Terri Ziacik

An assessment of the
Estonian investment climate:
Results of a survey of foreign
 investors and policy implications

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Abstract

Credible economic reform has played a key role in Estonia's success in attracting significant amounts of foreign direct investment. This paper analyzes two years of data from a survey of foreign investors in Estonia to determine the major motivations to invest and the greatest problems faced by investors. Results indicate that the labour force and market-related factors are the primary motivations for investors coming to Estonia, while bureaucracy, corruption, and labour quality are the greatest problems. Ordered probit analysis of the factor rankings supports previous findings that investor characteristics such as export orientation, mode of entry, or industry can explain factor evaluation for some, but not all, factors. This method can be used by policy makers to identify whether certain types of investors are likely to be affected differently by the host country investment climate.

1   Introduction

Foreign direct investment (FDI) is an important contribution to the process of restructuring the transition economies of Central and Eastern Europe (CEE) and the former Soviet Union. As steps to move toward a market economy have become more pronounced in these countries, and FDI has grown, so has interest in determinants of investment into and its effects on these economies. At the present time, inflows to the region are unevenly distributed, largely due to the policy reform paths chosen by the governments. Consequently, studies on specific determinants of FDI, at both the macro and micro levels, are being pursued to better understand which aspects of the investment climate matter most.

One particularly useful method of analysis, although not without limitations, is the survey method. Investor surveys are frequently used to learn about the investment climate in a particular host country (or group of countries). Generally, the focus of these surveys is on motivation for entering the country, although some also address other issues such as problems encountered or impact on the host economy. It is important, however, to realize that investors are not identical, and differences among them must be considered when analyzing their perceptions of the investment climate. Information from investor surveys can help governments determine whether policies will affect certain types of firms differently, and can aid policy makers in assessing consequences of their current or future policies. The initial choice and subsequent assessment of an investment location depends not only on the country itself, but also on how its policies fit together with the firm in question's particular strategy; investor differences need to be considered when discussing a given host country.

Estonia is a country that has been relatively successful in attracting FDI. It is also a country characterized by rapid and credible reforms from the start of its independence from the Soviet Union. While the investment climate is quite favourable, it is not perfect, and there is still room for improvement. Using two years of data from a series of surveys of foreign investors in Estonia, this paper examines why investors chose to come to Estonia and where improvements are still needed. In order to get a complete picture of the investment climate, special attention is devoted to whether and how different types of investors evaluate the investment climate. The survey results show where improvements can be made, and these are crucial for maintaining a competitive, attractive investment climate. Ordered probit analysis

indicates that, in some cases, investors react differently to policy according to specific characteristics such as export orientation, mode of entry, and industry. This method can be applied to any country in transition for which an appropriate data set exists. Results can be used to aid host country policy makers in choosing a reform plan designed to attract or retain a certain type of investor.

The paper begins with a brief discussion of the need for and the determinants of FDI that establishes the framework for analysis. Recent contributions to the FDI literature stress investor-specific characteristics as motivating investment, and these can differ from firm to firm. In this context, results of previous transition economy investor surveys, including those that recognize differences among investors, are discussed. In the following section, the survey is described and general results are presented. Section four details the methodology used in the econometric analysis and introduces explanatory variables and factors to be analyzed. Included in this section is a discussion of weaknesses remaining in the Estonian investment environment based on the survey responses and other sources. Section five presents the results, and six offers concluding remarks and direction for future research.

2 Determinants of FDI

2.1 The need for FDI in transition economies

Central and Eastern Europe and the former Soviet Union represent a large area, both in geography and population, with great market potential due to limited exposure to many goods and services during the command economy period.[1] The region is also strategically located between industrialized Asia and Western Europe, which benefits firms wishing to serve one of these markets as well. At the start of the transition process, these countries were full of state-owned enterprises (SOE's) that had to be privatized, and the domestic residents had little capital with which to do it. Some countries still have many SOE's waiting to be privatized. Therefore, foreign investment is needed to facilitate privatization and turn the inefficient SOE's into productive parts

of the economy. Foreign investors from industrialized countries have first-hand knowledge about the workings of a market economy, which gives them a comparative advantage in establishing new companies and transforming existing firms into firms that can compete globally.

FDI can further benefit the host country through technology transfer and positive spillover effects.[2] Technology transfer and foreign investment are closely related; a large proportion of transfers takes place within the multi-national corporation (MNC), from parent to foreign affiliate (Blomström and Kokko 1996). Indirect technology transfers can occur through reverse engineering or employee relocation from a foreign to a local firm. Markusen and Venables (1999) model the effects of MNC entry on domestic industry. They find that it can promote the development of local industry through creating demand for locally produced intermediate goods. These backward linkage effects can subsequently aid domestic final goods industry.

2.2 Choosing a location

There are two fundamental questions surrounding the issue of engaging in foreign direct investment. The first one is why a firm would choose to locate abroad in the first place - in other words, why multinational enterprises (MNE's) arise.[3] Dunning (1997) has put forth the eclectic theory of multinational enterprises, which seeks to explain why firms locate abroad using more than just cost or rate-of-return arguments.[4] His approach identifies three advantages firms should possess before investing abroad – ownership advantage, location advantage, and internalization advantage. The first concerns ownership of a specific asset, usually knowledge-based, that firms in the host country lack, such as managerial experience or technology. Internalization means that the ownership advantage is best retained in the firm rather than exploited by licensing agreements or some other means. Finally, the location advantage comes from host country characteristics that make it optimal for the firm to locate there rather than serve the market in some other way. This theory has served as a point of departure for other theoretical models of MNE activity.

Still more difficult to determine is the answer to the second question - given the decision to go abroad, what determines the choice of the host country. The uneven distribution of FDI over countries at similar stages of eco-

nomic development has motivated investigation into country-specific determinants of FDI. Table 1 presents per capita FDI data for select transition economies. Many empirical studies using panel data on investment flows across countries or industries over time have been done that test one or more determinants of investment destination, and these often come up with mixed results.[5] Market size, proxied by per capita or absolute GDP, is the only factor that consistently exhibits a significant positive relationship with FDI flows. Other factors such as labour costs, political stability, and openness have been found to have ambiguous effects when tested empirically.

Lansbury, Pain, and Smidkova (1996) study investment from the OECD countries to Hungary, the Czech Republic, and Poland. They find that private sector GDP, lower unit labour costs, and high levels of host country innovation are significant determinants of investment, but that the host country risk level is not. Papazoglou and Liangovas (1997) find that market size, wage differences, openness, and reform progress are significant determinants of inflows in the Black Sea Economic Cooperation states. In an attempt to identify determinants of direct investment, Garibaldi, et. al. (1999) begin with an extensive list of possible determinants. They pare down the list of variables by eliminating those with low t-statistics. Market perceptions is always a significant factor. After some elimination, other results that emerge are that macroeconomic stability and strict exchange rate regimes attract investment, pre-transition, but not post-, liberalization measures are significant, but wages and productivity of the host countries are insignificant. Altamonte (1998) and Resmini (1999) study FDI into industrial sectors across countries. Both find that, for a group of countries from Central and Eastern Europe, market size is significant. Wage differences and progress in transition are significant for the entire sample in Altamonte's study but not in Resmini's.

Transition economies possess several common characteristics that indicate investors may regard separate countries of the region or sub-regions as similar in location-specific advantages. The small market size of many of these countries and their close proximity to each other and to larger transition and Western European markets imply that foreign investors do not always target a single national market, but rather a regional market. The Baltic States' position relative to Russia and Western Europe makes them attractive to investors who wish to supply both of these markets as well as the Baltic market. Costs of labour and other inputs are cheaper in transition economies than in most industrialized countries, and even within the region, there is

much variation (Meyer and Pind 1998).[6] The above factors imply that there are additional underlying characteristics that differ more noticeably from country to country which determine the precise destination of FDI going to transition economies.[7]

The timing and extent of policy reform are two key differences among transition economies that play a role in the choice of investment location. Government policy of the host country is also an important factor that has direct and indirect influences on FDI. The government can directly influence the FDI location choice through offering incentives, the most common of which are fiscal incentives such as tax holidays (UNCTAD 1996). Policy can indirectly influence FDI through provision of a stable and attractive investment environment and through facilitating aspects of the investment process such as obtaining work and residence permits. The newness of the market economy in these countries combined with remnants of the old system adds to the riskiness of the investment for the foreign investor; these countries are notorious for bureaucratic red tape and corruption, which deter FDI. Thus, credible policy is crucial to creating a welcoming investment environment. Table 1 presents per capita inflows of FDI for several CEE states.

Transition economies began their individual reform processes at different times. Some non-Soviet countries were willing to start introducing policies that allowed private enterprise and foreign investment well before the large-scale market transition began. Hungary permitted foreign majority ownership of private enterprise in the mid-eighties, and more restricted market activities before that (Hunya 1996, Berend 1990), while in Estonia, significant amounts of FDI did not enter until late 1990 through joint ventures with Estonian companies (Liuhto 1994).[8] Hungary was also the first country to guarantee profit repatriation and conversion of profits into hard currency (Paliwoda 1994). The degree to which countries were exposed to Western influence differed within the region as well, and this is likely to be correlated with the present level of commitment to market transformation. Estonia, for example, received Finnish broadcasts throughout its Soviet occupation, and this is considered to have had a great impact on the speed with which Estonia adopted market economy ideas (Shen 1994). Even considering the differences in start times of reforms, there is still a discrepancy between per capita inflows to the successful countries during the earlier years of reform and those to the less successful countries during recent years.

2.3 Heterogeneous firms and the use of surveys

The choice of investment location depends not only on country-specific attributes but on those of the firm as well. Dunning (1993) identifies four types of firms that choose to locate abroad. Resource seekers invest abroad to obtain a specific resource that is available in the host country at a lower cost. This could range from raw materials to labour to technology or management skills. Market seekers' objective is entry to the host country's and/ or adjacent countries' markets. Efficiency seekers locate abroad to gain from economies of scale or to benefit from some other difference found in the host country such as costs or market structure. Expansion into a foreign country can bring strategic asset-seeking firms an important asset with which to improve their competitive position relative to their competitors. While in practice the latter two types are hard to identify because in some respects they closely resemble market- and resource- seeking types, the idea of distinguishing among different firm types is important in order to fully understand why firms locate in a particular host country.

Many surveys of foreign investors have been conducted in transition countries in recent years, especially in the Visegrad region.[9] These are an effective means with which to collect up-to-date, firm-specific data that can be analyzed according to specific firm attributes. Thus far, a survey covering the entire transition region has not been done, but results of existing surveys can be compared to see if investors have similar motivations for investing or face the same sort of difficulties in the host country. Unfortunately due to the structure and types of questions used, these results are only comparable to a degree.

Market-related factors emerge among the top-ranked motivation factors in several studies of investment in Central and Eastern Europe (Pye 1997, Éltetö and Sass 1998, Lankes and Venables 1996). Pye's study of investors in the Visegrad countries and Romania finds the skilled labour force and labour cost advantages to rank high as well, while other cost advantages were of less importance. In Éltetö and Sass' study of investors in Hungary, market share has the greatest proportion of 'very important' scores, although according to its weighted ranking, it falls below stable legal framework, stable political situation, and prospects for economic development. Costs, while still among the main motivation factors, is not as important as the others and has a much smaller proportion of respondents listing it as very important. In

a survey of American investors in Estonia, Glaros (1996) finds market-related factors of prime importance while lower costs of production was the least important motivation factor.

Problems are not discussed as frequently as investment motivation, but some that are common among investors to the region include difficulties with legislation and bureaucracy and lack of management skills (Meyer and Pind 1998, Hirvensalo and Hazley 1998, FIAS 1997). In the Baltic rim transition countries (the Baltic States plus Poland and the region of Russia around St. Petersburg), issues related to land, bureaucratic regulations, VAT, and project financing are also problematic for investors (Hirvensalo and Hazley 1998). Életö and Sass (1998) find the tax system and social security contributions, inflation, investment risk, and bureaucracy to be among the biggest problems faced by investors in Hungary. Glaros (1996) finds that the availability of project financing and residency requirements are the biggest problems faced by investors in Estonia, while in another section of the survey, the small market size, excessive bureaucracy, and future relations with Russia are given as Estonia's biggest disadvantages. Land acquisition, work and residence permits, the commercial code, and VAT payments and rebates are the greatest problems cited by participants in the FIAS study of Estonia (1997). Labour-related issues, in particular, lack of management skills, emerged as a significant problem for investors in Estonia in Hirvensalo and Hazley (1998).

Heterogeneity of investors, however, should be accounted for when assessing these results because different types of investors have different motivations and will not be affected by problems in the same way. Dunning's (1993) method is one way of dividing firms for analysis. Empirical researchers, however, generally take a more easily measurable approach and divide the sample according to some specific characteristic or quality. Életö and Sass (1998) separate groups of investors by export orientation and function. The authors find that when investors in Hungary are grouped according to export orientation, they rank motivation factors and problems encountered differently from each other.[10] The local market is the most important for non-exporters, while political and legal stability are the most important for export-oriented groups. Costs do not emerge as a main motivation for the exporters, but are sixth for non-exporters. Problem factor rankings are not so different; several factors appear as main problem factors for both exporters and non-exporters, although in different orders. Obtaining information is a problem for non-exporters, while EU market restrictions affect exporters.

Lankes and Venables (1996) draw a comparison between local market- and export-oriented FDI and horizontal and vertical investment. They find that investment motivation factors differ depending on the target market; export-oriented investors rank the local market low and costs high, while local suppliers and distributors do the opposite. They also find that wholly owned subsidiaries and joint venture firms rank factors important to choice of control differently. For example, joint venture firms consider knowledge of the local situation and access to local markets to be important, while one hundred percent-owned foreign firms value control over intellectual property, sales strategy, and production quality.

There are other easily identifiable firm attributes that could conceivably account for differences in investment motivation and general evaluation of investment climate. These include industry, firm size, and home country. Industries differ from each other in terms of their target markets, required inputs, and obstacles faced in development. The size of operations in the host country affects factors such as costs of operations and ease of obtaining project finance. The home country can make a difference because investors from countries bordering the host are likely to know more about the host country investment climate and possibly have had previous historical links or share a common culture. Additionally, transportation costs to the home country will be lower the closer the home country is to the host country.

Genco, Taurelli, and Viezzoli (1993) use destination country, firm size, age, production period, and industrial sector to separate investors; they survey investors in several Central and Eastern European countries to identify a wide variety of problems encountered during various stages of the investment process.[11] They find that there are differences in rankings of the problems according to these characteristics. Among the problems encountered while operating in the host economy, bureaucratic delays rank the highest overall, but differences within groups are evident. Large firms, older firms, and firms in production longer rate this factor higher. Medium-sized firms give noticeably higher rankings to factors associated with problems with the local partner. Other high-scoring factors that show variation among groups include lack of managerial skills, political instability, and internal organization of the firm.

Some recent empirical work uses data on investment into specific manufacturing sectors in different CEE countries to investigate the determinants (Resmini 1999) and timing (Altamonte 1998) of FDI. In Resmini's paper, sectors are grouped into four broad categories according to Pavitt's (1984)

taxonomy, and these are included as fixed effects.[12] She also runs regressions for each group that indicate that firms in different sectors have different investment determinants. For example, wage differences are important for traditional sector firms while GDP per capita is not. This is opposite from results from most other sectors. Altamonte (1998) follows a similar approach but divides sectors instead according to typical sunk costs.[13] While the sunk cost dummies are not significant for the panel regression of the entire sample, regressions according to individual sunk cost categories indicate there are some differences in determinants of investment. Market size is important for all groups, and wage differences and business risk factors are important only for some. While these studies are not qualitative surveys, their results give support to examining investor survey data according to firm-specific factors.

Surveys are limited in the information they capture. Foreign investment surveys usually only reveal one side of the issue because the sample is restricted in some way; then tend to look at either foreign investment into a particular host country (or countries) or foreign investment from one home country (or countries). Another drawback of surveys is that they often have a small or limited sample. A response rate of twenty percent is considered to be good for investor surveys (Éltető and Sass 1998). Even with this in mind, over 500 surveys must be sent out to get 100 responses. Finding a large sample of foreign investors willing to participate is more difficult the smaller the host country is. Even with completed surveys, there is still the problem of missing data; it is not at all unusual for a respondent to skip some questions either because he does not immediately know the answer or feels the question does not apply to him. Despite the above-mentioned problems, these surveys are important sources of information to host governments. Because they are the best source of investor sentiment in many transition economies, they are valuable to governments who wish to make FDI-attracting policy. Not only does this approach help the government of the host country evaluate future policies, but it can also offer guidance to governments that have not yet made specific policy reforms.

3   The Foreign Investor survey and motivation for analysis

The data used in this paper come from the Foreign Investor '97 and '98 surveys that were conducted in the spring of 1998 and 1999, respectively, by a team of researchers from Tartu University in Estonia and sponsored by the Estonian Investment Agency.[14] It is the most extensive study to date on the Estonian investment climate. The survey consists of a financial part, which contains data from the corresponding year, and a subjective questionnaire, which covers a wide range of investment-related issues including, in addition to those covered here, transfer effects, satisfaction with the investment climate, the banking sector, and exports.[15] Throughout the paper, these surveys will be referred to the 1997 and 1998 surveys respectively, indicating the financial year they cover and not the year in which they were administered.

The sample was chosen according to firms' capital stock and the potential benefit to the economy. In both years, questionnaires were sent to the 150 firms with the largest capital stocks as well as to approximately fifty new and up-and-coming firms with FDI. All participants in the 1997 survey were sent questionnaires for the 1998 survey even if they did not fall into the two previously mentioned categories. Only thirty-eight firms from the '97 survey participated the following year. The 1997 survey was initially sent to two hundred firms and the '98 survey to more than 230. The 1997 survey contains data from seventy-three respondents from seventy-one firms representing ninety-six foreign investors, while the 1998 survey covers eighty-one respondents representing eighty-one firms and one hundred ten foreign investors. Due to missing data, the number of usable observations in the analysis is less than this.

3.1 Composition of the sample

Capital stock demographics by industry and country of origin are presented in Tables 2 and 3. The samples in both years contain roughly twice as much capital stock from the manufacturing sector as in Estonia as a whole. The criteria established by the survey sponsors favours manufacturing firms. The

distribution of the 1998 sample is closer to the actual picture than that of 1997, but wholesale and retail sales are still underrepresented while utilities are over represented. Capital stocks of firms that operate in more than one industry have been included in each since information contained in the survey does not provide a breakdown of activities or the prime industry for each firm. Utilities, although listed separately here, is grouped together with transportation and communications for data analysis purposes because the samples contain very few utility firms that responded to the questionnaire. Services include financial services, consulting services, hotel and restaurant, waste processing, and all other services.

The sample capital stocks by country of origin are quite different from 1997 to 1998. In both years, Finnish and Swedish investment in the sample is close to the actual shares. The relative increase in Swedish investment in both the sample and Estonia as a whole is due to extensive investment in the banking sector by Swedish banks in 1998. FDI from most other countries is inaccurately represented in the sample; most noticeable is Singapore's large share in the sample. Danish and British firms have gained a larger sample share in 1998, while the proportions of Russian and Dutch investment have declined. There were a few omissions of capital stock figures in both years of the survey, which accounts for some error in the shares for both country of origin and industry.

3.2 Survey results

The sections of the survey analyzed in this paper are investment motivation factors and problems encountered. Respondents were asked to rank a series of factors in each category on a scale of one to five. A five indicates a strong influence for motivation factors and a great problem for problem factors. As in other surveys done in the region, market-related factors are among the most important motivation factors in both years (see Table 4).[16] Labour force climbed to the lead in 1998, but otherwise, the order of rankings has not changed noticeably from 1997 to 1998. Access to other nearby markets is not relatively important. While costs are far down on the list, it still falls into the moderate influence range with a score above 3. Just about all factors except labour force have decreased in influence in the latest survey.

Rankings for problem factors support results of other studies done in Estonia and, to a lesser extent, elsewhere, namely that bureaucracy, labour quality, and VAT-related issues are some of the biggest problems facing investors. Lower average scores for most of the problem factors in 1998 could indicate that there have been improvements in the investment climate (see Table 5). Due to differences in the samples, this cannot be inferred from the survey data alone. However, policy changes in areas such as VAT rebates and obtaining work and residence permits that took place after the 1997 survey was conducted are likely to have influenced these scores. Overall, problems in Estonia are not so severe; the highest average score is just over the 'moderate' score of three. The score for VAT payments and rebates has fallen, along with those for gaps in legislation, slow pace of land reform, and unfair competition. Labour quality and corruption are still problematic. Bureaucracy, the top scorer in 1998, was not included in the 1997 survey.

In sum, local market related factors are the biggest motivations for investment, along with the labour force. Although the investment climate is generally evaluated favourably, there are some problems with the business climate, which is evident from the rankings for bureaucracy, corruption, and gaps in legislation, particularly in the 1997 survey. Improvements can still be made in areas such as labour quality, VAT payments and rebates, and customs procedures. While average rankings can give a general picture of the investment climate, a closer look at how these scores differ among investor types provides a better description of the climate and can aid policy makers in identifying precisely where improvements should be made. The next section discusses how investors are divided, the expected effects these characteristics should have on rankings in the econometric analysis, and the scores for the sample by group.

4   Methodology and development of the model

4.1 The ordered probit method

The purpose of the analysis is to determine whether specific types of investors are affected differently by investment climate factors and, if so, how. To

do this, factor rankings are regressed on investor characteristics and control variables. Because the factor rankings are qualitative and discrete in nature and we wish to determine how investor characteristics affect them, ordered probit analysis is the method used here. The underlying variable, the actual ranking that would be given to each factor by the respondents, is continuous and unobservable. Only the values chosen as most closely representing respondents actual choices are observed. The general model for a three-choice dependent variable is as follows:

$$y^* = \beta'x + \varepsilon$$

where y^* is the unobserved factor ranking. The choices that are observed are

$$y = 0 \ \text{if} \ y^* \leq 0,$$
$$y = 1 \ \text{if} \ 0 < y^* \leq \mu_1,$$
$$y = 2 \ \text{if} \ \mu_1 < y^*.$$

This can be easily extended for more discrete choices. The ordered probit regressions produce the maximum likelihood estimates of coefficients that predict an investor's evaluation of a factor based on firm characteristics.

Although each factor was evaluated on a scale of one to five in the survey, for the regression analysis, the problem factor rankings were condensed to three categories: no problems (1), small to moderate problems (2 and 3), and large problems (4 and 5). Due to the small sample size, there were some problems with the analysis caused by the lack of variation in the dependent variable. Furthermore, the subjective nature of the data makes it impossible to ensure all respondents use the same criteria to interpret what each choice means. The scaling makes it difficult to distinguish between categories; the same problem may be interpreted as 'large' by one respondent and as 'extremely large' by another. Merging five categories into three eliminates some of this subjectivity.

4.2 The explanatory variables

Dunning's (1997) classification of foreign investors and Lankes and Venables' (1996) study indicate that export orientation influences the motivation to invest; by their very nature, exporters are less concerned with local market conditions than are investors that serve the local market (market-seekers). Because producing in a host country for export purposes entails transportation costs in getting the product to its destination market, the host country must offer some cost or other efficiency advantage that justifies the investment. Certain problems associated with operating in the host economy may differ between these two types of firms as well. Therefore, the firm's export-to-turnover ratio (EXTO) is included as an explanatory variable.[17]

The mode of entry into the host country is also important. In the pre- and early transition years, joint ventures were often the only way for foreign firms to operate in the host country. Some firms choose to enter based on existing opportunities such as a state-owned enterprise available for privatization or a local company seeking a partner with experience in a market economy. Other firms enter as greenfield investors, building their enterprises from scratch. In the econometric analysis, the following modes of entry are considered: acquisition (ACQ), greenfield (GRN), and joint venture (JV).

Connected to mode of entry is ownership structure; full and partial foreign ownership each carry advantages and disadvantages. With partial ownership, risk is shared, while with full ownership, the decision-making power and control is completely in the hands of the foreign investor.[18] Unfortunately, the survey data can be misleading if mode alone is used; several firms that entered as joint ventures are now one hundred percent foreign-owned, while some firms that entered as greenfield investment have local partners. Therefore, the foreign ownership share as a percentage of voting rights (VR) is included as well.

Industry divisions correspond with Dunning's classification to an extent, although divisions are not so distinct. Some manufacturing sectors, such as wood processing and paper in Estonia's case, fit into the resource-seeking category. Other investments, particularly in the telecommunications and utilities sectors could qualify as strategic asset-seeking investments. Empirical evidence from Altamonte (1998) and Resmini (1999) underscores the importance of industrial sector differences in identifying the determinants of FDI. Although their studies look at sectors within manufacturing, similar reason-

ing can be applied to other industrial sectors, and we can expect to find that industry will explain motivation for at least some factors. Problem factors are likely to affect investors in various industries in different ways as well. A few industries in Estonia, such as telecommunications, still require licenses for any firm entering the industry. Investors in these industries are likely to face greater regulatory difficulties. Output from the service sector is generally of a non-tradable nature, so these firms should evaluate trade-related issues differently from, say, manufacturing firms. The industries used in the analysis are manufacturing (MANUF), wholesale and retail (WHRET), services (SERV), and utilities, telecommunications, and transportation (UTRAN).

Firm size is another factor that can account for heterogeneity. Large multinational firms generally have substantial assets and a global strategy that includes widespread market penetration. They are likely to be motivated and affected by different factors than are small and medium-sized firms. To account for this, two size variables are used in alternate model specifications, the natural log of the workforce (LNWK) and the natural log of share capital (LNSK).

In addition to the variables mentioned above, a dummy indicating whether the firm is from Finland (FINLAND) is included to control for the close historical and linguistic ties between the two countries. For investment motivation factor regressions, two additional variables are included. These are the years invested in Estonia (YRINV) and a dummy variable representing previous links with Estonia prior to investment (PL).[19] Where applicable, other variables may be included, and these are mentioned with the appropriate factors.

Export orientation, industry, and mode of entry constitute the key characteristics used in this study to determine whether investor characteristics explain factor rankings. These factors capture important differences among investors put forth by Dunning (1993), which emerge often in empirical works as accounting for differences in perception of the investment climate. Since industry and mode of entry include more than two categories, dummy variables for each possibility must be considered. One dummy from each category must be excluded, however, to avoid multicollinearity problems. The signs of the included dummy coefficients then indicate how possessing this characteristic instead of the excluded characteristic affects the factor ranking. Therefore, the variable chosen for exclusion in each category is the one that is expected to account for the greatest difference in the dependent variable rating. Since manufacturing is the largest industry in the sample and

produces tradable goods, it is generally excluded from the industry category. Greenfield is omitted from the mode of entry category since these investments have no clear existing connection with the Estonian economy. Any deviations from these are discussed below with the appropriate dependent variable. The general model is

$$FACTOR = \alpha + \beta_1 EXTO + \beta_2 SIZE + \beta_3 UTRAN + \beta_4 WHRET + \beta_5 SERV + \beta_6 ACQ + \beta_7 JV + \beta_8 VR +$$
$$\beta_9 FINLAND + \beta_9 PL + \beta_9 YRINV + \varepsilon.$$

The last two variables are only used in the motivation factor regressions, and SIZE is either LNWK or LNSK.

4.3 Hypotheses and predicted signs

Below is a discussion of the factors analyzed and the expected influence of the explanatory variables of interest (export orientation, industry, and mode of entry). Only those characteristics that have obvious relationships with the dependent variable in question are discussed, although some effects can still be difficult to sign because there are good arguments for both cases. Also, strategy differs from firm to firm even within groups, and this can lead to differences in motivation to invest or perceptions of problems. We analyze factors that are relevant for policy makers, especially in the area of problem factors. Selection of the latter is based not only on the high-scoring factors from the survey, but also on other information about investors' experiences.[20] Closer analysis of the most important motivation factors can determine whether all types of investors are motivated by the same factors. With this information, policy can be designed to more efficiently promote the investment climate.

The motivation factors considered are market-related factors (market entry and potential for market growth), costs of production, and political stability. While market factors have been found to be important motivation factors, costs are generally not of great motivational importance. However, they are still considered to be an advantage of transition economies and so are included in the analysis. Exporters are predicted to be influenced by costs, but

not by market entry or potential for market growth, because their primary markets are elsewhere. Therefore, coefficients are predicted to be positive for costs and negative for market factors. Manufacturing firms are predicted to be affected in the same way because of the tradable nature of their output relative to that of the other industrial sectors included. Finally, acquisition firms are predicted to be less influenced by market factors than are greenfield or joint venture firms since the firm being acquired already exists. Thus ACQ is omitted instead of GRN in the market entry and market growth regressions, and GRN and JV are expected to have positive signs.

Political stability is another motivation factor that is often cited as a determinant of FDI location. It is likely to have played a part in attracting FDI to Estonia as well since the political climate has been relatively stable since independence. Entering the host country through greenfield investment entails higher information costs since there is no local partner or previously established company. Because joint venture and acquisition investments are connected to a local element, they may be less susceptible to political shocks. Since the environment is uncertain, political stability is predicted to be more important to greenfield investors, and the coefficients on JV and ACQ should be negative. However, since the Estonian investment climate has been relatively stable for several years, it is hard to say whether this reasoning should still hold.

The next area of investigation is problem factors with stress on those that still exhibit a need for improvement. The results from the most recent survey are emphasized here since they reflect recent policy developments. Although the labour force was the highest-ranked motivation factor in the 1998 survey, the quality of the workforce is one of the greatest problems facing foreign investors. One of Estonia's selling points in promotional material is its "highly skilled and productive workforce" (EIA 1999). Despite the claim, foreign companies operating in Estonia often utilize lower-level technology than their parent firms (Berghäll 1999). Additionally, there has been little reform in adult and vocational education since independence from the Soviet Union, which may account for a mismatch between available and needed skills (Ziacik and Varblane 1999). This problem is expected to be greater for manufacturing firms and export-oriented firms since their production depends on high quality and often a high skill level as well.[21] In addition, investors that entered through acquisitions are expected to have more difficulties since they acquired labour as well. Thus, ACQ is omitted from the regression instead of GRN. GRN and JV are predicted to have negative signs.

Related to this is the problem of obtaining work and residence permits; firms having difficulty finding suitably skilled workers may wish to look elsewhere. Foreign firms often bring managers from the parent company. However, getting the necessary permits can be difficult. This is a recurring theme cited in earlier surveys and policy studies (see Ziacik (1998) for an overview) and, although steps have been taken to improve the situation, such as the introduction of a business visa, it still is not satisfactory. Due to a quota system in place, there is a limited number of permits that can be granted each year. The process is quite involved and previously included items such as a psychiatric evaluation. Recently, the U.S. was added to the list of countries that are not subject to the quota (BNS 1999).[22] The number of foreign workers in the firm (FORWK) is included in this regression, and the expected sign is positive. Manufacturing firms are likely to experience fewer problems because they tend to generate much local employment and require few permits relative to the size of their operations. Size should be negatively related to work and residence permit difficulty since employment potential of the firm is something considered when granting the permits. Greenfield firms are expected to have more problems because they are likely to bring in foreign workers, especially at the management level, since they are creating a new enterprise. However, JV and ACQ are hard to sign; they use more local people because of the present or former local ownership, but foreign management expertise might be part of the deal. Therefore, mode of entry may differ from what is expected.

Customs procedures and VAT-related issues remain problematic, although to a lesser degree than in the previous year. Of the four free zones in Estonia, only the Muuga zone in Tallinn is operational, and there are still delays at customs points. Despite some improvements, VAT payments and rebates are still problematic to investors (Berghäll 1999). Both of these factors are predicted to affect exporters more than non-exporters since exporters must ship their production through customs. They are also entitled to rebates on VAT paid on inputs used for production of exports. Manufacturing firms have more dealings in these areas since their output is the most likely to be exported so positive relationships between manufacturing and these factors are expected. However, firms that do not regularly deal with these issues may regard the same things as greater difficulties because of their lack of experience with the procedures.

Project financing is a crucial element of the foreign investment process. If companies do not have reliable access to financing, they cannot make new investments. Approximately one third of respondents who answered the question use local banks for financing, and thus the persistence of this problem in the 1998 survey may be related to the Russian financial crisis. As a result of the crisis, some Estonian banks experienced liquidity difficulties (Ziacik and Varblane 1999). Greenfield firms are likely to have the least difficulties with financing since they have fewer ties to the local economy and can get financing from the home country.

Finally, we consider the general operating environment. This includes bureaucracy and corruption.[23] Since greenfield firms are new to the environment, they are likely to experience more problems in these areas. Therefore, negative coefficients are predicted for ACQ and JV. Firms in the manufacturing and utilities, transportation, and telecommunications industries are expected to have greater difficulties because they are more likely to require permits or inspections in the course of their operations. The only industries that still require licensed to operate are mining, power, gas, and water supply, rail and air transportation, waterways and ports, telecommunications, retail sale of pharmaceuticals, and commercial banking. Since the majority of this fall into the UTRAN category, it is omitted in an alternate specification. Exporters should have fewer difficulties since their target market is not Estonia.

Tables 6 through 9 contain mean factor rankings according to the key explanatory variable categories. For some factors, differences in rankings are quite noticeable, while for others, there is little obvious difference for the group. Different rankings of market-related factors and costs by export-oriented firms support similar findings of Éltetö and Sass (1998) and Lankes and Venables (1996). In some cases, the survey data disagree with the predicted signs. For example, in 1997, non-exporters rated labour quality higher than exporters, and manufacturers gave it one of the lowest rankings. Therefore, the 1997 signs are likely to be reversed for EXTO and the industry dummies. While manufacturing firms had a much easier time with work permits in 1997, service sector firms had the least amount of problems in 1998, and wholesale and retail firms were very similar to manufacturing firms. Thus, signs for industry dummies in the 1998 regressions may differ from predictions. Table 10 contains a summary of the expected signs of the key explanatory variables discussed above. An asterisk by the sign indicates that the average responses differ from predictions.

5 Results

Although we have an idea about how some of these explanatory variables should affect factor rankings, theoretical development in this area is not extensive. Previous theoretical and empirical work indicates that, in general, investors should differ according to export orientation, industry, and mode of entry. The influence, if any, of other factors, especially the control variables, may differ from factor to factor. Thus, a 'general-to-specific' method is employed in which all potential explanatory variables are included in the first run, and variables with low z-statistics (less than 1) are eliminated in the subsequent run. The export-to-turnover ratio, industry dummies, and mode of entry dummies are always retained since these are the primary factors of interest. In the case where two model specifications are identical except for the size variable or other specification, the percentage of correct predictions is used to determine which specification is presented. Asterisks beside an explanatory variable name indicate the level of joint significance of the model. For the variables with no asterisks, we cannot reject the hypothesis that all coefficients equal zero at the ten-percent level or below. The regressions for COSTS 97 and WKPERM 98 have been adjusted for heteroscedasticity.

The interpretation of ordered probit coefficients beyond their role as response predictors is not straightforward. While the coefficients indicate the marginal effect of a one-unit change in the corresponding independent variable on the regressand in a standard regression with a continuous dependent variable, this is not the case here. All that can be definitely gauged from ordered probit coefficients is the shift in the probability distribution of the dependent variable resulting from an increase in an independent variable, holding all other things constant. This also indicates how the probability of being in either end category changes; the probability that y is the high-end choice (5 or 3, depending on the factor) changes with b while the probability that y is the low-end choice (1 here) changes in the opposite direction (Greene 1996). However, the size of the changes and how the probabilities of being in the middle categories change are unknown. In order to determine the magnitude and direction of change, it is necessary to calculate the marginal effects. These indicate how a one-unit change in an independent variable affects the probability that the dependent variable is in each category, and the marginal effects for significant variables are found in the Appendix. Thus, for explanatory purposes, saying that manufacturing firms, for example, are

more affected by this factor means that they are more likely to be in the high-end category.

Regression results support the hypothesis that specific types of investors will evaluate certain motivation and problem factors differently. Éltetö and Sass' (1998) finding that investors differ according to export orientation is supported strongly for market factors, but less so for problem factors. Mode of entry is also a characteristic that emerges as a significant explanatory variable in several regressions, but not as regularly and often only for one of the two included dummies.

Tables 11 and 12 contain results from the motivation factor regressions. These are well specified according to the high levels of joint significance, but the predictive power of the model is poor, correctly predicting less that fifty percent for some variables. Size and foreign share only appear in the 1997 regressions, although the latter is never significant. The other control variables, FINLAND, PL, and YRINV (1998 only), appear occasionally.

Among the motivation factor regressions, EXTO is the trait that appears most often as a significant variable with the expected sign in both years. All of the motivation factors except POLSTAB 1998 contain a significant explanatory variable, which indicates that investors do differ in their motivation to invest in Estonia. For market and cost factors, the signs are as predicted. EXTO is significant in all regressions. Despite the presence of a local partner as an incentive to invest, market entry is important for joint venture firms. Some industry dummies are significant with the expected signs for MKTGR 1997 and COSTS 1998. These results support the hypothesis that, among industrial sectors, manufacturing firms are the least influenced by market factors and the most influenced by cost factors. However, industry signs for COSTS 1997 contradict expectations and the survey results (see Table 7).

The negative sign on JV's coefficient in POLSTAB 1997 supports the contention that the presence of a local partner compensates for political risk. Entering through a greenfield investment for market factors or through an acquisition for costs and political stability, however, does not appear to explain factor evaluation. Utilities, transportation, and telecommunications firms are significantly more motivated by political stability than are manufacturing firms in 1997. There are no characteristics that explain the scoring of political stability in the 1998 regression.

Problem factors have less consistent results from year to year, both in terms of jointly significant models and significant explanatory variables (see

Tables 13 and 14). Only VAT and PFIN are jointly significant in both years, but the results for both are quite different in terms of significant explanatory variables. There is no correspondence between the 1997 and 1998 results in terms of significant variables for problem factors, while there is to some extent for motivation factors. Mode of entry is not significant in any of the 1997 regressions. This implies that policy changes are likely to have affected evaluations of the former. Foreign share does appear in the WKPERM 1998 regression and is significant. FINLAND is never significant, and size (LNSK) is only significant in the 1997 VAT regression. The 1998 regressions have an overall better predictability except for WKPERM and CORRUP.

The most recent results for LABQUAL show that industry is the characteristic that determines its score; SERV is significant with the expected sign, indicating that manufacturing firms are having more difficulty with this issue than are firms in the service sector. EXTO appears as a significant variable with the opposite sign in 1997, but the model is not jointly significant. Since LABQUAL is still one of the highest ranked problems, and the labour force is the highest ranked motivation factor, there is clearly a need to find out where the problems in this area still remain. Looking at the survey results (Tables 8 and 9), average rankings for SERV and UTRAN have decreased quite a bit, while they have increased for MANUF and WHRET. Therefore, a closer examination of the needs of firms in the manufacturing and wholesale and retail industries could improve the quality of labour where it is needed the most.

WKPERM's industry results are one example of how policy may have affected the outcomes from one year to the next. SERV is significant in both WKPERM regressions, but with opposite signs. The 1997 regression shows strong support for the hypothesis that manufacturing firms find the issue less problematic; both SERV and UTRAN are significant with positive signs. Results from the following year indicate that service sector firms now have fewer difficulties. One explanation for changes in results could be that the business visa, which makes it easier for foreigners to get short-term permission to stay in Estonia for business-related activities, is sufficient for many investors in the significant industries previously affected by this issue. The lack of change in its average ranking, along with recent comments made by investors, indicate that there is still a need for improvement in this area.

VAT-related difficulties affect investors differently in both years. Despite large differences in mean responses of exporters, JV is the only significant variable in 1998, indicating fewer problems for these firms than for

greenfield firms. Instead, industry and export orientation, as well as size of share capital, account for differences in rankings. As expected, exporters have more difficulty in this area, but contrary to predictions, manufacturing firms have the fewest. This could be due to a relative lack of experience on the parts of firms in other industries. The changes that have taken place since the 1997 survey improving and speeding up the process of obtaining rebates are likely to account for the more uniform effects of VAT- related problems on investors in 1998.

CUSTOM 1998 has the highest predictive ability of any regression. EXTO is significant with the expected sign. UTRAN's significance indicates that these firms have more problems with customs procedures than manufacturing firms do. This result is contrary to expectations, and can be, as with VAT, due to the unfamiliarity of these firms with the procedures. The 1998 results differ from the previous year's, in which no explanatory variables were significant and the model itself was not jointly significant.

An interesting result that emerges among problem factor regressions is in the PFIN 1998 regression. There is strong evidence that firms that entered as joint ventures or acquisitions are having more difficulty in obtaining project financing than are firms that entered as greenfield investments. This demonstrates a clear role for policy to facilitate financing for firms with local ownership. The fact that in 1997, there was no evidence of different investors may point to the recent financial crisis in Russia as a cause of these difficulties. Both the joint significance of the regression as well as the high percentage of correct predictions made by the model indicate that it is well specified. Additionally, the 1997 survey results (Table 8) show that in 1997, greenfield firms had the most, not the least as predicted, problems with obtaining project financing, which likely indicates that local banks did a good job of providing finance capital before the crisis.

Bureaucracy and corruption, the two top-scoring problem factors in the latest survey, are not jointly significant, and only CORRUP 1998 contains a significant variable, EXTO, although its sign is contrary to expectation. In general, while these factors are quite problematic, there is no one group affected by one factor more than the others except for exporters in the CORRUP 1997 regression. Therefore, the government should take measures to reduce the bureaucracy and corruption across the board. The 1998 regressions omit UTRAN instead of MANUF. Results with the standard specification were identical in terms of significant explanatory variables, but with a lower percentage of correct predictions.

6 Conclusions and directions for future research

This paper is the first step in a study of how policy can affect foreign direct investment. The low overall scores for problem factors and high levels of per capital FDI support the contention that credible policy reforms in the transition to a market economy improve the investment climate and attract FDI. To maintain a welcoming investment climate and to continue to draw FDI, policy makers must be aware of any changes in investor sentiment. Changes in survey results from 1997 to 1998 show that problem factors are less problematic and motivations have only shifted slightly, with labour force moving from third place in 1997 to first place in 1998.

Investor heterogeneity was the main focus of the empirical analysis because differences among investors must be considered in order to get a complete assessment of the investment climate. Knowing whether and how certain types of investors react differently to policy developments can help policy makers choose which policies to implement. For some factors, investor differences clearly influence factor rankings, but the evidence is not overwhelmingly supportive. Export orientation emerges as a distinguishing characteristic with respect to investment motivation factors, but a similar characteristic is not present among problem factors. In the latter category, significant results differ from one year to the next. One reason for this is that problems faced by investors are directly affected by policy, and therefore sentiment toward them is more likely to change over time.

Some policy implications emerge from this analysis. The survey results indicate that, as in many other transition economies, market related factors are among the top motivations for investment. A closer look at the data, however, reveals that not all investors feel this way; exporters do not consider these factors important, but instead are motivated by costs. Manufacturing firms also favour costs. Therefore, if the government wishes to attract more export-oriented investment to improve the trade balance, for example, then it should promote cost advantages to these firms. The jump in labour force's ranking to the top of the list of motivation factors indicates that the government should pay particular attention to developing and improving training and educational programs. Although labour quality is less problematic in the 1998 regression than in the 1997 regression, it is still considered to be a problem, especially for manufacturing firms. Thus, a starting point for improvement of labour quality could be in the manufacturing sector.

The problem factor regressions from 1998 show clearer evidence of firm differences than the previous year's regressions do. The strong support that mode of entry affects evaluation of the project finance factor indicates that there is a role for policy here. Both JV and acquisition firms are having greater difficulty than manufacturing firms in finding financing for projects. Therefore, some measures can be implemented to increase the availability of local financing. Additionally, improvements in customs procedures should focus on making the process easier for large-scale exporters, since export-oriented firms have more difficulties with them. The increase in average ranking from 1997 to 1998 indicates that improvements are definitely needed in this area. The top-scoring problem factors of 1998 are not really explained by investor characteristics; EXTO is significant in CORRUP at only the ten-percent level. Since these factors are likely to affect all investors, they need to be addressed generally for all types of firms.

There is room for improvement in the construction of investor surveys to better reflect the objective of identifying heterogeneous firms. In addition to better wording of questions to avoid ambiguity, larger samples that reflect the composition of FDI in the host country and possibly covering more than one country will improve the properties of the statistical analysis and to allow for more comparison among groups of firms. Requesting the listing of primary industry classification will eliminate the industry overlap present in this study. Considering both mode of entry and current operating structure can eliminate problems caused by changes in the ownership structure that are not accounted for. Additionally, the difference the two samples makes it difficult to determine whether changes in regression results from one year to the next are in fact due to policy changes or to the different samples. Future research of this sort should make every attempt to have large, representative samples and several returning respondents if the survey is conducted more than once.

One drawback of this study is that the samples for the two years of data are not alike. Thus, it is difficult to say with certainty whether differences in results from year to year are due purely to policy developments or to sample differences as well. The latter is likely to have some influence on the results. However, since the survey's focus on the biggest and most promising foreign investors has not changed, there is still valuable information to be found. Because the respondents represent the types of investors governments would generally like to have, the survey results can aid policy makers in determining how to continue to attract more of this type of investment.

Finally, to get the most out of these results, they should be combined with empirical evidence on the effects of different types of FDI. This can be achieved to an extent through investor surveys that include questions about spillover effects, technology transfer, and other effects on the host country economy, but studies designed specifically to assess the impact of FDI on the host country would better serve this purpose because they are less subjective in nature. While these results are based on Estonian-specific firm data and may not hold for all transition economies, the method used here can be applied to all. It is likely that the firm attributes that are significant in these regressions will also be significant for other countries because firms belonging to the same category have similar objectives and motivations to invest abroad. In fact, an analysis of this sort is likely to produce more interesting and useful results for countries that are not as advanced in the transition process as Estonia. Estonia is a country that is already in an advanced state of transition and therefore, many reforms have already taken place. Surveys like this one would be more useful at an earlier stage of transition so that the reformers could have better information about the needs of foreign investors and use it to improve the reform process in an efficient manner.

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Notes

[1] The entire transition region consists of 25 countries with a population of approximately 399 million. The CEE states alone (including the Baltic states) comprise one third of that (United Nations 1998).

[2] See Blomström and Kokko (1996) for a review of empirical evidence of spillover effects from FDI.

[3] Konings (1995) provides a good overview on the evolution of theories of multinational activity from neoclassical theory to Dunning's work and beyond. Chakrabarti (1997) takes a more detailed look at work influenced by Dunning's eclectic theory.

[4] Dunning's work was influenced by Stephen Hymer's (1976) Ph.D. thesis. This work, written in 1960 but published years later, was the first to address the issue of FDI with a non-neoclassical approach.

[5] See Chakrabarti (1997) for a survey of these studies.

[6] However, the transition economies that receive greater levels of FDI in size-adjusted terms are generally those with higher input costs because lower-cost countries typically have high costs in other areas associated with lags in reform (Meyer and Pind 1998).

[7] There are certain investments that are heavily dependent on a specific raw material (oil investments in the Caspian Sea region) or other resource (investments in the telephone or energy companies). For these types of investments, the above arguments are less valid.

[8] Foreign direct investment was first permitted in Estonia in 1987 but was very small due to heavy regulation by the Soviet authorities. Larger inflows were made possible by a new law on joint stock companies made in 1990 (Liuhto 1994).

[9] See Ziacik (1998) for an overview of surveys done on the CEE states and Estonia in particular. See Meyer (1998) for listings of country studies and earlier surveys of investors in the region. The Visegrad countries are Hungary, Poland, the Czech Republic, and Slovakia.

[10] They divide their group into assembler-oriented exporters, domestically-based exporters, and non-exporters.

[11] Three of the four categories are in manufacturing; the fourth is services.

[12] These are scale intensive, high tech, traditional, and specialized production.

[13] They are, in order of increasing costs, no advertising or research and development (R&D) expenditures, advertising intensive, R&D intensive, and both advertising and R&D intensive.

[14] There is a Foreign Investor '96 survey, but it is not direvtly comparable to the others due to subsequent changes in the format. The author aided in the revision of the survey and in the collection of data.

[15] A detailed analysis of the results is found in Varblane, et. al. (1998).

[16] In the survey, motivation factors were divided into general and resource-based. Labor force is the only resource factor included in the results, and this is because it received such high scores in both years and is included as a problem factor as well.

[17] Abbreviations used in the model follow the explanatory variable names in parentheses.

[18] However, in some instances, the foreign partner of a joint venture is given all the decision making power, presumably due to more experience in market economies. Therefore, this variable may be limited in its usefulness. Information on the distribution of decision-making was requested in the survey as well, but the response level was quite low, rendering it unusable in the analysis.

[19] Year of investment data are only available for the 1998 regression.

[20] Additional information regarding problems remaining for investors comes from Hirvensalo and Hazley (1998), Berghäll (1999), and comments and discussion from participants in the OECD Conference on FDI Policy and Private Sector Development in the Baltic States, November 17, 1999, Tallinn, Estonia. Participants included officials from the Estonian Ministry of Economics, the Estonian Investment Agency, and foreign investors who have invested in Estonia.

[21] Lankes and Venables (1996) find in their survey that export-oriented investors rely more heavily on skilled labour than do non-exporters.

[22] The EU and EFTA countries are also exempt from the quota. Other changes are currently underway to streamline the process, including a reduction in the number of required documents and tests, although, at the time of writing, the specific regulations had not yet been provided to Estonian embassies.

[23] Gaps in legislation would also fit into this category, but because it is so broad, it has been omitted from the analysis.

Tables

Table 1. FDI inflows per capita in select transition economies (US dollars).

	1993	1994	1995	1996	1997[a]	1998	Cumulative FDI flows per capita 89-97
Hungary	228	112	442	194	163	168	1652
Czech Rep.	63	85	249	139	124	243	968
Estonia	107	143	136	102	90	390	947
Latvia	17	84	71	132	206	80	634
Slovenia	58	64	88	93	148	77	596
Lithuania	8	8	20	41	89	257	422
Poland	45	49	95	116	79	171	389
Slovak Rep.	37	38	34	53	15	46	236
Romania	4	15	18	12	54	90	200
Russia	0	4	14	17	25	7	60

Source: EBRD Transition Report, various years.

Table 2. Stock of FDI by industry

Industry	Stock of FDI in sample 1998[a]	Stock of FDI in Estonia 1998[a,c]	Stock of FDI in sample 1997[a]	Stock of FDI in Estonia 1997[a,b]
Manufacturing	47,8	29.8	65	36.9
Services	23,2	30.9	3	16.6
Transportation & telecom	15,9	9.7	22	16.7
Wholesale and retail	10,9	22.9	6	22.3
Utilities	2,2	0.9	4	0.1
Other	0	5.8	0	7.4

Source: Foreign Investor '97 and '98 surveys and Bank of Estonia. [a]In percentage terms.
[b]Fourth quarter 1997. [c]Fourth quarter 1998.

Table 3. Stock of FDI by country of origin.

Country	Stock of FDI in sample 1998[a]	Stock of FDI in Estonia 1998[a,c]	Stock of FDI in sample 1997[a]	Stock of FDI in Estonia 1997[a,b]
Sweden	30,8	32.4	24,1	20.7
Finland	24,3	26.9	27,4	28.8
Singapore	17,3	2.3	24,4	4.2
UK	9,0	3,7	0,3	3.5
Denmark	5,6	4.7	1,1	4.7
Italy	4,5	0,8	3,3	0.7
Russia	3,0	1.8	3,5	5.7
Germany	1,5	3,3	0,9	3.0
USA	1,2	5.2	3,6	5.8
Norway	1,0	4,8	0,6	4.7
Netherlands	0,1	1.9	0,4	2.5
Other	1,7	12.2	10,4	15.7

Source: Foreign Investor '97 and '98 surveys and Bank of Estonia. [a]In percentage terms.
[b]Fourth quarter 1997. [c]Fourth quarter 1998.

Table 4. Mean response rankings for investment motivation factors. [a]

	1998	1997
Labour force	3.83	3,64
Market growth potential	3.63	3,81
Market entry	3.58	3,96
Free capital mobility	3.54	3,57
Convertible currency	3.52	3,43
Political stability	3.33	3,43
Economic reforms	3.25	3,41
Costs of production	3.21	3,22
Competitors' activities	2.73	2,84
Access to Russia/CIS	2.62	2,94
Access to CEE[b]	2.47	N/A
Future EU member	2.13	2,10

Source: Foreign Investor '97 and '98 surveys. [a]A one denotes 'no influence' and a 5 denotes
'a strong influence'. [b]Not included in the 1997 survey.

Table 5. Mean response rankings for problem factors.[a]

	1998	1997
Bureaucracy[b]	3.22	N/A
Corruption	3.05	2,86
Labour quality	2.89	3,09
VAT payments/rebates	2.81	3,19
Customs procedures	2.76	2,82
Project finance	2.69	2,69
Work and residence permits	2.69	2,70
Tax rate[b]	2.66	N/A
Gaps in legislation	2.62	3,08
Slow land reform	2.59	2,83
Unfair competition	2.41	2,79
Land acquisition	2.22	2,56
Raw material avail.	1.95	2,10
Absence of tariffs	1.65	2,03

Source: Foreign Investor '97 and '98 surveys. [a]A one denotes 'no problem' and a 5 denotes 'serious problem'. [b]Not included in the 1997 survey.

Table 6. Mean factor rankings by investor characteristics, motivation factors 1997a

	Export	Non-export	JV	Acquisition	Greenfield	Manufacturing	Services	Wholesale/ retail	Util., telecom. trans
Market entry	3.48	4.23	4.30	3.24	4.00	3.63	4.55	4.27	4.00
Market growth	3.20	4.14	3.96	3.35	3.90	3.47	4.18	4.20	4.00
Free capital mobility	3.58	3.55	3.37	3.59	3.62	3.57	3.73	3.47	3.50
Political stability	3.32	3.53	3.15	3.24	3.70	3.31	3.36	3.40	3.58
Convertible currency	3.36	3.50	3.33	3.53	3.38	3.29	3.55	3.57	3.42
Economic reforms	3.28	3.47	3.26	3.35	3.50	3.34	3.45	3.40	3.58
Costs of production	3.85	2.80	3.15	3.63	3.14	3.66	2.18	3.21	3.00
Access to Russia/CIS	3.27	2.70	3.04	2.59	2.80	3.09	2.73	2.53	2.92
Competitors' activities	2.62	2.95	2.75	2.59	3.03	2.57	2.73	3.07	3.33
Future EU member	2.08	2.12	2.07	2.29	2.14	2.00	2.73	1.87	2.55
Labour force	3.92	3.49	3.39	3.76	3.73	3.67	3.64	3.80	3.50

Source: Foreign Investor '97 and '98 surveys. [a]*A one denotes 'no influence' and a 5 denotes 'a strong influence'.*

Table 7. Mean factor rankings by investor characteristics, motivation factors 1998[a]

	Export	Non-export	JV	Acquisition	Greenfield	Manufacturing	Services	Wholesale/ retail	Util., telecom. trans
Market growth	2.52	4.27	4.00	3.25	3.68	3.21	4.00	4.33	4.11
Market entry	2.52	4.20	4.07	2.9	3.68	3.13	4.56	4.36	3.89
Free capital mobility	3.59	3.53	3.39	3.6	3.75	3.56	4.11	3.54	3.00
Convertible currency	3.57	3.42	3.22	3.79	3.39	3.64	3.67	3.31	2.78
Political stability	3.45	3.25	3.07	3.4	3.45	3.30	3.56	3.43	2.89
Economic reforms	3.09	3.31	3.04	3.45	3.42	3.21	3.67	3.21	3.00
Costs of production	4.09	2.74	2.96	3.65	3.08	3.76	2.78	2.31	3.00
Competitors' activities	2.32	2.95	2.56	2.75	2.71	2.59	2.56	3.38	2.89
Access to Russia/CIS	2.39	2.66	2.74	2.55	2.20	2.68	2.56	2.33	2.56
Access to CEE	2.19	2.68	2.41	3.2	2.05	2.35	2.75	2.57	2.67
Future EU member	1.96	2.19	1.96	2.45	2.04	1.97	2.44	2.07	2.11
Labour force	4.14	3.69	3.64	4.00	3.71	3.95	3.78	3.57	3.67

Source: Foreign Investor '97 and '98 surveys. [a]*A one denotes 'no influence' and a 5 denotes 'a strong influence'.* [b]*Not included in the 1997 survey.*

Table 8. Mean factor rankings by investor characteristics, problem factors 1997 [a]

	Export	Non-export	JV	Acquisition	Greenfield	Manufacturing	Services	Wholesale/ retail	Util., telecom, trans
VAT payments, rebates	3.20	3.18	3.25	2.88	3.29	3.00	3.20	3.69	3.30
Labour quality	2.80	3.27	3.00	3.12	3.24	3.00	3.00	3.08	3.09
Gaps in legislation	2.92	3.18	3.16	2.88	3.17	3.00	3.20	2.78	3.55
Corruption	2.80	2.90	2.52	3.06	2.97	2.75	3.50	2.54	2.91
Slow land reform	2.92	2.78	2.48	2.82	2.93	2.78	3.10	2.58	2.73
Customs procedures	2.72	2.88	2.96	2.53	2.79	2.78	2.89	2.69	2.91
Unfair competition	2.52	2.95	2.65	2.44	3.00	2.75	3.09	2.78	2.55
Work, residence permits	2.28	2.95	2.64	2.53	3.00	2.25	3.50	3.08	3.09
Project finance	2.44	2.86	2.52	2.50	2.88	2.57	3.00	2.64	2.56
Land acquisition	2.60	2.54	2.21	2.63	2.70	2.54	3.00	2.67	2.30
Absence of tariffs	2.20	1.92	2.04	2.20	1.93	2.09	1.70	1.46	2.56

Source: Foreign Investor '97 and '98 surveys. [a] A one denotes 'no problem' and a 5 denotes 'serious problem'.

Table 9. Mean factor rankings by investor characteristics, problem factors 1998[a]

	Export	Non-export	JV	Acquisition	Greenfield	Manufacturing	Services	Wholesale/ retail	Util., telecom. trans
Bureaucracy [b]	3.43	3.10	3.38	3.21	2.90	3.38	2.90	2.36	3.33
Corruption	2.86	3.15	3.38	2.58	2.95	3.03	3.00	2.77	3.17
Labour quality	3.35	2.63	2.73	3.16	2.75	3.16	2.10	3.14	2.50
VAT payments. rebates	3.04	2.68	2.64	2.89	2.86	2.84	2.40	3.29	2.33
Customs proce- dures	3.09	2.58	2.81	2.68	2.65	2.81	2.40	1.69	3.33
Project finance	3.05	2.53	2.92	3.06	1.89	2.91	2.56	2.36	2.60
Work. residence permits	2.83	2.61	2.85	2.84	2.32	2.71	2.30	2.8	3.33
Tax rate [b]	2.91	2.51	2.81	2.68	2.48	2.81	2.30	2.64	2.67
Gaps in legislation	2.50	2.68	2.58	2.63	2.60	2.44	2.70	2.93	2.83
Slow land reform	2.82	2.46	2.77	2.44	2.52	2.56	2.70	2	3.17
Unfair competition	2.13	2.56	2.69	2.16	2.24	2.35	2.00	2.86	2.50
Land acquisition	2.39	2.12	2.27	2.21	2.19	2.24	2.20	3.15	2.50
Absence of tariffs	1.73	1.60	1.85	1.39	1.55	1.56	1.20	2.08	2.00

Source: Foreign Investor '97 and '98 surveys. [a]A one denotes 'no problem' and a 5 denotes 'serious problem'. [b]Not included in the 1997 survey.

Table 10. Predicted signs of key explanatory variables.

	EXTO	MANUF	UTRAN	WHRET	SERV	ACQ	GRN	JV
MKTENTR	-	-	+	+	+	-	+	+
MKTGR	-	-	+	+	+	-	+	+
COSTS	+	+	-	-	-	…	…	…
POLSTAB	…	…	…	…	…	-	+	-
LABQUAL	+*	+*	-*	-*	-	+*	-*	-
WKPERM	…	-*	+	+*	+*	-*	+*	-*
CUSTOMS	+*	+*	-*	-*	-*	…	…	…
VAT	+	+*	-*	-*	-*	…	…	…
PFIN	…	…	…	…	…	+*	-*	+*
BUR	-	+*	+	-*	-*	-	+	-
CORRUP	-	+*	+	-*	-*	-	+*	-*

Table 11. Results of motivation factor regressions, 1997.

	MKTENTR ***	MKTGR ***	COSTS ***	POLSTAB ***
Constant	0.128	0.469	0.285	5.262 ***
	(1.112)	(0.982)	(0.304)	(1.287)
EXTO	-0.011 ***	-0.011 **	0.012 ***	-0.002
	(0.004)	(0.005)	(0.005)	(0.005)
LNWK		….	….	-0.216 **
				(0.109)
UTRAN	0.174	0.397 **	0.057	0.331 **
	(0.188)	(0.205)	(0.117)	(0.171)
WHRET	009	0.218	0.290	-0.447
	(0.398)	(0.399)	(0.270)	(0.411)
SERV	0.772	1.070 *	-0.267	-0.539
	(0.539)	(0.654)	(0.456)	(0.601)
ACQ	….	….	-0.137	-0.846
			(0.322)	(0.606)
GRN	0.312	0.376	….	….
	(0.366)	(0.429)		
JV	0.929**	0.464	-0.113	-1.598***
	(0.478)	(0.428)	(0.229)	(0.529)
FINLAND	0.516 *	0.483	….	-0.390
	(0.291)	(0.370)		(0.350)
PL	….	….	0.406	….
			(0.253)	
VR	0.014	0.010	….	-0.012
	(0.010)	(0.009)		(0.009)
Number of correct observations	64	64	61	63
Percentage of correct predictions (total)	56.3	54.7	47.5	46.0

Table 12. Results of motivation factor regressions, 1998.

	MKTENTR ***	MKTGR***	COSTS***	POLSTAB ***
Constant	0.661	-0.150	1.704 ***	1.659 ***
	(0.903)	(1.011)	(0.677)	(0.566)
EXTO	-0.017 ***	-0.016 ***	0.016 ***	0.005
	(0.006)	(0.007)	(0.005)	0.005
UTRAN	0.074	0.242	-0.145	0.090
	(0.240)	(0.209)	(0.201)	(0.169)
WHRET	0.759	1.370	-1.179 ***	0.094
	(0.480)	(0.697)	(0.413)	(0.485)
SERV	0.941	.369	-0.331	0.503
	(0.693)	(0.595)	(0.564)	(0.662)
ACQ	….	….	0.233	-0.390
			(0.382)	(0.385)
GRN	0.306	-.117	….	….
	(0.389)	(0.411)		
JV	0.925 **	-0.072	-0.457	-0.622
	(0.442)	(0.452)	(0.390)	(0.430)
FINLAND	….	1.082 **	….	….
		(0.456)		
PL	0.520	1.005 **	….	….
	(0.498)	(0.498)		
YRINV	….	.178*	….	….
		(0.103)		
Number of observations	60	60	62	62
Percentage of correct predictions (total)	50	51.7	48.4	53.2

Table 13. Results of problem factor regressions, 1997.

	LABQUAL	WKPERM**	VAT **	CUSTOM	PFIN **	CORRUP
Constant	2.368 ***	0.786	2.680 ***	1.322	1.218 ***	0.262
	(0.790)	(0.681)	(0.995)	(0.382)	(0.377)	(0.770)
EXTO	-0.008 *	-0.003	0.010 *	-0.0004	-0.003	0.001
	(0.005)	(0.005)	(0.005)	0.005	(0.004)	(0.004)
LNWK	….	-0.146	….	….	….	….
		(0.1325)				
LNSK	….	….	-.183 *	….	….	0.1160
			(0.102)			(0.094)
UTRAN	.146	1.445 *	1.093	.470	.119	0.123
	(0.577)	(0.759)	(0.781)	(0.537)	(0.972)	(0.670)
WHRET	0.015	.598	.904 *	-.182	-.282	-0.130
	(0.485)	(0.474)	(0.471)	(0.520)	(0.355)	(0.400)
SERV	-.140	1.600 **	.345	0.277	.550	0.793
	(0.634)	(0.692)	(0.700)	(0.633)	(0.474)	(0.634)
ACQ	….	.496	-.465-	-0.099	-0.099	0.278
		(0.525)	(0.555)	(0.417)	(0.405)	(0.477)
GRN	0.088	….	….	….	….	….
	(0.5409)					
JV	-.117	0.305	0.325	.304	-0.458	-.424
	(0.524)	(0.439)	(0.450)	(0.396)	(0.374)	(0.426)
FINLAND	-.547	….	….	….	….	….
	(0.393)					
FORWK	….	0.016	….	….	….	….
		(0.071)				
Number of obser-vations	63	54	59	62	59	61
Percentage of cor-rect predictions (total)	63.5	57.4	66.1	64.5	55.9	65.6

Table 14. Results of problem factor regressions, 1998.

	LABQUAL***	WKPERM *	VAT *	CUSTOM **	PFIN ***	BUR	CORRUP
Constant	5.227 (1.709)	-0.701 (0.894)	-0.022 (1.114)	1.083 ** (0.477)	0.450 (0.582)	1.876 ** (0.895)	1.174 (1.003)
EXTO	-0.004 (0.006)	-0.006 (0.007)	0.001 (0.005)	0.013 ** (0.006)	0.001 (0.006)	0.002 (0.006)	0.010 * (0.006)
LNSK	-0.191 (0.177)	….	0.180 (0.145)	….	….	….	.123 (0.110)
UTRAN	-0.703 (1.293)	.101 (1.195)	-0.183 (1.065)	1.418 * (0.793)	-0.331 (0.700)	….	….
WHRET	-0.614 (0.608)	-.670 (0.646)	0.246 (0.429)	0.607 (0.692)	0.132 (0.507)	-0.402 (0.917)	-.552 (0.786)
SERV	-2.704 *** (1.018)	-1.387 ** (0.740)	-.6001 (0.630)	0.066 (0.488)	-0.132 (0.576)	-0.118 (0.706)	-.818 (0.792)
MANUF	….	….		….	….	0.156 (0.699)	-0.029 (0.709)
ACQ	….	0.426 (0.439)	-.356 (0.689)	-0.554 (0.739)	1.167 *** (0.455)	0.196 (0.469)	-.577 (0.413)
GRN	-0.865 (0.682)	….	….	….	….	….	….
JV	-0.739 (0.540)	0.175 (0.412)	-1.158*** (0.455)	0.263 (0.474)	1.337 *** (0.385)	0.534 (0.455)	.100 (0.434)
VR	….	0.018 ** (0.008)	….	….	….	….	….
FINLAND	-0.525 (0.465)	….	….	….	-0.692 (0.442)	-0.576 (0.474)	-.518 (0.446)
FORWK	….	0.032 (0.044)	….	….	….	….	….
Number of observations	59	59	60	60	56	60	59
Percentage of correct predictions (total)	74.6	50.8	65	78.3	64.3	70.0	55.9

Appendix

Appendix 1.
List of variables used in the paper.

Explanatory variables:
EXTO – exports as a percentage of turnover (gross)
LNWK97 – natural log of the workforce
LNSK98 – natural log of share capital
UTRAN – dummy indicating whether the firm is in the utilities, telecommunications,
or transportation industries
WHRET – dummy indicating whether the firm engages in wholesale and/ or retail activities
SERV – dummy indicating whether the firm is in the service sector
MANUF – dummy indicating whether the firm is a manufacturer
ACQ – dummy indicating whether the firm made an investment into Estonia
through an acquisition of an existing company
GRN – dummy indicating whether the firm made a greenfield investment into Estonia
JV – dummy indicating whether the firm entered as a joint venture with an Estonian firm
VR97 – foreign voting rights = foreign share % as of 12/31
FINLAND – dummy indicating whether the investor is from Finland
PL – dummy indicating whether the investor had links to Estonia prior to investing
YRINV – number of years invested in Estonia (1999-year of investment)
RSRCE – dummy indicating whether the firm depends on a natural resource
(primarily wood products)
FORWKR – number of home country workers working at the host country firm

Investment motivation factors:
MKTENTR – entry to a new market
MKTGR – potential for market growth
POLSTAB – political stability
COSTS – costs of production

Problem factors
VAT – VAT payment and rebate processes
WKPERM – work and residence permits
LABQUAL – quality of the labour force
CORRUP – corruption
BUR – bureaucracy
CUSTOM – customs procedures
PFIN – obtaining project financing

Appendix 2.

Marginal effects

Regression	Variable	Evaluation choice				
		1	2	3	4	5
MKTENTR 97	EXTO	0.0004	0.0007	0.0019	0.0009	-0.0039
	JV	-0.0471	-0.0679	-0.1550	-0.0503	0.3203
	FINLAND	-0.0267	-0.0367	-0.0905	-0.0200	0.1769
MKTGR 97	EXTO	0.0003	0.0011	0.0023	-0.0011	-0.0026
	UTRAN	-0.0686	-0.0708	-0.0064	0.1304	0.0154
	SERV	-0.0380	-0.1128	-0.1965	0.1323	0.2149
COSTS 97	EXTO	-0.0019	-0.0035	-0.0022	0.0017	0.0059
POLSTAB 97	LNWK	0.0029	0.0362	0.0472	-0.0613	-0.025
	UTRAN	-0.0012	0.0012	0.778E-05	0.150E-07	0.578E-12
	JV	0.0226	-0.0222	-0.0004	-0.219E-05	-0.327E-09
MKTENTR 98	EXTO	0.0024	0.0023	0.0015	-0.0001	-0.0061
	JV	-0.2473	-0.0963	-0.0057	0.1061	0.2432
MKTGR 98	EXTO	0.0005	0.0017	0.0027	-0.0011	-0.0038
	FINLAND	-0.0224	-0.0868	-0.1538	-0.0448	0.3078
	PL	-0.3540	0.1500	0.1109	0.0898	0.0034
	YRINV	-0.0052	-0.019	-0.0294	0.0122	0.0414
COSTS 98	EXTO	-0.0019	-0.0035	-0.0004	0.0018	0.004
	WHRET	0.3973	-0.2285	-0.1419	-0.0196	-0.0072
LABQUAL 97	EXTO	0.0007	0.0025	-0.0032	n/a	n/a
WKPERM 97	UTRAN	-0.4562	0.1196	0.3366	n/a	n/a
	SERV	-0.4773	0.0777	0.3996	n/a	n/a
VAT 97	EXTO	-0.0007	-0.0031	0.0038	n/a	n/a
	LNSK	0.0132	0.0559	-0.0690	n/a	n/a
	WHRET	-0.2994	0.2897	0.0097	n/a	n/a
LABQUAL 98	SERV	0.0023	-0.0023	-0.66E-08	n/a	n/a
WKPERM 98	SERV	0.4164	0.0624	-0.4788	n/a	n/a
	VR	-0.0064	0.0005	0.0059	n/a	n/a
VAT 98	JV	0.2952	-0.0114	-0.2839	n/a	n/a
CUSTOM 98	EXTO	0.0017	0.0018	-0.0035	n/a	n/a
	UTRAN	-0.2757	0.1029	0.1728	n/a	n/a
PFIN 98	ACQ	-0.3329	0.0619	0.2709	n/a	n/a
	JV	-0.3668	0.0439	0.3230	n/a	n/a
CORRUP 98	EXTO	0.0017	0.0018	-0.0035	n/a	n/a

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