

## Small and medium-sized enterprises, employment generation and regional development in Estonia

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### Abstract

The issues of small and medium-sized enterprises (SME) development and employment generation in regions have attracted much attention in Estonia because of considerable regional differences in the number of enterprises and the labour market situation (e.g. job creation, unemployment) and because regional economic development has been strongly polarised to the territory around Tallinn, the Capital City. The aim of this paper is to assess the contribution of SMEs in the regional economic development of Estonia, focusing on their potential for generating employment through firm formation and job creation. The paper is based on empirical evidence drawn from the database of the National Tax Board and supplemented by a review of secondary data from other studies undertaken in Estonia.

Entrepreneurial activity across regions indicates differences in the entrepreneurship environment and possibilities. Counties with larger centres have developed faster than others, and a number of peripheral regions are lagging behind all of the rest. The analysis showed spatial variations in firm formation rates explained by differences in economic structure, size of enterprises and other factors. The analysis also showed that job flows vary considerably across enterprise groups classified on the basis of various characteristics. Based on the results of analysis, the regions and enterprise groups can be distinguished for policy support to achieve the increasing contribution of SMEs to the regional economic development.

*Keywords:* SMEs, firm formation, job creation, regional differences.



## 1 Introduction

The important role of small and medium sized enterprises (SME) includes the potential of generating employment through firm formation as well as through survival and growth performance of SMEs. Many surveys have indicated differences in SME inputs in employment among countries and regions. These differences have been explained by variations in external environment and factors hampering development but also by differences in strategies used by managers and owners of enterprises. Resulting from different impact of SME roles (e.g. employment generation, innovation, economic growth, reduction of unemployment) several surveys have indicated spatial variations in business formation rates by countries as well as within countries (Reynolds et al. [1]; Johnson [2]). It is therefore important for every region to understand more thoroughly the reasons of spatial variations, which may have important implications for entrepreneurship policy. For policy interest it is needful to know, in which regions (counties) and enterprise groups it is appropriate to facilitate firm formation and job creation.

The impact of SME sector has been assessed in general as a positive factor in Estonia's economic development since the early years of transition, based on the fast growth of new enterprises and the role of SMEs in generation of employment (Smallbone et al [3]; Venesaar [4]; Estonia Country Assessment [5]). As a result, the share of employment in SMEs achieved nearly 80% of total employment in business sector in 2004. However, the growth of job creation led to a growth of overall employment only from 2001 (Statistical Office of Estonia [6]) because the period of transition brought along a considerable decline in the participation rate of the working-age population in the labour market and caused a growth of unemployment and inactivity. But together with the improvement of business environment and continuous rejuvenation process of the stock of enterprises have improved the performance of enterprise sector as a whole and also the labour market situation.

Several authors have analysed the significance of labour market flexibility for Estonian economy by evaluating labour market flows. They have noted a relatively high job relocation rate, which is a result of fast reforms in Estonia (Faggio and Konings [7]; Haltiwanger and Vodopivec [8]). The mobility of jobs in Estonia has been compared with respective indicators in the US and UK (Davis and Haltiwanger [9]). Although, in connection with the changes in the entrepreneurship environment, these assessments need to be further specified, the job relocation analysis could provide information on how much the entrepreneurship environment promotes development of one or other group of enterprises and which are the enterprise groups that could be supported by new jobs creation.

Entrepreneurial activity across regions in Estonia indicates differences in entrepreneurship environment and possibilities, especially between the capital Tallinn and other counties as regional economic development has been strongly polarised to the territory around the Capital. Tallinn is the business centre of Estonia. With its close to 400,000 population (29% of the Estonian population)



the capital city is the heart of the national economy – over half of the Estonian enterprises which produce all together ca 50-60% of the gross domestic product and nearly 3/4 of enterprises' profit are located there. A third (33%) of employed persons of Estonia are living and 38% of employed persons are working in Tallinn. Attracting with good infrastructure, institutional development and favourable external business environment more than half of the foreign capital-based Estonian enterprises are also located in Tallinn, owing to what the export turnover per enterprise is the biggest in Tallinn. All these circumstances are supporting the growth of the number of operating enterprises in Tallinn, which has been in recent years constantly slightly higher than the Estonian average, or 6.3-6.7% per year. The tertiary sector has grown rapidly in Tallinn's economic structure. Therefore, the share of Tallinn and the surrounding Harju county in the total number of operating enterprises has been gradually rising. The Survey on an entrepreneurial initiative of Estonian people [10] also indicated differences in entrepreneurial initiative across different regions in Estonia. This survey showed that the initiative to set up own enterprise is the biggest in Tallinn and Harju county. It also suggested that every second potential entrepreneur comes from this region.

Big differences can be found in the economic structure of counties. One of the reasons for this is definitely the legacy of planned economy but also different paths of development in the transition period and the firm formation rate among sectors and regions. The aim of the current article is to examine regional firm formation activity, focusing on their differences compared with the average firm formation rates in the country and to understand why such variations are existing. Firm formation analyses in counties and among sectors are studied for explaining the regional differences. Taking into account several other structural differences (e.g. size of enterprises, labour market indicators), the article makes references to the previous studies defining also directions of job flows in different groups of enterprises (on the basis of ownership, size, age and other factors).

The structure of the article is as follows. The next section describes the data and methodology of analysis. The third section presents the results of regional analysis on firm formation, the differences in labour market indicators in counties and the differences in the flows of jobs in enterprises with various characteristics (e.g. ownership, market orientation, enterprise's size). The final section concludes the study.

## 2 Data and methodology

Current research is based on the database on National Tax Board for the period of 1999-2004, where the registrations of enterprises are used as for the number of births and the number of enterprises at the end of the year is treated as the stock of enterprises. As the database includes enterprises then some inaccuracies are connected with under-representation of self-employed. Nevertheless, the database is the best basis for assessing business formation rates in regions.



The firm formation rates are calculated and used in the analysis in two ways. First of all, the firm formation rate is defined as average annual number of registrations per 1000 in the adult population (B1). This indicator is measuring the activity of population in setting up new businesses. Age group between 18-64, which reflects the more real activity of citizens in new firm formation, has been used in calculating the indicator. Secondly, the firm formation rate is calculated as a number of new firm registrations as a proportion of the registered stock of businesses at the end of the year (B2). This indicator shows the extent to which the business sector has being rejuvenated.

The subject of the research includes 15 counties of Estonia and their activity in firm formation. As Tallinn exceeds several times the number of firms and the formation activity per 1000 inhabitants compared to several counties, for more clearly explaining the differences in entrepreneurship activity among counties, Tallinn has been excluded for calculating the average figures. The average figure of counties has been used in the analyses, whereas the contrast of Tallinn from the counties average has been brought out.

Based on the firm formation rates per 1000 in adult population, the studied counties have been divided into two: these, whose activity of firm formation in the period of 1999-2003 was above the average (without Tallinn) and others, whose respective figure was below the average. Differences in economic structures of counties and firm formation by fields of activity in counties have been looked upon as significant factors for firm formation activity. In this case the firm formation rate has been calculated as a percentage from the stock of enterprises.

### **3 The analysis of firm formation rates by regions and sectors**

In the period of 1999-2003 over 35 thousand firms were formed in Estonia, 59% of those in Tallinn. The firm formation activity has constantly increased its relevance in Tallinn's entrepreneurship sector. There was a difference of more than five times between Ida-Virumaa, the county with the lowest figure, and Tallinn. Based on the county's average firm formation rate (excluding Tallinn) the counties can be divided into two groups: firm formation activity in 1999-2003 was above the country's average in Tallinn, Harju, Hiiu, Pärnu, Saare and Tartu counties. Rapla and Lääne-Viru counties, where the firm formation rate was relatively close to the country's average, can also be included in this group. The second group of counties with below the average firm formation rate includes the rest of eight counties (Ida-Viru, Jõgeva, Järva, Lääne, Põlva, Valga, Viljandi and Võru counties). The grouping is also supported by the increase/decrease of the number of employees, whereas the number of employees increased in counties with higher firm formation rate and decreased in counties, where it was below average. This rule does not imply for Valga and Võru counties, where the firm formation activity is below the average, but where the number of employees has increased on account of bigger firms.

The second indicator (B2) for characterising the firm formation rate expressing the extent of rejuvenation of the stock of enterprises, is different but



in correlation with the first indicator (B1). Some exemptions of this indicator become obvious in the counties with the number of enterprises less than average, for example in Ida-Viru and Viljandi counties, where the firm formation rates per 1000 in adult population in general is one of the lowest and the firm formation activeness is also low, but number of enterprises formed in the period in question reached the average level of the republic (Ida-Viru 52%) or exceeded it (Viljandi 54.1%). Such renewal on enterprises allows one to suppose that the business activity in these counties will increase.

Analysis indicated, that the counties with lower firm formation rates have more frequently lower employment and higher unemployment rates, but some exemptions are referring to the impact of other factors like change in a number of employed persons by two economic sectors, which maybe connected with some other external influences which has to be studied in the future (Table 2).

Table 1: Business activity and employment change in enterprises in 1999-2004.

County	Firm formation 1999-2004			Change in the number of employees in enterprises ±	Firm formation 1999-2003	
	Total	B1 (per 1000 inhabitant 18-64)	Variation from average ±		(B2) % from total number of enterprises	Variation from average ±
Tallinn	20597	78.4	53.7	6437	64.7	12.6
Harju	2632	32.6	8.0	4130	56.2	4.1
Hiiu	165	26.6	1.9	-21	45.5	-6.7
Ida-Viru	1605	14.5	-10.2	-8426	52.0	-0.1
Jõgeva	414	18.5	-6.2	-1299	51.8	-0.4
Järva	403	17.3	-7.4	-1532	45.7	-6.4
Lääne	307	17.9	-6.7	-187	37.9	-14.2
Lääne- Viru	957	23.8	-0.9	438	51.3	-0.8
Põlva	327	17.5	-7.2	-711	41.8	10.3
Pärnu	1808	33.2	8.5	-1244	54.6	2.5
Rapla	536	23.7	-1.0	-314	52.4	0.3
Saare	624	29.4	4.8	178	47.7	-4.4
Tartu	3283	35.0	10.3	1326	55.3	3.2
Valga	378	18.5	-6.2	145	46.6	-5.5
Viljandi	683	20.2	-4.5	-1	54.1	2.0
Võru	393	17.2	-7.4	445	42.4	-9.7
Total	35112	41.2	16.6	-636	58.8	6.7
Without Tallinn	14515	24.7	0.0	-7073	52.1	0.0

Source: National Tax Board; Statistical Office, author's calculations.



Table 2: Selected labour market indicators by regions.

County	Firm formation per 1000 inhabitant (18-64) in 1999-2004	Share of working age population (15-64) from total population 2004, %	Employment rate 2004, (15-64) %	Change in number of employed persons in secondary sector 2000-2004, %	Change in number of employed persons in tertiary sector 2000-2004, %	Unemployment rate 2004, (15-64) %
Tallinn (capital)	13.1	70.6	66.9	10.8	-0.1	10.3
Harju	5.4	69.6	64.1	-9.5	13.8	8.3
Hiiu	4.4	66.2	66.8	0	4.2	5.8
Ida-Viru	2.4	68.3	56.2	-6.1	4.0	18.1
Jõgeva	3.1	64.7	50.2	45.8	-1.6	14.0
Järva	2.9	66.3	66.2	30.6	4.2	9.7
Lääne	3.0	66.1	64.1	36.4	9.2	5.5
Lääne-Viru	4.0	65.6	60.0	1.1	17.4	7.5
Põlva	2.9	64.0	51.7	65.2	-1.7	15.0
Pärnu	5.5	65.8	61.5	25.6	-5.7	6.5
Rapla	3.9	66.2	64.4	0	24.6	6.9
Saare	4.9	65.3	63.1	-9.6	16.4	4.3
Tartu	5.8	67.4	64.9	34.7	5.2	5.2
Valga	3.1	63.5	57.3	43.9	-18.4	11.4
Viljandi	3.4	64.8	62.6	4.8	0	9.3
Võru	2.9	63.6	54.6	-25.0	15.7	7.1

Source: National Tax Board; Statistical Office, authors' calculations.

Next we look on factors impacting the firm formation activity in counties. The differences in economic structure of the counties and in firm formation activity by sectors in groups of counties mentioned above are considered as substantial factors influencing to the employment generation and development of regions. It is convenient to apply the firm formation indicator as a ratio of firms from overall number of firms in the sector, which shows the share of firm being renewed in the investigated period.

The firm formation has been more active in retail and wholesale trade, service and agriculture. In the group of counties, where the firm formation rates per 1000 in adult population are over the average, the firm formation rates by sectors are also higher than in other county groups. The biggest differences are in retail and wholesale trade, service and agriculture (Table 3).

If we analyse the formation rate of firms by sectors in more detail, in addition to the more active firm formation rate in four sectors listed above, the firms in the first group are formed more actively also in manufacturing (Tallinn and other

big cities), construction (Tallinn, Tartu) and other sectors. In the counties with the general firm formation rate below the average in some sectors the rate exceeds the average of the republic. But in both groups there are counties in which the firm formation rate in some sectors is very low. The present analyse enables to identify those sectors where the implementation of entrepreneurial policy measures could contribute the increase firm formation rate and mitigate regional contrasts.

Table 3: Firm formation rates by groups and economic activity in 1999-2003, %, (B2).

Economic activity	Firm formation rate, %		Variation $\pm$
	Group 1	Group 2	
Mining, electricity etc	4.2	3.3	0.9
Manufacturing	6.5	5.7	0.8
Construction	7.2	6.8	0.4
Wholesale	19.7	15.7	4.0
Retail trade	9.2	6.3	2.9
Transport, communication	8.3	7.8	0.5
Services	12.4	10.6	1.8
Education, health	8.4	9.0	-0.6
Agriculture, forestry	11.1	7.9	3.2
Total	12.6	9.7	2.9

Source: Source: National Tax Board; Statistical Office, authors' calculations.

Note: 1) Some discrepancy in the table is connected with 8% of unknown enterprises by sectors.

2) Group 1 includes counties with firm formation rates above the average (Tallinn, Harju, Hiiu, Pärnu, Saare, Tartu, Rapla, Lääne-Viru); Group 2 includes counties with firm formation rates below the average (Ida-Viru, Jõgeva, Järva, Lääne, Põlva, Valga, Viljandi, Võru).

The business activity of the counties can also be influenced by the size structure of enterprises and several other factors (ownership, market orientation, etc). For example, the previous analysis of job flows across groups of enterprises showed enterprise groups with different job creation potentials. On the basis of ownership, the job creation rate of foreign-owned enterprises was higher than that in Estonian-owned enterprises (Venesaar [11]). Better growing capacity of foreign-owned enterprises is due to the higher number of their employees and turnover in the sample studied, as well as their location in a region with better infrastructure (in Tallinn). By orientation to markets, restructuring has been faster in exporting enterprises, which is expressed by high rates of job creation.

By size of enterprises, as a rule, the job creation rates are expected to be higher in micro-enterprises, although few of them are able to survive in the

market. The findings of previous research indicated that the average job creation rate was higher in small enterprises (with 10-49 employees) than in micro-enterprises, followed by medium-sized enterprises (Venesaar [11]). Although both labour policy and entrepreneurship policy in Estonia have promoted creation of new enterprises, the entrepreneurship environment has not favoured, if to regard labour market flows, job creation in micro-enterprises.

In conclusion, the firm formation and job creation rates vary considerably across counties and enterprise groups classified on the basis of various characteristics, and there are a number of enterprise groups which could be the subject of entrepreneurship policies with the aim of bringing more new jobs to the market.

## 4 Conclusion

The current article is an introduction into the analysis of regional firm formation in Estonia and the assessment of the impact of enterprise sector, mostly SME, to employment generation in counties. The article includes the analysis of employment generation through regional firm formation and job creation in the enterprise groups with different characteristics. Based on the firm formation rates per 1000 in adult population, the counties vary considerably, which allows one to suggest differences in entrepreneurship environment and possibilities. Differences in economic structures and firm formation as a percentage from the stock of enterprises by sectors in counties have been looked upon as a significant factors for firm formation activity. The low firm formation rate in a number of counties and groups of enterprises (e.g. manufacturing, construction) allows assuming that the regulation influencing the establishment and activity of enterprises and other policy measures during the period under study have not encouraged formation of firms and creation of jobs. In the development of entrepreneurship policy in Estonia we should take into consideration differences between regional and sectoral firm formation rates. First of all, the counties with below the average firm formation rates, such as Ida-Viru, Jõgeva, Järva, Lääne, Põlva, Valga, Viljandi and Võru counties, can be suggested for policy support to facilitate SME development and employment generation. It is useful to study more thoroughly these groups of counties, where firm formation rate was lower than average, which may help to discover deeper problems in different enterprise groups that need to be solved to make the entrepreneurship environment more acceptable.

In the development of entrepreneurship policy in Estonia we also have to consider the prescriptions made in the Lisbon Agenda to the member states to simplify legislation regulating the establishment and activity of enterprises. Although the establishment of enterprises in Estonia has been regarded quite simple, enterprises still see possibilities to reduce bureaucracy. In a number of previous studies enterprises have frequently mentioned obstacles in regulating taxes, field of activity and licences (e.g. Kluth Drescher Partners [12]).





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