

# **An Exploratory Analysis of Joint Ventures' Performance in Romania**

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## **ABSTRACT**

This paper gives empirical evidence for the superior performance of foreign direct investment in Romania in the presence of highly labor-intensive production and large market shares. Performance is measured in terms of investment volume and net profits. Partial state-ownership in joint ventures adversely affects performance, while a higher degree of import competition - in contrast to common conviction - favors profits during this stage of reforms. According to the results of a profitability analysis, the optimal size per investment has neither been reached nor even been surpassed yet.

## **ZUSAMMENFASSUNG**

Im Rahmen einer explorativen Querschnittsanalyse gibt diese Arbeit empirische Evidenz für die Hypothese, daß die Performanz von Joint Ventures in Rumänien positiv mit dem Grad der Arbeitsintensität der Produktion sowie dem Marktanteil des jeweiligen Unternehmens korreliert ist. Als Performanzmaße werden das Investitionsvolumen und die Gewinnsumme je Joint Venture herangezogen. Während bei umfangreichen Beteiligungen staatlicher Unternehmen die Performanz abnimmt, wirkt sich ein höherer Grad an Importkonkurrenz - entgegen allgemeiner Überzeugung - während dieser Phase der Reformen positiv aus. Die Ergebnisse einer Rentabilitätsanalyse legen den Schluß nahe, daß das mindestoptimale Investitionsvolumen pro Joint Venture noch nicht erreicht worden ist.

**JEL CLASSIFICATION:** F21, O12, F15, C21

**KEYWORDS:** economic transition, joint ventures, Romania, manufacturing industry

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## 1. Introduction

"Incredible as it may seem today, Romania was the second East European country to permit foreign investment" (DOBOSIEWICZ, 1992, p. 48). The door to foreign investment in Romania on a minority partnership basis was opened as early as 1971. Western companies, however, remained reluctant to invest in the country. Following the revolution in 1989, comprehensive reforms to bring about transition to a market economy have been initiated. Foreign investment, in particular in joint ventures, is considered to play a key role in the reform process by supplementing the domestic capital pool, fostering the transfer of modern technologies (WANG and BLOMSTRÖM, 1992), and introducing Western management methods.<sup>1</sup> A joint venture is an entity with independent legal status that has been created, and is operated and jointly controlled by two (or more) parents for their mutual benefit (DARROUGH and STOUGHTON, 1989, p. 237). From the viewpoint of economic policy the involvement of state-owned companies in joint ventures is regarded as a key instrument to accomplish these objectives (GROZEA ET AL., 1994). And conversely, the rationale that Western investors are willing to share a stake of a subsidiary's capital with state-owned companies may be explained by considerations of risk diversification and rapid market penetration. The present study focusses on the variables which determine the size of foreign direct investment in joint ventures and their profitability. We will provide empirical results whether the decision to cooperate within a joint venture is appropriate from the perspective of economic policy and the investor as well: in terms of attracting a large commitment of Western investors as a driving force of economic development, and in terms of a high profitability as investors' motivation to undertake and maintain a venture in Romania.<sup>2</sup>

The subsequent chapter reports macroeconomic data for foreign direct investment (FDI) in Romania and highlights important aspects of the legal framework related to it. Chapter 3 presents the data sources used and introduces the definition of variables. The first part of chapter 4 analyzes foreign direct investment and profits using two separate regression models, while the

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<sup>1</sup> For a discussion of motives to engage in contractual joint ventures and buyback contracts during the pre-reform period, see CHAN and HOY (1991), and AMANN and MARIN (1989).

<sup>2</sup> Cf. KOGUT (1989) for an investigation of the stability of joint ventures.

second part of chapter 4 is dedicated to the correlation between foreign direct investment and profitability. Chapter 5 concludes the paper.

## **2. A Macroperspective on FDI in Romania**

During the eighties the Romanian government assigned high priority to the repayment of foreign debt. Since the covering of the investment needs of the Romanian economy would have meant larger imports of capital goods, investment has been underweighted in favor of maximizing trade surpluses. As a consequence the rebuilding of the capital stock requires investment at an estimated extent of US\$ 1 billion per annum which exceeds the amount of resources domestically available by far.

### **2.1. The Legal Framework**

Three primary principles now govern foreign direct investment in Romania: first, equal treatment for both the domestic and the foreign investors, second, minimum government intervention, and third, free access to all economic sectors provided that the investment does not impair the environment, national security, public order, health and good morals.

The following laws provide the general legal framework for foreign investment in Romania:

- ♦ Foreign Investment Law No. 35/1991, revised and amended in August 1993;
- ♦ Partnership and Company Law No. 31/1990;
- ♦ Commercial Register Law No. 26/1990;
- ♦ Profit Tax Law No. 12/1991;
- ♦ Privatization Law No. 58/1991;
- ♦ Accountancy Law No. 82/1991;
- ♦ Law on Foreign Investment in the Exploration and the Production of Oil and Gas No. 66/1992;
- ♦ Free Trade Zones Law No. 84/1992;

- ♦ Law on Additional Incentives for Investments in the Industrial Sector No. 71/1994;
- ♦ Law on Additional Tax Facilities for Foreign Investors No. 211/1994.

Romania has a liberal and favorable legal framework for foreign direct investment now, viz. 100% foreign ownership of enterprises, no restrictions on capital or profit repatriation, and additional tax incentives applicable for exports as well as research and development expenditures. Foreign staff may be engaged in managerial positions and as experts. The new Romanian legislation gives guarantees against nationalization, expropriation, confiscation, requisition or any other measure of similar effect, except when this is in the public interest, and only under due process of law and with appropriate compensation. All hard currency profits earned in Romania may be transferred abroad after the payment of taxes subject to a 10% levy. The imported supplies necessary for production purposes are exempt from import duties for a two-year period, starting with the date a project is commissioned. In the petroleum industry and other industrial sectors special import duty exemptions are applied. Additionally, imports directly related to the realization of foreign direct investment projects are exempt from duties on equipment when being contributed in kind or financed by foreign cash grants. Law No. 211/1994 stipulates additional tax facilities for the stimulation of large-scale foreign direct investment, that is investments exceeding US\$ 50 million. Under certain conditions profits remain tax-exempt for a period of five years, and imports are exempt from customs duties for a period of seven years.

Starting with January 1, 1995, a new profit tax law lowers the common tax rate from 45% to 38%. To encourage investment in agriculture, firms which obtain more than 80% of their income from agriculture are taxed by 25%. The profit tax base is adjusted to inflation by using the consumer price index. Depreciation and a fraction of interest payments are tax deductible. Losses can be carried forward for 5 years, and the dividends received by a legal person from another legal person are not taxed. Tax holidays, previously introduced, are granted now only for legal persons registered before January 1, 1995, while foreign legal entities with permanent headquarters in Romania are taxed by an additional 6.2% rate.

## 2.2. Stylized Facts

In 1990 the inflow of foreign capital started from a close to zero level. By the end of 1994 cumulated foreign investment in Romania totalled at about USD1.4 billion, increasing by US\$ 627 million in 1994 (Table 1). The most attractive sectors for foreign investors are the petroleum and the car manufacturing industries. At the end of 1993 investments exceeding US\$ 1 mill. represent 69% of the total investments, those larger than US\$ 500,000 account for 75%, and those over US \$ 100,000 amount to 85%. The intended acceleration of privatisation and the opening of the first post-war Romanian Stock Exchange, scheduled for 1995, represent factors which are expected to contribute to a continued inflow of foreign capital in 1995.

Table 1  
Foreign direct investment in Romania

Date	Number of companies	Invested capital in 1000 US \$)	Number of investing countries
1990	1529	107,700	68
1991	6368	156,300	84
1992	12780	269,100	103
1993	8457	227,400	103
1994	10528	627,000	142

Source: Romanian Development Agency, 1995.

Table 2 presents the structure of foreign direct investment by origin. The largest share of FDI originates from Germany (10.6% of total foreign investment), followed by France (10.4%), and the USA (10.2%). In 1993 the largest number of joint ventures has been registered in commerce (20%), followed by the food industry (9%), and by tourism (8.6%).

Table 2  
Foreign direct investment by origin (November 14, 1994)

Country	Capital (US\$ million)	No. of companies
Germany	103,556	4,507
France	101,376	1,361
USA	98,970	1,893
Italy	98,561	4,436
Netherlands	68,306	561
Canada	64,165	464
Luxembourg	58,201	53
UK	48,300	542
Turkey	44,393	3,443
Spain	27,498	211
Switzerland	27,498	512
Austria	26,307	906
Source: Romanian Development Agency, 1994.		

According to economic sectors foreign investments larger than US\$ 1 million are distributed in the following way: 14.6% in the extractive industry, 18.6% in the machine building industry, 10.8% in electronics and electrotechnics, 9.5% in the light industry, 31.7% in the food industry, and 14.0% in agriculture. Bucharest represents the main beneficiary of foreign direct investment with 54.3% of total investment.

The largest single foreign investment in Romania in 1994, amounting to nearly US\$ 1 billion over the next 6 years, refers to a joint venture between the South Korean company Daewoo and the Romanian car producer S.C. Automobile SA Craiova. Other large investments were undertaken by Pizza Hut and Mc Donald's.

### 3. Methodology

The subsequent analysis utilizes firm level data provided by the Chamber of Commerce of Romania, Bucharest. From the original sample, consisting of the largest 100 companies with foreign capital participation that were established between 1991 and 1993, only 27 records are sufficiently complete to be used in the analysis. All companies are endowed with a foreign capital stock exceeding US \$ 400,000. The main fields of activities are (Table 3):

Table 3  
The sample of joint ventures according to fields of activity

Branch	Food industry	Light industry	Electrotechnics & electronics	Trade	Others
No. of firms	6	5	4	6	6

Based on these data we calculate four independent variables to be used in the subsequent regression models: the  $i^{\text{th}}$  firm's market share, the degree of import competition, the extent of state ownership, and the labor intensity of production. In case that a company performs its activity in more than one field of activity, total revenues and net profits registered at the Chamber of Commerce pertain to all fields in which a firm is involved. For the purpose of this paper, both foreign direct investment and net profits are considered to be related to the main field of activity of the company only. Any inaccuracies stemming from this approximation are confined to the market share variable and the import competition variable only but do neither affect the state ownership variable nor the labor intensity variable. As a fifth independent variable the degree of market concentration was included in some preliminary regressions but turned out to be insignificant in all cases under study and is therefore disregarded in the subsequent analysis.

The  $i^{\text{th}}$  firm's market share is calculated as the ratio between the total revenue of the firm and the market volume of the respective industry. The market volume is obtained by summing up total industry output and branch-specific imports. As a proxy for the degree of import competition we compute the market share of imports. The extent of state ownership is represented by the percentage of the subscribed capital of the joint venture which is held by the state, and the labor



intensity of products is defined as the ratio between the number of employees and the  $i^{\text{th}}$  firm's total revenue in US \$. The official exchange rates by the Romanian National Bank used for the transformation into US \$ are: 80.08 Lei/\$ (1991) and 320.37 Lei/\$ (1992).

#### 4. The Models

##### 4.1 Foreign Direct Investment and Net Profits

Subsequently we are going to examine two different models. In the first model we use an ordinary least squares regression in order to estimate the relationship between foreign direct investment (FDI) and the four variables defined above, while in the second model we regress the firms' profits ( $\pi$ ) on these. The estimates are used to test the following eight hypotheses of statistically significant relationships:

1. The larger the market share of firm  $i$ , the higher are the foreign investment and the profits respectively;
2. Foreign investment and profits are negatively related to the degree of import competition;
3. The larger the share of state-owned capital in the joint venture, the lower foreign investment and profits respectively.
4. Foreign direct investment and profit are positively related to the degree of labor intensity in the respective branch.

The regression models are:

$$FDI = \alpha_0 + \alpha_1 MS + \alpha_2 IC + \alpha_3 SO + \alpha_4 LI + \epsilon$$

$$\pi = \beta_0 + \beta_1 MS + \beta_2 IC + \beta_3 SO + \beta_4 LI + \eta$$

Table 4 presents the regression results.

Table 4  
Results of the regression analysis

Explaining variable	Dependent variable	
	FDI	$\pi$
Intercept ( $\alpha_0, \beta_0$ )	-1,410,182.2 (-1.25)	-868,083.5** (-2.14)
Market share (MS)	816,939.1*** (2.59)	291,506.9** (2.57)
Import competition (IC)	34,126.6 (1.64)	14,807.1* (1.98)
State ownership (SO)	-55,242.0*** (-2.82)	-16,260.2** (-2.31)
Labor intensity (LI)	119,711,141.0*** (4.27)	33,427,651.0*** (3.32)
t-statistics are given in parentheses. Statistically significantly different from zero at the * 0.1 significance level. ** 0.05 significance level. *** 0.01 significance level.	$\hat{R}^2 = 0.82$ F-stat. = 29.87 Pr(F) = 0.00000	$\hat{R}^2 = 0.76$ F-stat. = 21.55 Pr(F) = 0.00000

The regression models provide a good fit in terms of  $\hat{R}^2$ . According to the F-test the null hypothesis that all of the coefficients excluding the intercept are zero is strongly rejected.

1. The regression results give some evidence that the labor intensity of production plays a crucial role in determining the volume of foreign direct investment as well as profits. The coefficients of the labor intensity are positive and significant at the 1% level. The volume of FDI is higher by 119,711.14 US \$ if the labor intensity of production increases by 1 employee per 1 Mill. US \$ turnover, and profits are higher by 33,427.65 US \$.
2. The coefficients of the market share show the expected sign as well. The market share has a highly significant influence on foreign direct investment, so that an increase of 1 percentage point in the market share is correlated with an increase of 816,939.1 US \$. In the regression for profits the market share coefficient turns out to be significant at the 5% level, with profits being higher by 291,506.9 US \$ for an increased market share of 1 percentage point.

3. State ownership also shows a significant, but negative influence on both foreign direct investment and profits. If the share of state-owned capital is larger by one percentage point, the volume of foreign direct investment decreases by 55,242.0 US \$, and profits are lower by 16,260.2 US \$.
4. The effect of import competition on foreign investment is statistically insignificant, while in the profit model import competition has a significant influence at the 10% level. In contrast to our expectations, however, the sign of the coefficient turns out to be positive, and thus higher profits are related to a higher degree of import competition. We offer three explanations for this effect.

First, suppose that imports have a large market share in such goods categories where the domestic production capacities are far off from covering domestic market demand. The new production capacity installed by a joint venture may substitute some fraction of highly profitable imports by domestic supply (import substitution effect).

Second, foreign direct investment may especially be attracted by branches with a high degree of import competition. Note that most of the foreign investors in our sample are multinational companies. These multinational companies draw on their local market experience gained during the market penetration phase when exporting their goods to Romania. Since this experience helps assess country-specific risks, and pre-emptive strategies help secure high profitability, foreign direct investment is particularly - and successfully - allocated to those sectors where import competition, to be understood as an instrument to accumulate country-specific knowledge, is relatively high. Since Romania is in a relatively early stage of market penetration, profit margins may not have been eroded yet by a multitude of market entries (asymmetric information effect).

Third, since the presence of foreign competitors may cause positive externalities that overcompensate the detrimental effect of higher competition to each joint venture, foreign investors may nevertheless behave competition-seeking. To exemplify, high advertising expenditures by import competitors may create a market potential that may be profitably exploited not only by importers, but, especially if taking into account cost advantages of

local sourcing, may also be beneficial to the profitability of foreign investments (shopping mall effect).

#### 4.2 Profitability Analysis

In this section we examine whether there exists an optimal size of foreign direct investment with respect to profitability. To check for outliers all observations are graphically depicted in the FDI/profit plane. Figure 1 demonstrates that two observations have a particularly large weight in the sample, so that for the purpose of comparison we create a second sample of 25 observations (Figure 2).

In order to assess the degree of association between foreign direct investment and net profits we calculate the Pearson correlation coefficient. The values of the correlation coefficients are 0.976 for the entire sample (sample<sub>27</sub>) and 0.827 for the sample without the largest two observations (sample<sub>25</sub>). These values suggest a strong correlation between the volume of foreign direct investment and profits. There is no evidence that the marginal profitability of the invested capital decreases with growing size of the investment as four of the five largest projects are placed above or on the regression line. Another way of looking at the optimal size of investment projects is to relate profitability to foreign direct investment. As profitability measure we calculate the ratio between net profits and foreign direct investment. The average profitability of the joint ventures in the sample reaches 18.6%, while the median value is 16.8% which is caused by a few extraordinarily profitable enterprises which lift the value arithmetic mean (Table 5). The five largest investments exceed the median value, and four of them also exceed the arithmetic mean. Figures 3 and 4 delineate the relationship between profitability and foreign

Table 5  
The distribution of average profitability

Minimum:	0%	10%-percentile:	3.2%	75%-percentile:	27.9%
Median:	16.8%	20%-percentile:	7.6%	80%-percentile:	30.0%
Maximum:	46.8%	25%-percentile:	9.1%	90%-percentile:	31.8%

irect investment graphically.

Additional support that there is no correlation between the volume of foreign direct investment and profitability is obtained by calculating the Pearson correlation coefficient. R has a value of 0.238 for sample<sub>27</sub>, and of -0.002 for sample<sub>25</sub>, i.e. for the latter sample absolutely no correlation is provable. To conclude, the foreign direct investments covered by this inquiry (recall that only investments exceeding US \$ 400,000 are included in the sample) do not hint at any oversized investment.

## **5 Conclusions**

Despite of the comprehensive changes in the legal framework for foreign investment, foreign investors are not rushing to invest in Romania, in particular not with large commitments. Our study suggests that foreign investors can expect to undertake a profitable venture if their investment is properly designed and positioned in the market. Our results indicate that a promising foreign direct investment is featured by a high degree of labor intensive production and a large market share. Private ownership is conducive to a large commitment of the foreign investor in terms of invested capital, and a higher degree of import competition favors profitability at least during this stage of the reforms. There is no evidence suggesting that the optimal size of investments as measured by profitability has been reached or even surpassed yet. The study supports scepticism about the advisability of state-participation in joint ventures for an accelerated economic development if considerations are confined to the volume of foreign direct investment. The potential volume of foreign direct investment foregone because of state participation in joint ventures may, however, be (over-)compensated by an accelerated technology transfer and introduction of Western management methods in economic sectors where comprehensive structural reforms may not be achieved otherwise.

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Figure 1

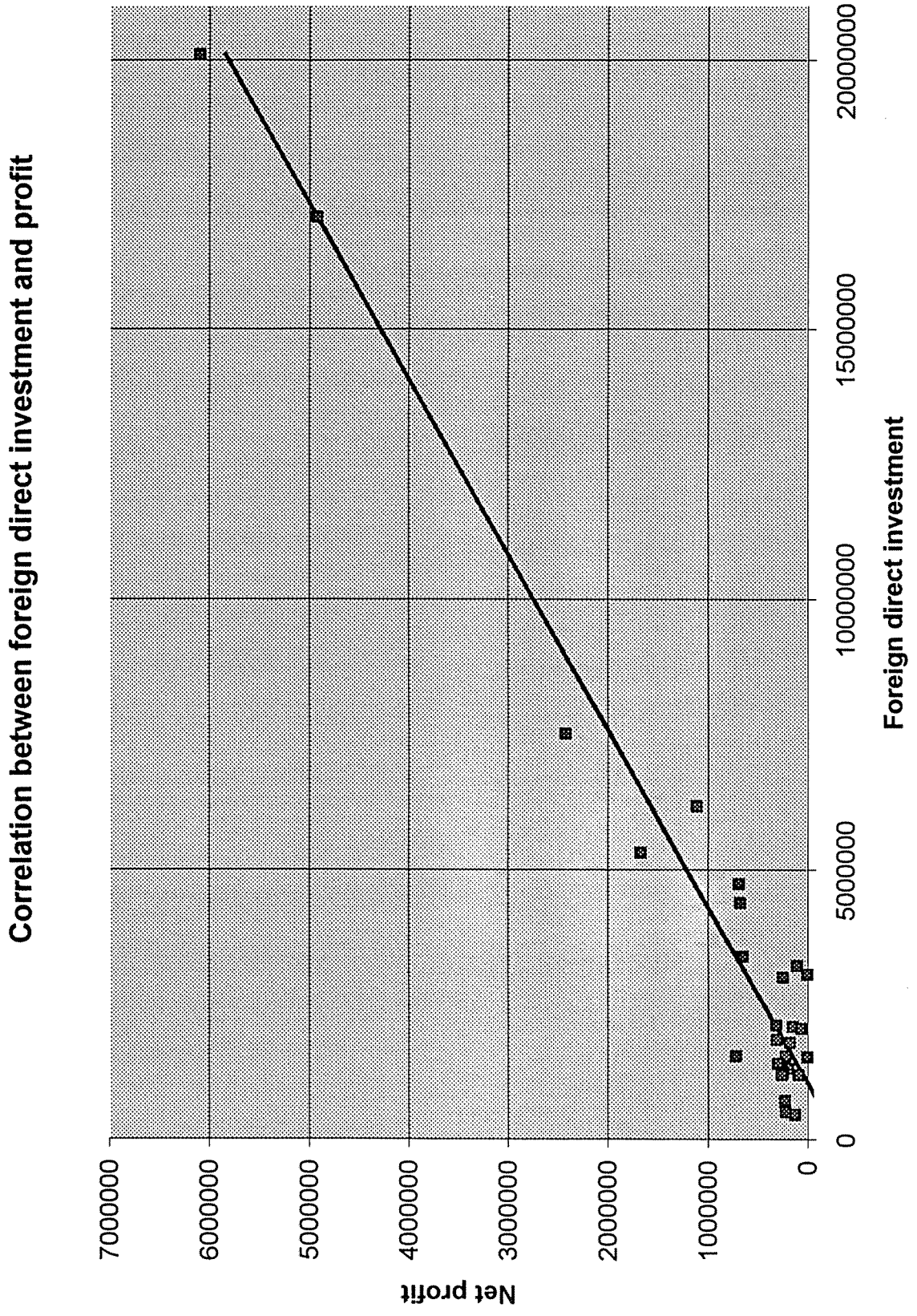


Figure 2

### Correlation between foreign direct investment and profit

(identical sample - without two observations with the largest values of FDI and net profit)

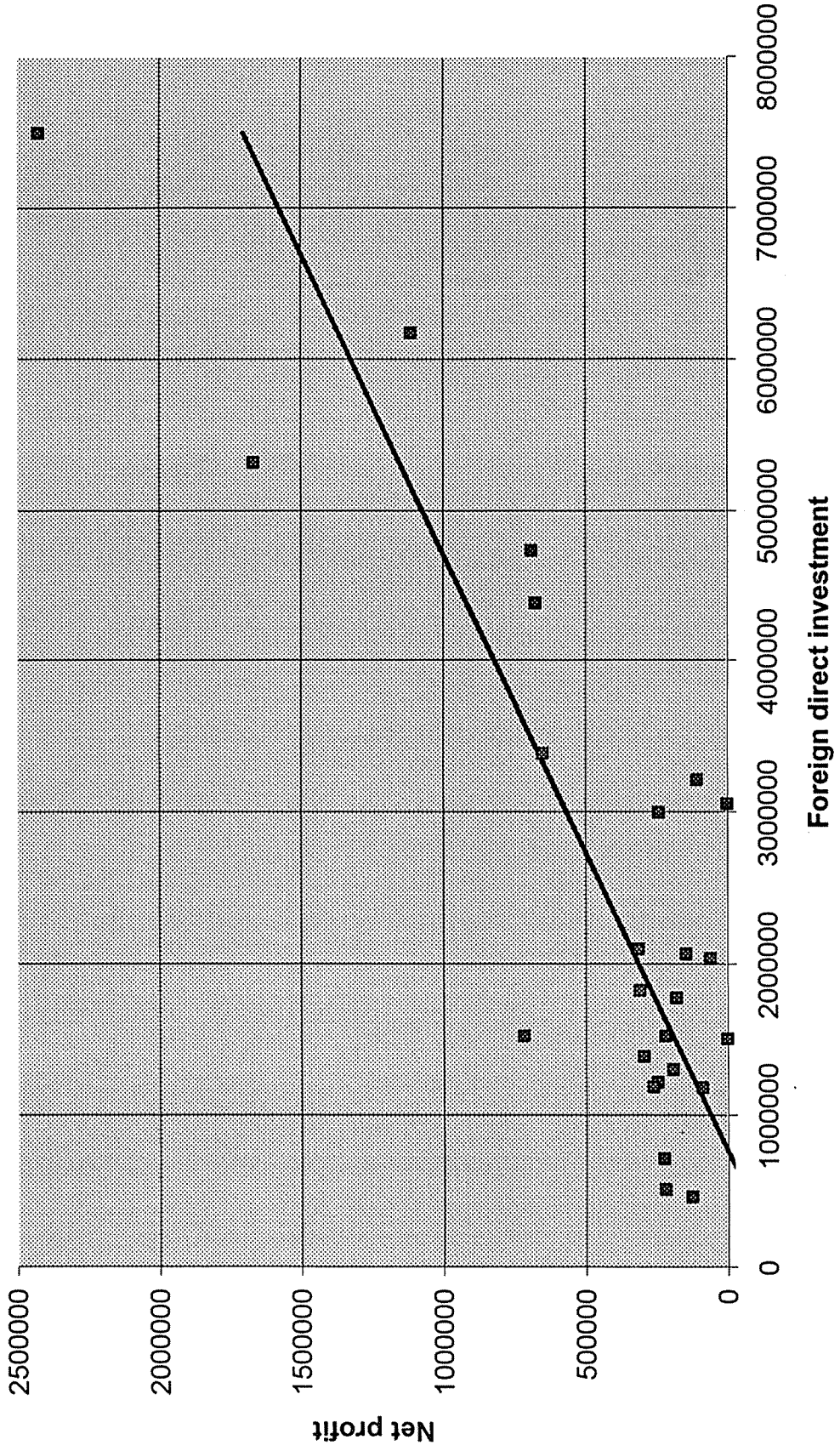




Figure 3

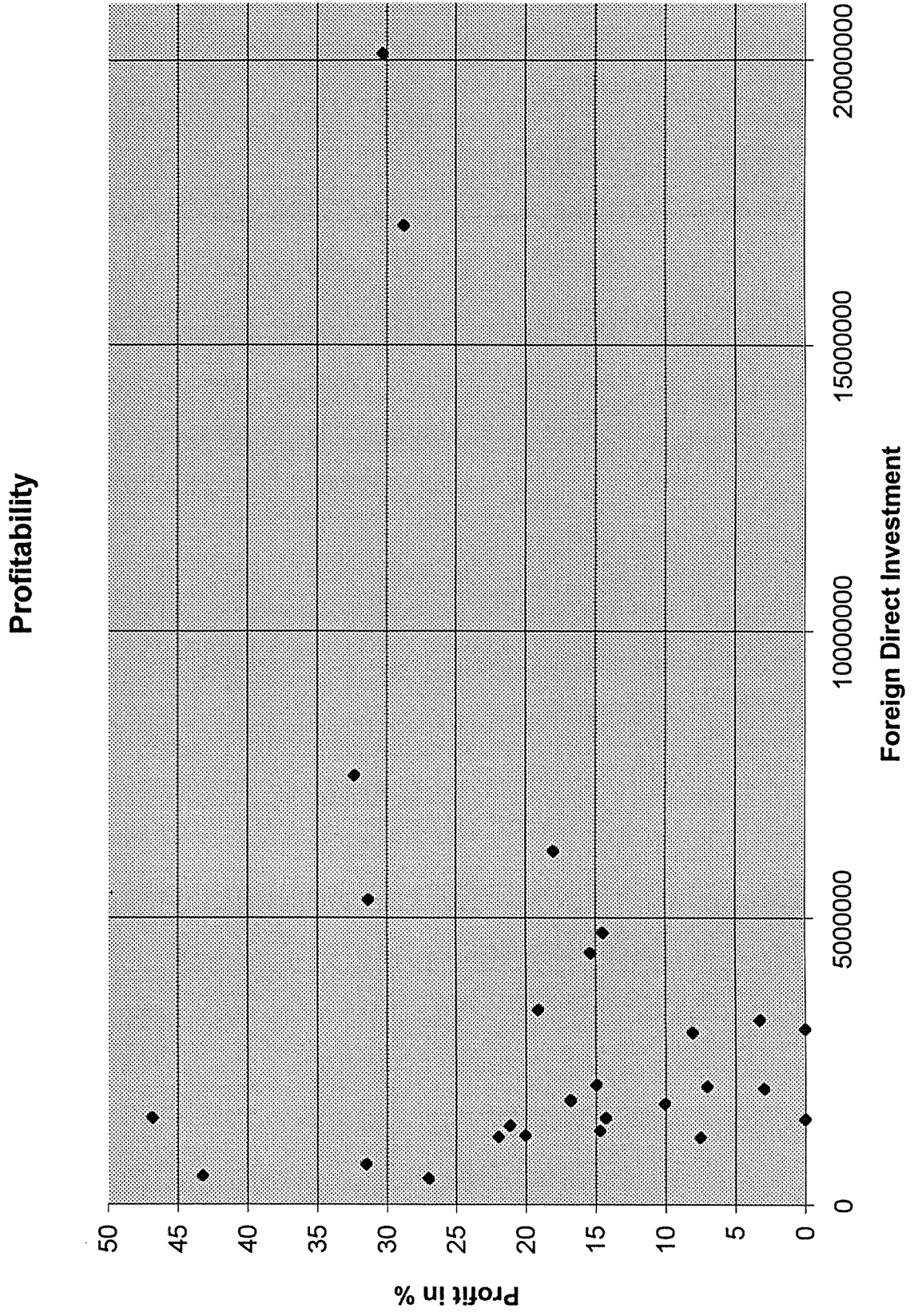
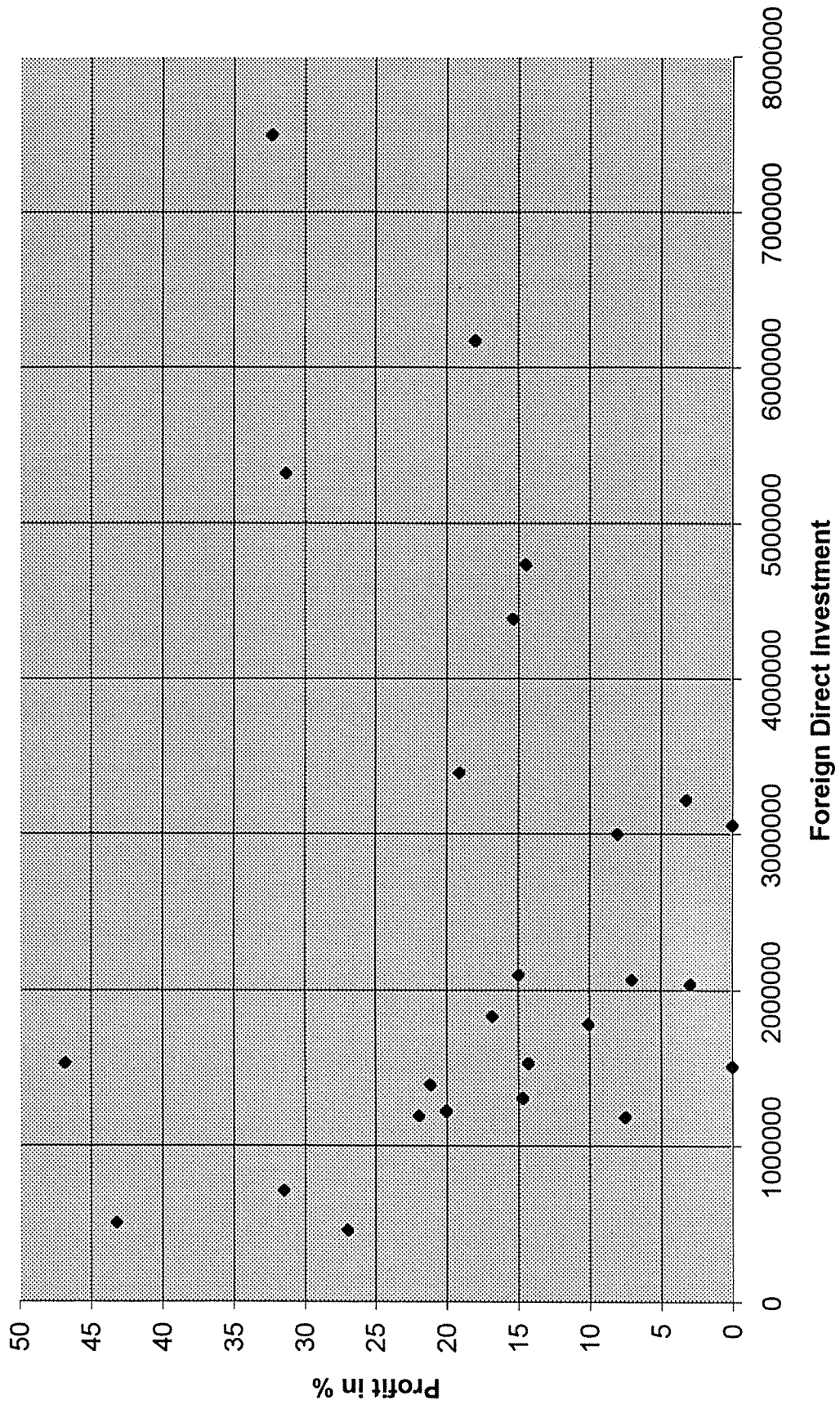
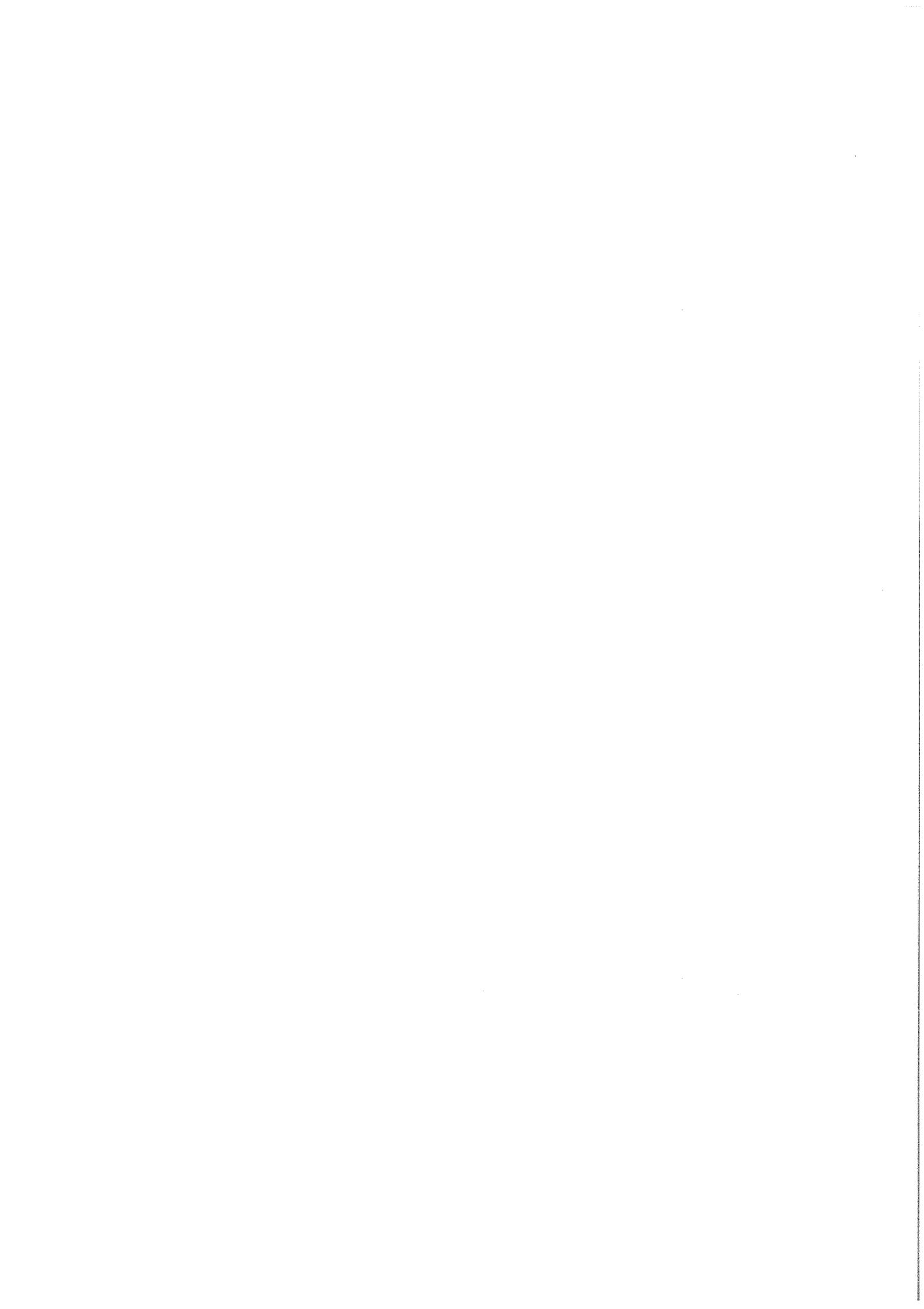


Figure 4

### Profitability

(identical sample - without two observations with the largest values of FDI and net profit)





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