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Evaluation of Government Funding in RTDI from a Systems Perspective in Austria

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Report 7:

Public RTDI Funding in Austria - the Target Groups' Perspective

KMU FORSCHUNG AUSTRIA
Austrian Institute for SME Research

Report 7

Public RTDI Funding in Austria - the Target Groups' Perspective

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SYSTEM EVALUIERUNG

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User satisfaction and target group behaviour are, from a system's point of view, always to be seen in context, especially with the findings from the other reports in this systems evaluation. The satisfaction and the behaviour shown by the target groups are not the main indicators to evaluate the system's effectiveness in reaching its goals. On the other hand, taking this into consideration when interpreting the data, we can get valuable insights into how the system is perceived, where are e.g. information bottle necks, does it meet the requirements of the target groups in terms of transparency, is there a lack of support from the user's perspective, how are the funding schemes accessed by different subgroups of users and does this relate to the intended target groups etc.

Against this backdrop, the following issues are dealt with in the report:

- The perception of the Austrian RTDI funding system by the research institutions and the companies, considering patterns of satisfaction with different measures as well as assumptions about the relevance of specific interventions or portfolios.
- The impact of the existing system of RTDI funding on the target groups' behaviour e.g. in terms of adaptation of RTDI strategies.

The study is mainly based on two surveys which have been carried out among companies and research institutions with direct and relevant experience of the Austrian system of research support and financing. The analyses focus on those companies and research institutions which had previous experience with the Austrian system of research support and financing, e.g. that ever submitted a proposal for direct funding (and/or claimed tax incentives in the case of the companies). This sub-group is referred to as "systems users".

Main results

About 80 % of the **companies** surveyed have used the system of public RTDI funding provided in Austria during the past: These companies either claimed R&D tax incentives or applied for direct public funding. The majority of these "system users" are small and medium sized enterprises (SMEs; 83 % less than 250 employees). Micro enterprises with less than nine employees account for a considerable share (34 %) of these system users.

Although nearly all sectors and industries are covered by the participating companies, most of the companies operate in technology and knowledge-intensive sectors. Micro companies tend to run their business predominantly in the knowledge intensive service sector, large-scale companies in the user group operate more often in the medium high and high technology industries.

The lack of financial sources (61 %), administrative and approval issues (for 58 %) and the lack of qualified personnel (54 %) are seen as the main barriers hampering innovation activities by the system users (companies). These results are in line with the findings from similar studies, with the exception that administrative and approval issues are more pronounced barriers in

the report at hand. In the group of the system users, 85 % of the companies stated to have applied for direct public funding by one of the finding agencies, while 64 % claimed R&D tax incentives. The larger the company (in terms of employees), the higher the probability that it claimed tax incentives.

From the **research institutions** surveyed, 90 % have used the Austrian system of RTDI funding. The majority are university institutes (60 %). Non-university research institutions and governmental institutions constitute another 35 %; only few universities of applied sciences were reached by the survey. The survey among research institutions targeted especially research institutions dedicated to research in the fields of technology, natural sciences and medicine. Regarding barriers hampering RTDI activities, the research institutions face especially problems of insufficient financials resources, infrastructure and limited (qualified) human resource capacity.

Applications for direct public RTDI funding at federal level are often **combined**: the majority of companies submitted proposals not only in one agency. The most important single funding scheme is the "Basisförderung" (general funding) of FFG, where around two thirds of the companies submitted at least one proposal, while 27 % focused only on this funding opportunity. During 2005 to early 2008, half of the user companies filed one or two applications, 32 % submitted 3 to 6 applications and 12 % submitted even 7 and more applications.

Research institutions (or their research staff, respectively) combine different funding schemes even more extensively than the companies do: while 67 % filed at least one proposal to FWF, only 15 % focused exclusively on FWF funding and only 21 % filed for only one single funding scheme, compared to 16 % that submitted proposal s for 7 and more schemes between 2005/07 – about a third submitted 7 and more proposals.

User satisfaction with aspects such as the clearness of the instrument portfolio, access to relevant information and the quality of advice for both direct RTDI funding and tax incentives is generally reported to be high among all companies. These findings shed new light on the current discussion about a perceived "funding jungle", as it indicates that RTDI active companies are well in touch with the system offerings. However, small companies are rather less satisfied with aspects regarding R&D tax incentives.

Administrative burdens and the lack of transparency regarding funding decisions are considered to be the primary barriers for RTDI active companies when using the system of public RTDI funding. This holds especially true for SMEs. Potential actions in this regard have to be balanced against (i) the necessity to get proposals that can be subject to meaningful evaluation, (ii) the positive effect of self-selection processes (e.g. learning effects gained from developing proposals, also if funding is not granted) in application based funding.

Users from research institutions are, on average, quite satisfied with key aspects of the Austrian system of direct RTDI funding: the clearness of the instrument portfolio, the access to relevant information and the quality of advice receives highest ratings among the various RTDI system features. On the other hand – similar to the results from the company survey – administrative efforts and the lack of transparency regarding the funding decision are critically assessed by the research institutions.

Importance of specific services

In general, the user companies rate direct public funding as very important for their RTDI activities. In contrast, tax incentives are regarded to be less important. However, the relevance of tax incentives increases with company size. The satisfaction with direct public RTDI funding is, on average, lower than the satisfaction levels with tax incentives for RTDI.

Regarding the research institutions, direct funded research personnel and the funding of material and other investments are to be found important; support in this regard is considered to be unsatisfying by the surveyed research institutions.

The target group's behaviour in the funding system

The (expected) chance of getting application(s) accepted, but also the amount of funding rank among the highest aspects for the user companies with regard to the selection of RTDI programmes. For the research institutions, thematic fit is crucial besides these two aspects.

70 % of the research institutions reported to seek information about funding on a regular basis, which indicates the high relevance of direct RTDI funding for the research institutions.

For the user companies, domestic university institutes and SMEs are the most frequent RTDI cooperation partners. About 60 % of the companies stated that at least one of its science-industry co-operations has been initiated through direct public funding. About 40 % who carried out RTDI co-operations with another company, holding or group reported that (at least) one of these activities resulted from direct public funding.

Regarding the general strategies of user companies in case (direct) public research support is not granted, 16 % of the user companies stated that planned undertakings can generally not be carried out at all without (direct) public research support; pure windfall gains (the undertaking is carried out without any change/modification) are also recorded at 16 %. For the remaining companies, the answers indicate an impact of the support system on the RTDI behaviour: if (direct) public research support is granted, the RTDI projects can generally either be executed faster, earlier, to a larger scope or with higher technological ambitions. However, one third of the user companies generally redraft the application aiming to get funding by the same or another funding agency.

Conclusions and recommendations

The report at hand presents key data on the perspective of the target groups that are addressed by the Austrian RTDI funding system, focusing on the satisfaction with the available RTDI support offerings and the impact the funding system has on the target groups' behaviour. Summarising the findings presented above, the following domains to be addressed can be identified:

- The topic of human resources is a crucial bottle neck, both for research institutions and companies. This relates to the findings and recommendations of almost all the reports of the system evaluation: link RTDI policy more closely and systematically with other policies – in this case education policy; conceive RTDI policy as a horizontal matter and make use of joint measures deliberately.

- For the research institutions, especially for the universities, maintaining their (R&D) infrastructure seems to be a challenge, let alone financing new infrastructure for R&D.

  In this context the balance of institutional funding and project funding will have to be discussed. Competitive mechanisms and quality criteria will have to be applied either way.

  In addition, a shift of focus in the FWF funding from the current focus on individual researchers to a broader view considering the institutional background (eligibility of overhead costs; organisational structures of the universities, etc.) might enhance the opportunities of FWF's funding to contribute to a positive development of the universities (see also report no 5 on the topic of direct RTDI funding in Austria).

  Finally, the non-university sector should be mentioned: this sector depends largely on third party funding (including public RTDI funding); thus, especially the lack of predictability of funding schemes hampers longer term strategic planning in this sector. A systematic approach, based on the experiences with performance related institutional funding for the universities would allow for those institutions to perform better on the basis of longer term strategies.

  As long as higher education institutions are concerned, all these arguments relate of course to the aspect of human resources mentioned above.
- The system users' satisfaction with the funding portfolio per se, with information about and services connected to public funding is rather positive. Critical remarks are reported concerning administrative burdens connected to direct public funding, transparency concerning the evaluation criteria and the funding decision, and the predictability of funding schemes. These aspects are ever more relevant for small companies. Small enterprises show a more critical attitude towards R&D tax incentives than towards direct public finding. If service innovation is to be addressed by public funding of RTDI a broader concept of innovation should be applied (see also report no 5).

  The findings concerning administrative burdens and lack of transparency are consistent with a number of comparable evaluations. Proposals have to undergo a meaningful evaluation during the selection process; however, when implementing funding processes these aspects should be taken into account in terms of adequacy of the requirements.

  Transparency of the processes how public funds are invested in RTDI can be considered an inherent value. In addition, funding agencies and applicants as well can benefit from transparency in terms of mutual learning – e.g. discussing the reasons why funding was not granted may foster learning processes on both sides.

  The aspect of predictability of the existence of funding schemes was already mentioned above. This aspect is crucial: if public direct RTDI funding is to exert influences on the longer term behaviour of the target groups, it has to exhibit elements of continuity in terms of the funding schemes and incentives.
- The target groups move more flexibly in the system of direct public funding than would be expected when analysing the different rationales of the programmes themselves. In addition, there seems to be a group of "professionals" with multiple proposals between 2005 and 2007. There are only low shares of companies and even lower shares of research

institutions that focus only on specific funding schemes. However, there are some smaller subgroups submitting proposals only to specific funding programmes.

- The findings indicate an impact of the funding system on the strategies of companies (in case funding is not granted, undertakings are generally carried out later, with a lower budget / in a shorter period, technologically less ambitious). Depending on the type of funding different aspects weigh differently: while the more complex funding schemes seem to foster higher technological ambitions and RTDI projects can generally not be carried out without funding to a higher share, programmes with a lower threshold allow for RTDI projects to be larger and to be started sooner.

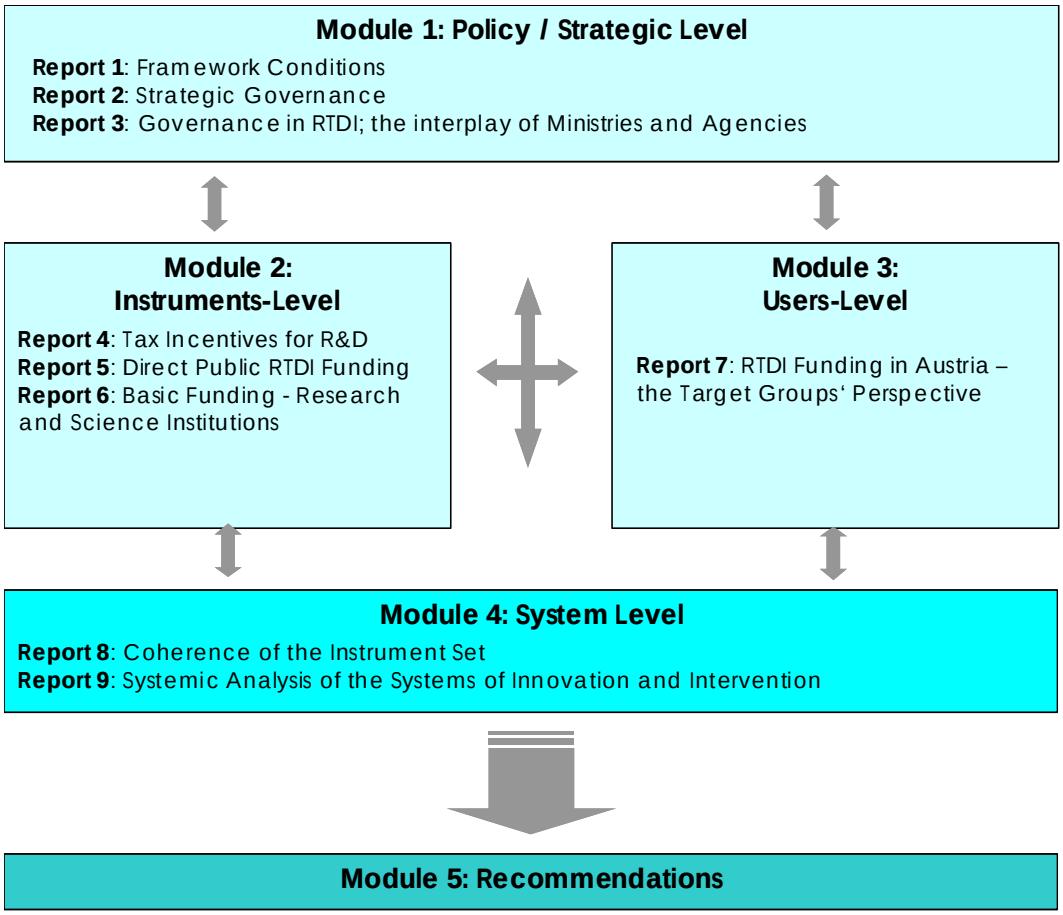
  RTDI co-operations are reported to be initiated by direct RTDI funding to a considerable extent, both for companies and research institutions; and new thematic topics are accessed via public funding by approx. 20 % of the companies doing R&D in this field.

1 Introduction

In the light of the 3 % objective, the Austrian Government assigned the evaluation team with the task to evaluate the broad variety of instruments for public research, (technological) development and innovation (RTDI) funding at the federal level in regard to their appropriateness, their effectiveness and achievement of objectives.

Against this backdrop, the aim of the evaluation at hand is to encompass a systemic view. The project is designed as interplay of different modules as is shown below in figure 1:

Figure 1: Structure of the evaluation of the Austrian system of RTDI funding



Source: KMFA

The report at hand (report no 7) focuses on the perspective of the target groups that are addressed by the funding system: the enterprises as well as the research institutions. Thus, a demand side focus is taken to evaluate their satisfaction with the support received and the instruments' impacts on their R&D behaviour.

In the case of the target group's satisfaction, the underlying report responds to the following questions:

1. What is the viewpoint of the users and their assessment of the Austrian system of governmental intervention? How is the system perceived by its users?

2. How satisfied are these users with the various aspects of the system's offerings provided by the Austrian RTDI-Promotion system?

In addition, the behaviour of the respective target groups is examined. The aim is to investigate how the users behave in the system of RTDI funding and if the funding system engenders changes of behaviour and/or attitudes among the individual target groups. Against this background, the following lead questions were focussed on during the research process:

1. How does the users' behaviour in the system of public RTDI funding present itself?
2. To what extent does the Austrian RTDI-funding system influence the (strategic) behaviour of the respective target groups? Are there indications of opportunistic user behaviour?

The opposite perspective is taken in report no 5, where the system of direct public RTDI funding is analysed from the perspective of the supply side, in report no 4 where the same is the case for R&D tax incentives, while institutional funding is the object of investigation in report No 6.

The Austrian system of public RTDI funding for companies, R&D institutes and organisations of the higher education sector consists of a variety of different players such as federal ministries, funding agencies and other sources of public R&D related funding, all of them interrelated in a system of rather complex interdependencies. Within this system, three ministries have specific responsibilities for R&D and innovation: the Federal Ministry of Economy, Family and Youth (BMWFJ)[1], the Federal Ministry for Transport, Innovation and Technology (BMVIT) and the Federal Ministry of Science and Research (BMWF). In addition, several other ministries either have their own (comparatively small) budget for funding RTDI or are involved in other ways in the RTDI-system (e.g. the Federal Ministry of Finance).

The major funding agencies, the Austria Wirtschaftsservice (AWS), the Austrian Research Promotion Agency (FFG), the science fund (FWF) and in a way also the Christian-Doppler-Gesellschaft (CDG) are entrusted with the operational processing of direct public RTDI funding.[2]

Within this institutional structure, the past has seen the development of a rich system of instruments to fund RTDI publicly, be it "direct measures" such as funding programmes or indirect measures such as tax incentives[3]. Therefore, the system the potential user is facing today consists of a broad variety of different approaches, funding schemes, support programmes, and initiatives. For a list of the funding schemes that are relevant for the evaluation of the system of direct public RTDI funding see table 12 in the annex of this report.

The report at hand analyses the perception and assessment of the RTDI funding system by its target groups on the one hand and the behaviour of the users of this system on the other. It is

[1] Before 2009: the Federal Ministry of Economics and Labour (BMWA).

[2] For more detailed information on the exact division of labour and most importantly governance issues please see the report on governance as included in the overall system's evaluation report.

[3] In order to obtain a full insight into the many different measures regarding R&D support, please refer to the reports 5 on direct RTDI funding in Austria and indirect measures and 4 on tax incentive schemes for R&D.

structured as follows: In **Chapter 2**, methodological issues concerning the surveys are to be found. **Chapter 3** provides an overview of the user groups of the Austrian RTDI-funding system. **Chapter 4** assesses how the Austrian RTDI-Promotion system is perceived and reviewed by its users, raising questions of satisfaction and relevance from the users' position.

How users behave in the system of public RTDI funding and if there are any effects of the RTDI-funding system on the behaviour of the respective user groups are examined in **Chapter 5**. **Chapter 6** summarizes the main conclusions of the report and outlines recommendations resulting from the analyses.

2 Methodology

In the course of the evaluation of the Austrian system of RTDI funding, two surveys have been carried out to gain empirical evidence concerning the relationship between the current RTDI-system and its actual user groups (companies and research institutions, respectively). The surveys were designed, amongst other topics, to collect information on how the Austrian RTDI funding system is perceived by its users, and how the system influences their behaviour.

Both surveys were conducted with standardised questionnaires, including questions about

- general information about the company / research institution,
- characteristics of RTDI activities,
- tax incentives (only for companies),
- direct public RTDI funding[4],
- appraisal of RTDI policy and the funding system as a whole,
- needs concerning RTDI funding and the
- scientific context of the R&D activities (only research institutions).

It should be emphasized that the questionnaire allowed for a very detailed picture of access to different funding schemes, asking e.g. for applications for and funding granted from various individual funding schemes.

The questionnaires were sent out in May 2008, followed by two reminders in June and July 2008, respectively. The survey was primarily conducted by letter post, answering was also possible via the internet or by fax. The fieldwork for the company survey was finished by mid September, the survey among research institutions at the beginning of October 2008. The following section provides an overview of the methodology and sampling framework used for both surveys.

2.1 Sample description

For the **company survey**, a sample was drawn from a commercially available database of Austrian firms[5]. In this first step, the sampling focused on segments with a high share of R&D conducting firms and/or a high share firms with publicly funded R&D activities to ensure a sufficient amount of respondents with first-hand experience with federal R&D funding (realised sample), while responding firms with no experience with public R&D funding could serve for comparative and/or diagnostic purposes. Resulting from this, 2,163 firms were drawn from the address database to constitute the core of the (gross) sample.

Secondly, companies which applied for public funding of R&D during the period from 2004 to 2007 were added to the sample. Here, the study team received data from the Austrian Research Promotion Agency (FFG), which provided 3,612 addresses, and the Austria Wirtschaftsservice (AWS), which made 394 addresses available to the sample. As the

[4] Institutional funding excluded.

[5] Herold Marketing CD business 1/2008

databases were overlapping, duplicates had to be removed which led to a total (gross) sample of 5,308 companies.

The average response rate was 28 %, with 1,410 respondents returning completed surveys. The analysis of the response behaviour shows, however, that the willingness to participate in the survey is not equally high for all sub-populations. The following aspects were found to be important in this context and should be taken into account when interpreting the results.

- The response rate is higher for firms that have already applied for public RTDI funding in the past (see table 1).
- The response rate is remarkably higher for those firms, which operate in industries and sectors which can be associated with "research and experimental development on natural sciences and engineering", i.e., in areas, which are per se highly involved with the topic of public funding of R&D.
- Company size seems to play a major role in the response behaviour, too. As the analysis shows, the response rate is growing as firm size increases.

In addition, the rate of approval of the proposals indicated in the questionnaires shows that companies that were successful with their proposals had an even higher inclination to answer the questionnaire.

Table 1 – Breakdown of (gross) sample of and response rate by the addresses provided by FWF, aws and FFG

Source of data	Absolute number / %	Response rate in %
AWS a) (and/or FFG and/or Herold)	394 / 7 %	30
FFG b) (and/or AWS and/or Herold)	3,467 / 65 %	33
Herold only c)	1,447 / 27 %	18
Total	**5,308**	**28**

a) AWS: Austria Wirtschaftsservice. b) FFG: The Austrian Research Promotion Agency. c) Herold: Herold Marketing CD business 1/2008.
Source: Wifo/KMFA (2008): Company survey completed in the course of the evaluation of the Austrian system of research support and financing – KMFA calculations

Table 2 gives an overview of the distribution of the realised sample. The majority of the responding companies are small and medium sized enterprises (SMEs, in this report only distinguished by the number of employees)[6] with less than 250 employees. About a third of the respondents are micro companies[7]; 16 % are large and very large companies. More than half of the companies were founded before 1994, a third between 1995 and 2004. 12 % started their business after 2005. 23 % of the respondents operate their business in the medium-high tech sector, 19 % work the field of top technology knowledge intensive services, and 17 % in knowledge intensive services.

6 The definition of the European Commission states that SMEs are autonomous firms with less than 250 employees and which have either an annual turnover of less than or equal to € 50 Mio or a balance sheet total of less than or equal to € 43 Mio (European Commission, 2003). Please note that in this report only the number of employees is used as distinguishing feature; only 41 companies with less than 250 employees exceeded the financial limits.

7 In contrast to the community innovation surveys (CIS), where micro companies are not included.

Table 2 – Distribution of realised user sample, company survey

Sample characteristics	% of total
Company size (in terms of number of employees)	
micro (<10)	33.3
small (10-49)	28.6
medium-sized (50-249)	21.7
large-scaled (250-499)	8.1
very large-scaled (500+)	8.2
Year of foundation	
Until 1994	55.0
1995 to 2004	33.4
Since 2005	11.6
Sectoral Classification (according to OECD)	
primary sector	0.5
low tech industries	6.6
medium-low tech industries	9.5
medium-high tech industries	23.0
high-tech industries	9.6
non knowledge-intensive services	15.2
knowledge-intensive services	16.5
top technology knowledge intensive services	19.1

a) For details regarding the OECD classification see annex.
Source: Wifo/KMFA (2008): Company survey completed in the course of the evaluation of the Austrian system of research support and financing – KMFA calculations

The **survey among research institutions** addressed departments of scientific institutions, i.e., universities, universities of applied sciences ("Fachhochschulen"), non-university research institutions and governmental research institutions (such as the Austrian Agency for Health and Food Safety - AGES), dedicated to research in the fields of technology, natural sciences and medicine. The (gross) sample of the survey was compiled mainly based on information investigated on the internet.

The survey did not primarily address the head offices of the scientific institutions, but those organisational units that actually conduct the scientific work and research projects (and therefore are probably the units that might apply for public funding), namely the departments of Austria's scientific institutions. 1,409 "departments" were identified and included in the gross sample (see table 3).

The survey yielded a high average response rate of about 28 % based on the revised (gross) sample, i.e., a realised sample of 396 questionnaires. Regarding the response rate among the research institutions, the following aspects were found to be noteworthy:

- Several institutions did not provide data at the department level but for the institution as such, therefore the response rate presented here is slightly underestimated.
- While the response rates are below average for the universities (and their departments) and the universities of applied science (and their degree programmes), they are remarkably higher for governmental institutions and non-university research institutions.

Table 3 – Breakdown of (gross) sample and response rate by the institutional types

Source of data	Absolute number / %	Response rate in %
University (departments)	940 / 67 %	25
Universities of applied sciences (degree programmes)	141 / 10 %	22
Governmental institutions [a)]	53 / 4 %	36
Non-university research institutions	275 / 19 %	42
Total	**1,409**	**28**

Source: Wifo/KMFA (2008): Science survey completed in the course of the evaluation of the Austrian system of research support and financing – KMFA calculations

The analyses in this report dwelling on the differences between specific types of research institutions focus primarily on the data concerning universities / university institutes and non-university research institutes. Results from governmental institutions as well as universities of applied sciences (UAS) are left aside in these analyses (i.e. are not included in figures and tables) due to the low number of respondents in these groups. However, notable differences compared to university and non-university research institutes are outlined and discussed. For further analyses and discussions regarding participating research institutes, please see also report 6 (RTDI institutions).

2.2 Methodological remarks

For the calculations in the underlying report, item non-responses (single questions not answered in the questionnaire) are not included in the calculation of average ranks and average percentages. Survey respondents who stated "not known" or similar are presented for information purposes only. A comprehensive overview concerning methodological aspects as well as details regarding the field research and data collections among companies and research institutions is given in the documentation section of the final report.

One aim of the report at hand is to analyse the companies' and research institutions' experiences with the Austrian system of public RTDI funding (as opposed to analyse the impact of the actual funding, see report no 8 (coherence of the instrument set). Hence, for that purpose we introduce the sub-group of the "system users" along the following criteria:

- Companies that **ever** claimed R&D tax incentives ("indirect measures", such as the R&D tax credit and R&D tax allowances) in the past since 2002 **and/or** applied for direct measures (e.g. public financial grants, subsidies or related support measures; regardless whether the funding was granted or not).

- Research institutions that **ever** applied for public research funding, such as programme funding, financial grants or related support instruments (regardless whether the funding was granted or not).

If these criteria are applied to the (gross) sample, 1,139 companies and 334 research institutions can be considered as "system user" (see table 4). More than half of the system user companies have used both, tax incentives as well as direct funding schemes; only 81 companies have only claimed tax incentives and did not apply for direct funding. However, a number of 420 enterprises stated to have applied for direct funding but did not claim tax incentives. Those respondents which stated to have not used tax or agency related support in the past ("non-system user") amounted to 254 companies and 39 research institutions. The total number of those who have applied for at least one funding programme since 2005 is much lower: 850 companies and 261 research institutions applied for at least one particular funding programme.

Table 4 – Distribution among the (gross) sample of companies and research institutions

	Companies No. of cases	Research institutions No. of cases
Total	**1,409**	**396**
Ever claimed R&D tax incentives **and/or** applied for direct RTDI funding ("**system user**")	1,139	334
... claimed R&D tax incentives and applied for direct RTDI funding	638	n. a.
... claimed R&D tax incentives only	81	n. a.
... applied for public RTDI funding only	420	n. a.
Never claimed R&D tax incentives nor applied for direct RTDI funding ("**Non-user**")	254	39
Applied for (at least one) selected programme between 2005/07	850	261

Source: Wifo/KMFA (2008): Company and Science survey completed in the course of the evaluation of the Austrian system of research support and financing – KMFA calculations

Depending on the evaluation questions we draw on different sub-groups of the whole sample:

- For the question how the funding system is perceived by its users we base our analyses on the "systems users".
- The analysis of the specific strategies of the applicants of programmes of certain intervention rationales (see also report no 5 on direct public RTDI funding) is drawn from those companies and research institutions that have actually submitted proposals to those programmes during the period between 2005 and 2007.
- Finally, questions concerning the influence of funding received e.g. on picking up a new thematic focus is based on those companies who were actually granted funding.

In addition, a series of semi-structured qualitative interviews with persons from relevant federal ministries, agencies, companies, research institutions and other stakeholders were conducted to complement the findings from the survey.

3 Usage of the Austrian system of RTDI funding

3.1 Characteristics of the user groups

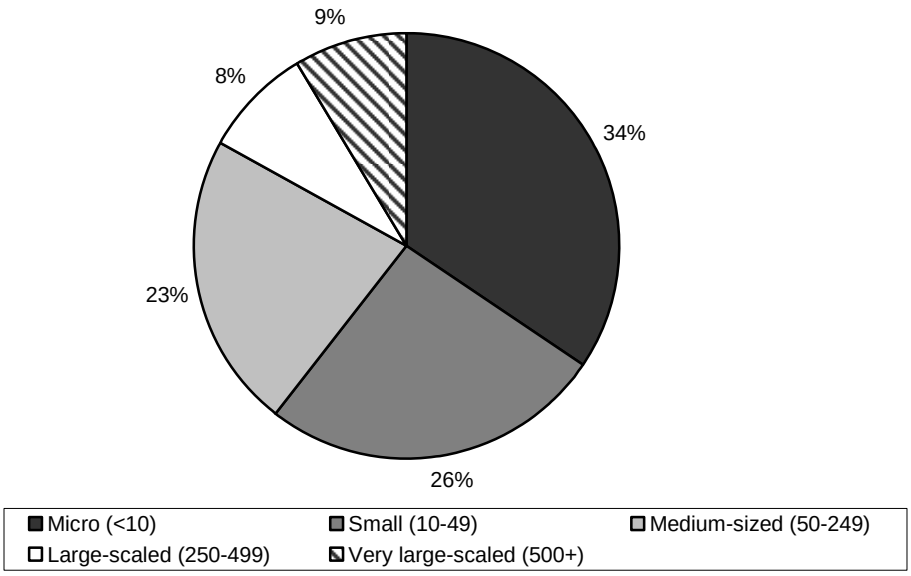
As described in the methodology section, we introduced the term "system user" for the subgroup of the surveyed companies and research institutions that ever submitted a proposal for direct funding (and/or claimed tax incentives in the case of the companies). The analyses of how the funding system is perceived and accessed by companies and research institutions are based on this subset.

The following chapter describes characteristics of the system users, which constitute the basis for further steps in the analyses. For detailed information about the attributes that influence the likelihood to actually receive RTDI funding, please see report no 8 (coherence of the instrument set).

3.1.1 Companies

The share of the system users amounts up to 80 % of the companies surveyed. As figure 2 shows, the majority of these companies (83 %) comprise small and medium sized enterprises (SMEs) with less than 250 employees; 8 % are large scaled companies which employ 250 to 499 people, another 8 % have more than 500 employees (very-large scaled companies). Compared with the R&D statistics provided by Statistik Austria (2006), the share of SMEs and large enterprises is roughly equal: from the 2,407 companies included in the 2006 R&D statistics, 83 % are SMEs and 17% large and very large enterprises. However, the system users from micro and small enterprises together sum up to a higher share of 60 % compared to 53 % in the Austrian R&D statistics 2006.

Figure 2: Company survey – Company size distribution among system users, 2007, in percent



Note: n = 1087

Source: Wifo/KMFA (2008): Company survey completed in the course of the evaluation of the Austrian system of research support and financing – KMFA calculations

More than half of the user companies were founded before 1994, one third between 1995 and 2004. About 13 % can be considered as "start-up" companies, which have been set up after 2005. Regarding their company structure, 39 % of the user companies are part of a parent company, holding or group. However, as can be seen from table 5, 69 % of these companies are part of a group with the headquarters located in Austria. For 31 %, the group headquarter is located outside Austria. For half of these businesses, the headquarter of the parent company is located in Germany; other EU countries rank second (22 %), followed by Swiss groups (12 %).

Table 5 – Part of a parent company, holding or group, user companies, 2007, in percent

User companies	No. of companies	%
Independent from a group	684	61
Part of a group	437	39
... Group headquarter in Austria	*(303)*	*(69)*
... Group headquarter outside Austria	*(134)*	*(31)*

Note: n = 1121

Source: Wifo/KMFA (2008): Company survey completed in the course of the evaluation of the Austrian system of research support and financing – KMFA calculations

The user companies report a positive business development for the recent past (see table 6). Between 2005 and 2007, net sales increased by more than 10 % (median value for the average growth rate) in each company class. In 2007, the net sales for the user companies amounted to about € 300 TSD for micro, € 3 Mio for small and € 20 Mio for medium-sized companies; large-scaled companies had net sales of € 80 Mio, very large-scaled companies

of € 320 Mio. As could be expected, the size of the company plays a significant role in the export business: The larger the companies using the Austrian system of RTDI support are (in terms of number of employees), the higher the share of export in net sales (Micro: 10 %; Small: 37 %; Medium: 65 %; Large: 80 %; Very large: 88 % in 2007, respectively).

In addition to the positive development in sales, the overall development of the company position had improved as well. Between 2005 and 2007, almost three-quarter of the companies were able to extend their product- and service portfolio, 61 % expanded their manufacturing capacity. About 60 % increased their share in existing market segments and their market coverage, respectively.

Table 6 – Annual turnover and share of export in net sales, user companies, 2007

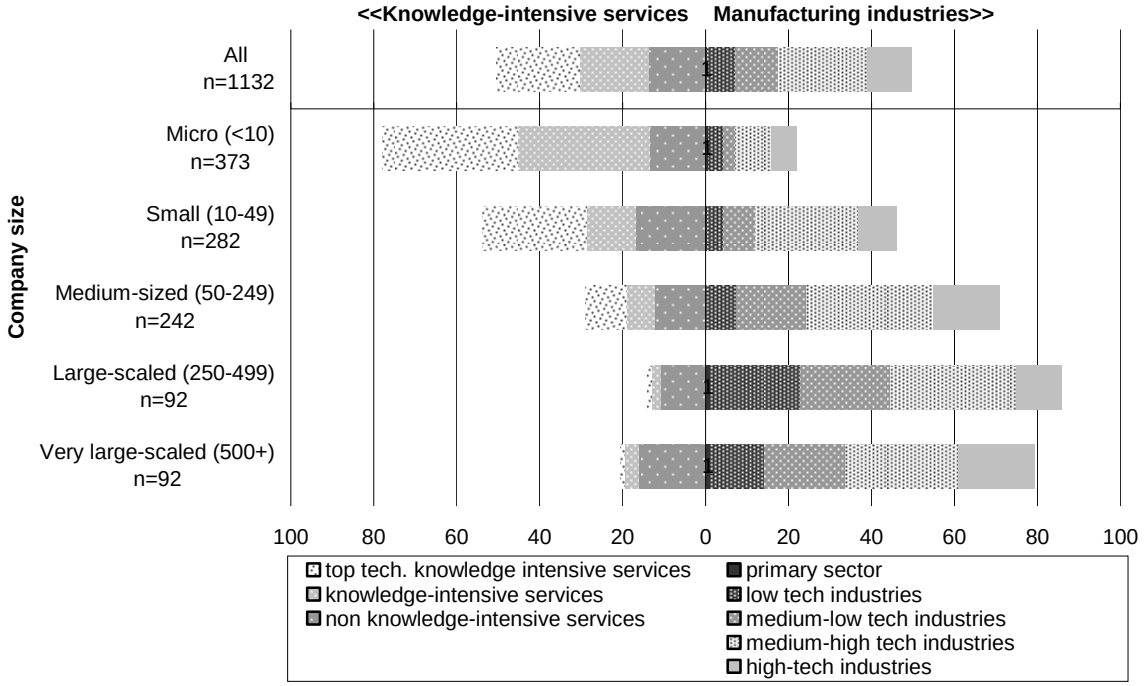
User companies	Annual turnover [a]		Export in % of net sales [a]
	2007 (in Mio €)	Growth rate 06/07 (in %) [b]	2007
Micro (<10)	0,3	11.3	10
Small (10-49)	3,1	11.9	36.5
Medium-sized (50-249)	19,4	11.5	65
Large-scaled (250-499)	78,7	8.9	80
Very large-scaled (500+)	323	10.5	88

a) The median value is used because of the effects of outlier values on the average value. b) The growth rate is defined as the year-to-year percent change and calculated by taking the median value from each sub-group.
Source: Wifo/KMFA (2008): Company survey completed in the course of the evaluation of the Austrian system of research support and financing – KMFA calculations

The majority of the user companies work in technology and knowledge-intensive sectors (see figure 3): three out of 10 companies operate in medium-high (21 %) and high-technology manufacturing industries (11 %); almost four out of 10 provide knowledge-intensive (17 %) and top technology knowledge intensive services (20 %). The other companies carry out their activities in medium-low (10 %) or low-technology industries (7 %); 14 % work in non-knowledge intensive service sectors. A small share of companies (0.5 %) pursues their business in the primary sector.

Micro companies that are system users run their business predominantly (78 %) in the knowledge-intensive service sector: 33 % provide top technology knowledge-intensive services and 32 % knowledge-intensive services. Only 14 % provide non-knowledge-intensive services. With increasing company size, the field of activity shifts gradually from the knowledge-intensive service sector to the manufacturing industries. Only 3 % of the large-scaled companies and 4 % of the very large-scaled companies are active in knowledge-intensive service sectors; 41 % of the large scaled companies and 46 % of the very large scaled companies operate in the medium-high and high-technology industries.

Figure 3: Company survey – OECD classification of economic activities, user companies, in percent



Source: Wifo/KMFA (2008): Company survey completed in the course of the evaluation of the Austrian system of research support and financing – KMFA calculations

Unsurprisingly for the user companies, almost all (95 %) have undertaken RTDI activities between 2005 and 2007. Moreover, the majority of the user companies carried out RTDI-project activities in a continuous manner (76 %), 19 % did so on an occasional basis[8].

Four out of ten companies carried out their first RTDI project before 1998, another four between 1998 and 2005; 14 % started their first project in 2006 or later. The remaining companies stated that they did not know when they came up with their first project. RTDI newcomers, as one may have expected, largely consist of micro enterprises (73 %).

A high share of the user companies considers themselves as highly innovative (see figure 4). Between 2005 and 2007, 85 % of these companies stated to have continuously improved their own products, services or processes ("incremental innovators"), 81 % provided individual solutions to their customers by adapting existing products, services or processes ("problem solver"). Furthermore, 70 % of the companies stated to have delivered new or significantly improved products, services or processes ("radical innovations", new to the market) in that time frame; 61 % introduced new products, services or processes to support internal RTDI activities ("smart follower"). Finally, 44 % came up with innovative organisational solutions, for

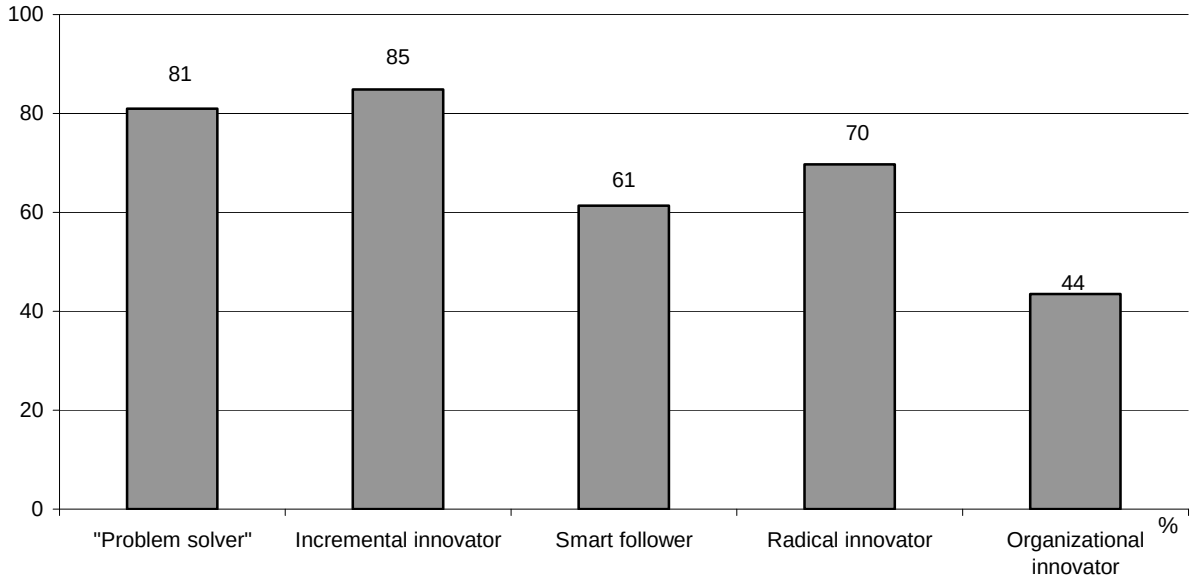
[8] It should be noted that about 5 % of the companies stated to have applied for public RTDI research support but were not engaged in RTDI projects in the respective time frame. It is assumed that the majority of these companies carried out RTDI activities before 2005 (or in late 2008), since the definition of systems users is based on the question whether the companies or research institutions ever have tried to access public funding/tax incentives.

example they introduced (new or improved) sales or distribution methods or established knowledge management systems within the company.

It must be noted, however, that this is a self-assessment by the user companies. According to the Community Innovation Survey carried out by Eurostat (national R&D statistics by Statistik Austria (2008)), 51 % of about 16 ,000 national companies surveyed are "innovative active": 39 % of all and 78 % of innovating companies introduced new / modified processes, 36 % of all and 52 % of the innovating companies introduced new/modified products, and the share of companies introducing products there were new to their market amounted to 23 % (of all companies) and 46 % of the innovating companies, respectively (see here also: The Austrian research and technology report 2008 (2008)).

The numbers provided by the surveyed companies in the underlying report might indicate that even modest innovative behaviour is perceived as radical – this would lead to the conclusion that the lack of radical innovation is not only due to a respective reluctance to take more risk in the funding system but also to the lack of "innovative imagination" and maybe also overestimation of the risks associated with innovation on the side of the companies. This is also corroborated by interviewed experts who point out that a considerable share of companies who file for RTDI funding are seemingly not well informed about the state-of-the-art in the respective technology field – which may lead also to an overestimation of the innovation potential and novelty of the filed project[9].

Figure 4: Company survey – Innovation activities by user companies, in percent



Note: n = 1050. Multiple answers were allowed.

Source: Wifo/KMFA (2008): Company survey completed in the course of the evaluation of the Austrian system of research support and financing – KMFA calculations

[9] Another reason may be that companies know what funding agencies and policy makers want to hear. In surveys there is always a certain amount of answers mirroring the respondents' assumptions of desirable behaviour.

Except for micro-companies, companies which made use of the Austrian system of RTDI support show an increase in expenditures in research, development and innovation by more than 10 % (median value for the average growth rate) between 2005 and 2007 (see table 7).[10] In 2007, these system user companies employed, on average, 2 persons which were responsible for RTDI activities.

Table 7 – RTDI expenditures and RTDI personnel, user companies, absolute and in percent

User companies	RTDI expenditures a)		RTDI personnel, absolute a)
	2007 (in Mio €)	Growth rate 06/07 (in %) b)	2007
Micro (<10)	0.1	0.0 c)	2.0
Small (10-49)	0.3	14.3	4.0
Medium-sized (50-249)	0.8	13.1	6.0
Large-scaled (250-499)	1.6	11.1	12.5
Very large-scaled (500+)	5.8	11.3	30.6

a) The median value is used because of the effects of outlier values on the average value. b) The growth rate is defined as the year-to-year percent change and calculated by taking the median value from each sub-group.
c) The 75th percentile (25 percent) scores at 40 %.
Source: Wifo/KMFA (2008): Company survey completed in the course of the evaluation of the Austrian system of research support and financing – KMFA calculations

Non-user companies

As has been shown in the methodology section, companies who never claimed R&D tax incentives nor applied for direct RTDI funding (n=254) are fairly underrepresented in the realized survey sample. About half of these companies stated that they performed RTDI activities between 2005 and 2007 (n=118). More interestingly, some of these RTDI active "non-user companies" answered also to questions that would imply past experience with the system of public RTDI funding (e.g. satisfaction with specific systems offerings). In fact, these companies rank the importance of RTDI support quite similar to those of the systems user companies, but the non-user companies are generally less satisfied with the current available offerings.

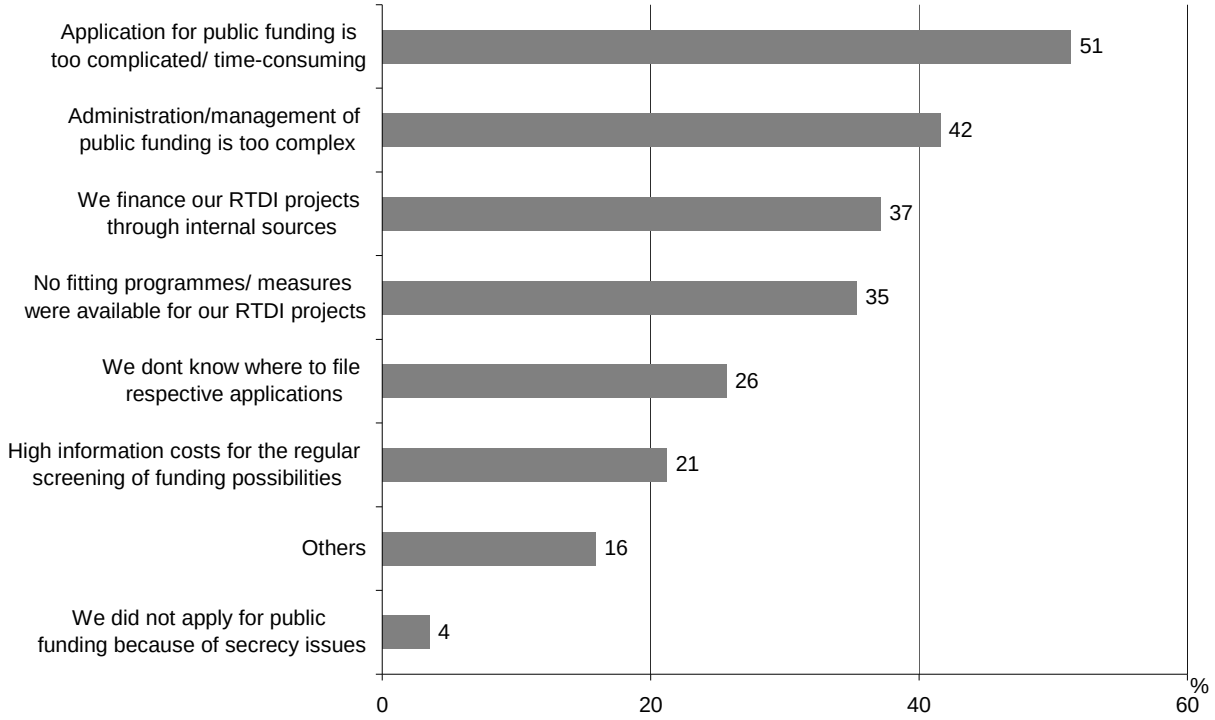
However, main reasons for having not applied for (direct) public funding reported by these companies are clearly related to administrative burdens (see figure 5): five out of ten companies argue that the application procedures for public funding are to complicated or time-consuming, four out of ten expect problems with the administration and project management. About a third noted, however, that no fitting programme or support service was available to them for their respective RTDI project. The latter might indicate that those non-users do not perform RTDI activities eligible for funding. Again, there are two possible explanations: the eligibility/selection criteria are selective in a desired way (e.g. leaving out

[10] Matching the RTDI expenditures with the annual turnover of the companies showed that the share of RTDI expenditures in turnover is unrealistically high in certain cases. Therefore, we use this information with caution for further analyses and we only draw on the development over time rather than on the absolute amount or the share in turn-over.

projects that are not innovative enough to meet the requirements etc), or that they are selective in an undesired way (this may be the case for service innovation).

Moreover, the two categories "we do not know where to file an application" and "high information costs" should be kept in mind since they are indicating that the system of public RTDI funding is hard to see through for those who have not entered it yet. For the assessment by the system users see chapter 4.2.

Figure 5: Company survey – Reasons for not having submitted applications for (direct) public funding, non-user companies with RTDI activities between 2005/07, in percent



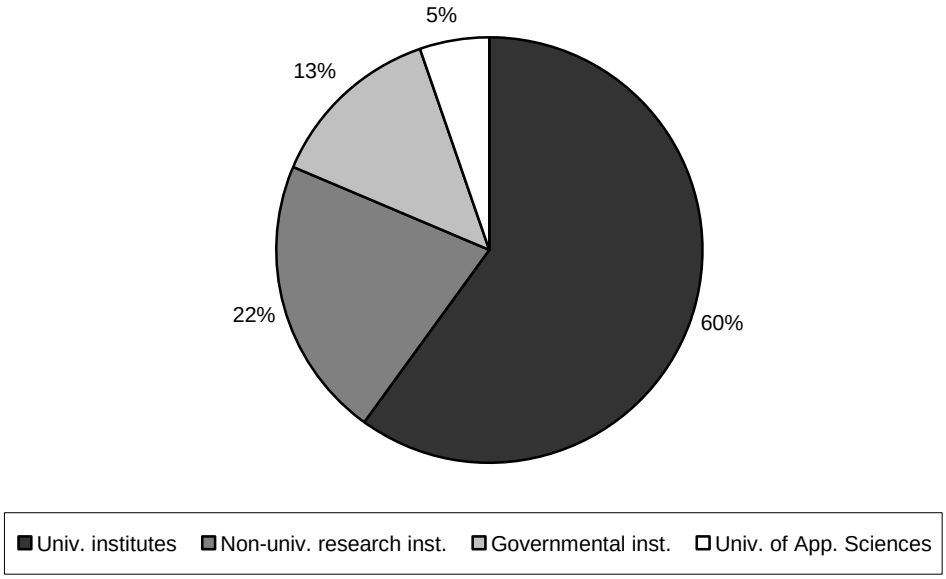
Note: n=113. Multiple answers were allowed.

Source: Wifo/KMFA (2008): Company survey completed in the course of the evaluation of the Austrian system of research support and financing – KMFA calculations

3.1.2 Research institutions

From the research institutions surveyed, 90 % reported to have used the Austrian system of RTDI funding (institutional funding excluded). The majority of these system users are university institutes (60 %), 22 % are non-university research institutions. 44 respondents are from governmental institutions (13 %) such as federal agencies or bureaus (also) undertaking R&D. 15 universities of applied sciences or single degree programmes of such institutions (5 %) also participated in the survey (included in the group of system users) and were asked about their experiences with the RTDI funding system. Considering the small sample size of governmental institutions and universities of applied sciences, emphasis of the description is placed on university and non-university research institutions.

Figure 6: Science survey – Distribution of different research institutions, system users, 2007, in percent



Note: n = 334

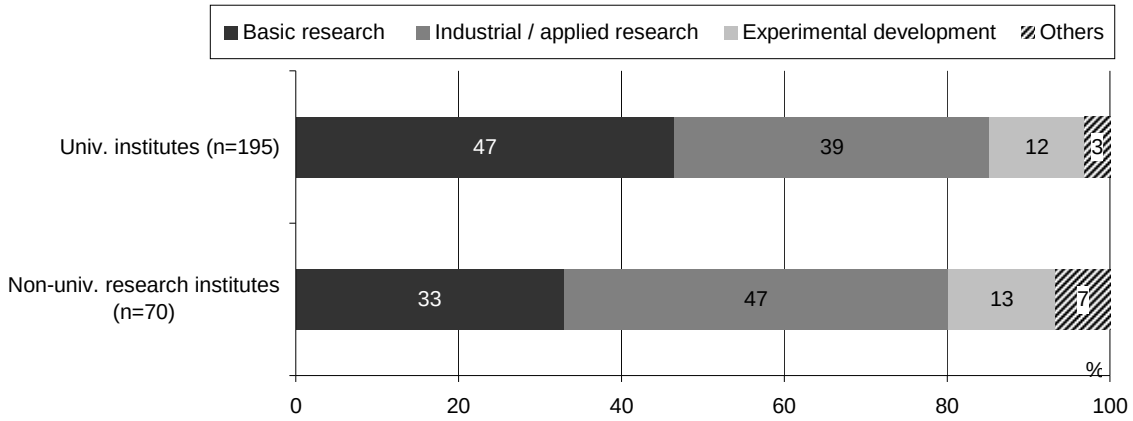
Source: Wifo/KMFA (2008): Science survey completed in the course of the evaluation of the Austrian system of research support and financing – KMFA calculations

Most of the university and non-university institutes who applied for research funding carry out their RTDI activities in a high-tech environment with research fields such as information and communication technology (ICT), life sciences (e.g., biotechnology), medicine (e.g., health/psychology) or nanotechnology. However, the high tech focus is no surprise as the survey explicitly targeted departments of scientific institutions dedicated to research in the fields of technology, natural sciences and medicine, which constituted the frame population of the survey.

Figure 7 shows the research institutions' different research portfolios, covering the whole spectrum from basic research to experimental development. As could be expected, basic research represents nearly 50 % of the whole RTDI activities carried out at university institutes. About 40 % is spent on industrial and/or applied research, experimental developments accounts for 12 %. However, it is often difficult to clearly distinguish between industrial / applied research and experimental development activities, the lines are blurred and so are the respective figures. When it comes to non-university research, it is clearly visible that applied research plays a more significant role, although still about a third (33 %) is available for basic research activities.

At governmental institutions and universities of applied sciences, the share of applied research and experimental RTDI activities grows, gaining even more weight in contrast to basic research undertakings.

Figure 7: Science survey – Distribution of research activities, system users, 2007, in percent



Source: Wifo/KMFA (2008): Science survey completed in the course of the evaluation of the Austrian system of research support and financing – KMFA calculations

Regarding financial aspects, university institutes which stated to have applied for public research funding had a budget of 790000 € at their disposal in 2007, compared to about 1.2 Mio € for non-university research institutions (median value; see table 8). The size of the budget increased only slightly between 2006 and 2007: 4.7 % for university, 4.4 % for non-university institutions. The budget recorded for the governmental institutions and universities of applied sciences, which can only serve as a relative reference, tends to have a magnitude similar to non-university institutes.

In terms of employed personnel, the median value was found to be 17 for university and 14 for non-university institutes. A notable difference appears to be that non-university research institutions have slightly more staff in permanent and fixed-term positions than university institutions.

Table 8 – Distribution of budget available and RTDI personnel, system users, in percent

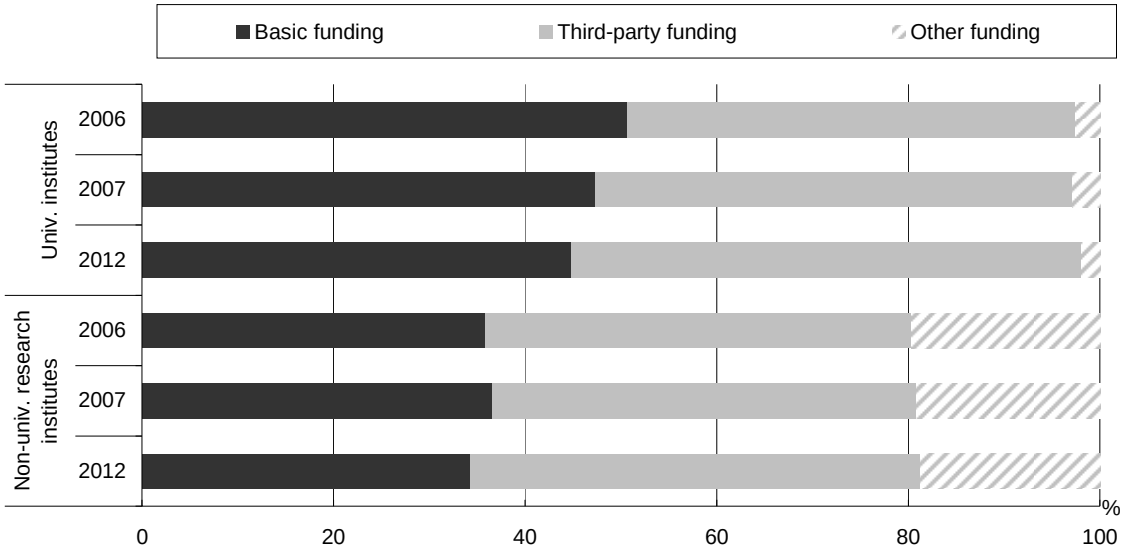
	University institutes [a)]	Non-univ. research insti. [a)]
Budget available 2007, (in TSD €, incl. third-party funding)	790	1,190
Growth rate 06/07 (in %)	4.7	4.4
Employees, 2007 (total)	17	13.5
RTDI personnel, 2007 [b)]	14	12
... permanent employed	4.5	7.3
... fixed-term positions	5.0	8.6
... assistance positions	3.0	2.5
RTDI personnel (2007) with project management responsibilities	3.0	4

a) The median value is used because of the effects of outlier values on the average value.
Source: Wifo/KMFA (2008): Science survey completed in the course of the evaluation of the Austrian system of research support and financing – KMFA calculations

For university institutes, financing from basic funding accounted for about 50 % of total funding in 2006, a share which decreased slightly to 47 % in 2007. Consequently, the share of third-party funding stemming from federal agencies such as FWF or FFG increased. Other funding sources (e.g. earnings from consulting activities, etc.) seem to play a minor role for university institutes (2006 and 2007: 3 %). For 2012, university institutes expect a further growth in the share of third-party funding (53 %) in contrast to a shrinking share of basic funding (45 %). Compared to university institutes, non university institutes show a higher proportion of funding sources other than basic and third-party funding (about 20 %). Although the share of financing from basic funding has found to be increasing for non university institutes, a slight decrease is expected for 2012.

Governmental institutions tend to have a high share (>50 %) of basic funding sources, as it is the case for those universities of applied sciences who participated in the survey.

Figure 8: Science survey – Distribution according to funding source, system user, 2007, in percent



Note: n (university/university institutes) = 145-173, (non-university institutes) = 63-70. Mean values of reported percentages.

Source: Wifo/KMFA (2008): Science survey completed in the course of the evaluation of the Austrian system of research support and financing – KMFA calculations

Regarding the sources of third-party funding, only minor differences between university and non-university institutes are observed. While industry makes up for approx. one quarter of the third-party funding, the bulk (more than 50 %) stems from public authorities. Although the estimations for 2012 have to be taken cum grano salis, it is striking that an overall decreasing share of industry funding is expected by the institutes.

Because the number of ***non-user research institutions*** is small (n=39), no further subgroup analysis has been made in relation to user research institutions. The analysis in the following chapter will rather focus on the differences between university/university institutes and non-university research institutions.

3.2 Patterns of system use

The previous section introduced the users of the Austrian RTDI promotion system ("system users") and discussed the characteristics of the respective companies and research institutions. The following section narrows down to specific ways and extent of this system's usage. The aim is to provide insights into the selection behaviour towards different support instruments by the companies and research institutions and to spot application filing patterns. Key questions are: which funding schemes are accessed? Do the users concentrate on specific schemes or rather combine applications in different programmes? Are there users filing higher numbers of proposals?

The following analysis focuses on the way the system user companies / research institutions participated in the various types of RTDI programmes available from FWF, aws and FFG (as

well as tax incentives for R&D). For more information see report no 4 (Tax Incentives for R&D) and report no. 8 (Coherence of the Instrument Set).

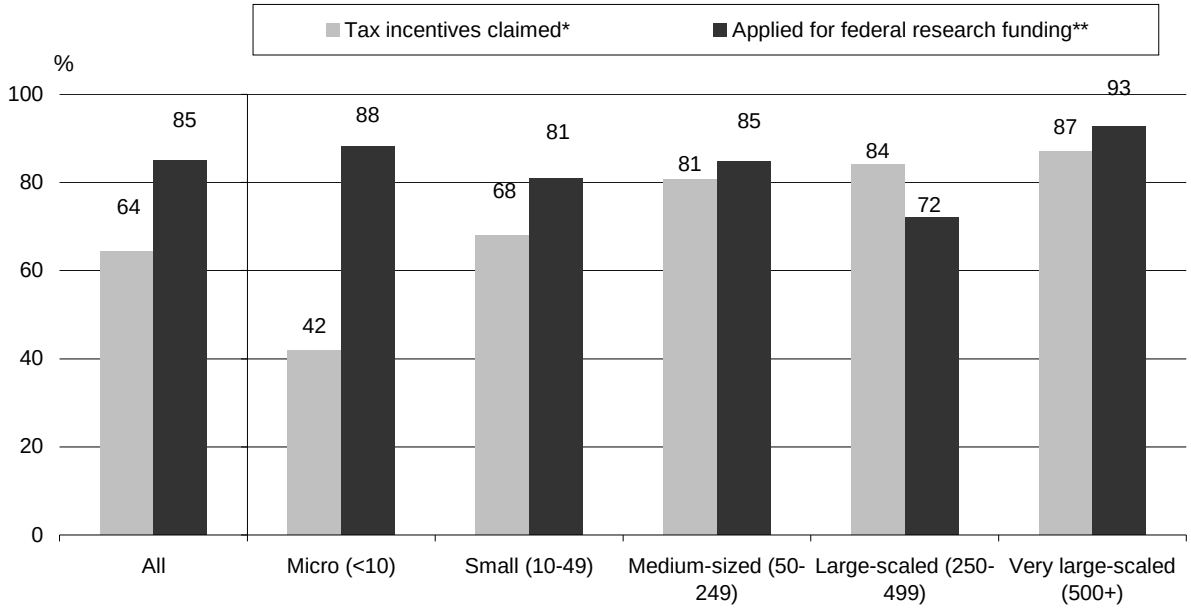
3.2.1 System users – Companies

3.2.1.1 Tax incentives for R&D and direct public funding

85 % of the system users reached with the survey (877 companies) stated to have applied for federal RTDI support offered either by the Austria Wirtschaftsservice (aws), the Austrian Research Promotion Agency (FFG) or the Austrian Science Fund (FWF) between 2005 and 2007; 64 % claimed (applied for) R&D tax incentives between 2002 and 2006 (see figure 9, see also report No 4). With regards to company size, only 42 % of the micro companies used R&D tax incentives between 2002 and 2006, while 88 % participated in the system by applying for agency based (direct) public funding between 2005 and 2007. On the other hand, for medium-sized and very large-scaled companies with more than 500 employees, both R&D support measures seem to be nearly equally important and accessible. The percentage of companies receiving R&D tax incentives increases gradually with company size.

The majority of the companies which claimed R&D tax incentives have been founded before 2005 (95 %). As will be shown later in this report, it appears that young, rather small-sized companies experience more difficulties with R&D tax incentives than long-established companies, especially when it comes to access relevant information and transparency issues. In terms of industries, medium high technologies (27 %) and top technology knowledge intensive services (17 %) followed by high tech industries (14 %) stand out. In contrast, slightly less companies (85 %) which applied for (direct) federal research funding started their business before 2005; 21 % operate in top technology knowledge-intensive services and 19 % in knowledge-intensive services and medium-high technologies, respectively.

Figure 9: Company survey – Usage of R&D tax incentives and direct public funding, per company size, in percent



Note: n = 1035. Multiple answers were allowed; * Companies who claimed R&D tax allowances between 2002/2006; ** Companies who applied for agency based public research funding at aws, FFG and FWF between 2005/2007

Source: Wifo/KMFA (2008): Company survey completed in the course of the evaluation of the Austrian system of research support and financing – KMFA calculations

3.2.1.2 Combined applications from companies

From the companies which submitted (at least one) application for federal funding programmes offered by FWF, aws and FFG, 850 did so as of 2005 and specified also the name of the programme[11] by selecting it from a given list. (For the list of the programmes relevant for the evaluation of the system of public RTDI funding see table 12 in the annex). As can be seen from figure 10, a high proportion of those companies (93 %) reported to have applied for (at least one) programme at FFG between 2005/07, which highlights the importance of the FFG as a major RTDI funding agency. A third of the user companies filed for aws programmes. FWF instruments which addressed also companies, such as Impulsprojekte and the programme proVISION, have received applications from only 4 % of the companies. A high share of applicant companies (64 %) submitted applications for FFG programmes only, 6 % for aws programmes, and only a small number did so solely for FWF programmes[12].

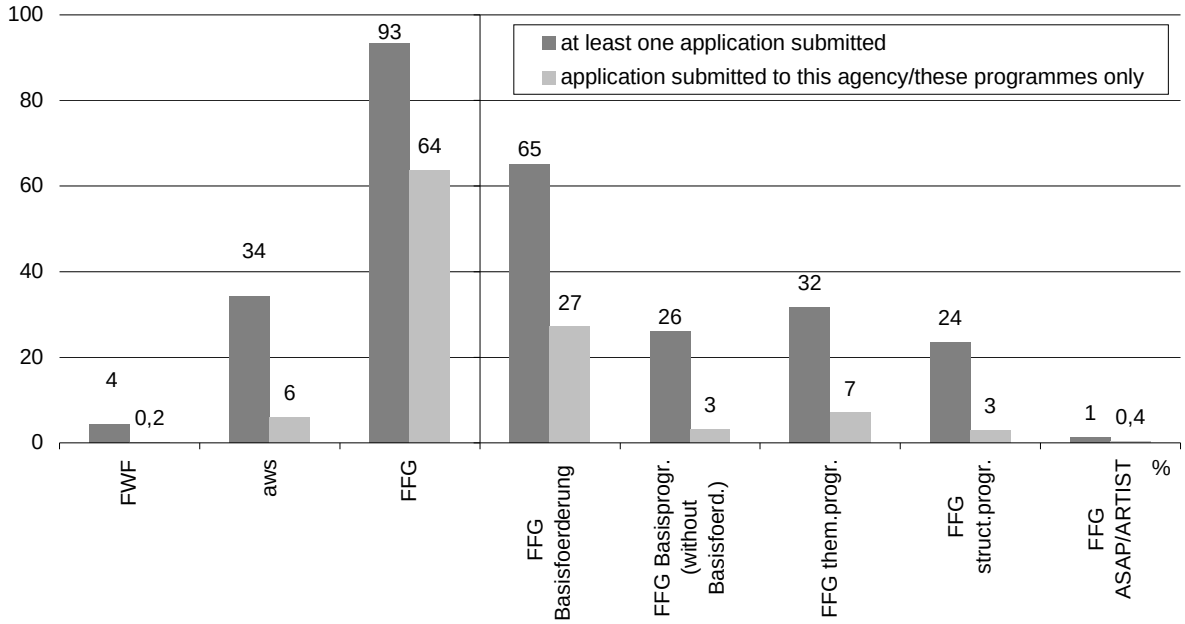
Looking closer at the applications submitted to the FFG, it may not be as a surprise that the General Funding (Basisförderung) received applications from about two thirds of the companies between 2005/07. Moreover, 27 % of the user companies stated that they applied only for this specific programme. 32 % submitted applications for FFG Thematic Programmes

[11] The full programme list can be found in the annex.

[12] However, it should be kept in mind that the FFG contributed also a large number of addresses to the gross sample, which might explain to some extent the high share of companies having submitted proposals for FFG funding.

(FFG Thematische Programme), 26 % for FFG General Programmes (Basisprogramme) (e.g. Innovationsscheck, BRIDGE, Headquarter; excl. Basisförderung), and 24 % for FFG Structural Programmes (FFG Strukturprogramme). The ASAP/ARTIST space programme[13] attracted applications from 10 companies.

Figure 10: Company survey – Companies who applied for agency based RTDI programmes between 2005/07, per agency, in percent



Note: n = 850. Multiple answers were allowed. For instance: If one company participated in at least one programme offered by aws and in at least one offered by FFG, the company is counted twice in both programme groups.

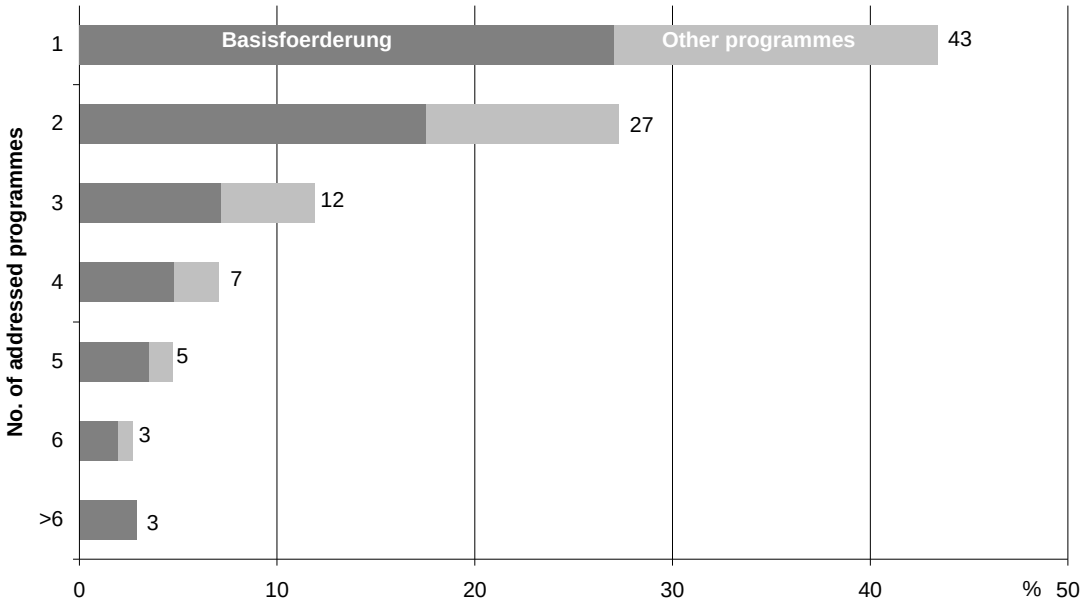
Source: Wifo/KMFA (2008): Company survey completed in the course of the evaluation of the Austrian system of research support and financing – KMFA calculations

The results from the programme selection of the companies indicate a high level of cross-agency or cross-programme applications ("combined applications"), i.e. a company applied for more than one programme provided by one or more agencies. In fact, about 40 % of the surveyed companies submitted (at least one) application(s) for two or three specific programmes at FWF, aws or FFG between 2005/07 (see figure 11); a fifth applied for four and more programmes. As has been shown above, applications submitted to one single programme (43 %) address to a high proportion the FFG "Basisförderung". However, the "Basisförderung" is also often used in combination with other programmes. For instance, two thirds of the companies which applied for two programmes (27 %) selected "Basisförderung" to be one of them; the remaining third applied for two other programmes, without using "Basisförderung". The share of "Basisförderung" grows with the number of accessed programmes: all companies who applied for 7 and more programmes (3 %) also used the "Basisförderung".

[13] ASAP/ARTIST (Österreichisches Weltraumprogramm)

Generally speaking, distinct patterns or programme application strategies, apart from the fact that "Basisförderung" is found to play a central role, could not be derived from the empirical findings. Combinations across single programmes provided by FWF, aws or FFG vary greatly among the user companies. However, if a company applied for FFG „Basisförderung", combinations had been made most commonly with (one ore more) aws programmes, followed by other FFG Basisprogramme (e.g. Innovationsscheck, Bridge) or FFG thematic programmes.

Figure 11: Company survey – No. of programmes for which user companies filed (at least one) application(s), FWF, aws and FFG combined, in percent



Note: n = 850. The percentages add up to 100.

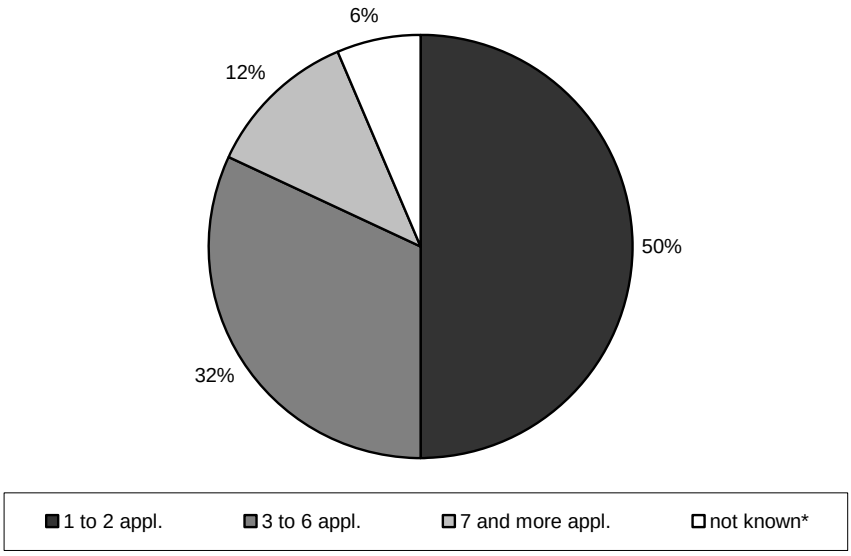
Source: Wifo/KMFA (2008): Company survey completed in the course of the evaluation of the Austrian system of research support and financing – KMFA calculations

3.2.1.3 Frequency of applications from companies

While the discussion above focussed on using the variety of the programme portfolio, the following analysis deals with the frequency of applications submitted by the user companies. As figure 12 shows, about half of the companies filed one ore two applications between 2005/07 with the FWF, aws or FFG; a third submitted between 3 to 6 applications, 12 % more than 6. As might be expected, the size and age of the companies plays an essential role in this regard: 43 % of the companies who filed for one or two applications can be regarded as micro companies with less than 9 employees, 26 % are small, and 22 % are medium-sized companies. On the other hand, only a fifth of the companies who submitted more than 6 applications have less than 9 employees; 33 % steam from companies with more than 500 employees. In fact, the total number of applications submitted grows in parallel with company size. For instance, more than 10 applications have been filed predominately by large scaled companies.

The older the companies, the more applications are filed with the federal funding system: about 50 % of the companies with up to 6 applications were founded before 1994, 36 % between 1994 and 2005. This finding holds especially true when it comes to 7 or more applications: only 5 % of these companies have been established after 2005. Furthermore, companies having submitted more than 3 proposals to the FFG „Basisförderung", tend to be larger (in terms of employees) and older.

Figure 12: Company survey – Distribution of companies according to their number of applications submitted to FWF or aws or FFG, 2005/07, in percent



Note: n = 877. *) 28 companies got their application approved but did not specify the number of filed applications; 27 companies stated to have filed for a federal programme between 05/07 but did not specify the name.

Source: Wifo/KMFA (2008): Company survey completed in the course of the evaluation of the Austrian system of research support and financing – KMFA calculations

As has been shown above, the most popular programme for companies which submitted 1 or 2 applications has been the "Basisförderung" provided by the FFG (59 %). The dominance of the "Basisförderung" is also visible among companies that filed for 3-6 (50 %) or more than 6 (40 %) applications. Moreover, the distribution of submitted applications offers also insights into the application behaviour of the companies.

Table 9 – Distribution of applications according to agency/programmes, user companies 2005-07, in percent

		Companies having submitted .... proposals		
	In % of total	1 to 2	3 to 6	>6
FWF	2.2%	0.9%	2.1%	2.8%
aws	14.2%	17.7%	20.3%	8.2%
FFG Total	83.6%	81.4%	77.6%	88.9%
FFG Basisförderung	39.3%	59.2%	49.7%	40.5%
FFG Basisprogramme (without Basisförderung)	9.7%	12.9%	12.1%	10.7%
FFG thematic programmes[b)]	22.3%	18.4%	25.0%	31.0%
FFG structural programmes	12.3%	9.6%	13.1%	17.8%
Total no. of submitted proposals	3302	656	1128	1518

b) Including ASAP/ARTIST (Österreichisches Weltraumprogramm).

Source: Wifo/KMFA (2008): Company survey completed in the course of the evaluation of the Austrian system of research support and financing – KMFA calculations

Because the majority of the companies applied for more than one programme or programme group between 2005/07, it is difficult to draw an exact picture of "typical programme applicants" (see report no 5 (direct RTDI funding in Austria) for a description of characteristic features of applicants in specific programmes / categories of programmes).

3.2.2 System users – Research institutions

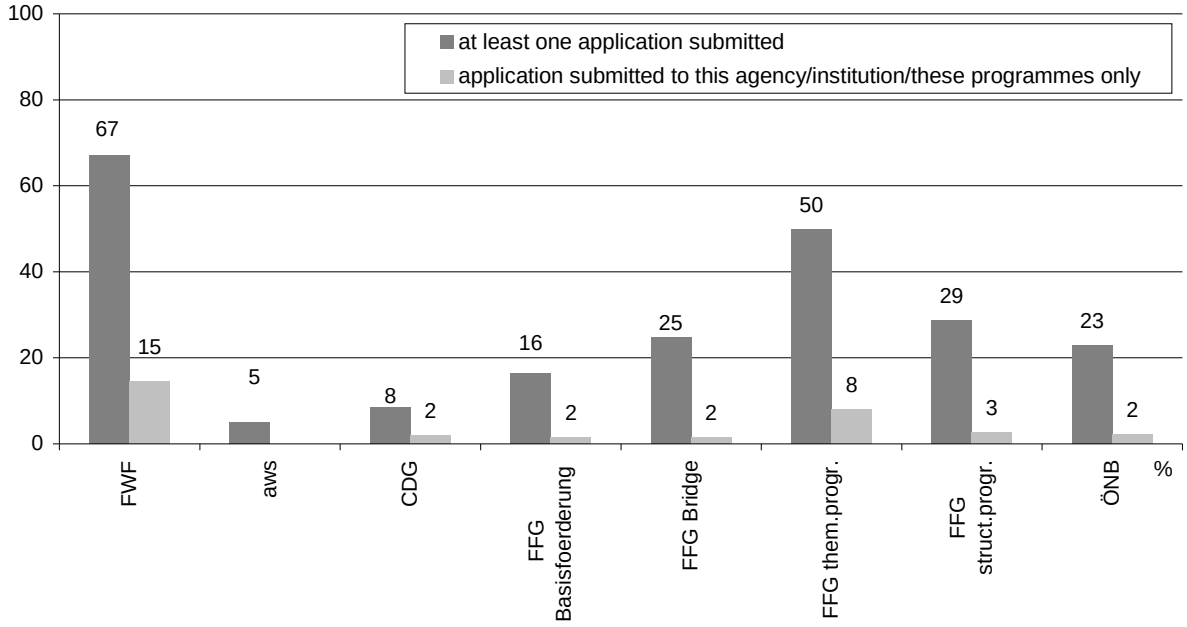
3.2.2.1 Combined applications from research institutions

About 260 research institutions submitted (at least one) application for federal funding programmes offered by the funding agencies FWF, aws and FFG and specified the name of that programme(s) in the survey[14]. As can be seen from figure 13, 67 % stated to have applied for (at least one) programme at FWF between 2005/07, 50 % submitted applications for FFG thematic programmes, and about a third for (at least one) FFG structural programmes. Unsurprisingly, aws programmes have received only low filings from the research institutions.

It is clearly visible that research institutions submit applications even more often to different agencies than companies do: except for applications for funding by FWF (and FFG thematic programmes), only a small number of institutions stick with one specific submission agency/programme group only.

[14] The full programme list can be found in the annex.

Figure 13: Science survey – Research institutions who applied for agency based RTDI programmes between 2005/07, per agency/programme group, in percent

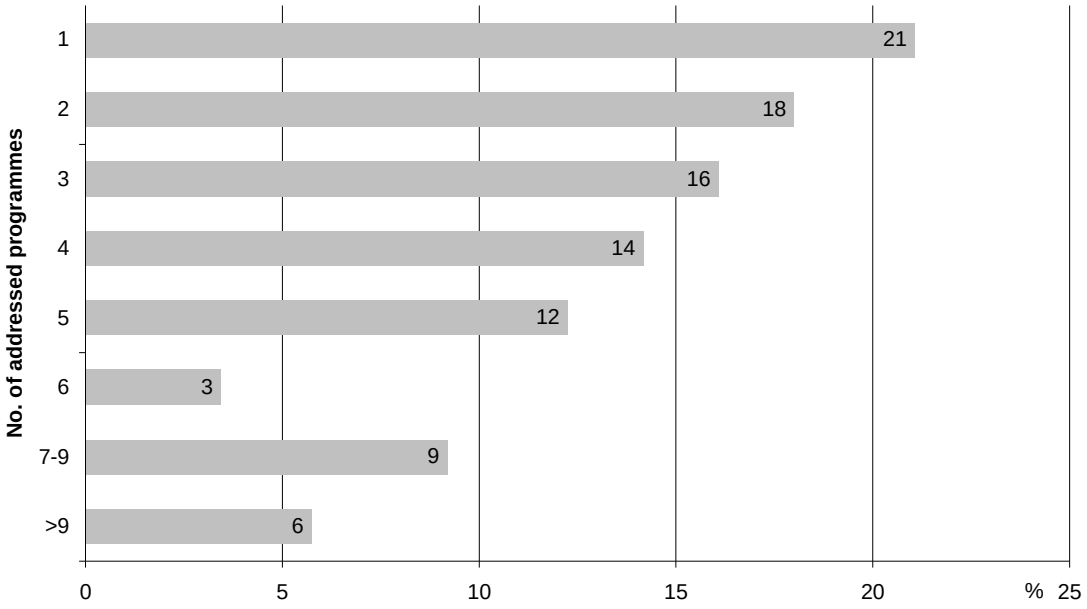


Note: n = 261. Multiple answers were allowed. For instance: If one institutions participated in at least one programme offered by aws and in at least one offered by FFG, the institutions is counted twice in both programme groups.

Source: Wifo/KMFA (2008): Science survey completed in the course of the evaluation of the Austrian system of research support and financing – KMFA calculations

The level of cross-agency or cross-programme applications ("combined applications") among research institutions is even higher that it is the case for companies. Only 21% of the research institutions submitted proposals only for one specific funding scheme, while 86% filed proposals for direct public RTDI funding by four and more different programmes.

Figure 14: Science survey – No. of programmes for which the research institution filed (at least one) application(s), FWF, aws and FFG combined, in percent



Note: n = 261. The percentages add up to 100.

Source: Wifo/KMFA (2008): Science survey completed in the course of the evaluation of the Austrian system of research support and financing – KMFA calculations

As expected, the most important source for direct public RTDI funding for the research institutions, especially for universities, is FWF funding. About four out of ten non-university research institutions have also submitted proposals for funding by FWF; however, for those institutions FFG – especially the Thematic Programmes – are of high importance as well. Within FWF, the stand alone projects are the most important source.

Table 10 – Research institutions according to target agency/programmes, between 2005/07, in percent

	University departments	Non-university research institutes
FWF	57.9%	38.6%
Stand-alone projects	64.7%	70.3%
Priority research programmes	18.7%	13.5%
Programmes for applied research	8.1%	10.4%
International mobility, career development, awards	8.5%	5.9%
aws	0.7%	0.5%
CDG	1.3%	-
FFG Basisförderung	4.3%	16.0%
FFG Bridge	5.9%	5.2%
FFG thematic programmes	15.3%	30.1%
FFG structural programmes	4.0%	7.7%
ÖNB	10.7%	1.9%
Total no. of submitted proposals	1042	575

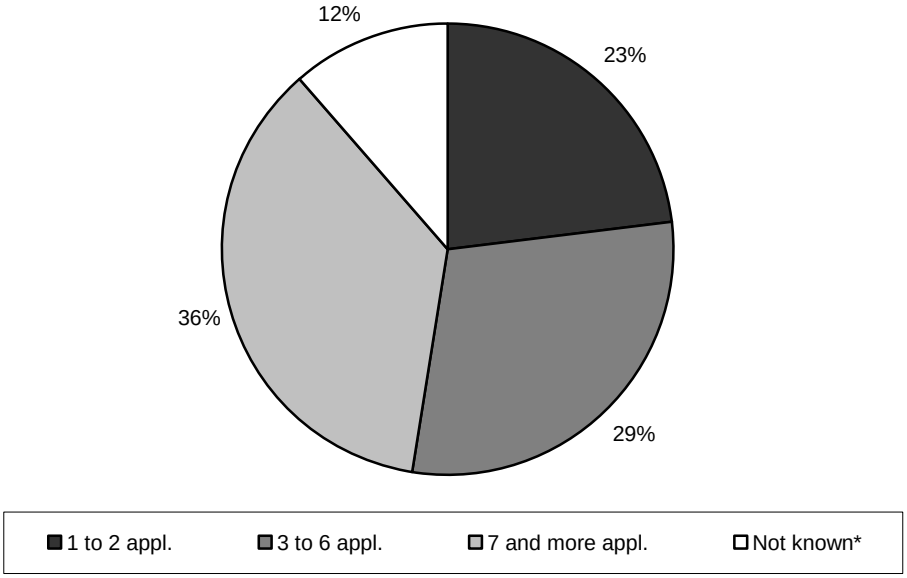
Note: Outlier values were removed from calculations.

Source: Wifo/KMFA (2008): Science survey completed in the course of the evaluation of the Austrian system of research support and financing – KMFA calculations

3.2.2.2 Frequency of applications from research institutions

The following figure (15) shows that only 23 % of the research institutions submitted only one or two proposals between 2005/07 (compared to 50 % of the companies), while 36 % submitted 7 and more applications, which means on average more than 2 applications per year. Considering the findings in chapter 5.2.4 (general strategies in case funding is not granted), this underlines the high importance of direct public RTDI funding for the research institutions.

Figure 15: Science survey – Distribution of research institutions according to their number of applications submitted to FWF or aws or FFG, between 2005/07, in percent



Note: n = 276. *) 12 institutions got their application approved but did not specify the number of filed applications; 20 institutions stated to have filed for a federal programme between 05/07 but did not specify the name.

Source: Wifo/KMFA (2008): Science survey completed in the course of the evaluation of the Austrian system of research support and financing – KMFA calculations

4 Target group perceptions and attitudes towards the Austrian system of RTDI funding

This following chapter explores the perspective of the users of the system of public RTDI funding at the federal level: how companies and research institutions, which entered the RTDI support system in the past, got in touch with information about the different opportunities of RTDI funding, how they perceive the current system of funding and how satisfied they are with its various aspects. Secondly, attention is paid to the users' satisfaction with selected types of RTDI-support and the relevance of support measures for the companies/research institutes.

It should to be considered, that "user satisfaction", although an important key indicator of service quality, cannot serve as the only, even not the main guideline for analysing the RTDI funding system. Especially if systems failure and behavioural change is to be addressed by public funding, the satisfaction of the target groups will not be the main indicator to find out about the system's effectiveness in reaching its goals. However, taking this into consideration when interpreting the data, one can get valuable insights into how the system is perceived, where are e.g. information bottle necks, does it meet the requirements in terms of transparency, is there a lack of specific support from the users perspective, which funding schemes are accessed by different subgroups of users and does this relate to the intended target groups etc.

4.1 Factors hampering innovation and satisfaction with access to funding

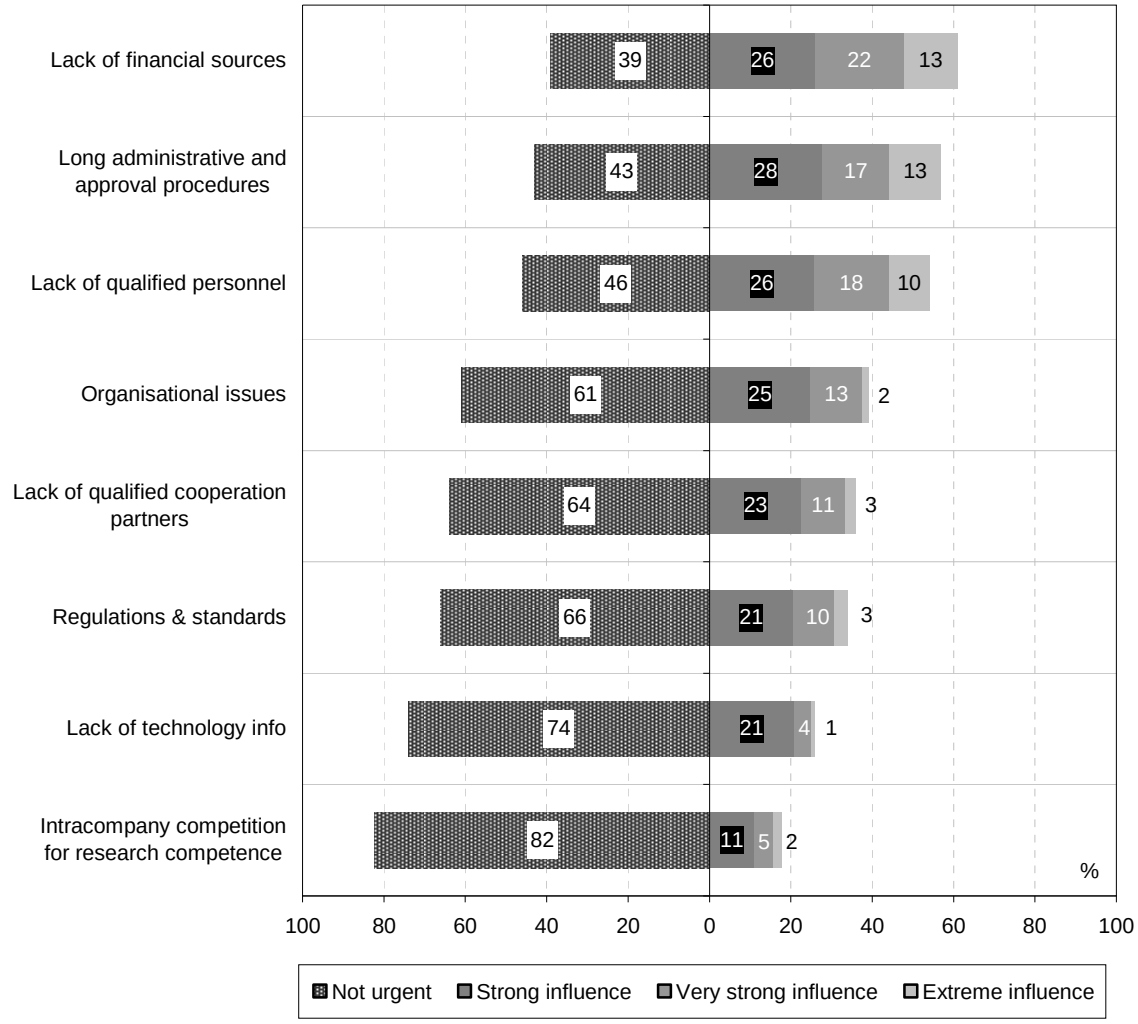
4.1.1 System users – Companies

4.1.1.1 Factors hampering innovation activities

Before assessing the satisfaction with the available RTDI support, the current situation of the user companies with regards to RTDI activities, more precisely with the barriers and obstacles they are confronted with, should be taken into account. As figure 16 shows, the lack of financial sources is perceived as the most important barrier in this regard, mentioned by 61 % of enterprises (for 13 % with an extreme, for 22 % with very strong and for further 26 % with a strong influence), followed by administrative and approval issues (for 58 %). Ranking third, the lack of qualified personnel constitutes another important barrier for innovation activities (54 %).

Evidence from the community innovation survey (CIS 5, CIS 4) carried out among Austrian enterprises indicates similar findings towards barriers hampering innovation activities. According to CIS 5 (Statistik Austria 2008), lack of financial resources constitute the biggest obstacle for Austrian ("innovation-active") enterprises (for 21 % of high and 28 % of medium importance), followed by high innovation costs (19 % high, 35 % medium) and lack of qualified personnel (for 17 % of high, for 33 % of medium importance). Administrative and approval procedures appear to be also an important area of improvement and were also subject in the surveys carried out in this evaluation.

Figure 16: Company survey – Hampering factors for RTDI activities, 2005 to 2007, all user companies, in percent



Note: n = 411-1058

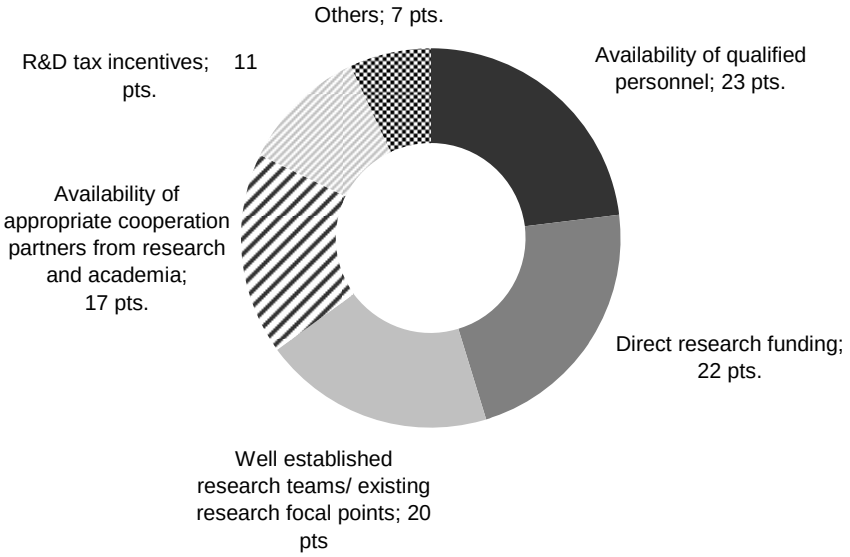
Source: Wifo/KMFA (2008): Company survey completed in the course of the evaluation of the Austrian system of research support and financing – KMFA calculations

4.1.1.2 Reasons for conducting RTDI in Austria

Human resources are a major asset of Austria in terms of attracting innovative companies to the country and for conducting RTDI-activities in Austria. Amongst different reasons (see figure 17), the availability of qualified personnel, on average, was scored highest with 23 points out of 100. In addition, the relevance of well established research teams or existing research focal points were also ranked high (20 pts.). Regarding public support measures, direct research funding such as public financial grants, subsidies or related offerings has been rated as another important topic by the user companies (22 pts.), whereas R&D tax allowances and the R&D tax credit receive less attention (11 pts.). The availability of appropriate cooperation

partners, either from (non-university based) research or academia, plays also an important role for the user companies to carry out RTDI activities in Austria (17 pts.).

Figure 17: Company survey – Important reasons for conducting RTDI activities in Austria, user companies, mean values



Note: n = 975. Mean point values for the most important reasons.

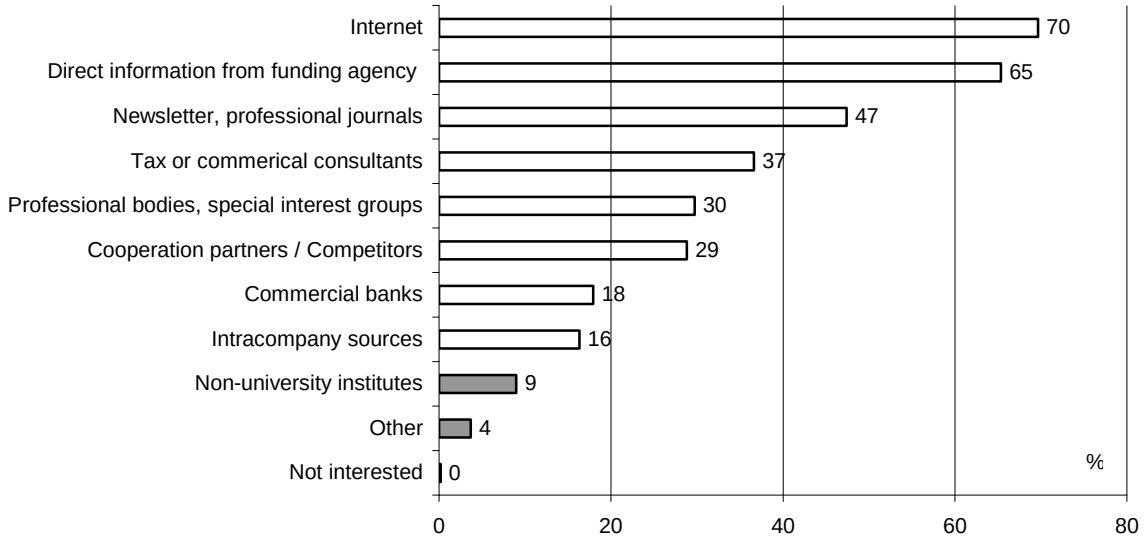
Source: Wifo/KMFA (2008): Company survey completed in the course of the evaluation of the Austrian system of research support and financing – KMFA calculations

4.1.1.3 User out-reach and satisfaction with access to funding

For the user companies, the main source of information about possible research support and related instruments is clearly the internet (70 %), closely followed by information from the funding agencies (65 %), to a large extent usually also provided electronically. Newsletters, professional journals etc. as well as information provided by consultants rank considerably lower with 47 % and 37 %, respectively.

A more detailed analysis shows that young and rather small-sized companies use the internet more often as most important source of information, whereas older companies gather information directly from the funding agencies. This might be due to the fact that older companies that are experienced in RTDI and funding know their relevant contact persons and, thus, can get direct first-hand information more easily.

Figure 18: Company survey – Information channel, by which users got to know about RTDI support services, user companies, in percent



Note: n = 1114. Multiple answers were allowed.

Source: Wifo/KMFA (2008): Company survey completed in the course of the evaluation of the Austrian system of research support and financing – KMFA calculations

Company users are, on average, quite satisfied with most of the key aspects of the Austrian system of RTDI funding (see figure 19). About half of the given aspects show very good or good levels of satisfaction (higher than 50 %).

Interestingly, the clearness of the instrument portfolio is assessed quite positively (very good 18 % and good 33 %) for direct public funding and only moderately better for R&D tax incentives (23 % und 29 %). Access to relevant information concerning direct public RTDI funding is also assessed as very good (27 %; good for 40 %) – in fact, this item shows the best values in terms of satisfaction. In addition, the companies' access to information concerning R&D tax incentives is also considered to be highly satisfactory (though less than that for direct RTDI funding).

These findings shed new light on the current discussion about a perceived "funding jungle". Considering the specific composition of the sample, it could be argued that those companies that conduct RTDI and use the funding system have sufficient knowledge and access to information. However, the survey does not provide information about the respective judgement of companies that are willing to enter the RTDI (funding) system but did not do so, yet.

Quite high satisfactions is also reported concerning the quality of advice for direct public RTDI funding (23 % very good and 40 % good) as well as for the comprehensibility of the application procedure for both, direct RTDI funding and tax incentives.

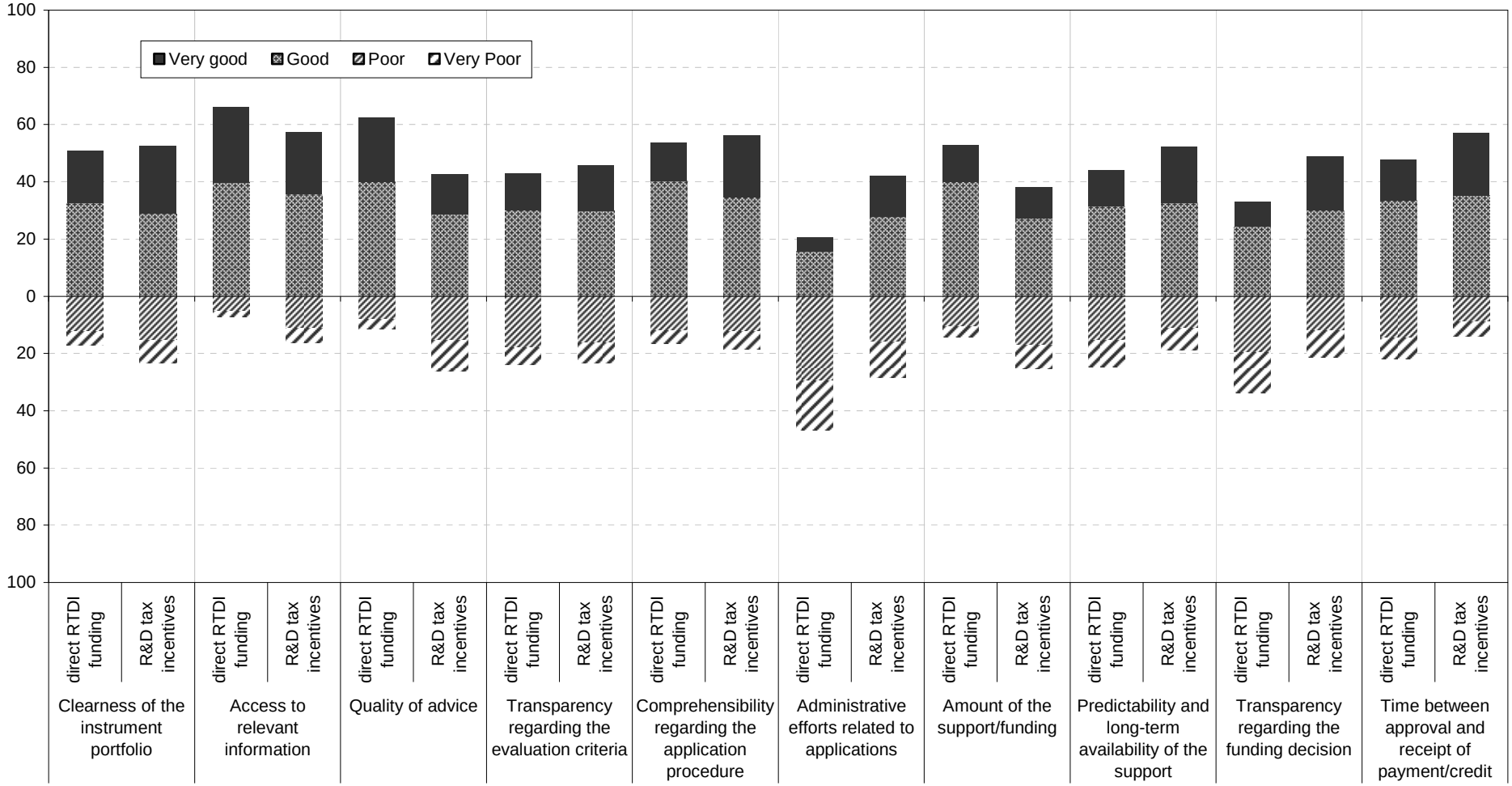
As it is the case in many evaluations of RTDI funding, administrative efforts for the applications (17 % very poor and 29 % poor) and the transparency regarding the funding decision (14 % very poor and 20 % poor) are critically valued for direct public RTDI funding. Similarly, 3 out of 10 systems user companies consider the administrative efforts for R&D tax allowances as a

barrier (13 % very poor and 16 % poor), about one quarter believes that the amount of funding provided by RTDI tax incentives is not sufficient (8 % very poor and 17 % poor).

In general, the user companies seem to find their way through the "jungle" quite well; the complaints concerning administrative burdens are well known – however, they should be kept in mind in terms of adequacy. There are also positive effects created by the requirements of application (see below): learning effects can be seen from the necessity to investigate the projects costs, innovation potential, scientific requirements. The positive values for the quality of advice provided for direct public funding should also be mentioned, since this advice very often exceeds simply helping with filing a proposal but can include strategic advice concerning the above mentioned aspects etc (see also report 5 on the topic of direct funding for a short outline of how funding agencies can create more additionality by such services).

The general impression of the users' satisfaction is rather positive: the system's users seem to see no relevant barriers concerning information about and clearness of the funding portfolio. While administrative efforts and transparency concerning the funding decision are critically mentioned (even more for direct public RTDI funding than for tax incentives), the quality of advice is positively assessed for direct public funding. However, this aspect is marked critically for RTDI tax incentives, as is the amount of funding. Please refer also to report 4 on tax incentive schemes for R&D.

Figure 19: Company survey – Levels of satisfaction with different aspects of RTDI funding, user companies, in percent



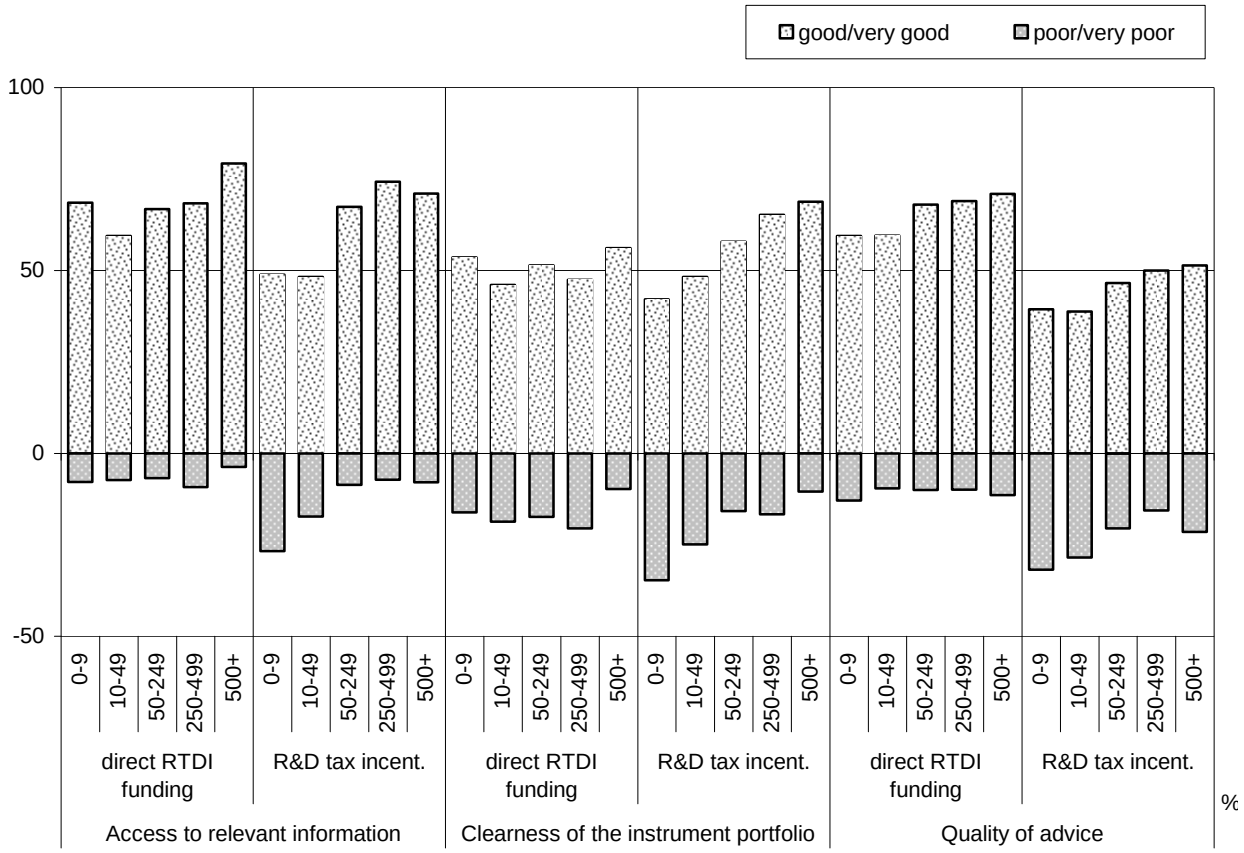
Note: n (direct RTDI funding) = 942-983, (R&D tax incentives) 711-784. Missing values to 100% = neutral. A summary of the means, standard deviations, and ANOVA results can be found in the annex.

Source: Wifo/KMFA (2008): Company survey completed in the course of the evaluation of the Austrian system of research support and financing – KMFA calculation

Regarding company size, satisfaction with key aspects of service provision, such as access to relevant information concerning direct public RTDI funding and the quality of advice, receives quite similar satisfaction ratings from both small and large scale companies (see figure 20). Interestingly, micro companies seem to have very good access to relevant information, also the micro companies' values for the clearness of the funding portfolio is very high.

However, small companies, especially micro companies are rather less satisfied than larger companies with aspects regarding R&D tax incentives, such as the access to relevant information or the quality of respective advice. The latter may suggest a lack of awareness of available support amongst small companies, but may also be due to a lack of access, e.g. the company's activities did not match the "frascati" definitions to be eligible for R&D tax incentives. The high share of small companies working in the service sector should also be considered in this regard.

Figure 20: Company survey – Levels of satisfaction with selected aspects of RTDI funding, user companies, per company size, in per cent



Note: n (direct RTDI funding) = 903-943, (R&D tax incentives) = 676-756. Missing values to 100% = neutral. Aggregated results of good/very good, poor/very poor. A summary of the means, standard deviations, and ANOVA results can be found in the annex.

Source: Wifo/KMFA (2008): Company survey completed in the course of the evaluation of the Austrian system of research support and financing – KMFA calculations

Interestingly, the age of a company, which could imply growing experiences with the RTDI funding portfolio over the years, has only minor impacts on the satisfaction levels. Most notable is the fact that established companies are, on average, more satisfied with the different service aspects concerning R&D tax incentives than younger companies, such as access to relevant information.

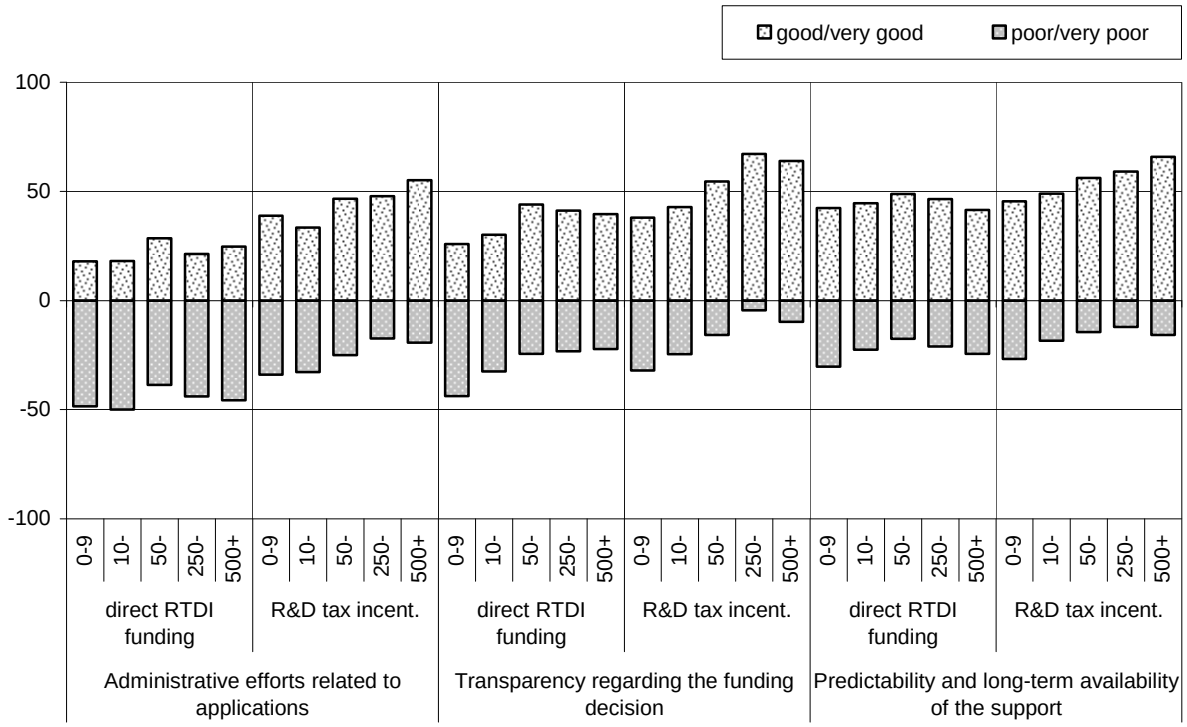
As outlined above, administrative burdens and the lack of transparency regarding funding decisions are considered to be the primary barriers for RTDI active companies when using the system. This holds primarily true for direct public RTDI funding, but also, though to a lesser extent, for R&D tax incentives, especially when it comes to administrative efforts involved.

48 % (poor/very poor) of the micro and 50 % (poor/very poor) of the small enterprises are rather dissatisfied with administrative burdens related to direct RTDI funding and to R&D tax incentives (poor/very poor: 34 % and 33 % dissatisfied, respectively, see figure 21). Concerning direct RTDI funding, large companies seem to face very much the same issues: administrative efforts are a barrier for 44 % (poor/very poor) of the large-scaled companies and 46 % of the very large-scaled companies. On the other hand, the filing for R&D tax incentives appears to be less of an administrative problem for large companies. SMEs may be – due to constraints associated with their company size – at a disadvantage compared to large scaled companies, as the latter often employ their own personnel or even have their own (finance) department which is solely responsible for i.e. tax related issues. Thus, it can be assumed that especially micro and small companies could benefit from procedures taking into account their respective size and state of development.

For both direct RTDI funding and R&D tax incentives, the transparency regarding the actual funding decision plays an important role for SMEs. Also in this case, satisfaction increases (and dissatisfaction decreases) with company age: young companies express a higher level of dissatisfaction with the transparency regarding the funding decision (43 % poor/very poor) than those who have been established before 1994 (28 % poor/very poor).

Regarding the predictability and long-term availability of direct RTDI support, small and large companies indicate different satisfaction levels: medium-sized companies are more satisfied than e.g. micro or very-large scaled companies. Regarding the availability of R&D tax incentives, large companies are slightly more satisfied than smaller companies (see also above)

Figure 21: Company survey – Levels of satisfaction with selected aspects of RTDI funding, user companies, per company size, in per cent



Note: n (direct RTDI funding) = 922-933, (R&D tax incentives) = 669-721. Missing values to 100% = neutral. Aggregated results of good/very good, poor/very poor. A summary of the means, standard deviations, and ANOVA results can be found in the annex.

Source: Wifo/KMFA (2008): Company survey completed in the course of the evaluation of the Austrian system of research support and financing – KMFA calculations

Another topic, the amount of funding received from direct RTDI funding, is assessed quite positively, with roughly equal proportions (between 47 % and 55 % good/very good), throughout all company sizes; company age plays no considerable role in this context. The picture changes slightly when it comes to the satisfaction with the amount refunded from R&D tax incentives: 31 % of the micro and 34 % of the small companies report to be satisfied with the received support; very-large scaled companies with 500 and more employees show a higher level of satisfaction (57 %; for the distribution of tax allowances and tax credit refunds report 4 on tax incentive schemes for R&D.

The sectoral analysis, based on the OECD classification for manufacturing and services, shows lower satisfaction rates for the services sector. Companies in knowledge intensive services using top technology are more satisfied than those active in other service sectors; however, satisfaction with the access to relevant information concerning direct public RTDI funding was rated good/very good by 62 % of these companies, compared to 78 % by high-tech industries. Companies operating in knowledge intensive services and knowledge intensive services using top-technology, which are typically smaller in size, are less likely to be satisfied with the access to relevant information regarding R&D tax incentives. Again, these results follow our earlier findings (see above) and indicate that access to the RTDI funding system is

harder for the service sector. For direct public RTDI funding, this finding are backed by the analysis of the funding budgets' allocation (see report 5 on public RTDI funding in Austria).

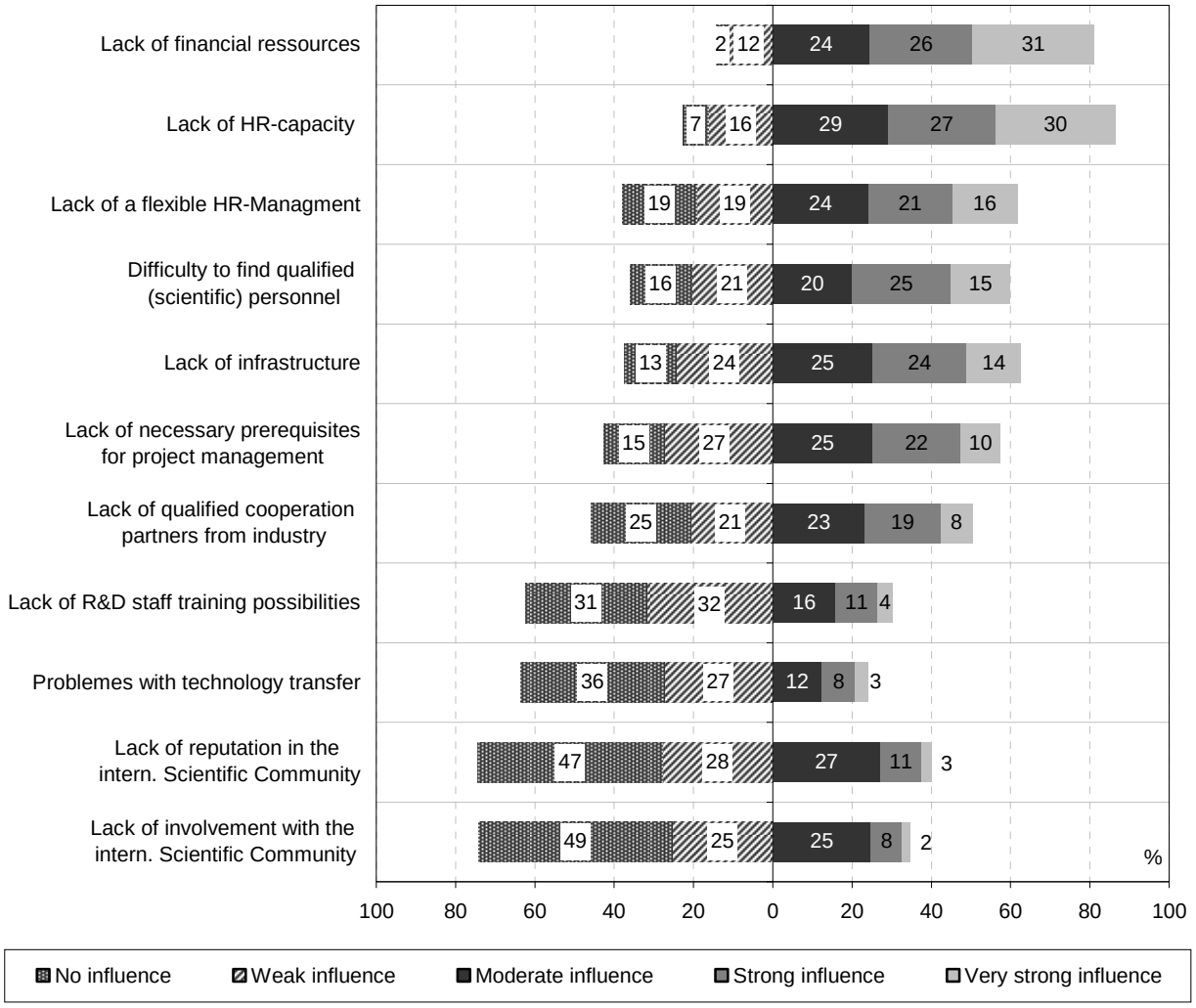
4.1.2 System users – Research institutions

4.1.2.1 Factors hampering innovation activities

Compared to the companies, the research institutions find themselves in a similar situation when it comes to factors hampering RTDI activities (figure 22): the of lack of human and financial resources are the predominant barriers for the research institutions to conduct RTDI (the latter being a barrier for almost all of the respondents, thus, the mean value is higher). However, also the other items in the questionnaire concerning human resources (HR management, finding qualified scientific personnel) rank high as a barrier. Infrastructure, organisational prerequisites for project management, lack of qualified partners from industry are also perceived as relevant barriers.

Other factors such as training possibilities, technology transfer, reputation and integration in the scientific community are not perceived as prominent barriers.

Figure 22: Science survey – Hampering factors for RTDI activities, 2005 to 2007, all user research institutions, in percent



Note: n = 299-323. Includes all user research institutions.

Source: Wifo/KMFA (2008): Science survey completed in the course of the evaluation of the Austrian system of research support and financing – KMFA calculations

4.1.2.2 User out-reach and satisfaction with access to funding

The research institutions make use of most of the different information channels to a higher extent, using a broader variety than it is the case for the companies (figure 23). Similar to the companies, the main source of information about possible R&D funding and related instruments for research institutions is the internet, followed by information from funding agencies.

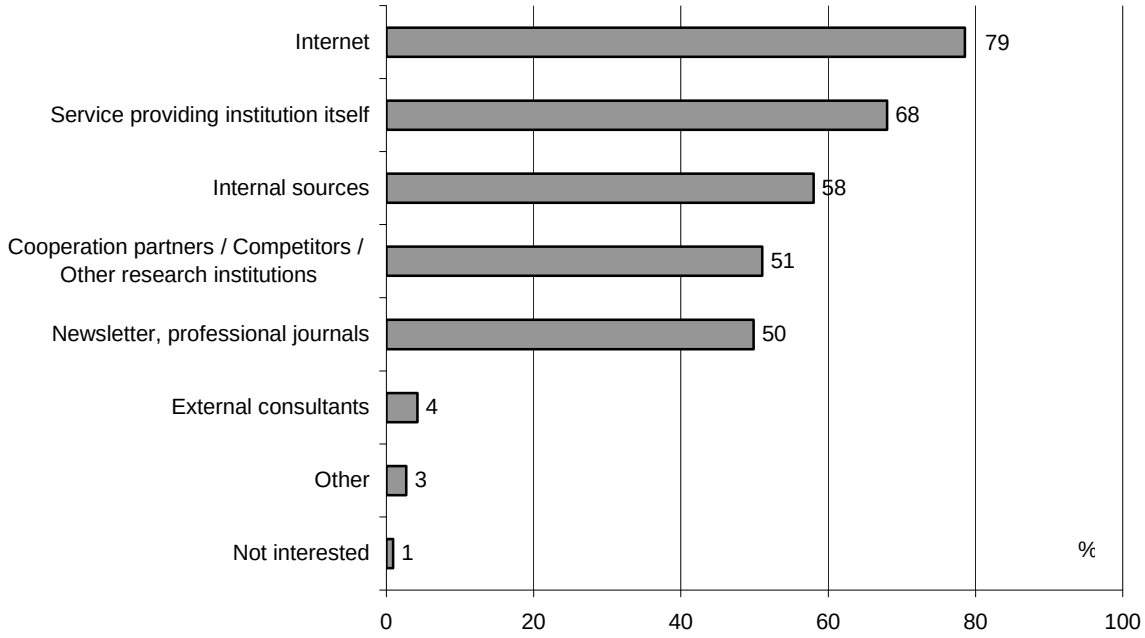
Internal sources (58 %) and information provided by (research) partner organisations or competitors (51 %) still rank high. This might be due to the universities' and other research institutions' respective service departments (such as "research services" of the University of

Vienna) and to collaborative research within the scientific sector; whereas internal sources are of lesser importance for the companies.

Newsletter and professional journals (50 %) seem to play an important role, too.

From the viewpoint of the funding agencies and the policy level, to approach research institutions with information about relevant / new funding schemes will be easier compared to disseminating information to single companies, since information reaching the internal service departments of research institutions are likely to cover most of the target groups.

Figure 23: Science survey – Information channels, by which users got to know about RTDI support services, all user research institutions, in percent



Note: n = 331. Multiple answers were allowed. Includes all user research institutions.

Source: Wifo/KMFA (2008): Science survey completed in the course of the evaluation of the Austrian system of research support and financing – KMFA calculations

With regard to the analysis of the satisfaction of scientific institutions with selected aspects of direct RTDI funding, two things should be kept in mind upon interpretation of the following results: First, users from scientific institutions rate the RTDI funding system based on their experiences made with direct public research funding, such as programme funding, financial grants or related instruments. Tax related support instruments, such as the R&D tax credit and R&D tax allowances, are not rated as they are only available to businesses.

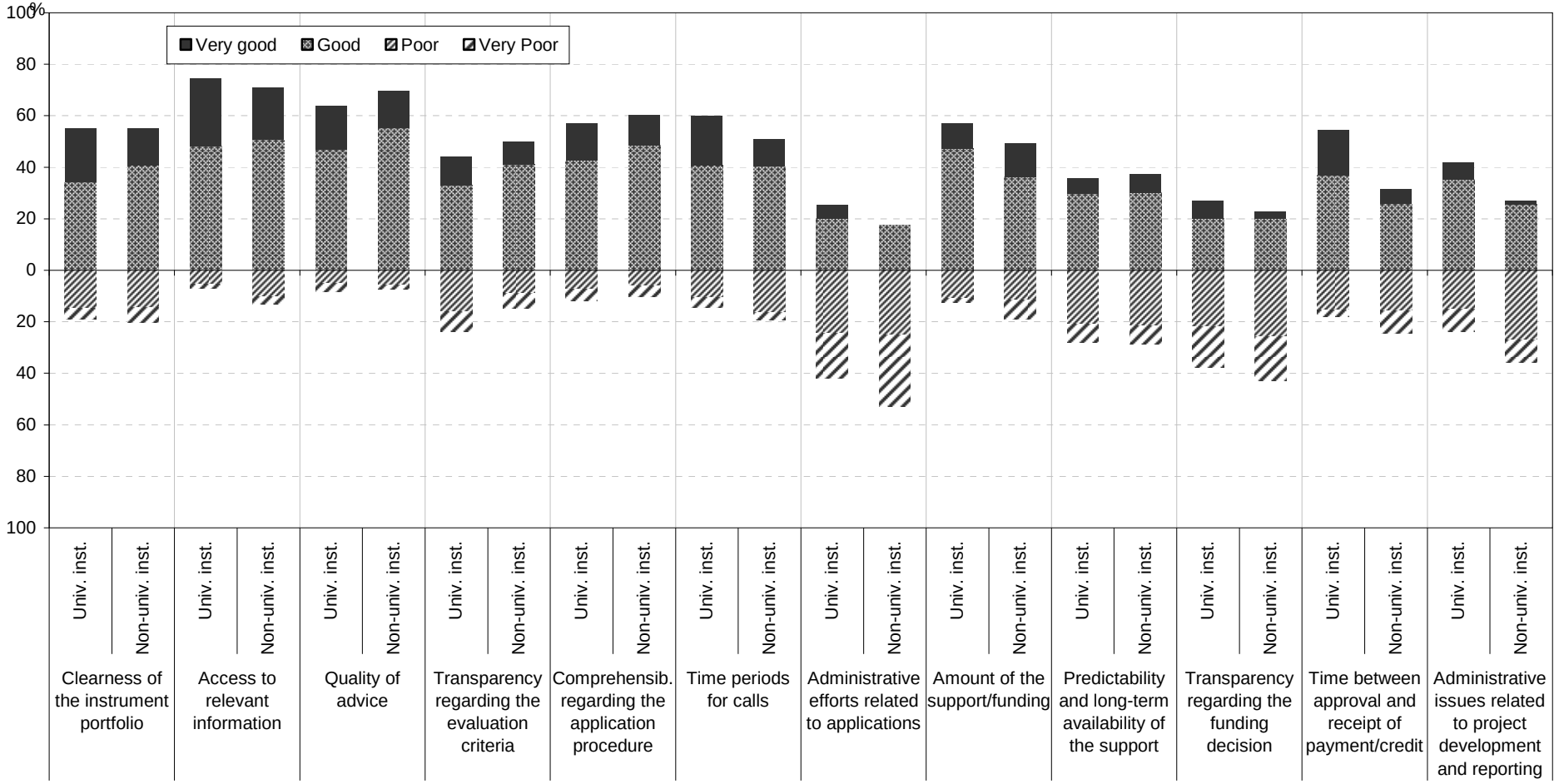
Similar to the results from the company users, users from universities / university institutes and non-university research institutes are, on average, quite satisfied with the clearness of the instrument portfolio provided by the Austrian federal level to support RTDI. Access to relevant information ranks highest and even higher than the respective value provided by the companies (see also figure 23 above indicating the more extensive use of the different information channels by the research institutions compared to the companies). Also the quality of advice by the funding agencies receives high ratings among the various features.

Regarding the application procedure of direct public RTDI funding, both university and non-university institutions indicate high satisfaction. The time between approval and receipt of payment is rated considerably better by university institutes than by non-university research institutions.

Very similar to the findings from the company users, administrative efforts and the lack of transparency regarding the funding decision are considered to be major obstacles for both university and non-university institutions: 41 % (poor/very poor) of the university and 53 % (poor/very poor) of the non-university users express considerable dissatisfaction with administrative burdens related to direct RTDI funding; the transparency regarding the funding decision receives with 38 % (poor/very poor) and 43 % (poor/very poor) also high levels of dissatisfaction among university and non-university institutions. Administrative issues related to project development and reporting is, though to a lesser extent than application issues, found to be a notable barrier, especially for non-university institutions (36 % poor/very poor). Against this backdrop, and similar to the results from the company survey, adequacy of administrative procedures and/or reporting have to be considered.

As the importance of third party funding has increased throughout the last decades and is expected to increase further (see chapter 3.1 on the usage of the Austrian system of RTDI funding), especially for universities, the importance to include public RTDI funding in the plans for future RTDI activities has grown too. However, the lack of predictability and of long-term availability of the available support seems to be a constraint for both university institutes and non-university research institutions: around 30 % (poor/very poor) of both scientific institutions are dissatisfied with the current situation.

Figure 24: Science survey – Levels of satisfaction with different aspects RTDI funding, university and non-university institutes, in per cent



Note: n (university/university institute) = 182-191, (non-university institute) = 67-70. Missing values to 100% = neutral.

Source: Wifo/KMFA (2008): Science survey completed in the course of the evaluation of the Austrian system of research support and financing – KMFA calculation

4.2 Satisfaction and relevance of different instruments of RTDI funding

While the section above has investigated the users' satisfaction with clearness and transparency of the funding portfolio as well as the processes of funding from application to funding decision and payment, the following analysis shows how the companies and research institutions assess different instruments of RTDI-support in terms of satisfaction and relevance.

In the following figures, satisfaction and perceived importance are linked: while the values for satisfaction are shown on the abscissa, the values for the importance associated with the different instruments are shown on the axis of ordinate. The division of the quadrants is based on the respective mean values. This representation allows to quickly overview how the different instruments are perceived by the target groups. The quadrants are labelled as follows:

- **1. Quadrant:** From the users' point of view, the upper left quadrant indicates situations which may be a **priority for improvement**, where satisfaction scores are below average whereas the relevance for these items is seen to be high.
- **2. Quadrant:** The upper right quadrant indicates possible **areas of strength** from the users' point of view, where satisfaction scores are above the average and the relevance rate is high for these items.
- **3. Quadrant**: The lower left quadrant indicates situations where satisfaction is below the average and the items are considered to be less important.
- **4. Quadrant**: the lower right quadrant contains the area where satisfaction is rated above the average whereas the relevance is below average.

Again, it has to be emphasized that the figures represent the users' view, not necessarily the evaluators' or the policy makers'. Hence, e.g. when users associate little relevance to a specific topic, and policy makers and / or evaluators differ from that valuation, this might be an indication either for the need for increased awareness or for policy failure. While the latter could refer to an actual policy failure it might as well result from the different perspectives on demands for political action.

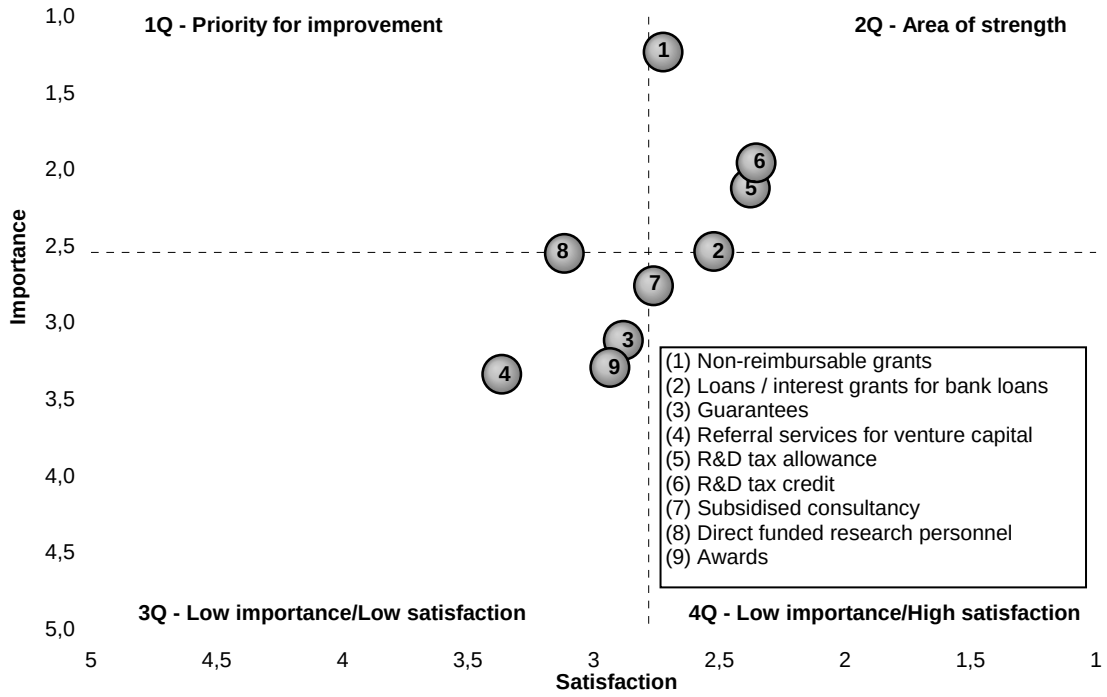
4.2.1 System users – Companies

4.2.1.1 Instruments to support RTDI activities

Overall, user companies rate direct monetary funding (non-reimbursable grants), followed by R&D tax incentives (R&D tax allowance and R&D tax credit) and – though to a lesser extent – loans / interest grants for bank loans to be an **area of strength**, as they receive the highest values for importance and score above the average with regards to satisfaction. Although the level of importance shows average scores, the need for direct funded personnel may constitute an **area for improvement**.

Guarantees for bank loans, referral services for venture capital or awards (for e.g. outstanding achievements in RTDI) are seen less relevant from the user companies' perspective; Guarantees for bank loans and awards is assessed to be average satisfying. However, user companies expressed their dissatisfaction with referral services for venture capital.

Figure 25: Portfolio analysis of satisfaction with and importance of different instruments of RTDI support, company users, mean values



Note: n (importance) = 969-1041, (satisfaction) = 751-926. Companies answered to the following question: "Using a 5-point scale where 1 means "very important" and 5 means "not important", please rate the importance of selected instruments of RTDI support for your company. Using the same scale please rate also your satisfaction with the available offerings in this regard, where 1 means "very good" and "5" means "very poor". The mean level of importance is 2.54 (out of 5), whereas the mean level of satisfaction is 2.78 (out of 5). A summary of the means, standard deviations, and ANOVA results can be found in the annex.

Source: Wifo/KMFA (2008): Company survey completed in the course of the evaluation of the Austrian system of research support and financing – KMFA calculations.

Except for R&D tax incentives, only small size and age-related differences were observed with regard to the importance among the system users. As already indicated in the previous chapter on the satisfaction with access to federal funding, R&D tax incentives play a considerable role for large companies: consequently, very-large scale companies deem R&D allowances as an important support measure (1.69), whereas micro companies (2.33) and small companies (2.09) show lower ratings. Levels of satisfaction with the current available support in this regard range between 2.08 (very-large scaled companies) and 2.63 (micro-companies). Similar findings have been observed also for the R&D tax credit.

Unsurprisingly, large companies consider support instruments such as guarantees and interest grants for bank loans as less important when it comes to RTDI activities than small companies. On the other hand, referral services for venture capital (VC) is apparently an issue for micro companies, which consider this kind of support as more relevant (2.88) than large companies (3.94) or very-large companies (4.08). As could be expected, company age plays a role here too, as young companies assess the importance considerably higher than established ones. However, present referral services for VC are – as has been shown above – reported to be rather dissatisfying (all company sizes with rating lower than 3.30).

The sectoral analysis according to the OECD classification shows only small differences with respect to satisfaction of and importance with the RTDI support measures; notably R&D tax incentives appear to be more important for the manufacturing industries as for the service sector. Referral services for VC are, again, seen as less important – also for companies operating for instance in the top-technology knowledge intensive sector.

The rather low interest in help with VC financing may come to a surprise as various studies on national innovation performances (e.g. latest: Merit 2008, p 13; EC Key Figures 2007, p 76) raise concerns about the availability of VC in Austria, especially in high-tech areas such as ICT or life sciences. However, it is generally acknowledged that VC may not be suitable or relevant for every company in every sector. Moreover, VC – but also private equity investments – is more relevant for start-up or small companies in high-tech environments, often with an innovative background and high-growth potential – as shown above, the smaller the company the more emphasis they put on services related to VC.

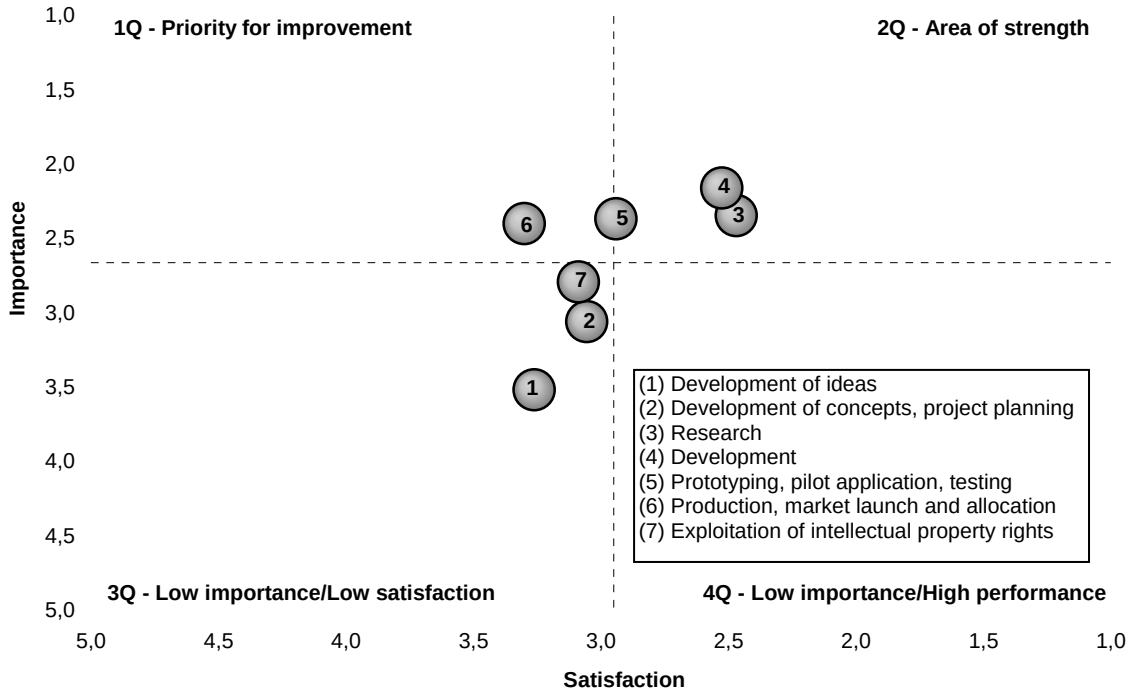
4.2.1.2 RTDI support for different RTDI phases

The high level of satisfaction with the available support for research and development activities as such has been identified as an **area of strength**, as these items are also considered to be quite relevant for carrying out RTDI activities by the companies. On the other hand, near market activities, such as preparation for market entry – to a certain extent also activities such as prototyping and pilot applications/testing production – constitute the main **area of improvement** from the perspective of the system user. The dissatisfaction may be due to the lower funding intensities for measures that are closer to the market, for risk and spill over /public good characteristics being the rationale for public RTDI funding, decrease the closer it gets to the market.

In contrast, support in RTDI phases such as "development of ideas", "conceptual work and project planning", but also assistance to the exploitation of intellectual property rights (IPR) is

considered to be less important. As the majority of the system users can be regarded as experienced in RTDI they might therefore need no support for ideas to develop and project planning.

Figure 26: Company survey – Portfolio analysis of satisfaction with and importance of RTDI support for different RTDI phases, user companies, mean values



Note: n (importance) = 987-1012, (satisfaction) = 767-850. Companies answered to the following question: "Using a 5-point scale where 1 means "very important" and 5 means "not important", please rate the importance of RTDI support for different RTDI phases for your company. Using the same scale please rate also your satisfaction with the available offerings in this regard, where 1 means "very good" and "5" means "very poor". The mean level of importance is 2.66 (out of 5), whereas the mean level of satisfaction is 2.95 (out of 5). A summary of the means, standard deviations, and ANOVA results can be found in the annex.

Source: Wifo/KMFA (2008): Company survey completed in the course of the evaluation of the Austrian system of research support and financing – KMFA calculations

Some differences have been found with regard to company sizes and age. For instance, support with the production and preparation for market entry seems to be more important for micro companies (2.21) compared to large-companies (2.76; very-large: 2.63). However, companies which have been set-up in 2005 and after scored also high importance levels for near market support services such as prototyping, pilot applications/testing and production and preparation for market entry (2.14, respectively). On the other hand, the importance of support for research activities (1.99) has been ranked considerably higher by very-large companies compared to micro-companies (2.35). Notably support with IPR related issues is more important for small businesses (micro: 2.67; small: 2.70) than for large (3.16) and very large companies (3.10). Offerings in this regard are seen to be rather dissatisfying.

Similar findings from the sectoral distribution: companies working in knowledge intensive services and high and medium-high tech industries consider support for research activities as quite relevant, whereas support for the "development of ideas" or "conceptual work and

project planning" get lower importance levels. The importance of support with IPR issues – an area which usually is considered to be crucial for companies working in a high tech environment – scores only between 2.73 (top technology knowledge intensive services) and 2.93 (medium-low tech industries). Available IPR support services are also seen to be less attractive for the respective user companies.

As it has been the case with venture capital, the rather modest interest in help with the commercialisation/exploitation of IP rights indicates that this kind of support may address only a certain part of (interested) companies. During the last decades, intangible assets, intellectual property and, of course, the protection of these assets, have become a major issue for companies, especially for those companies working on a global scale.

Despite of high IPR usage levels in certain industries, a number of studies (e.g., Radauer et al. 2008, 2007; Blackburn 2003) suggest that SMEs are – often due to constraints associated with their company size – at a disadvantage compared to large scale companies with regard to using IP rights especially when it comes to patents. Hence, the findings of the survey, showing that on average the companies do not consider this topic to be of high importance, may indicate a certain lack of awareness towards IPR related subjects.

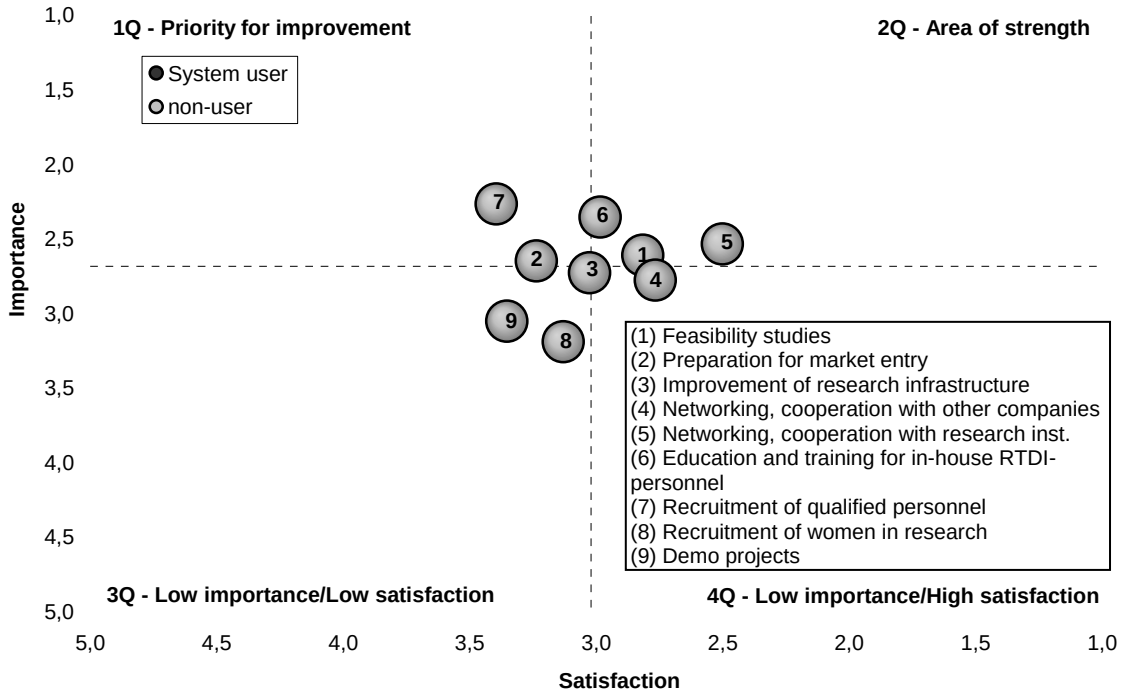
4.2.1.3 RTDI support for different RTDI activities

Services and funding addressing networking and cooperation with research institutions, assistance with feasibility studies and education/training for in-house RTDI-personnel are seen as **area of strength** by the user companies, as these items receive generally good satisfaction and importance levels. This has to bee seen against the observation that research institutions are also among the most commonly chosen partner in cooperation activities (see chapter 5.1 on target group behaviour). Report no 5 (direct RTDI funding in Austria) shows a broad rage of funding programmes addressing cooperation; the findings indicate that these funding schemes are well accepted by the target groups.

The topic of human resources is raised again by the user companies as an important factor when it comes to perform RTDI activities – also indicating that this might be an **area for improvement** from the viewpoint of the companies. Similar to the findings above, support for the preparation for market entry has also been found quite important in this regard, as current services score low satisfaction levels.

Demonstration projects are seen to be of less importance for the companies. From the viewpoint of the companies, recruitment of female RTDI employees ranks low in importance. It can be assumed that the companies are most likely more concerned about the scarcity of skilled personnel in general – and thus care less about gender.

Figure 27: Company survey – Portfolio analysis of satisfaction with and importance of support for different RTDI related activities, mean values



Note: n (importance) = 879-1005, (satisfaction) = 671-796. Companies answered to the following question: "Using a 5-point scale where 1 means "very important" and 5 means "not important", please rate the importance for support for different RTDI activities for your company. Using the same scale please rate also your satisfaction with the available offerings in this regard, where 1 means "very good" and "5" means "very poor". The mean level of importance is 2.68 (out of 5), whereas the mean level of satisfaction is 3.02 (out of 5). A summary of the means, standard deviations, and ANOVA results can be found in the annex.

Source: Wifo/KMFA (2008): Company survey completed in the course of the evaluation of the Austrian system of research support and financing – KMFA calculations.

Similar to the findings with regard to RTDI support for different RTDI activities, the survey data clearly show that small companies consider support for near-market activities, in this case for the preparation for market entry, more important (micro: 2.39, small: 2.41) than large companies (3.16; very large: 3.10). The low satisfaction rates for these topics do not vary considerably with size, ranging from 3.36 (very-large scaled companies) to 3.06 (medium-sized companies. Regarding human resource issues, the recruitment of qualified personnel is rather regarded as an issue among large companies: importance levels score at around 2.00 (medium-sized to very large companies); micro companies consider this less important (2.48). As the overall findings suggest, satisfaction with available support measures scores considerably low, ranging from 3.16 (large companies) to 3.50 (micro companies). These findings are also reflected by the identified obstacles hampering innovations activities, where the lack of (qualified) human resources has been ranked high by more than half of the companies, but larger companies are apparently more affected compared to small companies.

Other notable findings are, although less surprising, that start-up companies (established after 2005) rate demo projects as more important (2.63) than e.g. companies which have been founded before 2004 (3.23).

The recruitment of qualified personnel is an issue for all companies working either in the service sector or industry. RTDI support concerning cooperation activities appears to be more relevant for the service sector: companies working in knowledge intensive service sectors score important levels for support with networking/cooperation with e.g. other companies at 2.57, companies operating in the high tech industries at 2.94. This finding is consistent with report 5 (direct RTDI funding in Austria): for companies in the service sector, access to funding is higher in the programmes that foster cooperation.

4.2.2 System users – Research institutions

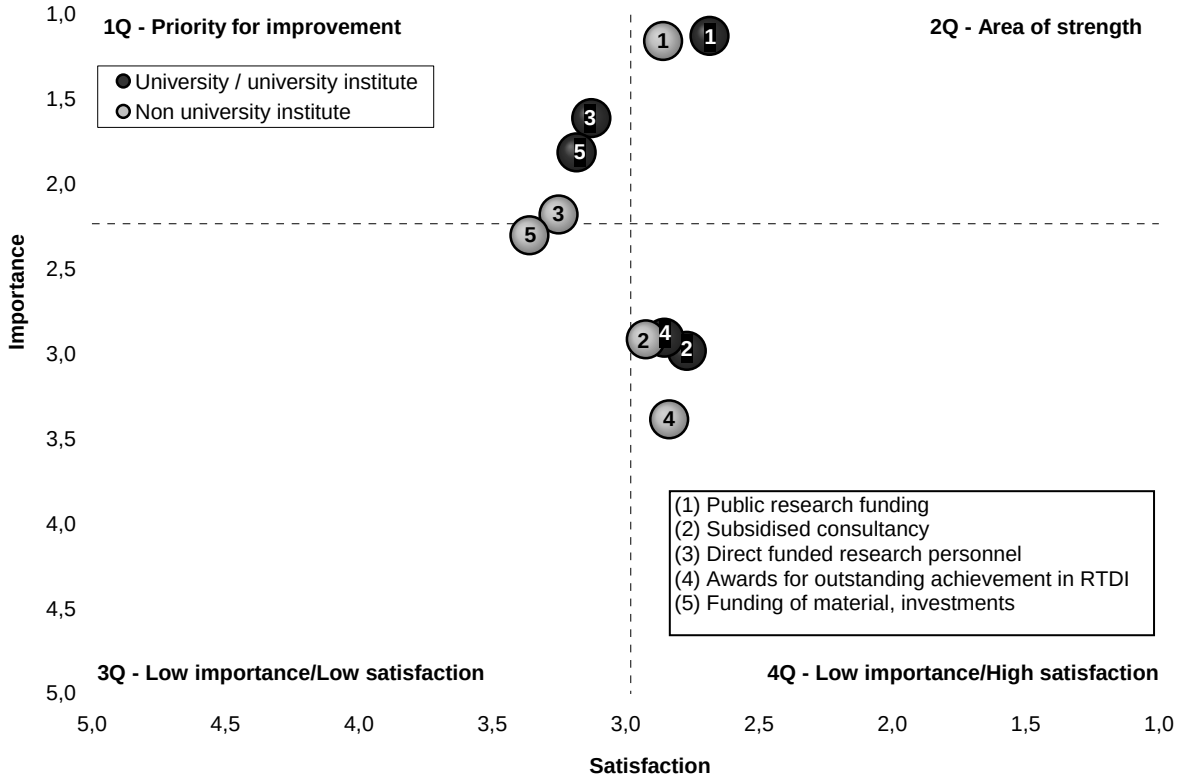
Similar to the user companies, the following section investigates how research institutions rate different instruments, or measures for RTDI activities with respect to satisfaction and importance. However, the analysis of the research intuitions being systems users distinguishes between universities (university institutes) and non-university research institutions. For more detailed analyses in this regard please refer also to report 6 (RTDI institutions).

4.2.2.1 Instruments to support RTDI activities

R&D grants are highly important for the research institutions (featuring the highest level of importance in all these analyses) satisfaction is also high compared to the other instruments, though only moderately above the average. Thus, support with direct R&D grants constitutes an **area of strength** from the viewpoint of the universities and non-university research institutions. In general, the research institutions' satisfaction does not vary a lot.

For the universities, funding of research staff and infrastructure is seen as a clear **area for improvement**. To a lesser degree this hold also true for the non-university research institutions, although the importance for these instruments scores around the average. Awards and subsidised consultancy are ranked with low importance, the awards being especially unimportant for the non university research institutions.

Figure 28: Science survey – Portfolio analysis of satisfaction with and importance of different ways of RTDI support, university/university institutes and non-university research institutions, system user, mean values



Note: n (university/university institute) = 175-194, (non-university institute) = 61-71. Research institutions answered to the following question: "Using a 5-point scale where 1 means "very important" and 5 means "not important", please rate the importance of selected instruments of RTDI support for your institution. Using the same scale please rate also your satisfaction with the available offerings in this regard, where 1 means "very good" and "5" means "very poor". The mean level of importance is 2.23 (out of 5), whereas the mean level of satisfaction is 2.98 (out of 5). A summary of the means, standard deviations, and ANOVA results can be found in the annex.

Source: Wifo/KMFA (2008): Science survey completed in the course of the evaluation of the Austrian system of research support and financing – KMFA calculations

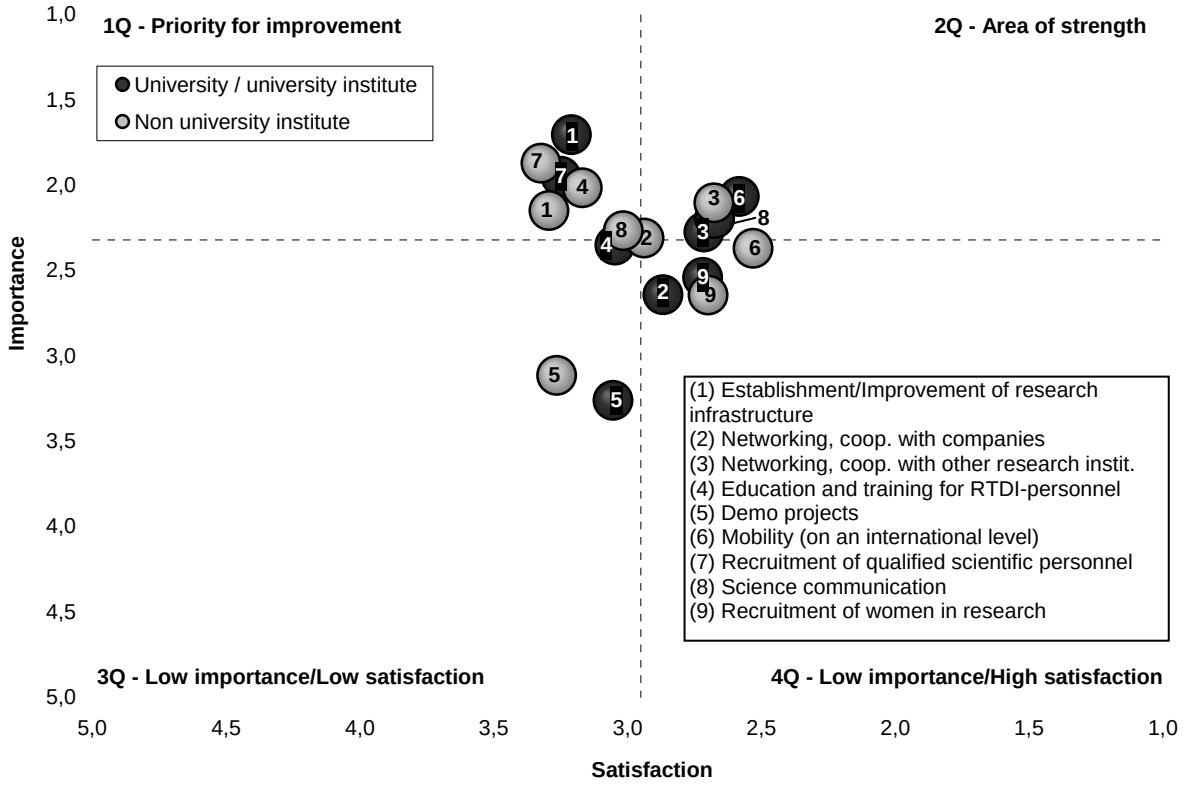
4.2.2.2 RTDI support for different RTDI activities

Figure 29 shows the relevance and satisfaction research institutions associate with funding / support for different activities. There is a cluster in the upper left quadrant (i.e. the "**area for improvement**" from the research institutions' perspective) including funding for research infrastructure (for universities even more important than for non-university research institutions), recruitment of scientific personnel and for the non-university research institutions also training for RTDI staff. Offerings which aim to support and expand science communication, e.g. special conferences or meetings, receive higher satisfaction ratings from universities.

On the other hand, research institutions consider funding / support for mobility and cooperation with other research institutions to be an **area of strength**; especially universities underline the importance of support with regards to international mobility. Unsurprisingly, demonstration projects are of low importance for research institutions.

Again, the emphasis is on research staff and research infrastructure, and again, it weighs more for universities.

Figure 29: Science survey – Portfolio analysis of satisfaction with and importance of support for different activities related to RTDI, university/university institutes and non-university research institutions, system user, mean values



Note: n (university/university institute) = 131-187, (non-university institute) = 53-69. Research institutions answered to the following question: "Using a 5-point scale where 1 means "very important" and 5 means "not important", please rate the importance for support for different RTDI activities for your institution. Using the same scale please rate also your satisfaction with the available offerings in this regard, where 1 means "very good" and "5" means "very poor". The mean level of importance is 2.32 (out of 5), whereas the mean level of satisfaction is 2.95 (out of 5). A summary of the means, standard deviations, and ANOVA results can be found in the annex.

Source: Wifo/KMFA (2008): Science survey completed in the course of the evaluation of the Austrian system of research support and financing – KMFA calculations

5 Effects of the system of public RTDI funding on the target group behaviour

The following analysis examines how the Austrian system of public RTDI funding affects the system users' behaviour. The aim is to investigate if the different RTDI funding schemes engender changes of behaviour and/or attitudes among the system users.

The funding system's influence on the RTDI strategies of the target groups is investigated as well as the system users' criteria for the decision in which programme to submit a proposal and their behaviour in terms of RTDI cooperation; these aspects are shown for the whole group of system users. As a further step, effects such as RTDI-cooperation activities stimulated by public RTDI funding, or picking up a new thematic focus are shown. These analyses are based on those respondents that actually have received direct public RTDI funding in the past, irrespectively of which funding they received. Finally, the question is raised in which way the user groups of specific programmes would react when funding is not granted for their proposals. The analysis is based on those companies and research institutions that have submitted proposals for specified programmes between 2005/07[1].

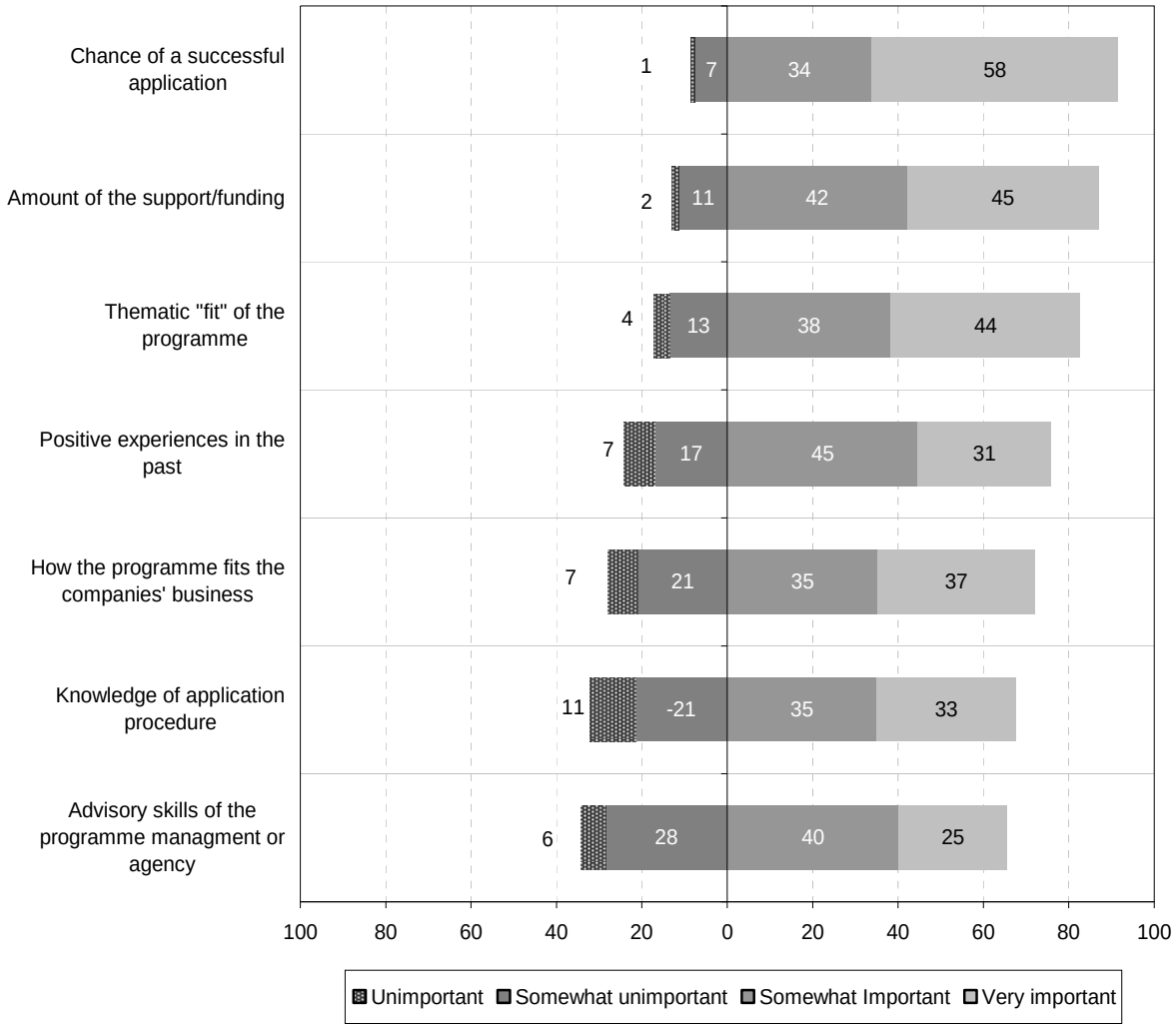
5.1 System users – Companies

5.1.1 Key factors for the selection of RTDI programmes

As for the analysis of the system users' behaviour, it is important to understand the key factors for applying for different funding programmes (see figure 30 below). Since companies primarily seek for ways to maximise their benefits it is not surprising at all that the most important factor whether or not to apply for a specific funding scheme is the actual chance to do so successfully, followed by the amount of funding. This also refers to the fact that lack of financial resources is one of the main obstacles for innovation as such. The question whether the funding programme does or does not fit the companies' business and thematic interests is also of importance as well as positive experiences (e.g. successful application) in the past and knowledge of the respective procedures. These findings back the assumption that companies actually do behave strategically when it comes to choosing the "right" programme to apply for. However, the services provided by the funding agencies in advising applicants and managing the projects once the decision is made to fund them is of lesser importance.

[1] For a comprehensive analysis of impact and additionality of funding granted see report 8 (coherence of the RTDI instrument set).

Figure 30: Company survey – Key factors for the selection of RTDI programmes, all company user, in percent



Note: n = 1008-1022. Multiple answers were allowed.

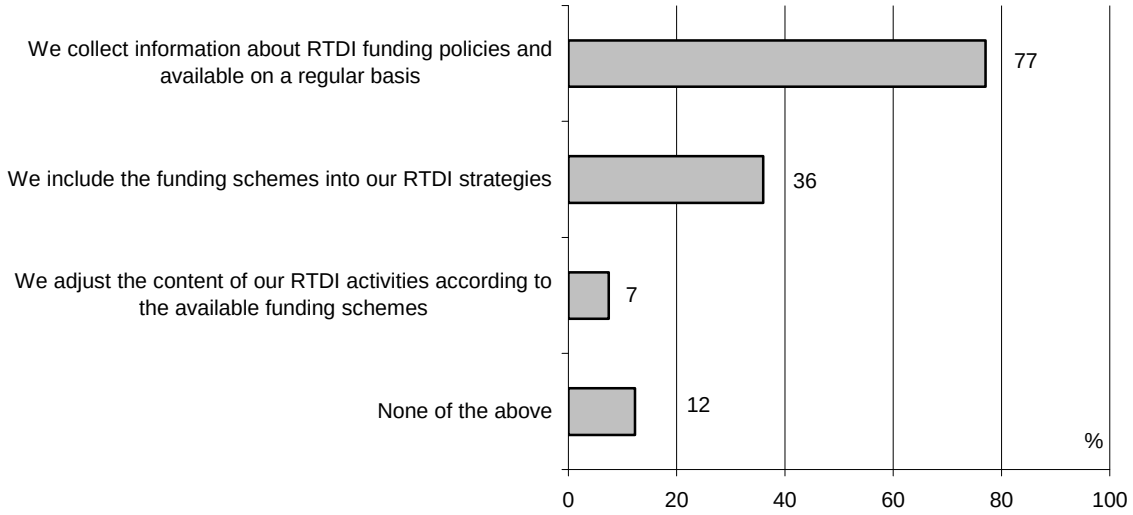
Source: Wifo/KMFA (2008): Company survey completed in the course of the evaluation of the Austrian system of research support and financing – KMFA calculations

Looking more into the detail, the findings concerning the relevance of the thematic fit are rather dispersed; while it is highly important for those applicants that apply in thematically focused programmes, it is not important for those who do not. The importance whether or not the programme fits the company type is rated lower than average for those companies applying for funding by the General Funding of FFG, which is also true for the funding programmes with high scientific requirements such as the competence centres programmes. The amount of funding is rated with higher importance by those companies that applied for funding by thematically focused programmes and structural programmes (including programmes with high scientific requirements and /or cooperation requirements) – i.e. those funding schemes that offer higher funding intensities.

5.1.2 *Effects of the funding system on the RTDI strategies of companies*

The figure below illustrates the alignment of companies to the existing public funding system regardless of its actual usage (i.e. applying for funding). These ex-ante effects refer to the assumption that the system of public funding for RTDI is not only a major financial source for R&D projects conducted in companies. Moreover, by allocating funds to specific topics and types of R&D, it provides signals and incentives to the target groups and therefore indicates areas of future importance.

Figure 31: Company survey – Importance of RTDI-support and its impact onto corporate planning, user companies, in percent



Note: n = 901. Multiple answers were allowed.

Source: Wifo/KMFA (2008): Company survey completed in the course of the evaluation of the Austrian system of research support and financing – KMFA calculations

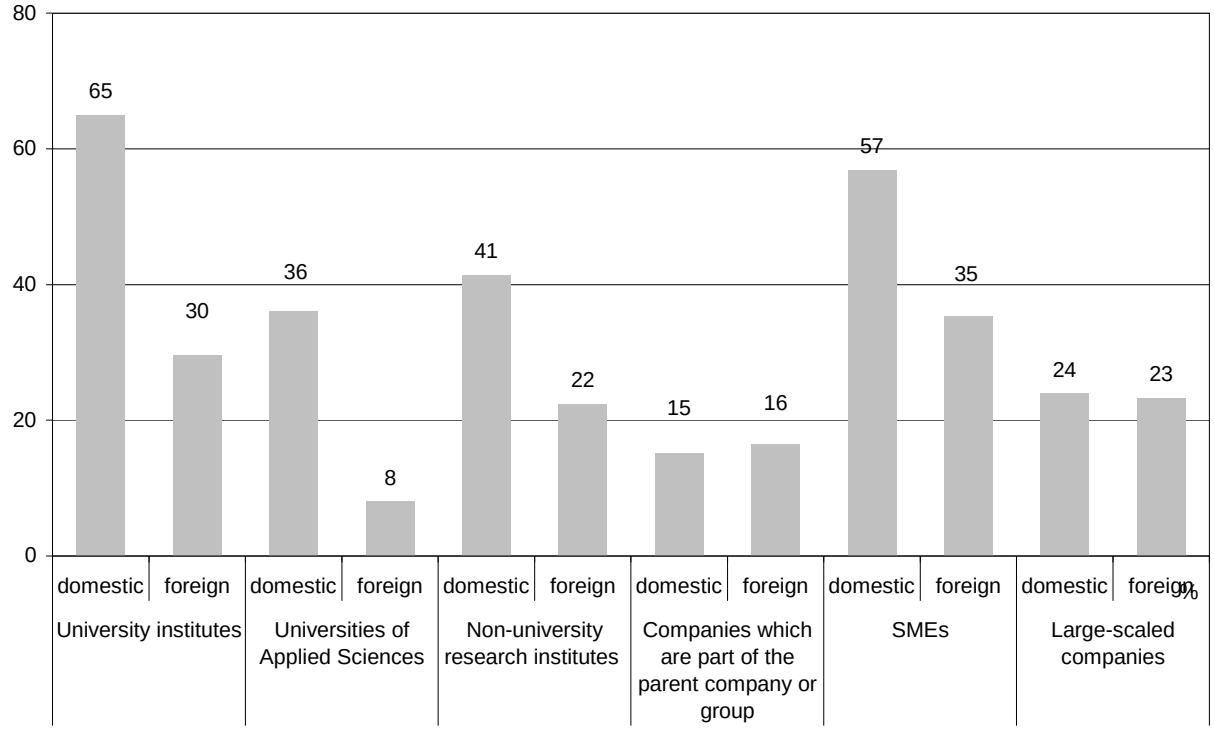
After all, one third of the companies include the available funding schemes into their own RTDI strategies indicating that the system of public RTDI funding has a steering effect on the companies' RTDI related behaviour. However, only a small minority (7 %) of companies states to "adjust their RTDI activities according to the funding available": this might be due to the fact that they deliberately make use of the above mentioned signalling effect on the one hand, but it can also indicate above-average dependency on public support for R&D of those companies on the other. The funding available has an awareness effect on over three quarters of the companies: they catch up on the system's offering on a regular basis. (However, the more interesting finding is that 23 % of the system users do not or at least not regularly.)

5.1.3 *Effects of the funding system on cooperation behaviour of companies*

Which partners are chosen by companies for RTDI collaboration is shown in the following figure: domestic universities (65 %) and SMEs (57 %) are, on average, among the most chosen partners for RTDI cooperation. This may be surprising, since according to previous findings a minor role of the universities could have been expected. However, a comparison with

Community Innovation Surveys (CIS) shows an ambivalent picture: in CIS 4, the most important partners for 60 % of the companies in "innovation-co-operation" were found to be higher education institutions, such as e.g. universities and universities of applied sciences – indicating towards the same direction as is shown in figure 32. After some methodological adjustments, CIS 5 findings would rather highlight the importance of other companies as cooperation partners and of companies which are part of the parent company or group. However, it has to be taken into account that the questions concerning this topic were changed from CIS 4 to CIS 5 and – in contrast to the survey used in this report – micro companies are not considered in the CIS surveys.

Figure 32: Company survey – RTDI cooperation behaviour, user companies, in percent

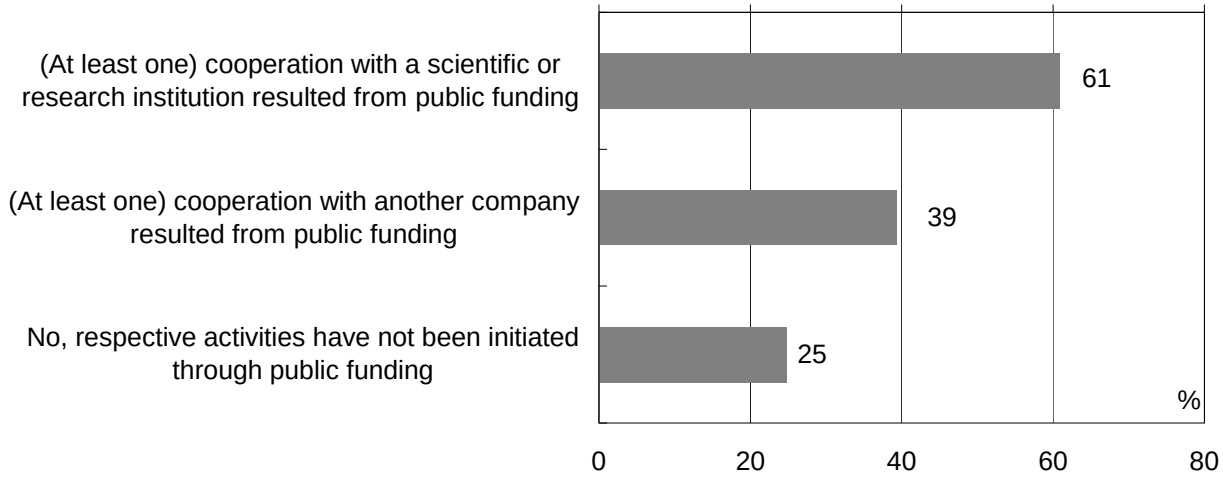


Note: n = 813. Multiple answers were allowed.

Source: Wifo/KMFA (2008): Company survey completed in the course of the evaluation of the Austrian system of research support and financing – KMFA calculations

In general, cooperation with research institutions focuses on universities, the non-university research institutions rank second. Domestic universities of applied sciences are also of importance, while foreign ones are not. All in all, the predominance of domestic partners, may they be research institutions or companies is particularly striking. Only cooperation within the parent company or group and cooperation with large scaled companies show an equal distribution between domestic and foreign partners.

Figure 33: Company survey – Cooperation activities which resulted from publicly funded projects, user companies, in percent



Note: n = 843. Multiple answers were allowed.

Source: Wifo/KMFA (2008): Company survey completed in the course of the evaluation of the Austrian system of research support and financing – KMFA calculations

Looking more closely into the cooperation behaviour of companies, the question was raised if RTDI cooperation was stimulated by public RTDI funding. Nearly two-third (61 %) of the user companies stated that at least one of the cooperation activities with a scientific or research institution has been made possible through direct public funding. 39 % who carried out RTDI cooperation with another company, holding or group reported that (at least) one of these activities resulted from publicly funded projects. Public RTDI funding schemes addressing systems failure and behavioural change very often target science industry linkages, these findings indicate that quite a high share of the target group was influenced in the desired way and led to an unexpected high level of cooperation with research institutions, as shown above.

Users of thematically focused programmes and programmes with high scientific requirements[2]

A more detailed analysis shows that company users of the thematically focused programmes are stimulated to cooperate with research institutions above the average of the system users. Users of other funding programmes with high scientific requirements, fostering cutting edge RTDI, are stimulated towards new science industry cooperation even more, but also towards cooperation with other companies. In both cases this effect is higher for those companies that do not focus exclusively on the respective funding schemes. This is also true for the stimulus towards international cooperation.

Users of programmes with lower scientific thresholds[3]

However, the users of programmes with a lower threshold exhibit different patterns: those accessing these programmes exclusively, including the General Funding, are stimulated towards cooperation with other companies only to a degree below average, even lower towards cooperation with research institutions (especially those who focus on the General Funding of FFG).

Users of structural programmes

In this context we also analysed the user group that accessed FFG's Structural Programmes: this group shows the highest value for both, cooperation with research institutions and cooperation between companies being stimulated by public RTDI funding (especially those who do not focus only on structural programmes; vice versa, this group shows the lowest value for the question if no cooperation was stimulated by public funding.

5.1.4 Effects of the funding system on research topics of companies

The following sections show both, the technology fields to which public RTDI finding was allocated and which of these technology fields were approached by a company for the first time in the course of a funded project.

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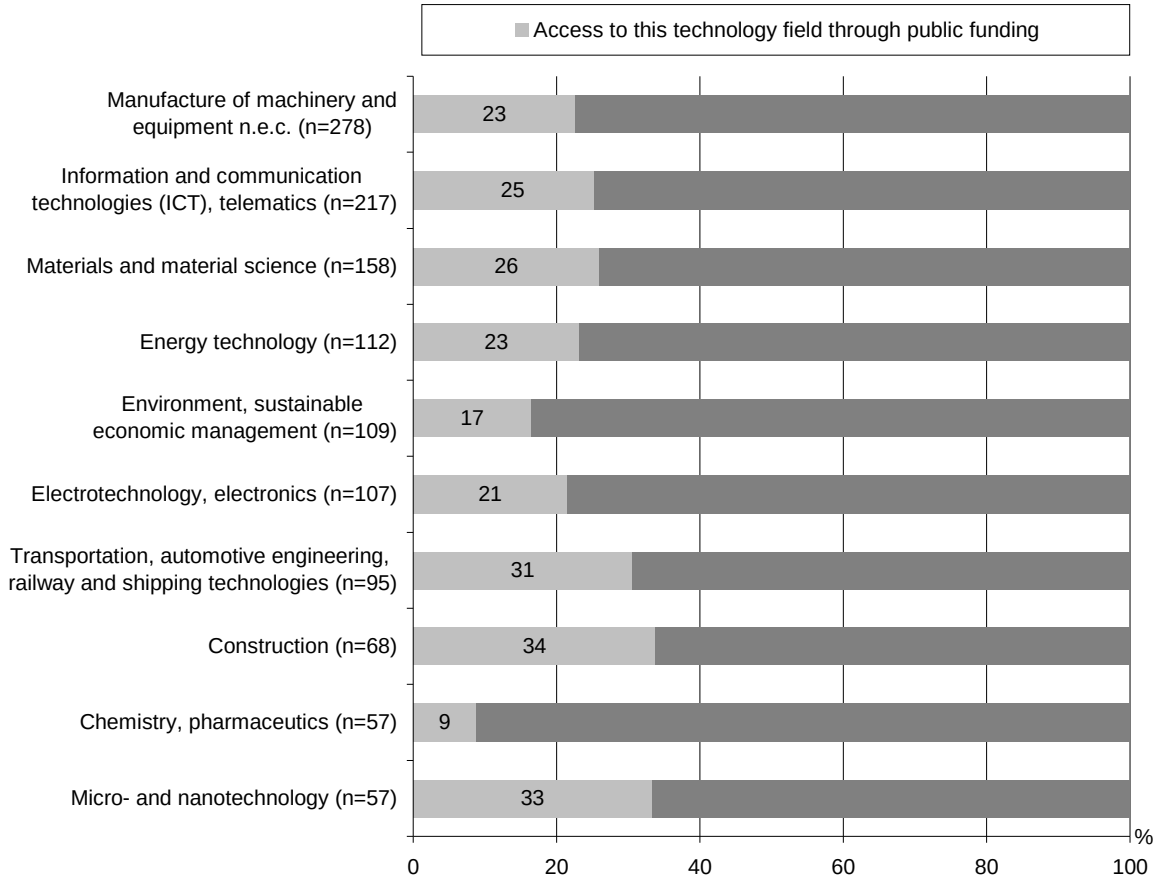
[2] Programmes with high scientific requirements, addressing companies and research institutions: these include funding schemes arguing explicitly with the term "excellence" and programmes trying to encourage companies to conduct cutting edge R&D on a high level, including also basic research (often in cooperation science – industry). These programmes acknowledge the arguments related to the discussion about how knowledge is produced and R&D is motivated ("Pasteur quadrant", "mode 2 researches"). This category of programmes includes e.g. the competence centres programmes, the Christian Doppler – laboratories, or the bridge programme. It partly overlaps with the thematically focused programmes, since those exhibit also similar rationales (at least in some of their different programme lines).

[3] Programmes with a lower threshold in scientific terms that address RTDI beginners on the companies' side. Some of them cover a broader range of target groups but are also an important funding opportunity for "RTDI beginners" (such as FFG's General Funding (Basisförderung), some of them explicitly aim at encouraging companies to integrate RTDI in their business activities (e.g. the innovation check), some try to capture the needs of RTDI beginners in cooperative innovation projects (such as COIN), some focus on the needs of companies in terms of private equity capital, IPR etc. (finding schemes provided by the AWS).

Figure 34: Company survey – Top-10 technology fields for which public RTDI funding was received and accessed for the first time, company respondents, in percent



Multiple answers were allowed.

Source: Wifo/KMFA (2008): Company survey completed in the course of the evaluation of the Austrian system of research support and financing – KMFA calculations

In figure 34 above, displaying the technology fields for which the companies received public funding, the average share of companies that accessed a field of technology for the first time (through public funding) is about 24 %. For thematic fields that are addressed by thematically focused programmes the findings are ambivalent: for micro- / nanotechnology and transportation these shares are above average, whereas for sustainable management they are below. The three most frequent fields of technology – ICT, manufacturing of machinery and materials – are close to the average. This would imply that in some fields, thematically focused programmes increase the number of companies and thus broaden the basis carrying out RTDI in the targeted technological field (micro- / nanotechnology, transportation), while others don't (sustainable management, ICT). In contrast, areas such as chemistry, aerospace technologies or natural sciences show lower access levels triggered by public funding.

As can also be seen from the data provided by the agencies (see report 5 on the topic of direct RTDI funding in Austria), the highest amounts of public RTDI funding are allocated to the fields of ICT, manufacture of machinery, and materials.

5.1.5 General strategies in case funding is not granted

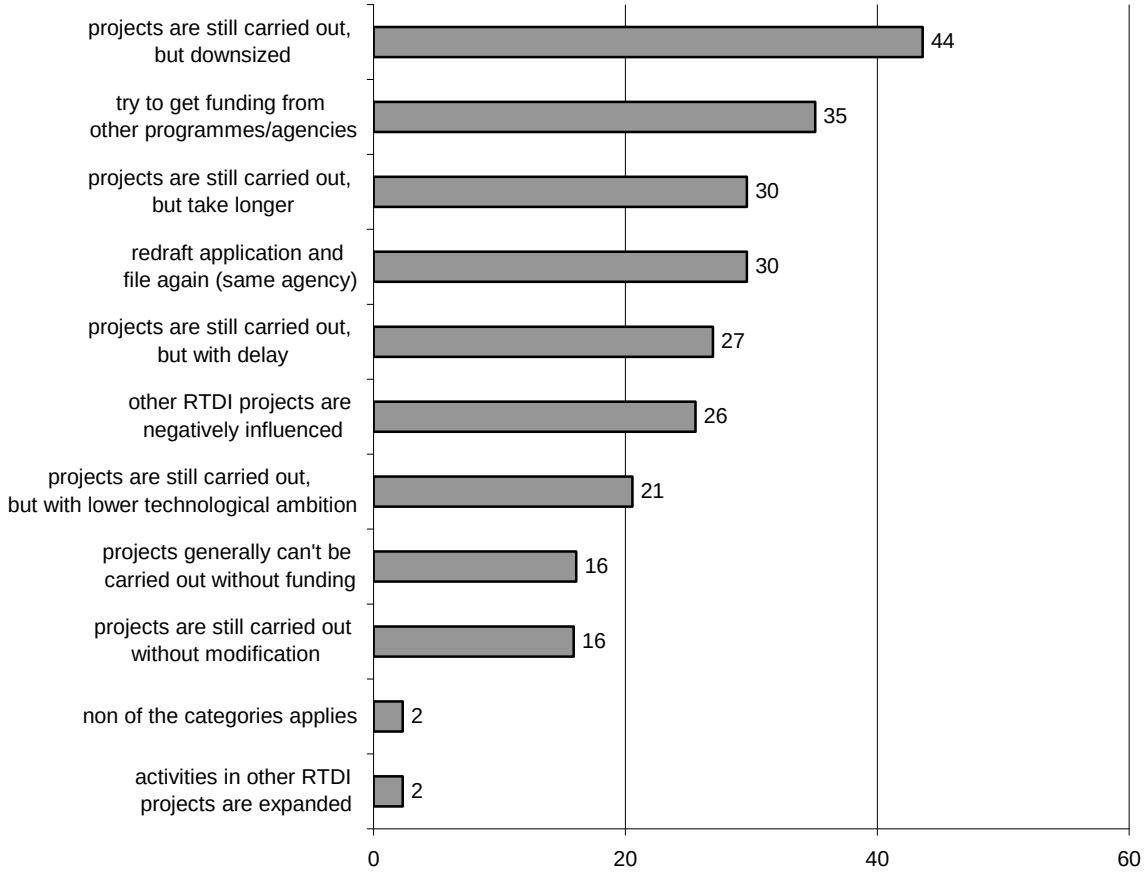
In the following section the effect of the system of public RTDI funding on the behaviour of the system users is analysed. It has to be noted that the aim of this analysis is not to find out about additionality of actually granted funding (this will be analysed in report 8 – coherence of the RTDI instrument portfolio), but rather about how the opportunity of funding effects the system users' behaviour. Thus, consistent with the analyses before, the behaviour of the group of system users that have tried to access direct public funding as a whole is analysed. In a second step, this group is separated and analysed according to the type of programme they submitted proposals for (during 2005-2007). It has to be noted that the question is not what would have happened if funding for a specific proposal in a specific funding programme was not granted, but rather what are the general strategies of companies (applying for funding by certain types of funding schemes) in case funding is not granted.

The companies' general strategies in case they do not receive direct public RTDI funding they applied for are the following (figure 35):

16 % of the companies stated that undertakings submitted for funding are generally not carried out at all without (direct) public research support; pure windfall gains (the undertakings can generally be carried out without any change/modification) are also recorded at 16 %.

About a third of the companies try to seek relevant support from other agencies or programmes (35 %), 30 % file the application again with the same agency or programme. In addition, 44 % of the companies generally carry out their project at a smaller scope, in case their research application is rejected, 30 % within a larger time frame, 27 % delay their RTDI activities and 21 % generally reduce technological ambitions. Moreover, companies with a broader RTDI portfolio report that also other RTDI activities are influenced negatively, if applied funding is denied (26 %).

Figure 35: Company survey – Implications for user companies if (direct) public research support is not granted, all user companies, in percent



Note: n = 516; Multiple answers were allowed. Companies answered to the following question: In general, what are the consequences for your company if funding is not granted for submitted applications?

Source: Wifo/KMFA (2008): Company survey completed in the course of the evaluation of the Austrian system of research support and financing – KMFA calculations

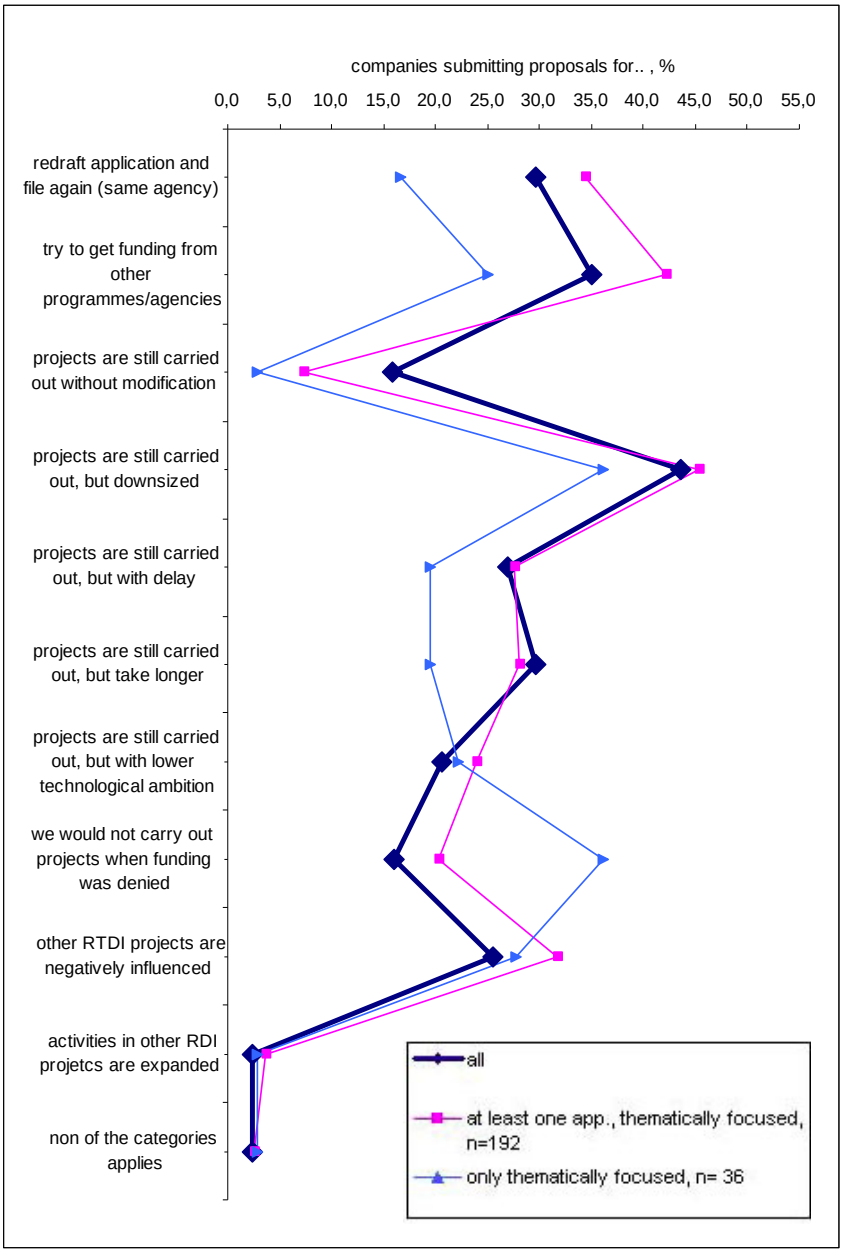
The following analysis looks deeper into the details. It is based on those companies that applied for funding by the different programmes specified between 2005/07 (see chapter 3.2).

Depending on the type of funding, different aspects weigh differently, which means that the different categories of programmes attract companies which apply different strategies in case funding is not granted. The companies accessing the more complex funding schemes seem to reduce technological ambitions of their project in case funding is denied; a rather high share of those companies state that they generally can not carry out at all the projects that are not funded. The companies accessing the programmes with a lower threshold rather reduce the size and duration or delay the respective projects where funding is denied.

Companies submitting proposals for funding by thematically focused programmes (i.e. programmes with thematic priorities as well as mission oriented programmes)

Interestingly, the findings for those companies that have tried to access the programmes with a thematic focus vary considerably between those who try to get funding in thematically focused programmes and elsewhere and those who focus only on these programmes.

Figure 36: Company survey – General strategies of companies that applied for funding by thematically focused programmes, in case funding is not granted, in percent



Note: Multiple answers were allowed. Companies answered to the following question: In general, what are the consequences for your company if funding is not granted for submitted applications?

Source: Wifo/KMFA (2008): Company survey completed in the course of the evaluation of the Austrian system of research support and financing – KMFA calculations

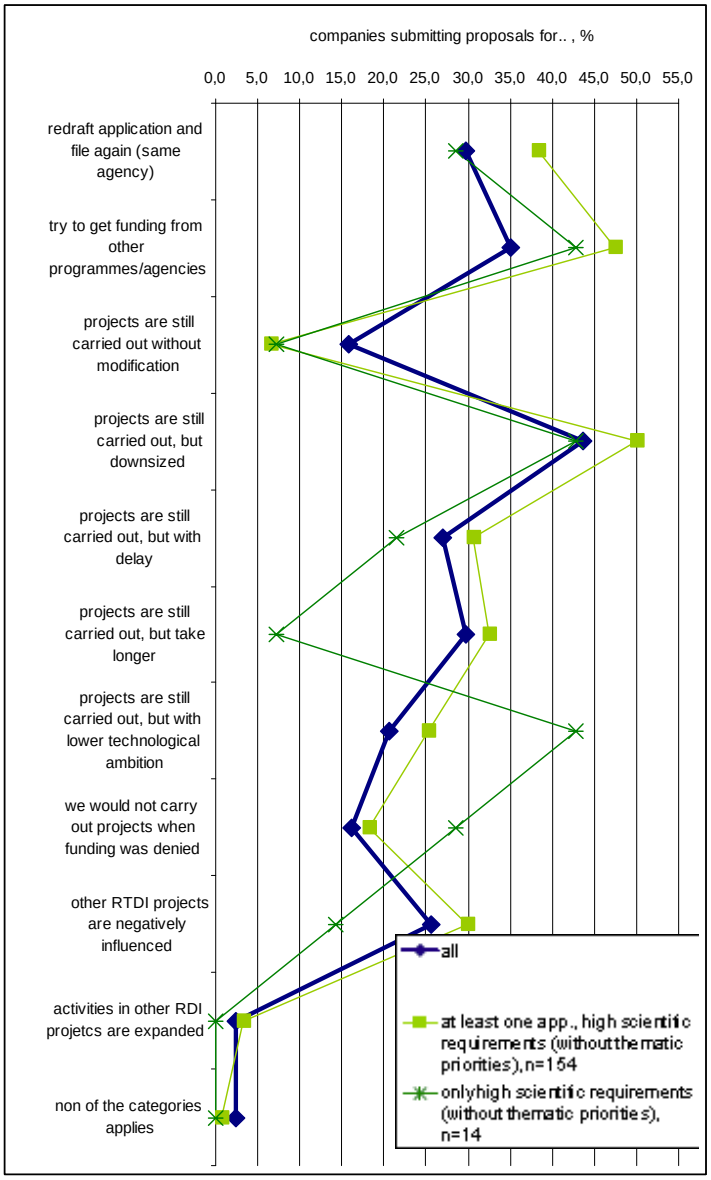
The latter group shows a high proportion stating that projects can generally not be carried out at all without the funding – consequently, this group of companies states to a lesser extent that projects generally start later, take longer or are even carried out anyway. The choice to submit only in thematically focussed programmes seems to be deliberate since in this group less than average state that they redraft applications and try it again in the same or other funding schemes / agencies.

Companies submitting proposals for funding by programmes with high scientific requirements[4]

Those companies that tried to access funding schemes with high scientific requirements, trying to foster cutting edge R&D other than the thematically focused programmes), generally do not carry out projects where funding is denied also to a comparatively high degree. However, alternative strategies are reducing technological ambitions and stretching the projects to a longer time-frame.

[4] For the definition of this group see footnote 2.

Figure 37: Company survey – General strategies of companies that applied for funding by programmes with high scientific requirements (no thematic focus), in case funding is not granted, in percent



Note: Multiple answers were allowed. Companies answered to the following question: In general, what are the consequences for your company if funding is not granted for submitted applications?

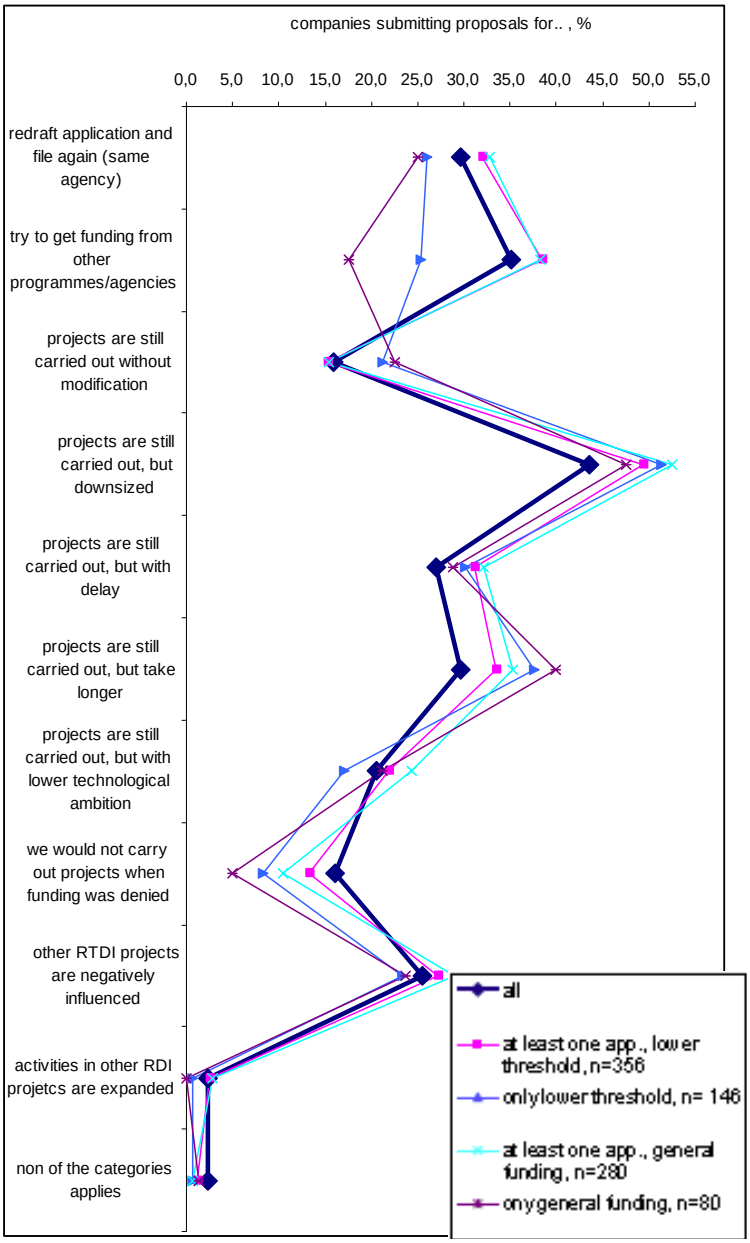
Source: Wifo/KMFA (2008): Company survey completed in the course of the evaluation of the Austrian system of research support and financing – KMFA calculations

Companies submitting proposals for funding by programmes with a lower scientific threshold[5]

The companies having submitted a proposal for funding by a programme with a lower scientific threshold (including FFG's General Funding), focusing on RTDI beginners and/or rather on innovation, show a different picture.

[5] For the definition of this group see footnote 3.

Figure 38: Company survey – General strategies of companies that applied for funding by programmes with lower scientific thresholds, in case funding is not granted, in percent



Note: Multiple answers were allowed. Companies answered to the following question: In general, what are the consequences for your company if funding is not granted for submitted applications?

Source: Wifo/KMFA (2008): Company survey completed in the course of the evaluation of the Austrian system of research support and financing – KMFA calculations

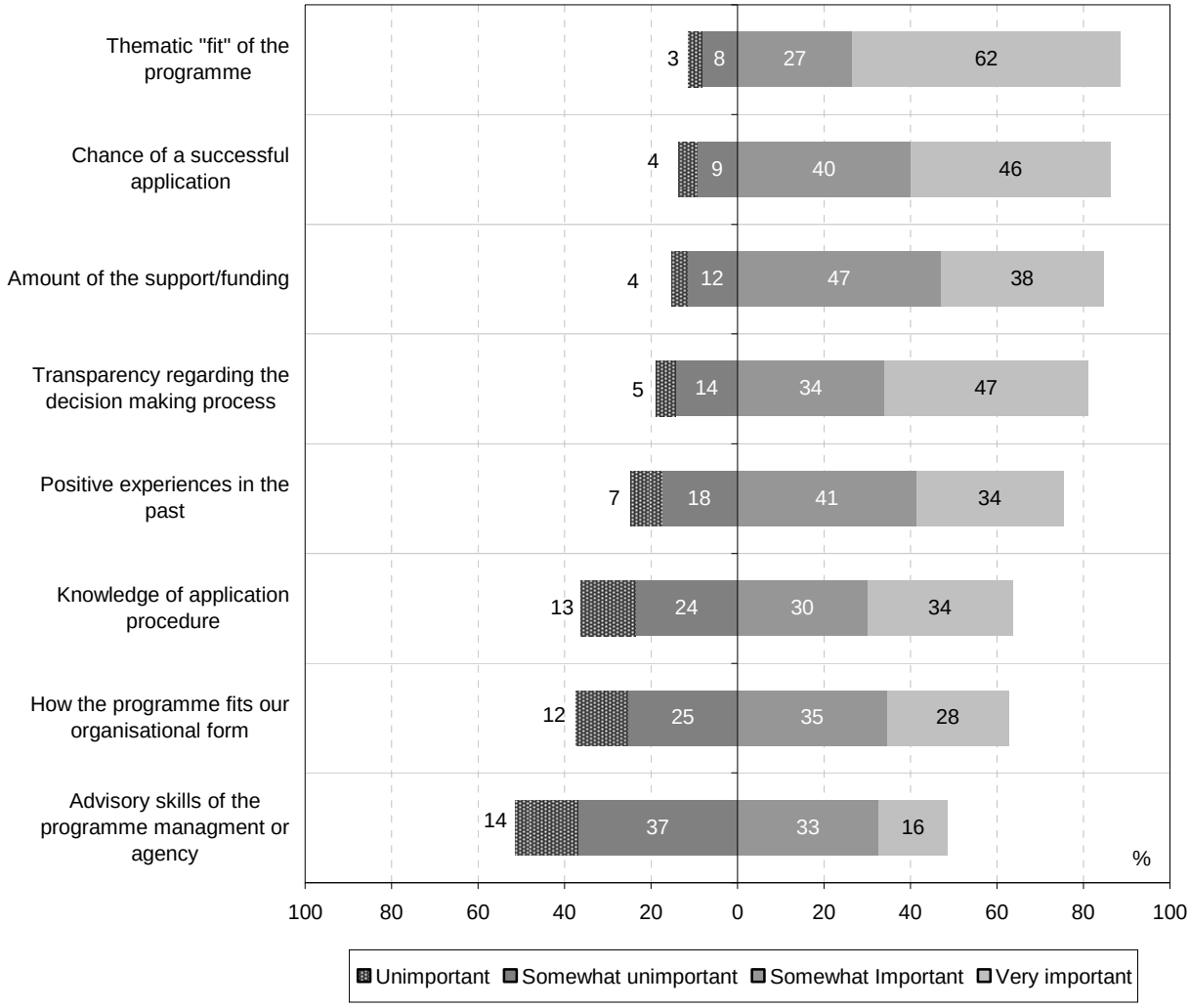
Only a small proportion states that the projects can generally not be carried out at all if funding is not granted (this is especially true for those accessing only FFG's General Funding). However, those companies show the highest share that generally carry out the projects during a longer time frame – thus maybe losing first mover advantages - and that downsize projects, if applied funding is not granted. Also here it can be concluded that those

companies focussing on such programmes or even only on FFG's General Funding in 2005-2008 do this deliberately, since the share of companies that generally redraft an application and try to get funding elsewhere is rather low.

5.2 System users – Research institutions

5.2.1 Key factors for the selection of RTDI programmes

Figure 39: Science survey – Key factors for the selection of RTDI programmes, research institutions (system users), in percent



Note: n = 324-327. Multiple answers were allowed.

Source: Wifo/KMFA (2008): Science survey completed in the course of the evaluation of the Austrian system of research support and financing – KMFA calculations

In this section we analyse the factors effecting the research institutions' decision in which funding schemes to submit proposals for funding.

Unlike the surveyed companies, the research institutions primarily use the thematic fit of a programme to decide whether or not to apply for, while the likeliness of successful

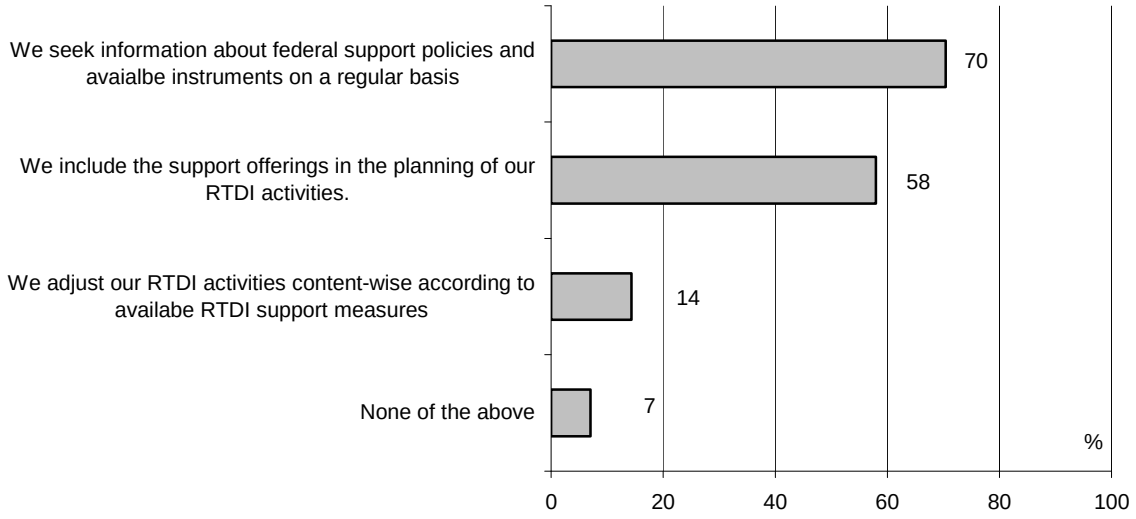
applications ranks second and the amount of funding ranks third, which is not surprising at all looking at the institutes' general dependency on public funding. Especially the aspect of "thematic fit" is an interesting finding, since the majority of the federal funding schemes addressing the scientific community is provided by FWF and thematically not focused. This is different in the case of EU funding and of course of the thematic programmes.

However, the transparency of the actual process of choosing the projects to be funded by the funding agency or a respective panel is very important as a decision guide, too.

5.2.2 Effects of the funding system on the RTDI strategies of research institutions

Figure 40 displays the research institutes' responsiveness to the offerings of the public support system for RTDI and the significance they ascribe to it.

Figure 40: Science survey – Importance of RTDI-support and its impact onto RTDI-planning, research institution (system users), in percent



Note: n = 328. Multiple answers were allowed.

Source: Wifo/KMFA (2008): Science survey completed in the course of the evaluation of the Austrian system of research support and financing – KMFA calculations

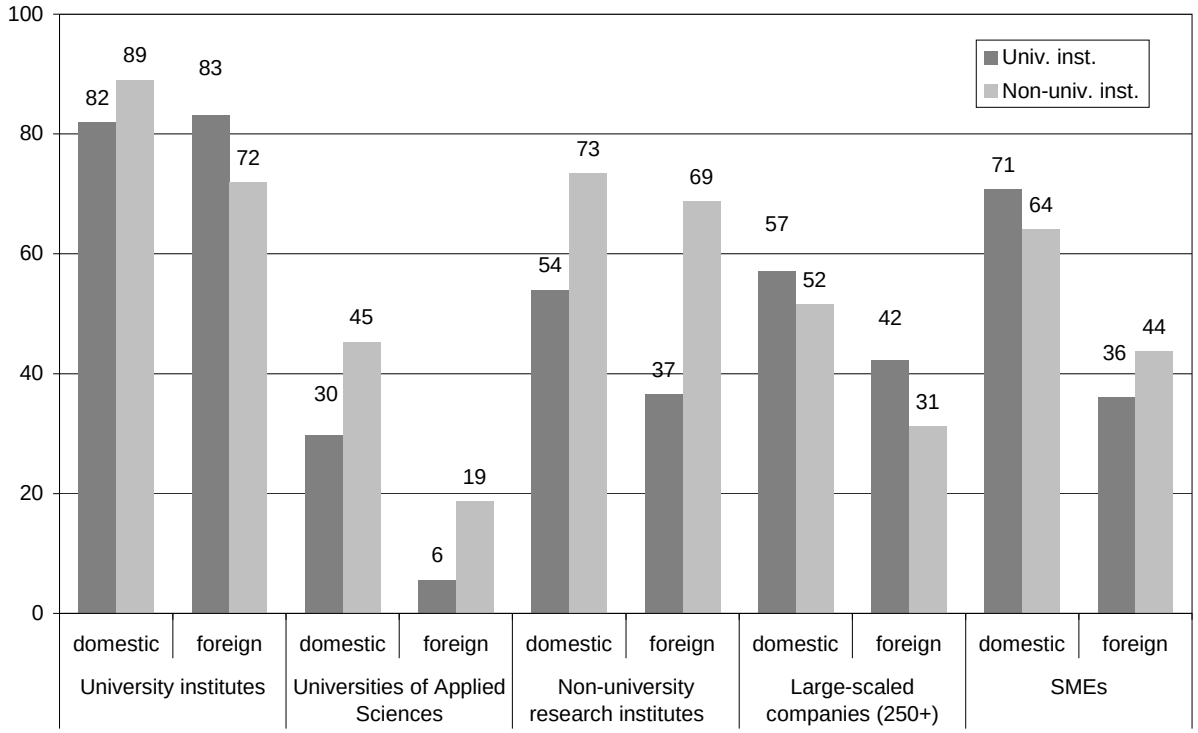
Compared to their distinctive dependency on public funding for conducting R&D projects, the fact that "only" 70 % of the respondents are seeking information on RTDI policies and funding available on a regular basis is somewhat striking. This may be due to the continuity FWF funding schemes exhibit, especially the stand alone projects (however, research institutions are not more satisfied with predictability of the funding schemes than are the companies – see chapter 4.1 in this report), or to the fact that university institutes get information about current funding opportunities more easily via their internal services. On the other hand, considering the ongoing discussion about the lack of funding for research institutions no matter of which kind, this is still lower than would have been expected. However, no less than 58 % include the funding available into the planning of their RTDI activities, which underlines the overall importance of public funding for research institutes, especially compared to the 36 % of the companies, which do so. 14 % of the research

institutions adjust their projects according to the funding made available by public authorities, which is twice as high as the respective share of the companies.

5.2.3 Effects of the funding system on cooperation behaviour of research institutions

The scientific sector follows a different logic of action, according to different incentive systems than are relevant for companies: while for the companies, when it comes to innovation and economic success, exclusive appropriability is the key, publicity is crucial for success in the scientific community; hence, scientific cooperation and joint publications are more frequent. Figure 41 below shows that research institutes in general cooperate very often and with different partners, and it shows a strikingly high share of cooperation with companies.

Figure 41: Science survey – RTDI cooperation behaviour, universities/university institutes and non-university institutes (system users), in percent

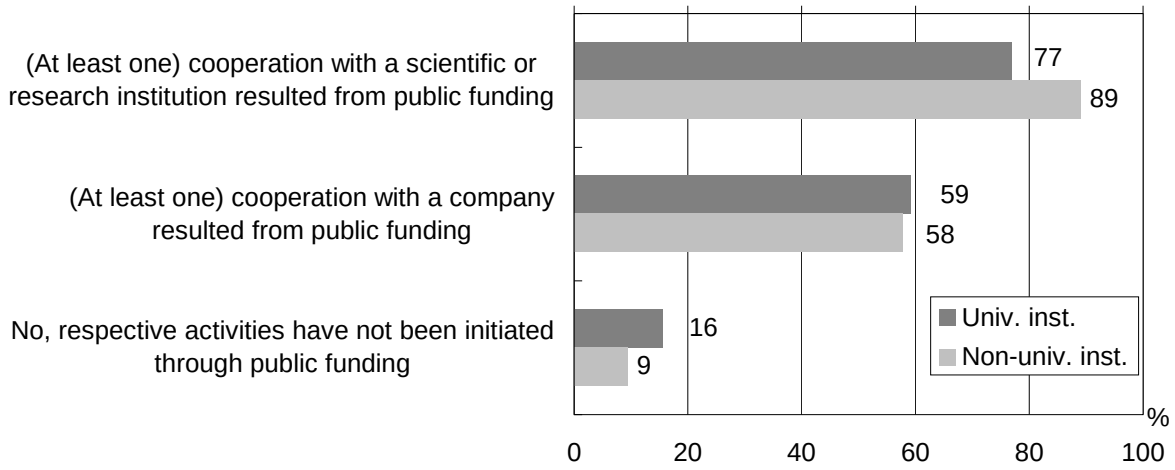


Note: n (university/university institute) = 161, (non-university institute) = 64. Multiple answers were allowed.
Source: Wifo/KMFA (2008): Science survey - completed in the course of the evaluation of the Austrian system of research support and financing – KMFA calculations

University institutes tend to cooperate with universities, both domestic and foreign, more likely than with anyone else. The large share that collaborate with domestic SMEs is striking (see also above where a high share of companies cooperating with research institutions, primarily universities, was shown), whereas the low share of cooperation with universities of applied sciences is to be expected considering the ongoing discussion about the position of both, universities and universities of applied sciences, in the research and innovation system, fostering competition rather than cooperation.

Besides cooperation with universities, non-university institutes are most active in cooperation with other non-university institutes. When it comes to international cooperation, the non-university institutes have a slightly more international focus with cooperation with SMEs, while university institutes are stronger in cooperation with foreign large-scaled companies.

Figure 42: Science survey – Cooperation activities which resulted from funded projects, universities/university institutes, non-university institutes (system users), in percent



Note: n (university/university institute) = 174, (non-university institute) = 64. Multiple answers were allowed.
Source: Wifo/KMFA (2008): Science survey completed in the course of the evaluation of the Austrian system of research support and financing – KMFA calculations

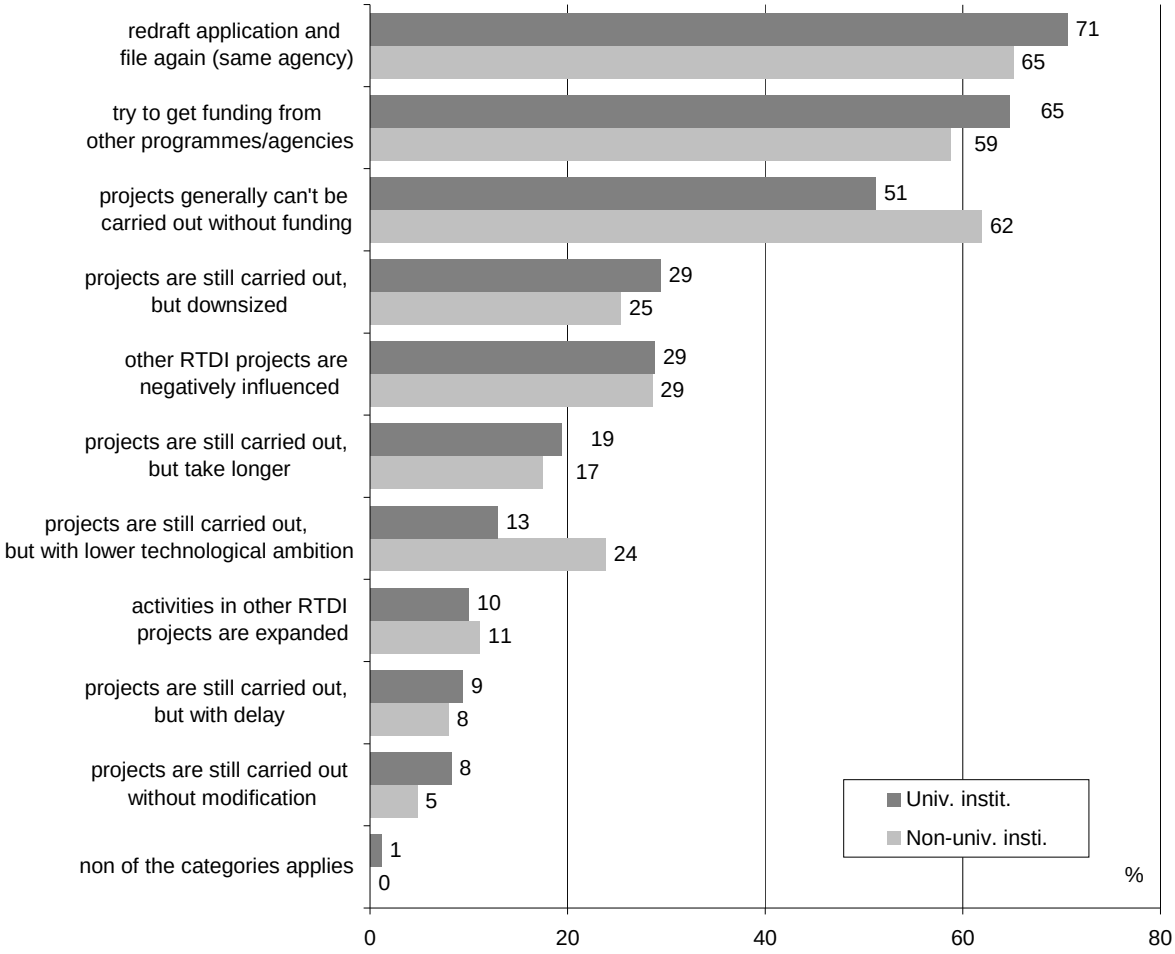
Many public funding schemes aim at cooperation as a catalyst for RTDI, as a means to foster knowledge transfer, and to allow for interdisciplinary R&D and for the integration of both, considerations of use and the quest for understanding, in joint RTDI undertakings. However, the effect of these funding programmes on that matter slightly differs for non-university institutes and university institutes. The latter attribute less cooperation to public funding, while the former benefit especially in enhanced cooperation with other research institutions that is based on publicly funded projects. For more than half of both groups (59 % and 58 %, respectively), at least one cooperation with companies was stimulated by public RTDI funding. This share is almost equal to the share of companies that attributes science industry cooperation to be stimulated by public finding (61 %). However, the overall share of research institutes that ascribe the public funding with a positive effect on cooperation with other research institutes is very high compared to the companies' share concerning cooperation with other companies (see figure 32).

These findings suggest that in general, the likeliness to cooperate within the scientific community is by far higher than between companies. This is in line with the different incentive systems the two systems are confronted with. However, the equally high share of entities in "both worlds", which were motivated to engage in science – industry cooperation seems to suggest that the respective funding schemes manage to address both target groups equally and to a quite high extent.

5.2.4 General strategies in case funding is not granted

As for the companies, this section tries to outline the general strategies that research institutions adopt when funding is not granted for the proposals submitted.

Figure 43: Science survey – Implications for user from research institutes if (direct) public research support is not granted, universities/university institutes and non-university institutes (system user), in percent



Note: Note: n (university/university institute) = 170, (non-university institute) = 63. Multiple answers were allowed.
Source: Wifo/KMFA (2008): Science survey completed in the course of the evaluation of the Austrian system of research support and financing – KMFA calculations

Obviously, the main strategies in case funding is not granted are to redraft the application or to submit the proposal elsewhere. This is different compared to the companies' strategies, where the main strategy in that case is downsizing of the projects. A high share of research institutions states that whether an R&D project, that was submitted for funding, can be carried out, depends on the positive funding decision: this is the case for more than half of the universities / university institutes, but even more for the non-university research institutions (62 %). Especially non university research institutions seem to be more dependent on direct public RTDI funding; a major strategy of these institutions is still to carry out the projects but at a smaller scope or with lower technological ambitions.

As for the companies, the research institutions' behaviour in case funding was not granted was also investigated according to the different categories of funding schemes that were addressed. The main finding was that research institutions in general even less differentiate their submission behaviour along the different funding logics. As a consequence, there are no relevant differences to be seen in the behaviour if research institutions grouped according to the funding programmes they approach, because these groups are so widespread and overlapping.

6 Summary and Recommendations

6.1 Challenges

In Austria a rich system of instruments and measures to fund RTDI publicly has been developed in the past, "direct measures" such as funding programmes or indirect measures such as tax incentives. Therefore, the system the potential users face today consists of a broad variety of different approaches, funding schemes, support programmes, and initiatives. It is the aim of the report at hand to analyse the perception and assessment of the RTDI funding system by its target groups on the one hand and the behaviour of the users in this system on he other hand. Thus, a demand-oriented focus has been developed, evaluating how the different target groups judge the current system of RTDI support in Austria and behave while using it.

However, user satisfaction and target group behaviour are, from a system point of view, always to be seen in context, especially with the findings from the other reports in this systems evaluation. The satisfaction and the behaviour shown by the target groups are not the main indicators to evaluate the system's effectiveness in reaching its goals. On the other hand, taking this into consideration when interpreting the data, we can get valuable insights into how the system is perceived, where are e.g. information bottle necks, does it meet the requirements of the target groups in terms of transparency, is there a lack of support from the user's perspective, which funding schemes are accessed by different subgroups of users and does this relate to the intended target groups etc.

The analyses on how the funding system is perceived by its users and what impact the RTDI system had upon their overall behaviour are primarily conducted with those groups of surveyed companies and research institutions, which had previous experience with the Austrian system of research support and financing, e.g. that ever submitted a proposal for direct funding (and/or claimed tax incentives in the case of the companies). This sub-group is referred to as "system users".

6.2 Main results

Characteristics of the users of the Austrian system auf RTDI funding

About 80 % of the **companies** surveyed have used the system of public RTDI funding provided in Austria during the past: These companies either claimed R&D tax incentives or applied for direct public funding. The majority of these "system users" are small and medium sized enterprises (SMEs; 83 %, less than 250 employees). Micro enterprises with less than nine employees, often neglected in studies measuring innovation performance (e.g. CIS, EIS), account for a considerable share (34 %) of these system users.

Although nearly all sectors and industries are covered by the participating companies, most of the companies operate in technology and knowledge-intensive sectors. Micro companies in the user group tend to run their business predominantly in the knowledge-intensive service sector, large-scale companies in the user group are more often found in the medium high and high-technology industries.

Between 2005 and 2007, almost all system users (95 %) carried out RTDI-project activities, at least on an occasional basis. Only 14 % of the user companies started with their first RTDI project in 2006 or later. Around two thirds of the user companies stated to have introduced new or significantly improved products onto the market; 85 % came up with improved products, services or processes. However, this self-assessment by the user companies may indicate that even modest innovative behaviour is perceived as radical. Several studies on the innovation performance rather suggest a predominance of incremental innovation among Austrian RTDI active companies.

RTDI active companies which did not apply for respective (tax related or agency based) support instruments ("non-user") argue that application procedures for public funding are too complicated and expect administrative issues with the project management. About a third noted, however, that no fitting programme or support service was available to them for their respective RTDI project.

From the **research institutions** surveyed, 90 % have used the Austrian system of RTDI funding. The majority stem from university institutes (60 %). Non-university research institutions and governmental institutions constitute another 35 %; only few universities of applied sciences who have used the RTDI system in the past were reached by the survey. The survey among research institutions targeted especially at research institutions dedicated to research in the fields of technology, natural sciences and medicine.

Specific patterns of system usage

In the group of the system users, 85 % of the companies stated to have applied for direct public funding by one of the finding agencies, while 64% claimed R&D tax incentives. The larger the company in terms of employees, the higher was the probability that it claimed tax incentives.

Applications for direct public RTDI funding at the federal level are often combined, e.g. the majority of companies submitted proposals not only to one agency. While around 90 % of the companies filed at least one application for funding by FFG between 2005/07, 64 % submitted only to FFG. The most important funding scheme is the "Basisförderung" (general funding) of FFG, where 65 % of the companies submitted at least one proposal, while 27 % focused only on this funding opportunity. For the other divisions of FFG and AWS, the proportion of companies focusing on their respective funding schemes is very low compared to the companies submitting at least one proposal and accessing other funding schemes as well. During 2005/07, half of the user companies filed one or two applications, 32 % submitted 3 to 6 applications and 12 % submitted even 7 and more applications.

Research institutions (or their research staff, respectively) combine different funding schemes even more extensively than the companies do: while 67 % filed at least one proposal to FWF, only 15 % focused exclusively on FWF funding and only 21 % filed for only one single funding scheme, compared to 16 % that submitted proposals for 7 and more schemes between 2005/07, 36 % submitted 7 and more proposals.

Perceptions and attitudes towards the system of RTDI funding

The lack of financial sources, administrative and approval issues and the lack of qualified personnel are the main **barriers hampering innovation activities** by the system users

(companies); research institutions face especially problems of insufficient financial resources, infrastructure and limited (qualified) human resource capacity. These results are in line with the findings from similar studies, with the exception that administrative and approval issues are more pronounced barriers in the report at hand.

For the companies and research institutions, the main **source of information** about possible RTDI funding and related instruments is clearly the internet (70 % and 80 %, respectively), closely followed by direct information from funding agencies. Young and rather small-sized companies use the internet more often as most important source of information, whereas established companies gather information directly from the funding agencies. It can be assumed that information from the internet and from funding agencies are closely linked, as funding agencies provide a significant share of information through web-based services.

User satisfaction with aspects such as the clearness of the instrument portfolio, access to relevant information and the quality of advice for both direct RTDI funding and tax incentives is generally reported to be high among all companies. These findings shed new light on the current discussion about a perceived "funding jungle", as it indicates that RTDI active companies are well in touch with the system offerings. However, small companies are rather less satisfied with aspects regarding R&D tax incentives. This may suggest a lack of awareness of the available fiscal RTDI incentives, the lack of competence in terms of taxation issues, and problems concerning the eligibility of activities (Frascati definition, invention). The latter may be especially important considering the high share of RTDI active SMEs in the service sector.

Administrative burdens and the lack of transparency regarding funding decisions are considered to be the primary barriers for RTDI active companies when using the system of public RTDI funding. This holds especially true for SMEs. Although complaints concerning administrative burdens are frequently mentioned in similar studies, they should be kept in mind in terms of **adequacy**. It is assumed that especially micro and small companies would benefit most from procedures taking into account their respective size and state of development. Potential actions in this regard (e.g. simplifying administration for SMEs) have to be balanced against (i) the necessity to get proposals that can be subject to useful evaluation, (ii) the positive effect of self-selection processes (e.g. learning effects gained from developing proposals, also if funding is not granted) in application based funding. To achieve increased transparency, it should be considered to implement feedback-loops (for less successful applicants) e.g. by providing detailed information about the rejected application to foster learning effects among applicant companies. On the other hand, funding agencies might benefit also from such procedures that would allow for mutual learning processes.

The analysis of the reasons why some of the companies did not apply for direct funding shows a somewhat similar picture: these companies back away from public funding due to administrative barriers, information costs, and they find no suitable funding schemes. The latter may be due to the fact that they do not perform R&D or ambitious innovation - in these cases the findings suggest that the system's selection procedures work well. On the other hand, since there is a high share of small companies and companies from the service sector in this group, the findings could imply that it is harder for those companies to access the RTDI funding system (see also report no 5). Third, the former aspect has to be highlighted: while the

companies that have entered the system of public finding get expert, those who did not may fail to cope with the "jungle".

Users from research institutions are, on average, quite satisfied with key aspects of the Austrian system of direct RTDI funding: the clearness of the instrument portfolio, the access to relevant information and the quality of advice receives highest ratings among the various RTDI system features. Administrative efforts and the lack of transparency regarding the funding decision on the other hand are critically assessed by the research institutions. Again, as it is the case with companies, it should be considered to examine whether there are improvement options related to administration and transparency issues. As the importance of third party funding has increased throughout the last decades, especially for universities, the importance to include public RTDI funding in the planning of future RTDI activities has grown too. However, the predictability of RTDI support schemes appears to constitute a constraint for a considerable share of the scientific institutions.

Are the offerings provided by the funding system sufficient?

This depends clearly on the importance of specific services for a company and how the individual support offerings are judged by the service users. In general, the user companies rate direct public funding as important for their business activities. In contrast, tax incentives are seen to be less important. However, the relevance of tax incentives increases with company size. The satisfaction with direct public RTDI funding is, on average, lower than the satisfaction levels with tax incentives for RTDI. The relevance of guarantees and interest grants for bank loans diminishes with increasing company size.

Referral services for **venture capital (VC)** seem to be, on average, less important for the surveyed companies. This may come as a surprise, as various studies on national innovation performance raise concerns on the declining performance of the Austrian venture capital scene, which stays in sharp contrast to an increasing demand in VC capitalisation, especially in high-tech areas such as ICT or life sciences. However, it is generally acknowledged that VC may not be suitable or relevant for every company in every sector; this holds also true for private-equity investments. Moreover, VC and private equity investments are rather common with start-up or small companies in high-tech environments, often with a high-growth potential and innovative background. Indeed, as the company survey shows, more than half of the companies interested in VC funding are micro companies and are less satisfied with the available offerings compared to other company groups.

Regarding the importance of RTDI support for different RTDI phases, the companies are predominately interested in **near-market support**, for example in areas such as prototyping, production and preparation for market entry; support in field of development of ideas is found to be less important. The interest in such services is clearly understandable – but the **intervention rationale** for public funding, being based on risk and the public-good characteristics of R&D has to be kept in mind in this discussion. The scarcity of suitable qualified personnel raises again the subject of **human resources** as major obstacle when conducting RTDI activities.

Regarding the research institutions, **direct funded research personnel** and the funding of material and other investments are to be found important; support in this regard is considered

to be unsatisfying by the surveyed research institutions. In general, the relevance of RTDI project financing is seen as highly important for conducting RTDI activities, as are support for the establishment or improvement of research infrastructure and – underlining again the **importance of human resources** – the recruitment of qualified scientific personnel.

Effects of the system of public RTDI funding on the overall target group's behaviour

Cross-agency or cross-programme applications ("combined applications"), i.e. a company applies for more than one programme provided by one or more agencies are very common among the applicant companies. Against this background, distinct patterns or application strategies cannot easily be derived from the empirical findings. However, some evidence found in this regard indicates a specific behaviour of the respective target groups:

- 85 % of the user companies applied for (direct) federal research support offered by the FWF, aws or FFG between 2005 and 2007; 64 % claimed R&D tax incentives between 2002 and 2006. Although direct funding seems to have a high relevance for all companies and receives therefore similar application rates, R&D tax incentives are more claimed by larger companies. However, as has been noted above, this may also point to obstacles such as low awareness and (tax related) competence among SMEs, but also to eligibility criteria – as a high share of SMEs pursue their business in the service sector.
- The (expected) chance of getting application(s) accepted ranks high for the user companies with regard to the selection of RTDI programmes. However, other factors such as the thematic "fit" of the programme or how the programme fits the company-type (SME; start up) are also rated as important. The findings concerning the relevance of the thematic fit are rather dispersed; while it is highly important for the applicants that apply in thematically oriented programmes, it is not important for those who don't. The importance whether the programme fits the company type is rated lower than average by those companies applying for funding from the general funding of FFG and also for the funding programmes with high scientific requirements such as the competence centres programmes.
- As is discussed in report 5 (direct RTDI funding in Austria), the decision to apply for a programme might also be highly influenced by the offered funding intensities. Findings show that the amount of funding is rated with higher importance by those companies that applied for funding by thematic programmes and structural programmes (these including programmes with high scientific requirements and /or cooperation requirements) – i.e. those funding schemes that offer higher funding intensities.
- The importance of RTDI-support and its impact onto corporate planning is considered to be very high: 7 out of 10 companies and research institutions collect information about RTDI funding policies on a regular basis; one third of the companies and 60 % of the research institutions stated to integrate the available funding schemes in their overall RTDI strategy. About a fifth of the user companies carry out RTDI projects only when adequate ("fitting") support measures are available, or would at least change the focus of their research project to be eligible for support measures.

For the user companies, domestic university institutes and SMEs are the most frequent RTDI partners. About 60 % of the companies stated that at least one of its science-industry

cooperations has been initiated through direct public funding. About 40 % who carried out RTDI cooperations with another company, holding or group reported that (at least) one of these activities resulted from direct public funding. Sectors which have received a high share of public funding, such as manufacturing of equipment, ICT and materials have been accessed by around 20 % of the companies for the first time through public funding. In contrast, areas such as chemistry, aerospace technologies or natural sciences show lower access levels triggered by public funding.

Regarding the general strategies of user companies in case (direct) public research support is not granted, 16 % of the user companies stated that planned undertakings can generally not be carried out at all without (direct) public research support; pure windfall gains (the undertaking is carried out without any change/modification) are also recorded at 16 %. For the remaining companies, the answers indicate an impact of the support system on the RTDI behaviour: if (direct) public research support is granted, the RTDI projects can generally either be executed faster, earlier, to a larger scope or with higher technological ambitions. However, a third of the user companies generally redraft the application and try to get funding by the same agency or elsewhere.

For the research institutions, the thematic fit of the funding programme is of utmost importance for the choice whether to submit a proposal or not, closely followed by the chance for success and the amount of funding. The least important factors are the programmes' fit to the organisation and especially the advisory capacities of the programme management.

70 % of the research institutions report to seek information about funding on a regular basis, which indicates the high relevance of direct RTDI funding for the research institutions.

6.3 Conclusions and recommendations

The report at hand presents key data on the perspective of the target groups that are addressed by the Austrian RTDI funding system, focusing on the satisfaction with the available RTDI support offerings and the impact the funding system had on the target groups' behaviour. Summarising the findings presented above, the following domains to be addressed can be identified:

- The topic of human resources is a crucial bottle neck, both for research institutions and companies. This relates to the findings and recommendations of almost all the reports of the system evaluation: link RTDI policy more closely and systematically with other policies – in this case education policy; conceive RTDI policy as a horizontal matter and make use of joint measures deliberately.
- For the research institutions, especially for the universities, maintaining their (R&D) infrastructure seems to be a challenge, let alone financing new infrastructure for R&D.

  In this context the balance of institutional funding and project funding will have to be discussed. Competitive mechanisms and quality criteria will have to be applied either way. It will depend on how far appropriate criteria and incentives will be integrated in the performance agreements of the universities; in any case, project funding based on a

competitive selection procedure focussing on the quality of the proposal will contribute to the goal of linking public funds to the quality of research.

In addition, a shift of focus in the FWF funding from the current (almost) sole focus on individual researchers to a broader view considering the institutional background (eligibility of overhead costs; organisational structures of the universities,...) might enhance the opportunities of FWF funding to contribute to a positive development of the universities (see also report no 5).

Finally, the non-university sector should be mentioned: this sector depends largely on third party funding (including public RTDI funding); thus, especially the lack of predictability of funding schemes hampers longer term strategic planning in this sector. This sector is very heterogeneous in terms of organisation and funding; a systematic approach, based on the experiences with performance related institutional funding for the universities would allow for those institutions to perform better on the basis of longer term strategies.

As long as higher education institutions are concerned, all these arguments relate of course to the aspect of human resources mentioned above.

- The system users' satisfaction with the funding portfolio per se, with information about and services connected to public funding is rather positive. Critical remarks are reported concerning administrative burdens connected to direct public funding, transparency concerning the evaluation criteria and the funding decision, and the predictability of funding schemes. Also these critical aspects are more relevant for the smaller companies.

  Small enterprises show a more critical attitude towards tax incentives for RTDI. This may be related to the eligibility criteria (see report 4 on tax incentive schemes for R&D), since a high share of the SMEs (especially micro companies) run their business in the service sector. If service innovation is to be addressed by tax incentives as well, eligibility criteria should be expanded (broader concept of innovation). A broader concept of innovation should also be applied for direct public funding to allow for more ambitious innovation in the service sector (see recommendations in report no 5).

  The findings concerning administrative burdens and lack of transparency are consistent with a number of comparable evaluations. Reducing the requirements for funding proposals and reporting unduly is not suggested– proposals have to undergo a meaningful evaluation during the selection process, etc. However, when implementing funding processes these aspects should be taken into account in terms of adequacy of the requirements.

  Also the complaint concerning transparency of the selection criteria and the funding decision is a well-known finding from many evaluations. But, besides the relationship towards the applicants, transparency of the processes how public funds are invested in RTDI can be considered an inherent value. In addition, funding agencies and applicants as well can benefit from transparency in terms of mutual learning – e.g. discussing the reasons why funding was not granted may foster a learning process on both sides.

  The aspect of predictability of the existence of funding schemes was already mentioned above. This aspect is crucial: if public direct RTDI funding is to exert influence on the

longer term behaviour of the target groups, it has to exhibit elements of continuity in terms of the funding schemes and incentives.

- The criteria that are balanced against each other by the applicants when they choose to apply for specific funding schemes are the probability that the funding is granted, the amount of funding and the administrative barriers. Of course this picture can be drawn in more detail when looking at different subgroups of the systems users. But the high share of companies accessing different (types of) funding schemes suggests that the target groups move more flexible in the system of direct public funding than would be expected when analysing the different rationales of the programmes themselves. In addition, there seems to be a group of "professionals" with multiple proposals during the time span 2005-2007.

  These findings relate to the recommendation outlined in report 5 (public RTDI support in Austria): broadening the concept of funding measures, implementation in a consistent set of modules, definition of selection criteria considering both: the relative advancement for the applicant that can be expected by the funded project as well as the scientific or innovative level of the undertaking (considering the respective funding logic).
- The findings indicate an impact of the funding system on the strategies of companies (in case funding is not granted, undertakings are generally carried out later, with a lower budget / in a shorter period, technologically less ambitious). Depending on the type of funding different aspects weigh differently: while the more complex funding schemes seem to foster higher technological ambitions und projects can generally not be carried out without funding to a higher share, those programmes with a lower threshold allow for the projects to be larger and to be started sooner.

  RTDI cooperations are reported to be initiated by direct RTDI funding to a considerable extent, both for companies and research institutions; and new thematic topics are accessed via public funding by approx. 20 % of the companies doing R&D in this field.

7 References

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8 Annex

Table 11 – OECD classification of manufacturing industries and service sector by technological intensity

Sector	NACE 2008	
primary sector		
	A 01	Landwirtschaft, Jagd und damit verbundene Tätigkeiten
	A 02	Forstwirtschaft und Holzeinschlag
	A 03	Fischerei und Aquakultur
	B 05	Kohlenbergbau
	B 06	Gewinnung von Erdöl und Erdgas
	B 07	Erzbergbau
	B 08	Gewinnung von Steinen und Erden, sonstiger Bergbau
	B 09	Erbringung von Dienstleistungen für den Bergbau und für die Gewinnung von Steinen und Erden
low tech industries		
	C 10	Herstellung von Nahrungs- und Futtermitteln
	C 11	Getränkeherstellung
	C 12	Tabakverarbeitung
	C 13	Herstellung von Textilien
	C 14	Herstellung von Bekleidung
	C 15	Herstellung von Leder, Lederwaren und Schuhen
	C 16	Herstellung von Holz-, Flecht-, Korb- und Korkwaren (ohne Möbel)
	C 17	Herstellung von Papier, Pappe und Waren daraus
	C 18	Herstellung von Druckerzeugnissen; Vervielfältigung von bespielten Ton-, Bild- und Datenträgern
	C 31	Herstellung von Möbeln
	C 32	Herstellung von sonstigen Waren
	C 30.1	Schiff- und Bootsbau
medium-low tech industries		
	C 19	Kokerei und Mineralölverarbeitung
	C 22	Herstellung von Gummi- und Kunststoffwaren
	C 23	Herstellung von Glas und Glaswaren, Keramik, Verarbeitung von Steinen und Erden
	C 24	Metallerzeugung und -bearbeitung
	C 25	Herstellung von Metallerzeugnissen

medium-high tech industries		
	C 20	Herstellung von chemischen Erzeugnissen
	C 27	Herstellung von elektrischen Ausrüstungen
	C 28	Maschinenbau
	C 29	Herstellung von Kraftwagen und Kraftwagenteilen
	C 30.2	Schienenfahrzeugbau
	C 30.9	Herstellung von Fahrzeugen a.n.g.
	C 33	Reparatur u Installation v. Maschinen u. Ausrüstungen
high-tech industries		
	C 21	Herstellung von pharmazeutischen Erzeugnissen
	C 26	Herstellung von Datenverarbeitungsgeräten, elektronischen und optischen Erzeugnissen
	C 30.3	Luft- und Raumfahrzeugbau
	C 30.4	Herstellung von militärischen Kampffahrzeugen
non knowledge-intensive services		
	D 35	Energieversorgung
	E 37	Abwasserentsorgung
	E 38	Sammlung, Behandlung und Beseitigung von Abfällen; Rückgewinnung
	E 39	Beseitigung von Umweltverschmutzungen und sonstige Entsorgung
	F 41	Hochbau
	F 42	Tiefbau
	F 43	Vorbereitende Baustellenarbeiten, Bauinstallation und sonstiges Ausbaugewerbe
	G 45	Handel mit Kraftfahrzeugen; Instandhaltung und Reparatur von Kraftfahrzeugen
	G 46	Großhandel (ohne Handel mit Kraftfahrzeugen)
	G 47	Einzelhandel (ohne Handel mit Kraftfahrzeugen)
	H 49	Landverkehr und Transport in Rohrfernleitungen
	H 52	Lagerei sowie Erbringung von sonstigen Dienstleistungen für den Verkehr
	S 96	Erbringung von sonstigen überwiegend persönlichen Dienstleistungen

knowledge-intensive services		
	H 51	Luftfahrt
	K 64	Erbringung von Finanzdienstleistungen
	K 66	Mit den Finanz- und Versicherungsdienstleistungen verbundene Tätigkeiten
	L 68	Grundstücks- und Wohnungswesen
	M 69	Rechts- und Steuerberatung, Wirtschaftsprüfung
	M 70	Verwaltung und Führung von Unternehmen und Betrieben; Unternehmensberatung
	M 71	Architektur- und Ingenieurbüros; technische, physikalische und chemische Untersuchung
	M 73	Werbung und Marktforschung
	M 74	Sonstige freiberufliche, wissenschaftliche und technische Tätigkeiten
	M 75	Veterinärwesen
	N 77	Vermietung von beweglichen Sachen
	N 82	Erbringung von wirtschaftlichen Dienstleistungen für Unternehmen und Privatpersonen a.n.g.
	P 85	Erziehung und Unterricht
	Q 86	Gesundheitswesen
	Q 87	Heime (ohne Erholungs- und Ferienheime)
	Q 88	Sozialwesen (ohne Heime)
	R 90	Kreative, künstlerische und unterhaltende Tätigkeiten
top technology knowledge intensive services		
	J 58	Verlagswesen
	J 59	Herstellung, Verleih und Vertrieb von Filmen und Fernsehprogrammen; Kinos; Tonstudios und Verlegen von Musik
	J 61	Telekommunikation
	J 62	Erbringung von Dienstleistungen der Informationstechnologie
	J 63	Informationsdienstleistungen
	M 72	Forschung und Entwicklung

Table 12 – Funding programmes provided by aws, CDG, FFG and FWF

Austria Wirtschaftsservice (aws)
Double Equity
Eigenkapital für ihr Unternehmen
erp-Programm Technologie
i2 - Die Börse für Businessangels
Kapitalgarantien
Innovationsschutzprogramm ipp
Seedfinancing (bis 2006) inkl. LISA
Preseed (Life Science seit 2003, other Technologies seit Nov. 2005)
protec-INNO (bis 2006)
protec-TRANS (bis 2006)
Protrans (ab 2008)
Impulsprogramm Kreativwirtschaft
uni:invent
Patentverwertung/-vermarktung (tecma)
Markt- und Technologierecherche
Produktfindung (bis 2006)
Christian Doppler Gesellschaft (CDG)
CD - Laboratories
Austrian Research Promotion Agency (FFG) – Basisprogramme
Basisförderung
BRIDGE "Brückenschlagprogramm"
Innovationsscheck
Programmlinie: Headquarter
COMET - Competence Centers for Excellent Technologies
FFG – structural programmes
K ind
K net
K plus
fForte academic
w-fFORTE inkl. Laura Bassi Centres of Expertise
FEMtech
Research Studios Austria
Forschung macht Schule - Innovationspraktika
CIR-CE
protec-NETplus
FHplus
PROKIS
REGplus
Josef Ressel - Zentren
AplusB

FFG – thematic programmes
FIT-IT (Forschung, Innovation, Technologie, Informationstechnologie) inkl. ModSim, ARTMEIS und eniac
Technologieprogramm benefit inkl. AAL
GENAU - Österreichisches Genomforschungsprogramm
Österreichische NANO Initiative
TAKE OFF - Das österreichische Luftfahrtprogramm
KIRAS - Das österreichische Sicherheitsforschungsprogramm
Nachhaltig Wirtschaften mit drei Programmlinien: Energiesysteme, Haus und Fabrik der Zukunft
Neue Energien 2020 - ab 2008 !
Energie und Energiesysteme der Zukunft
Haus der Zukunft
Fabrik der Zukunft
IV2Splus mit 3 Programmlinien: A3plus, I2V und Ways To Go
A3
I2 – Intelligente Infrastruktur
ISB
Breitbandinitiative
AT:net – austrian electronic network
FFG – Austrian Space Applications Programme
ASAP – Austrian Space Applications Programme (inclusive ARTIST – Austrian Radionavigation Technology and Integrated Satnav services and products Testbed)
Austrian Science Fund (FWF)
Einzelprojekte
Wissenschafts-, Doktoratskollegs und DKPlus
Forschungsschwer-punkte, Nationale Forschungsnetzwerke
Spezialforschungsbereiche
Translational-Research-Programm
Internationale Programme (ESF Eurocores, ERA-Net etc.)
Nanoinitiative
Impulsprojekte – Forscherinnen für die Wirtschaft
PROVISION
Erwin-Schrödinger-Programm
Lise-Meitner-Programm
Herta-Firnberg-Programm
Elise-Richter-Programm
Charlotte-Bühler-Programm
START Programm
Wittgenstein-Preis
Selbstständige Publikationen
EURYI Award

Table 13 – Levels of satisfaction with different aspects of RTDI funding, user companies, distribution by company size

(direct) public funding	Company size	N	Mean	SD		R&D tax incentives	Company size	N	Mean	SD
Clearness of the instrument portfolio	0-9	323	2.50	1.06		**Clearness of the instrument portfolio**	0-9	228	2.91	1.28
	10-49	252	2.61	1.09			10-49	201	2.66	1.24
	50-249	208	2.45	1.12			50-249	178	2.31	1.10
	250-499	78	2.64	1.03			250-499	72	2.28	1.01
	500+	82	2.43	0.94			500+	77	2.04	1.12
	Total	943	2.52	1.07			Total	756	2.55	1.22
Access to relevant information	0-9	321	2.17	0.97		**Access to relevant information**	0-9	221	2.71	1.19
	10-49	249	2.27	0.91			10-49	197	2.58	1.07
	50-249	208	2.10	0.94			50-249	175	2.14	0.97
	250-499	76	2.21	0.96			250-499	70	2.04	0.88
	500+	82	1.90	0.81			500+	76	2.08	0.95
	Total	936	2.16	0.94			Total	739	2.41	1.09
Quality of advice	0-9	311	2.34	1.08		**Quality of advice**	0-9	198	2.96	1.25
	10-49	242	2.37	0.94			10-49	183	2.88	1.21
	50-249	200	2.16	0.97			50-249	161	2.64	1.07
	250-499	71	2.15	0.97			250-499	64	2.58	1.10
	500+	79	2.16	0.93			500+	70	2.59	1.08
	Total	903	2.28	1.00			Total	676	2.79	1.18
Transparency regarding the evaluation criteria	0-9	321	2.81	1.13		**Transparency regarding the evaluation criteria**	0-9	210	2.91	1.21
	10-49	247	2.78	1.04			10-49	188	2.87	1.13
	50-249	205	2.64	1.08			50-249	171	2.56	1.05
	250-499	77	2.57	0.92			250-499	68	2.31	0.90
	500+	82	2.67	1.08			500+	76	2.38	1.06
	Total	932	2.73	1.08			Total	713	2.70	1.13
Comprehensibility regarding the application procedure	0-9	322	2.58	1.03		**Comprehensibility regarding the application procedure**	0-9	208	2.68	1.23
	10-49	248	2.65	1.01			10-49	190	2.68	1.15
	50-249	205	2.40	1.02			50-249	169	2.22	1.05
	250-499	74	2.42	0.97			250-499	69	2.22	0.91
	500+	81	2.44	0.91			500+	75	2.15	0.95
	Total	930	2.53	1.01			Total	711	2.47	1.14

Administrative efforts related to applications	0-9	322	3.49	1.11		**Administrative efforts related to applications**	0-9	209	3.01	1.29
	10-49	248	3.43	0.99			10-49	189	3.04	1.22
	50-249	207	3.14	1.18			50-249	176	2.69	1.17
	250-499	75	3.29	1.05			250-499	69	2.59	1.03
	500+	81	3.30	1.09			500+	78	2.54	1.15
	Total	933	3.36	1.09			Total	721	2.85	1.22
Amount of the support/funding	0-9	320	2.52	1.00		**Amount of the support/funding**	0-9	210	3.03	1.06
	10-49	245	2.58	0.94			10-49	186	2.90	1.08
	50-249	204	2.39	0.97			50-249	174	2.73	1.13
	250-499	74	2.58	0.79			250-499	70	2.90	0.99
	500+	82	2.60	1.03			500+	77	2.45	1.05
	Total	925	2.52	0.97			Total	717	2.85	1.09
Predictability and long-term availability of the support	0-9	314	2.92	1.23		**Predictability and long-term availability of the support**	0-9	205	2.80	1.25
	10-49	240	2.69	1.09			10-49	184	2.63	1.11
	50-249	205	2.60	1.08			50-249	173	2.41	1.09
	250-499	71	2.73	0.96			250-499	66	2.35	0.97
	500+	82	2.74	1.08			500+	76	2.18	1.09
	Total	912	2.76	1.13			Total	704	2.55	1.15
Transparency regarding the funding decision	0-9	317	3.33	1.21		**Transparency regarding the funding decision**	0-9	203	2.97	1.27
	10-49	246	3.06	1.09			10-49	187	2.76	1.21
	50-249	205	2.77	1.14			50-249	165	2.41	1.08
	250-499	73	2.77	1.05			250-499	67	2.15	0.87
	500+	81	2.84	1.01			500+	72	2.29	1.00
	Total	922	3.04	1.16			Total	694	2.63	1.18
Time between approval and receipt of payment/credit	0-9	309	2.84	1.19		**Time between approval and receipt of payment/credit**	0-9	199	2.63	1.17
	10-49	244	2.72	1.07			10-49	185	2.50	1.10
	50-249	201	2.41	1.05			50-249	164	2.21	0.97
	250-499	73	2.55	0.90			250-499	65	2.23	0.95
	500+	82	2.48	1.07			500+	72	2.21	1.05
	Total	909	2.65	1.11			Total	685	2.41	1.08
Bold items = ANOVA p<.05						**Bold items = ANOVA p<.05**				

Table 14 – Levels of satisfaction with different aspects of RTDI funding, user companies, distribution by company age

(direct) public funding	Company age	N	Mean	SD		R&D tax incentives	Company age	N	Mean	SD
Clearness of the instrument portfolio	until 1994	501	2.57	1.10		Clearness of the instrument portfolio	until 1994	432	2.46	1.22
	1995 to 2004	326	2.49	1.04			1995 to 2004	251	2.66	1.23
	since 2005	123	2.46	0.97			since 2005	81	2.73	1.24
	Total	950	2.53	1.06			Total	764	2.56	1.23
Access to relevant information	until 1994	498	2.18	0.98		**Access to relevant information**	until 1994	423	2.31	1.05
	1995 to 2004	321	2.13	0.91			1995 to 2004	244	2.56	1.15
	since 2005	123	2.13	0.86			since 2005	80	2.63	1.13
	Total	942	2.16	0.94			Total	747	2.42	1.10
Quality of advice	until 1994	485	2.28	1.03		Quality of advice	until 1994	395	2.73	1.15
	1995 to 2004	304	2.28	0.95			1995 to 2004	211	2.93	1.23
	since 2005	121	2.38	1.03			since 2005	76	2.83	1.22
	Total	910	2.29	1.01			Total	682	2.80	1.18
Transparency regarding the evaluation criteria	until 1994	496	2.70	1.07		Transparency regarding the evaluation criteria	until 1994	410	2.61	1.11
	1995 to 2004	320	2.75	1.10			1995 to 2004	234	2.77	1.17
	since 2005	123	2.86	1.09			since 2005	76	2.84	1.12
	Total	939	2.74	1.08			Total	720	2.69	1.13
Comprehensibility regarding the application procedure	until 1994	494	2.54	1.04		Comprehensibility regarding the application procedure	until 1994	411	2.44	1.14
	1995 to 2004	321	2.54	0.99			1995 to 2004	235	2.46	1.14
	since 2005	122	2.48	0.89			since 2005	73	2.63	1.16
	Total	937	2.53	1.01			Total	719	2.46	1.14
Administrative efforts related to applications	until 1994	496	3.35	1.09		Administrative efforts related to applications	until 1994	416	2.82	1.22
	1995 to 2004	321	3.39	1.08			1995 to 2004	237	2.89	1.19
	since 2005	122	3.53	1.09			since 2005	75	2.88	1.33
	Total	939	3.39	1.09			Total	728	2.85	1.22
Amount of the support/funding	until 1994	489	2.55	0.98		Amount of the support/funding	until 1994	413	2.77	1.09
	1995 to 2004	321	2.54	0.98			1995 to 2004	236	2.94	1.09
	since 2005	123	2.33	0.88			since 2005	77	2.92	1.10
	Total	933	2.52	0.97			Total	726	2.84	1.09
Predictability and long-term availability of the support	until 1994	488	2.72	1.11		Predictability and long-term availability of the support	until 1994	407	2.53	1.11
	1995 to 2004	312	2.84	1.13			1995 to 2004	230	2.55	1.17
	since 2005	120	2.86	1.25			since 2005	75	2.68	1.31
	Total	920	2.78	1.14			Total	712	2.55	1.15
Transparency regarding the funding decision	until 1994	489	2.90	1.15		Transparency regarding the funding decision	until 1994	398	2.55	1.16
	1995 to 2004	319	3.18	1.13			1995 to 2004	227	2.71	1.18
	since 2005	121	3.36	1.18			since 2005	76	2.83	1.25
	Total	929	3.05	1.16			Total	701	2.63	1.18
Time between approval and receipt of payment/credit	until 1994	484	2.57	1.07		Time between approval and receipt of payment/credit	until 1994	392	2.36	1.03
	1995 to 2004	316	2.77	1.11			1995 to 2004	228	2.42	1.13
	since 2005	115	2.86	1.20			since 2005	72	2.63	1.20
	Total	915	2.67	1.10			Total	692	2.41	1.09
Bold items = ANOVA p<.05						**Bold items = ANOVA p<.05**				

Table 15 – Levels of satisfaction with different aspects of RTDI funding, user companies, distribution by OECD sectoral classification

(direct) public funding	OECD class.	N	Mean	SD		R&D tax incentives	OECD class.	N	Mean	SD
Clearness of the instrument portfolio	LT-Ind.	62	2.42	1.08		**Clearness of the instrument portfolio**	LT-Ind.	50	2.30	1.09
	MLT-Ind.	99	2.46	1.08			MLT-Ind.	93	2.35	1.19
	MHT-Ind.	202	2.57	1.12			MHT-Ind.	169	2.31	1.10
	HT-Ind.	111	2.37	1.09			HT-Ind.	98	2.29	1.19
	NKI service	133	2.56	1.09			NKI service	95	2.84	1.36
	KI service	166	2.59	1.06			KI service	125	3.02	1.24
	TTKI service	201	2.58	1.02			TTKI service	147	2.66	1.22
	Total	974	2.53	1.08			Total	777	2.56	1.23
Access to relevant information	LT-Ind.	62	2.10	0.95		**Access to relevant information**	LT-Ind.	50	2.14	0.99
	MLT-Ind.	98	2.12	0.85			MLT-Ind.	89	2.24	0.95
	MHT-Ind.	201	2.19	0.94			MHT-Ind.	166	2.22	0.94
	HT-Ind.	111	1.88	0.93			HT-Ind.	97	2.03	1.08
	NKI service	132	2.17	0.91			NKI service	91	2.63	1.19
	KI service	164	2.18	0.97			KI service	123	2.80	1.14
	TTKI service	200	2.30	0.97			TTKI service	144	2.67	1.14
	Total	968	2.16	0.94			Total	760	2.42	1.10
Quality of advice	LT-Ind.	61	2.08	0.95		**Quality of advice**	LT-Ind.	47	2.36	0.90
	MLT-Ind.	94	2.32	1.02			MLT-Ind.	82	2.57	1.01
	MHT-Ind.	194	2.38	1.04			MHT-Ind.	158	2.73	1.07
	HT-Ind.	109	2.16	1.01			HT-Ind.	87	2.62	1.23
	NKI service	128	2.30	0.97			NKI service	84	2.83	1.20
	KI service	160	2.27	1.03			KI service	111	3.11	1.30
	TTKI service	188	2.35	0.99			TTKI service	126	3.02	1.28
	Total	934	2.29	1.01			Total	69	2.80	1.19
Transparency regarding the evaluation criteria	LT-Ind.	60	2.67	1.05		**Transparency regarding the evaluation criteria**	LT-Ind.	45	2.31	1.08
	MLT-Ind.	99	2.80	0.99			MLT-Ind.	90	2.62	1.11
	MHT-Ind.	202	2.68	1.05			MHT-Ind.	165	2.56	1.00
	HT-Ind.	110	2.64	1.10			HT-Ind.	92	2.50	1.08
	NKI service	130	2.79	1.10			NKI service	86	2.86	1.17
	KI service	166	2.85	1.14			KI service	116	2.95	1.16
	TTKI service	196	2.76	1.11			TTKI service	138	2.83	1.24
	Total	963	2.75	1.08			Total	732	2.69	1.13
Comprehensibility regarding the application procedure	LT-Ind.	60	2.35	0.86		**Comprehensibility regarding the application procedure**	LT-Ind.	46	2.09	0.96
	MLT-Ind.	98	2.60	0.99			MLT-Ind.	87	2.39	1.07
	MHT-Ind.	200	2.57	1.02			MHT-Ind.	166	2.45	1.08
	HT-Ind.	111	2.18	0.99			HT-Ind.	93	2.22	1.09
	NKI service	130	2.58	1.03			NKI service	85	2.59	1.16
	KI service	165	2.70	1.05			KI service	116	2.76	1.22
	TTKI service	198	2.59	0.99			TTKI service	136	2.54	1.20
	Total	962	2.54	1.02			Total	729	2.47	1.14

Administrative efforts related to applications	LT-Ind.	61	3.07	0.98	Administrative efforts related to applications	LT-Ind.	48	2.67	1.15
	MLT-Ind.	98	3.46	1.02		MLT-Ind.	89	2.81	1.16
	MHT-Ind.	202	3.38	1.10		MHT-Ind.	169	2.84	1.27
	HT-Ind.	111	3.14	1.20		HT-Ind.	94	2.59	1.16
	NKI service	131	3.53	1.05		NKI service	88	3.03	1.25
	KI service	163	3.54	1.11		KI service	115	2.99	1.18
	TTKI service	199	3.36	1.08		TTKI service	138	2.88	1.26
	Total	965	3.38	1.09		Total	741	2.85	1.22
Amount of the support/funding	LT-Ind.	60	2.42	0.87	**Amount of the support/funding**	LT-Ind.	48	2.83	0.95
	MLT-Ind.	96	2.38	0.86		MLT-Ind.	88	2.86	1.00
	MHT-Ind.	200	2.65	1.01		MHT-Ind.	164	2.74	1.13
	HT-Ind.	111	2.34	0.99		HT-Ind.	97	2.53	1.13
	NKI service	129	2.53	1.00		NKI service	85	2.96	1.20
	KI service	165	2.61	0.97		KI service	117	3.08	0.99
	TTKI service	195	2.51	0.97		TTKI service	137	2.90	1.08
	Total	956	2.52	0.97		Total	736	2.84	1.09
Predictability and long-term availability of the support	LT-Ind.	61	2.61	1.08	**Predictability and long-term availability of the support**	LT-Ind.	47	2.32	1.00
	MLT-Ind.	93	2.70	1.02		MLT-Ind.	85	2.52	1.08
	MHT-Ind.	200	2.78	1.15		MHT-Ind.	165	2.48	1.11
	HT-Ind.	108	2.62	1.17		HT-Ind.	90	2.19	1.19
	NKI service	129	2.81	1.07		NKI service	85	2.81	1.10
	KI service	163	2.95	1.19		KI service	115	2.83	1.20
	TTKI service	190	2.82	1.19		TTKI service	136	2.57	1.21
	Total	944	2.78	1.14		Total	723	2.55	1.16
Transparency regarding the funding decision	LT-Ind.	61	2.67	1.04	**Transparency regarding the funding decision**	LT-Ind.	46	2.43	1.07
	MLT-Ind.	94	2.93	1.01		MLT-Ind.	85	2.51	1.11
	MHT-Ind.	199	2.94	1.17		MHT-Ind.	158	2.54	1.07
	HT-Ind.	110	2.85	1.22		HT-Ind.	91	2.21	1.21
	NKI service	130	3.14	1.17		NKI service	84	2.93	1.22
	KI service	163	3.25	1.19		KI service	113	2.88	1.21
	TTKI service	197	3.30	1.15		TTKI service	136	2.76	1.28
	Total	954	3.06	1.16		Total	713	2.63	1.19
Time between approval and receipt of payment/credit	LT-Ind.	61	2.49	0.98	**Time between approval and receipt of payment/credit**	LT-Ind.	44	2.14	0.98
	MLT-Ind.	93	2.42	1.06		MLT-Ind.	84	2.29	1.07
	MHT-Ind.	198	2.58	1.02		MHT-Ind.	159	2.32	1.00
	HT-Ind.	110	2.45	1.07		HT-Ind.	91	2.15	0.88
	NKI service	125	2.88	1.15		NKI service	83	2.73	1.19
	KI service	160	2.96	1.18		KI service	112	2.64	1.12
	TTKI service	193	2.71	1.15		TTKI service	131	2.44	1.18
	Total	940.0	2.68	1.11		Total	704	2.40	1.09
Bold items = ANOVA p<.05; Primary sector has been removed from calculations.					**Bold items = ANOVA p<.05; Primary sector has been removed from calculations.**				

Table 16 – Levels of satisfaction with different aspects of RTDI funding, university and non-university institutes

	Research institutions	N	Mean	SD
Clearness of the instrument portfolio	University/university institute	191	2.47	1.10
	Non-university institute	69	2.57	1.09
	Total	260	2.50	1.10
Access to relevant information	University/university institute	189	2.07	0.90
	Non-university institute	69	2.25	0.99
	Total	258	2.12	0.92
Quality of advice	University/university institute	182	2.31	0.92
	Non-university institute	69	2.25	0.83
	Total	251	2.29	0.90
Transparency regarding the evaluation criteria	University/university institute	188	2.77	1.10
	Non-university institute	68	2.62	0.98
	Total	256	2.73	1.07
Comprehensib. regarding the application procedure	University/university institute	188	2.45	0.97
	Non-university institute	68	2.43	0.94
	Total	256	2.44	0.96
Time periods for calls	University/university institute	182	2.39	1.03
	Non-university institute	67	2.61	0.98
	Total	249	2.45	1.02
Administrative efforts related to applications	University/university institute	189	3.29	1.13
	Non-university institute	68	3.63	1.08
	Total	257	3.38	1.13
Amount of the support/funding	University/university institute	186	2.47	0.87
	Non-university institute	69	2.64	1.08
	Total	255	2.52	0.93
Predictability and long-term availability of the support	University/university institute	187	2.93	1.01
	Non-university institute	70	2.91	1.05
	Total	257	2.93	1.02
Transparency regarding the funding decision	University/university institute	189	3.20	1.14
	Non-university institute	70	3.34	1.08
	Total	259	3.24	1.12
Time between approval and receipt of payment/credit	University/university institute	182	2.49	1.04
	Non-university institute	70	2.96	1.00
	Total	252	2.62	1.05
Administrative issues related to project development and reporting	University/university institute	184	2.84	1.05
	Non-university institute	70	3.16	0.96
	Total	254	2.93	1.03
Bold items = ANOVA p<.05				

Table 17 – Levels of satisfaction with and importance of different instruments of RTDI support, company users, distribution by company size

Importance	Company size	N	Mean	SD		Satisfaction	Company size	N	Mean	SD
Non-reimbursable grants	0-9	354	1.19	0.59		Non-reimbursable grants	0-9	306	2.76	1.02
	10-49	258	1.21	0.66			10-49	232	2.77	1.03
	50-249	220	1.27	0.67			50-249	200	2.70	0.98
	250-499	81	1.31	0.78			250-499	72	2.64	1.09
	500+	84	1.25	0.60			500+	80	2.58	0.94
	Total	997	1.23	0.64			Total	890	2.72	1.01
Loans / interest grants for bank loans	0-9	337	2.63	1.33		Loans / interest grants for bank loans	0-9	275	2.57	0.91
	10-49	257	2.37	1.28			10-49	220	2.55	0.89
	50-249	220	2.37	1.25			50-249	195	2.47	0.87
	250-499	80	2.58	1.39			250-499	67	2.42	0.76
	500+	87	2.84	1.28			500+	77	2.51	0.85
	Total	981	2.52	1.31			Total	834	2.52	0.88
Guarantees	0-9	332	2.90	1.42		Guarantees	0-9	256	2.86	1.04
	10-49	243	3.00	1.43			10-49	193	2.95	0.99
	50-249	213	3.21	1.40			50-249	166	2.83	0.95
	250-499	72	3.46	1.24			250-499	53	2.79	0.88
	500+	85	3.72	1.18			500+	67	2.94	0.90
	Total	945	3.11	1.41			Total	735	2.88	0.98
Referral services for venture capital	0-9	332	2.88	1.48		Referral services for venture capital	0-9	244	3.45	1.06
	10-49	237	3.27	1.38			10-49	173	3.27	0.95
	50-249	211	3.75	1.25			50-249	148	3.30	0.95
	250-499	70	3.94	0.99			250-499	49	3.33	0.92
	500+	80	4.08	1.11			500+	59	3.42	1.04
	Total	930	3.36	1.41			Total	673	3.36	1.00
R&D tax allowance	0-9	322	2.33	1.26		**R&D tax allowance**	0-9	256	2.63	1.08
	10-49	244	2.09	1.12			10-49	198	2.39	0.97
	50-249	213	2.00	1.15			50-249	176	2.20	0.98
	250-499	74	2.09	1.15			250-499	65	2.23	0.93
	500+	83	1.69	0.91			500+	78	2.08	0.88
	Total	936	2.12	1.18			Total	773	2.38	1.02
R&D tax credit	0-9	319	2.24	1.20		**R&D tax credit**	0-9	250	2.59	1.07
	10-49	245	1.84	1.00			10-49	200	2.40	1.07
	50-249	214	1.83	1.07			50-249	176	2.16	0.97
	250-499	71	1.75	0.87			250-499	63	2.05	0.79
	500+	81	1.70	0.91			500+	71	2.08	1.01
	Total	930	1.96	1.09			Total	760	2.35	1.04
Subsidised consultancy	0-9	337	2.61	1.25		Subsidised consultancy	0-9	271	2.84	1.04
	10-49	244	2.72	1.19			10-49	196	2.58	1.01
	50-249	217	2.92	1.18			50-249	173	2.80	0.93
	250-499	73	3.03	1.01			250-499	59	2.83	1.07
	500+	83	3.11	1.23			500+	71	2.76	0.98
	Total	954	2.78	1.21			Total	770	2.76	1.01

Direct funded research personnel	0-9	326	2.52	1.31		**Direct funded research personnel**	0-9	251	3.20	1.02
	10-49	249	2.56	1.36			10-49	191	3.00	1.04
	50-249	219	2.63	1.34			50-249	167	3.21	0.97
	250-499	71	2.48	1.11			250-499	57	3.11	0.90
	500+	83	2.49	1.07			500+	70	2.86	0.82
	Total	948	2.55	1.30			Total	736	3.11	0.99
Awards	0-9	324	3.28	1.30		Awards	0-9	247	2.97	1.01
	10-49	242	3.33	1.25			10-49	184	2.93	0.99
	50-249	209	3.38	1.23			50-249	160	2.89	0.92
	250-499	72	3.38	0.96			250-499	58	3.03	0.72
	500+	84	3.10	1.19			500+	71	2.82	0.96
	Total	931	3.31	1.24			Total	720	2.93	0.96
Bold items = ANOVA p<.05						**Bold items = ANOVA p<.05**				

Table 18 – Levels of satisfaction with and importance of different instruments of RTDI support, company users, distribution by company age

Importance	Company age	N	Mean	SD		Satisfaction	Company age	N	Mean	SD
Non-reimbursable grants	until 1994	530	1.28	0.70		Non-reimbursable grants	until 1994	477	2.70	1.01
	1995 to 2004	344	1.19	0.63			1995 to 2004	301	2.75	1.03
	since 2005	131	1.17	0.53			since 2005	120	2.72	0.92
	Total	1005	1.23	0.66			Total	898	2.72	1.01
Loans / interest grants for bank loans	until 1994	532	2.53	1.31		Loans / interest grants for bank loans	until 1994	457	2.50	0.89
	1995 to 2004	334	2.55	1.33			1995 to 2004	277	2.57	0.86
	since 2005	122	2.39	1.20			since 2005	108	2.45	0.81
	Total	988	2.52	1.30			Total	842	2.52	0.87
Guarantees	until 1994	507	3.29	1.38		Guarantees	until 1994	394	2.93	0.99
	1995 to 2004	325	3.01	1.42			1995 to 2004	247	2.87	0.92
	since 2005	122	2.66	1.36			since 2005	102	2.75	1.10
	Total	954	3.11	1.41			Total	743	2.88	0.98
Referral services for venture capital	until 1994	495	3.61	1.31		Referral services for venture capital	until 1994	355	3.34	0.98
	1995 to 2004	324	3.18	1.48			1995 to 2004	228	3.42	0.97
	since 2005	121	2.74	1.43			since 2005	99	3.36	1.14
	Total	940	3.35	1.42			Total	682	3.37	1.00
R&D tax allowance	until 1994	507	1.98	1.07		**R&D tax allowance**	until 1994	425	2.28	0.98
	1995 to 2004	321	2.26	1.30			1995 to 2004	257	2.49	1.07
	since 2005	114	2.33	1.17			since 2005	99	2.47	0.99
	Total	942	2.12	1.17			Total	781	2.38	1.01
R&D tax credit	until 1994	504	1.85	1.00		**R&D tax credit**	until 1994	417	2.26	1.00
	1995 to 2004	317	1.97	1.17			1995 to 2004	253	2.40	1.08
	since 2005	115	2.30	1.15			since 2005	97	2.56	1.04
	Total	936	1.95	1.09			Total	767	2.34	1.04
Subsidised consultancy	until 1994	513	2.84	1.18		Subsidised consultancy	until 1994	413	2.81	1.00
	1995 to 2004	328	2.64	1.24			1995 to 2004	260	2.70	0.99
	since 2005	122	2.66	1.19			since 2005	106	2.75	1.09
	Total	963	2.75	1.21			Total	779	2.77	1.01

Direct funded research personnel	until 1994	511	2.55	1.30		Direct funded research personnel	until 1994	393	3.10	1.01
	1995 to 2004	328	2.54	1.31			1995 to 2004	256	3.15	0.97
	since 2005	117	2.50	1.26			since 2005	96	3.14	1.00
	Total	956	2.54	1.29			Total	745	3.12	1.00
Awards	until 1994	500	3.37	1.21		Awards	until 1994	390	2.98	0.96
	1995 to 2004	318	3.25	1.29			1995 to 2004	238	2.89	0.93
	since 2005	118	3.21	1.27			since 2005	99	2.90	1.01
	Total	936	3.31	1.24			Total	727	2.94	0.95
Bold items = ANOVA p<.05						**Bold items = ANOVA p<.05**				

Table 19 – Levels of satisfaction with and importance of different instruments of RTDI support, company users, distribution by OECD sectoral classification

Importance	OECD class.	N	Mean	SD		Satisfaction	OECD class.	N	Mean	SD
Non-reimbursable grants	LT-Ind.	69	1.28	0.68		Non-reimbursable grants	LT-Ind.	58	2.84	0.95
	MLT-Ind.	102	1.22	0.57			MLT-Ind.	93	2.65	0.88
	MHT-Ind.	215	1.20	0.63			MHT-Ind.	192	2.78	1.09
	HT-Ind.	113	1.28	0.69			HT-Ind.	107	2.64	1.02
	NKI service	143	1.33	0.85			NKI service	126	2.75	1.05
	KI service	175	1.17	0.52			KI service	153	2.76	0.95
	TTKI service	213	1.19	0.61			TTKI service	186	2.68	1.05
	Total	1030	1.23	0.65			Total	915	2.73	1.02
Loans / interest grants for bank loans	LT-Ind.	70	2.43	1.38		Loans / interest grants for bank loans	LT-Ind.	57	2.53	0.87
	MLT-Ind.	101	2.42	1.18			MLT-Ind.	89	2.54	0.91
	MHT-Ind.	217	2.26	1.22			MHT-Ind.	189	2.57	0.86
	HT-Ind.	111	2.43	1.23			HT-Ind.	102	2.32	0.80
	NKI service	145	2.49	1.30			NKI service	120	2.58	0.97
	KI service	163	2.99	1.42			KI service	130	2.62	0.96
	TTKI service	204	2.63	1.33			TTKI service	168	2.48	0.84
	Total	1011	2.53	1.31			Total	855	2.52	0.89
Guarantees	LT-Ind.	67	2.87	1.37		Guarantees	LT-Ind.	50	2.76	0.85
	MLT-Ind.	96	3.11	1.23			MLT-Ind.	77	2.94	0.95
	MHT-Ind.	207	3.11	1.43			MHT-Ind.	164	2.87	0.98
	HT-Ind.	109	3.10	1.41			HT-Ind.	93	2.74	0.91
	NKI service	136	2.99	1.49			NKI service	102	3.12	1.06
	KI service	160	3.39	1.44			KI service	120	2.96	1.07
	TTKI service	200	3.06	1.42			TTKI service	152	2.79	0.99
	Total	975	3.11	1.42			Total	758	2.88	0.99
Referral services for venture capital	LT-Ind.	63	3.37	1.34		Referral services for venture capital	LT-Ind.	43	3.44	0.85
	MLT-Ind.	96	3.45	1.21			MLT-Ind.	74	3.26	1.02
	MHT-Ind.	201	3.55	1.30			MHT-Ind.	146	3.28	1.00
	HT-Ind.	106	3.48	1.35			HT-Ind.	80	3.34	0.99
	NKI service	132	3.35	1.41			NKI service	90	3.50	1.05
	KI service	161	3.23	1.52			KI service	121	3.47	1.05
	TTKI service	202	3.03	1.54			TTKI service	144	3.33	0.99
	Total	961	3.33	1.42			Total	698	3.37	1.01

R&D tax allowance	LT-Ind.	65	2.26	1.23		**R&D tax allowance**	LT-Ind.	52	2.48	0.96
	MLT-Ind.	92	1.92	0.92			MLT-Ind.	82	2.15	0.90
	MHT-Ind.	210	1.96	1.08			MHT-Ind.	169	2.28	0.91
	HT-Ind.	111	1.83	1.06			HT-Ind.	102	2.12	0.94
	NKI service	134	2.08	1.13			NKI service	106	2.43	1.10
	KI service	158	2.27	1.23			KI service	135	2.60	1.05
	TTKI service	195	2.39	1.35			TTKI service	152	2.52	1.09
	Total	965	2.12	1.18			Total	798	2.38	1.01
R&D tax credit	LT-Ind.	65	2.03	0.98		**R&D tax credit**	LT-Ind.	49	2.29	0.89
	MLT-Ind.	91	1.87	1.00			MLT-Ind.	80	2.10	0.95
	MHT-Ind.	211	1.80	0.97			MHT-Ind.	171	2.21	0.97
	HT-Ind.	107	1.80	1.10			HT-Ind.	98	2.17	1.03
	NKI service	133	1.95	1.12			NKI service	104	2.55	1.20
	KI service	155	2.12	1.18			KI service	131	2.56	1.06
	TTKI service	197	2.06	1.18			TTKI service	152	2.47	1.06
	Total	959	1.95	1.09			Total	785	2.35	1.05
Subsidised consultancy	LT-Ind.	68	2.62	1.26		Subsidised consultancy	LT-Ind.	53	2.91	1.08
	MLT-Ind.	95	2.83	1.14			MLT-Ind.	77	2.83	1.03
	MHT-Ind.	209	2.95	1.19			MHT-Ind.	169	2.79	1.00
	HT-Ind.	107	2.92	1.20			HT-Ind.	92	2.63	0.93
	NKI service	139	2.68	1.21			NKI service	106	2.64	0.96
	KI service	167	2.54	1.21			KI service	138	2.90	1.10
	TTKI service	199	2.72	1.21			TTKI service	158	2.72	1.00
	Total	984	2.76	1.21			Total	793	2.77	1.01
Direct funded research personnel	LT-Ind.	62	2.29	1.27		Direct funded research personnel	LT-Ind.	44	2.93	0.87
	MLT-Ind.	93	2.77	1.21			MLT-Ind.	76	3.11	0.93
	MHT-Ind.	213	2.60	1.33			MHT-Ind.	164	3.24	1.01
	HT-Ind.	109	2.45	1.18			HT-Ind.	94	3.15	0.97
	NKI service	137	2.45	1.37			NKI service	100	3.09	1.13
	KI service	162	2.51	1.25			KI service	130	3.09	1.04
	TTKI service	201	2.60	1.34			TTKI service	150	3.10	0.95
	Total	977	2.54	1.29			Total	758	3.12	1.00

Awards	LT-Ind.	63	3.19	1.23		Awards	LT-Ind.	48	3.00	0.68
	MLT-Ind.	93	3.51	1.15			MLT-Ind.	75	3.13	0.99
	MHT-Ind.	207	3.41	1.23			MHT-Ind.	160	3.01	0.99
	HT-Ind.	108	3.38	1.27			HT-Ind.	91	2.90	1.08
	NKI service	134	3.16	1.24			NKI service	95	2.69	0.95
	KI service	158	3.13	1.31			KI service	131	2.97	1.02
	TTKI service	195	3.28	1.27			TTKI service	143	2.89	0.83
	Total	958	3.29	1.25			Total	743	2.94	0.96
Bold items = ANOVA p<.05; Primary sector has been removed from calculations.						**Bold items = ANOVA p<.05; Primary sector has been removed from calculations.**				

Table 20 – Levels of satisfaction with and importance of different instruments of RTDI support, university and non-university institutes

Importance	Research institutions	N	Mean	SD		Satisfaction	Research institutions	N	Mean	SD
Public research funding. subsidies	University/university institute	194	1.12	0.37		Public research funding. subsidies	University/university institute	190	2.68	0.92
	Non-university institute	71	1.15	0.53			Non-university institute	71	2.86	0.96
	Total	265	1.13	0.42			Total	261	2.73	0.93
Subsidised consultancy	University/university institute	187	2.98	1.23		Subsidised consultancy	University/university institute	174	2.77	0.97
	Non-university institute	68	2.91	1.32			Non-university institute	66	2.92	1.04
	Total	255	2.96	1.25			Total	240	2.81	0.99
Direct funded research personnel	University/university institute	189	1.61	0.95		Direct funded research personnel	University/university institute	180	3.13	1.02
	Non-university institute	68	2.18	1.33			Non-university institute	64	3.25	1.04
	Total	257	1.76	1.09			Total	244	3.16	1.03
Awards for outstanding achievement in RTDI	University/university institute	185	2.90	1.19		Awards for outstanding achievement in RTDI	University/university institute	178	2.85	0.88
	Non-university institute	68	3.38	1.29			Non-university institute	61	2.84	0.86
	Total	253	3.03	1.23			Total	239	2.85	0.87
Funding of material. investments	University/university institute	185	1.81	1.15		Funding of material. investments	University/university institute	175	3.18	0.99
	Non-university institute	67	2.30	1.52			Non-university institute	64	3.36	1.01
	Total	252	1.94	1.27			Total	239	3.23	1.00
Bold items = ANOVA p<.05						**Bold items = ANOVA p<.05**				

Table 21 – Levels of satisfaction with and importance of RTDI support for different RTDI phases, company users, distribution by company size

Importance	Company size	N	Mean	SD		Satisfaction	Company size	N	Mean	SD
Development of ideas	0-9	345	3.68	1.43		Development of ideas	0-9	249	3.34	1.18
	10-49	249	3.31	1.39			10-49	198	3.19	1.07
	50-249	211	3.59	1.36			50-249	167	3.25	1.14
	250-499	81	3.37	1.36			250-499	61	3.18	0.87
	500+	88	3.39	1.38			500+	73	3.26	1.07
	Total	974	3.51	1.40			Total	748	3.26	1.11
Development of concepts. project planning	0-9	348	3.12	1.38		Development of concepts. project planning	0-9	261	3.15	1.05
	10-49	250	2.88	1.34			10-49	198	2.99	1.01
	50-249	214	3.17	1.30			50-249	171	3.04	1.00
	250-499	80	3.04	1.28			250-499	62	2.92	0.75
	500+	87	3.03	1.32			500+	74	3.01	1.01
	Total	979	3.06	1.34			Total	766	3.05	1.00
Research	0-9	339	2.35	1.29		Research	0-9	272	2.56	0.94
	10-49	245	2.35	1.29			10-49	199	2.51	0.96
	50-249	212	2.48	1.29			50-249	184	2.38	0.91
	250-499	79	2.25	1.16			250-499	64	2.48	0.84
	500+	87	1.99	1.08			500+	80	2.26	0.95
	Total	962	2.34	1.27			Total	799	2.47	0.93
Development	0-9	345	2.19	1.26		Development	0-9	276	2.63	0.93
	10-49	249	2.14	1.19			10-49	207	2.44	0.93
	50-249	215	2.17	1.23			50-249	187	2.49	0.88
	250-499	82	2.37	1.21			250-499	67	2.58	0.92
	500+	89	1.84	1.08			500+	80	2.44	0.98
	Total	980	2.16	1.22			Total	817	2.53	0.93
Prototyping. pilot application. testing	0-9	335	2.23	1.38		**Prototyping. pilot application. testing**	0-9	263	3.06	1.06
	10-49	245	2.39	1.36			10-49	200	2.78	0.99
	50-249	212	2.56	1.42			50-249	176	2.89	0.98
	250-499	77	2.55	1.30			250-499	61	2.92	1.02
	500+	89	2.18	1.23			500+	80	3.09	1.03
	Total	958	2.37	1.37			Total	780	2.94	1.02
Production. market launch and allocation	0-9	336	2.21	1.24		**Production. market launch and allocation**	0-9	264	3.49	1.07
	10-49	243	2.27	1.25			10-49	200	3.12	1.02
	50-249	212	2.64	1.36			50-249	170	3.17	1.00
	250-499	78	2.76	1.29			250-499	62	3.15	1.01
	500+	88	2.63	1.23			500+	76	3.47	1.05
	Total	957	2.40	1.29			Total	772	3.29	1.05
Exploitation of intellectual property rights	0-9	334	2.62	1.35		Exploitation of intellectual property rights	0-9	254	3.13	1.06
	10-49	240	2.70	1.31			10-49	187	3.00	1.02
	50-249	211	2.93	1.38			50-249	167	3.16	0.99
	250-499	76	3.16	1.30			250-499	56	2.86	0.94
	500+	87	3.10	1.27			500+	69	3.13	1.04
	Total	948	2.80	1.35			Total	733	3.08	1.03
Bold items = ANOVA p<.05						**Bold items = ANOVA p<.05**				

Table 22 – Levels of satisfaction with and importance of RTDI support for different RTDI phases, company users, distribution by company age

Importance	Company age	N	Mean	SD		Satisfaction	Company age	N	Mean	SD
Development of ideas	until 1994	521.0	3.45	1.40		Development of ideas	until 1994	420	3.30	1.09
	1995 to 2004	330.0	3.65	1.39			1995 to 2004	246	3.22	1.11
	since 2005	130.0	3.45	1.44			since 2005	97	3.23	1.22
	Total	981.0	3.52	1.40			Total	763	3.26	1.12
Development of concepts. project planning	until 1994	521.0	3.00	1.32		Development of concepts. project planning	until 1994	423	3.07	1.00
	1995 to 2004	336.0	3.13	1.37			1995 to 2004	255	3.04	1.00
	since 2005	130.0	3.02	1.28			since 2005	102	3.06	1.06
	Total	987.0	3.05	1.34			Total	780	3.06	1.01
Research	until 1994	510.0	2.32	1.24		Research	until 1994	435	2.46	0.95
	1995 to 2004	333.0	2.43	1.32			1995 to 2004	267	2.46	0.91
	since 2005	127.0	2.21	1.22			since 2005	109	2.48	0.87
	Total	970.0	2.34	1.27			Total	811	2.46	0.93
Development	until 1994	520.0	2.16	1.21		Development	until 1994	443	2.52	0.93
	1995 to 2004	339.0	2.20	1.24			1995 to 2004	277	2.51	0.93
	since 2005	130.0	2.02	1.23			since 2005	107	2.54	0.85
	Total	989.0	2.15	1.22			Total	827	2.52	0.92
Prototyping. pilot application. testing	until 1994	515.0	2.47	1.37		Prototyping. pilot application. testing	until 1994	428	2.90	1.00
	1995 to 2004	328.0	2.28	1.36			1995 to 2004	260	2.97	1.03
	since 2005	124.0	2.14	1.38			since 2005	103	2.98	1.03
	Total	967.0	2.36	1.37			Total	791	2.93	1.01
Production. market launch and allocation	until 1994	512.0	2.48	1.31		**Production. market launch and allocation**	until 1994	423	3.20	1.03
	1995 to 2004	328.0	2.37	1.28			1995 to 2004	259	3.41	1.02
	since 2005	126.0	2.14	1.21			since 2005	101	3.44	1.09
	Total	966.0	2.40	1.29			Total	783	3.30	1.04
Exploitation of intellectual property rights	until 1994	505.0	2.92	1.33		Exploitation of intellectual property rights	until 1994	396	3.05	1.00
	1995 to 2004	326.0	2.65	1.34			1995 to 2004	248	3.17	1.05
	since 2005	125.0	2.54	1.36			since 2005	102	3.03	1.08
	Total	956.0	2.78	1.35			Total	746	3.08	1.03
Bold items = ANOVA p<.05						**Bold items = ANOVA p<.05**				

Table 23 – Levels of satisfaction with and importance of RTDI support for different RTDI phases, company usersm distribution by OECD sectoral classification

Importance	OECD class.	N	Mean	SD		Satisfaction	OECD class.	N	Mean	SD
Development of ideas	LT-Ind.	71	3.37	1.33		Development of ideas	LT-Ind.	53	3.06	1.17
	MLT-Ind.	102	3.35	1.52			MLT-Ind.	87	3.08	0.99
	MHT-Ind.	208	3.51	1.38			MHT-Ind.	160	3.38	1.07
	HT-Ind.	110	3.57	1.27			HT-Ind.	87	3.14	0.97
	NKI service	138	3.38	1.51			NKI service	103	3.28	1.21
	KI service	170	3.58	1.44			KI service	133	3.32	1.26
	TTKI service	200	3.64	1.34			TTKI service	148	3.36	1.08
	Total	999	3.51	1.40			Total	771	3.27	1.12
Development of concepts. project planning	LT-Ind.	70	2.91	1.32		Development of concepts. project planning	LT-Ind.	53	2.75	1.04
	MLT-Ind.	103	3.11	1.36			MLT-Ind.	89	2.89	1.02
	MHT-Ind.	209	3.05	1.34			MHT-Ind.	163	3.12	1.00
	HT-Ind.	111	3.24	1.35			HT-Ind.	88	3.16	0.86
	NKI service	138	3.02	1.31			NKI service	103	2.99	1.00
	KI service	172	3.08	1.38			KI service	137	3.16	1.12
	TTKI service	202	3.00	1.31			TTKI service	156	3.08	0.96
	Total	1005	3.06	1.34			Total	789	3.06	1.01
Research	LT-Ind.	68	2.29	1.21		**Research**	LT-Ind.	54	2.37	0.88
	MLT-Ind.	104	2.27	1.22			MLT-Ind.	93	2.24	0.85
	MHT-Ind.	203	2.23	1.18			MHT-Ind.	172	2.57	0.94
	HT-Ind.	110	2.28	1.19			HT-Ind.	94	2.37	0.94
	NKI service	138	2.46	1.29			NKI service	109	2.53	1.07
	KI service	165	2.53	1.39			KI service	141	2.60	0.99
	TTKI service	201	2.32	1.33			TTKI service	160	2.43	0.84
	Total	989	2.34	1.27			Total	823	2.47	0.94
Development	LT-Ind.	71	2.30	1.29		Development	LT-Ind.	57	2.60	1.03
	MLT-Ind.	102	2.10	1.15			MLT-Ind.	91	2.31	0.88
	MHT-Ind.	212	2.04	1.13			MHT-Ind.	181	2.51	0.90
	HT-Ind.	111	2.04	1.19			HT-Ind.	95	2.53	0.89
	NKI service	138	2.21	1.22			NKI service	110	2.56	1.01
	KI service	168	2.35	1.31			KI service	141	2.63	1.00
	TTKI service	205	2.12	1.24			TTKI service	164	2.52	0.85
	Total	1007	2.15	1.22			Total	839	2.53	0.93

Prototyping. pilot application. testing	low tech industries	66	2.67	1.49		Prototyping. pilot application. testing	low tech industries	51	3.12	1.28
	medium-low tech industries	102	2.39	1.29			medium-low tech industries	90	2.87	1.04
	medium-high tech industries	209	2.21	1.32			medium-high tech industries	173	2.96	0.95
	high-tech industries	110	2.41	1.36			high-tech industries	93	2.94	0.91
	non knowledge-intensive services	136	2.20	1.32			non knowledge-intensive services	104	2.88	1.08
	knowledge-intensive services	163	2.33	1.40			knowledge-intensive services	139	2.99	1.07
	top technology knowledge intensive services	199	2.50	1.40			top technology knowledge intensive services	154	2.92	0.97
	Total	985	2.36	1.37			Total	804	2.94	1.02
Production. market launch and allocation	LT-Ind.	70	2.30	1.33		Production. market launch and allocation	LT-Ind.	55	3.22	1.20
	MLT-Ind.	102	2.44	1.26			MLT-Ind.	87	3.03	1.08
	MHT-Ind.	208	2.38	1.29			MHT-Ind.	168	3.26	1.04
	HT-Ind.	112	2.59	1.33			HT-Ind.	91	3.29	1.04
	NKI service	132	2.41	1.30			NKI service	102	3.40	1.00
	KI service	165	2.33	1.30			KI service	136	3.39	1.06
	TTKI service	195	2.36	1.28			TTKI service	155	3.41	0.99
	Total	984	2.40	1.29			Total	794	3.30	1.05
Exploitation of intellectual property rights	LT-Ind.	65	2.94	1.40		**Exploitation of intellectual property rights**	LT-Ind.	47	2.79	1.10
	MLT-Ind.	101	2.93	1.34			MLT-Ind.	82	3.09	1.00
	MHT-Ind.	204	2.71	1.33			MHT-Ind.	160	2.99	1.02
	HT-Ind.	108	2.89	1.31			HT-Ind.	88	2.95	0.91
	NKI service	135	2.77	1.35			NKI service	99	3.10	1.01
	KI service	166	2.73	1.41			KI service	130	3.12	1.15
	TTKI service	196	2.73	1.33			TTKI service	151	3.33	0.98
	Total	975	2.78	1.35			LT-Ind.	757	3.09	1.03
Bold items = ANOVA p<.05; Primary sector has been removed from calculations.						**Bold items = ANOVA p<.05; Primary sector has been removed from calculations.**				

Table 24 – Levels of satisfaction with and importance of support for different RTDI related activities, company users, distribution by company size

Importance	Company size	N	Mean	SD		Satisfaction	Company size	N	Mean	SD
Feasibility studies	0-9	342	2.55	1.42		Feasibility studies	0-9	262	2.83	1.06
	10-49	241	2.57	1.36			10-49	195	2.72	1.06
	50-249	218	2.70	1.35			50-249	180	2.77	1.08
	250-499	81	2.60	1.13			250-499	59	2.95	0.94
	500+	85	2.72	1.30			500+	70	3.07	0.94
	Total	967	2.61	1.35			Total	766	2.82	1.05
Preparation for market entry	0-9	333	2.39	1.30		Preparation for market entry	0-9	251	3.29	1.01
	10-49	241	2.41	1.22			10-49	193	3.06	0.99
	50-249	210	2.94	1.37			50-249	168	3.25	0.94
	250-499	79	3.16	1.17			250-499	57	3.30	0.84
	500+	84	3.10	1.06			500+	69	3.36	0.92
	Total	947	2.64	1.30			Total	738	3.23	0.97
Improvement of research infrastructure	0-9	327	2.74	1.24		Improvement of research infrastructure	0-9	246	3.02	1.02
	10-49	237	2.70	1.21			10-49	185	2.97	0.95
	50-249	215	2.75	1.23			50-249	172	3.06	0.98
	250-499	80	2.76	1.16			250-499	59	3.02	0.88
	500+	84	2.61	1.14			500+	70	3.10	0.92
	Total	943	2.72	1.21			Total	732	3.02	0.97
Networking. cooperation with other companies	0-9	333	2.68	1.15		Networking. cooperation with other companies	0-9	258	2.79	0.97
	10-49	236	2.72	1.19			10-49	187	2.68	0.90
	50-249	212	2.94	1.26			50-249	168	2.79	0.87
	250-499	78	2.94	1.04			250-499	55	3.00	0.96
	500+	83	2.71	0.94			500+	68	2.68	0.89
	Total	942	2.77	1.16			Total	736	2.77	0.92
Networking. cooperation with research inst.	0-9	333	2.55	1.17		Networking. cooperation with research inst.	0-9	265	2.61	1.04
	10-49	241	2.54	1.24			10-49	189	2.51	0.97
	50-249	216	2.59	1.19			50-249	175	2.41	0.91
	250-499	79	2.48	1.11			250-499	57	2.51	0.95
	500+	84	2.32	1.03			500+	71	2.35	0.88
	Total	953	2.53	1.18			Total	757	2.51	0.97

Education and training for in-house RTDI-personnel	0-9	330	2.59	1.23		Education and training for in-house RTDI-personnel	0-9	255	3.00	1.04
	10-49	239	2.22	1.06			10-49	188	3.02	1.01
	50-249	218	2.20	1.11			50-249	177	2.96	0.96
	250-499	80	2.21	0.99			250-499	57	2.86	0.90
	500+	83	2.17	1.06			500+	72	2.99	0.91
	Total	950	2.34	1.14			Total	749	2.98	0.99
Recruitment of qualified personnel	0-9	325	2.48	1.26		**Recruitment of qualified personnel**	0-9	239	3.50	0.97
	10-49	238	2.24	1.18			10-49	184	3.26	1.02
	50-249	215	2.03	1.17			50-249	173	3.49	0.96
	250-499	80	2.16	1.12			250-499	56	3.16	0.99
	500+	84	2.06	1.13			500+	72	3.31	0.90
	Total	942	2.25	1.21			Total	724	3.39	0.98
Recruitment of women in research	0-9	314	3.28	1.27		Recruitment of women in research	0-9	231	3.07	1.12
	10-49	231	3.20	1.29			10-49	171	3.09	1.15
	50-249	211	3.21	1.29			50-249	163	3.27	1.02
	250-499	74	2.97	1.09			250-499	50	3.16	0.82
	500+	81	2.83	1.05			500+	70	3.14	1.00
	Total	911	3.18	1.25			Total	685	3.14	1.07
Demo projects	0-9	303	2.66	1.42		Demo projects	0-9	223	3.29	0.99
	10-49	213	3.26	1.30			10-49	160	3.36	0.98
	50-249	191	3.32	1.24			50-249	150	3.36	0.88
	250-499	66	3.24	1.23			250-499	46	3.37	0.88
	500+	73	3.29	1.21			500+	64	3.47	0.78
	Total	846	3.06	1.35			Total	643	3.35	0.94
Bold items = ANOVA p<.05						**Bold items = ANOVA p<.05**				

Table 25 – Levels of satisfaction with and importance of support for different RTDI related activities, company users, distribution by company age

Importance	Company age	N	Mean	SD		Satisfaction	Company age	N	Mean	SD
Feasibility studies	until 1994	513	2.6	1.3		Feasibility studies	until 1994	411	2.8	1.1
	1995 to 2004	340	2.6	1.4			1995 to 2004	265	2.8	1.1
	since 2005	122	2.5	1.4			since 2005	101	2.8	0.9
	Total	975	2.6	1.4			Total	777	2.8	1.1
Preparation for market entry	until 1994	503	2.7	1.3		Preparation for market entry	until 1994	399	3.2	1.0
	1995 to 2004	334	2.6	1.3			1995 to 2004	254	3.3	1.0
	since 2005	119	2.3	1.3			since 2005	95	3.2	1.1
	Total	956	2.6	1.3			Total	748	3.2	1.0
Improvement of research infrastructure	until 1994	497	2.8	1.2		Improvement of research infrastructure	until 1994	395	3.0	1.0
	1995 to 2004	337	2.7	1.3			1995 to 2004	251	3.0	1.0
	since 2005	119	2.6	1.2			since 2005	93	3.1	0.9
	Total	953	2.7	1.2			Total	739	3.0	1.0
Networking. cooperation with other companies	until 1994	497	2.9	1.2		Networking. cooperation with other companies	until 1994	389	2.8	0.9
	1995 to 2004	335	2.7	1.1			1995 to 2004	261	2.7	0.9
	since 2005	121	2.7	1.2			since 2005	96	2.8	1.0
	Total	953	2.8	1.2			Total	746	2.8	0.9
Networking. cooperation with research inst.	until 1994	503	2.6	1.2		Networking. cooperation with research inst.	until 1994	399	2.5	1.0
	1995 to 2004	336	2.5	1.1			1995 to 2004	268	2.5	1.0
	since 2005	122	2.5	1.2			since 2005	100	2.5	0.9
	Total	961	2.5	1.2			Total	767	2.5	1.0
Education and training for in-house RTDI-personnel	until 1994	506	2.3	1.1		Education and training for in-house RTDI-personnel	until 1994	406	3.0	1.0
	1995 to 2004	332	2.4	1.2			1995 to 2004	258	2.9	1.0
	since 2005	120	2.5	1.2			since 2005	95	3.1	1.0
	Total	958	2.3	1.1			Total	759	3.0	1.0

Recruitment of qualified personnel	until 1994	502	2.2	1.2		Recruitment of qualified personnel	until 1994	394	3.3	1.0
	1995 to 2004	330	2.3	1.2			1995 to 2004	250	3.4	1.0
	since 2005	119	2.4	1.2			since 2005	91	3.5	0.9
	Total	951	2.3	1.2			Total	735	3.4	1.0
Recruitment of women in research	until 1994	489	3.1	1.2		Recruitment of women in research	until 1994	369	3.1	1.0
	1995 to 2004	316	3.2	1.3			1995 to 2004	238	3.1	1.2
	since 2005	116	3.2	1.3			since 2005	89	3.2	1.1
	Total	921	3.2	1.3			Total	696	3.1	1.1
Demo projects	until 1994	440	3.2	1.3		Demo projects	until 1994	343	3.4	0.9
	1995 to 2004	301	2.9	1.4			1995 to 2004	227	3.3	0.9
	since 2005	112	2.6	1.3			since 2005	83	3.3	1.1
	Total	853	3.0	1.4			Total	653	3.4	0.9
Bold items = ANOVA p<.05						**Bold items = ANOVA p<.05**				

Table 26 – Levels of satisfaction with and importance of support for different RTDI related activities, company users, distribution by OECD sectoral classification

Importance	OECD class.	N	Mean	SD		Satisfaction	OECD class.	N	Mean	SD
Feasibility studies	LT-Ind.	69	2.52	1.16		Feasibility studies	LT-Ind.	51	2.53	1.03
	MLT-Ind.	101	2.49	1.27			MLT-Ind.	89	2.85	0.97
	MHT-Ind.	204	2.68	1.41			MHT-Ind.	155	2.82	1.03
	HT-Ind.	110	2.94	1.34			HT-Ind.	86	3.02	1.04
	NKI service	142	2.54	1.40			NKI service	110	2.76	1.14
	KI service	166	2.48	1.46			KI service	135	2.81	1.14
	TTKI service	200	2.61	1.29			TTKI service	158	2.81	0.98
	Total	992	2.61	1.36			Total	784	2.82	1.05
Preparation for market entry	LT-Ind.	66	2.61	1.20		Preparation for market entry	LT-Ind.	50	3.06	0.89
	MLT-Ind.	99	2.80	1.25			MLT-Ind.	86	3.15	0.91
	MHT-Ind.	204	2.74	1.26			MHT-Ind.	153	3.13	1.00
	HT-Ind.	110	2.94	1.31			HT-Ind.	85	3.39	0.90
	NKI service	137	2.64	1.40			NKI service	100	3.23	0.97
	KI service	162	2.44	1.31			KI service	130	3.39	1.03
	TTKI service	192	2.46	1.31			TTKI service	151	3.23	0.99
	Total	970	2.64	1.31			Total	755	3.23	0.98
Improvement of research infrastructure	LT-Ind.	66	2.79	1.09		Improvement of research infrastructure	LT-Ind.	47	2.87	0.74
	MLT-Ind.	99	2.92	1.15			MLT-Ind.	85	3.06	0.89
	MHT-Ind.	204	2.50	1.17			MHT-Ind.	159	3.07	0.97
	HT-Ind.	110	2.72	1.17			HT-Ind.	89	3.13	0.98
	NKI service	136	2.88	1.28			NKI service	93	3.02	0.93
	KI service	158	2.77	1.24			KI service	127	2.98	1.12
	TTKI service	196	2.67	1.29			TTKI service	148	3.01	0.98
	Total	969	2.72	1.22			Total	748	3.03	0.97
Networking. cooperation with other companies	LT-Ind.	67	3.15	1.09		Networking. cooperation with other companies	LT-Ind.	47	2.85	0.91
	MLT-Ind.	99	2.83	1.24			MLT-Ind.	84	2.83	0.92
	MHT-Ind.	199	2.94	1.15			MHT-Ind.	150	2.75	0.91
	HT-Ind.	110	2.94	1.05			HT-Ind.	87	2.93	0.83
	NKI service	136	2.70	1.26			NKI service	96	2.65	1.01
	KI service	162	2.57	1.16			KI service	134	2.82	0.98
	TTKI service	194	2.58	1.14			TTKI service	158	2.66	0.91
	Total	967	2.77	1.17			Total	756	2.77	0.93

Networking. cooperation with research inst.	LT-Ind.	68	2.85	1.10		**Networking. cooperation with research inst.**	LT-Ind.	48	2.48	0.85
	MLT-Ind.	100	2.36	1.15			MLT-Ind.	84	2.29	0.86
	MHT-Ind.	202	2.62	1.25			MHT-Ind.	158	2.59	1.05
	HT-Ind.	110	2.50	1.13			HT-Ind.	88	2.65	0.94
	NKI service	139	2.65	1.23			NKI service	99	2.31	1.01
	KI service	162	2.43	1.14			KI service	139	2.61	1.06
	TTKI service	195	2.42	1.17			TTKI service	161	2.48	0.89
	Total	976	2.53	1.18			Total	777	2.50	0.97
Education and training for in-house RTDI-personnel	LT-Ind.	69	2.51	1.08		Education and training for in-house RTDI-personnel	LT-Ind.	50	2.80	0.76
	MLT-Ind.	97	2.32	1.18			MLT-Ind.	82	2.80	1.04
	MHT-Ind.	208	2.19	1.07			MHT-Ind.	160	2.96	1.02
	HT-Ind.	108	2.36	1.09			HT-Ind.	90	3.20	0.93
	NKI service	138	2.44	1.18			NKI service	99	2.93	0.96
	KI service	161	2.51	1.19			KI service	134	3.12	1.12
	TTKI service	192	2.24	1.21			TTKI service	151	2.99	0.92
	Total	973	2.34	1.15			Total	766	2.99	0.99
Recruitment of qualified personnel	LT-Ind.	67	2.55	1.10		**Recruitment of qualified personnel**	LT-Ind.	45	3.00	0.95
	MLT-Ind.	98	2.28	1.22			MLT-Ind.	82	3.21	0.98
	MHT-Ind.	203	2.09	1.17			MHT-Ind.	156	3.37	0.98
	HT-Ind.	110	1.98	1.21			HT-Ind.	88	3.59	0.93
	NKI service	133	2.44	1.23			NKI service	93	3.32	0.99
	KI service	161	2.52	1.26			KI service	130	3.57	1.03
	TTKI service	192	2.12	1.19			TTKI service	148	3.47	0.92
	Total	964	2.26	1.22			Total	742	3.40	0.98
Recruitment of women in research	LT-Ind.	64	3.38	1.12		Recruitment of women in research	LT-Ind.	43	2.91	0.97
	MLT-Ind.	96	3.25	1.21			MLT-Ind.	82	3.07	0.99
	MHT-Ind.	190	3.20	1.29			MHT-Ind.	142	3.11	1.05
	HT-Ind.	110	3.04	1.28			HT-Ind.	86	3.49	1.05
	NKI service	132	3.28	1.20			NKI service	90	3.11	1.06
	KI service	156	3.16	1.27			KI service	125	3.14	1.18
	TTKI service	186	3.09	1.33			TTKI service	137	3.07	1.10
	Total	934	3.18	1.26			Total	705	3.14	1.08

Demo projects	LT-Ind.	56	3.30	1.32		Demo projects	LT-Ind.	39	3.44	1.02
	MLT-Ind.	90	3.39	1.27			MLT-Ind.	77	3.30	0.84
	MHT-Ind.	179	3.19	1.30			MHT-Ind.	132	3.45	0.92
	HT-Ind.	94	3.37	1.20			HT-Ind.	78	3.49	0.92
	NKI service	125	2.90	1.37			NKI service	86	3.23	0.98
	KI service	150	2.54	1.39			KI service	126	3.30	0.98
	TTKI service	175	3.01	1.38			TTKI service	126	3.33	0.93
	Total	869	3.05	1.36			Total	664	3.36	0.94
Bold items = ANOVA p<.05; Primary sector has been removed from calculations.						**Bold items = ANOVA p<.05; Primary sector has been removed from calculations.**				

Table 27 – Levels of satisfaction with and importance of support for different RTDI related activities, university and non-university institutes

Importance	Research institutions	N	Mean	SD		Satisfaction	Research institutions	N	Mean	SD
Establishment/ Improvement of research infrastructure	University/ university institute	185	1.70	1.03		Establishment/ Improvement of research infrastructure	University/ university institute	177	3.21	0.95
	Non-univ. institute	68	2.15	1.44			Non-univ. institute	58	3.29	1.04
	Total	253	1.82	1.17			Total	235	3.23	0.97
Networking. coop. with companies	University/ university institute	186	2.64	1.22		Networking. coop. with companies	University/ university institute	173	2.87	0.90
	Non-university institute	68	2.31	1.34			Non-university institute	64	2.94	1.08
	Total	254	2.55	1.26			Total	237	2.89	0.95
Networking. coop. with other research instit.	University/ university institute	187	2.27	1.12		Networking. coop. with other research instit.	University/ university institute	175	2.71	0.86
	Non-university institute	69	2.10	1.16			Non-university institute	65	2.68	0.90
	Total	256	2.23	1.13			Total	240	2.70	0.87
Education and training for RTDI-personnel	University/ university institute	186	2.35	1.26		Education and training for RTDI-personnel	University/ university institute	170	3.05	1.04
	Non-univ. institute	68	2.01	1.04			Non-univ. institute	65	3.17	0.89
	Total	254	2.26	1.21			Total	235	3.08	1.00
Demo projects	University/ university institute	155	3.26	1.28		Demo projects	University/ university institute	131	3.05	0.85
	Non-univ. institute	62	3.11	1.40			Non-univ. institute	53	3.26	1.04
	Total	217	3.22	1.31			Total	184	3.11	0.91

Mobility (on an international level)	University/ university institute	184	2.07	1.03	Mobility (on an international level)	University/ university institute	170	2.58	0.85
	Non-univ. institute	68	2.37	1.13		Non-univ. institute	66	2.53	0.92
	Total	252	2.15	1.06		Total	236	2.57	0.87
Recruitment of qualified scientific personnel	University/ university institute	184	1.95	1.20	Recruitment of qualified scientific personnel	University/ university institute	169	3.25	1.02
	Non-university institute	69	1.87	1.14		Non-university institute	65	3.32	0.99
	Total	253	1.92	1.18		Total	234	3.27	1.01
Science communication	University/ university institute	181	2.19	1.11	**Science communication**	University/ university institute	166	2.67	0.92
	Non-university institute	68	2.26	0.99		Non-university institute	63	3.02	1.01
	Total	249	2.21	1.08		Total	229	2.77	0.95
Recruitment of women in research	University/ university institute	180	2.54	1.22	Recruitment of women in research	University/ university institute	167	2.72	1.07
	Non-university institute	67	2.64	1.19		Non-university institute	63	2.70	1.04
	Total	247	2.57	1.21		Total	230	2.71	1.06
Bold items = ANOVA p<.05					**Bold items = ANOVA p<.05**				