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# Foreign Investments and Institutional Convergence in South eastern Europe

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# Foreign Investments and Institutional Convergence in Southeastern Europe

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## ABSTRACT

*Foreign investments are in the focus of most governments around the world. In order to be able to set a policy agenda which is successful in promoting FDI, it is necessary to understand their determinants. This paper examines whether and to what extent sound institutions and the degree of regulation deter or attract FDI flows in four economies of Southeastern Europe. In a dynamic panel analysis, a broad set of institutional and regulatory variables that may affect the decision of foreign investors to undertake investment projects in this region is examined, using firm-level data. Analysis shows that the quality of the institutional environment significantly influences foreign capital. Governments in this region should, therefore, focus primarily on creating a good legal system, having relatively stable political and economic conditions.*

**JEL Classification:** F23, D73, P3

**Keywords:** Foreign Investments, Corruption, Transition Economies

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## **Introduction**

Since the early 1990s, development literature aims at exploring the role of institutions and regulations in economic growth. Solid laws and well-defined property rights, good political and economic institutions, and efficient regulation of the economy are viewed as basic factors that determine macroeconomic stability, capital market development, business sector development and investment in innovation. The successful establishment and maintenance of sound institutions are, therefore, expected to exert their positive influence on economic growth through, among others, the promotion of foreign direct investments (FDI). However, foreigners' capital is more footloose than domestic capital and is likely to be more sensitive to institutional deficiencies. Moreover, the impact of institutions on FDI depends on the effectiveness of a country's regulations. Weak institutions, such as corruption, reduce development in countries where regulations are effective, but may foster economic growth when regulations are ineffective.

In this framework, a number of papers have studied the relationship between institutions and/or regulations and economic growth in general or capital market development in particular. Using various econometric techniques, several studies conclude that sound institutions can encourage private (foreign) investments, improve the overall efficiency of the economic system and significantly contribute to the economic growth in the long-run. For instance, the works of Gliberman and Shapiro (2002) and Stern (2003) showed that the quality of institutions and the economy's regulatory system have a significant impact on FDI, especially in developing countries and transition economies. Wei (2000) pointed out corruption as a significant obstacle to attract FDI; whereas Daude and Stein (2007) used a wider range of institutional variables and showed that FDI is significantly influenced by the quality of institutions. Moreover, Habib and Zurawicki (2002) examined the impact of institutional distance on bilateral FDI and found that the absolute difference of the corruption index between the investor and the host country has a negative impact on bilateral FDI. Using a sample of 89 countries, the paper of Busse and Groizard (2006) also supports the idea that foreign investments only stimulate growth in those countries that have sound institutions and lower levels of regulation. Finally, Bénassy-Quéré *et al.* (2007) concluded that although in the short-run institutional reforms can be detrimental to FDI, FDI tends to rise more over time between countries with converging institutions.

This paper examines whether and to what extent sound institutions and the degree of regulation deter or attract FDI flows in four economies of Southeastern Europe (SEE). In particular, analysis focuses on Greece, a mature economy and member state of the Eurozone, on two new Member States of the European Union (EU), namely Bulgaria and Romania, and on a candidate country, Croatia. These economies are an interesting context to explore the

impact of institutional quality and the effectiveness of regulations on FDI, since it is generally argued that institutional variables might be important determinants of FDI in transition economies, but less so in the more mature economies of Europe. As explained later on, the institutional and regulatory frameworks of the three sample countries have been reformed at various extents in the process of transition from state planning to the market economy; whereas governments in these economies compete with each other in terms of foreign-specific investment incentives to attract FDI in order to foster economy growth. In fact, all three transition countries have become especially attractive for foreign investors over the last years. At the same time, weak institutions appear to negatively affect foreign investments in Greece, despite recent deregulation. This paper aims then to examine empirically the importance of institutional convergence in these SEE economies to attract FDI, and to analyse whether the quality of institutions affect the impact of regulations on FDI.

While the existing literature has focused mainly on the effects of institutional variables on FDI using country-level data, this paper contributes by testing a broad set of institutional and regulatory variables that may affect the decision of foreign investors to undertake investment projects in particular SEE economies using firm-level data. This enables us to ensure the robustness of the results; whereas a dynamic panel analysis is used to examine the factors that promote FDI in SEE economies over the period 1998-2006. On a country-specific level, the paper also explores possible differences between FDI flows in Greece and the other SEE economies due to differences in their institutional and regulatory frameworks. Firm-level data is retrieved from *Amadeus* database, provided by the *Bureau van Dijk* in Belgium, which include information on a number of variables, such as firm employment, sales and equity ownership position. The indicators used for institutions and regulations are based on surveys undertaken by the World Bank, and in particular the *Worldwide Governance Indicators* (WGI).

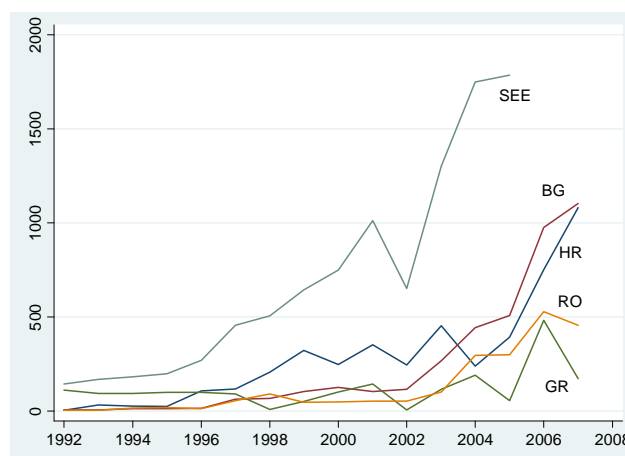
The paper is organised as follows. Section 2 presents some general views on foreign investments and the quality of institutions and regulations in the four SEE economies of our interest. Section 3 describes the empirical model and it explains the dependent as well as the explanatory variables used in the analysis. Section 4 provides details in terms of the firm-level data and their descriptive statistics; whereas the econometric methodology and the empirical estimates are presented in the following section. Section 6 concludes and outlines some possible directions for future research.

## **Foreign Investments and Institutions in SEE**

Over the last two decades, fundamental changes have taken place in all economies of Southeastern Europe. This region, often referred to as the ‘Balkans’, remain effectively an

area of high interest for the international business and investment community (Figure 1). Foreign direct investments increased significantly, indicating their major role in the economic development of the region. In particular, the strategic location of the region between Western Europe and Middle East, political stability, further progress in institutional reforms, deeper integration with the EU, liberalisation of FDI legislation, the creation of a common free trade area, the comparatively low level of labour cost, and the high skills base are only a few of the factors that make this region attractive for foreign investors. Moreover, SEE transition economies compete with each other by offering a variety of investment incentive schemes, as for example, tax holidays, import duty exemptions, and subsidies for infrastructure, independently of their potential effectiveness. Greece, on the other hand, provides to foreign investors a political, monetary and exchange rate stability, while offering some of the most advanced infrastructure and sophisticated labour force in the region. A new regulatory framework, that encourages foreign investments through new tax reforms, private investment incentives for economic development and regional convergence, and a new law for public-private partnerships, was also recently launched.

As a result, SEE economies have experienced a considerable rise in FDI flows over the period 1992 to 2006. Bulgaria and Romania have become especially attractive and in 2006, the two economies received €15.2 out of €27.8 Bio. Croatia further received €2.7 Bio, whereas the FDI flows for Greece amounted to €9.1 Bio. As the opening up of SEE markets offered new investment opportunities, Greece also ranks among the first three leading foreign investors in Bulgaria and Romania, while it has become the leading foreign investor in other economies of the region, such as Albania and FYR Macedonia. In fact, Greek direct investments in SEE have exceeded the amount of €10 Bio over the last decade. Accordingly, Greece contributes to the economic development and stabilisation of the region.



Source: UNCTAD.

**Figure 1.** FDI flows per capita in SEE

All SEE countries have undoubtedly made significant progress in promoting private sector development through privatisation, deregulation, and a better business environment; and improving public administration. However, taxation, corruption, lack of access to finance, restrictive labour legislation and the poor quality of regulation are still perceived as the key constraints to invest in SEE economies (Table 1). For instance, the three transition economies rank better than Greece in terms of the number of procedures necessary to start a business, as well as of the contract enforcement. It is also obvious that Croatia experiences significant improvements in most indicators over time, as higher values indicate better governance ratings. Croatia has the highest score in terms of political stability, whereas Bulgaria ranks better than the other economies in terms of regulatory quality. Government effectiveness is though rather low in Bulgaria and Romania, as well as their indicator for the control of corruption. Greece is not an exemption, since corruption remains a major obstacle to doing business and its score is even weaker than the one for Croatia and Romania. Greece also has high tax rate and cost for starting business. Consequently, there needs to be an even stronger correspondence between the investment climate initiatives proposed by the governments and the concerns of the private sector and the foreign investor community.

**Table 1.** Indicators on institutions and regulations in SEE

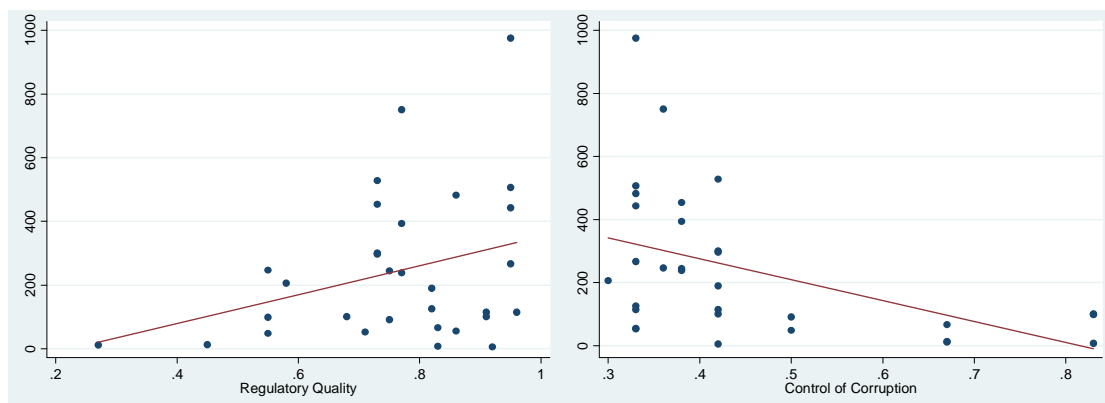
		GR	BG	RO	HR
<b>Starting a business</b>	<i>Procedures (number)</i>	15	11	5	12
	<i>Cost (% of income per capita)</i>	20.0	9.6	5.3	13.4
<b>Employing workers</b> <sup>†</sup>	<i>Rigidity of employment index</i>	55	33	62	50
<b>Getting credit</b> <sup>†</sup>	<i>Legal rights index</i>	3	8	7	5
<b>Protecting investors</b> <sup>†</sup>	<i>Investor protection index</i>	3.0	6.0	5.7	4.0
<b>Paying taxes</b>	<i>Total tax rate (% profit)</i>	54.6	46.0	57.2	32.5
<b>Trading across borders</b>	<i>Time for export (days)</i>	20	26	27	35
	<i>Time for import (days)</i>	25	25	28	37
<b>Enforcing contracts</b>	<i>Time (days)</i>	819	564	537	561
<b>Regulatory Quality</b> <sup>*</sup>	1998	0.83	0.83	0.75	0.58
	2006	0.86	0.95	0.73	0.77
<b>Political Stability</b> <sup>*</sup>	1998	0.73	0.90	0.77	0.83
	2006	0.79	0.79	0.71	0.82
<b>Government Effectiveness</b> <sup>*</sup>	1998	0.83	0.67	0.50	0.33
	2006	0.75	0.50	0.25	0.75
<b>Control of Corruption</b> <sup>*</sup>	1998	0.83	0.67	0.50	0.33
	2006	0.33	0.33	0.42	0.42

Note: † The indices range from 0 to 10 (or 100), with higher values indicating more rigid regulation, and higher legal rights and investor protection, respectively. \* The indices range from -2.5 to 2.5, with higher values corresponding to better governance.

Source: World Bank, Doing Business & Political Risk Services (PRS) International Country Risk Guide.

Foreign investors came first to Greece, but a question that arises from these figures is whether they are willing to stay due to its weakness in particular governance indicators. Data shows the relative disadvantages of Greece in terms of costs to start a business, taxes, contract enforcement, and corruption; whereas some of the other SEE economies require further

institutional reforms. As it is believed that foreign investors tend to move their capital into transition economies once a certain level of institutional quality is attained, this paper empirically examines whether FDI flowing into Greece behaves similarly to that flowing into the other SEE economies, as well as whether institutional and regulatory quality attracts FDI in this region. Using firm-level data, it will be possible to explicitly control for the characteristics of investing firms that affect their investment decisions. At a country-level, Figure 2 provides some evidence that strong institutions do not always attract foreign investments in SEE. Higher regulatory quality may positively affect FDI, though corruption seems to provide desired flexibility to foreign investors.



Source: PRS, International Country Risk Guide & UNCTAD.

**Figure 2.** FDI per capita & institutions in SEE

## Methodology

### - Determinants of foreign investments

According to the OLI paradigm of Dunning (1993), a firm must own a unique asset it wishes to exploit (the *Ownership* advantage); it must be cost efficient to exploit the asset abroad instead of in the firm's home country (the *Location* advantage); and it must be in the firm's interest to control the asset's exploitation itself (the *Internalisation* advantage). Ownership advantages can be superior technologies, reputation, trademarks, brand names, or other intangible assets. The most important location factors are market size and the level of economic development, the cost and skill levels of labour, the availability of infrastructure and other resources that facilitate efficient specialisation of production, trade policies, and political and macroeconomic stability. Regulatory factors, such as exchange rates and taxes, as well as institutional factors are also important to affect the location and magnitude of FDI.

In terms of the latter, the quality of institutions and regulations depends respectively on government's credibility and flexibility. Credible economies undertake strong checks protecting property rights and ensuring prospective (foreign) investors a reasonable return on



investment, while avoiding the possibility of arbitrary governmental discretion. However, a credible commitment may entail the risk of policy rigidity, undermining regulation efficiency and increasing transaction costs. On the other hand, flexibility indicates the economies' capacity to tax and regulate. It may facilitate quick decision-making; however, it may also make policy less accountable in the absence of external checks. Consequently, economies with strong institutions (high credibility) should provide more political safety, while economies with weak institutions (high flexibility) should offer more investment incentives.

In brief, foreign investments are positively affected by local product and factor market development, growth potential, the availability of financing, and 'better' institutions; but they are negatively related to market risks and costs of doing business.<sup>1</sup> In this framework, the following baseline equation will be estimated:

$$FDI_{ijt} = a + b_1FDI_{ijt-1} + b_2Size_{ijt} + b_3Age_{ijt} + b_4Profits_{ijt-1} + b_5OtherFirmVariables_{ijt-1} + b_6Institutions_{ijt-1} + b_7CountryVariables_{jt} + l_t d_t + c_i + u_{ijt} \quad (1)$$

where the subscript  $i$  denotes the  $i^{th}$  firm,  $j$  denotes the country and  $t$  denotes the time. The disturbance term is specified as a two-way error component model, so that firm heterogeneity is denoted by  $c_i$ , namely the unobserved or fixed firm-specific effect; whereas year-specific dummies,  $d_t$ , are included to account for common trends in the volume of FDI stock of the firms.  $a$ ,  $b$  and  $l$  are parameters to be estimated. A set of firm- and country- specific variables likely to be associated with higher FDI are also included. A brief discussion on these explanatory variables follows, whereas the institutional and regulatory variables used in the analysis are presented in detail in the following subsection. It should be also noted that following Smarzynska and Spatareanu (2004), the dependent variable, FDI, is measured by the percentage of capital (equity) owned by foreign investors in each firm. In particular, FDI stock is calculated multiplying the percentage of foreign ownership by the total assets of each firm included in the sample for every available year.<sup>2</sup>

The first explanatory variable,  $FDI$ , is the dependent variable lagged by one period. The significance of this term will indicate that the investment process at firm-level is a dynamic one. This specification then imposes the methodology used for the empirical estimations, as explained in the following section.

In terms of the firm characteristics, seven explanatory variables are included in the analysis. The number of employees indicates each firm's *Size* and is expected to be positively related to FDI, as larger firms may receive larger amounts of FDI stock. Each firm's years of operation, *Age*, is also included as previously state-owned (old) firms are expected to be more experienced to operate in the local market so that new firms to be less attractive to foreign investors. Moreover, the profits (or losses) of a firm, *Profits*, may affect an investor's decision. Higher profitability is actually expected to promote higher (future) investments.

In addition, the firm's *Operating Costs*, and in particular the cost of material inputs and labour costs may be another factor important to foreign investors. As a location advantage, the lower these costs are, the more attractive the location becomes. The lagged value of operating costs is included in order to be consistent with the lagged profits. A negative sign is expected for this explanatory variable. To examine possible technological sophistication (ownership advantage), an extra explanatory variable is further employed, the one on firms' *R&D* intensity. As a firm can acquire new technology via its own investments into R&D capital, this variable will indicate whether a firm introduced new technology (i.e know-how, patents, trademarks, etc.) using data on its intangible assets. This factor is expected to be positively related to the dependent variable. On the other hand, credit constrained firms may not be attractive for foreign investors. An explanatory variable indicating the share of debts over the firm's total assets is included, namely *Loans*. Finally, *Taxation* is introduced as another cost that is expected to have a negative impact on FDI. This can be also considered as a measure of the economy's regulations. The higher the amount of taxes paid, the lower the amount of FDI stock is likely to be.

Concerning the country control variables, the following factors may affect FDI. Following Habib and Zurawicki (2002), *GDP per capita* is considered to reflect high consumption potential in the host country and it is expected to be positively related to FDI. A positive sign for the economy's growth rate of GDP, *GDP growth*, is also likely, since high growth prospects ensures demand for the output of the local market oriented FDI. The economy's export orientation may further stimulate foreign investments. *Trade openness* is included in the analysis, as countries open to international trade provide a better platform for global business operations. A country's international orientation reflects also its competitiveness and it is expected to promote FDI flows. *Inflation* may strongly affect FDI as well, assuming it reflects a measure of macroeconomic instability (uncertainty). High inflation creates challenges in strategic planning, forecasting of demand and financing of operations, and it is therefore expected to negatively affect FDI. Finally, the quality of *Institutions* and *Regulations* are expected to play a significant role to attract foreign investments. For instance, political stability is considered as an imperative for planning, profitability and long-run success. Corruption though produces bottlenecks, heightens uncertainty, and raises costs. Inability to handle corruption makes FDI challenging for investors from less corrupt countries and can result in a negative FDI decision. However, corruption may provide some investors preferential access to profitable markets. Foreign investors may count then on their bargaining power in order to decide whether to invest in a corrupt economy. Overall, weak institutions are expected to deter FDI, whereas high quality institutions attract FDI, depending always on the level of the economies' credibility as well as flexibility.

## - Institutional Variables

In order to assess the role of institutions and regulations as factors to attract FDI, a set of governance variables developed by Kaufmann *et al.* (2009) are employed. These indicators are constructed based on information drawn from 35 data sources provided by 33 different organisations. The data reflect the views on governance of public and private sector, NGO experts, as well as thousands of citizens and firm survey respondents worldwide. In fact, the so-called *Worldwide Governance Indicators* (WGI) cover 212 countries over the period 1996-2008 and they include six dimensions of governance as follows.<sup>3</sup>

- i. *Voice and Accountability (VA)* – an indicator related to the political process, civil rights, and institutions that facilitate citizens' control of government actions, such as media independence.
- ii. *Political Stability and Absence of Violence (PV)* – an indicator that measures the risk of destabilisation or removal from power of the government in a violent or unconstitutional way.
- iii. *Government Effectiveness (GE)* – an indicator on the quality of bureaucracy, the competence of civil servants, the quality of public service provision, and the credibility of the government's commitment to its policies.
- iv. *Regulatory Quality (RQ)* – an indicator related to the content of policies, like the existence of market-unfriendly regulations such as price controls and other forms of excessive regulation.
- v. *Rule of Law (RL)* – an indicator that measures the perceptions on the effectiveness and predictability of the judiciary, as well as enforceability of contracts.
- vi. *Control of Corruption (CC)* – an indicator that measures the exercise of public power for private gain, including both petty and grand corruption and state capture.

The first two indicators (*VA* and *PV*) are essentially related to the way authorities are selected and replaced; the *GE* and *RQ* indicators refer to the ability of the government to formulate and implement sound policies (credibility); and the last two variables, *RL* and *CC*, consider aspects related to the respect, on the part of both citizens and the government, for the institutions that resolve their conflicts, and govern their interactions (flexibility). These six governance indicators are measured into units ranging from about -2.5 to 2.5, with higher values corresponding to better governance. In this paper, all measures are rescaled by subtracting the original scores from 2.5, so that they now range from 0 to 5.

As variables of institutions are often correlated with one another, it is generally not possible to include several institutions in the same equation. Although it is possible to aggregate all these variables into their first principal component, this will imply substitutability between institutional variables that refer to different areas of governance,

limiting also the extent to which the relevance of each dimension can be identified. Following Daude and Stein (2007), those variables that capture similar dimensions will be, therefore, grouped to reduce possible measurement problems of the individual components. In particular, the average of *VA* and *PV* will be used in some regressions as an indicator on *Political Stability and Freedom (PF)*, while the remaining variables will be grouped as the *General Government Efficiency (GGE)*.

All measures of institutional and regulatory quality as well as the firm- and country-specific explanatory variables used in the analysis are presented in detail in Table 2.

**Table 2.** Definitions of variables

<i>Institutional Variables</i>	
<i>Voice and Accountability</i>	A measure on political and civil rights.
<i>Political Stability &amp; Absence of Violence</i>	A measure on the likelihood of violent threats to or changes in government.
<i>Government Effectiveness</i>	A measure on the competence of the bureaucracy and the quality of public service delivery.
<i>Regulatory Quality</i>	A measure on the incidence of market-unfriendly policies.
<i>Rule of Law</i>	A measure on the quality of contract enforcement, the police and the courts, as well as the likelihood of crime and violence.
<i>Control of corruption</i>	A measure on the exercise of public power for private gain.
<i>Firm Characteristics</i>	
<i>(ln)FDI</i>	A firm is classified as foreign-owned if FDI is equal to or more than 10%. If a foreign share is less than 10%, the firm is considered as local.
<i>Size</i>	(ln)Number of employees & Micro: Firms with less than 10 fulltime employees Small: Firms with more or equal to 10 but less than 50 employees Medium: Firms with more or equal to 50 but less than 100 employees Large: Firms with more or equal to 100 but less than 250 employees Very Large: Firms with more or equal to 250 employees.
<i>(ln)Age</i>	Years since the firm began operations in the country.
<i>Profits</i>	Profit or loss after taxation as a share exceeding a firm's operating costs.
<i>Operating Costs</i>	The cost of material inputs and labour cost in terms of a firm's size.
<i>R&amp;D</i>	The share of intangible assets change in terms of a firm's sales.
<i>Loans</i>	The share of debt in terms of a firm's total assets.
<i>Taxation</i>	The share of taxation in terms of a firm's sales.
<i>Country Variables</i>	
<i>GDP per capita</i>	(ln)GDP per capita.
<i>GDP growth</i>	Annual percentage growth rate of GDP per capita.
<i>Trade Openness</i>	The sum of exports and imports as a share of GDP.
<i>Inflation</i>	Annual percentage change of consumer prices.

Note: All country variables are obtained from the *World Development Indicators* published by the World Bank. The monetary variables are in Euros and are deflated by the GDP deflator corresponding to each year.

## Data and Descriptive Statistics

The firm-level data used in this paper is retrieved from a commercial database, *Amadeus*, provided by the *Bureau van Dijk* in Belgium. It contains comprehensive information on approximately 5 Mio firms operating in 35 European countries. In addition to the standard financial statements, this database includes information on the ownership structure of firms, the country of origin for the foreign investors, the region where the firm operates, the firm's

specialisation (NACE Rev. 2 with four digits), etc. After deleting firms with missing information, an unbalanced panel data was constructed for the period 1998 to 2006, which includes 476 food and beverage processing firms that have received foreign investments and a maximum of 3 684 potential observations. In particular, the firms are located in the four SEE economies as follows: Bulgaria (63), Croatia (34), Greece (36) and Romania (343). Table 3 presents some information on the characteristics of the firms included in the sample, as well as descriptive statistics for the variables included in the empirical estimations.

It is obvious that the majority of the firms were established after 1990, although dates of establishment for the overall sample range between 1821 and 2005. About 60 per cent of the firms have received investments from other EU countries, whereas 5.22 per cent report investments from US. Germany and the Netherlands are the first two European countries from where foreign investments originate, followed by France and Italy. In terms of the rest of the world, Turkey appears to have the majority of the investments in the sample countries. Most of the firms have received a loan, however only 22.2 per cent of them have invested in R&D activities. Moreover, 32.9 per cent of the firms paid no taxes in 2006. In terms of firm size, small firms comprised the clear majority of the sample, with an almost equal proportion of medium, large and very large firms.

**Table 3.** Firm characteristics and summary statistics

<i>Size</i>		<i>Age</i>		<i>Country of Origin</i>	
<i>Micro</i>	3.4 %	<i>Before 1979</i>	9.2 %	<i>EU</i>	60.09 %
<i>Small</i>	52.3 %	<i>1980-1989</i>	3.1 %	<i>US</i>	5.22 %
<i>Medium</i>	13.0 %	<i>1990-1999</i>	62.6 %	<i>RoW</i>	34.69 %
<i>Large</i>	16.0 %	<i>2000-2005</i>	25.1 %		
<i>Very Large</i>	15.3 %				
<i>R&amp;D</i>		<i>Loans</i>		<i>Taxation</i>	
<i>Yes</i>	22.2 %	<i>Yes</i>	65.4 %	<i>Yes</i>	67.1 %
<i>No</i>	77.8 %	<i>No</i>	34.6 %	<i>No</i>	32.9 %
	<i>Mean</i>	<i>Std Dev</i>	<i>Min</i>	<i>Max</i>	<i>NoObs</i>
<i>FDI</i>	17 010	142 352	1	3 524 480	3 684
<i>Size</i>	139	258	1	3 068	3 684
<i>Age</i>	13	24	0	185	3 684
<i>Profits</i>	1 071	7 355	-32 063	138 700	3 684
<i>Operating Costs</i>	8 551	30 731	0	625 400	3 684
<i>Taxation</i>	244	1 774	-2 506	30 716	3 672
<i>GDP per capita</i>	2 709	2 687	1 415	14 531	3 684
<i>GDP growth</i>	4.78	3.41	-4.6	8.7	3 684
<i>Trade Openness</i>	0.24	0.76	0.13	0.45	3 684
<i>Inflation</i>	19.30	17.17	1.7	59.1	3 684

## Empirical Results

The use of the lagged dependent variable at the right-hand side of equation (1) causes OLS estimators to be biased and inconsistent, whereas the fixed- and random- effects estimators

are also biased (Baltagi, 2008). As a result, a *generalised method of moments* (GMM) procedure will be used, following Arellano and Bover (1995) and Blundell and Bond (1998). Within many panels and few periods, estimators are constructed by first-differencing to remove the panel-level effects and using instruments to form moment conditions. In this case, moment conditions are based on both differences and levels. In particular, a system estimator that uses moment conditions in which lagged differences are used as instruments for the level equation in addition to the moment conditions of lagged levels as instruments for the differenced equation is employed. The Windmeijer (2005) biased-corrected two-step robust standard errors are reported.

In all cases, a set of explanatory variables are used in a dynamic panel data analysis to determine the significance of institutions and regulations for FDI and to take into account some other important variables related to each firm's ownership and location advantages. The governance variables are assumed to be predetermined instead of strictly exogenous, so that lagged levels are used as instruments. Moreover, a test of autocorrelation and the Sargan test of overidentifying restrictions are computed based on Arellano and Bond (1991) and do not suggest any serious problem.<sup>4</sup> The output presents strong evidence against the null hypotheses that the overidentifying restrictions are valid, and that of zero autocorrelation in the first-differenced errors at order 1. There is also no significance evidence of serial correlation in the first-differenced errors at order 2.

The results in Table 4 indicate that the institutional and regulatory variables are among the variables that have a statistically significant impact on foreign investments. In Columns 1 to 6, the six governance indicators are included separately. It appears that the coefficients of *Government Efficiency*, *Regulatory Quality*, *Rule of Law*, and *Control of Corruption* bear a significantly negative sign, meaning for instance that corruption sands the wheel reducing the amount of foreign investments. This contracts the conclusions derived when country-level data is used as in Figure 2, where it is indicated that corruption may oil the mechanism. The *Rule of Law* and *Control of Corruption* are shown to considerably deter FDI, as they are the two quality factors with the highest estimations. On the contrary, the two indicators related to the way governments are selected and replaced (*Voice and Accountability*, and *Political Stability and Absence of Violence*) do not appear to play a vital role to affect the decision of foreign investors. A similar conclusion is derived when combining these two factors together, as in Column 7 where the impact of *Political Stability and Freedom* is estimated. Nevertheless, the *General Government Efficiency* shows a negative and significant impact on FDI, turning to be an important factor. A rise in institutional quality in terms of these governance indicators is, therefore, shown to attract FDI. Moreover, Column 9 presents the results when both an institutional and a regulatory factor are included in the estimation. As already argued, corruption may help circumventing strict regulations, even if the negative

impact of corruption prevails. It is, therefore, examined whether corruption increases FDI flows that are suppressed by rigid regulations, although corruption's impact on FDI is negative. The results do not support this argument. The quality of the overall institutional and regulatory environment is again confirmed to be a factor which foreign investors consider when choosing to expand their operation in SEE economies.

In terms of the firm-specific variables, the coefficient of the lagged *FDI* variable is positive and statistically significant at the 1 per cent level. Firms that have received foreign investments may, therefore, be more attractive in the future as well. The coefficients on *Size* and *R&D* activities are also positive and significant, indicating that investors prefer firms with higher levels of employment and those who can acquire new technology. On the other hand, *Loans* appear to negatively affect FDI, as expected, whereas the coefficient of *Age* indicates that firms with experience are more attractive to investors. The key country-specific variables are *GDP per capita* and *Inflation*. The former variable produces positive coefficients that are statistically significant, whereas the latter has a negative impact on FDI flows. These are then decisive factors in attracting foreign capital. The coefficient on *GDP growth* is negative and significant in some of the estimations, which is somewhat counterintuitive, yet not unusual in the literature on determinants of FDI. Overall, the results remain essentially the same regardless the measure of institutional and regulatory quality used.

Analysis so far indicates that foreign investors care about the legal aspects of the economy. But this does not mean that other factors are not important. Similarly to the theory, the results suggest that investors are interested in SEE economies also because of their comparative location advantages. In terms of the puzzling estimation of political stability and freedom's impact, a possible interpretation is that these factors are less damaging to FDI than the popular press claims. Consequently, the estimates show that the impact of institutions and regulations on FDI depends on the specific dimension considered.

The regressions presented in Table 4 constrain the effects of institutional and regulatory quality on FDI to be equal across countries. This may be a strong assumption since the sample countries include transition as well as industrial economies. An interaction between governance indicators and countries are then introduced to repeat the estimations. Since lower values of these variables correspond to institutions and regulations of higher quality, the estimated coefficients are expected to be negative so that the economy is less attractive to investors. The results presented in Table 5 confirm our previous finding of institutional and regulatory quality being an important factor affecting the investors' decision. The interactions have the expected negative signs and are statistically significant. This result is robust when including the interaction with the grouped governance indicator on government efficiency.

**Table 4. Empirical results**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
<i>FDI</i>	0.747 (0.074)***	0.687 (0.075)***	0.682 (0.085)***	0.668 (0.085)***	0.671 (0.083)***	0.667 (0.122)***	0.686 (0.072)***	0.668 (0.088)***	0.790 (0.074)***
<i>Size</i>	0.102 (0.061)*	0.120 (0.057)**	0.124 (0.058)**	0.107 (0.058)*	0.133 (0.060)**	0.113 (0.058)**	0.113 (0.057)**	0.142 (0.065)**	0.167 (0.061)***
<i>Age</i>	-0.194 (0.064)***	-0.171 (0.060)***	-0.096 (0.067)	-0.106 (0.060)*	-0.110 (0.059)*	-0.199 (0.097)**	-0.174 (0.057)***	-0.171 (0.070)**	-0.384 (0.100)***
<i>Profits</i>	-0.002 (0.003)	-0.002 (0.003)	-0.003 (0.004)	-0.001 (0.002)	-0.002 (0.003)	-0.001 (0.003)	-0.002 (0.003)	-0.001 (0.003)	-0.001 (0.004)
<i>R&amp;D</i>	0.107 (0.030)***	0.087 (0.029)***	0.090 (0.030)***	0.085 (0.030)***	0.085 (0.030)***	0.081 (0.030)***	0.089 (0.029)***	0.070 (0.030)**	0.051 (0.031)
<i>Operating Costs</i>	0.0002 (0.000)	0.0002 (0.000)	0.0003 (0.000)	0.0001 (0.000)	0.0002 (0.000)	0.0001 (0.000)	0.0002 (0.000)	0.0001 (0.000)	0.0001 (0.000)
<i>Loans</i>	-0.311 (0.096)***	-0.305 (0.096)***	-0.284 (0.100)***	-0.244 (0.093)***	-0.254 (0.105)**	-0.283 (0.103)***	-0.297 (0.096)***	-0.257 (0.094)***	-0.354 (0.109)***
<i>Taxation</i>	-0.006 (0.013)	-0.006 (0.013)	-0.013 (0.017)	-0.012 (0.014)	-0.013 (0.013)	-0.013 (0.012)	-0.011 (0.013)	-0.009 (0.012)	-0.010 (0.019)
<i>GDP per capita</i>	0.422 (0.194)**	0.464 (0.164)***	0.306 (0.142)**	0.256 (0.130)**	0.095 (0.159)	0.477 (0.336)	0.783 (0.319)**	0.233 (0.127)*	0.845 (0.369)**
<i>GDP growth</i>	-0.019 (0.011)*	-0.021 (0.012)*	-0.018 (0.012)	-0.036 (0.011)***	-0.003 (0.008)	-0.009 (0.009)	-0.020 (0.012)*	-0.005 (0.007)	-0.003 (0.007)
<i>Trade Openness</i>	2.138 (0.817)***	1.702 (0.869)**	1.425 (0.780)*	2.633 (0.767)***	2.082 (1.015)**	1.413 (1.194)	0.312 (1.300)	2.175 (0.720)***	0.578 (0.849)
<i>Inflation</i>	-0.010 (0.004)***	-0.015 (0.004)***	-0.009 (0.003)***	-0.011 (0.002)***	-0.009 (0.003)***	-0.011 (0.004)***	-0.016 (0.004)***	-0.008 (0.002)***	-0.006 (0.002)***
<i>VA</i>	-0.044 (0.184)								
<i>PV</i>		0.105 (0.388)							
<i>GE</i>			-0.509 (0.270)*						-0.174 (0.154)
<i>RQ</i>				-0.339 (0.127)***					
<i>RL</i>					-0.697 (0.351)**				
<i>CC</i>						-0.548 (0.253)**			-0.271 (0.127)**
<i>PF</i>							0.092 (0.368)		
<i>GGE</i>								-0.458 (0.253)*	
<i>Constant</i>	-1.220 (1.347)	-1.405 (1.608)	1.124 (1.348)	0.951 (0.779)	3.103 (1.911)	0.350 (2.630)	-3.418 (2.073)*	1.460 (1.152)	3.201 (2.768)
<i>Sargan test of overidentifying restrictions</i>	0.072	0.172	0.070	0.062	0.067	0.096	0.163	0.093	0.079
<i>Arellano-Bond test for 2nd-order autocorrelation</i>	0.230	0.222	0.249	0.219	0.280	0.258	0.212	0.236	0.233

Values in the parentheses are WC-Robust Standard Errors. NoObs: 3 196. The P-values are reported for the two tests. Significance levels: 0.01\*\*\*, 0.05\*\*, 0.1\*.

As for the magnitude of the coefficients, all regressions suggest that the effect of institutional and regulatory quality on investment flows is larger for Greece than for the transition economies. For instance, the impact of *Regulatory Quality* appears to be much higher on foreign investments going to Greece than to the rest of the sample countries. The same conclusion is reached when the measures on *Government Effectiveness* and the *Rule of*



*Law* are used. Including these interactions has little impact on the signs or significance levels of the other explanatory variables, so that the estimated coefficients are similar to those of the previous table. Overall, the results contradict the general argument that institutional and regulatory variables might be important determinants of FDI in transition economies, but less so in the more mature economies such as Greece. The quality of institutions is, in fact, an even more important factor in the decision of foreign investors to expand their operations in this country.

**Table 5.** Empirical results (cont.)

	(1) GE	(2) RQ	(3) RL	(4) CC	(5) PF	(6) GEE
<i>FDI</i>	0.666 (0.080)***	0.601 (0.099)***	0.690 (0.076)***	0.545 (0.128)***	0.653 (0.090)***	0.655 (0.082)***
<i>Size</i>	0.175 (0.073)**	0.203 (0.096)**	0.145 (0.062)**	0.183 (0.071)***	0.154 (0.061)**	0.173 (0.069)**
<i>Age</i>	-0.114 (0.071)	-0.090 (0.084)	-0.133 (0.055)**	-0.082 (0.121)	-0.142 (0.072)**	-0.186 (0.075)**
<i>Profits</i>	-0.003 (0.003)	-0.002 (0.003)	-0.003 (0.003)	-0.001 (0.002)	-0.002 (0.003)	-0.002 (0.003)
<i>R&amp;D</i>	0.094 (0.025)***	0.086 (0.029)***	0.098 (0.024)***	0.072 (0.029)**	0.091 (0.028)***	0.076 (0.027)***
<i>Operating Costs</i>	-0.0001 (0.000)	-0.0001 (0.000)	0.0001 (0.000)	0.0001 (0.000)	0.0001 (0.000)	0.0001 (0.000)
<i>Loans</i>	-0.322 (0.102)***	-0.260 (0.097)***	-0.312 (0.101)***	-0.212 (0.103)**	-0.294 (0.101)***	-0.279 (0.098)***
<i>Taxation</i>	-0.005 (0.010)	-0.005 (0.012)	-0.005 (0.010)	-0.012 (0.010)	-0.005 (0.010)	-0.004 (0.011)
<i>GDP per capita</i>	1.024 (0.291)***	0.981 (0.302)***	1.041 (0.295)***	2.098 (0.589)***	1.214 (0.326)***	1.288 (0.301)***
<i>GDP growth</i>	0.001 (0.006)	-0.003 (0.006)	0.001 (0.005)	-0.011 (0.010)	-0.003 (0.007)	-0.001 (0.006)
<i>Trade Openness</i>	-0.525 (0.596)	0.056 (0.516)	-0.589 (0.699)	-2.052 (1.073)*	-0.772 (0.8.35)	-0.620 (0.604)
<i>Inflation</i>	-0.005 (0.002)***	-0.006 (0.002)***	-0.007 (0.002)***	-0.008 (0.002)***	-0.007 (0.002)***	-0.006 (0.002)***
<i>Institutions*GR</i>	-0.583 (0.202)***	-0.480 (0.201)**	-0.634 (0.236)***	-0.276 (0.222)	-0.720 (0.241)***	-0.702 (0.230)***
<i>Institutions*HR</i>	-0.155 (0.096)	-0.130 (0.078)*	-0.128 (0.092)	-0.838 (0.468)*	-0.150 (0.103)	-0.159 (0.137)
<i>Institutions*RO</i>	-0.158 (0.062)**	-0.187 (0.069)***	-0.153 (0.064)**	-0.088 (0.278)	-0.173 (0.093)*	-0.125 (0.082)
<i>Constant</i>	-4.939 (1.798)***	-4.492 (1.885)**	-5.051 (1.845)***	-12.534 (4.330)***	-6.103 (1.962)***	-6.761 (1.942)***
<i>Sargan test</i>	0.104	0.129	0.174	0.067	0.085	0.186
<i>Arellano-Bond test</i>	0.260	0.243	0.265	0.295	0.281	0.227

Values in the parentheses are WC-Robust Standard Errors. NoObs: 3 196. The P-values are reported for the two tests. Significance levels: 0.01\*\*\*, 0.05\*\*, 0.1\*.

## Conclusions

Foreign investments are in the focus of most governments around the world. In order to be able to set a policy agenda, which is successful in promoting FDI, it is necessary to understand the determinants of this phenomenon. Using firm-level data for four economies in SEE, the importance of a wide range of institutional and regulatory variables as determinants

of FDI was explored. The objective of this paper was essentially the analysis of the effectiveness of various policies applied by the host countries in order to attract FDI. The main advantages and weaknesses related to FDI flows for four SEE economies were identified and compared, so as to illustrate the impact of fundamental characteristics of governance and business environment on the magnitude of foreign investments. The examination of how much the policy environment in the SEE matters for FDI was then the main focus of this paper.

The obtained results show that better institutions and regulations have overall a positive and significant effect on foreign investments. Government effectiveness, the rule of law and the control of corruption play an essential role in attracting FDI. This means that beside its direct influence on the economic performance of a SEE country, institutional and regulatory quality also affects the economy indirectly, through its impact on the level of FDI. It would be, therefore, wise to examine further the extent of this impact and incorporate the findings into a development strategy. Other firm- and country- specific variables, such as size, age, R&D intensity and GDP per capita were also proved to have a statistically significant influence on foreign investments. These results are robust to different specifications and institutional or regulatory variables.

As far as the policy implications are concerned, the results of the analysis point to the role of the state as an institutional and regulatory builder. In this role, the governments of SEE economies should focus primarily on creating a good legal system. In the past decade, most FDI has flown to the economies that managed to establish an efficient and transparent legal system and had relatively stable political and economic conditions. As institutions converge in the region, governments should pay particular attention so as to retain their foreign investments.

## Notes

<sup>1</sup> For a literature review on FDI determinants see Wheeler and Mody (1992) and Markusen (1995).

<sup>2</sup> The sample consists entirely of foreign firms and due to lack of data on foreign ownership over time, it is assumed as in the work of Damijan et al. (2003) that ownership remains the same during the years of the panel.

<sup>3</sup> An advantage of using country-level data on governance indicators is that it mitigates some of the measurement errors and biases associated with firm-level measures (see Asiedu and Freeman, 2009).

<sup>4</sup> The Sargan test was calculated assuming iid errors.

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