

The Effect of FDI, Exports and GDP on Income Inequality in 15 Eastern European Countries

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Abstract: In this paper I explore the relationship between FDI, exports, GDP and income inequality in Eastern European countries. The empirical test shows positive and significant relations between increasing income inequality and increasing level of FDI stock in Eastern-European states. In general, supporting previous publications in this area, I found that export intensity acts to decrease wage dispersion, while the local effects could be different from the regional effects. Higher levels of GDP has only a slight effect on the GINI index. Besides between FDI inflow and GINI index, the relation was not demonstrable. In common with previous empirical analysis, I found evidence of the higher level of high-technology export's diverting effect on income inequality.

Keywords: FDI; income inequality; Eastern Europe

1 Introduction

The ceaseless globalization process is having far-reaching implications on the welfare status of the citizens of the countries of the world. As a result of this process, since 1990 alternative development indicators have come to the front. Numerous publications have espoused that the development of a country cannot be described satisfactorily with classic economic growth indicators. Factors like inequalities in wages, working conditions, freedom and low levels of discrimination become more and more important in measuring development and are the subject of public debate.

In this discussion, the impact of globalization on inequality has been widely examined, both across countries, comparing developed and developing countries, and within countries, comparing the returns to skilled and unskilled workers.

The promoters of anti-globalization argue that the increasing integration of the world economy widens the gap between the poor and rich. Although globalization may improve overall incomes, the benefits are not shared equally among the citizens of a country, with clear losers in relative and possibly even absolute terms.

According to the anti-globalization opinion, the main enemies are multinational companies, foreign capital and foreign direct investment. The threat that the borders are no longer obstacles for the capital leads to a decrease in the bargaining power of labor. Moreover, widening income disparities may not only raise welfare and social concerns, but may also limit the drivers of growth because the opportunities created by the process of globalization may not be fully exploited. The sustainability of globalization will also depend on maintaining broad support across the population, which could be adversely affected by rising inequality. [1]

The supporters of globalization claim that globalization leads to a rising tide of income, which raises all boats. Hence, even low-income groups come out as winners from globalization in absolute terms. Through foreign direct investment countries and regions can get the chance to reach the standard of living levels of the developed countries. International trade contributes to the optimal usage of the natural and human resources, which leads to a higher level of growth. This optimistic view has parallels with Kuznets's hypothesis from the development literature, which proposed that even though inequality might rise in the initial phases of industrial development, it eventually declined as the country's transition to industrialization was completed.

The statistical figures prove that increased trade and capital movements have led to greater specialization in production and the elements of a modern supply chain are usually established in geographically distant locations.

The following table summarizes the empirical results:

Table 1
Summary of the empirical results

Positive impact	Negative impact
<p>FDI helps to reduce income inequality when implemented to utilize abundant low-income unskilled labor. [2]</p> <p>FDI stimulates economic growth and its benefits eventually spread throughout the whole economy. [3]</p> <p>New investments create new workplaces for low-skilled labor. [4]</p> <p>A non linear effect is identifiable in developing countries, wage inequality increases with FDI inward stock but this effect diminishes with further increases in FDI. [5]</p>	<p>Inward FDI deteriorates income distribution by raising wages in the corresponding sectors in comparison with traditional sectors. [6]</p> <p>Raising foreign capital inflows results in rising wage inequality. [7]</p> <p>Foreign trade and FDI are important factors contributing to the widening regional inequality in China. [8]</p> <p>Empirical study of Mah [9] showed that foreign trade and FDI inflow had significant deteriorating impact on the income distribution.</p> <p>By analyzing the United Kingdom's manufacturing sector Taylor and Driffield [10] found that the FDI inflow had significant effect on the wage inequality.</p> <p>For developed countries, wage inequality decreases with FDI inward stock and there is no robust evidence to show that this effect is non-linear.</p>

2 Analyzed Factors

In this study I analyzed the effect of foreign direct investment and the foreign trade on income equality in the case of 15 Central and Eastern European countries [11]. In the analysis I verified the validity of the following hypotheses:

Hypothesis 1: Increasing economic openness decreases the level of inequality.

After 1990 the analyzed countries opened their economies to FDI, and through different forms of privatization the level of the private ownership also increased significantly. The relationship between FDI, foreign trade and the local economies were widely analyzed [12]. In theory, if we assume a simple two-factor model (capital and labor), free trade and free capital flows have clear consequences. In developed countries that have large endowments of capital, free trade will increase the returns to capital (profits), while decreasing the returns to labor (wages) [13]. Conversely, in developing countries with large endowments of labor relative to capital, free trade will increase wages and decrease profits [14]. This leads to clear predictions on how trade affects income inequality according to a country's factor endowments. But opposed to this clear theoretical approach, the empirical results are often contradictory.

Hypothesis 2: Up to a certain level, higher levels of FDI stock in a country's economy increases inequality.

In the case of FDI, the picture is a bit more shaded and the effect is more permanent, because intangible assets are not as easily transferable between countries as liquid assets [15]. Additionally, FDI is driven more by market imperfections than differences in factor endowments [16]. Numerous parallel and reverse processes are observable. First, the foreign investor transfers capital into the recipient country; the more nominal supply from capital results in a lower return to capital and increases the return to labor. Thus foreign capital competes with domestic capital for domestic workers, driving up wages and decreasing the profitability of firms. This effect would speed up the convergence of the incomes of labor relative to capital, decreasing income inequality [17]. Second, the multinational companies usually use more advanced technologies, employ more skilled workers and, most importantly, pay a wage premium over the local firms, consequently increasing inequality. Third, if the MNC employs low skilled workers, who are usually in the poorest and most hopeless living conditions, and pays a wage premium for them, then it leads to lower levels of income inequality. As the data quality is in the top 5 and last 5 percentile includes the highest uncertainty measuring, this effect is one of the most problematic points in the analysis. In addition, if we accept that the multinational companies pay a wage premium [18] over the wage average in a country [19], then the increasing FDI stock / GDP ratio will result in higher differences in wages and cause higher levels of inequality.

These processes have different effects if the capital flow is between developed countries or between differently developed countries. While in the first case the investments are chiefly mergers or acquisitions, the FDI flow is between companies with equal levels of technology, so if no reorganization plans or lay-offs are executed, then the flow has no significant effect on inequality. But in the latter case the technology gap is often huge; the increasing demand for skilled or unskilled workers should have a stronger effect on the income inequality.

Hypothesis 3: A greater volume of FDI inflow in a given year increases inequality.

The countries involved in this analysis are middle and low income countries. According to a general empirical analysis for a comparable 69 countries [20] by Reuveny and Li, FDI flow increases income inequality but an expanding level of foreign trade decreases the inequality. Contrary to this result, if a new investment absorbs the skilled workforce, to their place a less-skilled workforce will be employed; hence in the short term, the employment rate increases, and the inequality situation depends on the difference between the wage increase of the returning workforce and the “overpayment” level of the staff of the foreign-owned company.

Hypothesis 4: A higher high-tech export / GDP ratio means higher levels of inequality.

The argumentation is similar to hypothesis 2. If more capital and technologically intensive FDI flows into an economy, then a larger part of the population will work in a better paid sector. Furthermore, if the high-technology manufacturing multinational companies are not integrated into the home economy, then the effect of the general technology spillovers cannot have effect on the process of narrowing the income gap; thus only a part of the population receive a share of the advantages.

Hypotheses 5: Higher levels of shadow economy in proportion to GDP results in higher inequality.

The main components of the shadow economy are typically low value-added, low income fields of the economy. If such a part of the income distribution is missing it results in higher inequality. Moreover, the value produced by the shadow economy is not included into the GDP calculation, which distorts the result of the estimation.

3 The Data Used

For measuring the income inequality I used the GINI coefficient, which is a summary statistic of the Lorenz curve. The Gini coefficient is most easily calculated from unordered size data as the "relative mean difference," i.e., the mean of the difference between every possible pair of individuals, divided by the mean size. The value of 0 represents absolute equality, the value of 100 absolute inequality. Using the Gini index we have to consider numerous disadvantages and problems; for example, if a country is large with unequal regions, the Gini index is misleading, or the Gini coefficient is a point estimate of equality at a certain time, and hence it ignores life-span changes in income. Typically, increases in the proportion of young or older members of a society will drive apparent changes in equality. Exploring and summarizing all the awkwardness of the Gini index is beyond the scope of this paper (a good summary can be found in Blomquist's article [21]), but, being aware of the problem, the Gini index is still the most commonly used measure for income inequality.

Unlike national accounts data - which are in principle comparable across countries - there is no agreed basis of definition for the construction of income distribution data. Sources and methods might vary, especially across but also within countries. This may be the case even if the data come from the same source. Avoiding as many discrepancies as possible, I used the UNU/WIDER World Income Inequality Database (WIID) [22] as a source of the GINI figures, the results calculated based on income data. Besides the WIID figures, for correction purposes the statistics of the Human Development Report of United Nations were used.

The FDI flow and stock data comes from the most commonly used and accepted UNCTAD FDI database. This database also contains some mistakes, but the data is essentially reliable, and I made some corrections based on data from the countries' statistics agencies. The GDP figures are from the World Bank World Development Indicators Database. The source of the other data is EUROSTAT and the statistic agencies of the analyzed countries.

When analyzing the data, it is not advisable to ignore the consideration that in these countries the level of the shadow economy is remarkable. [23] In this instance the estimated level of the grey economy is high, but on the basis of the same principle (only in Romania, Bulgaria and Latvia is it significantly higher). For the calculation I used the estimations of Friedrich Schneider [24]. In his article he used currency demand and DYMIMIC models to determine the level of the shadow economy in the given countries.

4 The Research Design

To test whether the increase in the analyzed factors leads to income inequality I set up the following equation:

Equation 1:

$$\text{GINI}_{ct} = \beta_0 + \beta_1 \text{FDI_ST_PG}^{ct} + \beta_2 \text{FDI_FL_PG}^{ct} + \beta_3 \text{GDP_PC}^{ct} + \beta_4 \text{EXP_PG}^{ct} + \beta_5 \text{HT_EXP_PG}^{ct} + \beta_6 \text{CTRYSIZE}^{ct} + \beta_6 \text{SHADOWEC_PG}^{ct} + \gamma^{ct}$$

where subscript c represents a country and subscript t represents year t (Years: 1991 ... 2006). GINI represents the Gini coefficient of a country. FDI_ST_PG is the value of the share of their capital and reserves (including retained profits) attributable to the parent enterprise, plus the net indebtedness of affiliates to the parent enterprises as a percentage of GDP. FDI_FL_PG stands for FDI inflows and comprises capital provided (either directly or through other related enterprises) by a foreign direct investor to a FDI enterprise, or capital received by a foreign direct investor from a FDI enterprise as a percentage of GDP. FDI includes the three following components: equity capital, reinvested earnings and intra-company loans. GDP_PC stands for country c 's per capita GDP. EXP_PG is the countries' exports as a percentage of GDP. CTRYSIZE means the size of a country in square km, and SHADOWEC_PG is the estimated value of the shadow economy as a percentage of GDP.

5 Descriptive Statistics of the Analyzed Factors

The data from 1991 to 2006 shows that from the level of zero the FDI became a significant part of the analyzed economies, while on average GDP figures and GINI index increased. Parallel with the robust FDI inflow, the contribution of the high-technology export to the entire export became more significant. This means that not only labor-intensive, but also more export-oriented technology-intensive production capacities were transferred to the region.

Table 2
Descriptive statistics

Factor	min	max	avg	stdev
GINI	20,4	45,8	31,2	5,7
FDI_ST_PG (%)	0,2	83,9	20,7	18,2
FDI_FL_PG (%)	0,1	23,7	4,1	3,7
GDP_PC	279	19383	4110	3366
EXP_PG (%)	16,7	85,4	51,5	15,5
HT_EXP_PG (%)	0,4	36,5	7,9	7,4
SHADOWEC_PG (%)	18,2	60,1	35,2	10,4

Source: own calculations

At a country level, high GINI values are observable in Romania, Moldavia, Serbia and Poland. The lowest income inequality is demonstrable in Slovakia, Slovenia, the Czech Republic and Hungary. Having a look on the descriptive statistics we could conclude that countries with higher GDP figures face lower levels of income inequality. The export openness is the highest in Estonia, the Czech Republic and Slovakia. At the same time, the high-tech exports to GDP ratio is the highest in Estonia, the Czech Republic and Hungary; moreover, in these countries the FDI stock per capita is on salient level. In Estonia the GINI-index steadily increased during the entire analyzed period, and the country received remarkable levels of technology-intensive FDI, and rocketed the high-technology export level to the peak. After analyzing the pooled data verifying the second hypotheses I will analyze the individual data for Estonia.

6 Results of the Pooled Data

First I tested the pooled data using ordinary least square method with Equation 1.

Equation 1: OLS

Number of observations: 101

Dependent variable: GINI

	<i>Coefficient</i>	<i>Std. Error</i>	<i>t-ratio</i>	<i>p-value</i>	
const	27,7585	3,41829	8,1206	<0,00001	***
FDI_ST_PG	0,101789	0,050185	2,0283	0,04539	**
FDI_FL_PG	-0,0320188	0,172829	-0,1853	0,85343	
GDP_PC	-0,000303494	0,000180118	-1,6850	0,09535	*
EXP_PG	-0,136957	0,0438661	-3,1222	0,00239	***
HT_EXP_PG	0,11848	0,0795597	1,4892	0,13982	
CTRYSIZE	4,44074e-06	4,13615e-06	1,0736	0,28576	
SHADOWEC_PG	0,249369	0,061509	4,0542	0,00010	***
Mean dependent var	31,98433	S.D. dependent var	5,946399		
Sum squared resid	2068,075	S.E. of regression	4,715651		
R-squared	0,415132	Adjusted R-squared	0,371109		
F(7, 93)	9,430015	P-value(F)	8,57e-09		

Source: own calculations

In the last column the stars are showing the significance level of the specific variable. * means the variable is significant at a significance level of 90%; ** means significant at a level of 95%, *** means significant at a level of 99%. Since the highest p values were observable in the case of FDI inflow figures, and since the correlation coefficient is low between GINI and FDI_FL_PG, hypotheses 3 is not provable based on this sample.

The CTRYSIZE variable was also insignificant, the conception whereas in a larger country simply because it constitutes from differently developed subunits is not justifiable.

Using Akaike, Schwarz and Hannan-Quinn model selection criteria, I omitted the FDI_FL_PG and CTRYSIZE variables from the calculation.

After omitting the variables, all model selection criteria improved; every variable become significant at at least the level of 90%. The results are the following:

Equation 2: OLS

Number of observations: 101

Dependent variable: GINI

	<i>Coefficient</i>	<i>Std. Error</i>	<i>t-ratio</i>	<i>p-value</i>	
const	27,5712	3,28781	8,3859	<0,00001	***
FDI_ST_PG	0,0752016	0,0371289	2,0254	0,04563	**
GDP_PC	-0,000325912	0,000168322	-1,9362	0,05581	*
EXP_PG	-0,130087	0,042928	-3,0303	0,00315	***
HT_EXP_PG	0,151751	0,0717012	2,1164	0,03692	**
SHADOWEC_PG	0,273368	0,0557372	4,9046	<0,00001	***
Mean dependent var	31,98433	S.D. dependent var	5,946399		
Sum squared resid	2094,242	S.E. of regression	4,695174		
R-squared	0,407731	Adjusted R-squared	0,376559		
F(5, 95)	13,08003	P-value(F)	1,09e-09		

Source: own calculations

The markup used in the last column is the same as in the previous OLS test. The R square figures shows that the variables explain 40.7% of the changes of the variance of the dependent variable. This figure is not high, but it corresponds to the R square figures of the similar empirical analyses based on cross sectional data.

In accordance with the expectation formulated in hypotheses 2, β_1 coefficient shows positive and on 95% level significant (p-value is 0.045) relation between GINI and FDI stock. The more nominal supply from capital has a slighter effect on inequality than the phenomena that the multinational companies pay a wage premium over the national average. Moreover, this is a confirmation of the premise that the multinational companies have not integrated sufficiently into these economies yet.

In the case of the GDP_PC variable, the β_3 coefficient is close to zero and the p value is higher (0,055). The relation between GDP and the GINI index is significant, at a 95% level.

The most unambiguous conclusion is the verification of the first hypotheses. The EXP_PG moves inversely to the GINI figures on a high level of significance (p value 0,003). The increasing level of foreign trade increases competition; it equalizes price levels and helps to reduce income inequality. In contrast, tallying with hypotheses 4, β_5 coefficient is positive and significant on 95% level (p value: 0,036), which confirms the premise that the high-technology manufacturing multinational companies are not sufficiently integrated into the home economy. Thus, the effect of the general technology spillovers cannot have an effect on the closing up process, and thus only a part of the population receive a share of the advantages, which results in greater inequality.

In interpreting the results, the effect of the shadow economy should not be left out of consideration. The result shows that the effect of the shadow economy on the GINI figures is strongly positive and highly significant (p value is close to 0). In the case of the analyzed countries, the shadow economy / GDP ratios differ notably from each other; therefore, the source data is biased in a diverse level. But the differences between countries (and by this means the bias) are not as high as in the case of a global survey as in Reuveny and Li's article.

7 Results for Estonia using Equation 2

On the basis of the descriptive statistics, I analyzed the validity of the hypotheses for the case of Estonia:

Equation 2 (Estonia): OLS

Number of observations: 16

Dependent variable: EST_GINI

	<i>Coefficient</i>	<i>Std. Error</i>	<i>t-ratio</i>	<i>p-value</i>	
const	30,4876	3,60908	8,4475	<0,00001	***
EST_FDI_ST_PC	0,00505216	0,000780015	6,4770	0,00007	***
EST_FDI_FL_PC	-0,00249795	0,000899508	-2,7770	0,01955	**
EST_GDP_PC	-0,00513664	0,000776464	-6,6154	0,00006	***
EST_EXPGDP	0,305111	0,0550565	5,5418	0,00025	***
EST_HIGHTECH_EX	-0,192218	0,0475304	-4,0441	0,00235	***

Mean dependent var	35,70487	S.D. dependent var	2,105301
Sum squared resid	7,974004	S.E. of regression	0,892973
R-squared	0,880062	Adjusted R-squared	0,820093
F(5, 10)	14,67529	P-value(F)	0,000249

Source: own calculations

In pursuance of the presupposition the results presents stronger connections between the analyzed factors and the GINI index. The value of R square is 82%, which reflects stronger explanatory power than the pooled data's 40.7%. The connection between FDI stock and GINI index is much more significant than in the previous case. The negative sign and direction in the case of GDP is the same as in the first case, but the relation between exports and the GINI index is the opposite. It could be a consequence of the very high endowment in FDI. The multinational companies are producing goods for their supply chain, not for the internal market, and Estonia is just a manufacturing step for the goods, with a very weak internal market. That could be a reason for the reverse effect in the case of high-tech exports, but in addition it could be a mark that the home economy has integrated the FDI in a better way; the spillovers have their effects. Collaterally, we have to consider that in Estonia the effect of the shadow economy was not included in the calculation because of missing data. The available shadow economy data shows the highest between the analyzed countries, and if we conclude the effect of the shadow economy from the results of the pooled data, then a strong biasing effect would be observable, which was not included.

Conclusion

This paper has highlighted several hitherto unexplored findings with respect to income inequality, FDI, export openness, high-tech exports and the shadow economy. Firstly, the analysis showed positive and significant relations between increasing income inequality and increasing levels of FDI stock in the middle income of the Eastern-European states. In general, supporting previous publications in this area, I found that export intensity acts to decrease wage dispersion, while the local effects could be different from the regional effects; in the case of Estonia the result was contradictory. Higher GDP has also a significant effect on the GINI index. In common with previous works, I found evidence that higher levels of high-technology exports have an effect on income inequality. The introduction of new technology by inward investors acts to increase the returns on skilled labor, and increase inequality. This effect of high tech export and FDI will result in increasing demand for education and skills being met with improved supply. The appropriate policy response is therefore not to suppress FDI or technological change, but to make increased access to education a priority. This would allow less-skilled and low-income groups to capitalize on the opportunities from both technological progress and the ongoing process of globalization. The results raise the question of how the equalizing impact of the education could have effect on the upward moving part of Kuznets reversed "U" shape curve. Would it be demonstrable that promoting education could shorten the length of time over which FDI has an impact of making income unequal?

Another important point is the role of the shadow economy. As in the analysed countries, the level of shadow economy is significant; it has distorting effect on the results. This bias could be reduced using expenditure data, but currently it is not available for calculating the GINI index based on expenditure basis for these countries.

As an additional indirect implication of the analysis, it points out that the economic policy should pay attention to the integration of the FDI into the home economy. If the local companies become a part of the global supply chain, with the increasing competitiveness, the salary gap between multinational and local companies can be reduced significantly. This will lead to decreasing inequality even in a relatively short term.

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Annex

Country level descriptive statistics

Country	Factor	min	max	avg	stdev	2005
HUN	EXPORT / GDP (%)	26,4	77,1	54,2	16,6	66
POL	EXPORT / GDP (%)	26,4	77,1	54,2	16,6	66
CZE	EXPORT / GDP (%)	48,9	76,6	59,0	8,4	72
HRV	EXPORT / GDP (%)	38,6	77,7	47,9	9,5	47
BGR	EXPORT / GDP (%)	38,2	64,5	51,4	7,3	60
EST	EXPORT / GDP (%)	60,3	85,4	72,5	7,0	80
LVA	EXPORT / GDP (%)	35,2	79,9	47,6	11,8	48
LTU	EXPORT / GDP (%)	23,4	82,5	50,0	13,1	58
MDA	EXPORT / GDP (%)	21,1	55,3	46,5	9,3	51
ROM	EXPORT / GDP (%)	17,6	35,9	29,2	5,3	33
SRB	EXPORT / GDP (%)	16,7	28,7	21,7	3,7	25
SVK	EXPORT / GDP (%)	46,3	84,4	65,3	10,5	76
SLV	EXPORT / GDP (%)	47,6	83,5	57,5	8,7	62
UKR	EXPORT / GDP (%)	24,0	62,4	45,6	12,5	51
BLR	EXPORT / GDP (%)	36,9	71,3	60,1	9,1	60
POL	FDI INFLOW PER CAP.	9,4	503,4	159,3	129,5	271
CZE	FDI INFLOW PER CAP.	63,4	1143,9	424,4	312,8	1144
HRV	FDI INFLOW PER CAP.	2,8	751,4	233,9	202,9	393
BGR	FDI INFLOW PER CAP.	4,7	975,9	176,0	263,2	507
EST	FDI INFLOW PER CAP.	53,7	2141,4	471,0	561,1	2141
LVA	FDI INFLOW PER CAP.	12,1	727,0	175,2	174,7	310
LTU	FDI INFLOW PER CAP.	2,7	540,0	143,0	146,5	301
MDA	FDI INFLOW PER CAP.	2,7	63,1	21,6	17,9	51
ROM	FDI INFLOW PER CAP.	1,7	527,9	101,4	146,9	300
SRB	FDI INFLOW PER CAP.	0,0	489,7	74,1	128,9	199
SVK	FDI INFLOW PER CAP.	33,6	773,0	316,7	261,8	391
SLV	FDI INFLOW PER CAP.	53,8	833,5	195,9	208,6	289
UKR	FDI INFLOW PER CAP.	3,1	166,4	30,6	47,5	166
BLR	FDI INFLOW PER CAP.	0,7	43,9	17,4	14,1	31
HUN	FDI INFLOW PER CAP.	110,6	764,3	346,6	182,3	764
HUN	FDI STOCK PER CAP.	203,7	8111,2	2742,6	2383,5	6144
POL	FDI STOCK PER CAP.	11,1	3265,1	936,6	976,4	2375
CZE	FDI STOCK PER CAP.	331,9	7836,0	2767,2	2386,0	5952
HRV	FDI STOCK PER CAP.	28,2	6006,1	1239,2	1648,0	3206
BGR	FDI STOCK PER CAP.	19,2	2972,6	557,9	818,7	1788
EST	FDI STOCK PER CAP.	62,8	9450,6	2892,3	3184,6	8398
LVA	FDI STOCK PER CAP.	67,5	3265,9	978,4	898,9	2141
LTU	FDI STOCK PER CAP.	28,9	3226,5	885,1	962,2	2397
MDA	FDI STOCK PER CAP.	3,6	339,2	110,6	105,2	273
ROM	FDI STOCK PER CAP.	1,9	2110,9	408,8	571,6	1194
SRB	FDI STOCK PER CAP.	67,9	1097,2	299,5	329,7	596
SVK	FDI STOCK PER CAP.	120,5	7114,7	1716,4	2083,8	4391
SLV	FDI STOCK PER CAP.	936,1	4460,1	1963,5	1180,1	3631
UKR	FDI STOCK PER CAP.	5,5	496,7	117,4	142,2	367
BLR	FDI STOCK PER CAP.	0,7	280,7	108,0	95,6	243
HUN	GINI INDEX (%)	24,3	32,1	27,3	2,5	28
POL	GINI INDEX (%)	25,0	36,3	32,3	3,0	36
CZE	GINI INDEX (%)	21,5	26,3	24,6	1,1	26
HRV	GINI INDEX (%)	24,6	31,9	28,4	2,4	29
BGR	GINI INDEX (%)	3,0	35,8	30,1	7,7	34

EST	GINI INDEX (%)	29,8	37,8	35,7	2,1	34
LVA	GINI INDEX (%)	24,7	39,0	32,8	3,3	36
LTU	GINI INDEX (%)	31,0	37,2	35,0	1,6	36
MDA	GINI INDEX (%)	32,2	44,1	39,8	3,0	40
ROM	GINI INDEX (%)	23,3	38,3	32,2	4,8	38
SRB	GINI INDEX (%)	31,1	36,8	35,1	2,3	35
SVK	GINI INDEX (%)	20,4	26,2	24,1	2,0	26
SLV	GINI INDEX (%)	24,7	30,3	26,4	1,5	25
UKR	GINI INDEX (%)	21,6	45,8	36,6	6,7	28
BLR	GINI INDEX (%)	28,2	39,9	30,6	3,1	28
HUN	HIGHTECH. EXP / GDP (%)	4,0	28,9	17,0	9,8	26
POL	HIGHTECH. EXP / GDP (%)	4,0	28,9	17,0	9,8	26
CZE	HIGHTECH. EXP / GDP (%)	3,3	14,1	9,0	3,7	13
HRV	HIGHTECH. EXP / GDP (%)	4,8	13,0	8,7	2,8	11
BGR	HIGHTECH. EXP / GDP (%)	2,7	6,0	3,8	1,0	5
EST	HIGHTECH. EXP / GDP (%)	6,2	36,5	19,1	9,5	27
LVA	HIGHTECH. EXP / GDP (%)	3,7	6,9	4,9	1,0	5
LTU	HIGHTECH. EXP / GDP (%)	0,4	8,0	4,2	1,7	6
MDA	HIGHTECH. EXP / GDP (%)	2,5	28,2	5,5	6,9	4
ROM	HIGHTECH. EXP / GDP (%)	0,9	5,8	2,8	1,6	3
SRB	HIGHTECH. EXP / GDP (%)	2,3	5,5	4,1	1,1	4
SVK	HIGHTECH. EXP / GDP (%)	3,1	7,3	4,5	1,2	7
SLV	HIGHTECH. EXP / GDP (%)	3,2	6,3	4,5	0,9	5
UKR	HIGHTECH. EXP / GDP (%)	3,4	6,9	4,8	1,1	4
BLR	HIGHTECH. EXP / GDP (%)	2,6	4,2	3,5	0,6	3
HUN	SHADOW ECON./GDP (%)	24,3	26,2	25,4	0,7	24
POL	SHADOW ECON./GDP (%)	27,3	28,9	27,9	0,6	27
CZE	SHADOW ECON./GDP (%)	18,3	20,1	19,2	0,5	18
HRV	SHADOW ECON./GDP (%)	33,4	35,4	34,3	0,6	34
BGR	SHADOW ECON./GDP (%)	36,5	38,3	37,1	0,6	37
EST	SHADOW ECON./GDP (%)	38,2	60,1	41,7	8,1	38
LVA	SHADOW ECON./GDP (%)	39,4	41,3	40,3	0,7	39
LTU	SHADOW ECON./GDP (%)	30,2	32,6	30,9	0,9	30
MDA	SHADOW ECON./GDP (%)	45,1	49,5	47,8	2,0	49
ROM	SHADOW ECON./GDP (%)	34,4	37,4	35,6	1,1	35
SRB	SHADOW ECON./GDP (%)	36,4	39,1	37,4	1,0	37
SVK	SHADOW ECON./GDP (%)	18,2	20,2	19,0	0,7	18
SLV	SHADOW ECON./GDP (%)	27,1	29,4	27,8	0,9	27
UKR	SHADOW ECON./GDP (%)	52,2	55,3	54,0	1,4	55
BLR	SHADOW ECON./GDP (%)	48,1	50,8	49,7	1,2	51