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# The role of financial support in SME and economic development in Estonia

***Jelena Hartšenko, Ako Sauga***
*The School of Economics and Business Administration*
*Tallinn University of Technology, Estonia*

*corresponding e-mail: jelena.hartsenko@ttu.ee*
*corresponding address: Akadeemia tee 3 -358, Tallinn 12618, Estonia*

This paper provides evidence on the links between efficiency and the governmental support for small-medium sized Estonian firms. The analysis is based on the Cobb-Douglas production function using micro level data. To analyse the impact of the financial support we applied a panel data framework. The estimation results confirm our main hypothesis that financial assistance increases productivity of Estonian SMEs, thus contributing the economic development.

**JEL Classifications:** D24, H25
**Keywords:** Subsidies, productivity

## Introduction

According to Eurostat there are three distinguished classes of SME as defined in EU law: micro enterprises, small- and medium scale enterprises. Micro enterprises are enterprises that employ up to 9 people. Small enterprises employ between 10 and 49 people. Medium enterprises employ between 50 and 249 people. Large enterprises are thus defined as having 250 or more employees. However, small and medium-sized enterprises are often defined as the backbone of the European economy. SMEs provide a significant source of jobs and economic growth. They were indeed the main contributor to growth between 2004 and 2006 as Eurostat shows.

A crucial element in the development of the SME sector is access to finance for the creation, survival and growth of small businesses. Many governments in developed countries design programs to improve the competitiveness of the local firms. The main goal of government financial support is to promote business in order to accelerate economic growth. Especially, the financial support from government is crucial during the financial crisis. The 2008-2009 financial crises had a strongly negative impact on real economic performance of SMEs (over 2008-2009 output, sales, employment and exports were all adversely impacted).

In 2000 was established Enterprise Estonia (EAS) to promote business and regional developments in Estonia. Enterprise Estonia is one of the largest institutions within the national support system for entrepreneurship. Most of the EAS programs and grants combined with the co-financing from the EU structural funds. In the 2007-2013 financing period of the European Union, 830 million euros out of more than 3.4 billion euros of structural assistance for Estonia will be applied by Enterprise Estonia (Jaaksoo, Kitsing, Lember, and Rebane, 2012). A recent study by KPMG has revealed that between 2007 and 2009 Estonia was the most successful CEE country in utilizing grants from the European Union's structural and agricultural funds.

The aim of the paper is to investigate whether the financial support to SME has influenced on the economic development in Estonia. This study provides firm-level evidence on the links between efficiency and the governmental assistance for a small-medium sized Estonian firms. This paper employs unique data from Enterprise Estonia and Estonian Commercial Register. The period covered is 2004 to 2010. The present paper contributes to the literature on evaluating the effectiveness of government grants given to SMEs in Estonia.

The remainder of the paper proceeds as follows. Section 2 provides a brief overview of the literature on the evaluation the impact of government grants to enterprises. Section 3 describes in detail the development of the small and medium sized enterprises in Estonia and comparison of labor productivity with selected EU countries. Section 4 discusses the data and methodology of the empirical part of the current research. The last section summarizes the main findings and draws conclusions.

## Literature review

It is important to evaluate the effectiveness of the governmental assistance. There are many empirical studies estimating the impact of government grants to enterprises in different countries (Bergström, 2000; Almus, 2001; Crepon and Duguet, 2003; Girma Görg and Strobl, 2003; Ege, 2009; Sissoko, 2011; Criscuolo, Martin, Overman, and Van Reenen, 2012). Estonian evidence on the determinants of firm growth is scant. The main studies in Estonia were done by Masso and Vildo (2006) and Lukason and Masso (2010).

In empirical literature the definition of efficiency has included many different domains and opportunities - the effectiveness has been defined through improved usage of technology, increased productivity or whether it has increased the probability of enterprise survival (Masso and Vildo, 2006). Some of the empirical studies are briefly listed below. Bergström (2000) showed in case of Sweden that subsidization is positively correlated with growth of value added and that productivity of the subsidized firms seems to increase the first year after the subsidies were granted. Almus (2011) found from analysis of German data using parametric selection approach that firms receiving assistance perform better in terms of employment growth over a six year period. Crepon and Duguet (2003) showed in case of French data with propensity score matching that start-up subsidies increased significantly the survival of the firms created by former unemployed people; and the allocation of subsidies acted as a screening process improving the performances of the bank loans; the effect of subsidies was stronger than that of bank loans. Girma et al. (2003) examines the impact of enterprise support on firm survival and growth in case of Irish manufacturing enterprises. In particular their study was special that in Ireland the public grants to enterprises have been used in addition to the improvement of domestic firms' performance also for attracting the foreign firms' production units to the country. They used traditional matching techniques in combination with difference-indifference analysis and showed that especially capital (but also other types of) grants had important impact on firm survival and job creation. The main finding of Ege (2009) is that the Small Innovative Research grants in USA stimulate both sales and employment growth. These results are robust across several alternative regression models and different groups of control variables. The most important control variables were the firm's sales in the year of application and the firm's employment in the year of application. Sissoko (2011) investigates the role of R&D subsidies on productivity of the French firms. He explores their role on the firm performance measures like employment, capital and R&D expenditures using difference-in-difference techniques. The results suggest that, on average, total factor productivity of the subsidized firms is higher of around 15% towards the end of the 3-years grant period relative to the matched control group. There is also little evidence about a role of R&D subsidies on employment, capital, R&D expenditures and credit constraints. The recent research of impact of subsidy was done by Criscuolo et al. (2012) in Great Britain. They analysed the impact of expenditure on the Regional Selective Assistance program over a 20-year period. They had over 2.3 million observations before and after receiving government support. Using IV estimates they found positive program treatment effect on employment, investment and net entry but not on productivity. Their research suggests that government grants to smaller firms in economically disadvantaged areas of Great Britain can increase employment, but that grants to larger firms have no effect.

Moving on to the existing studies in Estonia there is empirical research analyzing only the impact of start-up grants on firms' efficiency. Lukason and Masso (2010) analysed the performance of 39 Estonian start-up firms that received financial aid from the state in the form of start-up grant during 2005-2008. The results indicated that while many firms could not meet their reported goals (in terms of turnover, profit and the number of jobs created) and more than half of the firms had tax arrears, the estimated labor taxes paid by these firms were much higher compared to the sum of the grant, thus indicating the positive net impact of grants on the state's fiscal position. Also Masso and Vildo (2006) found that start-up grants had positive impact on job creation in second year after getting the grant, but for all viewed years concerning the sales growth. At the same time they concluded that start-up grants did not increase firm's survival chances.

## SME sector and its role in economic development

More than 99% of all European businesses are SMEs. They provide two out of three of the private sector jobs and contribute to more than half of the total value-added created by businesses in the EU. Moreover, SMEs are the true back-bone of the European economy, being primarily responsible for wealth and economic growth, next to their key role in innovation and R&D (Wymenga et al., 2012). What is even more intriguing is that nine out of ten SMEs are actually micro enterprises with less than 10 employees in EU-27. Hence, the mainstays of Europe's economy are micro firms, each providing work for two persons, in average.

Venesaar and Loomets (2006) found a remarkable contribution of entrepreneurship into economic development in the form of fast growth of the enterprise sector in Estonia. Also they suggest that development of entrepreneurship through SME development and regional firm formation has supported economic development in Estonia, the growth in employment and decrease in unemployment.

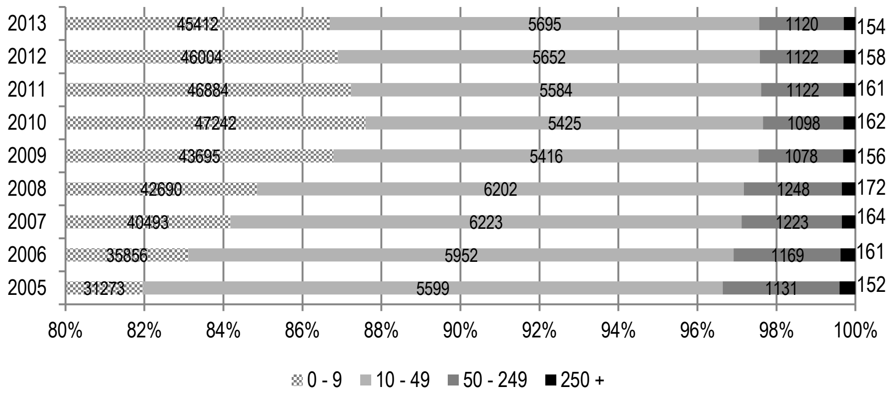
Entrepreneurial activity can be measured as a number of enterprises per 1000 inhabitants. In 2005, in Estonia there were approximately 28 SMEs per 1000 inhabitants, which was below the EU average of ca 40. Nowadays, in Estonia there are about 39 SMEs per 1000 inhabitants, which is a little below the EU-27 average of ca 41.

Figure 1 presents the dynamics of the number of enterprises in Estonia. In 2012, within the group of SMEs, a vast majority of the enterprises (87%) are micro enterprises, employing less than 10 persons. So, the typical Estonian firm is a micro firm. There are 5652 small enterprises, representing 10.7% of the total stock. About 2.1% of all enterprises (1122) are medium-sized enterprises. The number of small and medium-sized enterprises increased after 2010 accompanied by a decrease of micro enterprises. The average growth rate of 5% per annum in 2005 - 2012 was due to the increase of micro enterprises between 2005 and 2010.

At the end of 2012, Estonian SME sector employed 311 956 people making up 78% of total enterprise sector employment. Micro enterprises accounted for 27% of total employment, small - 26% and medium-sized enterprises 25%. The number of employed people in micro enterprises increased between 2005 and 2012 by 17% accompanied by a decrease of employment in small-and medium-sized enterprises. Appendix 1 summarizes the Estonian SME profile by providing a set of relevant statistics.

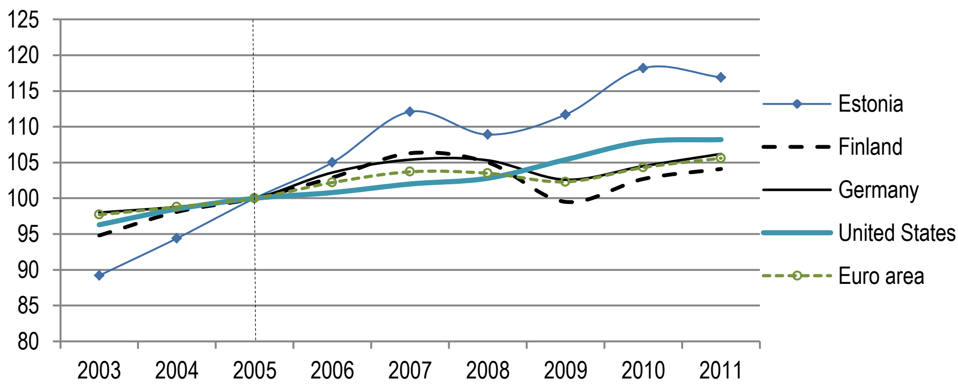
FIGURE 1. NUMBER OF ENTERPRISES BY SIZE GROUPS IN ESTONIA 2005-2012




Source: authors based on EUROSTAT data

Economic development can be measured by real per capita gross domestic product (GDP) or real GDP per worker. In this paper we compare the levels of development using the GDP per worker. Perhaps per capita GDP is more general measure of welfare, but GDP per worker tells us more about productivity of the labor force. It is a measure of how efficient a given labor force is in producing goods and services.

FIGURE 2. LABOR PRODUCTIVITY ACROSS SELECTED COUNTRIES
(output per hour worked)

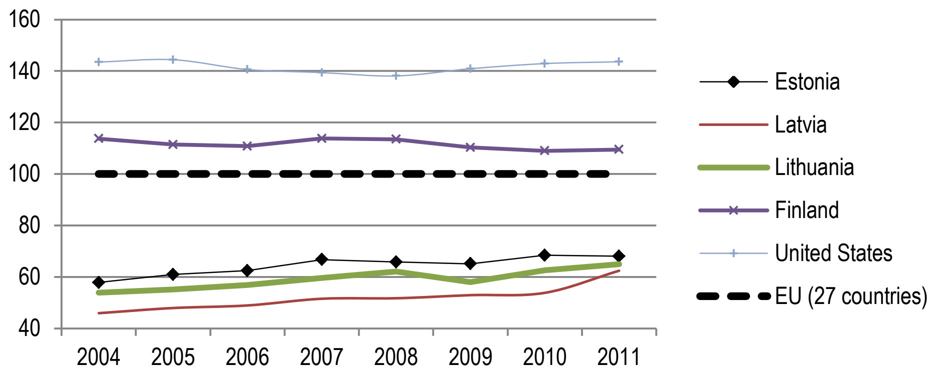



Source: authors based on OECD data
*Note: dotted line shows 2005 and 2005=100*

According to the OECD, labor productivity is defined as GDP per hour worked. Figure 2 shows these statistics in Estonia and other countries in relation to 2005. Estonia was one of the best performers of 2007 in Euro area. Its labor productivity growth stalled in 2008 (annual growth is -2.4%), increased in 2009 (2.3%) and 2010 (4.6%) before stalling again in 2011 (-1.7%). The rapid development of the Estonian economy before and after the crisis is remarkable among EU countries. The new Employment Contracts Act, which made labor relations more flexible, and the more effective unemployment insurance system also had great influence on labor productivity in Estonia.

In addition to examine growth rates in labor productivity, it is also important to consider actual productivity level. The overview of the annual labor productivity per person is presented in Figure 3. The data is expressed in relation to EU27 = 100. Although it rises in terms of productivity growth from 2008 to 2010 it still remaining lower than EU27.

FIGURE 3. LABOR PRODUCTIVITY ACROSS SELECTED COUNTRIES (OUTPUT PER PERSON)




Source: authors illustration based on EUROSTAT data
*Note: dotted line shows EU-27 = 100*

By the way labor productivity per person employed shows the full time and part time composition of the workforce across countries. But another indicator measured by per hour worked provides a better picture of productivity developments as it eliminates these differences.

To conclude post-socialist countries have lower productivity than other selected EU countries. Moreover, SMEs were brought out of the economic crisis due to the growth of labor productivity in Estonia.

## Data and methodology

This paper employs unique database from Enterprise Estonia and Estonian Commercial Register. The firms are grouped according to the Estonian Classification of Economic Activities (EMTAK). The period covered is 2004 to 2010. The number of SMEs by year of receiving grant as follows 2004 - 44 firms, 2005 - 52, 2006 - 23, 2007 - 48, 2008 - 269 and 2009 - 72 firms. The total number of SMEs that received any EAS grant is 508; most of all are from manufacturing activities (211) (see appendix 2 and 3). The control group comes from Estonian Commercial Register. In the current study we exclude the firms which do not have EMTAK code or were from economic activities which did not receive the financial support (agriculture, forestry and fishing). We also exclude big firms with more than 250 employees. We separate firms by sector and, then, to construct the control group, we matched up randomly 10% of all firms within each sector according to the EMTAK (total number is 3921).

We use microeconomic data set that have a cross-section dimension ($N$) that is large and a time dimension ($T$) that is small. The main indicators in our sample are: sales revenue, labor costs, number of employees, export revenue, profit and value-added. To analyse the impact of the financial support we applied a panel data framework. This approach is used if the estimation effect has impact on the individuals in the different periods (Bertrand, Duflo and Mullianatathan, 2004; Khandker, Samad and Koolwal, 2009). The regression equation

$$Y_{it} = \beta_0 + \gamma H_{it} + \sum_k \beta_k X_{k\,it} + u_{it} \tag{1}$$

Where $t$ denotes the time index and $i$ is the firm index. The parameter $H_{it}$ has been defined as a dummy variable, where the variable takes 1 if the firm has obtained the grant before the evaluation year and 0 otherwise. $X_{ki}$ stands for the other observable characteristics of firm $i$, $u_{it}$ error term. In this evaluation, we estimate the impact of receiving government assistance for two different outcome variables: sales revenue and labor productivity. Outcome variables are deflated to real values in 2005 prices using consumer price indices. Other variables are all calculated in nominal terms.

The most vital and common assumption in time series analysis is stationarity. Bond et al. (2005) performed a number of unit root tests for micro panels where the number of individuals is typically large, but the number of time periods is often very small. Such tests may correspond to hypotheses of substantive economic interest, or may be studied in order to investigate whether identification based on first-differenced GMM estimators is likely to be weak using the series in question (Bond, Naugu and Windmeijer, 2005). Because asymptotic approximations treat the number of time periods as fixed, the presence of non-stationary integrated series does not change the nature of asymptotic distribution results in the same way that it does for single time series or for panels with large T. Therefore in this study it is not necessary to determine if the variables used in the study are stationary or not.

We may use fixed effects (FE) and random effects (RE) panel models in this paper. If the $u_{it}$ are uncorrelated with the regressors, they are known as RE, but if the $u_{it}$ are correlated with the regressors, they are known as FE (Baum, 2006). We can use a Hausman test to test the null hypothesis that the extra orthogonally conditions imposed by the RE estimator are valid (Baum, 2006). This test is based on the difference of two estimated covariance matrices (which is not guaranteed to be positive definite) and the difference between the fixed effects and random effects vectors of slope coefficients (Baum, 2006).

The model that provides the overall theoretical framework and estimating equation for this paper is derived from the Cobb-Douglas production function (Jones, 2002):

$$Y = F(K, L) = AK^{\alpha}L^{\beta} \tag{2}$$

Where SME firm $i$ produces output $Y$ using capital stock $K$ and labor $L$ as the set inputs in year $t$, which can be written in logarithmic intensive form as:

$$\ln(Y_{it}) = \beta_{oi} + \gamma H_{it} + \beta_1 \ln L_{it} + \beta_2 \ln K_{it} + u_{it} \tag{3}$$

Hereby $t$ denotes the time index and $i$ the firm index. The parameter $Y_{it}$ stands for sales revenue as output, $H_{it}$ represents the obtaining grant and $L_{it}$ is the number of employees, $K$ is capital.

A similar panel data framework was applied to assess the impact of government grants in the recent paper Hartšenko and Sauga (2012), but we had not obtained the data about capital and we could not apply firms' assets total into the model. Also the sample consists of all firms that received any EAS grant (536) and the comparison group consists of all enterprises and comes from Estonian Commercial Register.

Masso and Vildo (2006) maintain that the definition of efficiency has included many different domains and opportunities - the effectiveness has been defined through improved usage of technology, increased productivity or whether it has increased the probability of enterprise survival. In order to control the impact of obtaining grant on efficiency we can rewrite the production function in equation (2) in terms of output per worker, $y=Y/L$ and capital per worker, $k=K/L$ and taking the logarithm, the Cobb-Douglas production function can be written as

$$\ln(y_{it}) = \beta_{oi} + \gamma H_{it} + \beta_1 lnk_{it} + u_{it} \qquad (4)$$

The quantity $y_{it}$ stands for value-added per employee as output, $H_{it}$ represents the obtaining grant and $k$ is capital-labor ratio. A positive $\gamma$ indicates the contribution of received government grant to the improvement of labor productivity of SMEs.

If we are estimating an equation from individual or firm microdata, this implies that we cannot include a "macro factor" such as the rate of GDP growth or price inflation in a model with time fixed effects, since those factors do not vary across individuals (Baum, 2006). As the period 2004-2010 is too small, we can fit a two way FE model by creating a set of time indicator variables and including all but one in the regression. The joint test that all of the coefficients on those indicator variables are zero will be a test of the significance of time fixed effects (Baum, 2006).

We may use robust clustered standard errors to account for the possible within-group correlation. This is usual procedure for grouped data because the performance of firms within a country may be somehow correlated and it is not possible to capture all of this correlation with available set of explanatory variables. Another reason for clustering arises from the inclusion of group level variables together with firm-level variables in the same regressions. The "cluster" adjusted standard error (as performed in programs such as STATA) is aimed at dealing with the within group correlation structure but does not impose homogeneity of the variances (Petersen, 2009; Cameron and Trivedi, 2009).

## Results and discussion

Many types of subsidy have been used in Estonia to support enterprises. In this study, we concentrate on some of them that were received in EAS:

- Start-up and development grants is to provide support for starting companies in investments related to starting and developing a business,
- Research and Development (R&D) grant for creating the good products and services in cooperation with entrepreneurs and scientists,
- Development of Knowledge and skills project grant is meant for projects aimed at developing entrepreneurship and increasing business knowledge and activity,
- Technology investment grant for industrial enterprises,
- Export grant is to promote the export activities (Enteprise Estonia, 2013).

Table 1 presents summary statistics of the received grants for the sample from Enterprise Estonia (EAS). It is evident that the number of firms that received development of knowledge and skills grants is greater among received firms. Development of knowledge and skills is used by SMEs for a variety of trainings, most of which are not directly connected to research activities (overall management training, trainings on how to use a piece of equipment etc.). However, there are trainings that have been more related to R&D activities, such as product development process management, new product strategies or feasibility studies. The programme has been used a lot by SMEs due to the relatively simple administrative requirements (Ziegenbalg and Muntneanu, 2011). Then export program and R&D grants are the biggest in absolute terms among the other grants. It means that it is important measure of industrial policy to promote exports and R&D activities.

TABLE 1. SUMMARY STATISTICS FOR SME THAT RECEIVED GRANT, EUR

| Type of grant | count | mean | min | max | std.dev | cv | sum |
|---|---|---|---|---|---|---|---|
| Development grant | 24 | 11404 | 4470 | 12782 | 2428 | 0.213 | 273703 |
| Start-up grant | 93 | 3159 | 655 | 6391 | 910 | 0.288 | 293766 |
| Export program | 90 | 49210 | 1853 | 63912 | 20583 | 0.418 | 4428896 |
| R&D grants | 61 | 70596 | 3323 | 564117 | 125010 | 1.77 | 4306370 |
| Development of knowledge and skills | 222 | 4753 | 1598 | 65190 | 6583 | 1.385 | 1055079 |
| Technology investment program for industrial enterprises | 18 | 195150 | 30678 | 900510 | 228345 | 1.17 | 3512993 |
| TOTAL | 508 | 27304 | 655 | 900510 | 73102 | 2.677 | $1.38\times10^7$ |

Source: authors' calculation based on EAS database

The statistical results of production function that is based on equation (4) from the panel estimations are presented in Table 2. A panel regression analysis used a cross-sectional database composed of 13278 firm observations. The choice of fixed effects model is reasonable as our data consists of almost the all firms that received the grants (Wooldridge, 2006). Similarly, Hausman test shows that random effects model is redundant. In that case we assume that the $u_{it}$ may be correlated with some of the regressors in the model. As we cannot include a "macro factor", we define a two-way fixed effect model by creating a set of time indicator variables. In this model effects are attached to each unit and time period. The last model in Table 2 includes a set of time dummies (with one time dummy dropped to avoid the dummy-variable trap). In addition in the column 3 the standard errors are adjusted for 17 clusters according to EMTAK economic activity groups (Appendix 3).

We can see the positive impact of grant on the firms' performance in the last column for two-way fixed effects model. It is significant at a 10% level. The capital-labor ratio included in the one-way fixed effects model retains its sign and significance in the two-way fixed effects model. The joint test that all of the coefficients on those indicator variables are zero will be a test of the significance of time fixed effects (Baum, 2006). In our paper the results of this test mean that that time effects are jointly significant, suggesting that they should be included in a properly specified model (column 3). The parameter of capital-labor ratio is statistically significant at the 1% level in all models. However, it represents the production elasticity, showing a rise in capital-labor ratio increases the labor productivity of the selected firms on average by 12.5% makes production more profitable and reduces unit costs.

Table 3 illustrates the statistical results of production function that is based on equation (3) and estimated with OLS method. The parameter L stands for the number of employees. All columns in Table 3 show a high $R^2$, which indicates that, the model accounts for more than 65% of the variation in sales revenue. The Hausman test is used and shows that the overall statistics $chi^2$ has probability zero. This leads to strong rejection of the null hypothesis that RE model provides consistent estimates. Therefore we may calculate a two-way fixed effects model. In the column 3 the standard errors are adjusted for 17 clusters according EMTAK economic activity groups. All of the coefficients in the last column indicate the same direction of signs as in this study was expected. Also all of the factors are significant at 1% level. A positive sign of *H* and its significance at a 1%

level indicate the contribution of received government grant to the improvement of productivity of SMEs.

TABLE 2. PANEL REGRESSIONS FOR ALL TYPES OF GRANTS. DEPENDENT VARIABLE IS LABOR PRODUCTIVITY (LOGARITHMIC VALUE-ADDED PER EMPLOYEE)

| Variable | FE | | RE | | Two-way FE (17 clusters for EMTAK) | |
|---|---|---|---|---|---|---|
| | Coef | SE | Coef | SE | Coef | Robust SE |
| H | -0.065 | 0.040 | -0.048 | 0.037 | 0.065* | 0.032 |
| Ln (K/L) | 0.129*** | 0.013 | 0.225*** | 0.004 | 0.125*** | 0.025 |
| intercept | 5.801*** | 0.154 | 4.689*** | 0.053 | 5.714*** | 0.269 |
| time_1 | | | | | 0.003 | 0.054 |
| time_2 | | | | | 0.128** | 0.051 |
| time_3 | | | | | 0.266*** | 0.061 |
| time_4 | | | | | 0.361*** | 0.066 |
| time_5 | | | | | 0.209*** | 0.047 |
| time_6 | | | | | -0.012 | 0.031 |
| $R^2$ overall | 0.179 | | 0.180 | | 0.177 | |
| Number of obs. | 13278 | | 13278 | | 13278 | |

*Note: ***, ** and * denote statistical significance at 1, 5 and 10% respectively*

TABLE 3. PANEL REGRESSIONS FOR ALL TYPES OF GRANTS. DEPENDENT VARIABLE IS LOGARITHMIC SALES REVENUE

| Variable | FE | | RE | | Two-way FE (17 clusters for EMTAK) | |
|---|---|---|---|---|---|---|
| | Coef | SE | Coef | SE | Coef | Robust SE |
| H | -0.007 | 0.031 | -0.024 | 0.030 | 0.161*** | 0.033 |
| Ln(L) | 0.740*** | 0.022 | 0.949*** | 0.009 | 0.674*** | 0.039 |
| Ln (K) | 0.085*** | 0.010 | 0.177*** | 0.005 | 0.083*** | 0.016 |
| intercept | 7.726*** | 0.133 | 3.115*** | 0.057 | 7.669*** | 0.202 |
| time_1 | | | | | 0.177*** | 0.036 |
| time_2 | | | | | 0.218*** | 0.030 |
| time_3 | | | | | 0.302*** | 0.047 |
| time_4 | | | | | 0.342*** | 0.045 |
| time_5 | | | | | 0.257*** | 0.036 |
| time_6 | | | | | 0.035 | 0.022 |
| $R^2$ overall | 0.6547 | | 0.6596 | | 0.6550 | |
| Number of obs. | 14535 | | 14535 | | 14535 | |

*Note: ***, ** and * denote statistical significance at 1, 5 and 10% respectively*

Empirical results in this paper suggest the positive influence of the financial support to SMEs in the period 2004 to 2010. There is evidence of the positive impact of dummy variable on sales revenue and labor productivity for the supported firms. The overall value $R^2$ of production function that is based on equation (3) where dependent variable is logarithmic sales revenue is higher than in the model with logarithmic labor productivity. Consequently, the variability of sales revenue is better explained by selected factors as labor productivity. Therefore we can conclude that improved access to finance among SMEs has influenced on economic development in Estonia through increased productivity.

## Conclusion

The aim of this study has been to provide evidence on the links between efficiency and the governmental assistance for a small-medium sized Estonian firms. This paper employs unique database from Enterprise Estonia and Estonian Commercial Register. The period covered is 2004 to 2010. Many types of subsidy have been used in Estonia to support enterprises. Export program and R&D grants are the biggest in absolute terms. But the number of firms that received development of knowledge and skills grants is the biggest. We estimate the impact of receiving government assistance for two different outcome variables: sales revenue and labor productivity. Growth of labor productivity in relation to 2005 was one of the highest in Estonia. On the other hand Estonia has lower productivity rates than EU 27 countries. The estimation results confirm our main hypothesis that financial assistance increases productivity of Estonian SMEs, thus contributing the economic development. A panel data framework was applied. The current study was limited by small number of firms that received grants and availability of indicators. Government grants have different aims and they are allocated in accordance with different criteria. Further research in the assessing the impact of grants on the effectiveness measures should be applied with different evaluation criteria.

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## Appendix

TABLE 4. NATIONAL SME PROFILE, 2012

| Indicator | Specification |
|---|---|
| SME Size | Number of SMEs in total 52778 |
| SME Weight | % of SMEs, comparing to total number of companies in the country 99.8% |
| Number of SMEs per 1000 inhabitants | 39 SMEs per 1000 inhabitants |
| SME Sectoral involvement | % of SMEs, comparing to total number of companies per sector<br>Agro sector 99.99%<br>Manufacturing sector 98.99%<br>Service sector 99.77% |
| Firm renewal | Sum of the number of births and deaths of SMEs with at least 5 employees as a percentage of all SMEs 5.2 (2011) |
| SME location Concentration on certain regions? Which ones? | Yes, Harjumaa County, Tartumaa County |
| SME distribution by Size | fewer than 10 employees - 46004; fewer than 50 employees - 5652; fewer than 250 employees - 1122 |
| SMEs - Total employment | % of total employment provided by SMEs - 78% |
| SMEs contribution to GDP | 49.1% (2000) |
| SMEs contribution to SMEs R&D expenditure in total if available | 26.6 MEURO (2007) |

Source: authors' calculation based on Statistics Estonia data, (Ziegenbalg and Muntneanu, 2011)



TABLE 5. THE NUMBER OF SME RECEIVED THE GOVERNMENT GRANTS, 2004-2009

| | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | TOTAL |
|---|---|---|---|---|---|---|---|
| Development grant | | | | 4 | 20 | | 24 |
| Start-up grant | | | | 17 | 59 | 17 | 93 |
| Export program | 39 | 38 | 13 | | | | 90 |
| R&D grants | 4 | 14 | 9 | 26 | 8 | | 61 |
| Development of knowledge and skills | 1 | | | 1 | 167 | 53 | 222 |
| Technology investment program for industrial enterprises | | | 1 | | 15 | 2 | 18 |
| TOTAL | 44 | 52 | 23 | 48 | 269 | 72 | 508 |

### TABLE 6. THE NUMBER OF SME RECEIVED THE GOVERNMENT GRANTS ACCORDING TO ESTONIAN CLASSIFICATION OF ECONOMIC ACTIVITIES, 2004-2009

| EMTAK 2008 | Frequency |
|---|---|
| Manufacturing | 211 |
| Professional, scientific and technical activities | 56 |
| Construction | 51 |
| Wholesale and retail trade; repair of motor vehicles and motorcycles | 41 |
| Information and communication | 34 |
| Administrative and support service activities | 25 |
| Accommodation and food service activities | 20 |
| Arts, entertainment and recreation | 15 |
| Transportation and storage | 14 |
| Human health and social work activities | 12 |
| Other service activities | 8 |
| Education | 6 |
| Water supply; sewerage, waste management and remediation activities | 5 |
| Electricity, gas, steam and air conditioning supply | 4 |
| Real estate activities | 4 |
| Financial and insurance activities | 2 |
| Mining and quarrying | |
| Total | 508 |