EU ACCESSION AND FOREIGN OWNED FIRMS IN BULGARIA

Zadia M. Feliciano
Nadia Doytch

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Zadia M. Feliciano and Nadia Doytch
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ABSTRACT

Bulgaria signed the Europe Association Agreement (EAA) in 1995 and the European Union accession treaty in 2005. Accession had the effect of increasing FDI in Bulgaria. We analyze World Bank BEEPS firm level data for 2007 to better understand characteristics and performance of foreign firms in Bulgaria. We estimate linear probability and logit models to determine the likelihood a firm is foreign in Bulgaria. Regressions show foreign manufacturing firms in Bulgaria are larger than domestic firms, have lower capital to labor ratios and are more likely to export. Foreign service sector firms are larger than domestic firms, have lower capital to labor ratios, are more likely to export and to locate in Sofia, the capital. Our analysis points to limited success of foreign firms in Bulgaria. Regressions show foreign manufacturing firms do not have higher sales growth and made less capital investments than domestic firms. Foreign firms in the service sector did not experience faster sales growth or had greater capital investments than domestic firms. Institutional indicators show manufacturing and service sector firms with larger fractions of exports relative to sales had a greater number of visits from tax officials. This suggests that exporting firms receive larger scrutiny than other firms, which represents a challenge to foreign firms in Bulgaria.

Zadia M. Feliciano
NBER
5 Hanover Square, 16th Floor
Suite 1602
New York, NY 10004-2630
zadia.feliciano@qc.cuny.edu

Nadia Doytch
Brooklyn College, CUNY
Department of Economics,
School of Business
2900 Bedford Avenue
Brooklyn, NY 11210
ndoytch@brooklyn.cuny.edu

1. Bulgaria's integration to the European Union

With the collapse of the Soviet Union in the early 1990s, communist Eastern European countries transitioned into market economies. One important part of this transformation was the opening of trade between Eastern and Western Europe. Most Eastern European countries signed preferential Trade Agreements with the European Union (EU), and eventually joined the EU.

Eastern European countries transformed from command and control economies, where most firms were government owned, to economies that responded to market supply and demand forces. Laws allowing private ownership and integration to the EU led to a significant growth in foreign owned firms through privatizations and establishment of new enterprises.

In 1992 Bulgaria started negotiations with the European Community and became an associate member of the EU by signing the Europe Association Agreement (EAA) in 1995. The EAA established free trade between a respective country and the EU through gradual full elimination of barriers to trade in industrial goods and some liberalization of trade in agricultural goods. In the case of Bulgaria, first EU eliminated all import duties and non-tariff measures applied to Bulgarian exports of industrial products on January 1st 1998 and then Bulgaria eliminated all import duties and non-tariff measures on EU exports of industrial goods on January 1st 2002.[1]

In 2005, Bulgaria signed an accession treaty, which came into force in January 2007. Bulgaria's accession was part of the fifth enlargement of the EU, and was the first

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[1] The free trade area agreements within the European Union apply only to industrial production and not to agricultural goods. There are additional reciprocal concessions for some agricultural goods, such as tobacco, cheese and wine.

time the EU extended beyond the Iron Curtain. The first phase of the enlargement took place in 2004 when Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia and Slovenia joined. During the second phase Bulgaria and Romania joined (Kalotay, 2008). FDI almost doubled following the signing of the accession treaty (Sakali, 2013). FDI continued to increase in 2007 but the rate of growth of FDI declined in subsequent years.

There has been limited research on the impact of the EU preferential trade agreement and EU accession on the location, characteristics and performance of foreign firms in Eastern Europe. In this paper, we analyze firm level data from the World Bank's Business Environment and Enterprise Performance Survey (BEEPS) 2007, to better understand the characteristics and performance of foreign firms in Bulgaria at a transition point, when Bulgaria was completing the EU accession treaty. We estimate linear probability and logit models to determine characteristics of foreign firms in Bulgaria. We analyze economic outcomes of foreign firms and institutional conditions that may play a role in their performance.

2. Determinants of FDI and Foreign Firms in Bulgaria

The literature on the determinants of FDI is extensive. Blonigen (2005) summarizes this literature into research that focuses on factors internal and external to the firm. Factors internal to the firm include characteristics and price of capital and labor, and intangible factors include technology and managerial skills. Factors external to the firm include macroeconomic conditions, exchange rates, taxes, trade policy and institutions.

EU accession gave Bulgaria a location advantage by expanding the market size

firms were able to reach, by improving the availability of resources for infrastructure development and by providing more political and legal stability. According to Bitzenis and Vlachos (2013), FDI stock in Bulgaria doubled after EU accession. Four-fifth of the foreign investment originated in countries from the EU.

The literature on Bulgaria's integration to the EU and it's impact on FDI has focused on aggregate FDI inflows. Kalotay (2008) analyzed aggregate FDI inflows to Bulgaria from 1994 to 2006 and finds that that despite lower labor costs and lower corporate taxes, Bulgaria attracted relatively few efficiency seeking foreign investments, mostly in garments and footwear industries. These industries are under a global competitive threat and their growth prospects are limited.

Sakali (2013) analyzes bilateral FDI inflows from a panel of countries investing in Bulgaria from 1996 to 2010 and finds that Bulgaria's trade integration, secondary and tertiary education and transition reforms increased FDI in Bulgaria. Bitzenis and Vlachos (2013) also analyze FDI inflows to Bulgaria from 1999 to 2011 and find that the main drivers of FDI in Bulgaria are the prospects of extra EU exports and the size of the domestic market.

The literature has also focused on Bulgaria's institutional framework and it's impact on foreign firms' ability to do business. According to Bozhilova (2010), Bulgaria and Romania were slower at adapting and applying open market rules when compared to other countries that became part of the EU during the 5th enlargement. Moreover, Bulgaria was the poorest country to join the EU during the 5th enlargement. Bitzenis and Marangos (2008) surveyed 64 foreign firms on their views of the business environment in Bulgaria. The authors find that 52% perceived Bulgarian business environment to be high

risk, primarily due to an unstable legal framework, large bureaucracy, corruption and crime.

More research is needed on FDI in Bulgaria using micro level data to understand the characteristics of foreign firms, their economic performance and their interaction with institutions. Firm level data can help us better understand how EU accession has affected foreign firms in Bulgaria.

3. Data Description

We use World Bank's Business Environment and Enterprise Performance Survey (BEEPS) for Bulgaria, 2007. This is a stratified random sample of firms outside agriculture in four major cities in Bulgaria: Sofia, Plovdiv, Varna and Burgas (See Figure 1). These are the main cities in Bulgaria and major industrial clusters of the country. They comprise 40% of the country's population and 23% of the territory. The sample includes all manufacturing sectors according to ISIC classifications Revision 3.1, construction (group F), services (groups G and H), transport, storage and communications (group I) and ISIC 72 Computer and Related Activities. The sample excludes financial intermediation (group J), real estate and renting activities (group K). Data was collected on 1,087 firms. Due to omitted variables, our sample includes 856 of those firms. Additional data was collected from the World Trade Organization on European Union most favored nations tariff rates by 3 digit level ISIC industry.

4. Methodology

We estimate the probability that a firm is foreign based on firm characteristics, EU tariffs, and location of the firm.

We estimate the following probability model using OLS and logit regressions:

$$PForeign_{ijk} = \alpha + \beta_1 K_{ijk} / L_{ijk} + \beta_2 LogSales_{ijk} + \beta_3 PExports_{ijk} + \beta_4 DTariff_j +$$
$$\beta_5 Size_{ijk} + Ind_j + Sofia_k + \varepsilon_{ijk} (1)$$

The subscript ijk refers to firm i in industry j and city k. Where Foreign is a dummy variable that equals 1 if the firm is foreign and 0 if the firm is domestic. Capital/Labor is the capital to labor ratio of the firm. LogSales is the natural log of sales of the firm in 2006. PExports is the percent of sales that is exported. DTariff is the difference between average EU Tariff and Bulgarian Tariffs in 2006.[2]   The difference captures changes in the tariff structure when Bulgaria joined the EU.[3] Size is a series of dummy variables for employment size of the firm. The employment categories are small, 0 to 49 employees, medium, 50 to 249 employees and large, 250 and more employees. The omitted employment category is small. Ind are industry dummies. There are 6 industry dummies, three in manufacturing and three in the service sector. They are described in Table 1. Sofia is a dummy variable that equals 1 if the firm is located in Sofia and ε is a random component, assumed to be normally distributed with mean zero. We estimated equation (1) separately for manufacturing and service sector firms.

To compare the economic performance of domestic and foreign firms, we estimate the following equation separately for manufacturing and service sector firms:

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[2] Bulgarian Tariffs were eliminated in 2007 and replaced with EU Tariffs.
[3] Average EU and Bulgarian tariffs were estimated for the 3 digit level ISIC industry of the firm.

$$DLogSales_{ijk} = \alpha + \beta_1 Foreign_{ijk} + \beta_2 Age_{ijk} + \beta_3 K_{ijk}/L_{ijk} + \beta_4 Sales_{ijk} + \beta_5 PExports_{ijk} +$$
$$\beta_6 DTariff_j + \beta_7 Size_{ijk} + Ind_j + Sofia_k + \varepsilon_{ijk}(2)$$

Where $DLogSales_{ijk}$ is the difference in the natural log of sales of the firm from 2005 to 2006. Age is the years since the firm was initially established. Other variables in the regression are the same as in equation (1). We also analyze other firm level economic outcomes and institutional variables. One of them is capital investments in 2006, a variable that equals 1 if the firm made capital investments in 2006 and 0 otherwise. Another one is access to a credit line, which equals 1 if the firm has access to a credit line and 0 otherwise. We also estimate regressions on time spent on government regulation and number of times visited by Bulgarian tax officials during the year.

All regressions measuring economic outcomes and institutional framework faced by firms in Bulgaria were estimated using OLS with the exception of number of times visited by tax officials, which was estimated using Poisson regressions. All standard errors were estimated using clustered standard errors, which were based on industry affiliation.

5. **FDI in Bulgaria**

Figure 1 shows a map of Bulgaria, which includes markers on the four cities included in the BEEPS survey: Sofia, the capital, Plovdiv, located in the center of the country, Burgas and Varna located in the Black Sea coast.

Figure 2 shows net inflows of Foreign Direct Investment in Bulgaria from 1998 to 2014. It shows an increase in foreign direct investment starting in 2002, the year when Bulgaria eliminated all import duties and non-tariff measures on EU exports of industrial

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goods. Bulgaria's inward FDI grew by approximately 50% from 2005 to 2006 immediately after the country signed the accession treaty. Inward FDI peaked in 2007, the year of accession, and decreased in subsequent years. By 2010, net FDI inflows were below the 2002 levels and had little improvement in subsequent years.

A comparison between FDI inflows in Bulgaria before and after accession to those of the European Union suggest that FDI flows into Bulgaria were positively affected by accession in 2007. The timing of FDI inflows in Bulgaria is different from that of the European Union (28 countries), shown in figure 3.[4] While Bulgaria's FDI was steadily increasing from 2002 to 2007, FDI in Europe fluctuated, declining from 2002 to 2004 and increasing from 2005 to 2007. From 2007 to 2008, FDI declined in both Bulgaria and the EU, but unlike the European Union, Bulgaria's FDI continued its decline after 2008.

Figure 4 shows net FDI inflows in Bulgaria by industry from 1998 to 2014. Most industries experienced an increase in FDI before EU accession and decreased after EU accession. FDI in Real estate and business services, financial services, and retail and wholesale trade peaked in 2007 and declined in subsequent years. FDI in Manufacturing peaked in 2006 and declined in subsequent years. FDI in hotels and restaurants has been more stables over time.

The distribution of Bulgaria's FDI stock by industry for 2006 is shown in Figure 5. Twenty five percent of foreign owned firms are in manufacturing, 19% in wholesale

[4] The member states of the European Union are Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, and United Kingdom.

and retail trade, 16% in real estate and business services, 15% in financial services, 8% in utilities, 7% in transportation and communication, 5% in construction and 5% in other. Most of the foreign direct investment in Bulgaria originates in Europe. Distribution of FDI by country of ultimate ownership in 2006 is shown in Figure 6. The largest investor countries are Austria (17%), Netherlands (10%), Greece (9%) and the United Kingdom (8%). Other countries with substantial investments in Bulgaria, 4% to 5% each, include Belgium, Cyprus, Hungary and the United States.

6. **Empirical Analysis and Results**

Statistical descriptions of the data are available in Tables 1 and 2. Of the 856 firms, 13.1% are foreign owned (112 firms) (see Table 1). Table 1 shows the distribution of domestic and foreign firms by industry. Each firm has a two digit SIC Code that was classified into six industries, three in manufacturing and three in services. Foreign firms in manufacturing are more likely to be in Industry 1. Industry 1 includes food products, beverages, tobacco, textiles and apparels. Foreign firms in Services are more likely to be in industry 6, which includes computer and related services, other business services, recreational, cultural and sporting activities. Overall, most foreign firms are in services, in industry 6, which includes 33% of all foreign firms, compared to 14.3% of domestic firms.

Table 2 shows average statistics for foreign and domestic firms in manufacturing and service industries. The table shows annual sales growth of domestic firms is higher than those of foreign firms. From 2005 to 2006, sales grew by 41.1% on average in domestic manufacturing firms compared with 16.9% in foreign firms. In the service

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sector sales grew by 35.1% in domestic firms compared with 26.5% in foreign firms. Foreign firms are more likely to be exporters. In manufacturing, foreign firms exported 67.0% of their sales compared 20.1% of sales of domestic firms. In services, foreign firms exported 50.8% of sales compared with 8.5% of domestic firms. Capital to labor ratios are lower for foreign firms than for domestic firms in both services and manufacturing. Foreign firms are more likely to be larger, with a larger percentage in medium and large employment categories. Moreover, foreign firms are more likely to locate in Sofia.

The determinants of FDI regression results are shown in Tables 3 and 4. According to OLS and Logit regressions in Table 3, foreign manufacturing firms have higher sales, export a larger percentage of their sales, have lower capital to labor ratio, are more likely to have a medium or large employment size and are more likely to locate in Sofia. Coefficients on these variables are significant at the 5% and 10% levels. Foreign firms are not in industries with a large reduction in tariffs due to EU accession.

OLS and Logit regressions for service sector firms are shown in Table 4. Foreign firms have higher sales, export a larger percentage of their sales and have lower capital to labor ratio than domestic firms and are more likely to have a medium or large employment size. They are also more likely to locate in Sofia. The coefficients are significant at the 5% and 10% levels.

To analyze firm performance and investments, we estimated sales growth from 2005 to 2006, measured as the change in log of sales, whether the firm made capital investments in 2006, and whether the firm has access to a credit line. Results for manufacturing are shown in Table 5. Sales growth of manufacturing foreign firm is not

significantly different from domestic firms. Foreign manufacturing firms are less likely to have made capital investments in 2006. The coefficient is significant at the 5% level. We also find that firms that export a larger fraction of their sales are more likely to have made capital investments in 2006. The coefficients are significant at the 5% level. Foreign firms access to a credit line is not different from that of domestic firms. The results also show firms with higher sales are more likely to have a credit line. The coefficient is significant at the 10% level.

Results for service sector firms are shown in Table 6. Foreign firms' sales growth is not statistically from domestic firms. Foreign firms are not statistically different from domestic firms in their likelihood of making capital investments in 2006. Firms with greater sales are more likely to make capital investments. The coefficients are significant at the 5% level. Foreign firms have similar access to a credit line than domestic firms. Firms with higher capital to labor ratio are more likely to have a credit line. The coefficients are significant at the 10% level.

To better understand the institutional conditions affecting firms in Bulgaria, we estimated regressions on management time spent on government regulation and number of times visited by tax officials. Results for manufacturing firms are shown in Table 7 and for service sector firms in Table 8. In manufacturing, foreign firms' management time spent on government regulation is not statistically different from domestics firms. Firms with higher rates of exports are less likely to spend time on regulation. The coefficient is significant at the 5% level. Firms that are in industries that experienced a larger reduction in tariffs spend less time on government regulation. The coefficients are significant at the 5% level. Foreign firms do not receive more visits from tax officials

when compared to domestic firms. However, firms that export a larger fraction of sales experience more visits from tax officials.

In the service sector, time spent on government regulation for foreign firms is not statistically different from domestics firms. Foreign firms receive less number of visits from tax officials. The coefficient is significant at the 5% level. Service sector firms with higher percentages of exports relative to sales and higher sales receive more visits from tax officials. Older firms receive fewer visits from tax officials. All of these coefficients are significant at the 5% level.

7. Conclusion

EU accession had the effect of increasing net inflows of FDI in Bulgaria. However, net inflows of FDI peaked in 2007, the year of EU accession, gradually declining until 2010. Net inflows of FDI have stayed below the levels Bulgaria achieved in the early 2000s when the country signed the EU accession treaty.

We analyze World Bank BEEPS firm level data for 2007 to better understand the characteristics and performance of foreign firms in Bulgaria. We estimate linear probability and logit models to determine the likelihood a firm is foreign in Bulgaria. Regressions show foreign manufacturing firms in Bulgaria are larger than domestic firms, have lower capital to labor ratios and higher percentage of sales in exports. Foreign firms are not in manufacturing industries that experienced larger reductions in tariffs due to accession to the EU. Foreign firms in the service sector in Bulgaria are larger than domestic firms, have a higher percentage of sales in exports and are more likely to locate in Sofia.

We find sales growth and access to credit of foreign manufacturing firms are not different from domestic firms. However, foreign manufacturing firms are less likely to make capital investments than domestic firms. Sales growth, capital investments and access to credit of service sector foreign firms are not different from domestic firms. These results suggest foreign firm have had limited success in Bulgaria.

We measure institutional factors affecting foreign firms with time spent on government regulation and number of times visited by tax officials. We find time spent on government regulation is not different for foreign and domestic firms. Exporting firms spend less time on government regulations. Number of visits from tax officials is not different for domestic and foreign firms in manufacturing. Foreign firms experience less visits from tax officials in the service sector. However, both in manufacturing and the service sector , firms with a larger fraction of exports relative to sales experience greater number of visits from tax officials. Since foreign firms are more likely to be exporters, this suggests foreign firms are under more scrutiny. The findings suggest foreign firms may be facing institutional challenges in Bulgaria.

While our findings do not explain the decline in FDI in Bulgaria after accession, they provide a firm level perspective on the challenges foreign firms experience in Bulgaria.

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Figure 1: Bulgaria's Map

Source: www.lib.utexas.edu/maps/bulgaria.html.

Figure 2
Foreign Direct Investment in Bulgaria
Net Inflows (millions, 2010 US $)

Source: Bulgarian National Bank

Figure 3
Foreign Direct Investment in the European Union
Net Inflows (Millions 2010 US $)
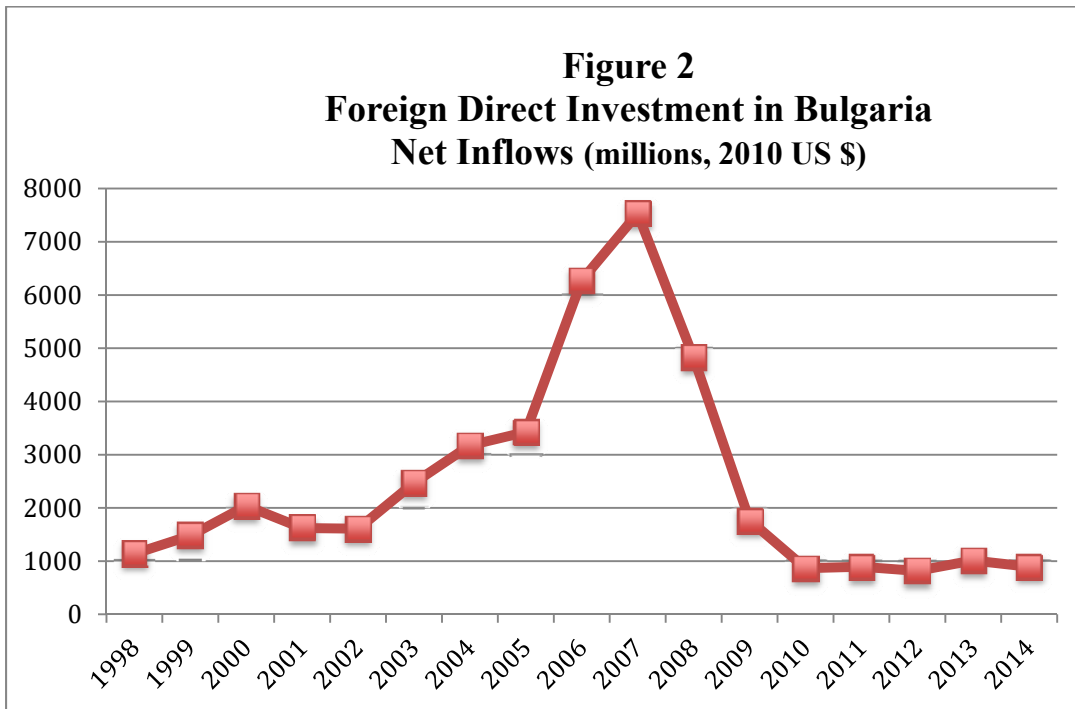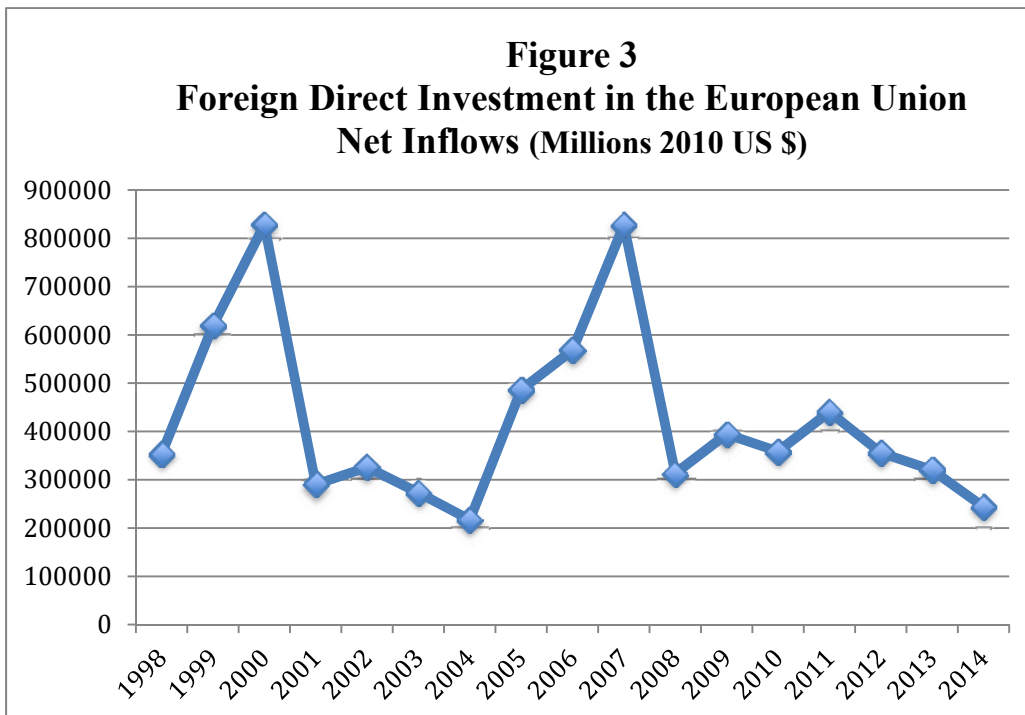
Note: European Union is defined by 28 countries including Bulgaria.
Source: UNCTAD

**Figure 4
Foreign Direct Investment in Bulgaria
By Major Industries
(millions, 2010 US $)**

manufacturing
financial services
real estate & business services
transportation & communication
hotels & restaurants
retail & whole sale
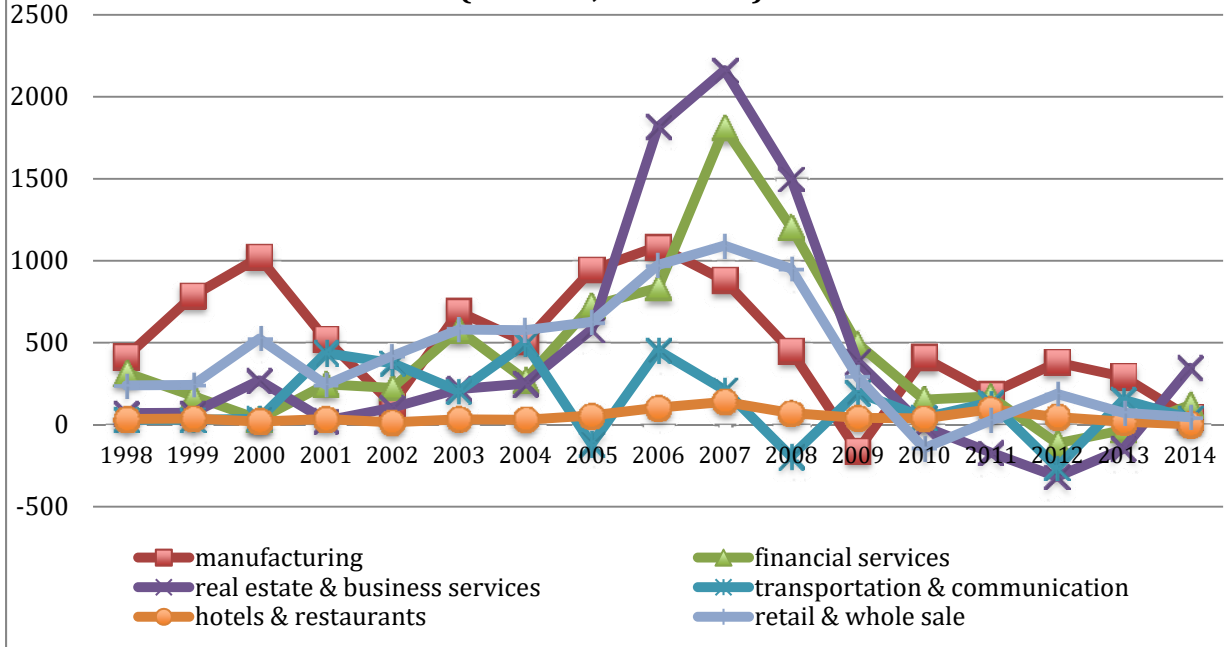
Source: Bulgarian National Bank

Figure 5
Bulgaria FDI Stock by Industry
Percent of FDI, 2006
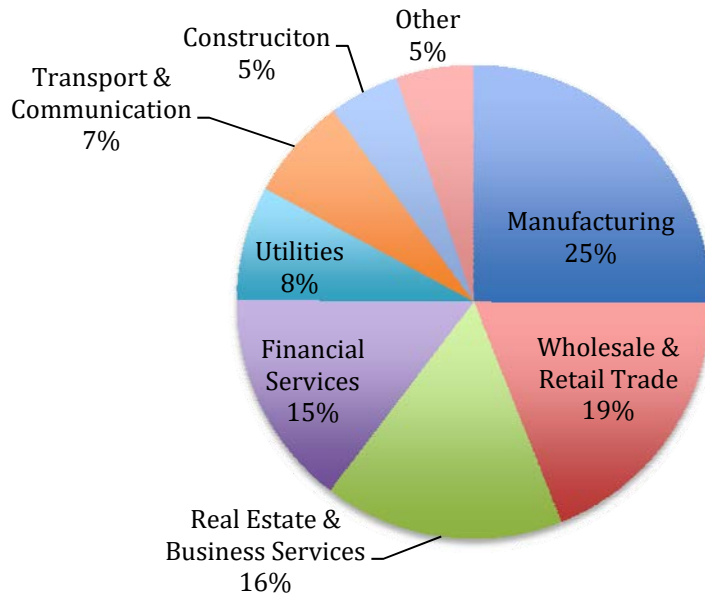
Source: InvestBulgaria Agency

Figure 6 : Bulgaria FDI Stock by Country, 2006

Austria 17%
Netherlands 10%
Greece 9%
UK 8%
Italy 5%
Germany 5%
Belgium 5%
Cyprus 5%
Hungary 4%
USA 4%
Other 28%

Source: InvestBulgaria Agency

Table 1: Foreign Ownership and Average Tariff in Bulgaria and the EU 2006

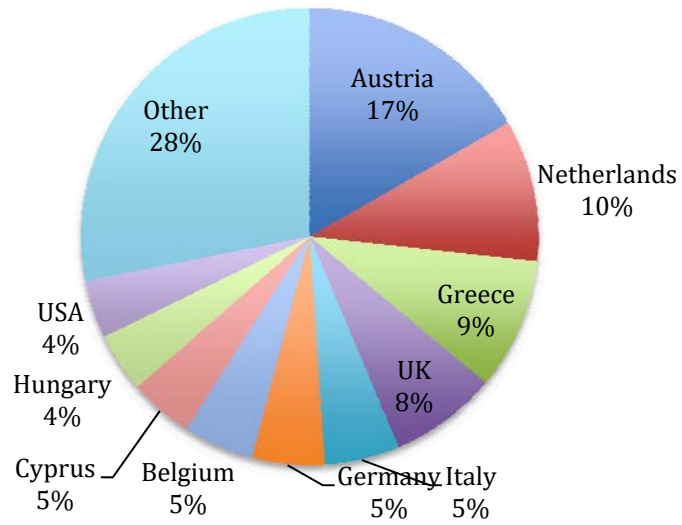| Ind Code	Description 2 Digit ISIC Code	Industry Distribution	
		Domestic Firms	Foreign Firms
	Manufacturing		
1	15 Food products and beverages 16 Tobacco products	30.7	26.8
	17 Textiles 18 Wearing apparel		
2	20 Wood and products of wood and cork 36 Furniture	17.6	11.6
	21 Paper and paper products 22 Publishing, printing and recorded media		
	23 Coke, refined petroleum 24 Chemicals and chemical products		
	25 Rubber and plastic products 26 Other non-metallic mineral products		
	27 Basic metals 28 Fabricated metal products		
3	29 Machinery and equipment 30 Office, accounting and computing machinery	16.9	10.7
	31 Electrical machinery		
	32 Radio, television and communication equip. 33 Medical, precision and optical instruments, watches and clocks 34 Motor vehicles 35 Other transport equipment		
	Services		
4	40 electricity, gas, steam and hot water 41 Collection, purification of water 45 Construction	18.2	12.5
	50 Sale, maintenance and repair of motor vehicles 51 Wholesale trade and commission trade 52 Retail trade, except of motor vehicles		
5	55 Hotels and restaurants 60 Land transport 63 Supporting and auxiliary transport activities 64 Post and Telecommunications	2.4	5.4
6	72 Computer and related activities 74 Other business activities 92 Recreational, cultural and sporting activities 93 Other service activities	14.3	33.0
		744	112

Source: Bulgaria Business Environment and Enterprise Performance, 2007.

Table 2: Summary Statistics Foreign vs. Domestic Firms
Bulgaria Business Environment and Enterprise Performance

	Manufacturing		Services	
	Foreign	Domestic	Foreign	Domestic
Annual Sales growth (%)	16.9	41.4	26.5	35.1
Annual Employment Growth (%)	15.0	20.4	12.3	19.0
Percent of Sales in Exports (%)	67.0	20.1	50.8	8.5
Capital to Labor Ratio (K/L)x100	9.2	25.4	23.9	45.0
EU Tariff (%)	5.3	4.6		
Bulgarian Tariff (%)	17.4	17.2		
Small – 0 to 49 employees	25.5	64.7	49.1	77.6
Medium – 50 to 249 employees	45.5	29.7	33.3	17.0
Large – 250 or more employees	29.0	5.6	17.5	5.4
Age of the Firm (years)	14.4	11.6	8.2	9.5
Firms that Invested on Fixed Assets, Machinery, Equipment, Vehicles, Land or Buildings in 2006 (% of firms)	61.8	65.4	80.7	66.8
Firms with Credit Line or Loan from Financial Institutions, 2006 (% of firms)	38.2	45.4	26.3	42.9
Senior Management Time Spent on Regulations (%)	17.5	17.5	15.4	16.4
Times establishment met with Tax Official in past 12 months	4.5	2.3	2.9	2.7
Located in Sofia (Capital)	41.8	37.1	85.9	57.5
Number of Firms	55	485	57	259

Source: Bulgaria Business Environment and Enterprise Performance, 2007.

Table 3: Determinants of firm FDI in Bulgaria, Manufacturing

Dependent Variable: Foreign, 1 if Foreign, 0 if Domestic	Manufacturing			
Independent Variables	Linear Probability		Logit	
Capital/Labor Ratio	-.0146 (.0036)	*	-1.1194 (.4060)	**
Log of Sales 2006	.0138 (.0027)	**	.2686 (.0677)	**
Percent of Sales in Export	.0027 (.0007)	*	.0300 (.0071)	**
EUTariff- Bulgaria Tariff	-.0007 (.0007)		-.0163 (.0113)	
Size:				
Medium, 50 to 249 Employees	.0324 (.0155)		.3957 (.1845)	**
Large, 250 or more Employees	.1880 (.0862)		.9364 (.4114)	**
Industry 1	.0120 (.0225)		.2501 (.2861)	
Industry 3	.0142 (.0068)		.3351 (.1008)	**
Located in Sofia	.0248 (.0353)		.4826 (.4210)	
Observations	540		541	
R-Squared	.20		.27	

Clustered standard errors. * Significant at the 10% Level, ** Significant at the 5% Level.

Table 4: Determinants of firm FDI in Bulgaria, Services

Dependent Variable: Foreign, 1 if Foreign, 0 if Domestic	Services			
Independent Variables	Linear Probability		Logit	
Capital/Labor Ratio	-.0108 (.0037)	*	-.1279 (.1240)	
Log of Sales 2006	.0109 (.0041)		.1323 (.0535)	**
Percent of Sales in Export	.0052 (.0003)	**	.0290 (.0022)	**
Size:				
Medium, 50 to 249 Employees	.1237 (.0915)		1.0570 (.3876)	**
Large, 250 or more Employees	.2875 (.0902)	*	2.0055 (.4362)	**
Industry 5	.1060 (.0060)	**	.9570 (.0276)	**
Industry 6	.0373 (.0143)		.5544 (.0162)	**
Located in Sofia	.0426 (.0126)	*	.5815 (.2670)	**
Observations	316		316	
R-Squared	.31		.30	

Clustered standard errors. * Significant at the 10% Level, ** Significant at the 5% Level.

Table 5: Determinants of firm Sales Growth, Capital Investments and Credit Line in Bulgaria, Manufacturing

Dependent Variable:	Manufacturing					
	Sales Growth (Log Sales 2005 - Log Sales 2006) OLS		Capital Investments 2006 OLS		Credit Line 2005-2006 OLS	
Foreign Firm	-.1502		-.1587	**	-.1118	
	(.0679)		(.0351)		(.0508)	
Age of the Firm	-.0104		-.0009		.0002	
	(.0062)		(.0017)		(.0014)	
Capital/Labor Ratio	.0129		.0380		.0138	
	(.0219)		(.0157)		(.0437)	
Log Sales 2006			.0533		.0650	*
			(.0273)		(.0215)	
Percent of Sales on Export	-.0011		.0005	**	-.0013	
	(.0009)		(.0001)		(.0007)	
EUTariff- Bulgaria Tariff	-.0043		.0006		-.0015	
	(.0019)		(.0007)		(.0016)	
Size						
Medium, 50 to 249 Employees	.2692		.0890		.0589	
	(.1981)		(.1309)		(.0680)	
Large, 250 or more Employees	.2217		.1380		.0648	
	(.1275)		(.1808)		(.1398)	
Industry 1	-.1834	**	.0073		-.0161	
	(.0102)		(.0194)		(.0420)	
Industry 3	.0304		.0742	**	.0023	**
	(.0249)		(.0028)		(.0431)	
Sofia	-.1036		.0228		-.0161	
	(.0710)		(.0184)		(.0420)	
Observations	540		540		540	
R-Squared	.03		.07		.08	

Clustered standard errors. * Significant at the 10% Level, ** Significant at the 5% Level.

Table 6: Determinants of firm Sales Growth, Capital Investments and Credit Line in Bulgaria, Services

	Services					
Dependent Variable:	Sales Growth (Log Sales 2005 - Log Sales 2006)		Capital Investments 2006 OLS		Credit Line 2005-2006 OLS	
Foreign Firm	-.1064 (.0748)		.0013 (.0469)		-.0739 (.0794)	
Age of the Firm	-.0207 (.0128)		-.0053 (.0078)		-.0053 (.0047)	
Capital/Labor Ratio	.0068 (.0047)		.0151 (.0075)		.0365 (.0098)	*
Log of Sales 2006			.0686 (.0030)	**	.0226 (.0225)	
Percent of Sales on Export	.0013 (.0009)		.0006 (.0004)		-.0009 (.0006)	
Size						
Medium, 50 to 249 Employees	.0275 (.0134)		-.0116 (.0451)		.1513 (.0838)	
Large, 250 or more Employees	-.0165 (.1112)		.0332 (.0970)		-.0450 (.1390)	
Industry 5	-.0583 (.0167)	*	.0876 (.0261)	*	-.2039 (.0056)	**
Industry 6	-.0677 (.0033)	**	.0955 (.0765)		-.3252 (.0277)	**
Sofia	.0830 (.0587)		.0790 (.1357)		-.0214 (.0153)	
Observations	316		316		316	
R-Squared	.03		.10		.21	

Clustered standard errors. * Significant at the 10% Level, ** Significant at the 5% Level.

Table 7: Institutions affecting Firms in Bulgaria, Manufacturing

Dependent Variable: Government Regulations and Taxes	Manufacturing			
	Time Spent Government Regulations OLS		Times visited by Tax Official in12 months Poisson	
Foreign Firm	.9019 (2.69)		.2670 (.2092)	
Age of the Firm	.0520 (.1055)		-.0042 (.0042)	
Log of Sales 2006	.2373 (.7191)		.1303 (.1291)	
Percent of Sales in Export	-.0387 (.0069)	**	.0039 (.0012)	**
EUTariff- Bulgaria Tariff	.0887 (.0141)	**	-.0005 (.0023)	
Size				
Medium, 50 to 249 Employees	2.2790 (.9523)		.3494 (.1398)	**
Large, 250 or more Employees	.7472 (5.4840)		.2703 (.4542)	
Industry 1	1.9116 (1.0713)		-.0518 (.1158)	
Industry 3	3.6872 (.3553)	**	.2558 (.0853)	
Located in Sofia	-.6938 (1.8957)		-.2034 (.1916)	
Observations	570		570	
R-Squared	.03		.09	

Clustered standard errors. * Significant at the 10% Level, ** Significant at the 5% Level.

Table 8: Institutions affecting Firms in Bulgaria, Services

Dependent Variable: Government Regulations and Taxes	Services			
	Time Spent Government Regulations OLS		Times visited by Tax Official in12 months OLS	
Foreign Firm	-.9257 (2.190)		-.2714 (.0743)	**
Age of the Firm	-.1443 (.1416)		-.0176 (.0075)	**
Log of Sales 2006	.4489 (.2482)		.2144 (.0605)	**
Percent of Sales in Export	-.0175 (.0172)		.00817 (.0026)	**
Size				
Medium, 50 to 249 Employees	2.4281 (3.2485)		-.0737 (.3948)	
Large, 250 or more Employees	.1150 (1.7011)		-.1906 (.5101)	
Industry 5	4.4338 (.0462)	**	.2228 (.1061)	**
Industry 6	-3.1620 (1.4649)		-.3511 (.0889)	**
Located in Sofia	1.0498 (1.9013)		-.3879 (.0470)	**
Observations	322		322	
R-Squared	.05		.10	

Clustered standard errors. * Significant at the 10% Level, ** Significant at the 5% Level.