The impact of the State's enterprise support on the competitiveness of the Estonian economy (Estonia)

1. Introduction

In 2010, the National Audit Office of Estonia (NAOE)[1] undertook a 'performance audit' (hereafter the term evaluation is used)[2] of seven main groups of financial support measures (covering in total 57 specific measures) aimed at improving the competitiveness of Estonian enterprises[3]. The evaluation provided a first in-depth analysis of the outcomes of the enterprise (and innovation) policy measures co-financed by the European Union's (EU) Structural Funds during the period 2004-9. Indeed, the NAOE argued that evaluation was the most extensive empirical research undertaken to date on State support for enterprises covering as it did public expenditure in the order of 7.4 billion EEK (approximately €473m[4]). The NAOE decided to evaluate the enterprise policy outcomes due to the scale of funding and the strategic priority placed on enhancing competitiveness by Government policy.

Based on a questionnaire survey of enterprises (including a control group), desk research and analysis of business statistics and interviews, the NAOE came to the conclusion that the support measures "*have not improved the competitiveness of the audited fields of activity*". In particular, it was found that only one-fifth of companies who received support to increase productivity reported any significant impact on their productivity. Equally, while the survey found that export support did lead to increased exports (16–57%, growth depending on the measure), the NAOE considered this as insufficient, given that the support is aimed directly at increasing export capacity. The main reason put forward by the NAOE for the limited impact "*was a rigid, untargeted and dispersed system of supports which tries to deal at the same time with many problems of entrepreneurship and very often does not consider the actual needs of enterprises*".

In their written response to the NAOE report, the Ministry of Economic Affairs and Communications (MKM), and the two implementing agencies, argued that the evaluation conclusions were not entirely robust due to a number of factors, such as the lack of a sufficient time lag between granting of support and the survey.

This evaluation is particularly pertinent for national or regional authorities seeking to carry out a wide-ranging quantitative survey (applying a statistical control group) of the firm-level outcomes of direct financial support (grants, loans and loan guarantees) for business development, innovation activity and export growth.

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[1] www.riigikontroll.ee

[2] The European Court of Auditors distinguishes between three forms of audit: financial, compliance and performance audit. The latter aims to evaluate whether the financial management by a public authority/agency is sound, i.e. are the funds used kept to a minimum (economy), are the results achieved with the least possible resources (efficiency) and have objectives been met (effectiveness)? In this sense, a performance audit is essentially akin to an evaluation as normally conducted, the main differences being procedural (study carried out by public officials, greater 'political impact' of a national audit office's findings, etc.). See the ECA's performance audit manual for more details: http://eca.europa.eu/products/PERF_AUDIT_MANUAL A recent similar audit at European level would be the ECA's Special Report No 4/2011 "The audit of the SME Guarantee facility".

[3] The English translation of the State Audit Office report is the source of data and tables in this case study, unless otherwise indicated. As the English translation was in places not of excellent quality, some editing of direct quotes has been done to improve grammar, etc.

[4] Estonia operated a fixed exchange rate with the euro of 15.6466 EEK throughout the entire period (joining the ERM-II mechanism in 2004 and previously pegging the crown to the DM from 1992 then the euro from 2002). On 1 January 2011, Estonia adopted the euro.

2. Description of the evaluated measures

In total, the audit covered 57 different enterprise and innovation policy measures implemented during the programming periods 2004-2006 and 2007-13. In reality, the number of measures could be considered to be somewhat lower since the NAOE split up certain measures in phases or sub-measures (e.g. the preliminary application and full applications for the innovation awareness programme). Nevertheless, a statistical analysis of such a large number of measures, some of which had only disbursed a limited number of grants/loans for a comparatively small amount of money, would have proved difficult. Based on discussions with Enterprise Estonia (EAS)[5] and the Estonian Credit and Export Guarantee Fund (KredEx)[6], the NAOE divided the 57 measures into seven groups with similar aims.

Figure 1 Background information on the evaluated measures

Category	Description
Measures evaluated (groups of measures)	• Supports to start-ups (EAS 1) • Export supports (EAS 2) • Development supports (EAS 3a) • Supports for increasing productivity (EAS 3b) • Loan guarantee (KredEx 1) • Loans (KredEx 2) • Export guarantees (KredEx 3)
Type of measure	Direct financial support to business, loans and credit guarantees
Budget of the measure (national, EC, private)	The public funding per measure, as of December 2009, was as follows (number of awards, grant or loan, in brackets) • EAS1: 123,997,237 EEK (1,098 grants) • EAS2: 356,138,115 EEK (541 grants) • EAS3a: 1,603,688,544 EEK (473 grants) • EAS3b: 950,388,710 EEK (4,795 grants) • KredEx 1: 2,494,930,616 EEK (1,779 loans guaranteed) • KredEx 2: 258,848,237 EEK (100 loans including 53 start-up/micro-credit loans) • KredEx 3: 1,387,735,659 EEK (1,240 export guarantees)
Start-end date	2004-2009 (a number of measures evaluated were closed but others are still on-going until the end of the 2007-14 period)
Geographical coverage	Estonia (entire country)

The NAOE limited the evaluation to an analysis of the impact on the business sectors, targeted by the State support, with the highest growth potential. After discussions between the NAOE and the Ministry of Economic Affairs and Communications (MKM), the scope was restricted to the following sectors: information and communication technologies (ICT), electronics, bio- and material technologies, mechanical engineering and the metal industry, timber industry, transport and logistics, medical and wellness services and business and financial services.

[5] http://eas.ee/

[6] http://www.kredex.ee/

3. Designing the evaluation study

In line with its role and its function within the public sector, the NAOE defines its annual work-programme independently of the influence of other State organisations. The decision to audit the enterprise policy outcomes was motivated by the importance placed on improving competitiveness in overall Government strategic aims and the considerable budgetary effort made over a sustained period in favour of this goal.

Formally, there were no terms of reference[7] but rather a process to agree on the scope of the audit takes places starting from the objectives set out in the official Government policy documents covering the topic selected. The process of scoping involved both internal discussions within the NAOE team and consultations with academic/sectoral experts and the various departments or services of the ministries and agencies concerned by the design or implementation of the State enterprise and innovation policy process. In total approximately 20 interviews were carried out during the preliminary phase of the evaluation with a range of officials from the MKM, Enterprise Estonia, KreDex, the Estonian Development Fund, State Chancellery, chambers of commerce, the two main universities, etc. These interviews served to inform the study team in their choices about the main evaluation questions, hypothesis, the selection of specific sectors, methodological approaches, etc.

Based on this process, the aim of the audit was defined as "*to assess whether and to what extent enterprise support measures have influenced the competitiveness of those business receiving support and the Estonian economy*". The audit concentrated on three main questions:

- Does the State's enterprise policy have well established long-term development aims and a complete set of measures to boost business competitiveness?
- Are enterprise policy measures planned involving the enterprises and in conformity with the State's long-term aims?
- Has the provided support assisted enterprise development to the point that it has led to structural change in the economy?

In addition, to these evaluation questions, a number of 'hypothesis' or 'criteria' against which the success of the State enterprise policy were to be judged were set out:

- Clear and measurable aims of entrepreneurial policy and enterprise supports exist.
- The aims of the main Government policy documents[8] have been achieved and the measures contributed to achieving these aims.
- Business support measures are designed so as to lead to an overall multifaceted impact on enterprises in terms of growth of value added, exports and technological implementation.
- Business organisations, sectoral associations and enterprises have been consulted during the design of the business support measures.
- The enterprises in receipt of support consider that there has been a very significant impact of the support on value added, exports and technology implementation; and, on the contrary, a very small deadweight loss.
- The supported enterprises grew more quickly from 2004-2009 than non-supported enterprises. Due to the influence of the business support measures,

[7] The equivalent to terms of reference are to be found in the non-numbered appendix of the audit report 'Characterisation of the audit'.

[8] Enterprising Estonia: Estonian Enterprise Policy 2007-2013, National Strategic Reference Framework for the Structural Fund 2007-2013 and the Estonian Action Plan for Growth and Jobs.

growth has been higher in the branches of the economy targeted by the State and value added, productivity, export and R&D expenditure have grown in the branches of economy with a higher potential for producing added value.

- The MKM, EAS and KredEx have the necessary information to assess the results of business support measures, exchange this information and measure the impact on competitiveness.

In terms of the methodology, the NAOE was free to decide on the scope and range of analytical methods. However, as noted above, the methodological development was carried out through extensive consultations with the evaluated agencies/ministries, other State agencies (Statistics Estonia) and academic experts. In principle, this participative process should have helped to avoid any temptation for the agencies and stakeholders to challenge the results of the study.

Concerning the evidence base, the evaluation was able to draw on the data gathered by EAS and KredEx during the application and grant/loan award procedure as well as monitoring data collected by both agencies during the lifetime of each grant/loan. In addition, the data collected by Statistics Estonia through its Structural Business Survey and the data of the Estonian Tax and Custom Board (EMTA) derived from company tax returns were used in the analysis. A range of academic, policy studies and policy documents were also reviewed.

The evaluation took place over a period of nine months, starting in October 2009 and was completed in June 2010. According to interviewees, this was a relatively short period for a performance audit of such a scope and number of auditees. Indeed, the depth and breadth of the analysis makes the study relatively unique compared to other performance audits undertaken by the NAOE. One interviewee noted that the timing of the evaluation meant that the audit results were published barely six months before a general election and presented to the press in September as the first major story after the summer months. This resulted in forthright reactions to the findings from Government officials and ministers up to the level of the Prime Ministers' office.

As the study was conducted by the NAOE internally, there was no fixed budget. In order to estimate the cost of the evaluation it would be necessary to multiply the daily gross salary costs of the three-member audit team by the number of days spent on the evaluation. To arrive at a precise estimate of the cost to the State budget, such a calculation would need to be extended to the officials of the NAOE who provided support services, of other services that provided input to the audit (e.g. officials of the Statistics Estonia, etc.) and to the staff of the target institutions that were 'audited'. Technically to compare like with like with the cost of an external evaluation of those involved then the cost of the NAOE would be sufficient, unless by its position in the State administration the NAOE was able to call on assistance from other services that an external contractor would have found difficult to do (e.g. in carrying out a survey, which in all likelihood an external contractor would have to have budgeted so as to either buy data/services from State administrations, allocate additional staff time to undertaking or contract a specialist survey firm to carry out).

According to the head of the audit team, the evaluation cost approximately €65,000 corresponding to one full time auditor for nine months, one auditor at 75% full time equivalent and the audit manager at 65% FTE. The calculated budget takes account of overheads including support staff. A budget of approximately €4500 was also allocated to Statistics Estonia for carrying out the survey work 'which was a lot more time consuming than expected' since there was a need to clean data received from the two agencies, notably from KredEx, in order to match information on supported enterprises with data in the Structural Business Statistics or tax board databases.

4. Implementing the evaluation: methodology and process

The evaluation was carried out by a team of three experts from the national audit office of Estonia: an audit manager and two auditors. Hence, the evaluation was carried out 'internally' since no external consultants or experts were hired. However, the independent function and role of the audit office within the State administration means that the evaluation can be considered as 'quasi-external'. The 'audit' team received assistance and support in carrying out the research, notably for the enterprise survey, from experts of Statistics Estonia (the State statistics agency) and the Department of Registers of the Tax and Customs Board. In addition, whilst the findings of the audit were drafted independently of the responsible ministries and agencies, the audit team worked with the enterprise advisers and client administrators of Enterprise Estonia and KredEx when sourcing data on assisted enterprises, etc.

4.1 The approach and methodology

4.1.1 Overall approach

The evaluation was a 'policy performance audit' and, in line with the NAOE's internal audit guidelines[9], the process was participative with the NAOE team ensuring that the 'audited' agencies and the competent ministry were consulted during the methodological design phase, were interviewed during the implementation of audit and were given an opportunity to provide feedback on the results (including a formal written 'right of reply' that was published in the audit report). In addition, a number of 'business sector stakeholders' and academic experts on Estonian competitiveness were interviewed and consulted and also commented on the final report.

An element of good practice in the study process was that the report published and that the ministries and agencies concerned were given a 'right of reply' (setting out where they agreed or disagreed with the report's findings) as an integral part of the report. The NAOE commented on the written submissions to explain or clarify the issues raised by the ministries and agencies.

The overall approach was centred around an analysis of the strategic coherence of the set of measures with the objectives set out in Government policy documents twinned with an extensive enterprise survey combined with an analysis of business statistics in order to estimate the impact on the competitiveness of the assisted enterprises.

4.1.2 Methodology

In terms of the detailed methodological approach, the NAOE sought to measure the outcomes of the seven groups of measures on the supported enterprises and to do so selected a limited number of indicators for each group. The indicators used were based on those found in the programming and policy documents governing the interventions and data sources were derived from the programme monitoring of the two agencies or from business and economic statistics held by Statistics Estonia. The final choice of indicator was made so as to select those on which the MKM and the two agencies considered the measures would have the most impact.

Figure 2 sets out the indicators used to appraise impact for each of group of measures.

Figure 2 Measurable indicators used to evaluate each group of measures

Group of measures	Impact expected primarily on:

[9] The Audit Manual provides guidelines on implementation based on international auditing standards. The manual, along with the National Audit Office Act, set the aims and limits and require, amongst other things, at least a certain minimal degree of participation.

Group of measures	Impact expected primarily on:
More sustainable and quickly growing entrepreneurs (EAS 1)	• Rate of survival. • Number of employees
Higher export capacity and internationalisation of Estonian enterprises (EAS 2)	• Export turnover. • Value added/growth per employee
The bigger developmental activities of enterprises (including R&D-institutes higher capacity to offer commercial solutions) (EAS 3a)	• Growth of business R&D innovation investments • R&D expenditure • Revenue growth (R&D institutes)
Higher productivity and added value of enterprises (according to measurable aims) (EAS 3 b)	• Export turnover • Added value/Added value growth per employee. • Growth of investments into fixed assets
Loan sureties (KredEx 1)	• Added value per employee. • Growth of turnover. • Involved private sector investments into machinery and installation. • Growth of export turnover
Loans (KredEx 2)	• Added value per employee. • Growth of turnover. • Involved private sector investments into machinery and installation. • Growth of export
Export guarantees (KredEx 3)	• Added value per employee. • Growth of turnover. • Growth of export turnover

A second key methodological element was a decision to limit the scope to a certain number of sectors in which there was an expectation that the enterprise policy would have the highest impact (from a policy perspective). As noted above, based on a discussion with the MKM, nine sectors were selected for analysis. These priority policy sectors were then reviewed by the NAOE against those mentioned in relevant policy documents (notably the Made in Estonia foreign investment plan 2007-13) after which they excluded sectors classified as 'low tech' (following the OECD classification[10]), including textiles, tourism and food processing. A final list of EMTAK (the Estonian equivalent to the NACE rev.2 classification) sectors was defined to provide a framework for the selection of enterprises for the survey and statistical analysis.

4.1.2.1 Data collection methods

The NAOE applied three main data collection methods:

- A literature review of the main policy documents, programme documents, etc;
- Interviews with ministries, agencies, enterprises and other stakeholders;
- An enterprise survey of supported enterprises, applicants who did not receive support and a control group that had never applied for support.

Figure 3 below summarises the data collection methods used.

[10] OECD (2006) Government R&D Funding and Company Behaviour. Measuring Behavioural Additionality.

Figure 3 Application of data collection methods

Method	Description
Use of administrative data	• The NAOE had full access to the administrative information on the recipients of the grants/loans as well as on applications. Monitoring data was provided by the agencies and the NAOE had access to relevant files on the measures.
Use of secondary data	• Statistics collected through the business register, structural business statistics and tax returns were used to analyse the beneficiaries of support as well as the control groups
Individual stakeholder interview	• Interviews were carried out by the NAOE team with senior management and staff of the two agencies, the ministry responsible and stakeholders (chambers of commerce, etc.)
Questionnaire survey	• With the support of Statistics Estonia around 1,900 enterprises from nine activity fields were surveyed.
Focus groups (workshops, seminars or group meetings)	• Two focus groups brought together experts on business competitiveness and economic development discussed the findings of the audit.
Bibliometric or patent database studies	• An analysis of bibliometric data was not relevant in this case. • The evaluation did not check for applications for or patents granted to companies supported. This potentially relevant indicator for the EAS R&D grant was not assessed.

In total, at the time of the survey, 25,937 Estonian enterprises existed in the selected sectors. The NAOE, with the support of Statistics Estonia, surveyed 4,262 enterprises (with 1881 respondents or 44% response rate) broken down into three groups:

- 2062 (954, 46%) which had received support;
- 483 (180, 37%) enterprises that had applied for but had not received support;
- 1716 (747, 43.5%) enterprises which had not received support as a control group.

The control group was selected by Statistics Estonia to be proportional to the supported group of enterprises in terms of field of activity, turnover and employment. The survey covered not only the enterprises' views on the outcomes resulting from the public intervention but also other factors such as the assessment of the activities of entrepreneurial organisations and speciality associations, the difficulties faced by the enterprises (market situation, in introducing innovations and in the development of cooperation with R&D institutions). Moreover, the questionnaire sent to enterprises aimed to capture how the strategic behaviour of supported enterprises had changed and what influenced the strategic choices of the control group. A key parameter of the survey was that enterprises were allowed to estimate the likely future impact of the support received and not only the observable current outcomes. This was important given that the survey was launched during the financial crisis and that it also allows for the 'time-lag factor' for the impact of certain measures to take effect.

4.1.2.2 Analysis and recommendations: methods and tools

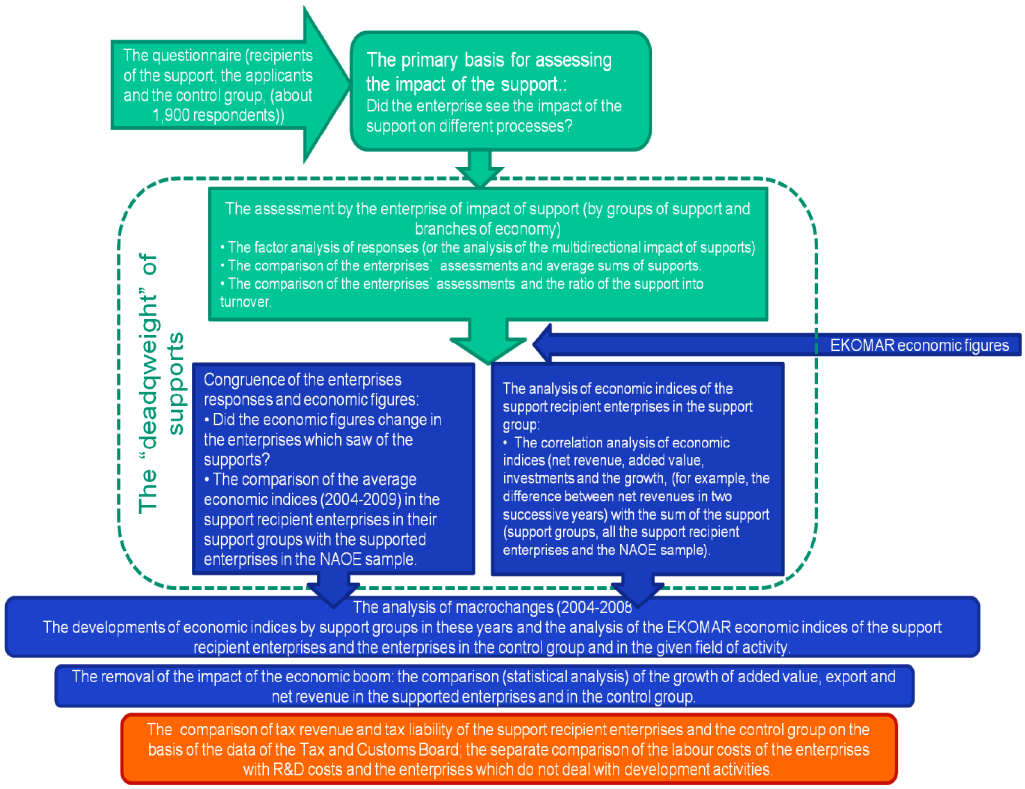
In addition to drawing conclusions from the qualitative information gathered through interviews and the literature review, the analytical phase was based on a descriptive statistical analysis of the survey results complemented by a statistical comparison of the economic performance of the beneficiary groups versus the control group.

Other analytical methods such as input-output analysis, cost-benefit analysis, micro and/or macro- economic models or social network analysis were not used. It could be argued that a more comprehensive macro-economic or 'innovation systems model would have provided a more robust framework to assess impact but the focus was on understanding whether the expected results of the measures had been achieved. Equally, it would have been useful, with hindsight, for the audit team to deepen the analysis of impact to a selection of case study enterprises. However, this would have required additional resources (e.g. for 40-50 enterprises at least another 50 days work to undertake interviews and write up case examples).

The overall analytical process for the analysis of the survey of enterprises is summarised in

Figure 4. As can be seen a variety of techniques were applied including a comparison of impacts against **baseline data**[11] (either from funding cycle data or business statistical surveys and tax returns) before and after the intervention.

Figure 4 Process of analysis of the surveyed enterprises



Based on the 1881 survey returns, the NAOE worked through several stages of analysis beginning with an assessment of the extent of 'deadweight loss' arising from the support provided and moving on to compare, with the support of Statistics Estonia, the data of the enterprises with their economic performance as declared via the business financial statistics (EKOMAR data[12]) and the taxation data (from EMTA).

The deadweight of the support was assessed by considering the response to the question of whether in the absence of, or in the case of a lower level of support than originally applied for, the enterprises (both those in receipt of support and those who had applied but not received support) had gone ahead to implement projects or not. The analysis led to the conclusion that deadweight effects were quite important in all groups of measures, and notably in productivity growth support (42% of respondents not receiving support went ahead with the planned project). The data suggested that the deadweight effect was higher for larger rather than smaller firms.

[11] Approach that compares data on participants/beneficiaries collected before the intervention with that collected after the intervention.

[12] http://www.stat.ee/financial-statistics-of-enterprises

The analytical methods used include factor analysis[13], correlation analysis and comparison of the survey responses with available data on economic performance (congruence of the responses with available economic series). However, as in many cases, there were only a limited number of responses per field of activity, the significance of the results of the factor and correlation analysis was generally weak.

Some 14 different aspects of impact were assessed through the survey covering both:

- quantitative 'economic' impacts : reduced costs; productivity or export growth; new or safeguarded jobs; improved liquidity, new business development projects; newly developed technologies, and
- qualitative or behavioural improvements: the improved product or service quality, market position, product marketing, management and work organisation, cooperation with other enterprises, the public sector or R&D institutes; improved employee skills; and the strategy of the enterprise has significantly changed.

The enterprises' assessment of the impact of public support on these indicators were contrasted with trends in structural business statistics, which in the case of most groups of measures showed that supported enterprises performed worse on average than the control group.

Finally, two focus groups were organised for discussing the conclusions of the audit and these appear to have been productive in terms of giving the evaluation team feedback on both the findings and the robustness of the methods. Some interviewees considered that it would have been useful to have been informed earlier on the results to allow adjustments to certain conclusions reached (e.g. KredEx considered the methodology was not well adapted to assessing export guarantee support).

5. Effectiveness and efficiency of evaluation

Reviewing the effectiveness and efficiency of the methodological approach, with hindsight it is possible to identify a number of possibly improvements. However, in general, these can be considered as learning-by-doing rather than a fundamental critique of the evaluation team, per se.

No major internal limitations to the implementation of the evaluation were raised during the interviews. The evaluation budget, while comparatively limited compared to the overall budgetary means being evaluated, was sufficient to mobilise the equivalent of close to 2.5 FTE in the NAOE over a nine month period, plus funds allocated for running and analysing the survey. Several interviewees noted that the evaluation was conducted over a sufficient period of time to allow for an effective analysis to take place and for the evaluation team to understand the operational as well as strategic parameters faced by the implementing agencies.

An external limitation was that monitoring data kept by the two agencies was of variable quality and considerable data-cleaning was required to identify companies supported and match data on support received with statistical business data.

As noted above, the ministries and agencies concerned by the evaluation were given the opportunity to comment on the findings, the main remarks are in summary:

[13] Factor analysis is a statistical method used to describe variability among observed variables in terms of a potentially lower number of unobserved variables called factors. In other words, it is possible, for example, that variations in three or four observed variables mainly reflect the variations in fewer such unobserved variables. Factor analysis searches for such joint variations in response to unobserved latent variables. The observed variables are modelled as linear combinations of the potential factors, plus "error" terms. The information gained about the interdependencies between observed variables can be used later to reduce the set of variables in a dataset.

- The hiatus and reform of measures between the two programming periods means that there was no continuity in implementation (MKM, EAS) so that measurable impact cannot be expected[14]. This effect was compounded by surveying enterprises during the economic crisis (MKM). Finally, 'payback' in terms of results may be longer for more complex projects (MKM) or the scale of financial support provided is marginal compared to enterprise turnover and hence should not lead to major effects (KredEx). However, the NAOE notes that it introduced a positive bias by giving enterprises the opportunity to predict future impact and not only the current situation. The NAOE also assessed whether there was a relationship between the scale of support and company turnover, e.g. export support had the least effect on the larger companies.
- The choice of sectors does not reflect priorities and introduced a negative bias (MKM) or the businesses supported are by definition on average weaker than the control group (KredEx). This type of claim was refuted by the NAOE given the consultations during the methodological preparation to select sectors and that the enterprises analysed are in better performing sectors than on average.

In a follow-up study commissioned by the MKM with a view to developing an evaluation framework for enterprise and innovation policy, Männik et al (2011)[15] highlighted a number of additional issues:

- Selection of sectors: the NAOE analysis excluded certain sectors and focused on those with the highest growth potential. The choice reflected views on future growth potential but it also include a disparate set of sectors partly 'labour intensive' (with lower productivity at outset, such as timber or metal sectors) and partly 'knowledge intensive' (accounting for relatively little employment but with high productivity at outset). Varblane (2008)[16] underlined that labour productivity growth in Estonia was fastest in the period up to 2008 in sectors oriented towards the domestic market irrespective of their innovativeness. The decision to analyse impact on growth sectors may have influenced the results by excluding sectors driven by 'domestic demand'. The NAOE interviewee noted that they were well aware of this aspect but that the Government policy that dictated the logical intervention model of the audit was not.
- Coverage of measures: the NAOE analysis examines direct funding measures to enterprises (grants and/or loans/guarantees). This ignores a number of the interventions aimed at developing a better environment for entrepreneurship or innovation and the overall effect this may have on overall performance of a wider group of companies, but in a marginal and more difficult to verify way.
- Project fallacy: the NAOE approach falls to some extent into the trap of project fallacy by assuming that a funded project is a singular event leading to a singular output (e.g. an export grant will lead to increased exports). From a company perspective the policy impact is more likely to arise from a series of interventions, both direct financial and indirect advisory services, along the 'life-cycle' of a product or the implementation of a plan to improve process innovations. The NAOE interviewee noted that while the risk of project fallacy is correct it raises

[14] Previous evaluations (see Kuusk, K. & Jürgenson, A. (2007). Impact Evaluation of State Enterprise Support Measures; Reid, A. (2006). Evaluation of the design and implementation of Estonian RTDI policy: implications for policy planning; Arnold, E. et.al. (2008) Mid-Term Evaluation of the Competence Centre Programme) noted that the measures launched in 2004-2006 suffered from delays and that a gap in implementation occurred between Structural Fund periods.

[15] Männik, K. et al (2011). Evaluation framework for innovation and enterprise support policies in Estonia.

[16] Varblane U. et al, (2008) The Estonian Economy Current Status of Competitiveness and Future Outlooks. Arengufond, Tallinn. Available at: http://www.arengufond.ee/upload/Editor/English/EST_IT2018/Spikker-ESTITfaas1_ENG_final_veebi.pdf.

issue of accountability. If it is impossible to trace a specific output or result from Government spending, then the evaluation risks attributing any change observed on beneficiaries over a period of time to 'policy intervention'.

- Behavioural additionality ('the differences in firm behaviour resulting from an intervention') was only partially explored in the evaluation. Although the NAOE survey asked questions on the way the support had influenced, for instance, company strategy or management methods, this was not fully explored in the analysis. Kalvet and Jürgenson (2007)[17] applied such techniques (based on the work of Kuutse and Jürgenson) to the R&D financing programme subsidies of the 2004-2006 period and found positive effects; while, like the more recent evaluation, finding a mixed result in terms of immediate 'economic effects'.

In general, interviewees considered that the evaluation had been conducted efficiently and in a cost-effective manner (a total estimated cost of roughly €70-80,000). It is likely that an external evaluation would have cost at least the same budget: the cost of recent external evaluation studies in Estonia vary between €40-75,000. The involvement of Statistics Estonia to conduct the survey and analyse the results most probably kept the cost lower than if a private contractor had been used.

6. Conclusions and lessons learned

The evaluation of business support measures in Estonia during the period 2004-2009 can be considered a good practice example for a number of reasons:

- Broad coverage of an entire portfolio of policy measures in favour of business creation, development (including innovation) and export growth. The evaluation focused on outcomes of close to €0.5 billion of public investment in the enterprise sector by the Estonian State, co-financed by the Structural Funds.
- A combination of qualitative and quantitative measures including the use of a double control group of applicant-non-successful and non-applicant companies with a focus on both outcomes and behaviour changes.
- A 'triangulation' of programme monitoring data, survey data from 1900 enterprises and data from business statistics and company tax returns to check the congruence of replies and identify differential performance between the beneficiaries and the control groups.
- A participative evaluation in which a wide consultation was ensured with the ministries and agencies responsible for the measures, enterprise associations and chambers, individual enterprises and academic experts.
- A 'right of reply' of the ministries and agencies evaluated concerning the findings of the evaluation that was included in the published (on Internet) final report.

The evaluation approach and methods are applicable in other countries and, in particular, could serve as a model for other 'new' Member States which have invested, like Estonia, from national and Structural Funds to improve business competitiveness.

Clearly, the position and potential influence of a national audit office means that a performance audit can, in the words of one interviewee, "*have a more direct impact on the career of those evaluated than an external evaluation*". This means that the

[17] Kalvet T. & Jürgenson, A. (2007). Assessing Impacts of the Estonian R&D Financing Programme on the Business Enterprise Sector. Paper prepared for FIRB-RISC CONFERENCE, "Research and entrepreneurship in the knowledge-based economy".

audit team have to be particularly careful in the way they construct the methodology and ensure that due consideration is given to potential interpretations of findings.

Nevertheless, the evaluation faced a number of limitations such as the quality of programme and monitoring data provided by the funding agencies as well as the difficulty in undertaking more complex statistical analysis due to the small number of firms receiving certain types of support or in specific sub-sectors.

A number of lessons can be learned from the evaluation:

- to pay sufficient attention to the representativeness of the control group both pre and post survey to avoid claims of bias;
- The need for ministries or agencies to make explicit the expected timeframe within which impacts can reasonably be measured and for the evaluation teams to adapt methods that allow for more or less quantifiable results to be assessed over time;
- to carefully assess the quality of data used to assess performance of assisted enterprises versus a control group;
- to take account of differences in intervention rationale between grant based and credit (loans and loan guarantee) instruments when evaluating impacts.

All interviewees would welcome guidance on the evaluation of complex sets of business support measures and information on specific methods or approaches (e.g. tailored to the specific nature of loan and loan guarantee instruments).

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Case study completed: October 2011