FDI, Growth and Domestic Investment in Eastern NMS

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Outline of Presentation

- Definition of FDI
- Theory of FDI
- Empirical work on the impact of FDI
- Modelling the impact of FDI in ENMS on investment
- Results from fixed-effects panel data analysis

Foreign Direct Investment (FDI)

- OECD Definition: "*Foreign direct investment is capital invested for the purpose of acquiring a lasting interest in an enterprise, and of exerting a degree of influence on that enterprise's operations*"
- Control: FDI is different than portfolio investment because it involves control.
- Other definitions: E.g. Markusen uses the terms 'multinational enterprise' and 'foreign investment' interchangeably since it is the MNCs that engage in FDI by acquiring a controlling interest in a foreign firm or setting up a subsidiary in a foreign country
- Yet another definition of FDI: FDI is a composite bundle of capital, managerial know-how and technology.
- Unlike other types of capital flows, FDI creates positive spillover effects, such as transfer of managerial skills and technological know-how.

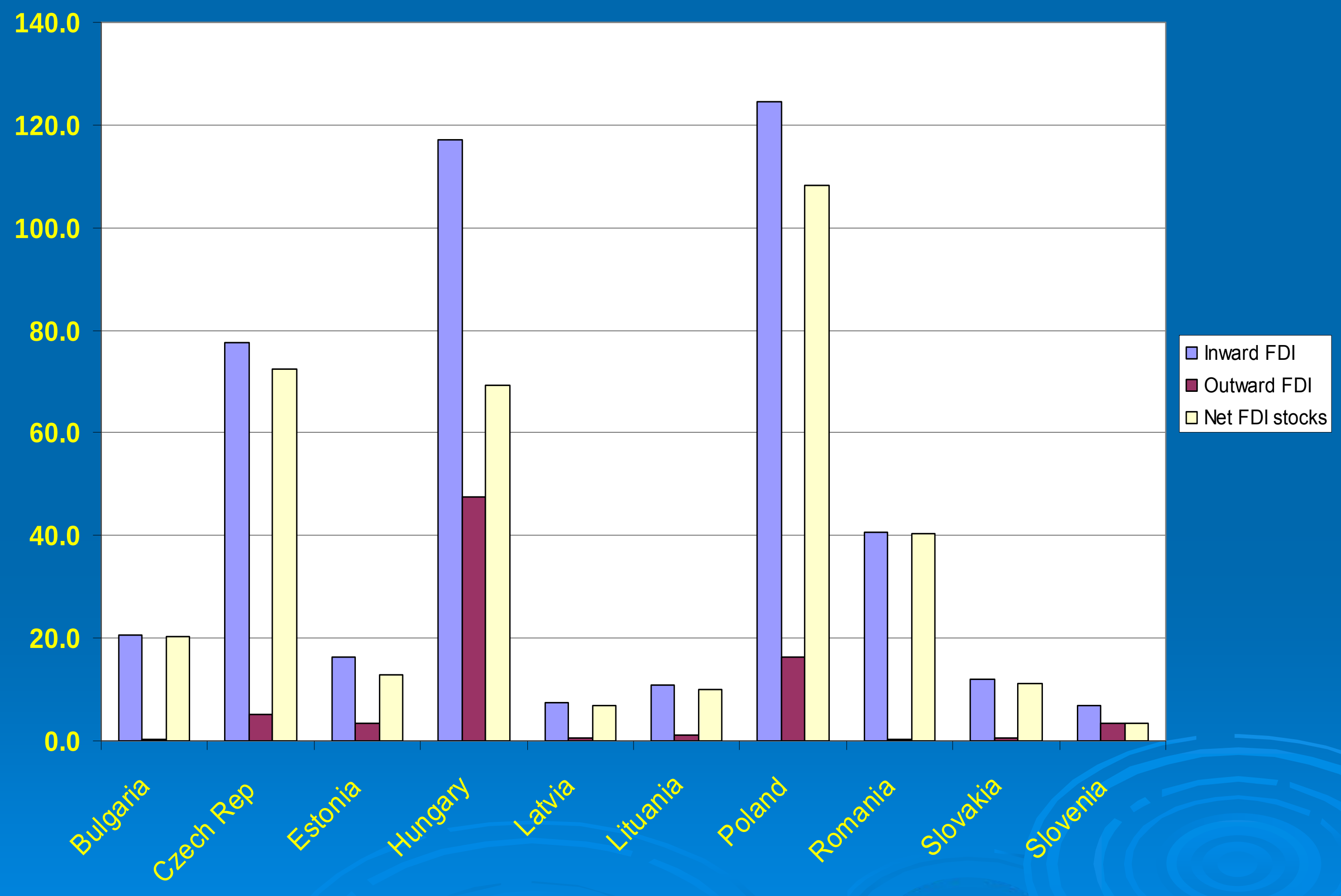
Foreign Direct Investment (FDI)

- OECD countries, in the second half of the 1980s, actively liberalized restrictions on foreign investment by removing supply-side constraints to boost productive capacity and stimulate economic growth.
- New member states took a series of market reforms which included opening their capital accounts during the 1990s.
- Promotion programs: government-sponsored investment insurance, equity and loans, information providing, matchmaking and feasibility studies to encourage FDI
- Many developing countries also promote market-oriented policy measures in competition for foreign investment

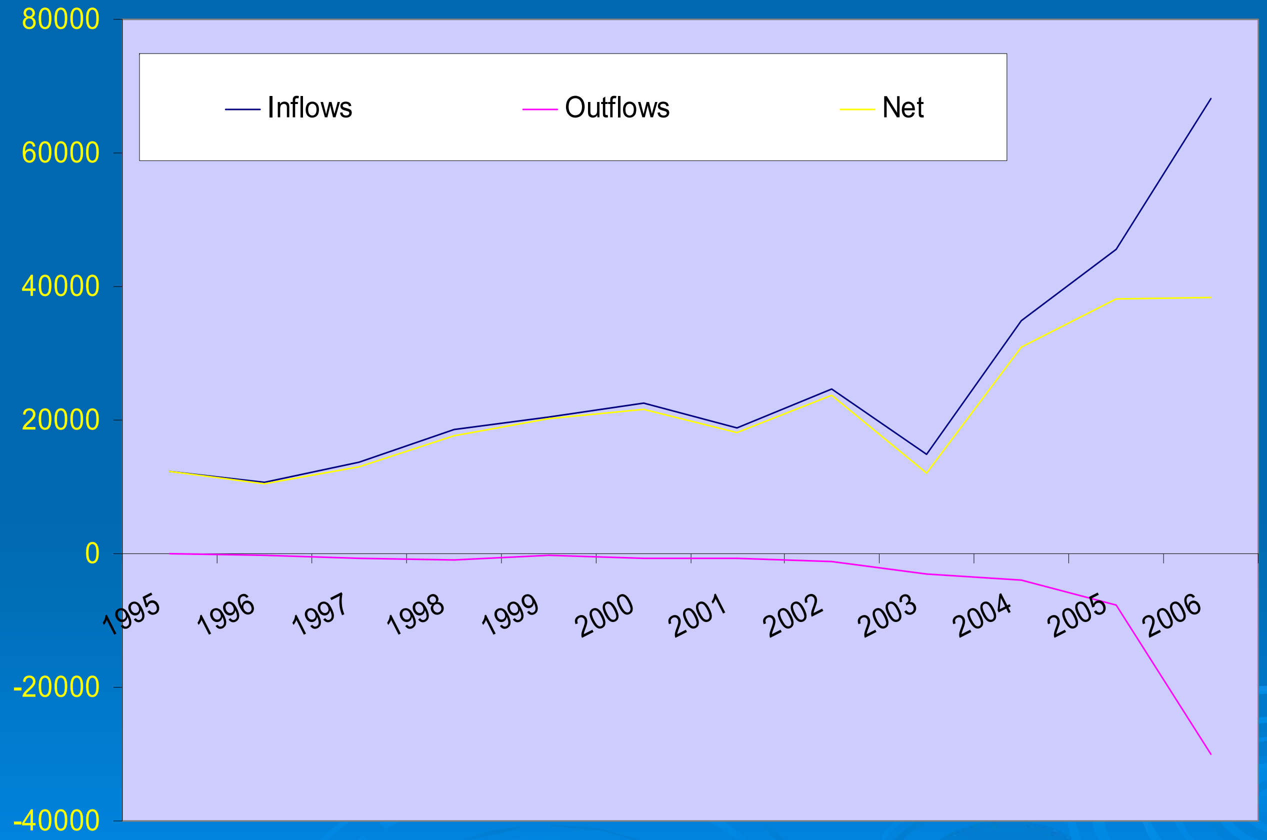
Foreign Direct Investment (FDI)

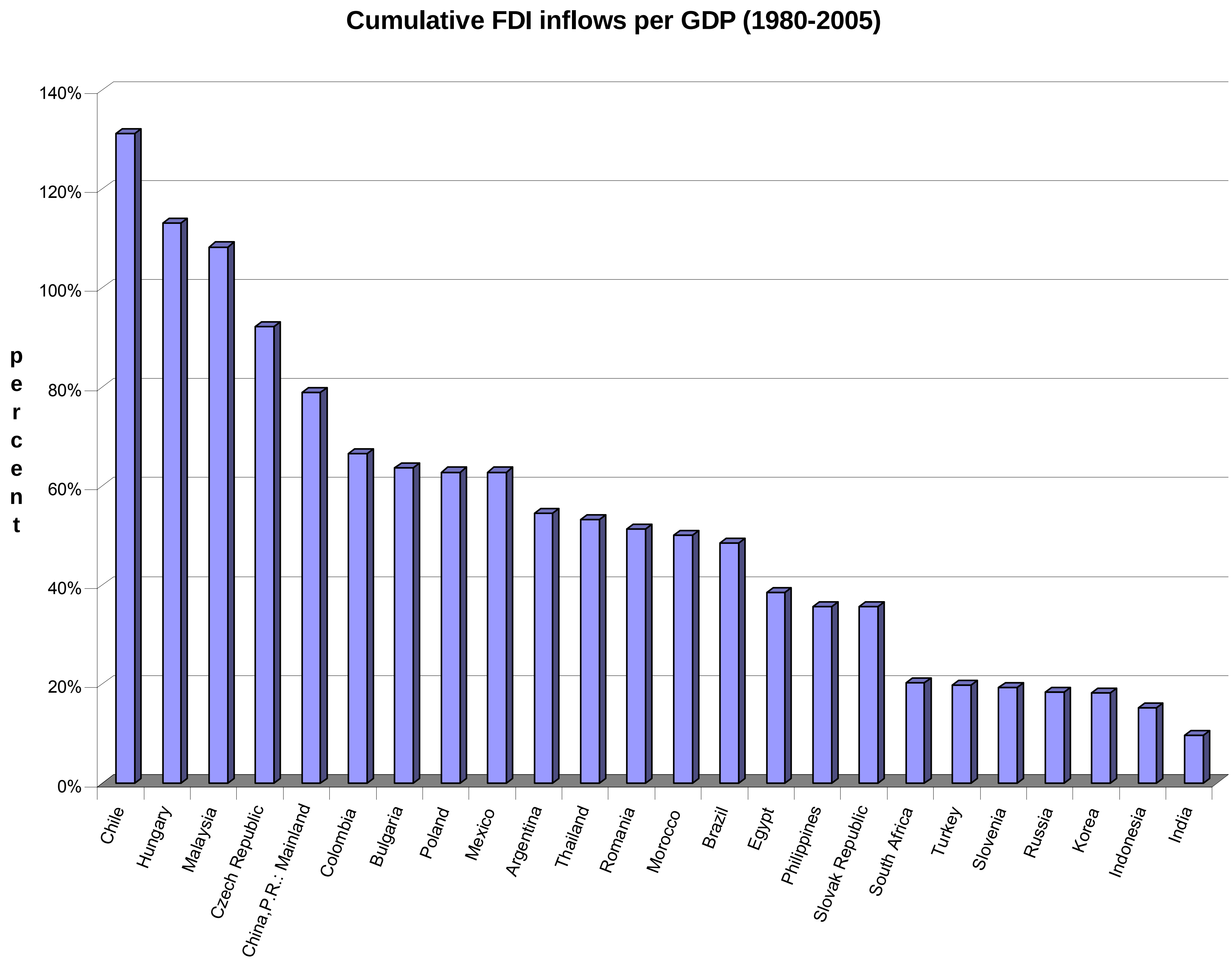
- Privatization: of state-owned enterprises in Eastern Europe, as in other developing countries, attracted the majority of foreign investment in these countries.
- All efforts of promoting foreign investment recognize FDI as an engine of growth and a force for globalization

FDI Stocks in the Region (billions of USD 2006)



FDI Inflows and Outflows in the Region (millions USD)




Cumulative FDI inflows per GDP (1980-2005)
140%
120%
100%
80%
60%
40%
20%
0%
percent
Chile
Hungary
Malaysia
Czech Republic
China,P.R.: Mainland
Colombia
Bulgaria
Poland
Mexico
Argentina
Thailand
Romania
Morocco
Brazil
Egypt
Philippines
Slovak Republic
South Africa
Turkey
Slovenia
Russia
Korea
Indonesia
India

Foreign Direct Investment (FDI): Theory

- Studies of FDI can be divided into two categories:

  - Micro level studies: industrial organization and international trade

  - Macro finance studies (capital-flow approach)

Foreign Direct Investment (FDI): Macro Theory

- Direct Investment as a capital flow: although both theoretical and empirical literature on FDI relate FDI flows to the activities of the multinational firms
- The industrial-organization literature on FDI fails to recognize the increasing financial flows within multinationals that involve no production or transfer of physical capital.
- Mergers and acquisitions, although not entirely financed by FDI, account for a significant share of FDI flows in the developed countries.
- Retained earnings and intra-company loans also constitute a significant amount of what counts as FDI.
- For example, an increasing share of the US FDI outflows are comprised of retained earnings

Foreign Direct Investment (FDI): Theory

- Direct investment as a capital flow:
  - Although it is a small part of the FDI literature, it is one of the early approaches
  - A capital-scarce country could import capital up to the point where the return to capital was equalized internationally
  - According to this approach: capital will flow from rich to poor. In other words, there is no motive for FDI between identical countries

Foreign Direct Investment (FDI): Macro Theory

- Later macroeconomic studies emphasized the effect of FDI on long-run economic growth and cyclical fluctuations
- The role of FDI on domestic investment: does FDI replace (crowd-out) or encourage investment? Usually we see increased domestic investment in countries that receive high FDI (see Bosworth and Collins, 1999).
- This also can be interpreted as the effect of FDI on S-I relationship vis a vis other types of capital flows
- Bosworth and Collins find that an increase of one dollar in capital flows, increases domestic investment by about 50 cents. FDI has a one-to-one effect on domestic investment, whereas portfolio investment has no effect on domestic investment.
- Boresztein, De Gregorio and Lee (1998) find that FDI increases economic growth when the level of education in the host country is high

Foreign Direct Investment (FDI): Macro Theory

- Macro-finance theory also notes that FDI is more stable compared to other types of capital flows.
- E.g.: FDI was stable during the Asian crisis, Mexican crisis of 1994-95, Latin American debt crisis in the 1980s.

Asian Crisis Countries and FDI inflows

		1995	1996	1997	1998	1999	2000	2001	2003	Variance/Mean Ratio
Korea	FDI inflows	1775.8	2325.4	2844.2	5412.3	9333.4	9283.4	3527.7	3525.5	0.65
Korea	equity	1766.9	2305	2778.1	4888.6	8889.2	8282.2	3189.2	2974.7	0.65
Korea	Reinvested Earnings	8.9	20.4	5.5	6.5	n.a.	n.a.	n.a.	n.a.	0.67
Korea	Other	n.a.	n.a.	60.6	517.2	444.2	1001.2	338.5	550.8	0.61
Indonesia	FDI inflows	4346	6194	4677	-240.8	-1865.62	-4550.36	-2977.39	-596.92	6.49
Indonesia	equity	1793	2447	3001	2210.98	1990.56	891.9	988.35	1483.26	0.37
Indonesia	Other	2553	3747	1676	-2451.78	-3856.18	-5442.25	-3965.74	-2080.18	-2.37
Thailand	FDI inflows	2067.98	2335.88	3894.74	7314.76	6102.68	3365.99	3892.3	1949.27	0.58
Thailand	equity	1959.09	2450.13	3752.88	6711.12	6081.03	3401.79	2697.82	1416.27	0.66
Thailand	Other	108.89	-114.25	141.86	603.64	21.65	-35.81	1194.48	533	1.24
Philippines	FDI inflows	1478	1517	1222	2287	1725	1345	989	347	0.39
Philippines	equity	1478	1517	1249	1752	1145	1024	680	267	0.40
Philippines	Reinvested Earnings	n.a.	n.a.	n.a.	n.a.	370	-174	-127	171	2.55
Philippines	Other	n.a.	n.a.	-27	535	210	495	436	-91	1.07
Malaysia	FDI inflows	4178.24	5078.41	5136.51	2163.4	3895.26	3787.63	553.95	2473.16	0.44
Malaysia	equity	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	-854.21	3316.58	1.26
Malaysia	Reinvested Earnings	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	2491.32	n.a.	
Malaysia	Other	4178.24	5078.41	5136.51	2163.4	n.a.	n.a.	-1083.16	-843.42	1.32

Empirical Work on FDI

- Determinants of FDI
- Impact of FDI on the host country
  - FDI, growth and capital accumulation

    Bosworth and Collins (1999): *The primary benefits of capital inflows are the opportunities they provide to accelerate economic growth and increase current consumption. Such inflows can raise growth rates by supplementing domestic saving, thereby raising the rate of capital accumulation. (FDI) may also accelerate growth through the transfer of technology and management skills…*

Channels to Growth: The Role of FDI

- Direct link: Like other capital flows, FDI can affect investment by contributing to new plant and equipment in the case of greenfield FDI.
- Indirect link: FDI can encourage increase in capital stock if the FDI-firm is sourcing its inputs from domestic suppliers. This would encourage new investment by local firms.
- FDI may crowd out domestic investment if the FDI-firm is sourcing its inputs from non-local firms.
- FDI can result in transfer of managerial skills and new technology, which in return increase productivity.

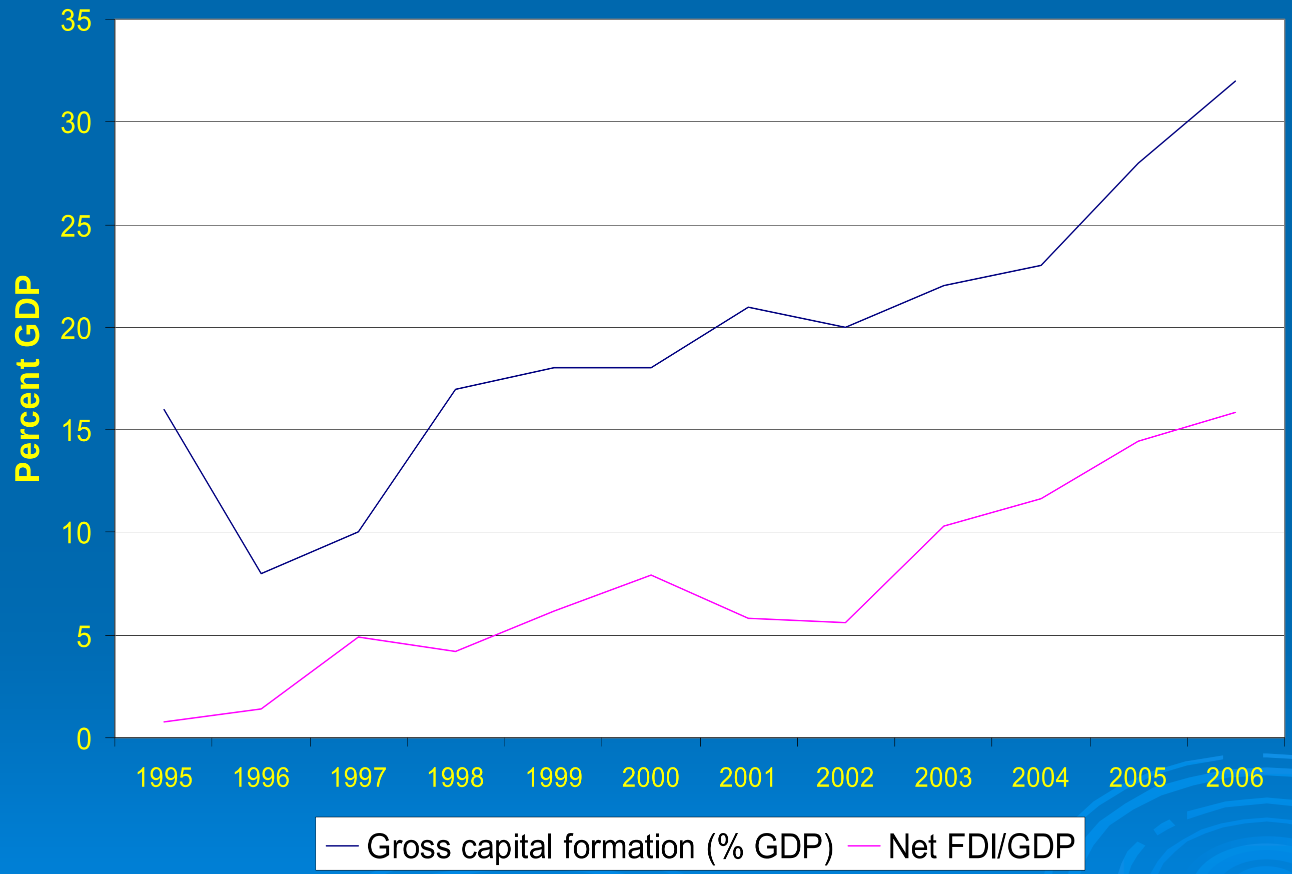
Impact of FDI on the host country

- Borensztein et al (1998) find that FDI is positively associated with growth, only where human capital is sufficiently high.
- Lim (2001) : FDI and growth; substantial support exists that there are positive spillover effects from FDI, but no consensus on causality
- Productivity increases due to FDI in the host country (Smarzynska, 2002): positive effect from FDI to local suppliers
- Productivity increases in domestic firms: Haskel et al, 2002; positive correlation between a domestic firms' TFP and foreign affiliate's share in the same industry
- Inward FDI and skill upgrading: Slaughter (2002); positive correlation between skill upgrading and US MNC's affiliates presence

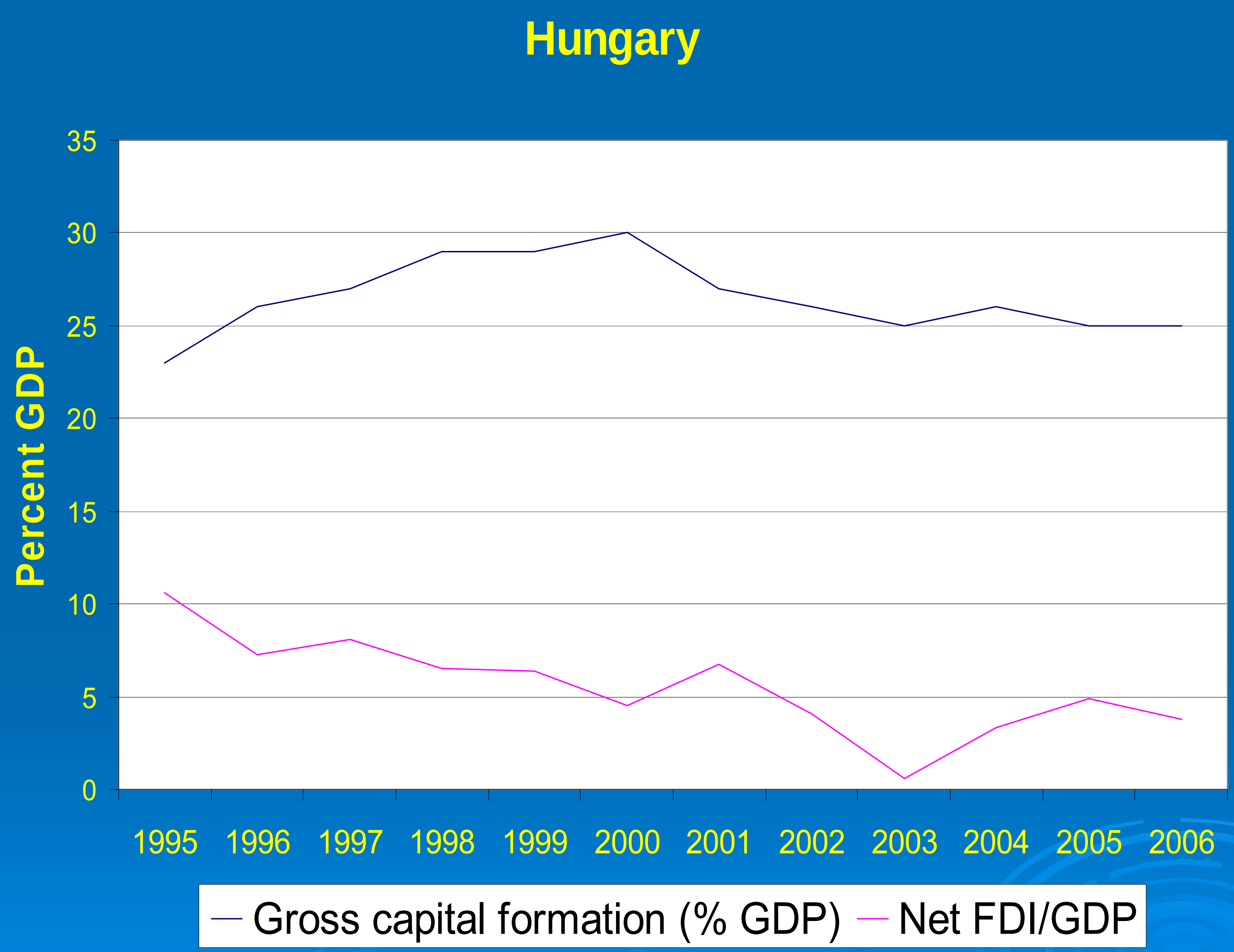
FDI and Growth

- Recent studies suggest capital flows, in general, stimulate growth. But the relationship is not linear. Also there is no consensus on the direction of causality (endogeneity problems).
- Partly, this can be because there are many uses of capital flows: accumulation of reserves or capital outflows.
- For this reason, the link between capital inflows (FDI) and domestic investment is easier to trace than the link between capital flows and growth (Mody and Murshid, 2002).

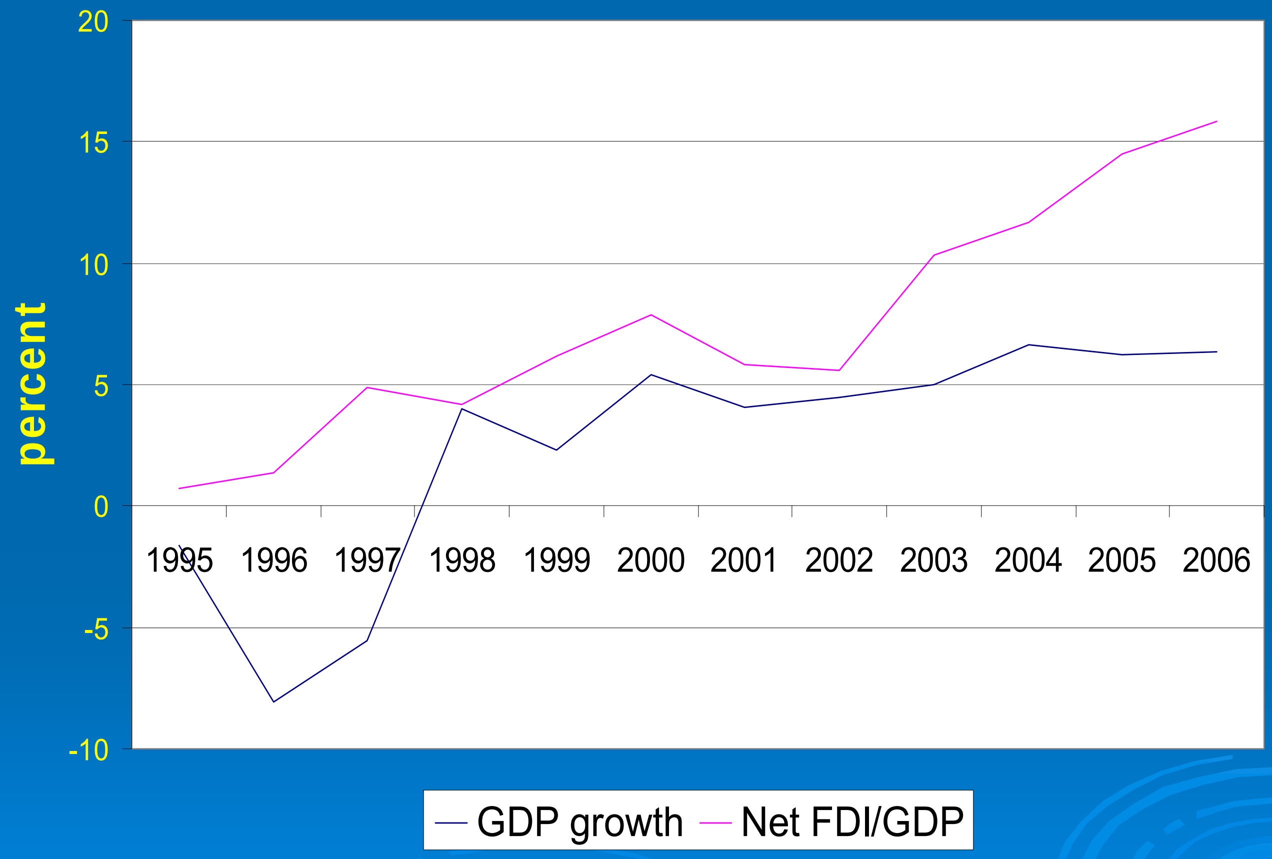
Bulgaria



Percent GDP
35
30
25
20
15
10
5
0
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
Gross capital formation (% GDP)
Net FDI/GDP

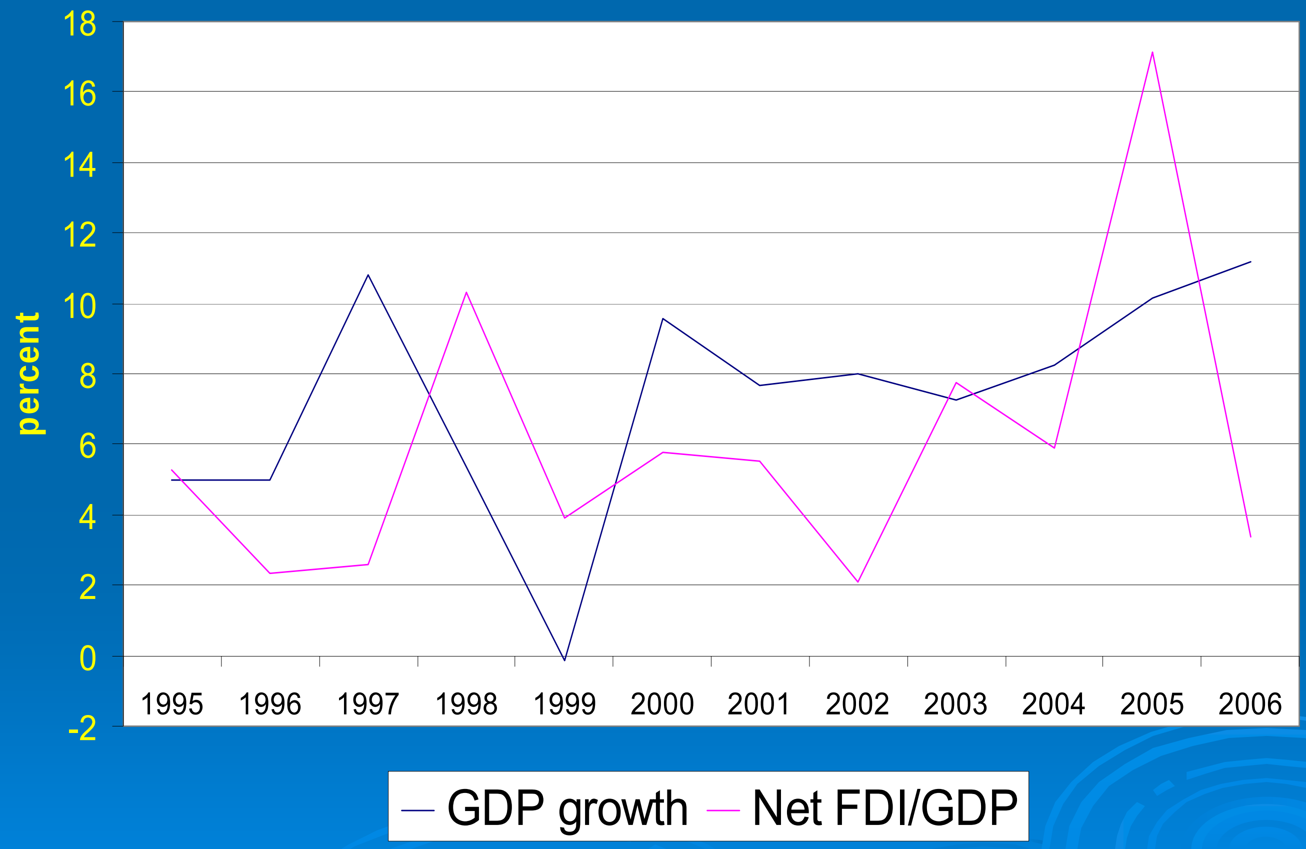

Hungary
Percent GDP
35
30
25
20
15
10
5
0
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
Gross capital formation (% GDP)
Net FDI/GDP

Bulgaria



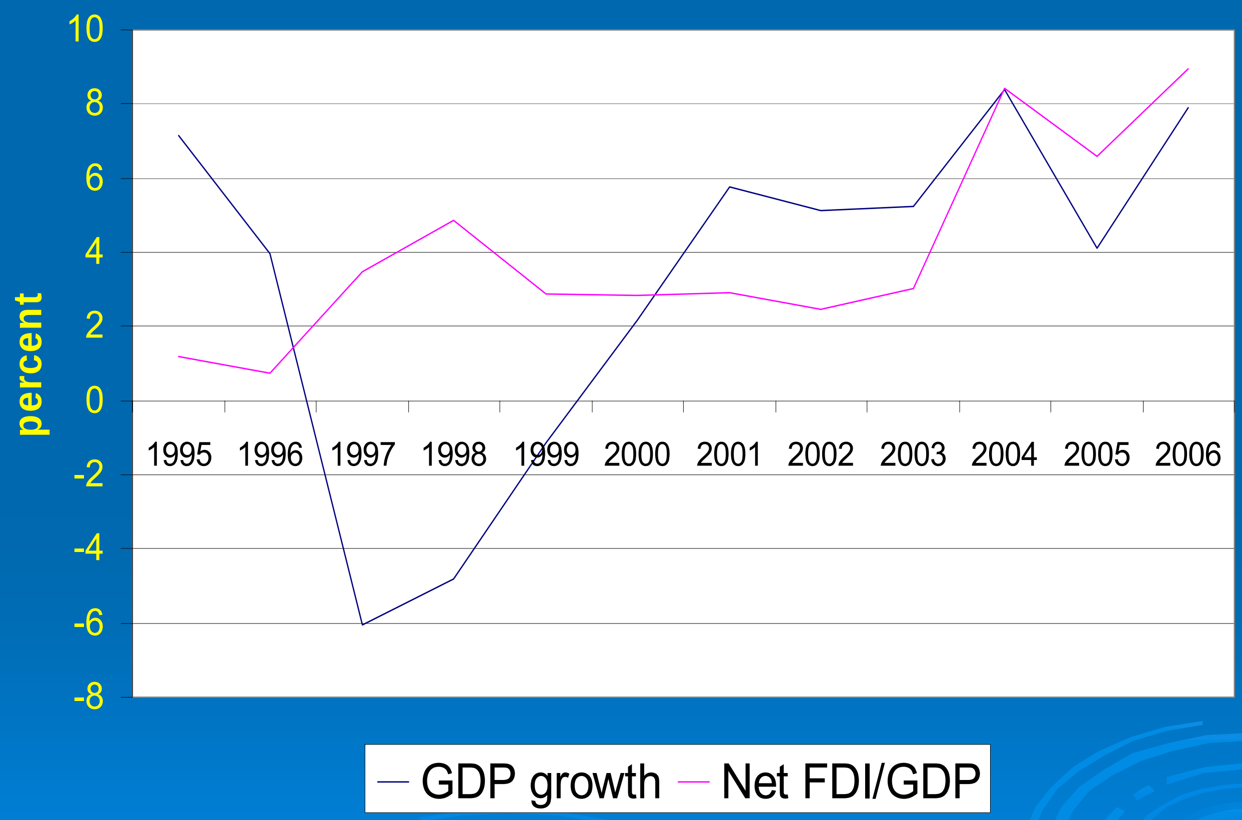
20
15
10
5
0
-5
-10
percent
1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006
GDP growth
Net FDI/GDP

Estonia



18
16
14
12
10
8
6
4
2
0
-2
percent
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
GDP growth
Net FDI/GDP

Romania



10
8
6
4
2
0
-2
-4
-6
-8
percent
1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006
GDP growth
Net FDI/GDP

Modelling FDI and Its Impact on ENMS

Following Bosworth and Collins (1999):

Impact of capital flows and FDI on investment, savings and the current account deficits

0=(CA+KA) + FINI + FINO + ERR + RES

CA=current account balance

KA=capital account balance

FINI= financial inflows

FINO= financial outflows

ERR= errors and omissions

RES= reserves

Panel Data Analysis on Impact of FDI on Investment in ENMS

- Specification:

$$(I/Y)_{it} = \alpha_t + \beta X_{it} + v_{it}$$

and

$$(S/Y)_{it} = \gamma_t + \delta X_{it} + \varepsilon_{it}$$

(I/Y), (S/Y) = investment and savings as a percent of GDP
X_{it}: Total capital inflows as a percent of GDP, change in terms of trade, GDP growth lagged 1 and 2 period.

Estimation method: Fixed-effects panel estimation (10 countries over 1990-2006).

Sample: ENMS: Bulgaria, Czech Rep., Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia, Slovenia

Fixed-effects estimation

	Investment	Savings	Current Account	Investment	Savings	Current Account
Total gross inflows	39.40 (3.24)***	34.39 (3.13)***	-5.01	34.21 (2.85)***	29.85 (2.76)***	-4.36
Change in terms of trade	-0.87 (-0.00)	4.50 (0.00)	5.37	47.30 (0.04)	46.12 (0.04)	-1.18
GDP growth (lag 1)	-8.81 (-0.68)	-9.54 (-0.77)	-0.73	-11.64 (-0.92)	-11.58 (-0.95)	0.06
GDP growth (lag 2)	-0.91 (-0.08)	-1.09 (-0.11)	-0.18	-9.42 (-0.83)	-8.71 (-0.84)	0.71
EU dummy				241.12 (2.69)***	211.82 (2.61)***	-29.3
Within R^2	0.09	0.08		0.15	0.14	
N	122	121		122	121	

Fixed-effects estimation

	Investment	Savings	Investment	Savings	Current Account
FDI inflows	-2.08 (-0.08)	2.54 (0.11)	-20.75 (-0.81)	-13.55 (-0.59)	7.21
Portfolio Inflows	-3.80 (-0.11)	-10.55 (-0.33)	-12.37 (-0.36)	-17.94 (-0.58)	-5.57
Loans	63.49 (3.63)***	54.26 (3.46)***	63.87 (3.81)***	54.59 (3.61)***	-9.28
Change in terms of trade	-262.7 (-0.16)	-200.59 (-0.14)	-253.9 (-0.16)	-193.1 (-0.14)	
GDP growth (lag 1)	-15.35 (-0.94)	-16.57 (-1.14)	-18.45 (-1.18)	-19.25 (-1.37)	
GDP growth (lag 2)	0.83 (0.06)	0.12 (0.01)	-7.81 (-0.62)	-7.34 (-0.65)	
EU dummy			289.3 (3.10)***	249.6 (2.97)***	
Within R^2	0.13	0.12	0.20	0.19	
Between R^2	0.11	0.11	0.19	0.18	
N	115	115	115	115	

Summary of Results

- There is empirical evidence that total capital inflows have a statistically significant impact on increases in investment and saving in ENMS.
- About 40 percent of inflows are used to increase investment, and 35 percent to increase saving. Hence, on average, only 5 percent of inflows are used to finance current account deficits in ENMS.
- Among the different types of capital inflows, only loans have a statistically significant contribution to investment and saving increases.

Summary of Results

- Our results are similar to Mileva, 2008. The significance of loans and its contribution to investment can be explained by the growing share of loans in terms of capital inflows to the NMS. Many foreign banks acquired subsidiaries in the transition countries, and a large part of the loan inflows were loans from parent banks to local subsidiaries.

- One possible explanation for the lack of evidence on FDI’s contribution to investment in ENMS may be that during the 1990s, FDI inflows were largely financing privatization projects in the NMS. In this case, the impact of FDI was indirect: FDI was directed to existing projects and did not create ‘new’ investment. However, FDI should have an indirect effect by increasing efficiency and productivity. As was mentioned above, FDI may also crowd out domestic investment when MNCs enter sectors previously dominated by state-owned firms (Mileva, 2008).

Other empirical studies

- Mileva (2008): For the NMS, FDI does not produce significant spillovers. Only in the less advanced transition countries.
- Mody and Murshid (2002): strong link between FDI and investment: an additional dollar of FDI is associated with a 73-cent increase in domestic investment (sample: non-transition developing countries).

Conclusion

- The impact of FDI on domestic investment in the ENMS is weak. Hence its effects on growth would likely come from indirect linkages such as transfer of managerial skills and technology.
- As some other empirical studies indicate FDI also promotes productivity in transition countries.