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EVALUATION AND
MONITORING OF
BUSINESS AID IN
FINLAND

APPLICANT
ENTERPRISES
PROJECTS AND
DISTRIBUTORS OF
AID IN INDUSTRIALLY
DECLINING REGIONS

A QUANTITATIVE
APPROACH

Takis Venetoklis

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As usual, personal disclaimers apply. Although in the study the pronoun 'we' is used, the author is solely responsible for opinions expressed and any mistakes found in the text.

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VENETOKLIS TAKIS: EVALUATION AND MONITORING OF BUSINESS AID IN FINLAND. APPLICANT ENTERPRISES PROJECTS AND DISTRIBUTORS OF AID IN INDUSTRIALLY DECLINING REGIONS. A QUANTITATIVE APPROACH. Helsinki, VATT, Valtion taloudellinen tutkimuskeskus, Government Institute for Economic Research, 1998, (C, ISSN 0788-5016, No 169). ISBN 951-561-239-X.

Abstract: The study examines comprehensively the three entities involved when state aid is distributed to enterprises in Finland, namely the applicant enterprises, the projects financed and the distributors of funds. It demonstrates how quantitative methods can be used to monitor and evaluate state aid to enterprises. In the study the distributor is the Ministry of Trade and Industry (KTM). The material is gathered from data found in state aid applications from enterprises located in industrially declining (Objective 2) areas in the prefectures of Varsinais-Suomi and Päijät-Häme during 1995-96.

The study lists certain characteristics of the applicant enterprises, the projects financed and it measures the performance of different financing operations by KTM. Furthermore, it examines the factors which influence KTM in deciding whether to finance or not a state aid application by building logistic regression models. Results indicate that (a) there are no clear differences between enterprises which receive aid and those that do not and (b) each KTM office applies to some extent its own financing procedures. Recommendations include (1) standardization of selection methods, (2) on-going utilization of the databases, (3) creation of a flexible and targeted system of state aid where final beneficiaries are clearly defined, (4) creation a follow-up system to measure and evaluate the impact of the state aid, (5) imposing restrictions as to how often the same enterprises are to be granted aid, (6) an introduction of an alternative type of aid in the form of forgivable loans.

Key words: valuation, monitoring, business aid, EU structural financing, quantitative methods

Tiivistelmä: Tutkimus selvittää kolmea toimijatasoa valtion yritystuen jaossa perusteellisesti. Kohteena ovat tuen saajayritykset, rahoitetut hankkeet sekä tuen jakelutiet. Selvitys osoittaa kuinka kvantitatiivisin menetelmin voidaan tarkastella ja arvioida yritystukia. Tutkimuksessa jakelutienä on kauppa- ja teollisuusministeriö (KTM). Aineisto perustuu hakijayritysten tietoihin teollisesti taantuvilla alueilla (tavoite 2) Varsinais-Suomen ja Päijät-Hämeen maakunnista vuosina 1995-96.

Tutkimus luettelee hakijayritysten ominaisuuksia, rahoitettujen hankkeiden ominaisuuksia sekä mittaa KTM:n suorittamien rahoitusoperaatioiden vaikutuksia. Lisäksi tutkitaan KTM:n yritystukipäätöksiin vaikuttavia tekijöitä regressiomallilla. Tulokset osoittavat, (a) ettei ole selviä eroja yritysten välillä, jotka saavat tukea tai joilta tuki on evätty, sekä (b) että kukin KTM:n piiritoimisto noudattaa tiettyyn määrän asti omia rahoitusmenettelyjään. Suosituksena esitetään (1) valintamenettelyn vakiointia, (2) tietokantojen ajantasaista hyödyntämistä, (3) joustavan ja tavoitteellisen yritystukimenettelyn luomista, jossa loppuhyötyjät on selvästi määritelty, (4) yritystukien seuranta- ja mittausjärjestelmän luomista, (5) rajoitusten luomista yrityksen saaman yritystuen saannin tiheydelle, sekä (6) vaihtoehdoisen luottopohjaisen tukimuodon kehittäminen, jossa velka voidaan muuttaa avustukseksi.

Asiasanat: evaluointi, seuranta, yritystuki, EU-rakennerahastot, kvantitatiiviset menetelmät

Preface

This study is a continuation of a pilot research conducted on behalf of the Ministry of Trade and Industry (KTM) in 1996 (Venetoklis, 1997). The research theme is the same; namely the examination, monitoring and evaluation of the financing procedures through which enterprises located in selected Objective 2 areas around Finland apply for state aid from the regional offices of KTM.

There are important differences between the pilot study and this one. First, our sample is now much bigger. In the 1996 study we analyzed 188 applications for aid. They were submitted to the KTM offices of Turku and Lahti by enterprises located in Objective 2 areas (municipalities) of Varsinais-Suomi and Päijät-Häme and were 'decided' during 1995. Our current analysis is based on 419 applications. We now examine the applications submitted to the same KTM offices from the same Objective 2 municipalities decided in 1995 and 1996.

The second difference is the analysis itself. Our effort is focused in inferential statistical analysis. We conduct comparisons and build regression models to test hypotheses on differences between the characteristics of rejected vis-à-vis accepted applicant enterprises.

Through this process we show the usefulness of this type of comprehensive quantitative analysis. We hope that the analytical methods described in this study will contribute in shaping a monitoring and evaluation model of operations; a model of operations which can be utilized when one deals with EU Structural aid and National state aid to enterprises.

The study is divided in three main parts. Part 1 substantiates the need for such a study. It also describes the methodology applied and the sample based on which the statistical analysis is conducted.

Part 2 deals with the actual results of the statistical analysis. Sections 2.1, 2.2 and 2.3 include descriptive statistics. We describe the three principal components of the financing process, that is

- the applicant enterprises
- the agency distributing the funds (KTM)
- the projects financed.

Section 2.4 describes the inferential statistical analysis applied on the sample. We test several hypotheses about the differences/similarities of the applicant enterprises in terms of accepted/rejected applications. Here we also build different Simple Factorial Analysis of variance and Logistic Regression models; they identify the factors which influence the decision making process by KTM when it evaluates the applications for state aid.

Part 3 interprets the results of the previous two parts and gives recommendations.

In the Appendix section we include some additional tables not shown in the main parts.

This paper is a shorter version of the actual study conducted. The interested reader can obtain the complete study directly from VATT.

Helsinki, September 1998

Summary

The study examines comprehensively the three entities involved when state aid is distributed to enterprises in Finland, namely the applicant enterprises, the projects financed and the distributors of state aid. The study demonstrates how quantitative methods can be used to monitor and evaluate state aid to enterprises.

In the study, the distributor of aid is the Ministry of Trade and Industry (KTM). Because of the involvement of European Union (EU) structural financing, the material is gathered from data found in state aid applications from enterprises located in industrially declining (Objective 2) areas in the prefectures of Varsinais-Suomi and Päijät-Häme. Our sample (419) consisted of Investment, Development and Small business aid applications. They were handled at the local KTM offices in Turku (115) and Lahti (304) during 1995 and 1996. The overall rejection rate was 27%.

The Manufacturing sector received the majority of the funds distributed (89%); the Manufacturing sub-sector 'Basic metals and fabricated metal products - DJ' had most of the accepted applications (30%) but received only 17% of the distributed funds; on the other hand the sector 'Machinery and equipment n.e.c.' (not elsewhere classified) had 8% of the applications but 16% of the funds distributed.

Enterprises which received from KTM during 1995 and 1996 aid more than once (repeater applicants), constituted 31% of our sample; enterprises receiving during the same period aid once only was 69%. The aid per project in the repeater applicants was much higher than for the non-repeater applicants (252 000 mk to 170 000 mk respectively).

The majority of decisions to grant aid were made in the KTM offices during the end of the year (December). This concentration was not only due to the availability of funds at the end of the year; it indicates the 'pressure' to absorb (distribute) all of the budgeted funds during the same year.

The aid cost per new job - estimated to be created - was 38 000 mk. One should keep in mind that this amount refers to the aid given by KTM only; KTM aid constituted approximately 17% of the total project cost. Other financing sources were KERA with 8%, Banks with 36% and Applicants' own sources with 39%.

Different categorical variables of the applicant enterprises were compared. We applied chi-square tests and examined whether there was dependence between each one of them and the decision by KTM to aid or not.

The results were mixed. For example, we found that KTM's decision to aid or not **did not depend on**

- whether the applicant enterprise was part of a conglomerate
- the type of aid applied
- whether the enterprise had applied in the past for aid.

The decision **did depend on**

- the industrial sector of the applicant enterprise
- the size of personnel in the enterprise
- whether the enterprise was a start-up company
- the KTM analyst.

We also applied chi-square tests to compare if the positive and negative criteria mentioned in the KTM analysts' reports differed between the analysts in KTM Turku and KTM Lahti.

Again we found that the results were mixed. For Investment aid and Small business aid projects the analysts in KTM Turku focused on different criteria than the ones of their colleagues in KTM Lahti. And that was both for positive and negative criteria. On the other hand in Development aid projects the criteria mentioned by the analysts in KTM Turku and KTM Lahti did not differ significantly between them.

We conducted T-tests and compared financing figures of the applicant enterprises controlling once more for the decision by KTM to aid or not. The financial figures we used were the Turnover, Balance sheet value, Operating profit, Operating profit %, Own capital, Short term loans, Long term loans, Reserves, and Personnel.

When we compared the accepted vis-à-vis the rejected applications we saw that the Turnover, Balance sheet value, Short and Long term loans and Reserves differed significantly (these variables were higher with the accepted applicants). On the other hand the Operating profit, Profit margin, Own capital and Personnel did not differ.

If we were to assume that state aid was geared to stronger and financially healthier enterprises, then these results are indeed mixed. High Turnover and Balance sheet volumes may indicate financial strength where as high Short term and Long term loans may indicate the opposite.

We did not notice differences between Own capital amounts nor Operating profit margins in the two groups. Again this is contradictory to the hypothesis that more profitable and stronger enterprises have a better chance of receiving state aid.

Furthermore we examined the profile of our sample applicant enterprises against the similar enterprises from the same geographical areas (Objective 2 municipalities in Turku and Lahti). For these comparisons we conducted one-sample T-tests. The variables compared were the 'Turnover' and the 'Turnover per personnel'.

For the variable 'Turnover per personnel' the results were in conformity with what we would expect where state aid is distributed; we found that the value of our sample was lower than the respective one of the compared population. The variable 'Turnover' showed some mixed results. The turnover figures of our sample from KTM Lahti were indeed lower to the compared population. However when our sample was from KTM Turku there was no significant difference between our sample and the respective population tested.

We combined all the aforementioned results and built logistic regression models to identify the most important factors which influenced the decision by KTM to grant aid or not. The final model selected three variables:

- The KTM analyst handling the application
- The Manufacturing sector of the applicant enterprise
- Whether the enterprise was new or not (start -up less than a year old at the time of application).

The fact that the KTM analyst was chosen as a predictor was contradictory to what we would have expected. One would think that the decision making process is independent of the KTM analyst; rather it is based on other characteristics which refer to the applicant enterprise herself. Nevertheless, there are several explanations to this ‘illogical’ result. One is that our analysis is based on a very focused and narrow sample of all the applications that are submitted yearly to KTM Turku and Lahti. Also, there is ‘specialization’ among the analysts in that most of them concentrate on a few types of aid, a few Industrial sectors and on certain geographical areas. Had our sample been not that restricted, the KTM analyst might have not turned out to be a significant factor in the decision making process.

The inclusion of the industrial sector and the dichotomous variable which examines whether the applicant is a new or older enterprise were more in line with our expectations.

The consensus of all the statistical analyses implemented was that the results were mixed. We could not identify a pattern of consistent outputs which would convince us that there is a clear and structured policy in KTM when distributing state aid to enterprises. For example we were not able to clearly identify:

- which applicant enterprises should KTM aid (e.g. what should have been their financial, legal, managerial and other characteristics)
- which applicant enterprises should KTM not aid
- based on what criteria (variables) the selection process was to have been implemented by the KTM analysts.

In monitoring and evaluation of the financing process, one measures results against pre-determined targets to see how the entity has performed. If some of those targets are non-existent - as it seems to be the case here - they should somehow be defined.

The current legislation covering state aid gives only general guidelines on who the beneficiary of state aid should be and based on what criteria aid could be granted (e.g. the size of the applicant enterprise can be measured in terms of personnel and turnover, aid can not be given to unprofitable enterprises, etc.).

In order to identify in more detail the aforementioned beneficiaries and the selection criteria, policy makers and implementers should not rely solely on the legislation. They should in our opinion **deepen** even more the implementation part of state aid distribution. The study recommends the following:

1. Standardization of evaluating applications

Standardization rules which relate to the evaluation of state aid applications by the KTM analysts should be re-designed and implemented. They must be strict in the sense that they must be followed by all KTM analysts in all the regional KTM offices. They must be clearer than the current rules in force. They could be in the form of check lists of positive/negative criteria and indicators which the KTM analyst must complete. The check list can vary depending on the type of aid applied for, but it is vital that all the parts of the list are inputted.

2. Continuous analysis of existing data for monitoring and evaluation of state aid implementation

Information gathering and reporting as an ongoing process is a vital tool which the policy makers and policy implementers in KTM need to utilize. Since 1997 a new database system handling the applications for state aid has been utilized by all KTM regional offices. The new system is now centrally maintained and is on line, thus its aggregate reporting capabilities are considerably more advanced compared to the old system. This study shows numerous methods with which one can analyze the existing data in great depth and utilize the results for monitoring and evaluation purposes.

3. Creation of a follow-up system measuring the impact of state aid

A follow-up system through which KTM can monitor the progress and development of the applicant enterprises is essential. Through this system the ministry can measure the impact that state aid has had on the beneficiaries.

Enterprises which apply for aid could agree to provide by themselves financial, employment and other information to the KTM offices where they submitted their state aid application. This obligation could be an on-going process. Information could be gathered on regular intervals (e.g. yearly). The feedback obligation could become mandatory not only for enterprises which have received aid, but for those which were rejected. This way data would be gathered providing performance information, not only on the actual recipients of state aid but on the non-recipients as well. KTM could then obtain valuable information on alternatives courses of action by the non-recipients and how they fared vis-à-vis the recipients of state aid.

4. Flexible and targeted state aid system where beneficiaries are clearly defined

We feel that KTM should take advantage of this new database system by examining on regular intervals the distribution of the state aid around the country. This could take the form of standardized periodic reports including certain quantitative indicators and comparison test results. Since the data is available on line, possibilities exist in creating a flexible and targeted state aid system, whereby the characteristics of the potential beneficiaries can be clearly defined.

5. Restrictions on repeater applicants

In the study we noticed that 31,5% of the applications submitted came from repeater applicant enterprises and these repeaters managed to get 40,6% of the total aid distributed. And that in a period of just two years (1995-1996). We feel that some restrictions must be imposed on how often an enterprise is allowed to apply for state aid and how often she is to be granted aid.

6. Alternative form of aid to enterprise: forgivable loans

An issue which for us is of great importance deals with job creation. The KTM analysts in their lists of positive criteria mentioned job creation and job maintenance as the top reason for granting aid. Indeed the legislation also emphasized this goal. The question that arises is this: How could one motivate or even pressure the beneficiary enterprise to actually create the new jobs her application was estimated to create? After all state aid is free funding, thus there is in practice no real obligation from the enterprise once aid has been received.

In the US one approach of state funding to SMEs takes the form of 'forgivable or deferred loans'. The system works as follows:

The beneficiary receives a certain amount of money not in the form of a grant, but in the form of a loan. The enterprise has the obligation to create during a certain period a certain amount of new jobs. If these new jobs are maintained for a certain period (e.g. five years), half of the loan is forgiven; if the new jobs are maintained for another five years, the other half of the loan is forgiven.

The enterprise has to prove to the officials monitoring the project that the agreed number of new jobs has been created. Only then the loan is converted into a grant and the beneficiary ceases to have the obligation in his books to repay the money given. This deferred loan has a term and interest rate but the agent distributing it waives principal and interest payments if the enterprise meets her job creation goals. If on the contrary, the jobs promised are not created the loan is repayable.

This system in our opinion creates a very clever incentive for new job creation. It could provide the KTM application evaluators with a 'yardstick' of identifying the truly 'good' applicants. This convertible loan-to-grant aid system can identify the applicant enterprises which show commitment in their proposed investment project by willfully taking the risk of a loan. These applicants would take the risk because they believe they have a good chance of converting it into a grant later by creating and maintaining new jobs.

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1. Introduction

There are many monitoring and evaluation theories and methodologies most of which have been developed since the mid sixties. The works of Scriven (1967, 1991), Patton (1986, 1996), Shadish (1991), Chen (1996), Guba and Lincoln (1981, 1989), Rossi and Freeman (1989) are a few examples. However none of these theories are universally acceptable.

Some theories are proponents of applying qualitative methodologies and others quantitative ones when evaluating and monitoring the entity in question.

Nevertheless, in the majority of them, there are some common aspects. First, monitoring and evaluation theories require that detailed **description** of the different 'actors' and procedures (of the theme investigated) is documented. Through this process a better understanding is achieved and insights - that can not be identified otherwise - surface. Secondly, monitoring and evaluation require the **comparison** of existing results against some other predefined values in order to create a measurement scale of success or failure of these results.

1.1 Evaluation of European Union structural financing

During the last few years we have seen a significant increase in the evaluation of regional policy and more specifically in the appraisal of the European Union structural financing. Every EU country nowadays conducts regular evaluations in these areas. For example, as early as of July 1993, in excess of 300 individual structural fund evaluation studies had been undertaken (Bachtler and Michie, 1995).

Recent studies on program and project evaluation in public policy and administration call for attention to straightforward, unambiguous and widely applicable analytical tools for assessing the socio-economic performance of public bodies in various fields of policy making (Nijkamp and Blass, 1995).

After the 1988 reform of the European Community structural funds, the obligation for evaluation was introduced to appraise the impact of Community structural actions. The regulations required that structural operations to be the subject of ex-ante, on-going and ex-post assessment to highlight their impact in connection to the five priority Objectives.

Each phase referred to a specific moment in the policy process. The ex-ante precedes the actual implementation, the on-going is done during the implementation and the ex-post evaluation follows the policy implementation (Hagens et al, 1994).

In 1993 new regulations on structural policy financing were introduced (Council (EEC) No. 2081/93, 2082/93, 2083/93, 2084/93, 2085/93, 2080/93). In accordance with the

principles laid down at the European Council meeting in Edinburgh, cost-effectiveness is a key factor in structural fund assistance. The regulations provided that
...assistance will be allocated where appraisal shows medium term economic and social benefits commensurate with the resources employed

Nevertheless one can not disregard that there are many methodological problems in evaluating structural funds. That is due to the nature of the EU regional policy. As Bachtler and Michie (1995) put it different problems arise from the fact that:

- in structural fund operations there is a lack of clarity and specificity concerning their objectives
- programs comprise a mix of EU, national, regional and local funds
- EU expenditure is additional to national expenditure
- structural fund operations are evaluated at a variety of levels, that is project evaluation, Operating Program (OP) evaluation, Community Support Framework (CSF) evaluation
- at micro level data may be insufficient or totally absent.

For the purpose of this study we narrow the scope of the evaluation and examine Objective 2 structural financing in particular. According to EU definition the Objective 2 has as its goal to help convert the regions or part of regions seriously affected by industrial decline. The framework regulation (Council (EEC) No. 2081/93) provides for three key eligibility criteria for areas smaller than or equal to NUTS level III:

- an unemployment rate above the Community average
- a percentage share of industrial employment higher than the Community average
- a decline in this employment category (CEC, 1996).

This focused approach automatically gives us a clearer field to investigate, namely the enterprises which apply for structural financing, the projects applied to be financed and the national/local organizations/agents through which the funds are distributed.

1.2 Evaluation of state aid to businesses in Finland

Evaluation, as an integrated function of the Finnish governmental policy making operations has only lately been promoted to a status that elsewhere in the world has been a long tradition. The Finnish government has consciously been trying - as part of reforming the managerial aspect of public sector operation - to create an 'evaluation culture' within the public sector (Holkeri and Summa, 1997).

At the same time the subject of state aid to enterprises has gained popularity among researchers. For example Palokangas (1992) analyzed the state aid legislation in Finland, in the EEA and EC countries. Raatikainen (1993) analyzed and evaluated the state aid system as well. Haarajärvi and Myhrman (1994) described the different agencies which grant different forms of aid. The effectiveness of grants to businesses was the focus of a study by Myhrman et al. (1995). Yet another study on the effectiveness of

state aid is one by Kuitunen and Lavaste (1995). It examined the effects to the competitiveness of the beneficiary enterprises when they were granted state aid.

1.3 Evaluation of state aid to businesses in Finland involving EU financing

As mentioned above, monitoring and evaluation are integrated functions of the EU financing procedures. Thus, several reports and articles have already been published. Some have been initiated by the Ministry of Internal Affairs, the organization responsible for overseeing the implementation of the EU structural financing in the country (Sisäasiainministeriö, 1996a); others by the individual ministries/agencies distributing the funds (e.g. KTM, TEKES, etc.); others by Statistics Finland (e.g. Kuntapuntari, 1997); and others by research institutes and universities.

Eskelinen et al. (1996) prepared a comprehensive ex-ante evaluation of Finland's Objective 2 regional development plan by examining its Single Programming Document (SPD). Forsström and Mustonen (1996) conducted a mid-program evaluation of the Finnish Objective 2 program with focus on enterprises. In 1997, the first ex-post evaluation of the first programming period (1995-96) of the Objective 2 program was published (Sisäasiainministeriö, 1997).

The research reviewed thus far describes the legal and operational environment of state aid. Some research does attempt to measure the impact of the state aid operations. The methodologies utilized are mainly based on qualitative methods (case studies, interviews) and descriptive quantitative methods. What is somewhat surprising is **the lack of detailed statistical analysis of different quantitative variables of the actors¹ which are involved in this whole financing process.**

This omission has been noted in all the aforementioned reports one way or another. Nevertheless, the recommendations to correct this deficiency do not give concrete examples on what exactly should be done.

A detailed type of quantitative analysis can be very valuable when one attempts to monitor, measure and in consequence evaluate these operations. This claim is reinforced in part by practices implemented outside Finland where quantitative analysis of such operations have a long tradition.

¹ The European Commission has issued guidelines on who the final beneficiaries should be (Sisäasiainministeriö, 1996b). These definitions refer to final beneficiaries as '*...the public authority or firm carrying out the project...*'. The guidelines go on and list certain basic criteria that firms - applying for structural aid - should fulfill to be eligible for aid. The guidelines however do not define in any more detail the actual profile of these applicant firms (e.g. in terms of size, sector, financial performance, etc.).

1.4 Evaluation of state aid to businesses outside Finland

Especially in English speaking countries such as the UK, USA, Canada, Australia and New Zealand evaluation of state aid schemes with regards to businesses are conducted on a regular basis. Methodologies used involve detailed quantitative statistical analysis of data gathered from the applicant enterprises and from the government agencies responsible for the distribution of the state aid.

For instance, Anand (1988) discussed 'Value For Money' (VFM) audits in the UK with reference to the work conducted by the National Audit Office (NAO).² He supported the idea

... for the auditor to use large amounts of quantitative information and therefore have access and techniques used for handling that information... (p. 258).

The Program Evaluation Division of the Office of the Legislative Auditor of the State of Minnesota in the U.S. published a report in 1996 examining the program 'State Grant and Loan programs for businesses'. The report produced information on funds spent, project selection criteria, the application process followed, etc. It also reported detailed quantitative information on jobs created through the program and it matched public funds distributed to the jobs created.

In Canada the Auditor General conducted in 1994 and 1995 audits on the entities - government organizations or agencies - responsible for regional economic development programs launched in the country. These agencies had the duty of distributing federal funds to private enterprises and of monitoring their utilization by the recipients. One audit is of particular interest to this research because

- the agency responsible was Industry Canada (the Canadian Ministry of Industry) and
- the targeted beneficiaries were Small and Medium Enterprises (SMEs) in the industrial sector.³

The audit examined randomly picked projects, financed through these two programs and reported quantitative information on such matters as

- the process time of an application
- the business sectors where the funds finally were invested
- the time it took of a funded project to be commercial available
- the jobs created in direct response to these projects
- the criteria used to access the applications for state aid.

The report clearly showed the value of maintaining complete documentation on file and in electronic form. The material was analyzed and information was produced on quantitative variables which were linked to the different phases of the financing operations.

² The NAO is one of several Audit bodies responsible for monitoring public expenditures.

³ The agent and the beneficiary of this study are very similar to the ones in the Canadian study (Agent: Finnish Ministry of Trade and Industry, Beneficiaries: Enterprises in industrially declining areas).

Finally one should mention that the quantitative paradigm in evaluation does not have friends only but foes as well. We mentioned earlier Guba and Lincoln (1981, 1989) and Patton (1986, 1996); they are prime examples of supporters for the qualitative model to evaluation.

In a more recent research which deals with a topic very similar to this study, Curran et al. (1997) argued that

The predominant approaches to the evaluation of SME policies have been economics-based relying on aggregate quantitative data collected by some kind of survey-based methodology. The weaknesses of such approaches are now very apparent (p. 28)

Curran went on to list deficiencies of the quantitative paradigm by stating among others, that survey-based aggregate data suffers from methodological deficiencies such as poor sampling methods, high turnover in SME population, low response rates, bias of response rates between small and large firms, high heterogeneous populations, etc.

In principal we are not against the qualitative paradigm; indeed it can provide very detailed ‘vertical’ information. However if ones wants to analyze a lot of events (cases) which include a wide spectrum of different types of data he is bound to use quantitative methods.

We believe that all of the aforementioned deficiencies are not applicable to the methodology we are implementing with this study. As will be made clearer in the following section we are not utilizing survey-based aggregate data thus avoid the otherwise very true deficiencies of the quantitative paradigm. We are assessing rather existing data gathered from data files that describe actual events occurred.

1.5 Objective and scope of the study

With this study we analyze the financing procedures through which state aid is distributed to enterprises. We give examples of how these activities can be monitored and evaluated.

The enterprises are located in several municipalities within the prefectures of Varsinais-Suomi and Päijät-Häme. These municipalities are eligible for EU structural funds since they are characterized as ‘industrially declining’ areas or ‘Objective 2’ areas. They are also eligible for national state aid having been classified as ‘structural adjustment areas’.

The agent distributing the aid to these enterprises is the Ministry of Trade and Industry (KTM). The actual data analyzed, is found in the application files for state aid maintained by the local KTM offices in Turku and Lahti.

In evaluation studies conducted thus far on state aid to enterprises here in Finland, the method of preference has been the qualitative one; the majority of the evaluations are

based on case studies. Among others, the studies recommend the setting up of good database systems which can assist in monitoring and evaluating the state aid financing process. What is not mentioned is **how** the collected data is to be analyzed for it to be of any use.

Our study fills the gap. It utilizes quantitative statistical methods and shows the type of quantitative analysis that can be applied when one deals with state aid to enterprises. Consequently the results of the analysis can be used in evaluating and monitoring the whole financing process.

As mentioned earlier, these quantitative methods have advantages over their qualitative siblings in that they are able to handle a great amount of events (cases) and thus have a better ‘horizontal’ coverage; qualitative methods are more detailed and thus have a better ‘vertical’ coverage.

Based on the theoretical approach of description and comparison, the study first describes in detail the three principal actors of the financing process:

- the applicant enterprises
- the projects financed
- the agency distributing the funds (KTM).

It then proceeds to conduct statistical tests comparing characteristics of the applicant enterprises based on whether they received state aid or not.

Finally it builds different ANOVA and logistic regression models which identify the factors influencing the decision making process by KTM.

2. Results

2.1 The characteristics of the applicant enterprises

2.1.1 Total sample

The types of applications that were analyzed with our database is shown in Tables 1 to 5. Our sample consisted of 419 applications that were submitted to KTM offices in Turku (115) and Lahti (304) and processed (decided) during 1995 and 1996. The applicant enterprises were all located in the 10 Objective 2 areas under jurisdiction of KTM Turku (6) and KTM Lahti (4). We gathered approximately 75% of all the applications handled during these two years.

Out of these 419 applications

- 44,6% were applications for regional Investment aid, 26% for Development aid and 29,4% for Small business aid
- 72,6% were granted aid and 27,4% were rejected
- 74,7% of the accepted applications received EU+Nat. funds and 25.3% National funds only
- Applications for Small business aid were rejected more frequently (32,5%) than applications for Investment aid (27,3%) or for Development aid (22%)
- KTM Turku handled relatively more Investment aid and Small business aid applications than KTM Lahti (52,2%-41,8% , 35,7%- 27%) but less Development aid applications (12,2%-31,3%)
- The actual amount of applications in KTM Turku were reduced from 1995 to 1996 (62 to 53) where as in KTM Lahti they were increased (131 to 173).⁴
- The utilization of EU funds was increased from 1995 to 1996. In 1995 64,7% of the total accepted applications were committed to EU+Nat. funds; in 1996 this percentage went up to 82,5%.

⁴ The reader should remember that this refers to our selected sample of applications only. It may not give the complete picture of the activities of both KTM offices during 1995 and 1996.

Table 1. All sample based on type of aid and decision

			Decision		Total
			Rejected	Granted	
Type of aid	Investment aid	Count	51	136	187
		% within Type of aid	27,3%	72,7%	100,0%
		% within Decision	44,3%	44,7%	44,6%
	Development aid	Count	24	85	109
		% within Type of aid	22,0%	78,0%	100,0%
		% within Decision	20,9%	28,0%	26,0%
Small business aid	Count	40	83	123	
	% within Type of aid	32,5%	67,5%	100,0%	
	% within Decision	34,8%	27,3%	29,4%	
Total	Count	115	304	419	
	% within Type of aid	27,4%	72,6%	100,0%	
	% within Decision	100,0%	100,0%	100,0%	

Table 2. All sample based on type of aid and KTM office

			KTM office		Total
			Turku	Lahti	
Type of aid	Investment aid	Count	60	127	187
		% within Type of aid	32,1%	67,9%	100,0%
		% within KTM office	52,2%	41,8%	44,6%
	Development aid	Count	14	95	109
		% within Type of aid	12,8%	87,2%	100,0%
		% within KTM office	12,2%	31,3%	26,0%
Small business aid	Count	41	82	123	
	% within Type of aid	33,3%	66,7%	100,0%	
	% within KTM office	35,7%	27,0%	29,4%	
Total	Count	115	304	419	
	% within Type of aid	27,4%	72,6%	100,0%	
	% within KTM office	100,0%	100,0%	100,0%	

Table 3. All sample based on type of aid and financing source

			Financing source		Total
			EU + Nat. aid	Nat. aid only	
Type of aid	Investment aid	Count	115	21	136
		% within Type of aid	84,6%	15,4%	100,0%
		% within Financing source	50,7%	27,3%	44,7%
	Development aid	Count	49	36	85
		% within Type of aid	57,6%	42,4%	100,0%
		% within Financing source	21,6%	46,8%	28,0%
Small business aid	Count	63	20	83	
	% within Type of aid	75,9%	24,1%	100,0%	
	% within Financing source	27,8%	26,0%	27,3%	
Total	Count	227	77	304	
	% within Type of aid	74,7%	25,3%	100,0%	
	% within Financing source	100,0%	100,0%	100,0%	

Table 4. All sample based on budget year and KTM office

			KTM office		Total
			Turku	Lahti	
Year of decision	1995	Count	62	131	193
		% within Year of decision	32,1%	67,9%	100,0%
		% within KTM office	53,9%	43,1%	46,1%
	1996	Count	53	173	226
		% within Year of decision	23,5%	76,5%	100,0%
		% within KTM office	46,1%	56,9%	53,9%
Total		Count	115	304	419
		% within Year of decision	27,4%	72,6%	100,0%
		% within KTM office	100,0%	100,0%	100,0%

Table 5. All sample based on budget year and financing source

			Financing source		Total
			EU + Nat. aid	Nat. aid only	
Year of decision	1995	Count	86	47	133
		% within Year of decision	64,7%	35,3%	100,0%
		% within Financing source	37,9%	61,0%	43,8%
	1996	Count	141	30	171
		% within Year of decision	82,5%	17,5%	100,0%
		% within Financing source	62,1%	39,0%	56,3%
Total		Count	227	77	304
		% within Year of decision	74,7%	25,3%	100,0%
		% within Financing source	100,0%	100,0%	100,0%

2.1.2 Industrial sector of applicant enterprises

Based on the Standard Industrial Classification (SIC 1995) used by Statistics Finland, there are 18 different Industrial sectors under which different enterprises (private and public) are classified. They are:

- A- Agriculture, hunting and forestry*
- B- Fishing
- C- Mining and quarrying
- D- Manufacturing*
- E- Electricity, gas and water supply
- F- Construction*
- G- Wholesale and retail trade; repair of motor vehicles, motorcycles personal and household goods*
- H- Hotels and restaurants*
- I- Transport, storage and communication*
- J- Financial intermediation
- K- Real estate*
- L- Public administration and defence; compulsory social security*

- M- Education
- N- Health and social work*
- O- Other community, social and personal service activities*
- P- Private households with employed persons
- Q- Extra-territorial organisations and bodies
- X- Industry unknown*

We were surprised to find such a high diversity of Industrial sectors applying for state aid. In our sample we found applications from enterprises belonging to 11 of these 18 sectors (* above indicates the sectors). Three fourths of the applications (75,2%) came from enterprises under the Manufacturing sector D, followed by the Real Estate sector K (11%). Both these sectors had rejection rates less than the sample average (D: 22,2%, K: 21,7%, Average: 27,4%) (Appendix Table 19).

We checked the distribution of funds among the financed sectors. The Manufacturing sector D absorbed 88,8% of the funds distributed but it had 80,5% of the accepted applications. Real Estate K received only 7,7% of the funds although it occupied 11,8% of the applications (Table 6)

Table 6. Aid granted based on Industrial sectors

Industry (SIC)	Sum*	%	N	%	Mean*	Min*	Max*
A - Agriculture/Hunting/Forestry	560	0,9	1	0,3	560	560	560
D - Manufacturing	53 030	88,8	245	80,5	216	4	4 040
F - Construction	514	0,8	3	0,9	171	60	260
G - Wholesale/Retail trade	535	0,9	8	2,6	66	12	154
H - Hotels/Restaurants	205	0,3	5	1,6	41	10	108
I - Transport/Storage/Communication	176	0,3	2	0,6	88	21	154
K - Real Estate	4 593	7,7	36	11,8	127	5	1 590
N - Health/Social work	15	0,03	1	0,3	15	15	15
O - Other activities	39	0,07	3	0,9	13	8	16
Grand Total	59 669	100,0	304	100,00	196	4	4 040

(* in 1000 mk)

2.1.3 Manufacturing sub-sector of applicant enterprises

The manufacturing sector was the biggest industrial sector of our sample (315 applications - 75,2%). The areas where the applicant enterprises were located were characterized as 'Industrially declining areas'. Thus, we decided to apply the previous cross-tabulations to this sector as well. According to SIC the manufacturing sector is divided into 14 sub-sectors. They are 'Manufacture of':

- DA- Food products; beverages and tobacco
- DB- Textiles and textile products
- DC- Leather and leather products
- DD- Wood and wood products

DE- Pulp, paper and paper products; publishing and printing
 DF- Coke, refined petroleum products and nuclear fuel
 DG- Chemicals, chemical products and man-made fibers
 DH- Rubber and plastic products
 DI- Other non-metallic mineral products
 DJ- Basic metals and fabricated metal products
 DK- Machinery and equipment n.e.c.
 DL- Electrical and optical equipment
 DM-Transport equipment
 DN- Manufacturing n.e.c. (not elsewhere classified).

In our sample all of the above 14 sub-sectors were represented but one (DF- Coke, refined petroleum products and nuclear fuel). Again this indicates the vast number of different sectors which were interested in applying for state aid. Sector DJ (Basic metals and fabricated metal products) had the highest frequency of applications (28,3%) followed by sector DN (Manufacturing not elsewhere classified) with 14,3%. Sector DN also had the higher rejection rate, with 31,1% of its applications not approved; that was much higher than the average of 22,2%. On the other hand sector DJ had a much lower rejection rate at 16,9% (Appendix Table 20).

The distribution of funds among these manufacturing sub-sectors revealed some interesting information (Table 7). Although the DJ sector had 30,2% of all the accepted applications, it received only 17,1% of the funds distributed. The same occurred with the DN sector; 12,6% of applications, 4,2% of funds distributed. The opposite occurred elsewhere; the DK sector had 11,8% of the number of applications but received 15,4% of the funds; DL had only 8,1% of the applications but nevertheless it received 16,4% of the funds distributed.

Table 7. Aid granted based on manufacturing sub-sector

Manufacturing	Sum*	%	N	%	Mean*	Min*	Max*
DA	4 762	8,9	11	4,4	432	5	3 250
DB	473	0,8	11	4,4	43	4	192
DC	20	0,04	1	0,4	20	20	20
DD	2 725	5,1	18	7,3	151	9	900
DE	2 345	4,4	18	7,3	130	14	781
DG	66	0,1	1	0,4	66	66	66
DH	4 858	9,1	14	5,7	347	20	3 525
DI	2 256	4,2	8	3,2	282	30	1 800
DJ	9 075	17,1	74	30,2	122	8	900
DK	8 188	15,4	29	11,8	282	8	3 600
DL	8 721	16,4	20	8,1	436	25	1 858
DM	7 308	13,7	9	3,6	812	14	4 040
DN	2 229	4,2	31	12,6	71	11	352
Grand Total	53 030	100,0	245	100,00	216	4	4 040

(* in 1000 mk)

2.1.4 Size of applicant enterprises based on personnel

We divided the applicant enterprises into groups based on the amount of personnel which they reported as employing at the submission time of their application. They were:

- 0 - 4 persons
- 5 - 9
- 10 -19
- 20 - 49
- 50 - 99
- 100 - 249
- 250 - 499
- 500 - 999

The classification into these groups is the same used by Statistics Finland. We found that the most frequent applicant enterprise has between 0 to 4 persons employed (42,5%) with the '5 to 9' group coming second (18,4%). In fact the so called micro-enterprises (under 10 employees) consisted of 60,9% of all the applicant enterprises. At the same time the rejection rate of these smaller enterprises was higher than the rest. The highest rejection rate was among the 0 to 4 group (36%). Of the 115 applications rejected, 85 or 73% came from micro enterprises (Appendix Table 21).

In Table 8 we checked the distribution of aid among the accepted applications based on their personnel size but controlling for the type of aid applied. In Investment aid, applications from enterprises with 0 to 4 employees consisted of 18,9% of the total accepted applications. However they received only 4,9% of the aid distributed. On the contrary, the enterprises with 100 to 249 employees comprised of only 5,1% of the total but enjoyed 24,9% of the aid given out. In Development aid and in Small business aid applications, the amounts given were more evenly distributed regardless of their size.

Table 8. *Type of aid granted based on personnel category*

Personnel cat.	Sum*	%	N	%	Mean*	Minimum*	Maximum*
Investment aid							
0-4	2 484	4,9	26	18,9	95	8	600
5-9	2 864	5,7	27	19,7	106	21	310
10-19	6 293	12,5	33	24,0	190	14	900
20-49	13 176	26,2	32	23,3	411	25	3 250
50-99	4 594	9,1	7	5,1	656	188	1 422
100-249	12 536	24,9	7	5,1	1 790	306	3 600
250-499	1 800	3,5	1	0,7	1 800	1 800	1 800
500-999	4 040	8,0	1	0,7	4 040	4 040	4 040
N/A	2 470	4,9	3	2,1	823	213	1 590
Grand Total	50 260	100,0	137	100,0	366	8	4 040
Development aid							
0-4	2 143	34,5	30	35,2	71	5	348
5-9	825	13,2	17	20,0	48	12	139
10-19	1 329	21,4	16	18,8	83	20	172
20-49	1 270	20,4	15	17,6	84	12	256
50-99	366	5,9	5	5,8	73	8	280
100-249	275	4,4	2	2,3	137	101	173
Grand Total	6 210	100,0	85	100,0	73	5	348
Small bus. Aid							
0-4	1 866	57,8	58	69,8	32	4	111
5-9	612	19,0	12	14,4	51	8	207
10-19	529	16,4	10	12,0	52	19	130
20-49	216	6,7	3	3,6	72	14	123
Grand Total	3 224	100,0	83	100,0	38	4	207

(* in 1000 mk)

2.1.5 Location of applicant enterprises

In the study we examined applications coming from six municipalities in the region of Varsinais-Suomi and four in Päijät-Häme. According to the EU regional classification, they are characterized as Objective 2 areas and under the National law 1136/93 as 'structural adjusting' areas. They are:

Under the jurisdiction of KTM Turku:

- Laitila
- Mietoinen
- Mynämäki
- Pyhäranta
- Uusikaupunki
- Vehmaa

Under the jurisdiction of KTM Lahti:

- Asikkala
- Hollola
- Lahti
- Nastola

We found that the majority of applications came from the municipalities of Uusikaupunki (43,5%) and Lahti (62,5%). Higher rejection rates were observed within the applications submitted to Turku (35,7%) than to Lahti (24,3%). Mynämäki had a very high rejection rate (63,6% of its applications were rejected); Asikkala had a very low rejection rate, 12% (Appendix Table 22).

In terms of how the actual money was distributed, we noticed that ‘bigger’ municipalities received more aid per application compared to the ‘smaller’ municipalities (Table 9). For example Mietoinen had 6,7% of the total amount of applications accepted by KTM Turku but received only 0,9% of the total amount of aid distributed. On the other hand, Uusikaupunki had 52,7% of the accepted applications but 66,5% of the funds distributed. The same was observed with KTM Lahti. Asikkala had 9,5% of all the accepted applications but only 3,9% of the funds; the respective rates for Lahti were 61,3% of applications and 77,2% of funds.

Table 9. Aid granted based on municipality

Municipality	Sum*	%	N	%	Mean*	Min*	Max*
KTM Turku							
Laitila	7 279	26,3	19	25,6	383	20	1 800
Mietoinen	263	0,9	5	6,7	52	30	64
Mynämäki	346	1,2	4	5,4	86	40	135
Pyhäranta	1 039	3,7	5	6,7	207	30	660
Uusikaupunki	18 378	66,5	39	52,7	471	24	4 040
Vehmaa	313	1,1	2	2,7	156	67	246
Grand Total	27 621	100,0	74	100,0	373	20	4 040
KTM Lahti							
Asikkala	1 255	3,9	22	9,5	57	8	207
Hollola	3 836	11,9	37	16,0	103	5	781
Lahti	24 769	77,2	141	61,3	175	4	3 600
Nastola	2 186	6,8	30	13,0	72	8	330
Grand Total	32 047	100,0	230	100,0	139	4	3 600

(* in 1000 mk)

2.1.6 Start up, Conglomerate, Multiple applicant enterprises

We conducted yet another analysis based on three dichotomous variables. We examined:

- whether or not the applicant enterprise was part of a conglomerate
- whether it was just starting up or not (that is, whether it was less than a year old at the time of application submission) and
- whether the respective applicant had applied for state aid in the past or not.

It seemed that the Start-up enterprises had a rejection rate much higher than the non-start-up ones (42,2% to 23,8%). However, in neither the conglomerate/non-conglomerate group (26,2% to 27,6%) nor in the applied once/multi-applicant group (27,8% to 26,7%) were the rejection rates substantially different (Appendix Tables 23, 24 and 25).

Table 10 below describes the distribution of aid based on these three dichotomous characteristics of the applicant enterprises. We notice that ‘bigger’, ‘existing’ and ‘repeater’ applicant enterprises got on average more money per project than the other applicants.

Belonging to a conglomerate composed only 10,2% of all the applications financed. Nevertheless, this sub-group received 41,4% of the funds allocated. ‘Young’ (less than a year old) enterprises had 15.7% of the applications but received only 7,0% of the total funds. And lastly, 31,5% of the applications had come from enterprises that had applied in the past. However these ‘repeaters’ received 40,6% of the total money given out.

Table 10. Aid granted based on conglomerate, start-up, multiple applicants

Dichotomous variables	Sum*	%	N	%	Mean*	Min*	Max*
Conglomerate							
No	34 912	58,5	273	89,8	127	4	1 827
Yes	24 757	41,4	31	10,2	798	8	4 040
Grand Total	59 669	100,0	304	100,0	196	4	4 040
Start-up							
No	55 438	92,9	256	84,2	216	5	4 040
Yes	4 230	7,0	48	15,7	88	4	600
Grand Total	59 669	100,0	304	100,0	196	4	4 040
Multi applicant							
No (Applied once)	35 393	59,3	208	68,4	170	5	3 600
Yes (Applied more than once)	24 275	40,6	96	31,5	252	4	4 040
Grant Total	59 669	100,0	304	100,0	196	4	4 040

(* in 1000 mk)

2.2 The agent distributing the aid

2.2.1 KTM analysts of applicant enterprises

We first examined the KTM analysts dealing with the applications for state aid. Based on the data of our sample we noticed differences in the rejection/acceptance rates among the analysts. For example in Turku analyst 'No 2' had a rejection rate of 26,5% where as 'No 3' rejected 62,5% of the applications he handled. The same phenomenon occurred in Lahti. 'No 13' rejected 11,4% of the applications where as 'No 12' 42,1% (Table 11).

One should interpret these results with care. The overall rejection rate of all the analysts for both KTM offices may or may not differ that much. That is because in our sample some analysts handled relatively much more applications than others; some analysts 'specialized' in EU applications where others did not; some were responsible for certain municipalities or industrial sectors where as others were not. And in our sample we are referring to a 'narrow' group of applications (Investment, Development, Small business aid applications) coming from a certain number of municipalities (Objective 2 areas in Varsinais-Suomi and Päijät-Häme).

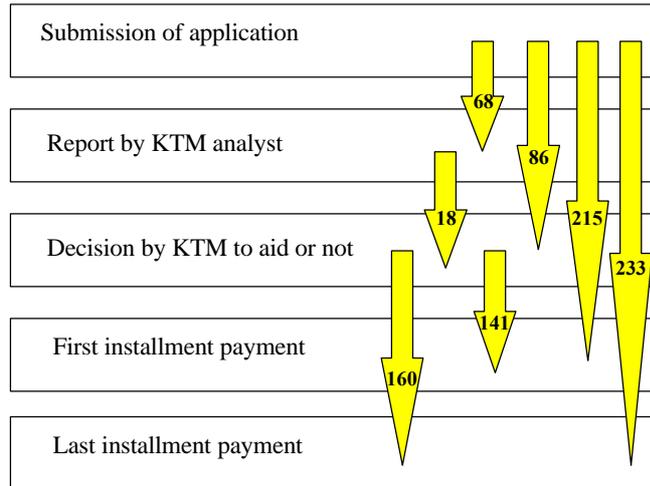
Table 11. *KTM analyst based on decision*

KTM office				Decision		Total
				Rejected	Granted	
Turku	ANALYST	1,0	Count	3	4	7
			% within ANALYST	42,9%	57,1%	100,0%
			% within Decision	7,3%	5,4%	6,1%
		2,0	Count	22	61	83
			% within ANALYST	26,5%	73,5%	100,0%
			% within Decision	53,7%	82,4%	72,2%
		3,0	Count	10	6	16
			% within ANALYST	62,5%	37,5%	100,0%
			% within Decision	24,4%	8,1%	13,9%
		4,0	Count	2	2	4
			% within ANALYST	50,0%	50,0%	100,0%
			% within Decision	4,9%	2,7%	3,5%
		6,0	Count	2		2
			% within ANALYST	100,0%		100,0%
% within Decision			4,9%		1,7%	
	7,0	Count	1	1	2	
		% within ANALYST	50,0%	50,0%	100,0%	
		% within Decision	2,4%	1,4%	1,7%	
	8,0	Count	1		1	
		% within ANALYST	100,0%		100,0%	
		% within Decision	2,4%		,9%	
Total		Count	41	74	115	
		% within ANALYST	35,7%	64,3%	100,0%	
		% within Decision	100,0%	100,0%	100,0%	
Lahti	ANALYST	9,0	Count	14	66	80
			% within ANALYST	17,5%	82,5%	100,0%
			% within Decision	18,9%	28,7%	26,3%
		10,0	Count	29	46	75
			% within ANALYST	38,7%	61,3%	100,0%
			% within Decision	39,2%	20,0%	24,7%
		11,0	Count	18	60	78
			% within ANALYST	23,1%	76,9%	100,0%
			% within Decision	24,3%	26,1%	25,7%
		12,0	Count	8	11	19
			% within ANALYST	42,1%	57,9%	100,0%
			% within Decision	10,8%	4,8%	6,3%
		13,0	Count	5	39	44
			% within ANALYST	11,4%	88,6%	100,0%
% within Decision			6,8%	17,0%	14,5%	
	15,0	Count		8	8	
		% within ANALYST		100,0%	100,0%	
		% within Decision		3,5%	2,6%	
Total		Count	74	230	304	
		% within ANALYST	24,3%	75,7%	100,0%	
		% within Decision	100,0%	100,0%	100,0%	

2.2.2 Duration of financial operations

We measured how long it took for certain operations to occur during the process through which an enterprise applied and (sometimes) received the state aid. Figure 1 below shows these average times in days.

Figure 1. *Duration of financial operations*



We also counted the months during which the applications were submitted to the two KTM offices and the months during which decisions were made by the KTM offices. Figures 2 and 3 show these monthly frequencies.

The applicant enterprises applied for state aid more frequently during the first half of the year and right after the summer months. KTM handled these applications in a rather unorthodox way. There was a steady increasing decision output from January till June, then a sudden drop (apparently due to summer), an increase in the fall, fading away as November approached, and then a boom of decisions during December.

This boom could be partly explained by the sudden availability of funds to the regional KTM offices during the latter part of the year. But that is not the only reason. In the KTM offices, practice dictates that the budgeted funds for each regional office for the specific financial year must be committed during the same financial year.⁵

If funds are not absorbed they are not moved forward to the following year. Consequently that creates a ‘danger’ that the funding quota requested by the regional KTM office for the coming year will not be honored by the central office citing inability to absorb the funds; thus, the rush of decisions during December.

⁵ That is the financial year plus maximum two weeks into the following year (for the period we examined at least).

Whether this is a good practice is questionable, especially if funds are to be distributed for the sake of distributing them. We do not claim that this is the case here. However there have been instances where funds were not absorbed and the KTM offices were looking for distribution of the aid as quickly as possible. And that of course created a situation where the final beneficiary might have not been the best possible choice due to the time pressures in the selection process.

Figure 2. Months during which applications were submitted

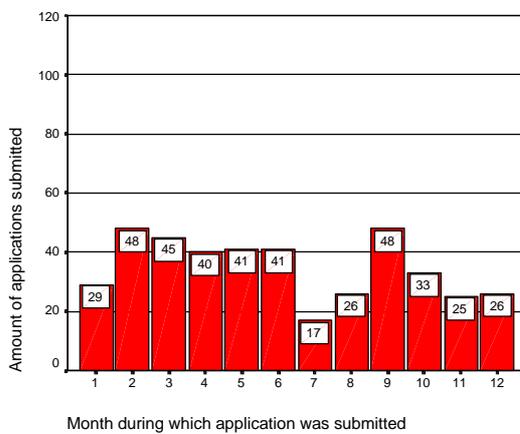
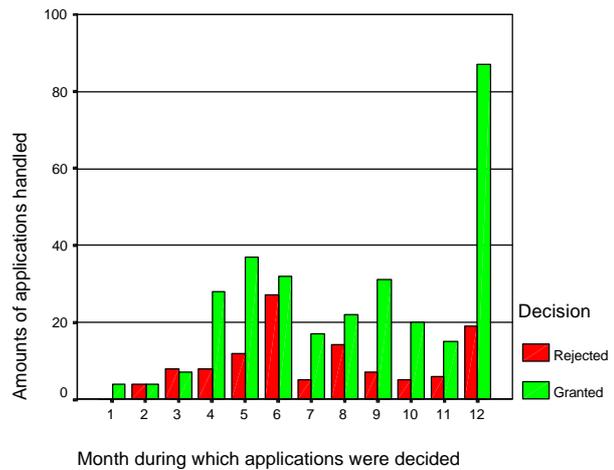


Figure 3. Months during which decisions were made



2.2.3 Criteria to accept and reject the applications

Before a final decision was made to aid or not, the KTM analysts prepared a detailed report in which they described the applicant enterprise, her characteristics (financial and other) and the project in question. At the end of the report they listed certain criteria (or reasons) based on which they recommended acceptance or rejection. We gathered all these criteria in both the accepted and the rejected applications.

Since the nature of the project in question differed depending on the type of aid applied, we classified these criteria separately for Investment, Development and Small business aid applications. We also controlled for the KTM office. Table 12 below contains the most frequent reasons for acceptance and rejection. Note that in some cases the frequencies were quite low.

Table 12. *Positive and negative criteria in accepting and rejecting applications for state aid*

Decision	Type of aid	KTM office	Criterion	N	%
Positive	Investment	Turku	Good for New/Existing jobs	42	16,3
		Lahti	Good for New/Existing jobs	83	14,2
	Development	Turku	- Good for New/Existing jobs - Essential for development - Exports grow	3 3 3	15,0 15,0 15,0
		Lahti	Enterprise with good finances	54	20,9
	Small business	Turku	Good for New/Existing jobs	21	16,4
		Lahti	Good for New/Existing jobs	53	15,5
Negative	Investment	Turku	Not covered by legislation	9	34,6
		Lahti	Other organization finances	16	23,5
	Development	Turku	Not covered by legislation	6	31,6
		Lahti	- Not covered by legislation	5	19,2
			- Objective 2 criteria not applicable - Poor quality of application	5 5	19,2 19,2
	Small business	Turku	- Not covered by legislation - Shortage of funds	9 9	19,1 19,1
		Lahti	Other organization finances	11	22,0

2.3 The project being financed

2.3.1 Breakdown of financing sources

First we classified the financing sources required for the realization of the project in question into six categories:

- KTM aid
- Loans from KERA
- Loans from banks
- Funds from own operations
- Own capital invested
- Other misc. sources

The single biggest financial source was the banking sector (Table 13). On average 35,8% of the total project costs were financed from bank loans. This varied depending on the type of aid the project applied for. For example, 34,5% of the total cost of Investment projects were financed with bank loans; the figure increased to 59,1% for Small business projects; it was almost non-existent for Development projects (0,5%). Looking at the financing sources generated by the public sector, KTM aid constituted on average 16,5% of the total project cost and loans from KERA 7,7%.

Table 13. *Financing sources of accepted projects based on type of aid*

Financing sources	N	Real costs by applicant*	%	%	Estimates costs by KTM*	N
All sample						
KTM aid	92	9 221	16,5	16,8	9 758	92
Loans from KERA	17	4 312	7,7	10,2	5 913	18
Bank loans	45	19 940	35,8	32,5	18 865	43
Own Operations	39	16 220	29,1	12,7	7 359	34
Own Capital	39	5 242	9,4	27,0	15 662	42
Other sources	7	671	1,2	0,6	390	3
Grand Total		55 609	100,0	100,0	57 950	
Investment aid projects						
KTM aid	49	7 143	15,4	15,5	7 540	49
Loans from KERA	13	3 997	8,6	11,2	5 451	14
Bank loans	29	16 005	34,5	32,9	16 032	30
Own Operations	24	14 707	31,7	12,4	6 062	17
Own Capital	15	3 872	8,3	27,2	13 270	23
Other sources	4	606	1,3	0,5	265	2
Grand Total		46 334	100,0	100,0	48 623	
Development aid projects						
KTM aid	17	1 198	45,2	41,7	1 317	17
Loans from KERA	1	90	3,4	0,0		0
Bank loans	1	13	0,5	0,0		0
Own Operations	9	716	27,0	23,0	726	9
Own Capital	10	615	23,2	31,2	983	7
Other sources	2	15	0,5	3,9	125	1
Grand Total		2 649	100,0	100,0	3 151	
Small business aid projects only						
KTM aid	26	878	13,2	14,6	901	26
Loans from KERA	3	224	3,3	7,4	462	4
Bank loans	15	3 921	59,1	45,8	2 833	13
Own Operations	6	796	12,0	9,2	570	8
Own Capital	14	754	11,3	22,8	1 408	12
Other sources	1	50	0,7	0,0		0
Grand Total		6 626	100,0	100,0	6 175	

(* in 1000 mk)

2.3.2 New jobs created

As shown in Table 12 job creation is the single most important criterion for granting state aid to enterprises. In order to quantify the 'cost' of state aid per new job, we combined the state aid given and the new jobs to be created after the project/investment was to be realized.

We did not measure estimated jobs against actual jobs created since we would have had to contact the recipients of the aid directly. The other problem of measuring real job

creation is time. We would have needed a longer period after the financing occurred in order to let the ‘evolution’ of new jobs to take place.

Yet another problem with this type of analysis is that one can not directly attribute the new jobs to the granting of this specific KTM state aid. We showed in Table 13 the actual financing of the project is composed of many sources; it is thus impossible to differentiate the contribution of each financing source to job creation.

Nevertheless in order to give a ‘yardstick’ of the KTM state aid function in job creation we compiled Table 14 below. There, new jobs are mentioned in two ways; one is based on the calculations made by the KTM analyst and the other by the applicant enterprise. Note that both are estimates since they were reported before the actual realization of the project/investment.

The new jobs estimated by the KTM analysts were always slightly less (more conservative) than the respective estimates of the applicant enterprises (6,7 to 7,3). The state aid needed for the creation of one new job was on average 38000 mk (KTM analyst estimates). This number fluctuated when we controlled for the type of aid. Investment aid projects would have created 9,6 new jobs with a cost of 39000 mk per new job; Small business aid projects 1,5 new jobs with a cost of 26000 mk per new job; and Development aid projects would have created on average 1,6 new jobs with a cost of 56000 mk per new job. Note that for this last result the number of observations is very low (8), hence one should interpret the results with caution.

Table 14. Type of aid granted for every new job estimated to be created

Variable	Mean	Min	Max	Sum	N	Aid per one new job*
All sample						
Aid granted*	260	4	4 040	42 921	165	
New jobs estimated by KTM analyst	6,7	1	400	1 107	165	38
New jobs estimated by applicant enterprise	7,3	1	500	1 220	165	35
Investment aid						
Aid granted*	382	8	4 040	40 120	105	
New jobs estimated by KTM analyst	9,6	1	400	1 015	105	39
New jobs estimated by applicant enterprise	10,6	1	500	1 121	105	35
Development aid						
Aid granted*	91	21	172	731	8	
New jobs estimated by KTM analyst	1,6	1	3	13	8	56
New jobs estimated by applicant enterprise	1,7	1	3	14	8	52
Small business aid						
Aid granted*	39	4	207	2 069	52	
New jobs estimated by KTM analyst	1,5	1	16	79	52	26
New jobs estimated by applicant enterprise	1,6	1	20	85	52	24

(* in 1000 mk)

Finally we broke down the type of expenses occurring per project controlling for type of aid (Table not shown). In Investment projects 62,3% were invested in machinery and 33,8% for building costs. For Small business projects the type of expenses were similar; 81,6% for machinery and 17,6% for building costs. In Development projects however the expenses were naturally different; 40,8% of the project costs went for 'special services', 20,4% for salaries, 13,5% for 'traveling expenses' and 9,1% for 'promotional material (brochures)'.

2.4 Statistical tests and comparisons

2.4.1 Chi-square tests

We compared different categorical variables of the applicant enterprises. We applied chi-square tests and examined whether there was dependence between each one of them and the decision by KTM to aid or not.

The results were mixed (Table 15). For example, we found that KTM's decision to aid or not **did not depend on**

- whether the applicant enterprise was part of a conglomerate
- the type of aid applied
- whether the enterprise had applied in the past for aid.

The decision **did depend on**

- the industrial sector of the applicant enterprise
- the size of personnel in the enterprise
- whether the enterprise was a start-up company
- the KTM analyst.

Table 15. *Chi-square tests based on decision. All sample*

Test No	Variable	Control Variable	N	Pearson statistic	d.f.	Sig.
1	MULTIYN (multi appl. Yes/No)		419	,051	1	,822
2	TUKITYPE (Type of aid)		419	3,206	2	,201
3	TRANINDU (Industry - SIC)		419	36,593	2	,000
4	TRANPERS (Personnel size)		419	13,373	3	,004
5	TRANLEGA (Legal type)		419	9,018	2	,011
6a	TRANINVK (Municipality)	KTMOFFIC (KTM office) Turku (1)		8,027	2	,018
6b		Lahti (2)		,882	2	,643
7	STARTUP (New/existing co. y/n)		419	11,266	1	,001
8	KONSERNI (Conglomerate co.y/n)		419	,037	1	,848
9	KTMOFFIC (KTM Office)		419	5,360	1	,021
10a	TRANANAL (KTM Analyst)	KTMOFFIC (KTM Office) Turku (1)		10,876	1	,001
10b		Lahti (2)		11,860	3	,008

We also applied chi-square tests to compare if the positive and negative criteria mentioned in the KTM analysts' reports differed between the analysts in KTM Turku and KTM Lahti.

Again we found that the results were mixed (Table not shown). For Investment aid and Small business aid projects the analysts in KTM Turku focused on different criteria than the ones of their colleagues in KTM Lahti. And that was both for positive and negative criteria. On the other hand in Development aid projects the criteria mentioned by the analysts in KTM Turku and KTM Lahti did not differ significantly between them.

2.4.2 One-sample and Two-sample T-tests

We conducted T-tests and compared financing figures of the applicant enterprises controlling once more for the decision by KTM to aid or not.

The financial figures we used were the Turnover, Balance sheet value, Operating profit, Operating profit %, Own capital, Short term loans, Long term loans, Reserves, and Personnel.

The results are shown in Table 16. When we compared the accepted vis-à-vis the rejected applications we saw that the Turnover, Balance sheet value, Short and Long term loans and Reserves differed significantly (these variables were higher with the accepted

applicants). On the other hand the Operating profit, Profit margin, Own capital and Personnel did not differ.

If we were to assume that state aid was geared to stronger and financially healthier enterprises, then these results are indeed mixed. High Turnover and Balance sheet volumes may indicate financial strength where as high Short term and Long term loans may indicate the opposite.⁶

We did not notice differences between own capital amounts (OC94) nor operating profit margins (OP94P) in the two groups. Again this is contradictory to the hypothesis that more profitable and stronger enterprises have a better chance of receiving state aid.

Table 16. Two-sample T-tests based on decision. All sample

Variable	GROUP A: Rejected applications	n	GROUP B: Accepted applications	n	F	P	t value	d.f.	Sig. (2-tail)
TO94 (Turnover)	6,26 (logged)	65	6,52 (logged)	221	8,472	,004**	-2,210	85,00	,030
BS94 (Balance sheet)	6,04	60	6,32	213	13,223	,000**	-2,084	75,74	,040
OP94 (Oper. Profit)	5,55	53	5,66	191	4,650	,032**	-,901	71,47	,371
OP94P (Oper. profit %)	1,20	49	1,09	187	1,185	,277*	1,612	234	,108
OC94 (Own Capital)	5,40	34	5,47	105	8,098	,005**	-,419	44,62	,677
SL94 (Short term loans)	5,57	51	5,95	173	,989	,321*	-3,199	222	,002
LL94 (Long term loans)	5,57	46	5,99	151	6,39	,012**	-3,055	60,65	,003
RE94 (Reserves)	4,96	17	5,41	57	,003	,957*	-2,253	72	,027
P94 (Personnel)	,84	60	,95	203	2,303	,130*	-1,294	261	,197

* equal variances between groups

** unequal variances between groups

We also examined the profile of our sample applicant enterprises against the similar enterprises from the same geographical areas (Objective 2 municipalities). For these comparisons we conducted one-sample T-tests. The variables compared were the 'Turnover' and the 'Turnover per personnel' (Table with test results not shown).

For the variable 'Turnover per personnel' the results were in conformity with what we would expect where state aid is distributed; we found that the value of our sample was

⁶ A firm's financial appraisal is based on many more indicators than the ones presented here. However for the purpose of these comparisons the approach suffices.

lower than the respective one of the compared population. In other words, we might conclude that the enterprises applying for aid were ‘weaker’⁷ compared to the general enterprise population in the same geographical area.

The variable ‘Turnover’ showed some mixed results. The turnover figures of our sample from KTM Lahti were indeed lower to the compared population. However when our sample was from KTM Turku there was no significant difference between our sample and the respective population tested.

2.4.3 Simple factorial analysis of variance

We built simple factorial analysis of variance models and examined several factors (independent variables) influencing the time it took KTM to make a decision on an application for aid. That is we measured the period between formally submitting the application for aid by the applicant enterprise and the formal notification of the applicant by KTM to whether his application had been granted aid or not (average duration 86 days - see also Figure 1).

We built two models with a combination of four factors. The factors we chose were:

DENEGPOS = Final decision to aid or not
 TUKITYPE = Type of aid applying for
 TRANANAL = KTM analyst
 KTMOFFIC = KTM office
 BUDGETYR = Year in which the decision was made.

Table 17 below is listing these two models (x = variable included in model).

Both models turned out to be significant overall (Model 1 sig.= 0,015, Model 2 sig.= 0,001). We first conducted 2-way, 3-way and 4-way interactions between the factors in the two models. These interactions were insignificant (sig.>0,05).

We then examined the main effects for each factor individually. The type of aid (TUKITYPE) did not seem to influence the time it took to decide; the same held for the KTM office where the applications were submitted (KTMOFFIC) and for the KTM analyst handling the application (TRANANAL).

On the other hand the decision times did seem to depend on the decision (DENEGPOS) and on whether the application was submitted during 1995 or 1996 (BUDGETYR).

The significance/non-significance of these factors was to some extent normal. We would agree that the KTM analysts (TRANANAL) should not vary their decision times nor should the two KTM offices (KTMOFFIC) differ as to how quickly they should decide on an application. We also agree that the decisions times could vary depending

⁷ At least as far as the turnover per personnel is concerned.

on whether the decision is positive or negative (DENEGPOS) and depending on whether they were decided in 1995 or 1996 (BUDGETYR).⁸

The fact though that the decision times did not differ based on the type of aid (TUKITYPE) is something to look into. Investment aid projects are more complicated, request on average more funds and in general the gathering, assessment and final report on such applications should normally take longer than when the question is Development and Small business projects. This analysis has shown that it did not take longer time. We could explain the results by looking at Figure 3 where we showed the months in which decisions were made. There we noticed that KTM decisions were made in greater frequencies during the middle and the end of the year. However (to the defense of KTM) the times of the announcement of decisions could have been effected by the availability of funds (that is KTM might have made the decision already earlier but did not announce it to the applicant until funds were committed to the regional KTM offices from the KTM headquarters).

Note the Model/Total ratio for model 1 is 14,33% and for model 2 at 17,26%. This low ratio indicates that less than 20% of the total sum of squares was accounted by these two models. For this, we might have considered to add extra factors to increase their explanatory power (SPSSa, 1997 p.140). However we did not attempt to do so because the interpretation of too many factors would become problematic.

Table 17. Simple Factorial Analysis of time to decide on an application for state aid

Factor	Model 1	F	Sig.	Model 2	F	Sig.
DENEGPOS	x	4,211	,041	x	7,338	,007
TUKITYPE	x	1,633	,197	x	,604	,547
TRANANAL				x	1,989	,079
KTMOFFIC	x	2,792	,096			
BUDGETYR	x	7,874	,005	x	6,886	,009
Model	8,536			10,289		
Total	59,579			59,579		
Model/Total	14,33%			17,26%		
F	2,844			3,187		
Sig.	0,015			,001		

2.4.4 Logistic regression analysis

In this section we discuss a logistic regression model which we constructed using different combinations of independent variables. We built a model for predicting the dichotomous variable **DENEGPOS** with values 0 (negative decision) and 1 (positive

⁸ This could have been due to stricter or looser rules imposed by KTM as to how quickly an applications was to be processed in 1996 vis-à-vis 1995.

decision). In other words we attempted to find how much several independent variables (factors) influenced the decision by KTM to grant state aid or not. We selected a logistic regression model since it is best suited when the dependent variable is dichotomous and the independent variables are either categorical or continuous or both.

2.4.4.1 Selection of variables

Two types of independent variables were chosen: Categorical and Continuous

The Categorical variables examined in the model were:

1. MULTIYN = Whether the applicant enterprise applied in the past or not for aid
2. STARTUP = Whether the applicant enterprise was a new or an existing entity
3. KONSERNI = Whether the applicant enterprise was part of a conglomerate or not
4. KTMOFFIC = The KTM office where the application was submitted (Turku, Lahti)
5. TUKITYPE = The type of aid applied for by the applicant enterprise (Inv., Dev., Small business)
6. TRANINDU = The industrial classification of the applicant enterprise
7. TRANPERS = The size of the applicant companies in terms of personnel categories
8. TRANLEGA = The legal status of the applicant enterprise
9. TRANINVK = The investment municipality of the applicant enterprise at the time of application
10. TRANANAL = The KTM analyst who made the detailed report on the applicant and the investment.

The categorical variables 6 to 10 above were transformed. Some of their classifications with fewer observations were grouped together in order to produce meaningful results.

The Continuous variables examined in the models were:

1. LGTO94 = Turnover of applicant enterprise in 1994 (log10 value)
2. LGBS94 = Balance sheet value of applicant enterprise in 1994 (log10 value)
3. LGP94 = Amount of personnel of applicant enterprise in 1994 (log10 value)
4. TO9493PD = Percentage change of turnover from 1993 to 1994
5. TO9594PD = Percentage change of turnover from 1994 to 1995
6. TO9695PD = Percentage change of turnover from 1995 to 1996
7. BS9493PD = Percentage change of balance sheet value from 1993 to 1994
8. BS9594PD = Percentage change of balance sheet value from 1994 to 1995
9. BS9695PD = Percentage change of balance sheet value from 1995 to 1996
10. P9493PD = Percentage change of personnel from 1993 to 1994
11. P9594PD = Percentage change of personnel from 1994 to 1995
12. P9695PD = Percentage change of personnel from 1995 to 1996.

We selected the aforementioned continuous variables for several reasons. First, we attempted to place our selves in the position of the KTM analyst while he was evaluating the application. One of the areas he looked was of course the financial data of the applicant enterprise and her employment situation over a period of several years.

Secondly, we chose as our base year to be 1994. That was the last year we were sure we had actual financial figures and not estimates (or a mixture of actual and estimates). We then calculated the changes in these financial figures three years in a row (1993 to 1994, 1994 to 1995 and 1995 to 1996) just as the KTM analyst would have examined them in order to find any patterns of sudden increases or decreases in these variables.

Although we intended to do so, we did not include any other continuous variables in the models for one simple reason: our valid observations would have decreased to a very low number. Logistic regression methods select only those cases where all the selected variables in the model have a value.

Since the distributions of the variables of turnover, balance sheet volume and personnel numbers were skewed we transformed them and used instead their log10 values. Logistic regression does not assume normality for the independent variables but results when calculated from normally distributed variables are more robust.

2.4.4.2 Model building for dependent variable based on KTM decision

Dependent variable: DENEGPOS (Negative, Positive decision)

In the model the following were applied:

- In selecting the predictor variables we used the ‘Forward Stepwise selection’ method
- The removal criterion was based on the likelihood-ratio (LR) test which is an ‘efficient alternative’ to the Wald statistic (SPSSb, 1997 p.55)
- In categorical variables with more than two sub-categories we used the ‘Simple Contrast’ method (each sub-category of the predictor variable except the reference sub-category was compared to the reference category)
- We chose the first sub-category as our reference category.

The model initially used all the ten categorical variable and then all the continuous variables. The final model built included the constant plus three categorical variables, TRANINDU, TRANANAL, and STARTUP (Table 18). Overall correctness was achieved at 78,04% with -2LL at 426,402 and Nagelkerke at ,211 (Nagelkerke shows that 21% of the ‘variation’ of the DENEGPOS dependent variable is explained by this model).

The fact that the KTM analyst (TRANANAL) was chosen as a predictor was contradictory to what we would have expected. One would think that the decision making process is independent of the KTM analyst; rather it is based on other characteristics which refer to the applicant enterprise herself.⁹ Nevertheless, there are several explanations to this ‘illogical’ result. One is that our analysis is based on a very focused and narrow sample of all the applications that are submitted yearly to KTM Turku and Lahti. Also, there is ‘specialization’ among the analysts in that most of them concentrate

⁹ Of course one has to take under consideration that the models shown are as good as the input variables we have chosen to include; there maybe other factors which are much more robust in explaining the decision to aid or not.

on a few types of aid, a few Industrial sectors and on certain geographical areas. Had our sample been not that restricted, the KTM analyst might have not turned out to be a significant factor in the decision making process.

The inclusion of the industrial sector (TRANINDU) and the dichotomous variable STARTUP which examines whether the applicant is a new or older enterprise were more in line with our expectations. Looking at the final model we also observed that the continuous variables initially inputted did not make good predictors (were not finally chosen). We would have expected these variables to be present, especially since we know that the KTM analysts examine them quite thoroughly.¹⁰

In general we may conclude that it was hard to select ‘logical’ variables indicating that they influenced the decision of KTM to grant or reject a state aid application. These results are harmonious with the overall picture we gathered from the other analyses conducted; there was a vagueness and inconsistency with which the state aid policy was implemented at regional KTM office level. In other words there was not a concrete policy line as to who should be the final beneficiary and based on what clear criteria state aid should be distributed. Our claim of inconsistency was reinforced by the results we obtained when we built the same logistic regression model but now controlling for the KTM office (we built these models for KTM Turku and KTM Lahti separately - Tables with results not shown).

We must emphasize here that this study does not evaluate the business aid financing procedures based on the - very general - EU and national regulations and criteria; that would have been a ‘top-down’ approach and is followed by other evaluations conducted this far (see sections 1.2, 1.3). This study is rather a ‘bottom-up’ evaluation. At this low level our results indicate that each KTM regional office applies to some extent its own financing procedures, hence the inconsistencies observed.

Table 18. Logistic regression model based on decision

Variable	B	S.E.	Wald	d.f.	Sig	R	Exp(B)	95% CI for Exp(B)	
								Lower	Upper
TRANANAL			20,4052	5	,0010	,1454			
TRANANAL(1)	-1,1790	,4691	6,3183	1	,0119	-,0936	,3076	,1227	,7713
TRANANAL(2)	,3944	,4031	,9576	1	,3278	,0000	1,4836	,6733	3,2690
TRANANAL(3)	-,6384	,3677	3,0140	1	,0826	-,0454	,5281	,2569	1,0858
TRANANAL(4)	,0141	,3856	,0013	1	,9707	,0000	1,0142	,4764	2,1595
TRANANAL(5)	,6659	,4361	2,3314	1	,1268	,0259	1,9462	,8279	4,5752
TRANINDU			28,2458	2	,0000	,2219			
TRANINDU(1)	,0221	,4066	,0029	1	,9567	,0000	1,0223	,4607	2,2684
TRANINDU(2)	-1,7231	,3294	27,3649	1	,0000	-,2270	,1785	,0936	,3404
STARTUP	-,9200	,2803	10,7716	1	,0010	-,1335	,3985	,2301	,6903
Constant	,8511	,1859	20,9656	1	,0000				

¹⁰ The KTM analysts examine and compare these financial figures not only in relation to themselves, but also in relation to respective (average) figures of enterprises similar to the applicant (that is, to enterprises in the same industrial sector).

3. Discussion and recommendations

The objective of the study was to

- describe quantitatively in detail
 - (1) the financing operations and
 - (2) the actors involved when state aid is distributed to enterprises in Finland
- test different hypotheses about different quantitative and categorical variables of these ‘actors’.

We made a comprehensive description of these actors involved, namely

- the applicant enterprises (who became - if successful - the final beneficiaries of the state aid)
- the agent - the Ministry of Trade and Industry - through which the applications were processed and funds were distributed and
- the projects that were submitted for part-financing.

We then proceeded in conducting different statistical tests. Here we examined the differences among several groups of categorical and continuous variables within our sample as well as between our sample and respective variables of the general population.

We finally gathered these variables and attempted to find their grouped influence in the decision by KTM to grant or reject an application.

The consensus of the inferential statistical analysis implemented was that the results were mixed. We could not identify a pattern of consistent outputs which would convince us that there is a clear and structured policy in KTM when distributing state aid to enterprises.

For example we were not able to clearly identify

- which applicant enterprises should KTM aid (e.g. what should have been their financial, legal, managerial and other characteristics)
- which applicant enterprises should KTM not aid
- based on what criteria (variables) the selection process was to have been implemented by the KTM analysts.

Indeed these results prompt us to take a more critical look at the financing process and ask if the process as such is the most appropriate. We should remind the reader that this study is not an impact study; it does not measure how much the state aid has influenced the recipients of that aid.

In monitoring and evaluation of the financing process, one measures results against pre-determined targets to see how the entity has performed. If some of those targets are non-existent - as it seems to be the case here - they should somehow be defined.

The current legislation covering state aid gives only general guidelines on who the beneficiary of state aid should be and based on what criteria aid could be granted (e.g.

the size of the applicant enterprise can be measured in terms of personnel and turnover, aid can not be given to unprofitable enterprises, etc.).

In order to identify in more detail the aforementioned beneficiaries and the selection criteria, policy makers and implementers should not rely solely on the legislation. They should in our opinion **deepen** even more the implementation part of state aid distribution by answering a range of questions. For example, the following questions are based on the analysis conducted in this study:

- Why should one type of manufacturing sector be more active in applying for state aid and not another one?
- Why should smaller size companies be rejected more often than bigger sized ones?
- Should the creation of new jobs be the No. 1 criterion with which state aid to enterprises is distributed?
- How could a strategic plan be defined so that the beneficiary in most need is guaranteed of receiving the aid distributed?
- Are we to create new jobs in the expense of eliminating others?

These are difficult policy questions which can not be answered easily. However several other issues described in the study are clear; they constitute the basis of the following recommendations:

1. Standardization of evaluating applications

Standardization rules which relate to the evaluation of state aid applications by the KTM analysts should be re-designed and implemented. They must be strict in the sense that they must be followed by all KTM analysts in all the regional KTM offices. They must be clearer than the current rules in force. They could be in the form of check lists of positive/negative criteria and indicators which the KTM analyst must complete. The check list can vary depending on the type of aid applied for, but it is vital that all the parts of the list are inputted.¹¹

2. Continuous analysis of existing data for monitoring and evaluation of state aid implementation

Information gathering and reporting as an ongoing process is a vital tool which the policy makers and policy implementers in KTM need to utilize. Until 1996 data on applications for state aid were inputted and maintained at regional KTM office level. That system was poor in the sense that comprehensive data from all the regional KTM offices were not maintained centrally at once but with time lags. Since 1997 a new data-

¹¹ We should mention here that KTM in the new database system **does** include a certain type of lists with criteria and indicators. However, in our opinion this list is **not** comprehensive enough. It does not cover all the aspects of the applicant enterprise nor of the project in question; after all, these facts are thoroughly examined by the KTM analysts during the selection process. The lists mostly refer to what will be the potential impact of the project. The lists do not measure the financial, management or business environment of the applicant in any quantitative way.

base system handling the applications for state aid has been utilized by all KTM regional offices. The new system is now centrally maintained and is on line, thus its aggregate reporting capabilities are considerably more advanced compared to the old system.

This study has shown numerous methods with which one can analyze the existing data in great depth. It has shown the type of results one can utilize when monitoring and evaluating the implementation of the state aid financing procedures.

We hope that this new KTM database in combination with the efforts by the Ministry of Internal affairs to streamline the REUHA database as a monitoring tool of EU structural financing (Alue-Integraattori, 1/1998 p.7) will prove to be positive actions.

3. Creation of a follow-up system measuring the impact of state aid

A follow-up system through which KTM can monitor the progress and development of the applicant enterprises is essential. Through this system the ministry can measure the impact that state aid has had on the beneficiaries.

Enterprises which apply for aid could agree to provide by themselves financial, employment and other information to the KTM offices where they submitted their state aid application.¹² This obligation could be an on-going process. Information could be gathered on regular intervals (e.g. yearly). The system would provide KTM with factual hard information on how the enterprise fared through the time.

The feedback obligation could become mandatory not only for enterprises which have received aid, but for those which were rejected. This way data would be gathered providing performance information, not only on the actual recipients of state aid but on the non-recipients as well. KTM could then obtain valuable information on alternatives courses of action by the non-recipients and how they fared vis-à-vis the recipients of state aid.

4. Flexible and targeted state aid system where beneficiaries are clearly defined

We feel that KTM should take advantage of this new database system by examining on regular intervals the distribution of the state aid around the country. This could take the form of standardized periodic reports including certain quantitative indicators and comparison test results. Since the data is available on line, possibilities exist in creating a flexible and targeted state aid system. At the same time the characteristics of the potential beneficiaries can be clearly defined.

For example a policy maker in KTM may notice that a certain manufacturing sector is being aided less than others and that, based on statistical indicators, this specific sector

¹² Financial information on enterprises could be obtained directly from the National Company register. However, the information is sometimes incomplete and not up-to-date thus not suitable for monitoring and impact analyses.

is in greater need for capital infusion. The following time an announcement is made in the press for application submissions, this sector can be mentioned as especially welcome to participate. The system can be designed and implemented with the cooperation of professional unions of the targeted sectors.

5. Restrictions on repeater applicants

In the study we noticed that 31,5% of the applications submitted came from repeater applicant enterprises and these repeaters managed to get 40,6% of the total aid distributed. And that in a period of just two years (1995-1996). Is it fair for an enterprise to receive repeatedly state aid regardless of whatever benefits it may produce to the beneficiaries? We feel that some restrictions must be imposed on how often an enterprise is allowed to apply for state aid and how often she is to be granted aid.

6. Alternative form of aid to enterprise: forgivable loans

An issue which for us is of great importance deals with job creation. We saw that the KTM analysts in their lists of positive criteria mentioned job creation and job maintenance as the top reason for granting aid. Indeed the legislation also emphasized this goal. The question that arises is this: How could one motivate or even pressure the beneficiary enterprise to actually create the new jobs her application was estimated to create? After all state aid is free funding, thus there is in practice no real obligation from the enterprise once aid has been received .

In the US one approach of state funding to SMEs takes the form of ‘forgivable or deferred loans’ (Office of the Legislative Auditor, State of Minnesota, 1996, p.26). The system works as follows:

The beneficiary receives a certain amount of money not in the form of a grant, but in the form of a loan. The enterprise has the obligation to create during a certain period a certain amount of new jobs. If these new jobs are maintained for a certain period (e.g. five years), half of the loan is forgiven; if the new jobs are maintained for another five years, the other half of the loan is forgiven.

The enterprise has to prove to the officials monitoring the project that the agreed number of new jobs has been created. Only then the loan is converted into a grant and the beneficiary ceases to have the obligation in his books to repay the money given. This deferred loan has a term and interest rate but the agent distributing it waives principal and interest payments if the enterprise meets her job creation goals. If on the contrary, the jobs promised are not created the loan is repayable (ibid. p.29).

This system in our opinion creates a very clever incentive for new job creation. It could provide the KTM application evaluators with a ‘yardstick’ of identifying the truly ‘good’ applicants. This convertible loan-to-grant aid system can identify the applicant enterprises which show commitment in their proposed investment project by willfully taking the risk of a loan. These applicants would take the risk because they believe they

have a good chance of converting it into a grant later by creating and maintaining new jobs.

The whole state aid financing process is increasingly becoming an integrated system. Different ministries (e.g. ministry of Interior, KTM, ministry of Employment), agencies (e.g. KERA, TEKES) and the European Commission are cooperating more and more. Although mainly geared to be implemented by KTM, some of the aforementioned recommendations could also be considered by other state agencies and ministries involved in state aid to enterprises.

In the beginning of 1998 a new framework legislation for state aid to enterprises (L: 786/1997) came into force. The legislation is a very important step in the right direction. Among others it includes clauses which oblige the different ministries to monitor and evaluate the different state aid programs to enterprises. In addition the law establishes a multi-ministerial and multi-agency steering committee promoting the cooperation of the different ministries and organizations involved in state aid to enterprises (Junka, p.15).

In the future we shall see how fruitful and effective these legislative measures really are.

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 EAGGF Guidance section regulation: Council (EEC) No. 2085/93
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Appendix

Table 19. *Industrial sectors based on decision*

			Decision		Total
			Rejected	Granted	
Industry (SIC)	A - Agriculture/Hunting/Forestry	Count	1	1	2
		% within Industry (SIC)	50,0%	50,0%	100,0%
		% within Decision	,9%	,3%	,5%
D - Manufacturing		Count	70	245	315
		% within Industry (SIC)	22,2%	77,8%	100,0%
		% within Decision	60,9%	80,6%	75,2%
F - Construction		Count	6	3	9
		% within Industry (SIC)	66,7%	33,3%	100,0%
		% within Decision	5,2%	1,0%	2,1%
G - Wholesale/Retail trade		Count	8	8	16
		% within Industry (SIC)	50,0%	50,0%	100,0%
		% within Decision	7,0%	2,6%	3,8%
H - Hotels/Restaurants		Count	10	5	15
		% within Industry (SIC)	66,7%	33,3%	100,0%
		% within Decision	8,7%	1,6%	3,6%
I - Transport/Storage/Communication		Count	5	2	7
		% within Industry (SIC)	71,4%	28,6%	100,0%
		% within Decision	4,3%	,7%	1,7%
K - Real Estate		Count	10	36	46
		% within Industry (SIC)	21,7%	78,3%	100,0%
		% within Decision	8,7%	11,8%	11,0%
L - Public Sector		Count	1		1
		% within Industry (SIC)	100,0%		100,0%
		% within Decision	,9%		,2%
N - Health/Social work		Count		1	1
		% within Industry (SIC)		100,0%	100,0%
		% within Decision		,3%	,2%
O - Other activities		Count	3	3	6
		% within Industry (SIC)	50,0%	50,0%	100,0%
		% within Decision	2,6%	1,0%	1,4%
X - Industry Unknown		Count	1		1
		% within Industry (SIC)	100,0%		100,0%
		% within Decision	,9%		,2%
Total		Count	115	304	419
		% within Industry (SIC)	27,4%	72,6%	100,0%
		% within Decision	100,0%	100,0%	100,0%

Table 20. *Manufacturing sub-sector based on decision*

			Decision		Total
			Rejected	Granted	
Man. Sub-Category	DA	Count	4	11	15
		% within Man. Sub-Category	26,7%	73,3%	100,0%
		% within Decision	5,7%	4,5%	4,8%
DB	Count	2	11	13	
	% within Man. Sub-Category	15,4%	84,6%	100,0%	
	% within Decision	2,9%	4,5%	4,1%	
DC	Count		1	1	
	% within Man. Sub-Category		100,0%	100,0%	
	% within Decision		,4%	,3%	
DD	Count	7	18	25	
	% within Man. Sub-Category	28,0%	72,0%	100,0%	
	% within Decision	10,0%	7,3%	7,9%	
DE	Count	8	18	26	
	% within Man. Sub-Category	30,8%	69,2%	100,0%	
	% within Decision	11,4%	7,3%	8,3%	
DG	Count	1	1	2	
	% within Man. Sub-Category	50,0%	50,0%	100,0%	
	% within Decision	1,4%	,4%	,6%	
DH	Count	5	14	19	
	% within Man. Sub-Category	26,3%	73,7%	100,0%	
	% within Decision	7,1%	5,7%	6,0%	
DI	Count	3	8	11	
	% within Man. Sub-Category	27,3%	72,7%	100,0%	
	% within Decision	4,3%	3,3%	3,5%	
DJ	Count	15	74	89	
	% within Man. Sub-Category	16,9%	83,1%	100,0%	
	% within Decision	21,4%	30,2%	28,3%	
DK	Count	5	29	34	
	% within Man. Sub-Category	14,7%	85,3%	100,0%	
	% within Decision	7,1%	11,8%	10,8%	
DL	Count	2	20	22	
	% within Man. Sub-Category	9,1%	90,9%	100,0%	
	% within Decision	2,9%	8,2%	7,0%	
DM	Count	4	9	13	
	% within Man. Sub-Category	30,8%	69,2%	100,0%	
	% within Decision	5,7%	3,7%	4,1%	
DN	Count	14	31	45	
	% within Man. Sub-Category	31,1%	68,9%	100,0%	
	% within Decision	20,0%	12,7%	14,3%	
Total	Count	70	245	315	
	% within Man. Sub-Category	22,2%	77,8%	100,0%	
	% within Decision	100,0%	100,0%	100,0%	

Table 21. *Personnel category based on decision*

			Decision		Total
			Rejected	Granted	
Personnel category	0-4	Count	64	114	178
		% within Personnel category	36,0%	64,0%	100,0%
		% within Decision	55,7%	37,5%	42,5%
	5-9	Count	21	56	77
		% within Personnel category	27,3%	72,7%	100,0%
		% within Decision	18,3%	18,4%	18,4%
	10-19	Count	13	58	71
		% within Personnel category	18,3%	81,7%	100,0%
		% within Decision	11,3%	19,1%	16,9%
	20-49	Count	7	50	57
		% within Personnel category	12,3%	87,7%	100,0%
		% within Decision	6,1%	16,4%	13,6%
	50-99	Count	5	12	17
		% within Personnel category	29,4%	70,6%	100,0%
		% within Decision	4,3%	3,9%	4,1%
	100-249	Count	3	9	12
		% within Personnel category	25,0%	75,0%	100,0%
		% within Decision	2,6%	3,0%	2,9%
	250-499	Count		1	1
		% within Personnel category		100,0%	100,0%
		% within Decision		,3%	,2%
	500-999	Count	1	1	2
		% within Personnel category	50,0%	50,0%	100,0%
		% within Decision	,9%	,3%	,5%
	N/A	Count	1	3	4
		% within Personnel category	25,0%	75,0%	100,0%
		% within Decision	,9%	1,0%	1,0%
Total		Count	115	304	419
		% within Personnel category	27,4%	72,6%	100,0%
		% within Decision	100,0%	100,0%	100,0%

Table 22. *Municipalities based on decision*

KTM office				Decision		Total
				Rejected	Granted	
Turku Municipality	Laitila	Count	13	19	32	
		% within Municipality	40,6%	59,4%	100,0%	
		% within Decision	31,7%	25,7%	27,8%	
	Mietoinen	Count	5	5	10	
		% within Municipality	50,0%	50,0%	100,0%	
		% within Decision	12,2%	6,8%	8,7%	
	Mynamäki	Count	7	4	11	
		% within Municipality	63,6%	36,4%	100,0%	
		% within Decision	17,1%	5,4%	9,6%	
	Pyhäranta	Count	2	5	7	
		% within Municipality	28,6%	71,4%	100,0%	
		% within Decision	4,9%	6,8%	6,1%	
	Uusikaupunki	Count	11	39	50	
		% within Municipality	22,0%	78,0%	100,0%	
		% within Decision	26,8%	52,7%	43,5%	
	Vehmaa	Count	3	2	5	
		% within Municipality	60,0%	40,0%	100,0%	
		% within Decision	7,3%	2,7%	4,3%	
Total		Count	41	74	115	
		% within Municipality	35,7%	64,3%	100,0%	
		% within Decision	100,0%	100,0%	100,0%	
Lahti Municipality	Asikkala	Count	3	22	25	
		% within Municipality	12,0%	88,0%	100,0%	
		% within Decision	4,1%	9,6%	8,2%	
	Hollola	Count	12	37	49	
		% within Municipality	24,5%	75,5%	100,0%	
		% within Decision	16,2%	16,1%	16,1%	
	Lahti	Count	49	141	190	
		% within Municipality	25,8%	74,2%	100,0%	
		% within Decision	66,2%	61,3%	62,5%	
	Nastola	Count	10	30	40	
		% within Municipality	25,0%	75,0%	100,0%	
		% within Decision	13,5%	13,0%	13,2%	
	Total		Count	74	230	304
			% within Municipality	24,3%	75,7%	100,0%
			% within Decision	100,0%	100,0%	100,0%

Table 23. *Start up applicants based on decision*

			Decision		Total
			Rejected	Granted	
Start Up Co	No	Count	80	256	336
		% within Start Up Co	23,8%	76,2%	100,0%
		% within Decision	69,6%	84,2%	80,2%
	Yes	Count	35	48	83
		% within Start Up Co	42,2%	57,8%	100,0%
		% within Decision	30,4%	15,8%	19,8%
Total	Count	115	304	419	
	% within Start Up Co	27,4%	72,6%	100,0%	
	% within Decision	100,0%	100,0%	100,0%	

Table 24. *Conglomerate applicants based on decision*

			Decision		Total
			Rejected	Granted	
Conglomerate	No	Count	104	273	377
		% within Conglomerate	27,6%	72,4%	100,0%
		% within Decision	90,4%	89,8%	90,0%
	Yes	Count	11	31	42
		% within Conglomerate	26,2%	73,8%	100,0%
		% within Decision	9,6%	10,2%	10,0%
Total	Count	115	304	419	
	% within Conglomerate	27,4%	72,6%	100,0%	
	% within Decision	100,0%	100,0%	100,0%	

Table 25. *Multiple applicants based on decision*

			Decision		Total
			Rejected	Granted	
Multiple applicant	Applied once	Count	80	208	288
		% within Multiple applicant	27,8%	72,2%	100,0%
		% within Decision	69,6%	68,4%	68,7%
	Applied more than once	Count	35	96	131
		% within Multiple applicant	26,7%	73,3%	100,0%
		% within Decision	30,4%	31,6%	31,3%
Total	Count	115	304	419	
	% within Multiple applicant	27,4%	72,6%	100,0%	
	% within Decision	100,0%	100,0%	100,0%	