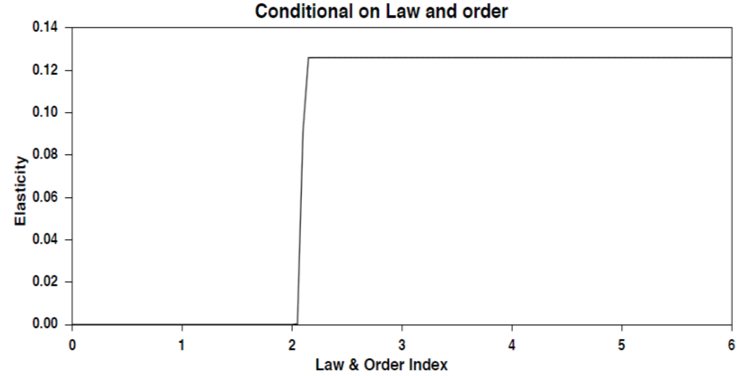
Smooth transition	Sharp transition
• ethnical tensions • democratic accountability • bureaucracy quality • military in politics	• law and order • political risk • investment profile • internal and external conflicts

- The *position* of a country along the non-linear curve of growth elasticity to FDI
- Anticipations on the evolution of the growth elasticity to FDI given by improvements in the institutional environment

Discussion (2)

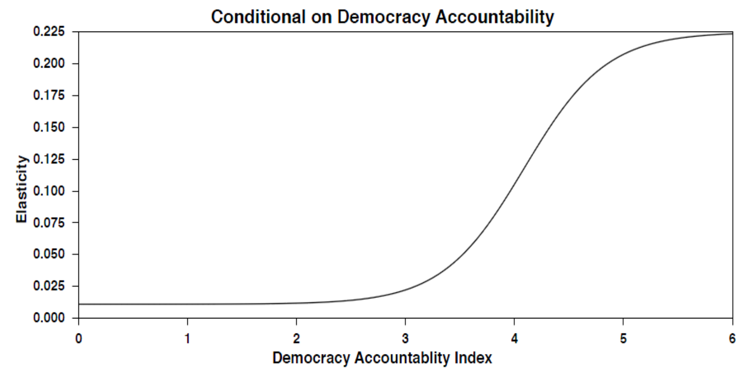
Law & order

- an effort by a country just below the threshold value is likely to result in a sharp increase in the effect of FDI on growth

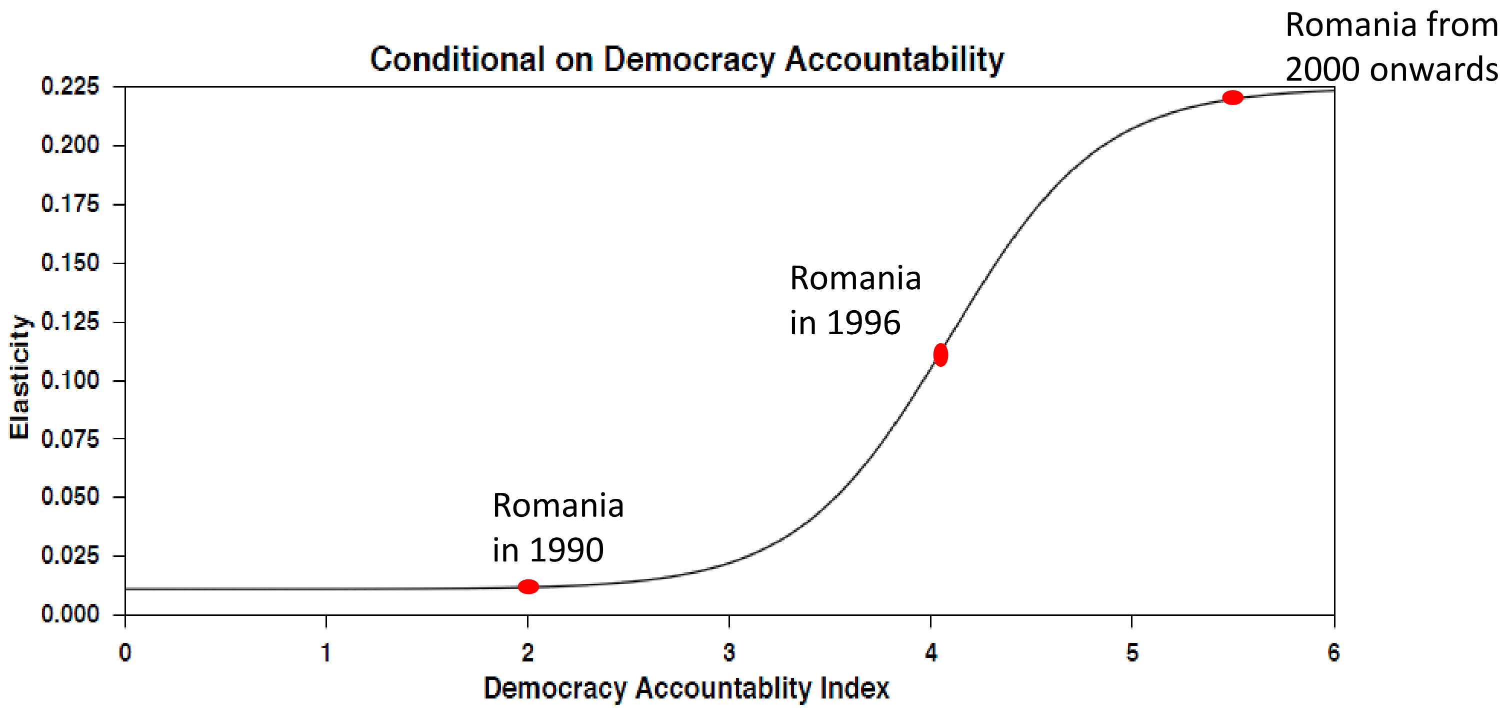


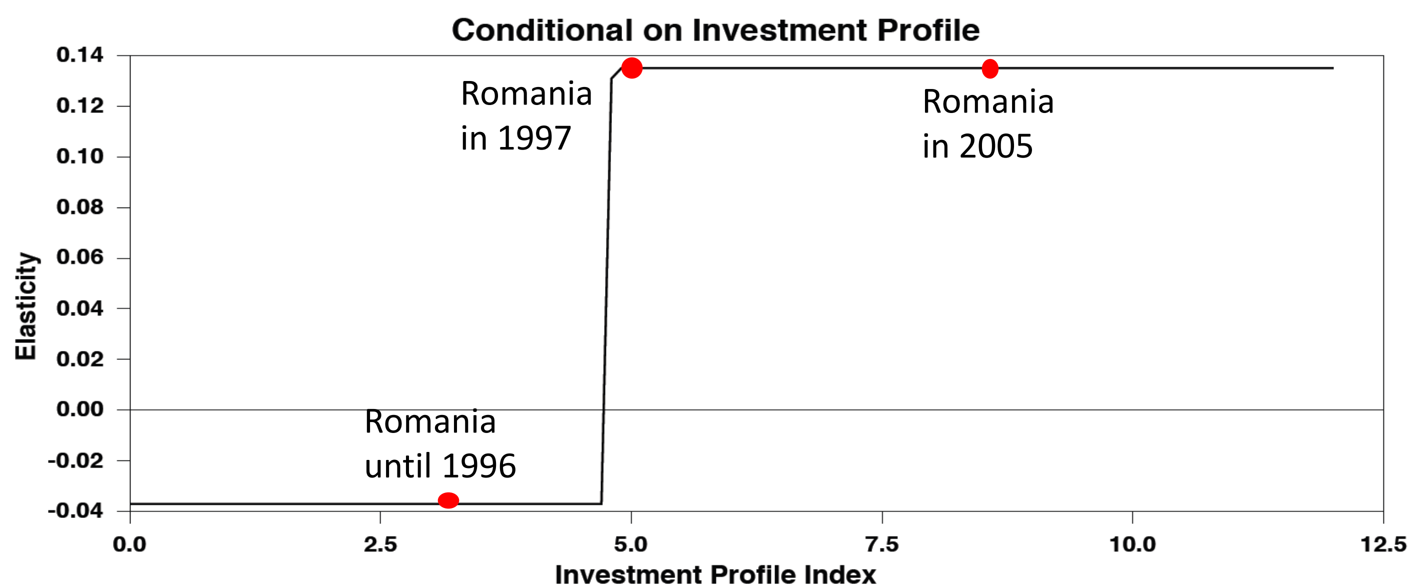
Democratic accountability

- an effort by a country just below the threshold value is likely to result in a very gradual increase in the growth effect of FDI



The sharp/smooth transition has important implications for countries situated just below the threshold value


Romania from
2000 onwards
Conditional on Democracy Accountability
0.225
0.200
0.175
0.150
0.125
0.100
0.075
0.050
0.025
0.000
Elasticity
Romania
in 1996
Romania
in 1990
0
1
2
3
4
5
6
Democracy Accountablity Index


Conditional on Investment Profile
0.14
0.12
0.10
0.08
0.06
0.04
0.02
0.00
-0.02
-0.04
Elasticity
Romania
in 1997
Romania
in 2005
Romania
until 1996
0.0
2.5
5.0
7.5
10.0
12.5
Investment Profile Index

Summary results

- FDI alone has no significant effect on growth in developing countries. Benefits are conditional on a sound institutional environment
- In Eastern Europe, generally situated above minimum threshold values, FDI contributes to growth essentially through technology spillovers and not capital accumulation (FDI crowds-out domestic investors).
- Most benefits are captured by local suppliers
- Financial development favors complementarities between FDI and local investors

Policy implications

- Sequencing is needed in implementing economic policies: first institutional reform, second FDI attraction policies

- Potential for institutional complementarities

- Greenfield should be preferred to M&A, as well as local content policies

Vă mulțumesc pentru atenție