TI 2002-038/2
Tinbergen Institute Discussion Paper

Why don't we see more Small- and Medium-sized Enterprises (SMEs) in Lithuania?

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Why don't we see more Small- and Medium-sized Enterprises (SMEs) in Lithuania?

Institutional impediments to SME development

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Abstract

This paper identifies the specific external barriers to SME development in Lithuania. An analysis of 332 SME owners reveals that formal barriers (taxes, frequent changes to and ambiguity of tax policies) and environmental barriers (low purchasing power, lack of funds for business investment) form the most significant barriers for SME businesses. Informal barriers (late payment to clients, corruption, government interference) were secondary in significance. By grouping together variables according to barrier types, and using regression analysis, the inter-linkages between barrier types becomes evident. Our results suggest that the effect of business barriers is intensified by corruption, lack of information and inadequate business skills.

Keywords: SMEs, business barriers, Lithuania, transition economics, institutional theory, entrepreneurship

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* I would like to thank Ada Ferrer-I-Carbonell, Mirjam van Praag and Michael Ellman for helpful comments on draft versions of this paper. Also, I would especially like to thank W.F. Sleegers for assistance with hierarchical clustering.

1. Introduction

Small- and medium-sized enterprise (SME) development is seen as a key to economic growth, innovations and market competition in most advanced western economies (Acs & Audretsch 2001; Acs 1998; Audretsch 1995; Acs & Audretsch 1990). In countries undergoing economic transition, the role of SMEs is of no lesser importance. Not only are SMEs important for the role they play in sustaining the ideology of the free market, SME's are also a crucial source of innovative potential and job creation possibilities (Bartlett 2001; Scase 2000; Benini 1997; Marot 1997; Smallbone & Piasecki 1995; Johnson & Loveman 1995). Many transition countries today continue to wrestle with persistently high unemployment rates even after being on the 'transition' path for over a decade. Lithuania, is an example. Unemployment rates have remained high in Lithuania. By the end of 2000, unemployment rates as measured by the labor exchange data had risen to 12.6 percent (UNECE 2001:259). A strong SME sector in Lithuania could provide further employment opportunities and contribute to economic growth and the development of a competitive market system.

Surprisingly little research has been done on SME development in Lithuania and this paper hopes to fill this knowledge gap. The objectives of this paper are twofold: firstly, we hope to identify the main external barriers encountered by SME owners in Lithuania. Secondly, we hope to uncover the relationship between barriers encountered and the business and personal characteristics of the SME owner. Analysis of the descriptive statistics of survey (Litsme) responses reveals that formal barriers (high level of taxes, frequent changes to and ambiguity of tax policies) and environmental barriers (low purchasing power, lack of funds for business investment) form the most significant barriers for SME businesses. Informal barriers (late payment to clients, corruption, government interference) were secondary in significance. Regression analysis of barrier groups show evidence of the influence of corruption, implementation of business regulations, number of tax inspections and lack of information on those affected by formal barriers. Though we find no differences between the responses of SME owners due to business size, sector and age, we do identity certain SME owners are more prone to specific barriers than others in terms of business location, ownership and if they started their businesses from scratch. Our overall findings suggest that it is the combination of formal, informal, environmental and skill barriers that continue to interfere with SME development in Lithuania. In addition, businesses with higher business turnover were significantly more affected by the ambiguity of tax policy, management problems, late payment from clients and competition from illegal businesses than business with lower turnover. Businesses with lower turnovers were more affected by tax inspector corruption, Mafia and racketeering, lack of information and lack of funds for business investments.

The structure of this paper is as follows. The second section provides background information with regards to SMEs in transition countries and presents our hypotheses. Section three gives a description of the theoretical concepts to be used for the analysis of institutional barriers for SME owners. Section four describes the Litsme survey data collection methods and survey characteristics. Section five presents the most significant barriers encountered by all SME owners. Section six presents the regression methods used and section seven presents our regression results. A discussion of the results is provided in section eight. The paper ends with a conclusion and policy recommendations in section nine.

2. Background

In Lithuania, as in many other transition countries, private enterprise mushroomed during the initial transition period in the early 1990's. However, as table 1 shows, since 1994 the number of newly registered private enterprises has been decreasing with a dramatic decline occurring in 1995.

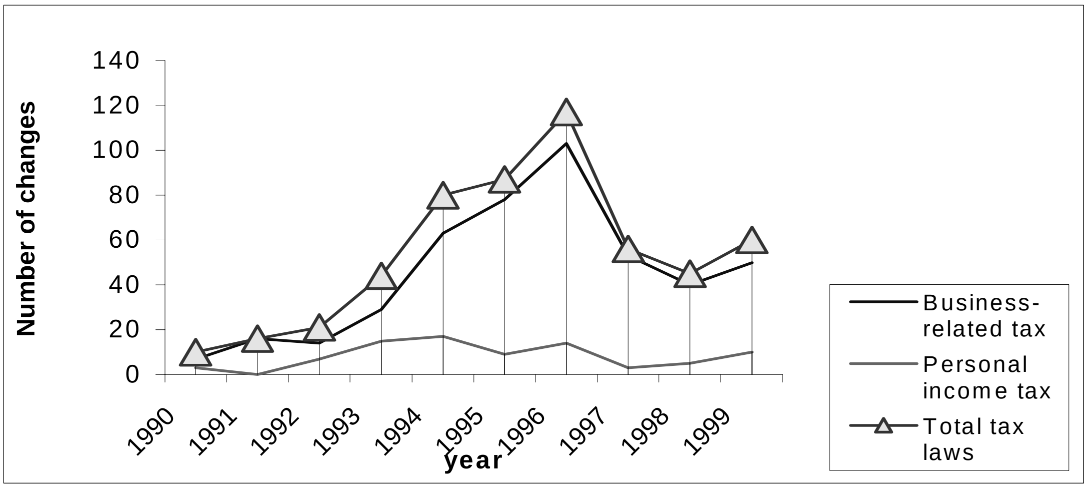
Table 1: Number of newly created private enterprises by year of registration

Year	1990	1991	1992	1993	1994	1995	1996
Number of new private enterprises	1,485	1,364	1,542	1,526	1,647	517	1,500

(Source: World Bank 1998:201)

There are a number of explanations for this change both in terms of the micro- and macro- level conditions. The combination of increasing regulations (in the form of requirements, taxation, etc.) coupled with decreasing business opportunities (due to increasing competition[1]) seem to have resulted in decreasing numbers of private enterprise creation[2]. Transition to a market-based economy in Lithuania thus far has been characterized by two distinct periods: from 1990 to 1994 which is characterized by transition chaos and a general lack of a regulatory framework and the period after 1994 which is characterized by increasing macroeconomic stabilization but also over regulation. In Lithuania as in other transition countries, the external environment has a profound effect in shaping entrepreneurial development. Figure 1 below provides an indication of the frequency of changes that have taken place to tax laws in Lithuania.

Figure 1: The number of legislative changes to Lithuanian tax laws (new and alterations)



Based on author's calculations from the Republic of Lithuania's Regulatory Codes Index[3] 1990 – 1999.

Not all transition countries are the same and in recent years there has been a distinction made between the countries on transition's 'fast track' especially in Central Europe such as Poland, Hungary, Slovenia and countries that have stagnated along the transition track especially former Soviet Union countries such as Turkmenistan, the Ukraine and Belarus. Not withstanding these differences, a number of similarities remain. Though each transition country is different, the development of SMEs in transition countries shares a number of similarities. Even though high tax rates seem to plague entrepreneurs the world over (Fazey 1997:151), frequent changes to tax policies is a particularly important barrier for private business owners in transition countries (Smallbone & Welter 2001b: 259). Further, the extremely hostile and unstable macro economic environment led to declining disposable incomes in the early transition years and continually high unemployment rates in many transition countries greatly reduced the purchasing power of the general population and consequently decreased private business income. This situation has been exacerbated by micro economic barriers such as lack of financing and generally poor business infrastructure (Smallbone & Piasecki 1995). In addition, even though the collapse of the Soviet Union resulted in the emergence of many new independent countries, most ruling elites remained in power, in many cases simply changing their title (Roberts & Tholen 1998). This has arguably resulted in the retention of many informal customs such as corruption, bribing and the 'blat' system[4] for getting things accomplished. This acts as a constraint, since corruption at the governmental level restricts the development of 'productive' entrepreneurs (Smallbone & Welter 2001b: 259). A number of studies point to the important role that government plays in either enabling or constraining the entrepreneurial process in transition countries (Smallbone & Welter 2001b; Bartlett 2001:198; Dallago 1997:106; Frye & Schleifer 1997). Finally, most transition countries in general and Lithuania in particular, lack a recent 'productive' entrepreneurial tradition[5].

A number of empirical and comparative studies have raised specific issues that characterize entrepreneurs in transition countries. Recently, Smallbone & Welter (2001b) illustrated the 'distinctiveness of entrepreneurs in transition countries' by using data on private businesses in Moldova, the Ukraine and Belarus. They stress the importance of networks and informal connections for facilitating business activities and find that private businesses in transition countries must contend with governmental interference on a large scale. In general, and taking into account that there is considerable variation between countries, the characteristics of private businesses in transition countries are not necessarily different than in mature market economies; yet they are unique because they tend to take on extreme proportions (ibid.). In Albania both the tax, legislative and regulatory environment (Hashi 2001) and unfair competition spurned by the large informal economy (Muent et al. 2001) are major obstacles to SME development. A study done by Pissarides et al. (2000) analyzed the objectives and constraints of SME owners in Russia and Bulgaria. They found that suppliers, financing problems, high level of interest rates, difficulties in getting land, office space and buildings and other production constraints were the top five constraints confronting SME owners and/or top managers (CEOs). An earlier study by Pissarides (1999) based on data collected by European Bank for Reconstruction and Development (EBRD) on SMEs in Hungary, the Czech and Slovak Federal Republic (CSFR), Poland and Russia identified the main obstacle to SME growth to be lack of financing. A study of small innovative businesses in Belarus by Slonimski (1999) also came up with a similar finding that financial problems formed the most acute problem for business owners. Finance was also found to be a highly significant barrier for SMEs in Albania (Hashi 2001). However, other studies have found finance to play a less crucial role for SMEs in Poland (Woodward 2001) and in the Kyrgyz republic (Anderson & Pomfret 2001).

A article by Bohata & Mladek (1999) based on a survey of 100 SME businesses in the Czech republic identified the following top five business barriers: registry courts, high taxes, access to credit, insufficient protection of ownership rights in a broad sense (enforcement of law, criminality, corruption), and lack of qualified workers and managers. Roberts & Zhou (2000) and Roberts & Tholen (1998) compare new private enterprises in three transitional contexts: Central Europe (Hungary, Poland and Slovakia), the former Soviet Union (Armenia, Georgia and Ukraine) and Asia (China). They find a number of similarities between business owners such as primitive business methods, the importance of private assistance and the diverse social origins of business owners. In addition, they identify a number of differences such as types of businesses started, state-business relationships, and the importance of second economies and unofficial payments. Their study also points out the importance of informal networks for private businesses in transition countries and highlights the fact that the majority of private businesses are male-owned. Glas et al. (2000) found that the most important problems faced by new entrepreneurs in Slovenia and Croatia is the lack of critical base of entrepreneurial spirit, unsupportive government regulations, weak financial support and an increasing gray economy. A more recent study conducted in Slovenia by Bartlett and Bukvic (2001) show that financial and institutional problems such as bureaucracy rather than internal organizational problems or problems with the provision of ‘real services’ are the most pressing problems for Slovenian SMEs. Obstacles to business growth included late payment of bills by customers and large taxes on labor.

An extensive study of private businesses in Lithuania conducted on a annual basis by the Statistical Department in Lithuania shows that there are a number of barriers for private business development in Lithuania (Jancauskas 2000). The most important barrier identified in the 1999 study was low purchasing power followed by lack of working capital and official bureaucracy. Further, when the responses are compared for 1997 and 1999, there is a negative trend in the evaluation of both business legislation and the tax system (ibid.).

In general, previous studies of SMEs in transition countries have identified a multitude of barriers affecting SME development. The most important barriers seem to be formal (tax, laws and regulations), lack of finance and informal barriers such as implementation of regulations and corruption. Skill based barriers seem to play a less crucial role. In our analysis, we are interested not only in the individual barriers encountered by SME owners but we are also interested if they are inter-related. As a result, we formulate the following four hypotheses:

Hypothesis 1: Formal barriers such as taxes and business legislation are going to present the greatest barrier to business development in Lithuania. Frequency of changes to tax policies will be especially significant.

Hypothesis 2: The legacy of informal codes of conduct, norms and values supporting corrupt behaviors developed under a centrally planned economic system continue to inform present day interactions. As a result, these types of barriers will be found to form significant barriers for existing SME owners in the transition context.

Hypothesis 3: The environment has drastically changed under economic transition. Environmental barriers include factors such as lack of funds, lack of information and low purchasing power (Smallbone & Welter 2001b). Their effect should be significant to all SME owners but especially for SME owners who started before or in 1994[6].

Hypothesis 4: The lack of a private sector and entrepreneurial tradition in many transitional countries in general and in Lithuania in particular results in lack of business-related skill development among SME owners. Therefore lack of skills should form a significant barrier for existing SME owners. This however assumes that SME owners are aware of their shortcomings, it may also be the case that SME owners may be completely unaware or as Kirzner has called it 'utterly ignorant'[7] of their shortcomings.

Our analysis combines a variety of methods. First we review the descriptive statistics in order to assess the isolated effect of different barriers on SME owners. Next, by using hierarchical clustering, we create new group variables for formal, informal, environmental and skills barriers and by using regression models, we test for the inter-related effect of these groups with other barriers and for the effect of the business and personal characteristics of SME owners. In addition, all our regression models test for the effect of sex and the transition effect (businesses started before or after 1991). Finally, we also run separate regression to test for the effects of business turnover on how SME owners experience different business barriers.

3. Institutional theory

The work of D. North has been illuminating in its identification of different institutional influences to economic development (1990, 1997). North makes a distinction between formal and informal institutions on economic performance. Put simply, formal institutions are the 'rules of the game' such as constitutional law which can be altered quickly to adapt to changing economic circumstances. In contrast, informal institutions are made up of norms, values, acceptable behaviors and codes of conduct (i.e. culture). Institutions are created mainly to reduce transaction costs and to facilitate exchange (Williamson 1985; North 1990, 1997; Feige 1997; Yeager 1998; World Bank 2002).

However, reducing transaction costs does not necessarily result in increasing efficiency. Many institutions are maintained even though they are inefficient (DiMaggio & Powell 1983). Path dependence and ‘lock-in’ situations are two processes that result in less than efficient outcomes (North 1990). In general, North notes that there is a tendency for informal institutions to change more slowly and at times they can exhibit a counterproductive force to formal changes in the economic system. North has identified the often-conflictual role between formal and informal institutions in both the historical perspective (1990) and in the transition economies (1997). Within North’s framework, organizations such as firms will adapt their activities and strategies due to the opportunities and limitations in the formal and informal institutions. According to North, entrepreneurs are the main agents of change (ibid.).

For the purpose of our study, we operationalized North's classification of institutional factors displayed in table 2 by using the following approach: Those variables related directly to government policy and actions such as written laws and changes to laws were classified as formal barriers. Informal barriers were those linked to human and social behaviors that were strongly influenced by the former Soviet mentality and way of ‘getting things done’. As can be expected, many of these factors are related to differing levels of corruption, interference and criminal behavior. In addition to the formal and informal barriers, we expanded our analysis to include environmental and skill factors. Many environmental factors are linked to governmental policy but more generally illustrate the overwhelming impact of transition that has fundamentally changed the entire 'playing field' for business activities. These factors include variables ranging from ‘low purchasing power’ to ‘competition from illegal businesses’. Finally, the transition process has brought great demands on the individual skills of SME owners and we focus our attention on two of these factors: 'management problems' and the 'inability to grow into new markets'.

Table 2: Types of Barriers

Formal	Informal	Environmental	Skills
1. Taxes too high	1. Implementation of business regulations	1. Low purchasing power	1. Management problems
2. Business legislation	2. Too many tax inspections	2. Lack of information	2. Inability to grow into new markets
3. Frequent changes to tax policies	3. Tax inspector corruption	3. Lack of funds for business investments	
4. Ambiguity of tax policies	4. Government corruption - National level	4. Competition from legal businesses	
	5. Government corruption - Regional level	5. Competition from illegal businesses	
	6. Late payment by clients		
	7. Time spent negotiating with local officials and inspectors		
	8. Mafia, racketeering		

4. Litsme Survey

Due to the lack of available and reliable data on SME owners in Lithuania, we collected our own survey data (Litsme survey) from September - December 2000. Lithuanian language questionnaires were sent out to private business owners throughout Lithuania, most of whom were members of an entrepreneurship organisation. The response rate was fifty percent. A total of 1011 valid questionnaires were sent out and 505 completed questionnaires were returned. The Litsme survey was not based on a random sample and most addresses were obtained through the membership lists of various entrepreneurship organisations in Lithuania. This may have resulted in a bias for businesses that are older and have higher turnovers than the average SME business in Lithuania. Of the 505 respondents, 332 were SME business owners. A SME business owner met the following criteria: they had their own business, it was still in operation, they had less than 50 employees and their main business activities were not in the agriculture sector. The remaining 173 other respondents were for the most part either employed by private businesses or had their own businesses which did not fit the SME criteria described above.

The Litsme survey contained a total of fifty questions regarding business and personal characteristics. In addition to other issues, the respondents were asked to identify the main 'perceived' barriers that they encounter in their business operations from a list of nineteen variables. The respondents were given six options according to a Likert scale: 'completely agree', 'agree', 'neither agree nor disagree', 'disagree', 'completely disagree' or 'not applicable' (Babbie 1998: 183-4) (see appendix 1).

The subjective responses of SME owners with regards to the barriers they encounter provides us with insights as to the actual barriers these individuals encounter. It is a valuable technique for understanding the issues that may be constraining SME development and growth. However as with most surveys, the Litsme survey has its limitations. First of all, it was a static study, and so captures at best 'certain aspects of reality at a moment in time' (Johnson & Loveman 1995:107). This may have resulted in the exclusion of high-growth businesses (i.e. gazelles) from our sample. It is also possible that a percentage of respondents did not mark their true opinion when filling in the questionnaire. However, we assume this percentage is small and does not affect the overall results.

Table 3: General characteristics of SME respondents
(Total number of responses given in parenthesis)

Characteristic	**Category**	**Percent**
Sex (n = 332)	Male	73
	Female	27
Education (n = 332)	University or equivalent	69
	Other	31
Sector (n = 332)	Trade	42
	Other services	30
	Manufacturing	22
	Other	6
Turnover 1999 (n = 321)	Up to 500 000 Lt	46
	More than 500 000 Lt	54
Location (n = 329)	Big city	56
	Medium city	17
	Small city	27
Characteristic	**Mean**	**SD**
Number of employees (n = 332)	13.10	13.00
Years in business (n = 326)	6.22	4.18

As table 3 shows, approximately three-fourths of the SME respondents were male. This percentage corresponds fairly well with the overall percentage of male business owners and managers in Lithuania estimated to be 66 percent in 1999 (Lithuanian Department of Statistics 2000). The vast majority of the SME respondents were highly educated, which is also a characteristic observed in other transition economies (Smallbone & Welter 2001b). More than forty percent of the SME respondents were engaged in either retail or wholesale trade and thirty percent were engaged in either personal or business services. There was a roughly even division of SMEs that recorded a yearly turnover of less than 500 000 Lt (approximately $125 000 USD) in 1999 to those that recorded more than 500 000 Lt turnover in 1999. The majority of SME respondents were located in one of the three major cities in Lithuania (Vilnius, Kaunas, Klaipeda). A lower percentage was located in small cities or rural areas and the lowest percentage were from medium-sized cities (Panevezys, Siauliai, and Alytus). The average number of employees per SME was thirteen employees and the average number of years that an SME was in business was six years.

Supplemental information was obtained from twenty-one qualitative interviews that were conducted with SME business owners (n= 8), representatives from entrepreneurial organizations and similar institutions (n = 8), governmental officials (n = 3), and local experts (n = 2). The qualitative interviews took the form of a conversation in which the interviewer ’directed’ the conversation and pursued specific topics raised by the respondent (Babbie 1998:290).

5. SME Business Barriers

In table 4, we differentiate between the most significant and significant barriers. Those factors shown in capital letters are considered *the most significant* ‘perceived barriers’ since fifty or more percent of SME respondents ‘completely agreed’ that they form the main barriers to their businesses. The factors are shown in bold, italic letters are considered *significant* barriers according to the combined agree category since the percentage of SME respondents that either ‘completely agreed’ or ‘agreed’ was fifty or more percent of the total number of responses (see appendix 2 for percentages).

Five barriers were found to be *the most significant*. These five variables included three formal barriers: ‘taxes are too high’, ‘frequent changes to tax policies’ and ‘ambiguity of tax policies’; and two environmental barriers: ‘low purchasing power’ and ‘lack of funds for business investments’. The highest percentage (71 percent) of the ‘completely agree’ responses was given to ‘frequent changes to tax policies’[8]. In the combined ‘agree’ category, nine variables were identified as *significant*. Most of these variables were informal barriers but there was also one formal barrier, one skills barrier and two environmental barriers that were significant. Only five variables were not seen as barriers by the majority of the respondents. Two of these were informal barriers: ‘tax inspector corruption’ and ‘Mafia, racketeering’, two environmental barriers: ‘lack of information’ and ‘competition from legal businesses’ and one skills barrier: ‘management problems’.

Table 4: Barriers identified by SME owners in percentages
(Total number of responses given in parenthesis)

Formal Barriers	CA	A	N/N	D	CD	N/A
TAXES TOO HIGH (n = 322)	**64**	5	10	0.6	0	0.6
FREQUENT CHANGES TO TAX POLICIES (n = 319)	**71**	23	5	0.6	0	0.3
AMBIGUITY OF TAX POLICIES (n = 315)	**56**	32	10	1	0.3	0.3
Business Legislation (n = 295)	***36***	***36***	19	4	1	4
Informal Barriers	CA	A	N/N	D	CD	N/A
Implementation of business regulations (n = 300)	***26***	***34***	30	6	2	2
Too many tax inspections (n = 314)	***48***	***23***	24	3	1	1
Governmental corruption –National level (n = 316)	***48***	***29***	19	2	1	1
Governmental corruption –Regional level (n = 307)	***33***	***27***	30	5	2	3
Time spent negotiating with local officials and inspectors (n = 311)	***45***	***26***	21	6	1	1
Late payment by clients (n = 314)	***41***	***32***	15	7	2	3
Tax inspector corruption (n = 311)	25	16	45	8	3	3
Mafia, racketeering (n = 305)	6	11	36	32	11	4
Environmental Barriers	CA	A	N/N	D	CD	N/A
LOW PURCHASING POWER (n = 320)	**58**	33	7	1	0.3	0.9
LACK OF FUNDS FOR BUS. INVESTMENTS (n = 318)	**53**	32	11	3	0	1
Competition from illegal businesses (n = 306)	***32***	***24***	27	12	4	2
Lack of information (n = 313)	10	31	29	22	7	1
Competition from legal businesses (n = 304)	15	31	28	18	7	1
Skill Barriers	CA	A	N/N	D	CD	N/A
Inability to grow into new markets (n = 312)	***24***	***39***	24	10	2	1
Management problems (n = 309)	8	27	40	18	5	2

Key: CA = Completely agree ; A = Agree ; N/N = Neither agree nor disagree; D = Disagree; CD = Completely disagree ; N/A = Not applicable
In capital letters: More than 50% 'completely agree'
In bold italic letters: More than 50% combined 'completely agree' and 'agree' category

These results provide support for our first hypothesis that formal barriers will be significant for SME owners and that frequent changes to tax policies will be especially significant. Also they indicate that environmental and informal barriers are also significant barriers for SME owners providing support for our second and third hypothesis. However, our descriptive statistics provide mixed evidence for the support of our fourth hypothesis regarding the significance of skills barriers. The effect of transition as measured by business start-up years (before or after 1994) will be analyzed in the next section.

6. Regression Analysis: Method and Results

In order to analyze the relationship between barrier groups and other independent variables, we used a combination of methods including hierarchical clustering, logit, multinomial logit and ordered probit regression models. We used Ward's grouping method and formed hierarchical clusters using SPSS[9] to form new variable groups. The resulting four variables are distinguish between SME owners affected by formal, informal, environmental and skills barriers as a whole.

6.1 Hierarchical clustering

Hierarchical cluster analysis is a procedure that attempts to identify relatively homogenous groups of individual cases based on selected characteristics, using an algorithm that starts with each case in a separate cluster and combines clusters until only one case is left (SPSS 1999). Since we are interested in dividing groups of SME owners into those affected by barrier groups and those not affected by barrier groups, we choose to construct a limited number of new groups with distinct group characteristics. For two of our barrier groups (formal and skill barriers) we were able to create two new variables: those affected and those not affected by the particular barrier variables. But for our other two barrier groups (informal and environmental barriers) we needed to create three groupings before we obtained a clear distinction between SME owners affected by the barrier groups and those not affected by the barrier groups.

After analyzing the resulting groups formed, we distinguished categories that contained individuals most affected by the barrier group (shown in bold), those least affected by the barrier group and in some cases, those individuals partially affected by the barrier group as shown in table 6. Variable columns marked by an 'X' indicate SME owners that 'did not disagree' that these variables were a barrier to their business. In most cases[10] the majority of SME owners completely agreed that this variable was a barrier to their business. For formal and skill barriers, our newly formed barrier group represented all the possible variables, however this was not the case for informal and environmental barriers. In these cases, we miss three variables for informal barriers and one variable for environmental barriers in our barrier 'affected' groups.

Table 6: Ward's grouping of Barrier types

Formal Barriers (n = 277)	Group 1: No pattern to responses (n = 163)	**Group 2**: Affected by all formal barriers (n = 114)	
Taxes too high	-	**X**	
Frequent changes to tax policies	-	**X**	
Ambiguity of tax policies	-	**X**	
Business Legislation	-	**X**	
Informal Barriers (n = 253)	Group 1: No pattern to responses (n = 137)	**Group 2:** Affected by corruption at all levels (n = 37)	Group 3: Affected by corruption and late payment by clients (n = 79)
Implementation of Business Regulations	-	**-**	-
Too many tax inspections	-	**X**	-
Governmental corruption –National level	-	**X**	X
Governmental corruption –Regional level	-	**X**	-
Time spent negotiating with local officials and inspectors	-	**X**	X
Late payment by clients	-	**-**	X
Tax inspector corruption	-	**X**	X
Mafia, racketeering	-	**-**	-
Environmental Barriers (n = 277)	Group 1: Low purchasing power only (n = 120)	Group 2: No pattern to responses (n = 108)	**Group 3:** Affected by environmental barriers (n = 49)
Low purchasing power	X	-	**X**
Lack of funds for business investment	-	-	**X**
Competition from illegal businesses	-	-	**X**
Lack of information	-	-	**-**
Competition from legal businesses	-	-	**X**
Skill Barriers (n = 293)	Group 1: No pattern to responses (n = 193)	**Group 2:** Affected by skills barriers (n = 100)	
Inability to grow into new markets	-	**X**	
Management problems	-	**X**	

X = SME owners do not disagree that this variable is a barrier to their business.

6.2 Regression Models and Results

Most of the independent explanatory variables used for our regressions models were dummy variables. Dummy variables were also created for barrier variables in order to test their inter-relatedness with the dependent variable. Further description of the dependent variables and the models used are presented in section 6.2.1 – 6.2.4. A table of the independent explanatory variables used is provided in the appendix 3.

We have chosen to use both personal, business and individual barrier variables as independent explanatory variables. Explanatory variables were chosen based on theory, intuition and significance. Business-related variables included whether an SME owner owns their business, whether the business is home-based, whether the business owner under-reports their business earnings, whether the business was started from scratch, a business's turnover, sector, size and location. We expect SME owners who own their businesses and businesses started from scratch to be more likely to be affected by formal barriers whereas home-based businesses are likely to be affected less by formal barriers. A study by Johnson et al. (2000) has found that hiding output amongst businesses is significantly associated with high bureaucratic corruption. Given this result we would expect SME owners who under-report their earnings to be significantly more affected by informal barriers. Business turnover in general should affect an SME owner's perception of barriers. We would expect businesses with lower turnovers to be more greatly affected by formal and informal barriers than businesses with higher turnovers because in all likelihood, businesses with higher turnovers have developed means such as informal networks to reduce the burden of formal and informal barriers. Different business sectors will probably be affected by different business barriers. A study of Lithuanian private businesses found that low purchasing power had a much greater effect on the service sector (especially restaurants and hotels) than on businesses in the manufacturing sector (Jancauskas 2000). Further businesses located in medium-sized or small cities were more highly affected by low purchasing power than businesses located in large cities (ibid.). Business size is also likely to influence the effect of business barriers. We expect that smaller businesses will be more affected by formal barriers since they have less resources (in terms of staff) to keep up with changing regulations. Finally, as already stated, we expect to find a significant transition effect. Businesses started before or in 1994 will probably be more greatly affected by formal and environmental barriers than businesses started after 1994.

In terms of personal characteristics, we include variables for sex, age, university education, business experience, previous management experience and business motivation- economic reasons. Numerous studies on SME owners have demonstrated that there are significant differences between male and female SME owners (Brush 1992). More limited access to financing through formal channels (OECD 1998; Brush 1992) or informal financial networks (Olm et al. 1998; Riding & Swift 1990) has been shown to pose a greater barrier for female business owners than for male business owners. We would expect SME owners who are university educated to be less affected by formal barriers due to their educational background. Further SME owners with previous business experience should have less difficulties given their experience. Similarly, we would expect SME owners with previous management experience to encounter less difficulties with management problems in their business. Age of the SME owner most likely will impact their perception of formal barriers, with older SME owners being more greatly affected by formal barriers because of their greater experience in the 'old system' than younger SME owners. By including the variable on business motivation (economic reasons) we differentiate between SME owners who started their business for economic reasons (needed money) which is a pull factor with the rest of our sample who were overwhelmingly motivated by the desire to have their own business, a push factor. We would expect SME owners who were 'pulled' into starting their own businesses due to economic reasons to be more greatly affected by all four barrier groups than the rest of our sample.

6.2.1 Formal barriers model

A logit regression model was used to explain the probability of SME owner's being affected by formal barriers. Since our hierarchical clustering resulted in two groups: those affected by formal barriers and those not affected by formal barriers we set the dependent variable to equal 0 for group 1 - those individuals who did not display a pattern to their responses and our dependent variable equalled 1 for group 2 - those individuals affected by formal barriers.

As our logit regression results show in table 8, a number of independent variables are significantly related to a SME owner's probability of being affected by all formal barriers. The probability of being affected by informal barriers such as the implementation of business regulations (implementation), too many tax inspections (tax inspections), and governmental national corruption (govt natl corr) is significantly related to the probability of being affected by the formal barrier group. We also note that individuals who agreed that 'lack of information' (information) -an environmental barrier presents a barrier had a higher probability of being affected by formal barriers than other groups. Further our results show that SME owners who do not own their business facilities (ownership) and those whose businesses are located in smaller cities or rural areas (small city) were found to be significantly more affected by formal barriers. Sex of the SME owner (sex) or the transition effect (bf 1994) were not significant in our model.

Table 8: Logit regression model - Formal Barriers

Dependent variable = 1 most affected by all formal barriers (n = 114)

Dependent variable = 0 no pattern to responses (n = 163)

Variables	Coefficient	Z score
Implementation	0.87	2.95***
Tax inspections	0.62	1.93*
Information	0.55	1.98**
Govt Natl corr	0.82	2.23**
Ownership	-0.71	-2.41**
Small city	0.70	2.31**
Bf 1994	0.28	0.80
Sex	0.29	0.94
Constant	-2.32	-4.62***

Pseudo R squared: 0.11

Based on robust standard errors

Probability values: *** = p value significant at the 1% test level, ** = 5% test level, * = 10% test level

6.2.2 Informal barriers model

A multinomial logit model was used to explain the probability of an SME owner being affected by informal barriers. Since the three new groups that were created through hierarchical clustering were not ordered. We selected group 1 to be the base category, since this category represented the SME owners who were the least affected by informal barriers as a whole. Chi squared values for the likelihood ratio test was used to determine an independent variable's contribution to the model. The relative risk ratio (RRR) was calculated to indicate the ratio of the relative risk for a one-unit change of the explanatory variable relative to the base category.

As our results show in table 9, a number of independent variables are significantly related to a SME owner's probability of being affected by the informal barrier group (group 2) or a more limited grouping of informal barriers (group 3). Group 2 results show that individuals affected by informal barriers are also affected by formal barriers such as 'taxes too high' (taxes); skills barriers such as 'management problems' (management) and environmental barriers such as 'competition from 'illegal businesses' (illegal comp) and 'lack of information' (information). Businesses with the following characteristics had a higher probability of being affected by informal barriers: home-based businesses (home), those with a lower rate of annual turnover for 1999 (turnover) and those that under-reported their business earnings (under-report). Older SME owners displayed a significantly higher probability of being affected by informal barriers than younger SME owners. For the more limited informal barrier group (group 3) the formal barriers: taxes too high (taxes) and the environmental barrier: competition from illegal businesses (illegal comp) are significant. Also SME owners with prior job-related business experience were significantly more affected by group 3 informal barriers than the sample as a whole. SME owner sex (sex) or the transition effect (bf 1994) were not found to be significant for either groups.

Table 9: Multinomial Logit Regression - Informal Barriers
(group 1 used as base category)
Group 2: Most affected by corruption at all levels (n = 37)

Variables	RRR	Z scores
Taxes	3.30	1.90*
Illegal comp	3.47	2.45**
Information	0.24	-2.70***
Management	2.89	2.20**
Business exp	0.50	-1.48
Age	1.83	2.22**
Home	6.25	2.72***
Under-report	3.66	2.69***
Turnover	0.57	-2.75***
Sex	1.19	0.31
Bf 1994	0.47	-1.18

Based on robust standard errors
RRR = relative risk ratios
Probability values: *** = p value significant at the 1% test level, ** = 5% test level, * = 10% test level

Group 3: Most affected by corruption but also late payment by clients (n = 79)

Variables	RRR	Z scores
Taxes	5.44	2.61***
Illegal comp	2.70	3.05***
Information	0.91	-0.26
Management	1.78	1.61
Business exp	0.36	-3.00***
Age	1.07	0.43
Home	0.90	-0.15
Under-report	1.04	0.14
Turnover	0.85	-1.23
Sex	1.39	0.83
Bf 1994	1.46	0.77

Based on robust standard errors
RRR = relative risk ratios
Probability values: *** = p value significant at the 1% test level, ** = 5% test level, * = 10% test level

6.2.3 Environmental barriers model

We also used a multinomial logit regression model in order to obtain the probability of an SME owner being affected by environmental barriers. We selected group 2 to be the base category, since this category represented the SME owners who were the least affected by environmental barriers as a whole. Chi squared values for the likelihood ratio test was used to determine an independent variable’s contribution to the model. The relative risk ratio (RRR) was calculated to indicate the ratio of the relative risk for a one-unit change of the explanatory variable relative to the base category.

As the results in table 10 show, the probability that a SME owner will be affected by environmental barriers (group 3) is significantly related to the probability that an individual will be affected by both skills barrier variables the ‘inability to grow into new markets’ (growth) and ‘management problems’ (management). In addition, the probability of being affected by environmental barriers is higher for businesses not started from scratch (scratch) and those SME owners running their businesses from their homes (home). Neither the sex of the SME owner (sex) nor the transition effect (bf 1994) were significant in this model.

Table 10: Multinomial Logit Regression - Environmental Barriers
(group 2 used as base category)

Group 3: Most affected by environmental barriers (n = 49)

Variables	RRR	Z scores
Growth	2.76	2.34**
Management	1.90	1.70*
Govt Natl corruption	1.62	0.87
Scratch	0.41	-1.87*
Home	3.13	2.15**
Own	0.78	-0.64
Sex	0.77	-0.62
Bf 1994	2.72	1.66*

Based on robust standard errors
RRR = relative risk ratios
Probability values: *** = p value significant at the 1% test level, ** = 5% test level, * = 10% test level

The results for group1 are given in appendix 4. They are not used further in our analysis since they do not provide explanatory value for environmental barriers as a group.

6.2.4 Skill barriers model

A logit regression was performed for skill barriers since our hierarchical clustering resulted in only two groups being formed: those affected by skill barriers and those not affected by skill barriers. We set dependent variable to equal 0 for group 1 - those individuals who did not display a pattern to their responses and our dependent variable equalled 1 for group 2 - those individuals affected by skill barriers. The resulting model was tested for goodness of model fit using the likelihood ratio Chi squared test.

As our results show in table 11, a number of independent variables are significantly related to a SME owner's probability of being affected by all skill barriers. The probability of being affected by skill barriers is significantly higher for those individuals affected by the informal barrier, Mafia and racketeering (Mafia) and by the environmental barrier, 'lack of information' (information). Those SME owners are affected by competition from legal businesses (legal comp) also displayed a higher probability of being affected by the skill barriers group. Further, SME owners affected by skills barriers have a higher probability of owning their business facilities (ownership). Sex of SME owner (sex) and the transition effect (bf 1994) were not significant in this model.

Table 11: Logit regression - Skill barriers
Dependent variable = 1 most affected by skills barriers (n = 100)
Dependent variable = 0 no pattern to responses (n = 193)

Variables	Coefficient	Z score
Mafia	0.99	2.74***
Legal comp	0.54	1.99**
Information	1.43	5.10***
Ownership	0.69	2.48**
Sex	0.00	0.00
Bf 1994	0.18	0.43
Constant	-2.30	-4.90***

Pseudo R squared: 0.13
Based on robust standard errors
Probability values: *** = p value significant at the 1% test level, ** = 5% test level, * = 10% test level

6.2.5 SME owner turnover

In order to test the influence of an SME's turnover on the effect of different business barriers, we used an ordered probit model. Turnover is measured by an ordered, categorical variable divided into five possibilities. Our scale for an annual turnover in 1999 ranged from 'up to 100 000 Lt (approximately $ 25 000 USD) to 'more than 5 000 000 Lt' (approximately $ 1 250 000 USD). Our results show that businesses with a higher turnover are more significantly affected by 'ambiguity of tax policies' (ambiguity tax pol), 'late payment of clients' (payment), 'competition from illegal businesses' (illegal comp) and 'management problems' (management). SME owners who reported a lower turnover were significantly affected by 'tax inspector corruption' (tax inspect corr), 'Mafia and racketeering' (Mafia), 'lack of information' (information) and 'lack of funds' (funds).

Table 13: Ordered Probit Model – Business Turnover

Variables	Coefficient	Z scores
Ambiguity tax pol	0.60	3.49***
Tax inspect corr	-0.28	-2.08**
Payment	0.44	3.53***
Mafia	-0.43	-2.31**
Information	-0.48	-3.74***
Funds	-0.33	-2.01**
Illegal comp	0.22	1.80*
Management	0.37	2.71***

Pseudo R squared: 0.05
Based on robust standard errors
Probability values: *** = p value significant at the 1% test level, ** = 5% test level, * = 10% test level

7. Discussion of Results

An analysis of descriptive statistics shows that formal and environmental factors form the main barriers for SME owners in Lithuania. Informal factors are secondary in importance. Skill factors are found to form the least important barrier. However, all four barriers were found to pose significant barriers for SME owners. As a result, we do not reject our four hypotheses. Our regression results revealed the importance of both 'lack of information' and 'management problems' in combination with the other barrier groups. According to the descriptive statistics, both 'lack of information' and 'management problems' were not significant for most SME owners. This result seemed incongruous with the opinion of many SME owners. In interviews, lack of information was frequently mentioned as a major barrier. However, our regression results showed that in combination with other barrier groups both information and management problems pose a significant barrier for SME owners. Differing levels of business turnover also result in different barrier effects. Businesses with higher business turnover were significantly more affected by the ambiguity of tax policy, management problems, late payment from clients and competition from illegal businesses than business with lower turnover. Businesses with lower turnovers were more affected by tax inspector corruption, Mafia and racketeering, lack of information and lack of funds for business investments.

In general, we found that our explanatory variables were less significant in our regression models than we expected them to be. We expected the dramatic changes that have taken place in the environment to have a significant impact on businesses started before or in 1994 as compared with those started after 1994. However our results do not indicate that this is the case. Also business size was not significant for increasing or decreasing the probability of SME owner's being affected by the four business barriers. In terms of personal characteristics, sex of SME owner, university education, previous work experience, previous management experience and business motivation – economic reasons were all not significant in any of our regression models.

Our results also indicate that a number of our independent variables were significant in our regression models. The probability of being affected by formal barriers was greater for SME owners located in smaller cities and rural areas and also for SME owner who did not own their business facilities. For ownership, we had expected the contrary to be true. The probability of being affected by informal barriers increased with SME owner's age, lower turnover and was greater for businesses that were home-based and for those that under-report their earnings. The significant association between under-reporting of business earnings and informal barriers supports the findings of Johnson et al. (2000). The probability of being affected by environmental barriers was greater for home-based businesses. Finally, businesses with a higher turnover and SME owners who owned their business facilities had a higher probability of being affected by skills barriers than the sample as a whole.

The most significant barriers chosen by the majority of respondents were related to formal and environmental variables. Given the 'transition' situation, these are the two areas that have changed the most in recent years. Though high taxes is not a sole characteristic of the transition environment, the instability of the legislative environment seems a specific characteristic of the transition environment (UNDP 1998; Benini 1997; Fazey 1997; Sweeney 1997). Therefore it is not surprising that the most significant of all perceived barriers identified by the SME owners was 'frequent changes to tax policies' and that 'ambiguity of tax policies' ranked closely behind. It seems that it is not just the types and amounts of taxes that need to be paid that form the biggest barrier to SME businesses, but the frequent and erratic manner in which tax policies are created and changed and their unclear interpretation in independent Lithuania.

The other significant changes that have taken place have been environmental ones. Purchasing power for most of the population has been declining in Lithuania throughout the 1990s. Besides the obvious influences such as extremely high inflation rates from 1991 to 1995, decreasing real earnings, declining total employment rates[11] and rising unemployment rates, there are several not so obvious influences. These include the initial effects of monetary overhang or forced savings that many Lithuanian citizens inherited as a legacy of the severe shortages of consumer goods under the Soviet system. In addition, the 1995 banking crisis and a number of fraudulent investment and savings schemes resulted in a loss of savings for many Lithuanians. One could say that at the beginning of the transition process, Lithuanians enjoyed an artificially high purchasing power influenced by forced savings and the low level of trust in the Soviet ruble or the interim currency which caused individuals to spend rather than save cash. In this sense, the variable 'lack of funds for business investments' could be related to 'low purchasing power'. Initially, many SME owners started their businesses using their own financial resources or were able to borrow money from family or friends. But as savings began to dry up and decrease in value, this funding source disappeared. Other sources of finance have been slow to emerge. As the responses in the questionnaire indicate, lack of funds is still one of the most significant barriers for SMEs. Most banks and lending institutions are not interested in providing funds to SMEs, others do provide loans but at exorbitantly high interest rates. SME financing has also been identified as an important barrier in other transition countries (Hashi 2001; Pissarides et al. 1999, 2000; Glas et al. 2000; Slonimski 1999; Smallbone & Piasecki 1995; Johnson & Loveman 1995).

Informal factors were identified by the majority of SMEs as significant barriers to their business operations. They seem to form the second level of barriers encountered by SME owners. This division of significance does not come by surprise if we recall North's categorization of institutional barriers. Informal barriers are slow to change and oftentimes norms and values that developed under one set of economic and social conditions will carry over even if the economic system is radically changed. Factors such as corruption and government interference are not new developments in Lithuania. They have simply been carried over from the old Soviet regime to the new independent market-oriented system. It is of little surprise that the SME owners would not choose 'informal barriers' as the most significant barriers, because they have learned to live under these corrupt and inefficient conditions. In that sense, 'the fish don't talk about the water'. Whereas corruption, bribe-taking and government regulations were a mainstay in the Soviet system, taxation policies (especially income and profit tax) did not 'visibly' exist[12]. Entrepreneurs are not accustomed to paying them. The response patterns seem to show that 'new institutions' are perceived as the primary barriers while existing informal institutions are perceived as secondary barriers.

In terms of skill barriers, inability to grow into new markets was identified as a significant barrier, but management problems were found to be significant only in combination with other barriers. We expected SME owners to be 'less aware' of the need for management skills and these results seem to support our fourth hypothesis.

The probability of 'tax inspector corruption' and 'Mafia and racketeering' forming a significant business barrier were increased for businesses with lower turnover. The fact that 'tax inspector corruption' is not considered a barrier for businesses with higher turnover, while other forms of corruption such governmental corruption on a national and regional level are, may seem inconsistent. However, even though 'tax inspector corruption' is not perceived as a barrier does not mean it does not exist. It simply means that it is not 'perceived' by the majority of SME owners to be a significant barrier. The reasons for this may be twofold: bribing of tax inspectors may be routine and may result in a positive outcome for the business owner or that tax inspector corruption is much less extreme and/or widespread than corruption amongst other governmental officials and agencies. Based on interviews with SME owners and governmental officials, it seems that indeed tax inspector corruption forms less of an overall barrier than tax inspector 'incompetence'[13].

Though it was found to be significant for SME owners with lower turnover, the overall low percentages of SME owners affected by 'Mafia and racketeering' seems to indicate that this barrier has diminished in importance since the mid-1990s. Interviews with SME owners in Lithuania verify this standpoint. Though there are exceptions (especially in the restaurant/hotel sectors) Mafia and racketeering operations have become less threatening to the business owner because they have 'legitimized' their activities by starting legally registered private security companies. They now provide legal 'protection' services for a fee. In this sense, Lithuania seems to have moved beyond the early transition phase where

Mafia and racketeering operations prevail and continue to threaten the existence of SMEs as is the case in other transition countries such as Russia.

In our regression models, causality between dependent and independent variables is not always straightforward. Therefore it is more appropriate to focus on the existence of a relationship rather than the causal effect. For example, our regression results show that business owners who do not own business facilities or have home-based businesses are significantly more affected by formal barriers (for ownership), or informal and environmental barriers (for home-based). But it may also be the case that the reason these SME owners have home-based businesses or do not own their business facilities is due to lower levels of business acumen. Since we do not control for this effect, our results establish that there is a relationship between the dependent and independent variables. In these cases, further study would be useful.

9. Conclusion

Most SME owners, regardless of business or personal characteristics are significantly affected by a multitude of inter-related barriers to their businesses. Though the formal legal framework is technically in place, frequent changes to regulations results in costs (in terms of time and non-compliance fines) for all SME owners. Informal 'acceptable' behaviors such as corruption and bribery as well as lack of adequate information are simply carried over from the Soviet system to further aggravate formal barriers. The stabilized macroeconomic environment characterized by low purchasing power, diminished consumer demand, and lack of funds, is related to the inability of SME owners to grow their businesses. 'Management problems' and the 'lack of information' are two variables that increased in significance in combination with other barrier groups. Our results suggest that the stabilization period of the transition process in Lithuania is characterized by an inter-linked effect of formal, informal, environmental and skill barriers. Further, our results indicate that a number of business barriers affect SME owners differently according to their business turnover rates. In sum, SME owners occupy a less than ideal situation for business growth and survival.

These results point to some general policy implications. In general our study indicates the negative impact of an over-regulated formal environment on SMEs. It would be beneficial to reduce formal barrier interference through changes to laws and regulations. For instance, reducing the number of taxes, lowering the tax rate and greater stability to the legislative environment would bring welcome relief for SME owners. Reducing the number of inspections and changing the incentive structure for inspection agents could reduce both time constraints and costs for SME owners. Further, a special governmental policy to provide concessions for small businesses through reduced tax rates and simplified bureaucratic procedures could have a positive effect on small business survival and growth. Also, our study identifies the importance of information for reducing the effect of formal and skill barriers. The provision of adequate business information could be a means to overcome these barriers. SME owners in small cities or rural areas seemed to be especially affected by formal barriers and may need additional assistance. Improvements to the informal environment will necessarily take time since they are most resistant to change, but reducing the interference of formal barriers may have a positive effect on reducing informal barriers[14]. Further, business with higher turnovers would profit from a reduction in the ambiguity of tax policies and more control of illegal businesses. Improvement of management skills is also an important issue for this group and could be targeted through business counseling services. Businesses with lower turnovers indicated the problem of tax inspector corruption and the need for more information and funding sources for business investments. These are clearly areas where the government could pay an important role.

Why don’t we see more SMEs flourishing in Lithuania? A combination of ‘new developments’, and remnants of an ineffective and inefficient system that cultivated detrimental business practices converge to create barriers for further SME development.

Appendix 1: Main barriers page from SME survey

Main Barriers: Please circle your answer 1 = (completely agree), 2 = (agree), 3 = (neither agree nor disagree), 4 = (disagree), 5 = (completely disagree) or 0 = (not applicable).

Issues	Completely Agree	Agree	Neither Agree nor disagree	Disagree	Completely Disagree	Not Applicable
1. Taxes are too high	1	2	3	4	5	0
2. Frequent changes to tax policies	1	2	3	4	5	0
3. Ambiguity of tax policies	1	2	3	4	5	0
4. Business legislation	1	2	3	4	5	0
5. Implementation of business regulations	1	2	3	4	5	0
6. Too many tax inspections	1	2	3	4	5	0
7. Tax inspector corruption	1	2	3	4	5	0
8. Governmental corruption –National level	1	2	3	4	5	0
9. Governmental corruption -Regional level	1	2	3	4	5	0
10. Time spent negotiating with local officials and inspectors	1	2	3	4	5	0
11. Mafia, racketeering	1	2	3	4	5	0
12. Low purchasing Power	1	2	3	4	5	0
13. Management problems	1	2	3	4	5	0
14. Lack of information	1	2	3	4	5	0
15. Inability to grow into new markets	1	2	3	4	5	0
16. Lack of funds for business investments	1	2	3	4	5	0
17. Competition from <u>legal</u> businesses	1	2	3	4	5	0
18. Competition from <u>illegal</u> businesses	1	2	3	4	5	0
19. Late payment by clients	1	2	3	4	5	0
20. Other please write:_____________	1	2	3	4	5	0

Appendix 2

Response percentages of SME owners to perceived main barriers

Variables	Nr.	CA	A	N/N	D	CD	N/A
1. Taxes too high	322	64	25	10	0.6	0	0.6
2. Frequent changes to tax policies	319	71	23	5	0.6	0	0.3
3. Ambiguity of tax policies	315	56	32	10	1	0.3	0.3
4. Business Legislation	295	36	36	19	4	1	4
5. Implementation of Business Regulations	300	26	34	30	6	2	2
6. Too many tax inspections	314	48	23	24	3	1	1
7. Tax inspector corruption	311	25	16	45	8	3	3
8. Governmental corruption – National level	316	48	29	19	2	1	1
9. Governmental corruption – Regional level	307	33	27	30	5	2	3
10. Time spent negotiating with local officials and inspectors	311	45	26	21	6	1	1
11. Mafia, racketeering	305	6	11	36	32	11	4
12. Low purchasing power	320	58	33	7	1	0.3	0.9
13. Management problems	309	8	27	40	18	5	2
14. Lack of information	313	10	31	29	22	7	1
15. Inability to grow into new markets	312	24	39	24	10	2	1
16. Lack of funds for business investments	318	53	32	11	3	0	1
17. Competition from legal businesses	304	15	31	28	18	7	1
18. Competition from illegal businesses	306	32	24	27	12	4	2
19. Late payment by clients	314	41	32	15	7	2	3

Key: CA = Completely agree ; A = Agree ; N/N = Neither agree nor disagree; D = Disagree; CD = Completely disagree ; D = Disagree; CD = Completely disagree; N/A = Not applicable

Appendix 3:

Table 7: Independent explanatory variable – Business characteristics

Variable Name	Definition
Ownership	One if owned their business facilities, zero otherwise.
Home	One if business operations are home-based, zero otherwise.
Under-report	One if the respondent agreed that in order to survive and grow, many firms in their industry misreport their operational and financial results, zero otherwise. The response to this question is considered a proxy for the respondent's own behaviour[15].
Scratch	One if business was started from scratch, zero otherwise.
Turnover	Ordinal variable indicating annual business turnover for 1999. Five categories were possible ranging from 'up to 100 000 Lt.' to 'more than 5 000 000 Lt.'
Manufacturing	One if business is engaged in manufacturing, zero otherwise.
Trade	One if business is engaged in trade, zero otherwise.
Services	One if business is engaged in services, zero otherwise.
Other sectors	One if business is engaged in another sector besides manufacturing, trade and services, zero otherwise.
Bigcity	One if business is located in a big city (Vilnius, Kaunas, Klaipeda), zero otherwise.
Medcity	One if business is located in a medium-sized city (Siauliai, Panevezys, Siauliai), zero otherwise.
Smallcity	One if business is located in a small city or rural area, zero otherwise.
Lnsize	Log value for number of employees
Bf1994	One if the business was started before or in 1994, zero otherwise.
Formal barriers	
Taxes	One if completely agreed or agreed that 'taxes are too high' formed a main barrier to their business, zero otherwise.
Ambiguity of tax pol	One if completely agreed or agreed that 'ambiguity of tax policies' formed a main barrier to their business, zero otherwise.
Informal barriers	
Implementation	One if completely agreed or agreed that 'implementation of business regulations ' formed a main barrier to their business, zero otherwise.

Tax inspections	One if completely agreed or agreed that 'too many tax inspections' formed a main barrier to their business, zero otherwise.
Govt Natl corruption	One if completely agreed or agreed that 'governmental corruption on at national level' formed a main barrier to their business, zero otherwise.
Mafia	One if completely agreed or agreed that 'Mafia and racketeering' formed a main barrier to their business, zero otherwise.
Environmental barriers	
Information	One if completely agreed or agreed that 'lack of information' formed a main barrier to their business, zero otherwise.
Legal competition	One if completely agreed or agreed that 'competition from legal businesses' formed a main barrier to their business, zero otherwise.
Illegal competition	One if completely agreed or agreed that 'competition from illegal businesses' formed a main barrier to their business, zero otherwise.
Skill barriers	
Growth	One if completely agreed or agreed that 'inability to grow into new markets' formed a main barrier to their business, zero otherwise.
Management	One if completely agree or agreed that 'management problems' formed a main barrier to their business, zero otherwise.

Table 8: Independent explanatory variable – Personal characteristics

Variable Name	**Definition**
Sex	One if female, zero if male.
Education	One if university educated, zero otherwise.
Business experience	One if they had previous job-related work experience in their business's current activities, zero otherwise.
Management experience	One if they had previous work-related management experience, zero otherwise.
Business motivation – economic reasons	One if they started their businesses for economic reasons (needed money), zero otherwise.
Age	Continuous variable

Appendix 4:

Multinomial Logit Regression - Environmental Barriers
(group 2 used as base category)

Group 1: Most affected by low purchasing power (n = 120)

Variables	RRR	Z scores
Growth	0.00	0.02
Management	0.26	0.85
Govt Natl corruption	-0.87	-2.65***
Scratch	-0.69	-1.84*
Home	0.14	0.30
Own	-0.53	-1.82*
Sex	-0.52	-1.60
Bf 1994	-0.00	-0.00

Based on robust standard errors
RRR = relative risk ratios
Probability values: *** = p value significant at the 1% test level, ** = 5% test level, * = 10% test level

Bibliography

Acs, Z.J. and D.B. Audretsch. 1990. *Innovation and Small Firms*. Cambridge, MA: MIT Press.

Acs, Z. 1998. "*The New American Evolution: The Role and Impact of Small Firms*." Washington DC.: Office of Economic Research of the US Small Business Administration's Office of Advocacy.

Acs, Z.J. and D.B. Audretsch. 2000. "The Emergence of the Entrepreneurial Society." in *Presentation for the Acceptance of the 2001 International Award for Entrepreneurship and Small Business Research*. Stockholm, Sweden.

Anderson, K. and R. Pomfret. 2001. "Challenges Facing Small and Medium-Sized Enterprises in the Kyrgyz Republic, 1996 - 7." *MOCT-MOST* 11:205-219.

Arendarski, A., T. Mroczkowski, and J. Sood. 1994. "Private Enterprise in Poland: Policies for Continued Growth." *Journal of Small Business Management* 32:40-51.

Audretsch, D.B. 1995. *Innovation and Industry Evolution*. MIT Press: Cambridge, MA.
Babbie, E. 1998. *The Practice of Social Science Research*. London: Wadsworth Publishing Company.

Babbie, E. 1998. *The Practice of Social Science Research*. London: Wadsworth Publishing Company.

Bannock, G. and A. Peacock 1989. *Government and Small Business*. London: Paul Chapman.

Bartlett, W. 2001. "SME Development Policies in Different Stages of Transition." *MOCT-MOST* 11:197-204.

Bartlett, W. and V. Bukvic. 2001. "Barriers to SME Growth in Slovenia." *MOCT-MOST* 11:177-195.

Benini, R. 1997. "SME Development in Russia: Main Issues and Challenges." Pp. 19 - 34 in *Entrepreneurship and SMEs in Transition Economies, The Visegrad Conference*. Paris: OECD proceedings.

Bohata, M. and J. Mladek. 1999. "The Development of the Czech SME Sector." *Journal of Business Venturing* 14:461-473.

Brush, C. 1992. "Research on Women Business Owners: Past Trends, a New Perspective and Future Directions." *Entrepreneurship, Theory and Practice* :5-30.

Dallago, B. 1997. "The Economic System, Transition and Opportunities for Entrepreneurship." Pp. Chapter 7, 103-124 in *Entrepreneurship and SMEs in Transition Economies, The Visegrad Conference*. Paris: OECD.

Dallago, B. 2000. "The Organisational and Productive Impact of the Economic System. The Case of SMEs." *Small Business Economics* 15:303-19.

DiMaggio, P. and W. Powell. 1983. "The Iron Cage Revisited: Institutional Isomorphism and Collective Rationality in Organizational Fields." *American Sociological Review* 47:147-160.

Djankov, S., R. La Porta, F. Lopez-de-Silanes and A. Shleifer. 2000. "The Regulation of Entry." . Cambridge, MA: National Bureau of Economic Research (NBER).

Fazey, I.H. and W. Powell. 1997. "Lessons and experiences from the promotion of entrepreneurs and SMEs in countries of transition." Pp. 147 - 150 in *Entrepreneurship and SMEs in Transition Economies, The Visegrad Conference*. Paris: OECD proceedings.

Feige, E. 1997. "Underground Activity and Institutional Change: Productive, Protective, and Predatory Behavior in Transition Economies." Pp. 21-34 in *Transforming Communist Political Economies,* edited by C. Tilly J. Nelson, L. Walker. Washington DC: National Academy Press.

Glas, M., M. Drnovsek and D. Mirtic. 2000. "Problems faced by new entrepreneurs: Slovenia and Croatia." in *30th European Small Business Seminar*. Gent, Belgium.

Jancauskas, E. 2000. *Verslo Pletra: Lietuvoje ir Vidurio Europoje*. Vilnius: Lietuvos Respublikos Ukio Ministerija, Statistikos Tyrimai.

Johnson S. and G. Loveman. 1995. *Starting Over in Eastern Europe: Entrepreneurship and Economic Renewal*. Cambridge: Harvard Business School Press.

Johnson, S., D. Kaufman, J. MacMillan and C. Woodruff. 2000. "Why Do Firms Hide? Bribes and Unofficial Activity after Communism." *Journal of Public Economics* 76:495 - 520.

Kontovorich, V. 1999. "Has New Business Creation in Russia come to a halt?" *Journal of Business Venturing* 14:451-60.

Lithuanian, Department of Statistics. 1997. *Neapskaitoma Ekonomika: Sampratos, Tyrimai, Problemos*. Vilnius.

Lithuanian, Department of Statistics. 2000. *Statistical Yearbook of Lithuania 2000*. Vilnius.

Lithuanian, Development Agency for Small & Medium Enterprises. 2002. “Review of SME Development.” : http://www.svv.lt.

Marot, B. 1997. “Small Business Development Strategy in Slovenia.” Pp. Chapter 3, 51-64 in *Entrepreneurship and SMEs in Transition Economies, The Visegrad Conference.* Paris: OECD.

Muent, H., F. Pissarides, and P. Sanfey. 2001. “Taxes, Competition and Finance for Albanian Enterprises: Evidence from a Field Study.” *MOCT-MOST* 11:239-251.

North, D. 1990. *Institutions, institutional change and economic performance.* New York: Cambridge University Press.

North, D. 1997. “The Contribution of the New Institutional Economics to an Understanding of the Transitional Problem.” . Helsinki: Wider Annual Lectures1, United Nations University World Institute for Development Economics Research.

OECD. 1998. *Women Entrepreneurs in Small and Medium Enterprises*. Paris: OECD Conference 1997.

Oi, J. 1989. *State and Peasant in Contemporary China*. Berkeley: University of California Press.

Olm, K., A. Carsrud and L. Alvey. 1988. “The Role of Networks in New Venture Funding for the Female Entrepreneur.” *Frontiers of Entrepreneurship Research* Babson College, Wellesley, MA.

Piasecki, B. and A. Rogut. 1993. “Scale of needs and regional possibilities of training entrepreneurs in Poland.” in *Internalizing Entrepreneurship Education and Training: Proceedings of the INTENT '93 Conference in Vienna*, edited by H. Kland, J. Mugler and D. Muller Boling. Koln-Dortmund, Germany.

Pissarides, F. 1999. “Is lack of funds the main obstacle for Growth? EBRD's experience with small and medium-sized businesses in Central and Eastern Europe.” *Journal of Business Venturing* 14:520-39.

Pissarides, F., M. Singer and J. Svejnar. 2000. “Objectives and constraints of entrepreneurs: Evidence from small and medium-sized enterprises in Russia and Bulgaria.” : European Bank for Reconstruction and Development.

Praag, M. van. 1996. *Determinants of Successful Entrepreneurship*. Amsterdam: Thesis Publishers.

Riding, A.L. and C.S. Swift. 1990. “Women Business Owners and Terms of Credit: Some Empirical Findings of the Canadian Experience.” *Journal of Business Venturing* 5:327-340.

Roberts, K. and J. Tholen. 1998. "Young Entrepreneurs in East-Central and the Former Soviet Union." *IDS Bulletin* 29:59-64.

Roberts K. and C. Zhou. 2000. "New Private Enterprises in Three Transitional Contexts: Central Europe, the Former Soviet Union and China." *Post-Communist Economies* 12:186-199.

Rona-Tas, A. 1991. "The Selected and Elected: The Making of the New Parliamentary Elite in Hungary." *East European Politics and Societies* 5:357-393.

Rona-Tas, A. 1994. "The First Shall be Last? Entrepreneurship and communist cadres in the transition from socialism." *American Journal of Sociology* 100/1:40 - 69.

Scase, R. 2000. *Entrepreneurship and Proprietorship in Transition: Policy Implications for the Small- and Medium-size Enterprise Sector*. Helsinki: United Nations University World Institute for Development Economics Research.

Slonimski, A. 1999. "Barriers for the Development of Small Innovative Enterprises in Transition Countries." in *4th Semmering Science and Technology Forum Institutional Changes, Efficiency and Effectiveness*. Vienna.

Smallbone, D. and B. Piasecki. 1995. "Supporting SME Development in Poland: What lessons can be learned from the Western Experience?" in *SME Development Policy in Transition Economies*. Russian and Eastern European Research Centre, University of Wolverhampton, UK.

Smallbone, D., F. Welter, N. Isakova and A. Slonimski. 2001. "The Contribution of Small and Medium Enterprises to Economic Development in Ukraine and Belarus: Some Policy Perspectives." *MOCT - MOST* 11:253-273.

Smallbone, D. and F. Welter. 2001. "The Distinctiveness of Entrepreneurship in Transition Economies." *Small Business Economics* 16:249-62.

SPSS. 1999. *SPSS Base 10.0 User's Guide*. Chicago, IL.

Sweeney, G. 1997. "Lessons and experiences from the promotion of entrepreneurship and SMEs in OECD countries." Pp. 155-166 in *Entrepreneurship and SMEs in Transition Economies, The Visegrad Conference*. Paris: OECD proceedings.

UNDP. 1998a. "Building Small and Medium Enterprises." chapter 8 in *Poverty in Transition*. New York.

UNDP. 1998b. *Latvia Human Development Report*. Riga: United Nations Development Program.

UNDP. 1999. *Lithuanian Human Development Report*. Vilnius, Lithuania.

UNDP. 2000. *Lithuanian Human Development Report*. Vilnius, Lithuania.

UNECE. 2001. *Economic Survey of Europe*. New York.

Williamson, O. 1985. *The Economic Institutions of Capitalism*. New York: The Free Press.

Woodward, R. 2001. "SME Support in Post-Communist Countries: Moving from Individual to Co-operative Approaches (Reflections on the Polish Case)." *MOCT-MOST* 11:275-294.

World Bank. 1998. *Lithuania: An Opportunity for Economic Success*. Washington DC.

World Bank. 2000. *Making Transition Work for Everyone: Poverty and Inequality in Europe and Central Asia*. Washington DC.

World Bank. 2002. *World Bank Development Report 2002: Building Institutions for Markets*. Oxford: Oxford University Press.

Yeager, T. 1999. *Institutions, Transition Economics and Economic Development*. Oxford: Westview Press.

Endnotes

[1] A similar trend has been observed in Latvia (UNDP 1998b).
[2] We focus our study here on legally registered private enterprises though in doing so, we are probably underestimating the true size of Lithuania's private sector. A study 'Preliminary Estimation of Monetary flows in Lithuania' carried out by the Economic Research Center of Lithuania estimates that the 'underground' or informal economy accounts for 36 percent of GDP in 1994 and 41 percent of GDP in 1995 (World Bank 1998). A study carried out by the Lithuanian Department of Statistics estimates that in 1995 the informal economy accounted for 23.4 percent of GDP (Lithuanian Department of Statistics 1997). However, using the Russian case as an example, Kontorovich (1999) argues that the preferred strategy of informal activity is to register a business but hide earnings and employment. In this case, the distortion would more greatly effect the size and profitability of reported businesses then their actual number.
[3] Lietuvos Respublikos Kodeksu Rinkinys (2000).
[4] A Russian term describing the exchange of mutual favors during Soviet times (Smallbone & Welter 2001b: 252).
[5] Productive in the Baumolian sense meaning any activity that contributes directly or indirectly to net output of the economy or to the capacity to produce additional output (Baumol 1993:30). It can be argued that entrepreneurial activity existed in the centrally planned economies but most of these activities were rent seeking and unproductive.
[6] From this point further we refer to these categories as before or after 1994 which implicitly compares businesses started in or before 1994 to businesses started after 1994.
[7] For Kirzner, 'utter ignorance' means unawareness or a basic lack of information (Praag 1996:26).
[8] Tax policies refer not only to tax rates but also to the multitude of administrative procedures related to tax regulations. SME owners incur additional compliance costs in terms of time and paperwork to changes in administrative procedures (Bannock & Peacock 1989).
[9] Factor analysis could not be performed since the assumption of equal distribution of responses was violated by our data set.
[10] For management problems and tax inspector corruption, the group marked with an 'X' indicates that the majority of SME owners completely agreed or agreed that these two factors formed a barrier to their business.
[11] Total employment measures individuals employed in the formal labor force and does not take individuals employed in the informal economy into account. Though the percentage of individuals solely employed in the informal economy is unknown, we do not believe that it would significantly influence our results. Total formal sector employment in Lithuania is still below its pre-transition level in 1989. In 1999, total formal sector employment was 86.6 percent of the level in 1989 (UNECE 2001:257).
[12] Soviet citizens were subject to a 13 percent income tax but since this tax was deducted at source, few citizens were actually aware of the taxation policies.
[13] Though tax inspector corruption is an important barrier for some SME owners, it did not effect all SME owners significantly.
[14] See also a study by Djankov et al. (2000) which indicates that countries with heavier regulations of entry have higher corruption and larger unofficial economies.
[15] Though SME owners will be reluctant to reveal the level of their own under reporting, we presume that SME owners will most often respond based on their own experiences, and with caution we believe the responses can be interpreted as indicating the SME owner's own behavior (see Johnson, et al. 2000).