Researcher Mobility in Estonia and Factors that Influence Mobility

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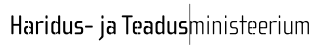

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Dear Reader,

The current survey was conducted in 2006 for Archimedes Foundation and the Estonian Ministry of Education and Research as part of the project EST-MOBILITY-NET, funded from the 6th EU Framework Programme for Research and Technological Development. The survey gives an overview of researcher mobility in Estonia and the factors that influence mobility, and draws parallels with similar surveys conducted in other countries. For the first time the survey studies the motivation of foreign researchers for coming to Estonia and the main reasons of Estonian researchers to go abroad to do research and to return to Estonia.

The purpose of the project EST-MOBILITY-NET was to set up in Estonia a network of mobility centres giving mobile researchers and their families up-to-date information and support in all aspects related to mobility. The Estonian network, consisting of Archimedes Foundation, the Estonian Academy of Sciences, the University of Tartu, Tallinn Technical University, the Estonian University of Life Sciences, and Tallinn University, is a part of the pan-European ERA-MORE Network.

We hope that the present survey will give a good foundation for taking decisions on organisational aspects of researcher mobility for both governmental structures as well as universities as the main employers of researchers.

Kristin Kraav
Coordinator of the Estonian ERA-MORE Network

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Introduction

Mobility of highly qualified labour can lead to dual consequences for both the academic institution and society: brain exchange or brain waste. Brain exchange refers to labour mobility between different countries, and according to whether the volume of labour capital is increasing or decreasing, it is called either brain gain or brain drain, respectively. Brain circulation is one type of brain exchange, where a person goes to study abroad, then stays on to work there, and after a certain amount of time returns to home country bringing along the knowledge and experiences he/she has obtained. This type of mobility is most frequently the objective of government institutions facilitating study abroad opportunities for students. Yet, the anticipated brain circulation can easily transform into brain drain if the students decide to stay on to work abroad permanently and there is no brain gain from other countries to balance this out. Brain waste, which is assumed not to be very common in scientific circles, occurs when highly qualified labour shifts to jobs that require lower qualification (OECD 1997).

According to Harris (1998), researcher mobility has played a decisive role in the evolution of several historically significant research fields. Fischer (1996: 33; referenced in Mahroum 2000) suggests that mobility grants across the Atlantic "might have well done more for the deployment of the new physics in the U.S. than the same amount of money spent for the acquisition of scientific literature".

Most of the brain exchange discussion revolves around the means to facilitate the return of native labour force and to attract local researchers to stay at their home country. There is also a somewhat different approach that focuses on developing relationships and networks with the researchers that have gone abroad. According to this approach, researchers who have gone abroad and work in better conditions can be utilized in the advancement of the research environment of their country of origin by preserving their relationship to their home country. This type of mechanism to compensate for brain drain has become increasingly widespread in recent years, along with the strategies to attract researchers to return home from abroad (Meyer 2001).

Mahroum (2000) highlights two main dynamics for scientific attraction: (1) the attraction of a country in a particular discipline, (2) and the prestige of an institution. Albeit one of the drivers for research is urgency, Shapin (1998) observes that trust is also an important aspect in the reputation of a research institution. The more competence and expertise there is in the research institution, the more it is trusted, and the more the institution is trusted, the higher its prestige and larger its impact on scientific developments and society at large. Furthermore, the prestige of a research institution and the actual quality of research work appear to be mutually reinforcing. This trend is well explained by Merton's theory of the Matthew effect (Merton 1988), according to which credit will usually be given to those that are already famous, and the accumulation of opportunities and resources gives them an advantage in acquiring further resources. Human capital is the resource in question, but also economic capital and research infrastructure (Mahroum 2000).

Dachs et al (2005) divide the mobility barrier that hinder brain circulation into two groups: (1) political-technical and (2) structural-cultural. The first type of barrier is that in the realm of government institutions, and is largely affected by the decisions made by the bodies of legislative,

executive and judicial powers. Strict immigration policy and red tape in issuing work and residence permits are common examples of political-technical barriers. The barriers that relate most directly to academic work stem from the science policy and legal organisation of research work in the specific country with the most telling being those concerning ethics (e.g. in natural sciences), safety (e.g. in agriculture), and intellectual property. For instance, legislation governing stem cell research is more liberal in Sweden, the Netherlands, Belgium, and UK than in other countries of the EU (Dachs et al 2005). Different accreditation systems across different countries can also act as barriers to researcher mobility, albeit this effect should be reduced by the Bologna process.

Structural-cultural barriers are not directly associated with the jurisdiction of any institution, and are rather more tied into the peculiarities of each research environment and culture, which is also why they are much harder to influence and why changing them takes more time. These barriers are often shaped by the internal structure of the system of higher education and by local traditions. For instance, universities in UK have much more autonomy in issues regarding the recruitment of their employees, which produces a higher influx and circulation of foreign staff. In France and Germany, on the other hand, universities have less autonomy and foreigners' opportunities for an academic career are much more highly regulated, which is why exchange programs based researcher mobility is much more important in these countries (Casey et al 2001). The UK puts less emphasis on international work experience than other European Union countries do, which explains why researchers from many other countries go to the UK while the Brits are less mobile and mostly move around towards the beginning of their academic career (Van de Sande et al 2005).

In recent years, European Commission has been supporting the enhancement of researcher mobility in different countries. European Researcher's Mobility Portal and related national information portals were launched on the Internet, a total of 200 mobility centres operate in 32 countries, several surveys have been conducted (European Researcher's Mobility Portal). This is the context surrounding the researcher mobility survey conducted in Estonia in 2006 the results of which are presented in the current publication.

Methodology and sample for the survey

University of Tartu, together with Archimedes Foundation and Estonian Ministry of Education and Research, conducted a survey in 2006 on the mobility of researchers, lecturers, doctoral and post-doctoral students connected to Estonia. The survey was prepared as part of the EST-MOBILITY-NET project, and was co-funded by the European Commission.

The goal of this survey was to gain an overview of the inward and outward professional mobility in Estonia of lecturers, researchers and doctoral students, and of the factors affecting the mobility.

The survey focused on the following core issues:

1. Reasons why local researchers, lecturers and doctoral students choose a long-term stay abroad, satisfaction and problems related to the stay abroad, plans for the future, and motivation for returning to Estonia.
2. Foreign researchers', lecturers' and doctoral students' motivation for coming to Estonia, administrative and practical problems related to their stay in Estonia, and plans for the future.
3. Assessment of Estonian research environment in comparison to those of other countries.
4. Opportunities for Estonian government agencies to enhance researcher mobility and support researchers' plans to return to Estonia.

Web-based questionnaires comprising both multiple choice and open-ended questions were used to conduct the survey. In addition to the web-based questionnaires, the survey also draws on three focus group interviews – one with local researchers that have returned to Estonia, and two with foreigners working/studying here (one of these was conducted in (one of these was conducted in Tallinn and the other one in Tartu).

Sample description

The target group of mobile researchers surveyed via the web-based questionnaires included:

1. Foreign researchers and lecturers who have worked in Estonia for at least 3 months within the last 5 years.
2. Foreign post-doctoral students who have completed at least part of their post-doctoral studies in Estonia within the past 5 years.
3. Foreign doctoral students who have completed at least part of their doctoral studies in Estonia within the past 5 years.
4. Estonian researchers and lecturers currently working in foreign educational and research institutions.
5. Estonian post-doctoral students currently staying with foreign educational and research institutions.
6. Estonian doctoral students currently studying in foreign universities.
7. Local researchers and lecturers who currently work in Estonia, but have spent at least one year working abroad within the past 5 years.

8. Estonian researchers and lecturers who currently work in Estonia, but have spent at least part of their post-doctoral studies abroad within the past 5 years.
9. Estonian researchers and lecturers who currently work in Estonia, but have completed their doctoral studies abroad within the past 5 years.

The lists of foreign researchers/doctoral students connected to Estonia, and of local researchers, lecturers, post-doctoral and doctoral students who are completing or have completed a long-term stay abroad were compiled on the basis of data received from research and educational institutions, from Archimedes Foundation and through personal contacts. After the elimination of repetitions the database comprised information about 193 foreigners connected to Estonia and about 187 local academics. They were all sent an email with a request to fill out a questionnaire and with the address of the website where the respondents would find a version of the questionnaire corresponding to their respective status (according to the target groups identified above, 6 versions in Estonian and 3 in English). The website also explained the survey's temporal restrictions in regard to the stay in Estonia or abroad that some people on the lists apparently did not meet. A request was also forwarded to pass the website of the questionnaire on to other people belonging to the same groupings.

The questionnaires were filled out by a total of 114 Estonian researchers, post-doctoral and doctoral students – at the time of filling out the questionnaire 35 researchers/lecturers, 40 doctoral students and 9 post-doctoral students were still abroad, and 12 researchers, 7 doctoral students and 11 post-doctoral students had already returned to Estonia. Among the foreigners that were currently working or had previously worked in Estonia, 59 researchers (an additional examination of the data led to the elimination of 2 more repetitions in the database), 4 post-doctoral students and 17 doctoral students filled out the questionnaire – a total of 80 people.

This allows us to conclude that the survey covered approximately half of the target group identified above.

Among the Estonians that had stayed or were currently abroad, 54% were men. The average age of the Estonian respondents was 34.5 years, the youngest respondent was 24 years old and the oldest respondent was 56 years old. Two thirds of the respondents that had stayed or were currently abroad were married/cohabiting. Comparison of subject groups revealed a significant dominance of natural and hard sciences (incl. engineering) – 64%. 26% of those that had stayed or were currently abroad specialise in the field of humanities, and only 10% of the respondents (11 people) in the field of social sciences (incl. economics and law).

Among the foreigners that had stayed or were currently in Estonia, 63% were men and 69% were married or cohabiting. The average age of these respondents was 38.6 years (the youngest respondent was again 24, the oldest 67). The respondents included 30% of researchers from both social sciences and humanities, the remaining $^{2}/_{5}$ were scientists in the fields of natural and hard sciences.

1. Foreign researchers and doctoral students in Estonia

1.1. Obtaining information about study and work opportunities

Respondents were asked how much information about study and work opportunities in Estonia they obtained from the following sources: current supervisor/research group leader (only doctoral and post-doctoral students), Estonian colleagues, colleagues outside Estonia, other personal contacts, education and research institutions in Estonia, international research programmes, European Researcher's Mobility Portal http://europa.eu.int/eracareers/, searching for information on the Internet, and databases/websites of researchers' exchange programmes.

The importance of individual sources of information was evaluated on a three-point scale: *3 – mainly*, *2 – also*, and *1 – not from this source*. The responses were aggregated into average levels of importance for each source of information. A higher value of the indicator in Figure 1.1 implies higher level of importance.

Dominant sources of information for those coming to Estonia were their supervisor or research group leader, other personal contacts and Estonian colleagues. International research programmes, colleagues outside Estonia, and education and research institutions in Estonia are also important sources of information. Notably less information was found through Internet searches and by studying the databases/websites of researchers' exchange programmes. Under the databases/websites respondents have mentioned the websites of the Fulbright programme, the Academy of Finland and the University of Tartu. Only one respondent obtained information about work and study opportunities in Estonia through the European Researcher's Mobility Portal.

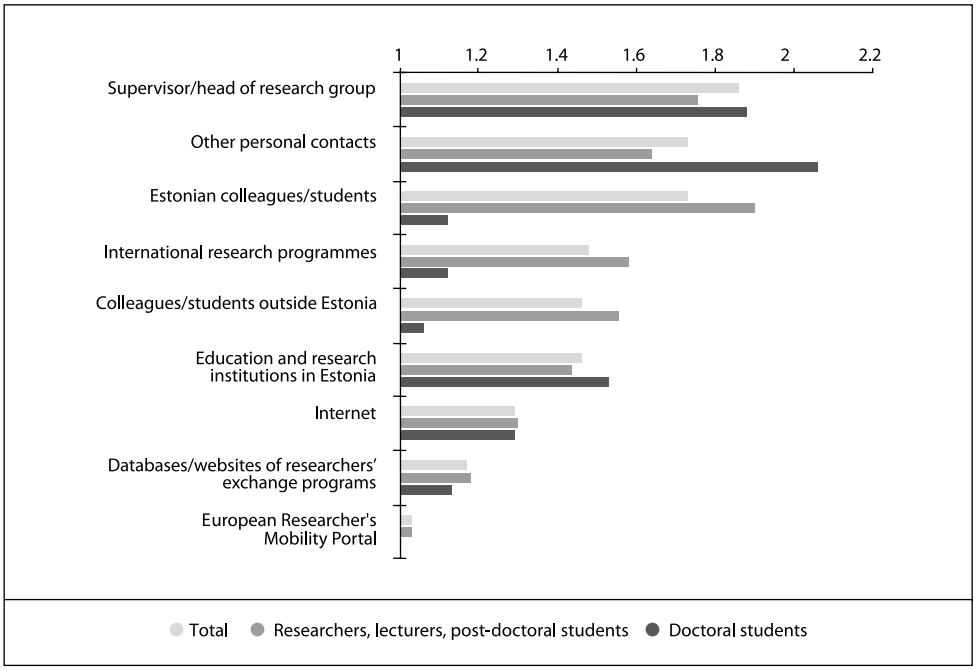
Respondents also mentioned many other sources of information: research institutions in their own country (e.g. German Academic Exchange Service, Swedish Council of Science) and other institutions (e.g. Poland's Ministry of Education, Belgium's Ministry of Foreign Affairs), press, international programmes/organisations, earlier contacts with Estonia (e.g. studying in Estonia, presenting at a conference), and information obtained through various personal contacts.

Following the specific nature of their scientific activities, the respondents are viewed in two groups – one group comprises researchers, lecturers and post-doctoral students, and the other group comprises doctoral students. Presenting the data on foreign post-doctoral students as a separate group was not possible due to their small numbers. Several differences can be detected between the groups. Estonian colleagues constitute the main source of information for the first group. Other important sources of information include supervisor/research group leader (this choice is only available for post-doctoral students), other personal contacts, international research programmes, and colleagues outside Estonia.

Doctoral students, on the other hand, mostly received information through other personal contacts. Current supervisor was almost as important a source, followed by education and research institutions in Estonia, and Internet. Estonian and foreign colleagues and international research programmes that had played such an important role for researchers and lecturers were fairly insignificant sources of information for doctoral students.

This leads to a conclusion that specific contacts are generally the most common source of information. However, doctoral students also make relatively better use of publicly accessible sources of information, whereas researchers and lecturers have gained plenty of professional contacts through their prior work and can use these people as effective sources of information.

Figure 1.1. Sources of information on study and work opportunities (means of estimates, scale 1…3)



Comparison of the different sources of information about study and work opportunities reveals that women have received more information than men[1] from their supervisor/leader of the research group (average importance was 2.25 among women and 1.62 among men) and from colleagues outside Estonia (average importance was 1.63 among women and 1.35 among men). No significant variations by gender are present for other sources of information.

The more senior respondents (older than 50) have received most information from Estonian colleagues (average importance was 2.08 in the most senior age group and 1.42 in the most junior age group; greatest disparity between the levels of average importance was 0.66 points) as well as from colleagues abroad (average importance 1.67 among the most senior respondents and 1.38 among the most junior ones; greatest disparity between the levels of average importance was 0.29 points). Younger respondents (up to 30 years of age), on the other hand, have received most information through other personal contacts (average importance 1.36 among the most senior respondents and 1.96 among the most junior respondents), current supervisor/leader of the research group (this disparity is affected by the limited number of doctoral

[1] As a general rule, differences among the sub-groups of the respondents by gender, age, subject area, marital status and return of the Estonian researchers are presented only when the chance of a statistical error in the conclusion about the difference is less than 10%.

and post-doctoral students (1 respondent) in the more senior age group!) and Internet (average importance 1.08 among the most senior respondents and 1.38 among the most junior respondents; greatest disparity between the levels of average importance 0.30 points). These differences are entirely reasonable – since younger researchers have not yet developed a sufficiently broad circle of colleagues, they use other personal contacts or Internet to compensate for this. No significant age disparities emerge for other sources of information.

Comparison of subject groups[2] reveals significant differences for only two sources of information: representatives of social sciences have received most information from colleagues outside Estonia (average is 1.71; a difference of 0.44 points in regard to natural scientists, and 0.23 points in regard to the representatives of humanities) and through international research programs (average is 1.67; a difference of 0.32 points in regard to natural scientists, and 0.19 points in regard to the representatives of humanities). These disparities imply that gathering information via international channels is more widespread among the representatives of social sciences than it is among people in other subject areas.

There are no identifiable differences in regard to marital status; colleagues outside Estonia is the only source of information that yields a slight variation (average importance is 0.29 points higher for single people). Current supervisor/leader of the research group also appears to be a more significant source of information for single people (average importance 2.29 points, compared to 1.64 points for married/cohabiting respondents).

Comparison with other countries

Finland (Puustinen-Hopper 2005) is similar to Estonia in that many researchers and doctoral students there have also obtained information about study and work opportunities through personal contacts (relatives, friends, colleagues, supervisors). Participants in a survey conducted in Finland additionally indicated newspaper advertisements, Internet and previous studies in Finland as sources of information. Similar sources have also been mentioned by doctoral students and researchers studying/working in Estonia. Comparison with the report of a parallel Finnish study therefore yields no significant differences with Estonia in regard to the sources of information.

1.2. Aspects that influence the decision to come to Estonia

The importance of different aspects that influenced the decision to come to Estonia was evaluated on a three-point scale: *3 – mainly*, *2 – also*, and *1 – not really*. The responses were aggregated into average levels of importance for each aspect (see Figure 1.2).

The survey reveals that the decision to come to work or study in Estonia is mostly influenced by the possibility to share one's experience and establish something new, and by the presence of a potentially suitable supervisor in Estonia. This decision is also significantly influenced by general interest in Estonia, by other personal aspects, by a chance to see the world and spend some time in another environment, and by general interest in the Baltic countries, Eastern Europe or former Soviet Union. Lesser aspects affecting this decision were an opportunity to get a higher

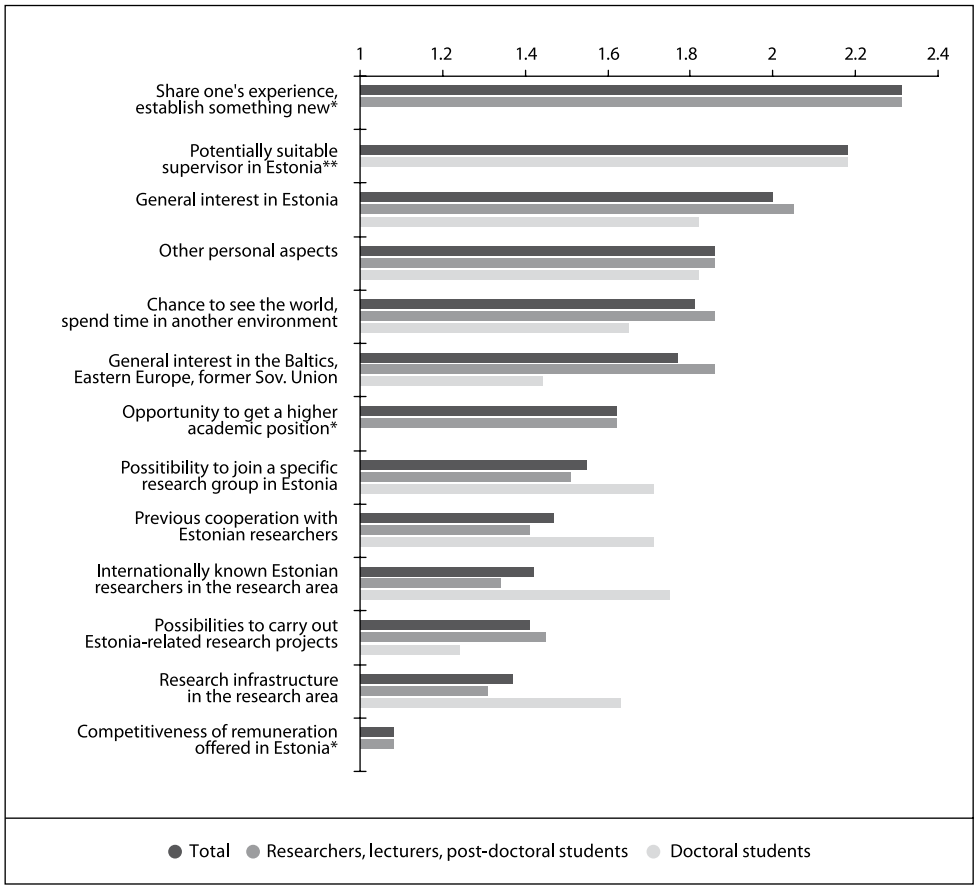
[2] Here and below no comparisons by personal characteristics (gender, age, subject area, marital status) are applied for questions that were asked of doctoral students only. This is due to the fact that the number of doctoral students covered by this survey was too limited to accommodate further subdivisions.

academic position, a possibility to join a specific research group in Estonia, previous cooperation with Estonian researchers, internationally known Estonian researchers in the research area, a possibility to carry out Estonia-related research projects, and the research infrastructure in the research area in Estonia. Furthermore, the survey demonstrated clearly that the competitiveness of remuneration offered in Estonia is no incentive for researchers and lecturers to come to Estonia or, to put it the other way round, – remuneration offered in Estonia is not competitive.

Other personal aspects mentioned above are most frequently identified as an Estonian spouse and Estonian friends, personal Estonian roots, interest in studying the language, and a specific job offer. Some of the more interesting personal aspects listed are lower subsistence costs in comparison to the Nordic countries, lack of a doctoral programme in the research area in one's home country, opportunity to study in English, and the influence of Estonian literature.

Specifying the aspects that influenced the decision to come to Estonia, respondents mentioned most frequently cooperation with Estonian colleagues (e.g. lasting cultural ties between Estonians and Finns), coming through some organisation or programme (e.g. German Senior Expert Programme), right timing in regard to personal life, restructuring (e.g. implementation of academic reforms in the University of Tartu), interest in Estonia (e.g. integration problems in Narva) and opportunities for doctoral studies. Among other things, respondents also cited good business opportunities in Estonia in the 1990s, desire to live and work in a Northern European country, gaining experiences by working in one's area of specialisation while also being useful to Estonians, and an offer of a professor's position.

Figure 1.2. Aspects that influenced the decision to come to Estonia (means of estimates, scale 1…3)



* evaluations by researchers, lecturers and post-doctoral students

** evaluations only by doctoral students

Looking at the respondents in two separate groups – one comprising lecturers, researchers and post-doctoral students, and the second group comprising doctoral students – similarities as well as differences become apparent. In both groups the most influential aspect was the one where evaluation was only requested from the specific group. These aspects are the possibility to share one's experiences and establish something new for researchers and lecturers, and the presence of a potentially suitable supervisor in Estonia for the doctoral students. General interest in Estonia and other personal aspects have fairly significant influence in both groups. Ranking of the importance of the following aspects varies between the groups. Researchers, lecturers and post-doctoral students emphasised the chance to see the world and spend some time in another environment, and displayed general interest in the Baltic countries, Eastern Europe or former Soviet Union. Doctoral students, on the other hand, found previous cooperation with Estonian researchers, internationally known Estonian researchers in the research area, and the possibility to join a specific research group in Estonia to be more important. This divergence leads to the conclusion that researchers and lecturers come to Estonia driven by a sense of mission and a

goal to gain new experiences, while doctoral students are more interested in what local researchers have to offer. Both groups exhibit but little interest in Estonia-related research projects.

No significant gender disparities were identified for the aspects that influenced the decision to come to Estonia. Both men and women viewed the possibility to share their experience and to establish something new (average importance 2.34 among men and 2.26 among women), availability of a potentially suitable supervisor (average importance 2.10 among men and 2.29 among women), and general interest in Estonia (average importance 1.92 among men and 2.14 among women) as most important aspects. Among the different aspects that influenced the decision to come to Estonia, women were influenced significantly more than men by the presence of internationally known Estonian researchers in the research area (average importance was 0.31 points higher among women).

The most junior age group considered the availability of a potentially suitable supervisor (average importance 2.33; other age groups include only few doctoral and post-doctoral students) and the presence of internationally known Estonian researchers in the research area (average importance 1.69; in other age groups average importance ranged between 1.25 and 1.29) to be the most important aspects. This seems to imply that young people come to Estonia partially because of the presence of prominent researchers, although they are also influenced more than other groups by a somewhat better assessment of the research infrastructure in Estonia (average importance 1.54; in more senior age groups it ranges between 1.29 and 1.33). Those in the medium age group (31-50 years of age) are motivated more than others by the opportunity to get a higher academic position (average importance 1.81 points; in contrast, the average ranged between 1.36 and 1.43 in the more junior and the more senior age groups). The most senior age group shows more interest in the Baltic states, Eastern Europe or former Soviet Union (average importance 2.00 points; the average is only 1.56 among the most junior) and is also influenced by previous cooperation with Estonian researchers (average importance 1.75 points; the average ranges between 1.38 and 1.45 in other age groups). There are only minor age disparities in other aspects.

Representatives of natural, hard and engineering sciences put more emphasis than others on the presence of internationally known Estonian researchers in the research area (average importance 1.71 points; the average ranges between 1.22 and 1.26 in other groups) and, to some extent, also on the possibility to join a specific research group in Estonia (average importance 1.68 points; the average ranges between 1.39 and 1.48 in other groups). At the same time, they demonstrate much less of general interest in Estonia (average importance 1.76 points, while in other groups it ranges between 2.08 and 2.17) as well as in the Baltic states, Eastern Europe or former Soviet Union (average importance 1.60 points; the average ranges between 1.88 and 1.92 in other groups). They are also somewhat less influenced by other personal aspects (average importance 1.69 points; the average ranges between 1.87 and 2.00 in other groups). The survey shows that the opinions of the representatives of humanities are fairly similar to those of social scientists, while the opinions of the representatives of hard sciences diverge from the former in several respects. Representatives of social sciences and humanities are rather more interested in the environment where they will be studying or working whereas representatives of hard sciences are relatively more influenced by the possibility to collaborate with specific people.

As opposed to married/cohabiting people, single respondents said their decision to come to Estonia was influenced more by the international reputation of Estonian researchers (average

importance is 0.29 points higher), by the possibility to join a specific research group in Estonia (average importance is 0.28 points higher) and by previous cooperation with Estonian researchers (average importance is 0.26 points higher). In contrast, married/cohabiting respondents put more emphasis than single people on other personal aspects (average importance is 0.32 points higher) and the opportunity to get a higher academic position (average importance is 0.26 points higher). These results thus indicate that while single respondents focus more on local research opportunities, the decisions of married/cohabiting people are relatively more influenced by personal factors.

Comparison with other countries

The two most important factors for inward mobility in both the United Kingdom (River Path Associates 2004) and Finland (Puustinen-Hopper 2005) were the high quality of research environment and opportunities for career enhancement. One of the most important reasons for coming to Iceland (Icelandic Centre for Research 2005) was the opportunity to get a good position. In Estonia, an opportunity to get a higher academic position ranked somewhere in the middle and local research infrastructure among the least important aspects influencing the decision to come here. Local funding was also an important factor influencing inward mobility to the UK and Iceland, whereas the same aspect ranked at the very bottom of the list for Estonia. In Finland, the first two factors were followed by a chance to see the world, which was also important in Estonia. British roots of family members was a very important factor for a small part of the respondents, but the majority of respondents in the UK considered it insignificant. The Finnish study revealed that partner's presence in Finland was of average importance and the presence of other family members irrelevant. In Estonia and Iceland, personal aspects, most often identified as a spouse with local nationality, were very important factors influencing the decision to come to the respective countries. Interest in the cultural and historic or geographic peculiarities of those countries was also mentioned among the reasons to come to Estonia or Iceland. All in all, incentives for going to the United Kingdom and Finland appear fairly similar, whereas the aspects influencing a decision to come to Estonia are markedly different. Due to equivalent economic conditions in these countries, the monetary reasons for going to Iceland are very similar to those for going to the UK and Finland, but the peculiarities in culture and research environment that stem from the small size of the country make Iceland also resemble Estonia in very many aspects. A simplified interpretation of these differences shows that researches mostly come to Estonia to give (i.e. share their experiences), whereas they go to the UK and Finland to receive, because the research environment in these countries has more to offer them. People also go to Iceland to receive, but on the other hand, very much like Estonia, Iceland is a unique place for cultivating certain specific interests.

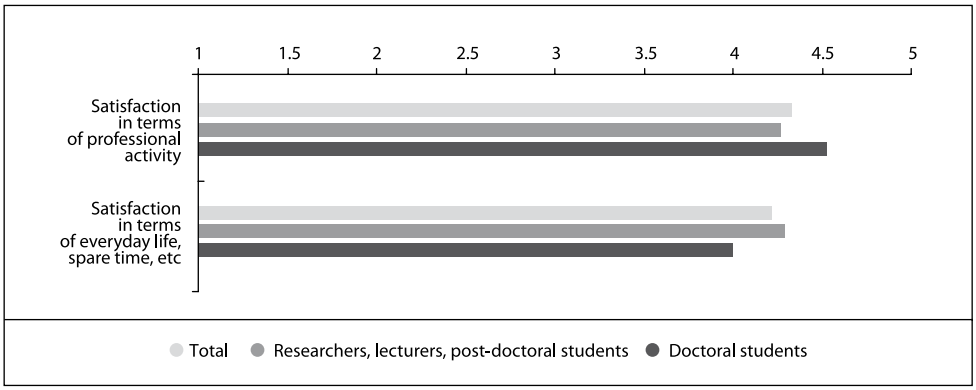
1.3. Satisfaction with a stay in Estonia

The surveyed researchers, lecturers, post-doctoral and doctoral students that had come to study/work in Estonia were asked to evaluate in separate groups their satisfaction with professional activity and their satisfaction with everyday life, spare time and the like. A five-point evaluation scale was used for these questions: *1 – not at all*, *2 – not very*, *3 – do not know*, *4 – more or less*, *5 – very*.

Figure 1.3 shows that the foreign researchers-lecturers (incl. post-doctoral students) as well

as doctoral students that have stayed or are currently in Estonia find both their professional activity and everyday life rather satisfactory with the average score for either aspects somewhere around 4.25. This means that on average they are more or less satisfied or even very satisfied with what they have experienced in Estonia. 90% of the participants in the survey are very satisfied or more or less satisfied with both of these aspects; and the share of those very satisfied is even larger for the satisfaction with professional activity. The latter is caused by the fact that the share of respondents very satisfied with their professional activity is larger specifically among the doctoral students as compared to the researchers-lecturers.

Figure 1.3. Satisfaction with the stay in Estonia (means of estimates, scale 1…5)



Looking at the two separate groups of researchers/lecturers/post-doctoral students and of doctoral students, the first group appears more coherent in its evaluation of the two aspects – there are more respondents that are very satisfied (51%) with both professional activity and with everyday life. Evaluations by the doctoral students, however, vary across the two aspects – the share of very satisfied doctoral students is largest (63%) for professional activity, while the share of more or less satisfied doctoral students is largest (56%) for the aspects of everyday life. There are more researchers-lecturers dissatisfied (not very satisfied or not at all satisfied) with professional activity. Not a single doctoral student displayed dissatisfaction with professional activity, whereas some of the doctoral students were dissatisfied with everyday life.

This leads to the conclusion that foreign doctoral students are more satisfied than foreign researchers-lecturers with professional activity in Estonia. It can be assumed that they generally come to Estonia to study in the subject areas where the level of researchers is higher and infrastructure is better. Researchers-lecturers, on the other hand, are more satisfied than doctoral students with everyday lives and with the opportunities to spend their spare time in Estonia.

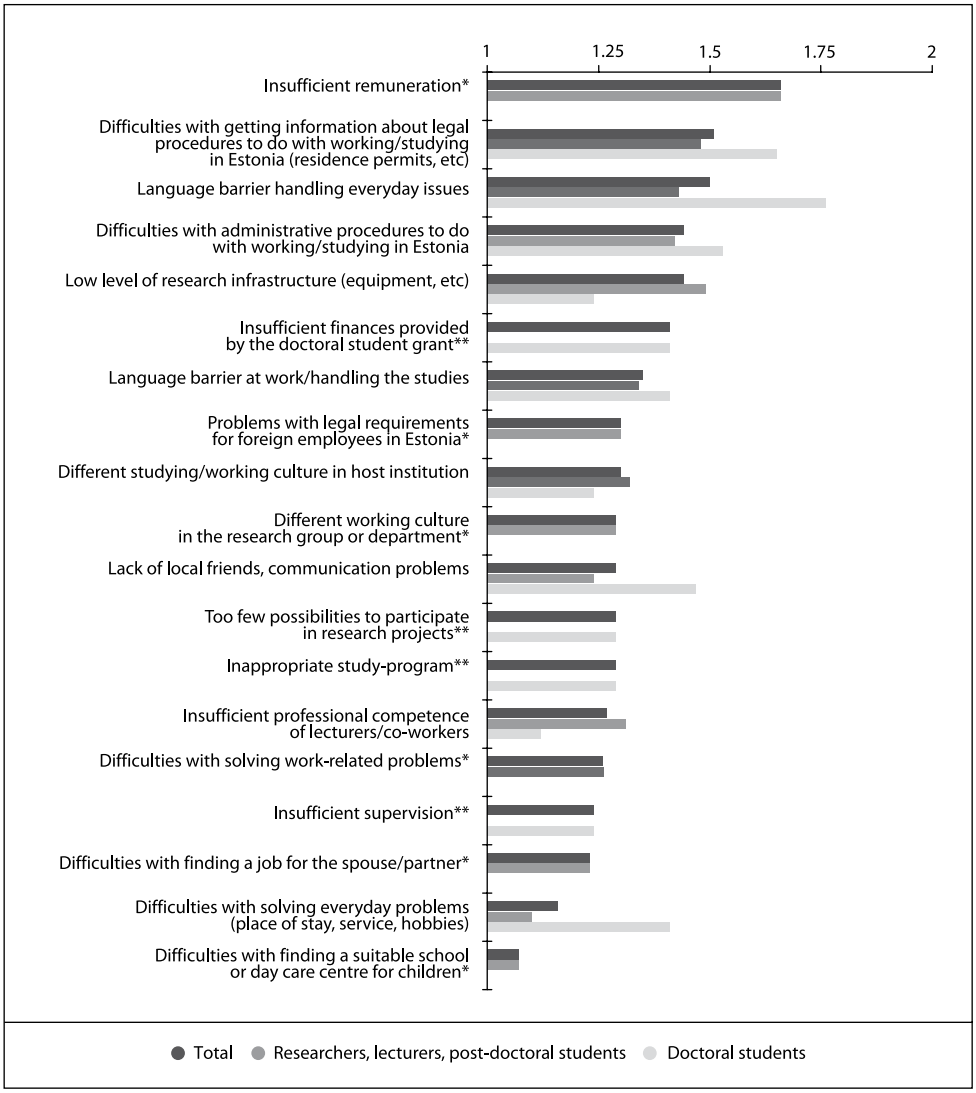
Albeit the rankings of satisfaction are relatively high and vary but little, certain disparities are still present across the personal characteristic groups studied. Female respondents display notably higher levels of satisfaction with professional activity (average score is 4.67 among women and 4.12 among men). Across different age groups, the most junior (respondents 30 years of age and younger) are most positive about professional activity (average 4.62), the most senior (respondents aged 50 and above) are the least satisfied (average 4.00). Satisfaction with everyday life appears to be linked to marital status: married/cohabiting respondents give higher scores

here than single people (average scores are 4.36 and 3.92, respectively). No variations in the level of satisfaction emerge across different subject areas.

1.4. Problems related to the stay in Estonia

Respondents were asked whether they have encountered different problems during their stay in Estonia, and a three-point scale was used for evaluation: *3 – major problem*, *2 – also*, *1 – not really*. The responses were aggregated into average levels of importance for each problem. Figure 1.4 illustrates the average levels of these evaluations.

Figure 1.4. Problems encountered in Estonia (means of estimates, scale 1…3)



* evaluations by researchers, lecturers and post-doctoral students

** evaluations only by doctoral students

Working or studying in Estonia, the respondents have generally encountered the most problems with remuneration, with getting information about legal procedures to do with working or studying in Estonia, with language barriers in handling everyday issues, with administrative procedures to do with working or studying in Estonia, with low level of research infrastructure, and with insufficient finances provided by the doctoral student grant. Foreign researchers and doctoral students encountered fewer problems with finding a suitable school or day care centres for children, with finding a job for the spouse/partner, with solving everyday problems, and with supervision.

On average, researchers, lecturers and post-doctoral students view insufficient remuneration as the main problem for working in Estonia. Other important problems encountered in Estonia include low level of research infrastructure available to researchers, lack of information about legal requirements for foreign employment in Estonia, language barrier in handling everyday issues, and difficulties with administrative procedures to do with working in Estonia. Lesser problems, on average, comprise difficulties with solving everyday issues, and issues related to children and spouses (the latter category is, of course, not at all relevant for many respondents).

On average, doctoral students find the language barrier in handling everyday issues to be the major problem for studying in Estonia. Other significant problems comprise the lack of information about and complexity of the legal procedures to do with studying in Estonia. Doctoral students also identified communication problems and lack of friends, language barrier in handling the studies, insufficient finances provided by the doctoral student grant, and difficulties with solving everyday problems as fairly serious problems. A small group of doctoral students view inappropriate study-programme or insufficient supervision as being problems. On average, foreign doctoral students that have studied or are currently in Estonia consider the professional competence of lecturers to be the least problematic aspect among the list presented by the authors of this survey. As mentioned before, it can be assumed that doctoral students are studying specifically in the subject areas of higher quality, since the quality of local researchers is one of the most important reasons for them to come to Estonia.

Comparing researchers, lecturers and post-doctoral students to doctoral students it appears that doctoral students are more concerned with problems related to language barrier, everyday issues and communication – in other words, with problems that are not necessarily related to their studies. Researchers, lecturers and post-doctoral students, on the other hand, are more troubled by problems directly related to their work – by the low level of research infrastructure, for instance. Both groups are worried about financial problems and about the administrative procedures to do with studying/working in Estonia, with the latter presenting difficulties on the level of obtaining relevant information as well as on the level of implementation.

Men said that the most important problems are insufficient remuneration (average importance 1.82) and insufficient finances provided by the doctoral student grant (average importance 1.70). Women considered the main problems to be the lack of information about legal procedures to do with working in Estonia (average importance 1.40), language barrier in handling everyday issues (average importance 1.37), and insufficient remuneration (average importance 1.36).

Largest gender differences were evident in the assessment of insufficient finances provided by the doctoral student grant (average importance is 1.70 among men and 1.00 among women) and insufficient remuneration, as men rated this problem an average of 0.46 points more important than women did. Men also emphasised the importance (an average 0.2 points of difference compared to women) of problems with administrative procedures to do with working in Estonia, low level of research infrastructure and language barrier in handling everyday issues. No notable variations by gender are evident for other problems. Survey results imply a general tendency for men to have encountered more of the different problems or to see several issues (e.g. remuneration) as being more problematic than women do.

All age groups noted that the main problem is insufficient remuneration, and those in the junior age group (up to 30 years of age) said that another major problem is lack of information about legal procedures to do with working in Estonia (average importance 1.62). Respondents 31 to 50 years of age mostly encountered the problem of low level of research infrastructure (average importance 1.60) during their stay in Estonia; those in the age group of 50 and above considered difficulties with administrative procedures to do with working in Estonia (average importance 1.50) as the other major problem alongside insufficient remuneration.

Largest variation by age group can be detected in the assessment by the medium age group of not only the weakness of research infrastructure, but also of the insufficient professional competence of co-workers/lecturers (0.18 points of difference with the junior age group, and 0.30 points with the senior age group). The most junior age group felt more troubled than other age groups by difficulties with solving everyday problems (0.25 to 0.35 points of difference with other groups).

The more tangible type of problems are more important among the representatives of humanities: low level of research infrastructure (libraries? collections?) is 0.24 to 0.27 points more important for them as compared to representatives of other subject areas; with certain limitations in mind, we note similar variation in the importance of insufficient remuneration. It is also interesting to note a connection between subject groups and the difficulties with finding a job for the spouse/partner: representatives of humanities have encountered an above average level of difficulty in this aspect, while not a single representative of hard sciences has had problems finding a job for their spouse/partner.[3] Representatives of humanities are also slightly more troubled by different work culture in host institution, yet no significant variation by subject group surfaces in regard to different working culture in the research group or department. Representatives of hard sciences find language barrier both at work and in everyday life to be more of a problem than representatives of other subject areas do; at the same time, they have encountered fewer problems with legal procedures to do with working or studying in Estonia.

Married/cohabiting respondents encountered more difficulties in coping with administrative procedures to do with working or studying in Estonia.

[3] Incidence of this link between subject groups and difficulties with finding a job for the spouse/partner is not affected by the share in each subject group of single people or those staying in Estonia together with their families.

Comparison with other countries

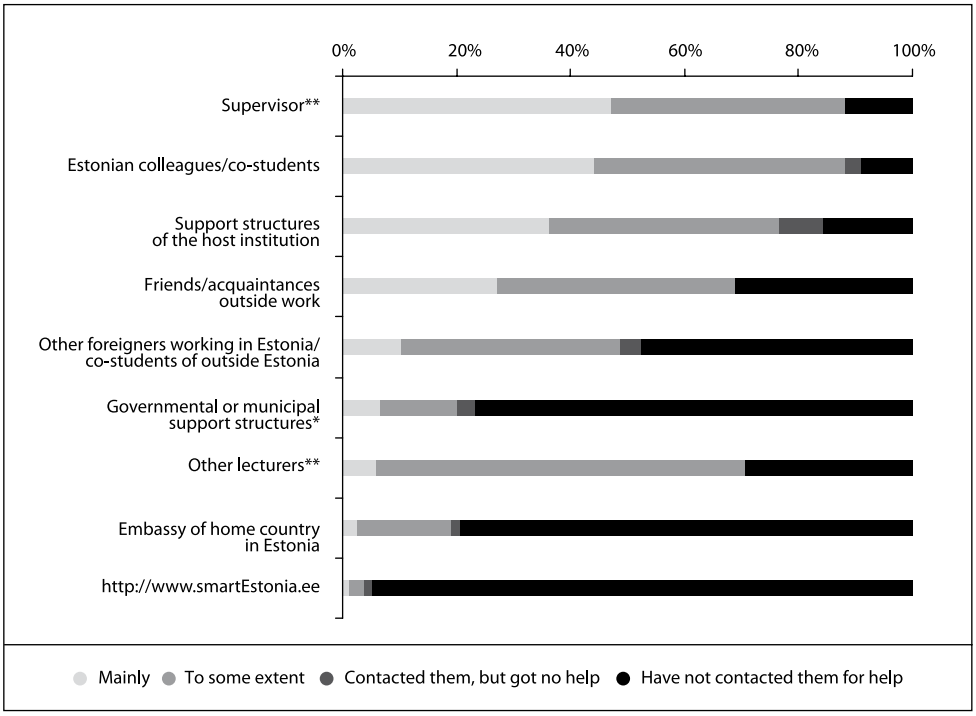
Funding issues are seen as the major problem in Austria (Heintel, Hahn, Fisher 2006) just like they are in Estonia. While family-related arrangements do not seem to be of a problem in Estonia, in Austria difficulties with finding a job for the spouse and a suitable school or day care centre for children rank second after the funding issues. One of the major issues raised in the additional specifications segment was return to home. It is difficult to get information about vacancies while being away, and it is very difficult to find a suitable job upon return to home and almost impossible to get back the previous position. Unlike in Estonia and Austria, good funding is one of the primary reasons for going to Finland (Puustinen-Hopper 2005) and the UK (River Path Associates 2004), yet those countries also have their share of problems. Bureaucracy was pointed out as one of the major problems in Finland as well as in the UK. Then again, reports from all the three countries mentioned show that citizens of the European Union member states are relatively satisfied with their paperwork procedures. In Finland, respondents were also dissatisfied with markedly short contract and grant deadlines. In the UK, the quality of accommodation, especially in light of the prices charged, and lack of access to information over internet were causes of frustration. This all shows that although there are some similarities, every country still has its own set of specific problems.

1.5. Sources to receive help with problems encountered

Participants of the survey were also asked which sources have they received help with solving the problems they encountered in Estonia. Sources of help were evaluated on a four-point scale: *mainly*; *to some extent*; *contacted them, but got no help*; *have not contacted them for help*.

Foreign researchers, lecturers and post-doctoral students as well as doctoral students working/studying in Estonia most frequently turn to local colleagues/co-students, to their supervisor (evaluated only by doctoral students), and to the host institution for help (see Figure 1.5). Other lecturers and friends/acquaintances outside work are also common sources to turn for help. Slightly more than half of the respondents have turned to other foreigners working or studying in Estonia for help. It is much less common to turn for help to governmental or municipal support structures established for mobile researchers and academic personnel or to the embassy of one's home country in Estonia. A mere 4% of the respondents have made use of Estonian students and researchers mobility portal (http://www.smartEstonia.ee) to find help. None of the respondents have used the ERA-MORE network of mobility centres to seek help for problems, or have done so unawares, when contacting the support structures of the host institution.

Figure 1.5. Sources to receive help with problems (all respondents)



* assessments by researchers, lecturers and post-doctoral students
** assessments only by doctoral students

Figure 1.6. Sources to receive help with problems (researchers, lecturers, post-doctoral students)

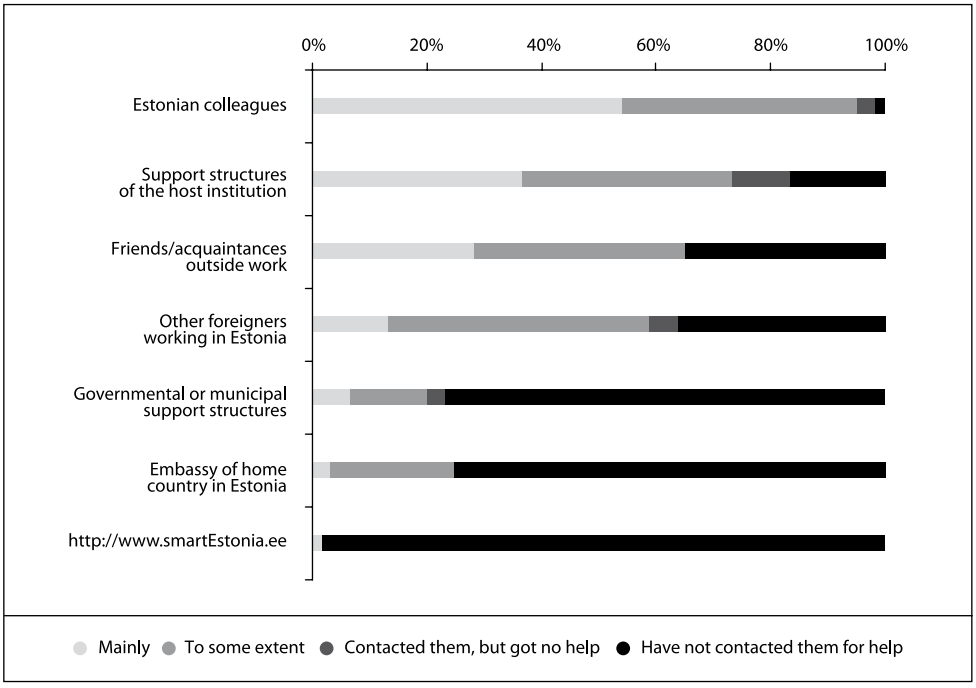
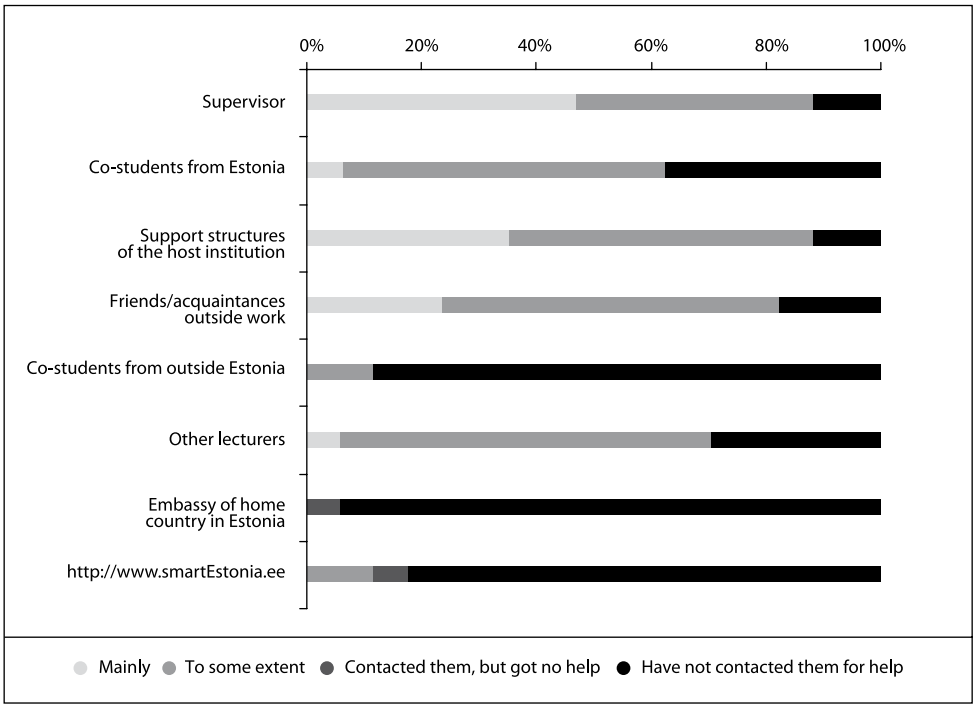


Figure 1.7. Sources to receive help with problems (doctoral students)



Respondents have generally received help with solving problems encountered in Estonia from their supervisor (doctoral students), from Estonian colleagues/co-students, from friends/acquaintances outside work, and from the support structures of host institutions. Other sources are also considered important for getting help. Governmental or municipal support structures and other foreigners working or studying in Estonia have been less helpful with solving problems.

Figure 1.6 demonstrates that researchers, lecturers and post-doctoral students have received most help from Estonian colleagues, from the support structures of host institutions, and from friends/acquaintances outside work.

Doctoral students (Figure 1.7) have received most help from their supervisors. Support structures of host institutions and friends/acquaintances outside work are also good sources of help.

Researchers, lecturers and post-doctoral students have also indicated under the section of getting help with solving problems encountered in Estonia that Estonia joining the European Union has also been very helpful, since it solved several prior problems. Some have also mentioned the help they have gotten from compatriots who have been in Estonia before (usefulness of their notes/comments), and the value of prior knowledge about Estonian culture and society. Doctoral students have mostly turned to their home country for help with solving problems; they have also sought help from Internet and through media. They also seem to share the opinion that although the legal system should treat equally all people living in Estonia, it is actually somewhat biased towards Estonians.

Seven out of ten women have sought help with solving problems from other foreigners studying or working in Estonia, whereas only 40% of men have turned to these sources. Female respondents also have a better opinion of the help received from support structures of the host institution and from Estonian colleagues: 59% of women have received help from the support structures, but only 23% of men; 57% of women and 36% of men have received help from Estonian colleagues.

Respondents seeking help from their supervisors predominantly belong to the age group of 30 years and younger, which is due to the relatively young age of doctoral students. Compared to respondents that are older than 50 years, those that are 50 or younger have much more frequently sought help from other foreigners and friends/acquaintances outside work.

Across different subject groups, representatives of humanities include notably more respondents who have received help primarily from friends or acquaintances outside work. The share of hard scientists that have sought help from other foreign colleagues is considerably lower than the same share in other groups. Neither have the representatives of natural and hard sciences turned to the embassies of their home countries, even though about one third of the representatives of humanities and social sciences have done so with their problems (and have generally also received help from there).

No noteworthy variation by marital statues is evident in the pattern of sources to turn to for help with solving problems.

Comparison with other countries

Personal contacts and colleagues from host institutions play an important role in the inward mobility of other countries just like they play a significant role in Estonia. These sources are used most commonly or in a majority of cases to seek information or help in Finland (Puustinen-Hopper 2005), the Netherlands and the UK (River Path Associates 2004) as well as in Estonia. In Finland, the foreigners turn to government agencies for information and help more frequently than the foreigners studying/working in Estonia, whereas foreign doctoral students studying in Estonia consider the help from their supervisors as being more important. In the UK, foreigners hardly ever turn to officials for information. In the UK, Internet also features as one of the most important sources of information, while in Finland the same goes for the host department. The Finnish report points out the same fact as the Estonian one does that because of the enlargement of the European Union many problems are no longer an issue for the citizens of the member states.

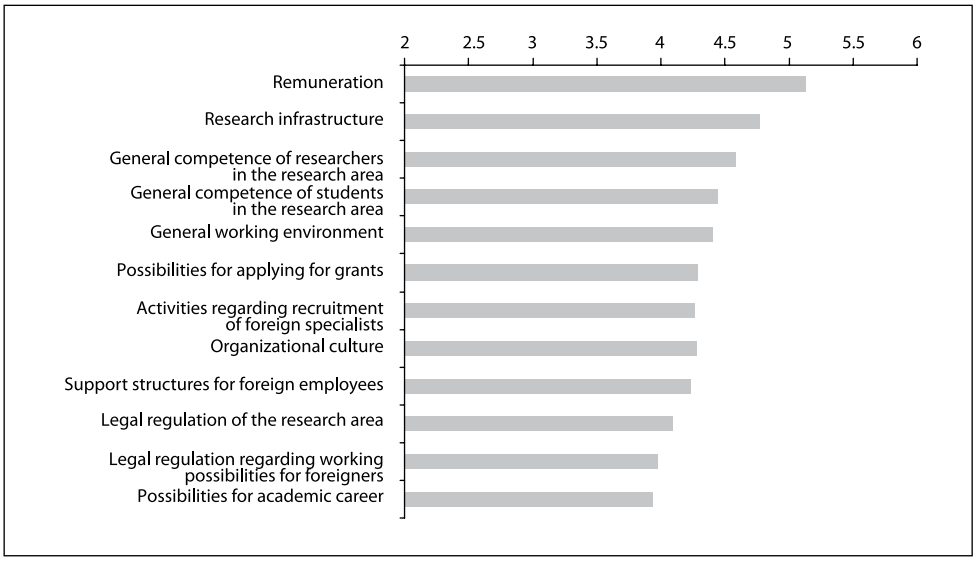
1.6. Estonian research environment compared to that of the country of prior residence

Researchers, lecturers and post-doctoral students working in Estonia were asked to compare 12 aspects of Estonian higher education and research environment in their respective research areas to that of the country they worked in before coming to Estonia. They were given the following scale to evaluate the conditions in the country they worked in previously in comparison to those they encountered in Estonia: *1 – do not know*, *2 – a lot worse*, *3 – a bit worse*, 4 – *about the same*, *5 – a bit better*, *6 – a lot better*. The first point on the scale – do not know how to evaluate the two countries in regard to the specific aspect – was discarded while calculating the average scores. An average score of "four" implies that the respective aspect of the research

environment is regarded as being roughly equal in Estonia and abroad, higher scores reflect a preference for the foreign environment.

The data illustrate that foreign researchers and lecturers working in Estonia generally view local higher education and research environment as nearly equal to that of the foreign country (in this particular case, compared to the country of prior employment) rather than being clearly worse. Researchers and lecturers consider the level of remuneration, research infrastructure and the general competence of researchers in their respective research area as being clearly better in the countries of prior employment. Estonia, on the other hand, has a slight advantage in regard to broader possibilities for academic career.

Figure 1.8. Estonian research environment from foreigners' point of view compared to their previous country of stay (means of estimates on the scale from 2 (a lot better in Estonia) to 6 (a lot better in the previous country)



In this block of aspects, similar relationships surface that did in the above discussion of problems that foreign researchers have encountered: compared to the country of prior residence, men give significantly lower scores than women to remuneration offered in Estonia and to the local research infrastructure (relevant average scores are 5.50 and 5.03 points among men, and 4.5 and 4.3 among women, respectively), a similar pattern is evident in the assessment of support structures for foreign employees (average scores 4.54 and 3.33, respectively). Men also appear much more disapproving of other areas, for instance, of local legal regulation (difference between the average scores is 0.69 for the legal regulation of their research area, and 0.57 for the legal regulation regarding working possibilities for foreigners). Again, men are more judgmental about the general competence of researchers in their research area (the average is 4.84among men and 4.18 among women), yet there is no notable disparity between the assessments by men and women of the competence of Estonian students.[4]

[4] The number of researchers that previously worked in Western countries is relatively higher among men, while there are more researchers that previously worked in some Central or Eastern European country among women; however, this has no significant influence on the different relationships identified between assessments and gender.

It was noted above that, on average, younger respondents are more satisfied with their professional activity in Estonia than the older ones. Comparisons with the country of prior residence point to the same trend in two aspects: in regard to general working environment and remuneration (difference from the average score for the more senior age groups taken together is 0.73 and 0.80, respectively) – however, this variation in the assessment of remuneration is affected by the larger portion of respondents from Central and Eastern Europe in the more junior age group. No age disparities emerge for other aspects.

Representatives of humanities and hard sciences are more optimistic about the possibilities for academic career in Estonia as compared to those in the country of their prior residence than social scientists are (average variation between their assessments is 0.83 and 0.68 points, respectively). The same trend is evident in the assessment of the activities regarding recruitment of foreign specialists (0.76 and 0.83 points of difference in comparison with social scientists).[5] At the same time, representatives of natural and hard sciences think rather less of the local legal regulation of their research area than the representatives of humanities do (the difference is 0.82 points).

Compared to the country of prior residence, married/cohabiting respondents see local remuneration as being more modest than single people do (average difference between the scores is 0.59 points), yet at the same time they are more optimistic about the possibilities for academic career in Estonia (the difference is 0.77 points). Married/cohabiting respondents also consider the legal regulation regarding working possibilities for foreigners as being better here than the single ones think (the difference is 0.85 points); then again, it is interesting that the same difference is not evident between single respondents and those whose partner or family accompanied them in Estonia throughout the whole stay.

Countries of reference

Respondents compared Estonian higher education and research environment to those of very different countries (countries of prior employment).

- The largest number of researchers-lecturers listed Germany as the country of their prior employment (11 respondents); a close second was Finland with 10 researchers-lecturers.
- Six respondents had previously worked in the Nordic countries – Sweden, Norway, Denmark (two researchers-lecturers in each), and one respondent has added to the name of the country of prior employment (Finland) that he/she has previously also worked in "other Nordic countries".
- Seven respondents used various countries of Central and Eastern Europe as their reference – Russia (2 respondents), Latvia, Poland, Hungary, Romania, and Ukraine.
- USA was listed as the country of prior employment by six researchers-lecturers; in addition, one respondent has named several countries of prior employment with USA being one of these.
- More distant and exotic countries of prior employment include: Cyprus, Hong Kong, India and New Zealand.

[5] This variation between the representatives of humanities and those of social sciences in the average scores they assigned to the recruitment of foreign specialists may be affected by the fact that the former include a larger proportion of respondents from Eastern and Central Europe.

In conclusion, although researchers-lecturers come to Estonia from a variety of different places across the world, as a country of professional employment Estonia is still primarily attractive to researchers-lecturers from Germany and the Nordic Countries, but also from the USA.

1.7. Positive and negative experiences regarding the stay in Estonia

Respondents were asked to describe their most positive and most negative experience regarding their work or studies in Estonia. Friendly work environment and positive and helpful colleagues were repeatedly listed as the most positive experiences. The level of freedom in independent thinking/work was also mentioned as a positive aspect. Several researchers pointed out their satisfaction with the chance to have been useful to the local developing society and research circles, and with the fact that they have managed to "accomplish something" in Estonia. Specific experiences in their respective research areas had some researchers-lecturers singling out high level of research competence as the positive experience or the low level of research quality as the negative experience.

The most negative feedback was given to the low level of remuneration to researchers as well as to the under-financing of universities and to the lack of necessary equipment, which forced several lecturers to leave Estonia. Excessive bureaucracy and red tape (a couple of researchers had to wait half a year for their residence permit) were also repeatedly mentioned. Bureaucracy has also been mentioned as a problem in Finland (Puustinen-Hopper 2005), the United Kingdom (River Path Associates 2004) and Austria (Heintel, Hahn, Fischer 2006). The Austrian report points out that time-consuming and complicated bureaucratic procedures lead to the loss of specifically the most distinguished researchers.

Openness of local employees to new ideas was also mentioned as a positive experience, while the negatives included the backwardness of senior professors, divisions between various groups that impede constructive work, and general lack of interest for reforming the institutions and work arrangements. In regard to the latter, researchers-lecturers pointed out that higher education policy is not transparent and does not facilitate autonomous research work, and that the university structures are sometimes rather random. Although the friendliness of local people was often cited as a positive experience, three respondents recorded the signs of racist tendencies as the negative experience they relate to Estonia.

1.8. Future plans concerning Estonia

Respondents were asked to assess on a three-point scale the likelihood of continued connection with Estonia in their future research work. The choices on the three-point scale were: *no*, *maybe*, *yes*.

The most preferred option for future cooperation was to continue collaboration with Estonian researchers and to come to Estonia for short-term professional visits (more than ¾ of researchers view continued cooperation with Estonia as at least likely, and none of the doctoral students surveyed ruled out this option). A substantial number of respondents also contemplate both part- and full-time employment in Estonia (49% and 54% of researchers and 59% and 47% of doctoral students, respectively, do not rule out this option; about a third of researchers have already decided to continue working in Estonia on a full-time basis). Then again, more than half of the doctoral students surveyed rule out the possibility of staying in Estonia to complete their post-doctoral studies.

Across all types of personal characteristics, the only differences that occur for the categories of collaboration analysed concern the preferences of working in Estonia full or part-time. About one-fifth of men plan to continue working in Estonia part-time, whereas not a single woman has a certain plan to do so. Two fifths of men rule out the option of staying in Estonia to work full-time, while the share of women saying the same thing amounts to three fifths.

Examining the responses across different age groups reveals that not a single respondent in the most junior age group (30 years and younger) has a certain plan to continue working in Estonia part-time, yet in the medium age group one fifth of the respondents do have such a plan. Among the respondents that are 30 to 50 years old there is a clear preference to stay in Estonia to work full time, and two-fifths of them have a certain plan to do so (only 20% among those younger than 30, and none among those that are older than 50). Working full-time in Estonia is ruled out by three respondents out of ten in the medium age group, by 58% of respondents in the most junior age group and by as many as five-sixths of the respondents in the most senior group.

Comparison of subject groups shows that only 13% of social scientists plan to stay in Estonia to work full-time, while three out of ten representatives of humanities and natural sciences have a certain plan to do the same.

35% of single respondents rule out the option to continue working in Estonia part-time, and as many as 56% of married/cohabiting respondents have no plan to stay and work in Estonia part-time. Surprisingly, the pattern of responses is reversed for the option of staying to work in Estonia full-time: 61% of single people consider it unlikely, whereas only 43% of married/cohabiting respondents rule out this plan. Family relations do not appear to be an obstacle for staying to work in Estonia full-time: only 13% of single people have a certain plan to do so, and as many as a third of married/cohabiting respondents.

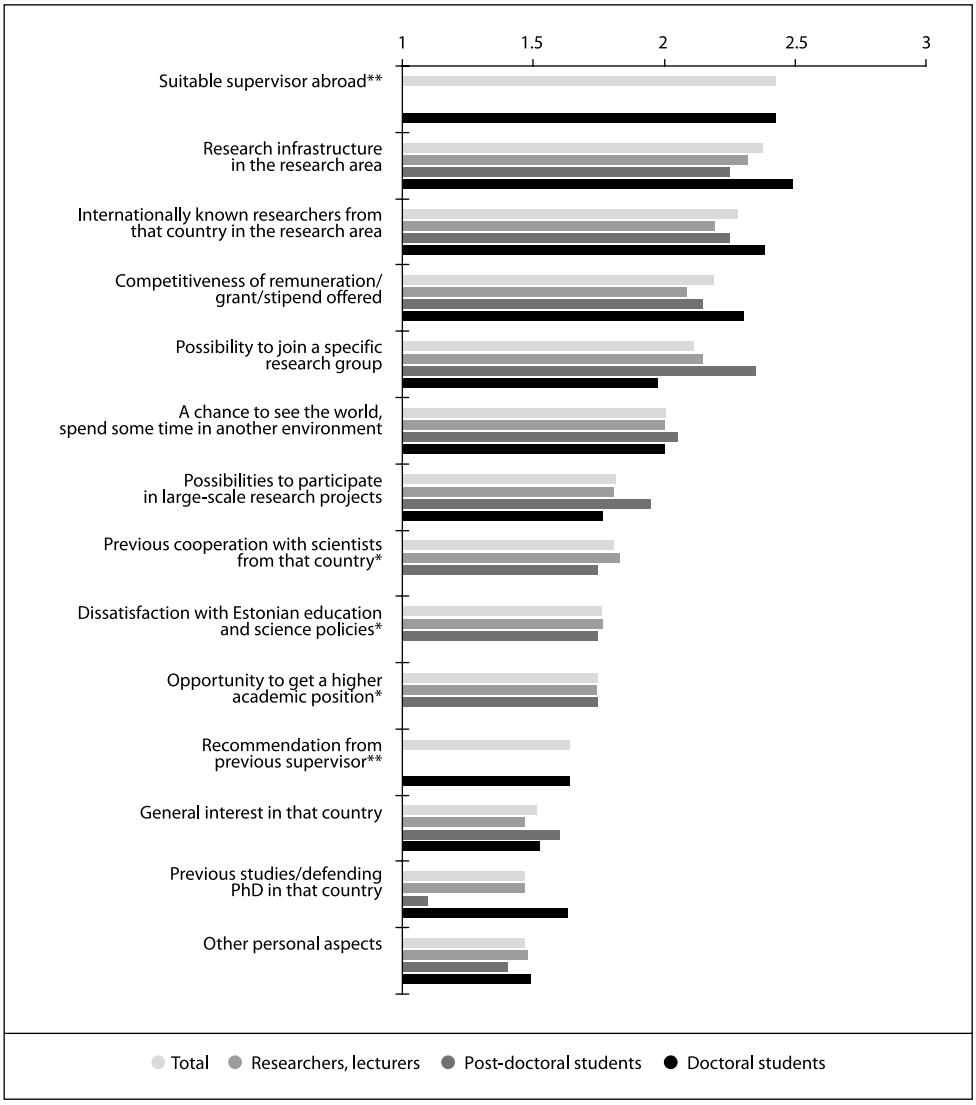
2. Mobility of native Estonian researchers

2.1. Reasons for going abroad

An evaluation of various reasons for going abroad was conducted in this survey using a three-point multiple-choice scale: *3 – mainly*, *2 – also*, *1 – no*.

Availability of necessary research infrastructure (47% of aggregate responses from all target groups) and internationally known researchers of the respective country in the research area (41%) constitute the main reasons for going abroad to do research. 18% of respondents indicated dissatisfaction with Estonian education and research policy as the main reason for going abroad.

Figure 2.1. Reasons for going abroad (means of estimates, scale 1…3)



* evaluations by researchers, lecturers and post-doctoral students
** evaluations only by doctoral students

Evaluation of reasons for going abroad does not reveal any major differences between researchers/lecturers, post-doctoral and doctoral students.

It is no surprise that researchers and lecturers consider the necessary research infrastructure and internationally known researchers at the destination country in their area of research to be the dominant reasons for going abroad. Possibility to join a specific research group and competitive remuneration were also important reasons for researchers to go abroad. Doctoral students indicate the same reasons as being most important (they assigned even higher scores of importance), but they put as much emphasis on the presence of a potentially suitable supervisor abroad (51% of doctoral students assigned the highest evaluation "mainly" to this reason). Post-doctoral students rank more or less the same group of reasons in a slightly different order: possibility to join a specific research group, availability of necessary research infrastructure, internationally known researchers of the destination country, competitive remuneration, and a chance to spend some time in another environment. Therefore, it can be concluded that all the groups are primarily motivated to move by better research conditions.

After evaluating the reasons listed above, respondents were also given the opportunity to add other reasons for going abroad. Family reasons as well as conflicts with the heads of Estonian research institutions were pointed out by researchers as additional reasons for going abroad. Several researchers have stayed to work abroad after completing their studies. Respondents also emphasise the importance of working in a strong university and in a strong research team. Lack of adequate competition in Estonian research environment has also been listed.

It is worth highlighting the opinion voiced among post-doctoral students that post-doctoral studies constitute an inseparable part of a researcher's career that allows the young researcher to test his/her skills to manage independent research. Some post-doctoral students find that skipping this phase in the path to research career postpones or even eliminates the possibility to grow into a respectable researcher.

Doctoral students have indicated in their comments that Estonia does not offer doctoral programs in certain subject areas. A partner that lives/works/studies in the destination country also facilitates the decision to move abroad. Additionally, respondents have mentioned better opportunities for individual development along with economic factors and improved sense of security, and complicated relationships with senior colleagues in Estonia. It is interesting to note that contrary to the way it is interpreted in Estonia, negative attitude of senior colleagues towards mobility was highlighted as a restraining factor on mobility in Austria (Heintel, Hahn, Fischer 2006).

Since there were no significant variations among men or women in the ranking of main reasons for going abroad, the following section will focus less on the concentration of different evaluations and more on the gender disparities within the same group of issues.

The possibility to join a specific research group as a reason for going abroad was statistically more important among men than it was among women (average importance of 2.27 is 0.33 points higher than the 1.94 average for women). Male researchers have also attributed more importance than their female colleagues to higher remuneration as a reason (the average is 2.26 among men and 2.10 among women). Women put more emphasis than men (2.39 points among women and 2.19 among men) on the importance of internationally known researchers at the destination country in their research area. Marginal gender variations occurred for other issues, but were not statistically significant.

Among the younger (up to 30 years of age) native Estonian respondents that had stayed or were currently abroad the most important reasons included the presence of a potentially suitable supervisor abroad (2.44), availability of the necessary research infrastructure, and internationally known researchers at the destination country in their research area (both scored 2.32 points). Competitive remuneration (2.11) and the chance to see the world in another environment (2.08) also received high scores. The same issues were important among researchers that were in their thirties, except they ranked these issues differently: the highest score (2.42) was accorded to the availability of the necessary research infrastructure, which was followed by finding a suitable supervisor abroad (2.33) and by the presence of internationally known researchers at the destination country in their research area (2.31). Possibility to join a specific research group (2.27) and adequate remuneration (2.26 points) were also essential for them. Researchers aged more than 40 put more emphasis on the availability of the necessary research infrastructure (2.35 points), on internationally known researchers at the destination country, on competitive remuneration, and on the chance to see the world, spend time in another environment (2.20 points each). In addition, dissatisfaction with Estonian education and research policy was also among the most important factors for them (2.06).

Representatives of humanities and social sciences had fairly similar opinions. Still, social scientists tended to assign somewhat higher scores to most factors. Both groups said that the most important reason for going abroad is presence of a suitable supervisor (2.44 points among the representatives of humanities and 2.83 among social scientists)[6], which was followed by internationally known researchers at the relevant country in their research area (2.34 points among the representatives of humanities and 2.64 among social scientists) and availability of the necessary research infrastructure (2.14 points among the representatives of humanities and 2.64 among social scientists). Major disparities occurred in average scores that reflected respondents' attitude towards the opportunities to participate in large-scale research projects (1.38 points among the representatives of humanities and 1.82 among social scientists). Representatives of natural and hard sciences said the main reason for going abroad is the availability of the necessary research infrastructure (2.44 points), which was followed by the possibility to join a specific research group (2.40) and by the presence of a suitable supervisor abroad (2.33 points).

Married/cohabiting researchers considered research infrastructure to be the most important reason for going abroad (2,41 points), followed by the internationally known researchers of the relevant country in their research area (2.31) and by the presence of a suitable supervisor abroad (average importance 2.30 points). Competitive remuneration (2.17) and possibility to join a specific research group (2.14 points) were also seen as crucial. Single researchers were pretty much of the same opinion: they said that the most important reason is presence of a suitable supervisor abroad (2.67), which is followed by research infrastructure (2.33), internationally known researchers at the destination country in their research area (2.27), competitive remuneration offered abroad (2.21), and possibility to join a specific research group (2.06 points).

Compared to those still abroad, researchers that had already returned to Estonia put notably more emphasis on the internationally known researchers at the destination country in their research area (2.19 and 2.53 points, respectively) and on the possibility to join a specific research group (2.01 and 2.40 points).

[6] Only six respondents answered the question about the presence of supervisor in the social sciences group, which is why it is uncertain whether the average value is sufficiently representative.

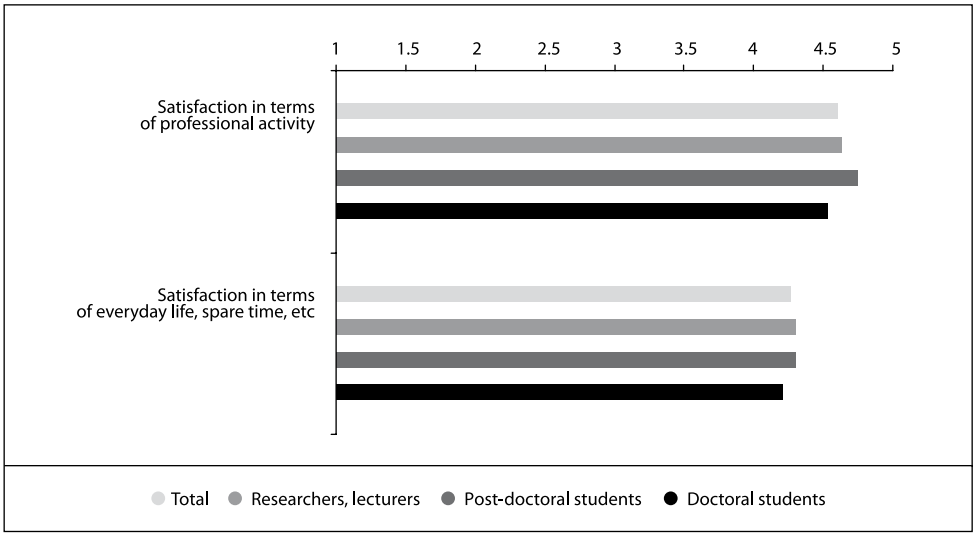
2.2. Satisfaction with the stay abroad and main problems encountered

Satisfaction with the stay abroad (evaluated separately in terms of professional activity, and in terms of everyday life, opportunities for spending the spare time and the like) was evaluated on a five-point scale: *1 – not at all satisfied*, *2 – not very satisfied*, *3 – do not know*, *4 – more or less satisfied*, *5 – very satisfied*.

Majority of researchers, doctoral and post-doctoral students working/studying abroad were more or less satisfied or very satisfied with their stay abroad. Satisfaction with professional activity received somewhat higher scores than the satisfaction with the opportunities to spend spare time (see Figure 2.2). This appears rather reasonable, since the primary goal in going abroad is the enhancement of research career rather than pleasant pastime.

None of the respondents displayed serious dissatisfaction in regard to professional activity, and only a couple of respondents were completely dissatisfied with the everyday life of their stay abroad.

Figure 2.2. Satisfaction with the stay abroad (means of estimates, scale 1...3)



Regardless of personal characteristics, respondents generally seemed to be more satisfied abroad with their professional activity than with their everyday life and opportunities for spending spare time. Even though women did consider the issues of everyday life to be somewhat more important than men did, this difference was not really significant.

A linear trend was detected across age groups: the older the person that stayed abroad, the more satisfied she/he was with the arrangement of everyday life there; at the same time, no such trend was identified as statistically significant in the assessment of professional activity.

Among different subject groups, representatives of natural and hard sciences were more pleased with their professional activity abroad than all others (0.23-point difference with the representatives of all other subject groups taken together).

Married/cohabiting people assigned somewhat higher scores to everyday life and opportunities for spending spare time, but this difference was not statistically significant.

Compared to those that were still abroad during this survey, researchers that had already returned to Estonia put more emphasis on professional activities abroad (4.53 and 4.83 points respectively) as well as on everyday life and opportunities to spend spare time there (4.14 and 4.60 points, respectively).

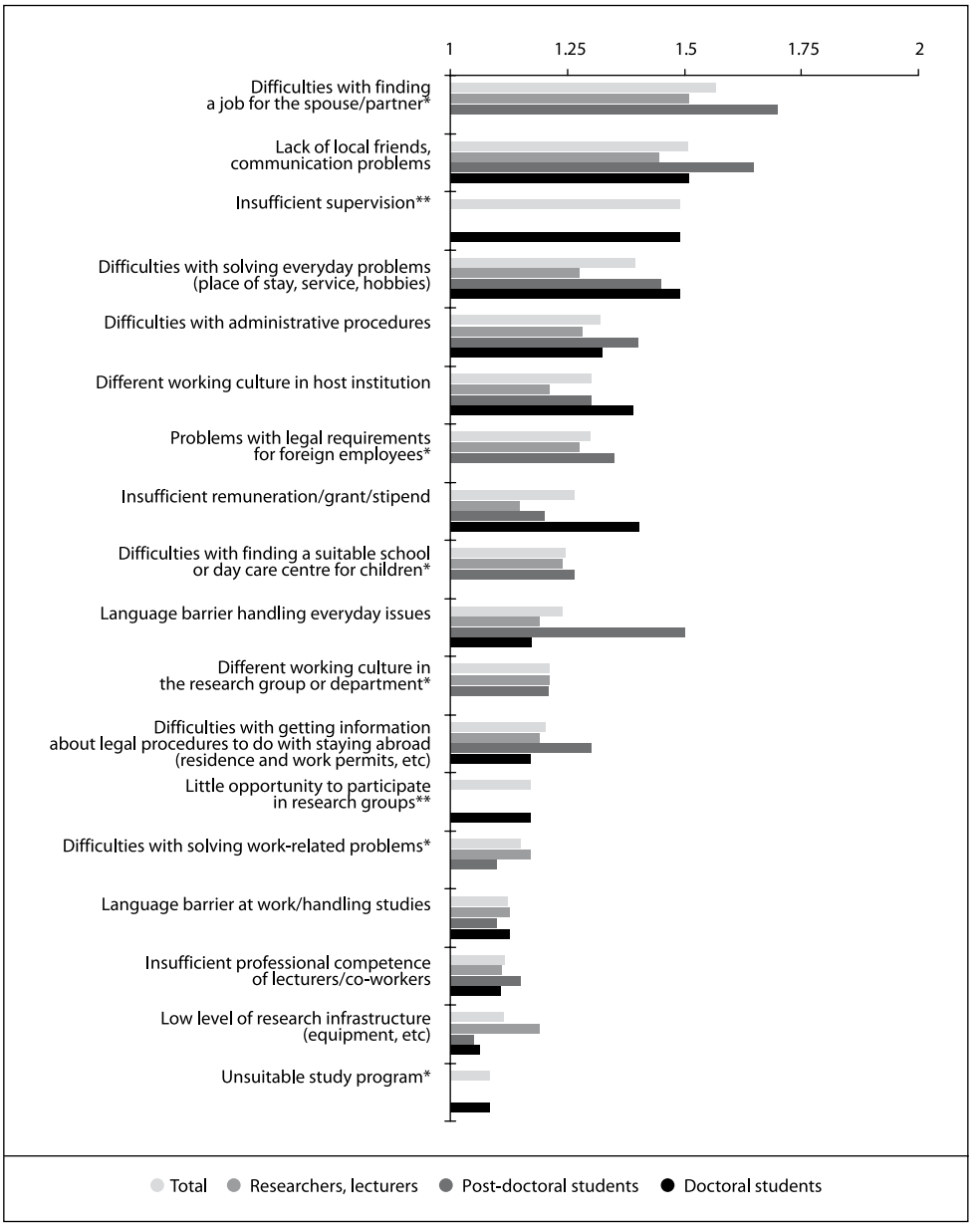
The questionnaire asked the respondents about the types of problems they have encountered during their stay abroad (see Figure 2.3). All the problems listed in the questionnaire received fairly low scores of importance, i.e. there were few problems or they were rather insignificant (responses are presented on the scale: *1 – not really*, *2 – also*, *3 – major problem*).

Among the noteworthy issues were difficulties with finding a job for the spouse (19% of the respondents considered this to be significant), lack of local friends and communication problems (12%), and difficulties with solving everyday problems (place of stay, service, hobbies) (9%).

Researchers who have stayed abroad for a longer period of time emphasised in additional comments their difficulties with finding suitable schools for their children and with preserving their Estonian language skills. Working in the research institutions of neighbouring countries, for instance in Helsinki, enables the researchers to divide their time between Helsinki and Tallinn, but this usually ends up being very exhausting.

Post-doctoral students appear to have suffered more from the difficulties with finding a job for the spouse, and they also stress the lack of local friends. They have also encountered more language barrier problems in handling everyday issues. In additional comments, post-doctoral students also highlighted the difficulties resulting from complex tax systems.

Figure 2.3. Main problems encountered abroad (means of estimates, scale 1…3)



* evaluations by researchers, lecturers and post-doctoral students
** evaluations only by doctoral students

Doctoral students perceive everyday problems (13% of doctoral students considered this an important problem) and insufficient grant finances (13%) to be more of an issue than their more senior colleagues do. In addition to the everyday problems, some doctoral students also view their research and educational supervision as being insufficient. The question of *would you like to list additional problems encountered during the stay abroad* received various answers, including an example of how the lack of car can cause everyday problems and complicate communications with other people when studying in the US. Respondents are sometimes also not satisfied with the type of food available in the destination country, and face notable difficulties when looking for a place to stay. The network of friends back home in Estonia also tends to weaken during the stay abroad. Without a full scholarship students need to work (e.g. in the library) in order to sustain themselves, but this tends to further extend the duration of studies.

Men said that major problems included insufficient supervision (1.67 points) and difficulties with finding a job for the spouse (1.66 points), but they were also troubled by lack of local friends and communication problems (1.58) and by the difficulties with solving everyday problems (place to stay, service, hobbies) (1.39). Women were concerned about slightly different things: they were most frustrated by a different working culture of the destination country, which they encountered either in a specific organisational unit like research group, department or institute (1.45 points), or in the host institution (1.40 points). They also pointed out insufficient supervision, lack of local friends and communication problems, difficulties with solving everyday problems and insufficient remuneration (1.39 points each). Women generally assigned lower scores to various problems, yet they thought that a different working culture in the research group, department and institute was a statistically more significant problem than men did (0.34-point difference with men); they also considered insufficient remuneration (0.25-point difference) and a different working culture in host institution in general (0.17-point difference) to be more of a problem.

Comparison of different age groups shows that the more junior age groups (include those up to 40 years of age) are harsher in their assessments than older respondents are. In other words, they perceive the problems more seriously. The most junior (less than 30 years of age) respondents believe that the main difficulty they faced abroad is lack of local friends and communication problems (1.70 points). They are also troubled by difficulties with solving everyday problems (place of stay, service, hobbies) (1.59 points) and by insufficient supervision (1.48 points). Researchers 31 to 40 years of age consider difficulties with finding a job for the spouse (1.70 points) to be the main problem. They, too, find insufficient supervision (1.56 points) and lack of local friends along with communication problems (1.42 points) to be stressful. Respondents older than 40 years also say that difficulties with finding a job for the spouse (1.59 points) are the foremost problem, followed by difficulties with legal regulation regarding working possibilities for foreigners (1.41 points) and by communication problems arising from lack of local friends (1.35 points).

Representatives of humanities perceive insufficient supervision (1.56 points) as being the major problem during their stay abroad. They are more troubled than the representatives of social sciences and those of natural and hard sciences by requirements of the legal regulation regarding working possibilities for foreigners (1.54 points) as well as by difficulties with administrative procedures to do with their stay abroad (1.46) and by insufficient remuneration (1.45 points).

Social scientists also regard insufficient supervision (1.50 points) as the main problem. Another significant issue for them is difficulties with solving everyday problems (place of stay, service, hobbies) (1.45 points). Representatives of natural and hard sciences, on the other hand, perceive their greatest problems to be difficulties with finding a job for the spouse (1.75 points) and lack of local friends along with communication problems (1.58 points). They, too, are frustrated with insufficient supervision (1.42 points), and also point to everyday problems (1.40 points).

Single people indicate that lack of local friends along with communication problems (1.64 points) is their major issue, followed by difficulties with both requirements of the legal regulation regarding working opportunities for foreigners (1.53 points) and administrative procedures to do with their stay abroad (1.52 points). Married/cohabiting people were mostly disturbed by difficulties with finding a job for their partner (1.73 points). Another important problem for them was insufficient supervision (1.48 points), and they, too, were distressed about lack of local friends along with communication problems (1.44 points).

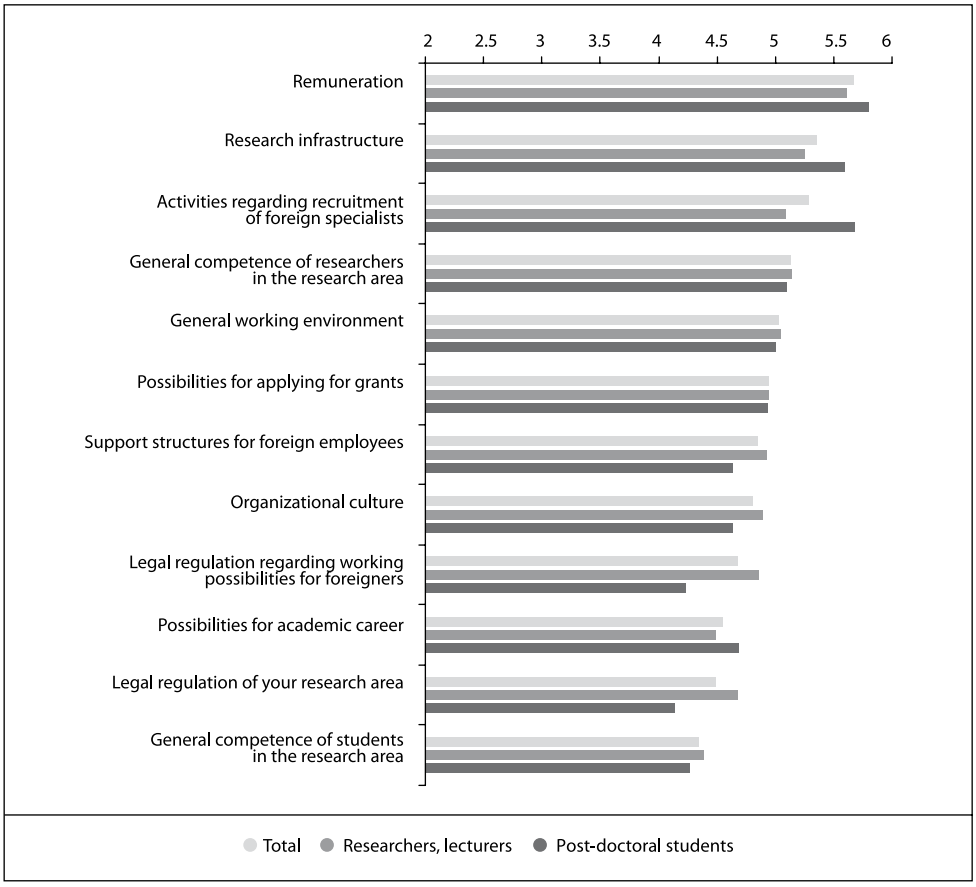
Both those that have already returned to Estonia and those still abroad say that difficulties with finding a job for the spouse (1.61 and 1.55 points, respectively) is the main challenge. Both groups also find lack of local friends and communication problems (1.43 points among those already back in Estonia, and 1.54 points among those still abroad) to be stressful. Those still abroad are also considerably troubled by insufficient supervision (1.55 points), by administrative procedures to do with their stay abroad (1.41 points), and by difficulties with solving everyday problems (place to stay, service, hobbies) (1.40 points).

2.3. Estonian research environment compared to that of the country of prior or current residence

Researchers, lecturers and post-doctoral students participating in the survey were asked to compare Estonian research environment to that in the country of their previous or current stay abroad (mostly the United States and European Union member countries).

Figure 2.4 presents the average scores of these evaluations on the following scale: *1 – do not know*, *2 – a lot worse*, *3 – a bit worse*, *4 – about the same*, *5 – a bit better*, *6 – a lot better*. The first point on the scale – do not know how to evaluate the two countries in regard to the specific aspect – was discarded while calculating the average scores. The average score of "four" implies that the relevant aspect of research environment is considered to be of about the same level in Estonia and abroad. This means that in comparison to Estonian research environment those abroad received a higher average evaluation in all aspects.

Figure 2.4. Estonian research environment from Estonians' point of view compared to their previous country of stay (means of estimates; scale from 2 (a lot better in Estonia) to 6 (a lot better in the previous country)



Evaluations highlighted that the primary advantages of the countries where respondents spent their stay abroad include significantly better remuneration – indicated by 80% of researchers/lecturers and also 80% of post-doctoral students; research infrastructure (58% and 65% of the respective respondents); and activities regarding recruitment of foreign specialists (52% and 75% of the respective respondents). The lowest scores (closest to Estonian level) were given to the general competence of undergraduate/graduate students, to the legal regulation of the research area, and to the possibilities of academic career.

In most questions men seem to assign higher scores to the research environment abroad than women do. As expected, they valued remuneration more highly – 5.76 was the highest score given among men. Men also think that research infrastructure (5.60 points) and activities regarding recruitment of foreign specialists (5.35 points) are more advanced abroad. General working environment (5.20 points) and possibilities for applying for research grants (5.15 points) were mentioned as further advantages found abroad. Comparing conditions in Estonia to those in their destination country, men found least disparity in the general competence of

undergraduate and graduate students in their research area (4.42 points) and in the legal regulation of their research area (4.48 points). Money was also the major incentive for going abroad among women – receiving a slightly lower average score of 5.44 points than it did among men. In addition, women viewed the general competence of researchers in their research area (5.18 points) and activities regarding recruitment of foreign specialists (5.13 points) as major advantages found abroad. Comparing conditions in Estonia to those in their destination country, women also thought that there were least disparities in the general competence of undergraduate and graduate students in their research area (4.13 points) and in the possibilities for academic career (4.25 points). Greatest gender disparity surfaced in the attitudes towards research infrastructure and possibilities for applying for research grants, where men assigned notably higher scores than women did (differences of 0.82 and 0.84 points, respectively). Assessment of organisational culture and general working environment abroad was also significantly more positive among men than women (differences of 0.73 and 0.59 points).

Remuneration was also seen across all age groups as the primary reason for going abroad. The most junior researchers (less than 30 years of age) have a much higher opinion of Estonian research environment than their more senior colleagues. While senior researchers regarded only one or two aspects in Estonian research environment as being comparable to that abroad, younger researchers thought there were many more. Among researchers younger than 30, another major attraction abroad besides remuneration (5.00 points) was general competence of researchers in their research area (4.90 points). Since the group of respondents aged less than 30 was small (in this set of questions, which was not used for doctoral students, the size ranged from 5 to 11 individuals depending on the specific question), further analysis of their assessments would be irrelevant. However, there does seem to be a general trend implying that young researchers view conditions in Estonia as being equal to or even slightly better than those in foreign research institutions in regard to legal regulation of their research area, organizational culture and relevant support structures for foreign employees, but also regarding possibilities for applying for research grants and possibilities for academic career. General competence of undergraduate and graduate students in their research area, legal regulation regarding working possibilities for foreigners, and general working environment were also deemed approximately the same as abroad. In addition to remuneration (5.81 points), researchers aged 31 to 40 were also drawn abroad by more advanced research infrastructure (5.69 points) and activities regarding recruitment of foreign specialists (5.44 points), by the higher level of general competence among researchers in their research area (5.22 points) as well as by better general working environment (5.20 points). Researchers in their thirties though that only legal regulation of their research area was of more or less comparable quality in Estonia (4.42 points is a much more negative assessment as compared to the opinions of their younger colleagues). Researchers older than 40 said that the main attractions for going abroad included first, again, remuneration (5.82 points), then research infrastructure (5.47 points), general working environment (5.35 points), activities regarding recruitment of foreign specialists (5.20 points), and possibilities for applying for research grants (5.19 points). General competence of undergraduate and graduate students in their research area was said to be roughly the same as in Estonia, receiving a lower score than any other aspect (4.25 points).

Opinions of the representatives of humanities differed from those of the representatives of social as well as natural and hard sciences in several aspects. They found more similarities than the representatives of natural sciences between the research environments in Estonia and abroad. Remuneration was also the main reason for going abroad across all subject groups. However, among the representatives of humanities, remuneration (5.23 points) was followed by general competence of researchers in their research area (5.00 points) and by legal regulation regarding working possibilities for foreigners (5.00 points); research infrastructure (4.69 points) and legal regulation of their research area (4.70 points) were also regarded as somewhat better as compared to Estonia. Research environment was deemed about the same in such aspects as possibilities for academic career (3.91 points), possibilities for applying for grants (4.00 points), activities regarding recruitment of foreign specialists (4.11 points), support structures for foreign employees (4.13 points), general competence of undergraduate and graduate students in their research area (4.27 points). Remuneration (6.00 points) was absolutely the main attraction abroad for social scientists, followed by general working environment and research infrastructure (5.60 points each), and by activities regarding recruitment of foreign specialists (5.40 points). General competence of undergraduate and graduate students in their research area (4.60 points) and legal regulation regarding working possibilities for foreigners (4.67 points) were seen as about the same as in Estonia. Representatives of natural and hard sciences were mostly attracted abroad by remuneration (5.76 points), followed by activities regarding recruitment of foreign specialists (5.57 points) and research infrastructure (5.55 points). They thought of legal regulation of their research area (4.31 points), general competence of undergraduate and graduate students in their research area (4.34 points), and legal regulation regarding working possibilities for foreigners (4.59 points) as being more or less the same as in Estonia.

Going abroad appears generally more attractive for married/cohabiting people than for single researchers. The former say that remuneration (5.79 points) as the most important factor for going abroad is followed by research infrastructure (5.53 points), activities regarding recruitment of foreign specialists (5.36 points), general competence of researchers in their research area (5.19 points), general working environment (5.06 points), and support structures for foreign employees (5.03 points). Married people regard the general competence of undergraduate and graduate students in their research area (4.31) and possibilities for academic career (4.48) as being about the same in Estonia. Single people believe that alongside remuneration (5.27 points), activities regarding recruitment of foreign specialists (5.00) constitute another important advantage of foreign research environment. Single people also think that support structures for foreign employees (4.22 points), legal regulation regarding working possibilities for foreigners (4.30 points), legal regulation of their research area (4.40 points), and the general competence of undergraduate and graduate students in their research area (4.50 points) are about the same in Estonia. Married/cohabiting researchers think much more highly of the research infrastructure abroad (5.53 points) than single people do (4.80 points).

Those still abroad think that besides remuneration (5.64 points), other important advantages of foreign research environment include research infrastructure (5.34 points), activities regarding recruitment of foreign specialists (5.13 points), and general competence of researchers in their research area (5.02 points). In the comparison with Estonian research environment they find less of a difference in the general competence of undergraduate and graduate students in the research area (4.23 points), in the legal regulation of their research area and possibilities

for academic career (4.62 points each). Researchers that had already returned to Estonia said that besides remuneration (5.73 points), other major advantages of foreign research environment comprise activities regarding recruitment of foreign specialists (5.59 points), suitable research infrastructure (5.41 points), general competence of researchers in their research area (5.32 points), general working environment and possibilities for applying for research grants (5.18 points each) as well as support structures for foreign employees (5.00 points). They, too, thought that legal regulation in their research area (4.29 points) and possibilities for research career (4.43 points) are similar in Estonia.

2.4. Positive and negative experiences regarding the stay abroad

Respondents were asked to describe their most positive and most negative experience regarding their working or studying abroad.

Researchers point out positive experiences with the grant funding of research projects that allows them to focus on research and avoid administrative problems. Research institutions are of highest quality when people are well motivated to work and receive good remuneration for their efforts. The quality of teaching is good abroad, because the majority of lecturers are also successful researchers, and a young doctoral student can quickly become a full-fledged member of a research group. Since people constantly work in multicultural groups, all types of cultural prejudices are virtually absent.

Post-doctoral students have highlighted the possibility to work on their preferred research topic as a major positive experience. Positive attitude and helpfulness of colleagues in solving everyday problems has been of great support. Post-doctoral students have also found good opportunities to join in the work of high profile research teams.

Doctoral students have emphasised the presence of good professors and availability of good research literature and high quality doctoral seminars as well as opportunities to participate in international conferences and meet interesting researchers. Doctoral students are very much satisfied with highly competent supervisors who communicate freely with their subordinates without fostering artificial status barriers. They also enjoy the stable environment – unlike in Estonia, the guidelines governing doctoral studies do not change over the course of a doctoral programme. Institutions abroad also fund participation in high profile conferences. Excellent working conditions enable the doctoral students to fully focus on their studies.

In regard to negative experiences, researchers mentioned the increasing difficulty in finding adequate funding for basic research. Some places also have very rigid systems for administering documentation. In some universities, access to online research publications is more restricted than in Tartu, for instance.

Post-doctoral students also underlined the dealings with local bureaucracy as an example of a negative experience, and referred to the general rigidity of service sector in some countries. Remuneration of post-doctoral students is generally meant for single people with no children, and is therefore not sufficient to support a family with children living in a metropolitan area with high expenditure levels.

Doctoral students have had problems with residence permits and with their extensions (although this was mostly a problem prior to Estonia joining the European Union). Weakening ties with home country make doctoral students feel lonely, personal family life gets neglected. Transportation problems were cited as part of everyday problems. It also takes time to get used to local scientific styles and to adjust to local research culture. Language barrier creates obstacles to participation in local social circles.

Younger people (up to 30 years of age) pointed out that their most negative experiences abroad were associated primarily with bureaucracy and everyday problems. Negative experiences of the more senior respondents had to do either with bureaucracy or with difficulties in conducting research.

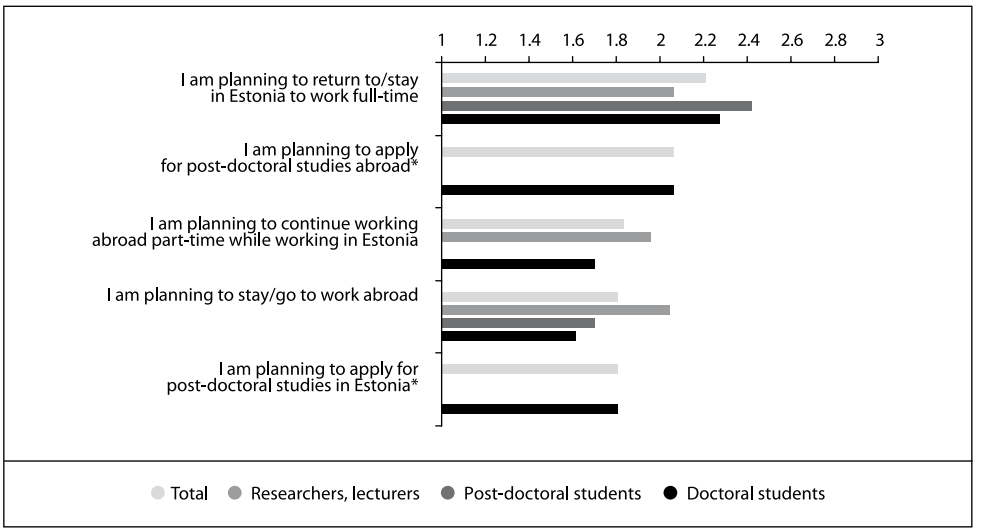
2.5. Future plans for work and factors facilitating return to Estonia

21% of all respondents admitted that they plan to continue with a full-time job abroad. Almost as many respondents (18%) are planning to continue working abroad, but simultaneously keep a part-time job in Estonia.

On the point of maintaining ties to Estonia, it must be noted that out of the 35 Estonian researchers and lecturers currently working abroad at least 15 are also supervising students abroad. All in all, researchers and lecturers are supervising a total of 58 graduate students at their posts abroad, five of whom are Estonians; seven researchers and lecturers also supervise students in Estonian research and education institutions.

Doctoral and particularly post-doctoral students are more willing to return to a full-time job in Estonia than researchers and lecturers are (Figure 2.5, where evaluations are aggregated into average scores on the scale: 1 – no, 2 – maybe, 3 – yes). Doctoral students studying abroad would prefer to also complete their post-doctoral studies abroad rather than in Estonia. No statistically significant variation was detected across different personal characteristics (gender, age, subject group, marital status, current residence in Estonia or abroad) in the plans for future.

Figure 2.5. Future plans for work (means of estimates, scale 1…3)



The influence of factors facilitating return to Estonia was evaluated on a three-point scale: 1 – *no*, *2 – maybe*, *3 – certainly*. Figure 2.6 demonstrates that Estonian researchers and lecturers currently working abroad would be willing to return to Estonia if there were opportunities for a suitable academic position or for substantial research funding. Post-doctoral students, more than other groups, are interested in the opportunity to establish their own research teams or academic units, but issues concerning family life and children can also become significant factors influencing their decision to return home.

Doctoral students are slightly more influenced by the sense of mission than their senior colleagues; they are also more enthusiastic about changes in education or research policy, and are more interested in what is happening in Estonian education system. Nevertheless, changes in education and research policy are not quite as high a priority for them as an academic position or the chance to receive funding as well as issues concerning friends or family are.

Average scores assigned by women mostly diverged from those provided by men in regard to the following aspects: receiving regular updates on the news regarding Estonian research/higher education and its funding (compared to men, the average score is 0.47 points higher among women), opportunity to establish their own research teams or study groups (the average score among men exceeds that among women by 0.34 points), sense of mission and the desire to develop their area of research in Estonia (the average score among women is 0.29 points higher than that among men), a job offer that includes internationally competitive remuneration (average score among women is 0.26 points higher than that among men).

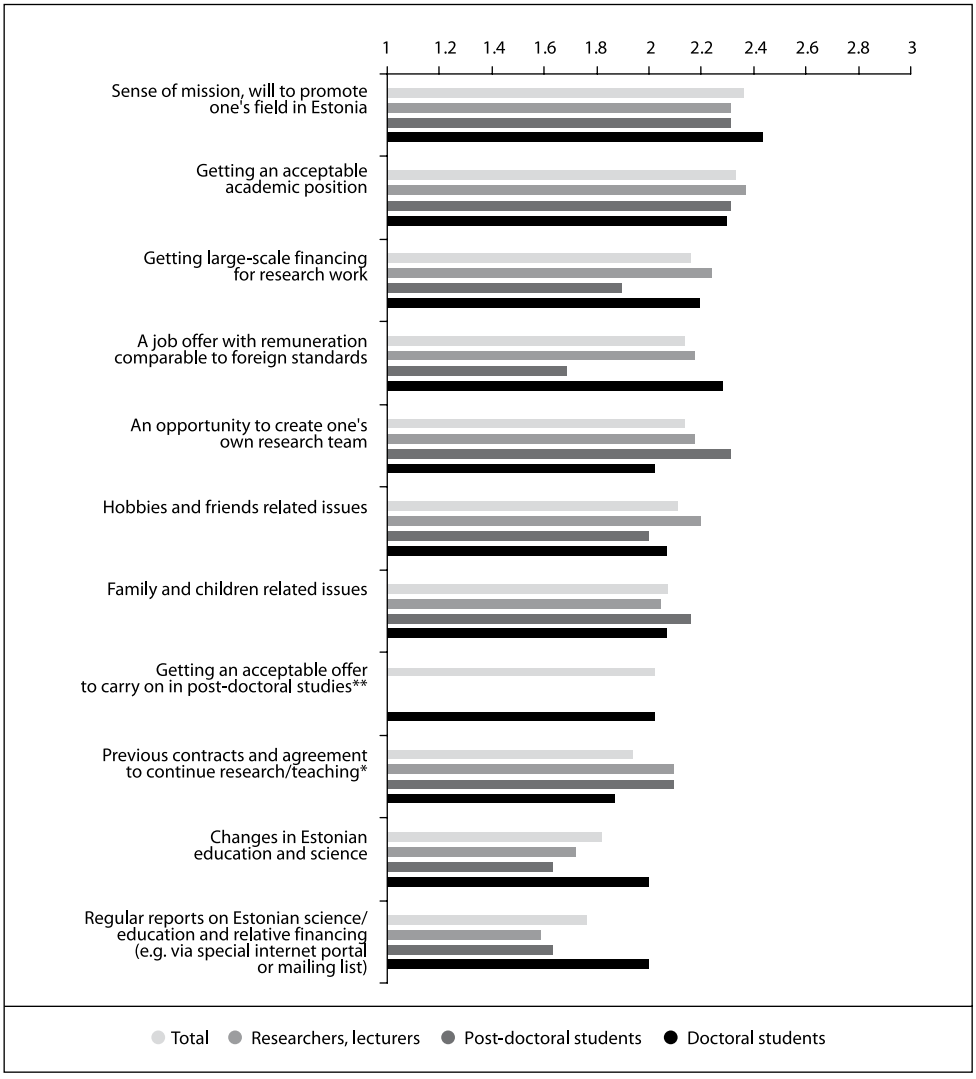
Examining respondents by marital status, significant differences were evident only in matters concerning family life and children as well as prospects of receiving regular reports about opportunities in Estonia (more precisely, about what is happening in Estonian research/higher education and its funding). Married/cohabiting people put more emphasis on issues concerning family and children (a difference of 0.29 points, average score is 1.88 among single people and 2.16 among married respondents). Although the preference to receive regular news updates was generally assigned relatively low scores, still, single people indicated slightly more interest in this than married people did (average scores 1.94 and 1.77 points, respectively).

Compared to other age groups, respondents aged more than 40 said that the factors that would facilitate their return to Estonia include changes in Estonian education and research policy (0.34 points of difference with other respondents), and, especially in comparison to respondents younger than 30, also the opportunity to establish their own research teams or academic units (a difference of 0.44 points). Those in the most junior age group (up to 30 years of age) are notably less than other respondents stimulated to return to Estonia by the prospects of receiving a suitable academic position (2.11 points; in the medium and most senior age groups 2.37 and 2.60, respectively) and by issues regarding family life and children (0.30 points of difference with the other age groups taken together).

Variations by subject group can be detected across three factors. Representatives of humanities indicate that their decision to return to Estonia is much less influenced by the opportunity to establish their own research teams or academic units than it is among others (their average score is 1.85 points; among the representatives of social sciences and those of natural and hard sciences it is 2.36 and 2.20, respectively). Compared to representatives of natural sciences, among the rep-

resentatives of humanities the decision to return to Estonia is much more affected by the sense of mission or the desire to develop their research area in Estonia (average scores are 2.26 and 2.62, respectively) as well as by the need to fulfil already established contracts and agreements (average scores are 1.73 and 2.30).

Figure 2.6. Factors facilitating return to Estonia (means of estimates, scale 1…3)



* evaluations by researchers, lecturers and post-doctoral students
** evaluations only by doctoral students

In their responses to the question *What other factors would facilitate your return to Estonia?,* the respondents currently working/studying abroad propose various possible, mostly funding and management related changes. For instance, they recommend launching a technology agency that would fund research topics of potential interest to Estonian industry. Libraries also need more resources. It was also suggested that research and development funding allocations from the national budget be increased to a level corresponding to that in, for instance, Scandinavia; the management of research and educational institutions should preferably be guided more by the interests of lecturers and researchers as opposed to those of administrative officials. An important factor would also be the possibility to continue the respondents' specific current research projects in Estonia.

Post-doctoral students also emphasise the importance of adequate research funding on a level comparable to those in Western countries. The government needs to realise that technology and research-based economy is critical to continued development in Estonia.

Doctoral students suggested that an important factor would be financing on a level sufficient to allow for full focus on research, so that there would be no more need to seek additional employment. They recommend that return to Estonia could also be facilitated with relevant scholarships and appropriate contracts so that, for instance, students could go and complete their doctoral studies abroad with a scholarship from Estonia that includes a binding contractual clause that upon the completion of the doctoral studies the student has to return to work in Estonia. Family issues can also become major hindrances for return – for example, the problem of finding a job for a non-Estonian spouse.

Researchers studying abroad also pointed out that the main problem decreasing the likelihood of return to Estonia is not only the salary, but also the fact that there is a lack of adequate equipment in Estonia to conduct cutting-edge research. Absence of these facilities (equipment, research group) essentially rules out the option to return to Estonia. Moving back to Estonia would often mean going backwards on international level, which is something a researcher cannot accept.

The survey showed that the positive aspect about Estonian research institutions is that it is possible to maintain relations with the institutions through collaboration from abroad. People working abroad can therefore also work both as lecturers and researchers in Estonia on a part-time basis. At the same time, this often brings about administrative problems in Estonia, for example difficulties with covering the costs of business travel and accommodation. Unlike many other European countries, Estonia lacks suitable government-sponsored foundations that support studies abroad. Support from Estonia and a binding obligation to return to Estonia after a certain period of time (a tenure track job guaranteed at an Estonian research institution in case the stay abroad is successful) would significantly increase the chances of researchers returning to Estonia. Austrian report also pointed out that mobility is restrained by lack of adequate opportunities at return: it is difficult to find a suitable job and almost impossible to return to the previous one (Heintel, Hahn, Fischer 2006). Special attention needs to be paid to young and returning researchers: establish grants for young researchers, for emerging research groups etc. Doctoral students also mentioned that generally there is no interest in including them in the teaching work of local institutions on at least a part-time basis during their temporary stays in Estonia. This results in that the potential knowledge base of Estonian doctoral students studying abroad is discarded and remains unused.

3. Focus group interviews with mobile researchers

3.1. Overview of a focus group interview with researchers who have already returned to Estonia

7 people participated in this focus group interview, among them 3 women and 4 men.
Subject areas represented: humanities, social sciences, natural and hard sciences.
The interview lasted for 1 hour and 48 minutes.

Going abroad

People go abroad to study and work because of specific academic interests and with a clear goal to enhance their existing knowledge base. Doctoral students mostly go abroad because they need more instruction, and because they want to collect information (literature) for their thesis, but they are also interested in gaining some experience of staying abroad or taking on the challenge of succeeding in a different research institution. Participants also pointed out that sometimes they go back to foreign research institutions in order to reinforce old contacts. Researchers view further individual development (including post-doctoral studies) and work abroad as a natural part of a research career. It is viewed as normal that because of Estonia's small size and limited resources, further individual development abroad is an important, even mandatory step. Taking advantage of foreign resources in such a manner is vital for the advancement of research conducted in Estonia. Participants of this interview thought it was critical for students to undertake post-doctoral studies abroad. They recommended that conducting post-doctoral research abroad should be supported, and, in principle, it should even be mandatory for people who have completed their doctoral studies in Estonia and want to embark on a research career. Two researchers clearly advocated the idea that people should go abroad preferably after they have completed their doctoral studies, because they know better by that time what their goals for future are, and they will also have enough competence by then to make the best use of their time abroad and really enhance their skills base. On the other hand, participants also said that it is important that students go abroad during their bachelor studies, via ERASMUS exchange programme, for instance. This type of student exchange is a normal part of the study process and aims to broaden students' views of the world without being necessarily linked to a potential research career.

Looking at this issue across different subject areas, social scientists point out that there is a problem with time and context. Namely, some specific segments in an area of research are so young, that there are only a couple of people, at most, working on this in Estonia (e.g. two participants in the focus group conveyed that they are the only people in Estonia working on their specific topic), which means it is crucial that they receive at least some supervision and instruction from abroad.

It was also emphasised that people do not always go abroad because of the lower quality of research in Estonia or lack of opportunities in Estonian research institutions; instead, some people may simply have a personal goal to complete their doctoral studies in one of the top universities in the US or England. Therefore, it is not always about the lack of opportunities, but about the individual wishes and visions people have for their personal academic career.

Estonian researchers that have worked abroad do not see brain drain as being a problem. Researcher mobility is a natural phenomenon, and the decision to return home or stay abroad largely depends on personal reasons (the same goes for foreign researchers working in the University of Tartu) and personal preferences or plans people have for their future life. It is also difficult to determine the actual volume of brain drain. As an example, it was noted that the statistics often forgets people that go abroad and do not return immediately. *About a third of the people that go abroad do not return, but this cannot be said conclusively, because they may as well return in 10 years time, for instance.* Although the general view was that more researchers should return, it was really the current imbalance between the movement to and from Estonia that was seen as the main cause for concern. To be more precise, more researchers are leaving Estonia to go abroad than the other way round. Hence, in order to achieve a balance, we need more foreign researchers to come to Estonia. One of the reasons why foreigners do not come to Estonia is the more modest remuneration, and also the fact that foreign researchers are used to different conditions. Two different tendencies were identified: the so-called Westerners are discouraged by insufficient remuneration, and while there are those who would like to come from the East, the problem with them is that they would want to teach in Russian.

It was also noted that attracting foreigners to Estonia still mostly works through personal contacts, i.e. there is really no other way to get foreign researchers to come. Participants mostly miss having top players around, i.e. being at a leading university abroad increases the chances of meeting the best researchers in their research area. They perceived Estonia as being a periphery, and this makes it hard to get the best players to come here. Participants in this focus group said that the practice of establishing personal contacts and exploiting these to invite foreign researchers to lecture here, for instance, varies significantly across faculties. It works in some faculties, but not in others.

In a later, separate conversation with one of the participants in this focus group an additional reason was identified – researchers tend to have above-average analysis skills as well as more sensitive social perception, which often make them more critical about broader socio-political problems they see in Estonia, and force them to consider options of going to live and work abroad.

Getting adjusted in a foreign research institution

Based on their own experience, participants in this focus group insisted that the key to effective research work lies in the conditions foreign researchers face during their stay: whether they have access to computers and Internet, issues regarding the arrangement of accommodation and necessary paperwork (residence permit, address registration etc). It was also mentioned that in Estonia one of the specific problems may be the fact that Estonians are not used to or rather it is not in their nature to initiate contacts with people they do not know. A foreign researcher who has come to Estonia may therefore feel excluded, not really in terms of academic work, but more likely in terms of social life.

Returning to Estonia

Return to Estonia does lead to a decline in the standard of living, but this is not considered to be a major problem. The problem lies rather in the general under-financing of the research system – if a lecturer receives a lower salary in the University of Tartu than a bus driver does in Tallinn, then it raises questions about who is or what role does a researcher play in Estonia and why is she/he here at all. It is depressing that a researcher's salary is not competitive even within Estonia. In the discussion concerning remuneration, the prevailing opinion was that right now the salaries of Estonian researchers are of no competition whatsoever to the salaries of researchers in Western Europe, yet this is quite understandable given the differences in the general wage levels and standards of living between these societies. For example, since the cost of living is higher abroad, then if you lead a normal life there, the monetary gain is not really as big as it first seems in absolute terms. Participants observed that the Estonians who have gone abroad would not shy away from return because of the standard of living (size of the salary) as long as there were sufficient conditions to advance their field of research. Then again, there were also examples where Estonian researchers only follow the size of salary, meaning that they keep looking for places where they can earn a higher salary, and Estonia is but a mere pit stop.

As for the work-related reasons, a long stay abroad entails the danger of loosing altogether contact with Estonian research institutions and colleagues, which is why returning home is regarded important. Among the reasons to return is therefore also the need to restore contacts. Another reason participants brought up was the possibility that people do not get fully adjusted abroad and the so-called "homesickness" brings them back to Estonia. The third reason is that people mostly go abroad on a specific scholarship provided for a predetermined period of time, and therefore they need to return home once the scholarship ends (e.g. some scholarships come with the stipulation that the grantee must return home after the end of the scholarship period). One of the participants in the focus group believes that the reasons can still be roughly divided into two sets: first, personal reasons starting with homesickness; secondly, broader ideals and the desire to come and make a contribution to Estonian research, conduct research in Estonia, feeling of solidarity with Estonia. Since all the participants in this focus group had returned to Estonia, it can be argued that the actual return depends on the motives of the specific individual. Those people that have tied their future with the foreign research institution will probably see little reason to come back. It is hard to define the role of research institutions and Estonian government in bringing researchers back, and the issue was not raised during the interview.

One of the participants in the focus group asserted that there is a specific timeline involved – five years, and after this going back home becomes complicated. In five years time people lose contact with Estonian researchers as well as with Estonian research environment. It is therefore vital that special effort is put into maintaining contacts with Estonia. It also makes a big difference whether people go abroad after they have worked in one of the local research institutions or they go straight from masters' studies here into doctoral studies abroad without having any prior employment relations with Estonian research institutions. In the latter case people are more prone to lose contact.

Problems

Participants of this focus group believe that Estonian research funding system has become too technical (as though run by a computer), i.e. it is too much focused on tracking specific criteria. Instead, the system should put more faith in the heads of universities, institutes or even smaller structural units, and allow them to decide what to do with the money allocated to their institutions – in other words, the system should "trust the researcher".

Participants pointed out that brain drain discussions should not focus only on the issue of researchers going to work for the research institution of another country. A more important issue is whether these people have retained any contacts with Estonia and whether they collaborate with Estonian colleagues. Personal relations, though, also play a significant role here.

So it appears that the position a researcher has abroad is directly related to the ties it simultaneously has with Estonia. When an Estonian researcher or doctoral student goes abroad, and his/her stay is funded by the host university or he/she is tied to a specific research grant at the host university, then his/her freedom of choice and work is more limited. This means that the researcher is more strongly bound to a specific research group and does what the group needs him/her to do, thereby being fully involved in the work of that one research group and devoting all their energy to the host university/institute. When researchers go with their "own" money, they have more freedom and can choose to do more of the things that benefit the research work conducted in Estonia. Participants concluded that the latter option is better suited for Estonian researchers. Kristjan Jaak scholarship is a good example of an option for financing four years of doctoral studies. In this case, the doctoral student brings in money to the foreign university, and in so doing, has more freedom to focus on the doctoral thesis, visit Estonia, etc. An opposite example was a situation where a student was studying in Germany, and the studies were funded from German sources. The student therefore had much less freedom to focus on the doctoral thesis, possibilities for visiting Estonia were very restricted, etc.

Another problem stems from the fact that it is unclear whether the returning researcher will get a job or not. Such a situation was illustrated by an example where the researcher returns on June 1st, but the contracts of targeted funding only begin on January 1st, thereby making the situation pretty uncertain, i.e. the researcher does have a promise to be included in the project awaiting targeted funding, but it is never quite certain that the project will actually receive that funding. This puts the researcher into the position of a „visiting" staff member, which effectively represents a rather insecure status.

Suggestions

The group found that researchers should be afforded the opportunity to spend at least one month a year in a foreign research institution. This requires the establishment of a specific scholarship or a support system. Those researchers that have decided to stay in Estonia should be provided the opportunities to travel abroad and participate in different international projects. For example, in the University of Iceland, lecturers are allowed to take an academic leave every two and a half years, and they receive all kinds of financial support to spend this leave in a foreign research institution. Participants observed that in Estonia, too, lecturers and researchers should be encouraged to take advantage of academic mobility. They admitted that Kristjan Jaak

scholarship does offer such an opportunity already, but the currently rather infrequent application deadlines are viewed as a problem. Researchers need either more frequent deadlines or a continuous review process. The decision or an opportunity to go (e.g. an offer from a foreign research institution; need for an immediate use of a laboratory, etc.) may come about rather suddenly, and there will be no time to wait for the next application deadline. Participants advised that shorter (one month) trips to work in a library, for instance, should be funded through their own institution. A similar study conducted in Austria called attention to the same issue: application for funding takes too long, and foundations providing money should be more flexible (Heintel, Hahn, Fischer 2006).

There were two diverging opinions about bringing researchers back to Estonia: on the one hand, participants thought that the researcher who goes abroad needs to be active in looking for and maintaining contact, meaning that there is no need to "prefer those that come from abroad". That is to say, Estonian researchers staying abroad should be treated no differently than researchers working in Estonia. Yet at the same time, research institutions should have sufficient information about all Estonian researchers in their area of research regardless of where they are located, and they should offer enough information about possible vacancies coming up or being created. Prevailing among the participants was still the principle of equality, i.e. researchers staying abroad and those working in Estonia should both be equally informed about upcoming vacancies, for instance, and researchers working abroad should not receive any preference in the competition for the vacancy simply for the sake of bringing them back to Estonia.

Participants concluded that the actual salary cannot be used to attract someone to come back, because it would be unfair to others ("local" researchers). That is to say, researchers who have returned from abroad should not receive a higher salary than others in the same institute simply because they come from abroad and are used to a higher wage level. The "soft services", on the other hand, should be more easily available – for example, if some researchers working abroad are interested in returning to work in an Estonian research institution, they should be provided with sufficient information about the situation, included in the future plans, etc.

As for the attempt to bring (back) foreigners and Estonian researchers to work in Estonia, participants recommended that every research unit should have its on reserve fund so that it can make more flexible decisions about whom and when it wants and can employ. For example, the head of an institute has a certain amount of money to employ about 2–3 new researchers or post-doctoral students a year, these vacancies will be announced publicly, and the head of the institute can choose who to employ. Participants complained that there have been situations in Estonia where procedures take very much time. For example, when a participant in the focus group went to work in the UK, the head of the respective institute had much more discretion in the choice of whom to "bring in", which made the whole process very fast. Another example was Denmark that puts much effort into recruiting post-doctoral students, because the volume of funding they receive for post-doctoral positions in the following year is linked to the number of post-doctoral positions they filled in the previous year. Every institute is therefore explicitly interested in recruiting more post-doctoral students. In Estonia, there is essentially no such category as a post-doctoral student at the moment, albeit it is a very good way to bring in foreign researchers. Participants in the focus group said that they as a group know of only one foreign post-doctoral student and a couple of Estonians who have completed their doctoral studies abroad and are now working on their post-doctoral research in Estonia.

When asked about what the government could do through research policy, respondents suggested that it should either facilitate mobility or at least not encourage immobility. It was also pointed out that the „My First Grant" programme managed by the Estonian Science Foundation essentially works against academic mobility, since it encourages young doctoral students to stay in Estonia. Instead, there should be a „My First Grant Upon Return". Some of the participants in the focus group indicated that a better approach would be to encourage people to undertake their post-doctoral studies abroad and then come back after they have completed the studies. In conclusion, participants maintain that academic mobility needs to be nurtured at the right time, that being after the completion of doctoral studies. The doctoral stipend system was seen as a very valuable thing, which is why it was considered reasonable that people should complete their doctoral studies in Estonia, after that go abroad to do post-doctoral research on a slightly modified topic (work on a new field), and then come back introducing the new topic to the research area in Estonia.

3.2. Overview of the Tartu focus group of foreign researchers studying and working in Estonia

10 people participated in this focus group (three women and seven men)[7]
Subject areas represented: humanities, social sciences, natural and hard sciences
This focus group interview lasted for 1 hour and 49 minutes.

General attitude towards researcher mobility

Academic mobility of researchers is regarded as a customary and normal phenomenon, and is considered critical for participation in the contemporary research universe. Since Estonia is a small country and the number of research institutions is limited, there is not much competition on the national level. „Because there is no competition and nobody is after your position, it also means that there is no change of air." This situation is the very reason why researchers need to go to other research institutions for a change, and see "who and where they are in that environment", that is, to find out how well they compare to other researchers. As an example, going through one's whole career in one university is deemed as being against the good academic practice in Germany (i.e. bachelor/masters, later doctoral studies and then professorship – having all this in the same university is not acceptable).

Another issue stressed by the foreign researchers was that there should be no distinguishing between the so-called national or Estonian research and international research. There is only one whole international research, and no Estonian research or German research, for instance. Since the research system is but one big whole, there can be no concern about brain drain, because it is only normal that researchers move around between different research institutions. Participants admitted that such researcher movement takes place everywhere, not only in Estonia. The trend in researcher mobility does appear to be from East to West. Researchers in Western

[7] A specific feature is this focus group is that it comprises foreigners that have already lived in Estonia for a fairly long time. Some of them are fluent in Estonian, others understand it and are able to express themselves in Estonian to a certain degree, except for one participant, who has only spent 8 months in Estonia. Hence, the participants of this focus group agreed that they are not really academically mobile anymore, but have stayed on in Estonia for a longer period of time. When reading this overview, it should be remembered, therefore, that the views, attitudes and opinions presented here reflect, first and foremost, the position of researchers that have lived in Estonia for an extended period of time and are, thus, already well adjusted to the local academic world.

Europe go to the US; those in Eastern Europe go to Western Europe etc. A question was thus raised about why Estonia is not interested in researchers coming from Russia and China, for instance. For example, there are many Chinese researchers, doctoral and other students in Helsinki University, but virtually none in Estonia. The general consensus was that Estonia should make an effort attract more so-called brains from that region.

One of the advantages that mobility gives is contact creation, which is really the very factor that the whole research system is built upon. Participants in this focus group were convinced that researchers need to spend at least one month each year in foreign research institutions – which is a principle most participants in this focus group actually follow. The main reason for all this travelling, though, was assigned to the limited amount of resources in Estonia, i.e. technical equipment, libraries, laboratories. However, this is not viewed as something to blame the Estonian research system for, but rather it is considered normal that such problems are solved through the research travels abroad. The conclusion is, therefore, that although they are foreign researchers working in Estonia, they also identify themselves with local researchers, and regard their own mobility as being just as important. To sum up this subsection, Estonian researchers in the first focus group and the foreigners in the second focus group appear to have matching opinions about academic mobility.

Why come to Estonia?

One of the reasons for coming to Estonia was that researchers and lecturers saw Estonia as a place where they can accomplish something, bring new knowledge, develop new research directions etc. Researchers that had come in the 1990s pointed out that they were just like missionaries who came here to implement innovations. Existing contacts or personal experience play a significant role in the decision to come to Estonia. Several participants gave examples of how they had initially come for a couple of months as exchange students, but later came back, some for doctoral studies, others to conduct research. A specific recommendation was proposed that research groups establish more relationships with other research groups abroad, and that research groups should also participate in student exchange. This would ensure that the same students will be more interested in coming back later to work in Estonia as researchers. It was also emphasised that the University of Tartu houses some very high quality research groups and several researchers therefore choose to conduct their research here; or sometimes the University of Tartu is the only place people can study and conduct research in very specific research areas (e.g. Finno-Ugric languages).

What kind of problems are associated with coming to Estonia?

Participants in the focus group pointed out that some people are still scared of Eastern Europe or at least they were at the time when the participants decided to come to Estonia, which means that students are still not finding it attractive enough to come to Estonia for an exchange programme. Fitting into the local environment was also seen as problematic, although they mostly pointed to the fact that it was much harder in the 1990s to establish contacts with local Estonians than it is now. At that time everybody was waiting for and excited about foreign researchers coming to Estonia, but actual communication still turned out to be a challenge. One of the likely causes for this was the fact that Estonia came from a so-called closed system, and then local people found themselves in a completely new situation. One of the

participants mentioned that Estonians used to be very shy, and it was difficult to find Estonian friends. Nowadays the communications and the process of integration are more dependent on whether the researcher has come to Estonia "independently" with the support of some sort of a programme or with the help of personal contacts. Integration of new arrivals into the academic circles is also much easier now because many Estonians have worked/studied abroad, which has made the academic circles more open and international with research groups comprising increasingly more foreign researchers.

Why stay in Estonia for a longer period of time?

Participants say that one of the reasons why conducting research in Estonia is so attractive is the relatively limited amount of bureaucracy. Estonian system is fairly flexible; it does not take as much paperwork, and administration and solving organisational problems is not as time consuming, which leaves more time to commit to research. This is regarded as one of Estonia's advantages, and is one of the reasons why foreigners want to continue doing research in Estonia.

Another reason to stay in Estonia is that in case a researcher has come to Estonia together with the family, then Estonia offers a fairly good living environment and children tend to adjust rather quickly (foreigners do not concern themselves with the common Estonian problem of not wanting to raise their children as foreigners – so does being an Estonian/nationalism inhibit mobility?). In addition, a new network – friends, acquaintances, partners-spouses – that emerges here, further supports staying. A similar mobility survey conducted in Iceland also highlighted good living environment as one of the reasons why people concerned about their family are attracted to go to Iceland (Icelandic Centre for Research 2005).

The main reason to leave Estonia is regarded to be the need to move on, and the preference not to stay put for too long. Much also depends on the type of employment contract or at the end of doctoral studies, for instance, the researcher needs to make a new decision, a new choice about whether and where to move on or whether to stay put.

The issue of remuneration and of relatively low salaries in research sector is a common problem for foreign researchers. But they also see the broader problem, i.e. a general increase in salaries is a problem that concerns the whole society. One option is that if a foreign researcher works in an EU project or is financed through EU projects, then his/her life is really good in Estonia. This train of thought led to an idea, which can be summed up as follows: if researchers would all belong into international research groups that are financed through international foundations and similar structure, then the problem of low researcher salaries and under-financing of research would not exist.

Shortcomings of Estonian higher education system

Foreign researchers warn that Estonian higher education is losing its quality, because the Bologna system, as it stands right now, is not functioning properly. There are too many general subjects, whereas the emphasis should rather be on the core subject area, because otherwise the education does not really offer real content. Participants feel that Estonia took the changing of curricula too seriously. In Denmark, for example, almost nobody actually graduates in three years; instead they just continue their studies. Compared to their prior system, nothing much has changed conceptually, and they just receive an interim diploma after three years.

Participants of the focus group believe another problem to be the trend in Estonia to put too much emphasis on English, whereas other languages like German, Russian and French need attention and appreciation along with the English language. Two types of responses were given to the question of whether researcher mobility would be positively affected if more subjects were taught in English at the university level. On the one hand, it was thought to be justified, but at the same time it was recognised, that subject areas focusing on culture and language cannot fully adopt this idea. Participants generally understood that since Estonia only has about a million people, it is rather natural that it tries to follow more conservative strategies in the name of preserving the native language.

Specific problems and recommendations

Participants mentioned problems with accommodation – foreign masters/doctoral students are accommodated together with bachelor's students who have come to Estonia only for one semester. Graduate student, whose primary goal is research as opposed to collecting colourful experiences, need to be accommodated in a separate dormitory. Problems with accommodation, although very different from those in Estonia, were also raised in the mobility surveys conducted in Finland (Puustinen-Hopper 2005) and the UK (River Path Associates 2005). In Finland, it is increasingly difficult to find accommodation, and in the UK, the quality of accommodation was deemed very bad, especially when taking into account the prices charged.

Foreigners that come to stay for a longer period of time need to be given more information about the opportunities to study the Estonian language. Participants suggested that doctoral students and researchers who have come to Estonia for a longer stay should be offered separate language classes from the group of students that come for only 1–2 semesters. Language classes also need to be organised on a schedule that fits a working person. Problems with language studies also surfaced in the Finnish report (Puustinen-Hopper 2005). Since the amount of spaces in language groups is limited and preference often goes to exchange students, doctoral students frequently end up being left without the language training, albeit they would be the ones to benefit most. As in Estonia, Finnish respondents pointed out that separate language classes should be offered to those that have come to stay in the country for a longer period of time and to the exchange students who come only for 1–2 semesters.

University website has much more information in Estonian than it does in English; the amount of information offered should be roughly equal in both languages. If a person cannot read Estonian well enough, he/she is denied much information about what is going on in the university, which also diminishes the sense of belonging. People surveyed in Iceland also observed that the websites of universities should provide more and better information in English (Icelandic Centre for Research 2005).

International cooperation is restrained by the fact that the airport is too far from Tartu. Many conferences and meetings, for instance, are already organised in Tallinn so as to make them more convenient for international guests. Natural scientists did not agree with this opinion, because they do not mind the so-called "travel to the countryside".

3.3. Overview of the Tallinn focus group of foreign researchers studying and working in Estonia

Participants of this focus group included 3 men and 1 woman, 3 of whom were researchers/lecturers (2 of those also doctoral students) and 1 just a doctoral student. Once again, the participants had already been in Estonia for a considerable amount of time.

Subject areas represented: social sciences, natural and hard sciences.
This focus group interview lasted for 1 hour and 47 minutes.

Why mobility?

This group did not discuss researcher mobility on the broader scale, but focused on the mobility issues from a personal and Estonian perspective. The most general benefits of researcher mobility include contact networking in the specific research area, information sharing, and knowledge of what and how other people in the same research area are doing.

Estonian research/researcher should fill the role of a bridge between the East and the West. Developing cooperation in both directions would be extremely useful for Estonia, but these opportunities are not sufficiently exploited in Estonia – researchers/lecturers are forced into a pre-existing pattern that looks mostly westwards for cooperation partners. At least half of the potential is therefore lying idle, while the countries in the East are gazing towards the West particularly through the Baltic countries.

A significant reason to launch/continue an academic career in Estonia is the better chance to communicate with the supervisor: there is direct contact, no need to register for a meeting several weeks in advance, researchers have less students to supervise and are therefore available for more face time and for direct participation in the work of the research group. Yet applying for money from Estonia's internal sources is harder and more complicated than from the EU projects, for instance, because of extensive bureaucracy.

Problems

Unlike the other groups, the Tallinn group was most concerned about the financial issues. Financial conditions have become more complicated due to the so-called official declaration of the end of the transition period, which means that there is no more interest in Estonia as a transition country and several funding sources specifically targeting transition issues have now been cut off. This is why seeking new contacts and alternative sources of funding is so critical now, and requires participation in many conferences. The latter, however, is very limited and under-funded because it has not been a priority.

Another problem is that universities have focused mostly on teaching, because this works as a more direct source of income; research, on the other hand, has been pushed back because of the scarcity of resources. This can lead to a situation where, for example, the literature needed for research is acquired with the researcher's personal funds, and when the foreign researcher leaves, he/she will take the collected research literature with him/her. Insufficient transparency of intra-university funding decisions was also raised as a problem.

In addition to the limitations in financial support, participants also say that there is lack of sufficient administrative support, which is needed to apply for additional funding. Universities could use special units/teams that specialises on writing projects, finding additional sources of funding and the like. This is also good assistance.

Among the problems related to the so-called academic adjustment, respondents pointed out the passivity of students in lectures and seminars, which can be rather shocking for a foreign lecturer who has just arrived in Estonia. Some participants have also noticed the attitude that a lecturer is a teacher who distributes pre-packaged servings of knowledge and credit points; independent thinking and work as well as classroom participation are alien to Estonian students.

Participants concluded that attracting foreign students would benefit the research sector as a whole as well as a specific university. Regrettably, there are but few classes offered in English. If a subject is taught in Estonian, the foreign student can complete the course by taking a book exam, but this solution does not really add much value in terms of studying experience. English-language books are also not very readily available.

Contradictions in language requirements are also evident in connection with the doctoral thesis – it is recommended that the thesis be written and defended in English, and at least one of the opponents has to be from abroad, yet there are no programmes offered in English and nothing seems to be moving in the direction of creating such programmes. The rules of the procedure are only provided in Estonian – why or who needs this kind of requirement for internationalisation then …?

Other problems are associated with accommodation – for example, during a major concert that took place in Tallinn, a doctoral student was simply asked to move out of the dormitory for a couple of days. Participants also agreed that graduate students should not be forced to share a room, but should get their own room, instead. As mentioned above, problems with accommodation were also of an issue in Finland (Puustinen-Hopper 2005) and the UK (River Path Associates 2004).

Solutions

Responses to the question of how to finance research included an innovative suggestion of inviting both public and private sectors to participate in various research projects that would then provide practical benefits to the buyer. Tartu focus group totally excluded the option of including private sector into research funding, which probably illustrates the different approaches these universities follow. Tallinn University of Technology is more focused on practical applications, and has already established some relationships with companies in specific areas of interest, which makes it the easier to invite them and others to participate in new developments the University could offer.

Another solution for supporting local research would be to bring in from abroad one world-renowned researcher who works at the very cutting edge of his research area and he/she would then establish a research group around him/herself. This "top player" would attract the attention of private sector and possibly make them invest in research.

Comments

In addition to the differences between universities in regard to their participation in international research projects, significant disparities also emerge within universities: separate units of one university can diverge significantly as to the level of international cooperation, share of international students, etc.

Foreigners often do not know other foreigners working in their university, and some of them were very much surprised to learn about other foreign researchers working in similar fields of research in other Estonian universities. Participants therefore said they would very much like the offices that administer the hosting of international students to also work with the foreigners after they have arrived in Estonia, and wanted to see some sort of intra- and interuniversity exchange of information and possibly an introduction of people and maybe even research groups to each other.

3.4. Summary of focus group interviews

Comparing the reasons of academic mobility pointed out by researchers working and studying in Estonia and by those that have studied and worked abroad, one finds them fairly similar. In the case of doctoral students, academic mobility in both directions is linked to supervisors. Students come to Estonia because of a specific research focus or a supervisor; same reasons prevail among people going abroad. In the case of researchers, on the other hand, coming to Estonia as a researcher is primarily related to an explicit interest in Estonia (e.g. a transition society) or a desire to join the work of a specific research group. The foreign researchers that participated in the focus groups have been in Estonia for a considerable amount of time, and they were therefore also able to draw attention to the fact that during the early days of the regained independence researchers often came to Estonia because they saw an opportunity to work on "something new", lay the foundations for a particular research areas there.

Four main types of researcher mobility can be identified on the basis of the opinions expressed in the focus group interviews. These are generalised patterns of behaviour. Clearly, every researcher's decision to go abroad and to return is influenced by many different factors (including, for instance, personal reasons, varying quality of research areas, etc.) that are not all fully accounted for in the construction of this typology. The typology first looks at the goals people have when going abroad and whether they retain an employment relationship with a research institution at home (covering both temporary suspension of an employment contract, for instance, and a semester of academic leave) or they apply for a scholarship/job offered by a foreign research institution/foundation and have no employment relations with a research institution at home. The second dimension in the typology examines whether the researcher comes back to Estonia, or in the case of foreign researchers, goes back home, or stays in Estonia (see Table 3.1).

Table 3.1. Types of researcher mobility

	Comes/goes back	Does not come/go back
Individual development; employment relations in home country are maintained (e.g. employment contract is temporarily suspended)	Type I	Type II
Applying for a scholarship/job abroad; no employment relations in home country	Type III	Type IV

Type I – this type of researcher mobility is characterised by the fact that the researcher goes/comes to another country on the basis of a specific exchange contract, stipend, joint international project for a predetermined period of time and with the goal of individual development. At the same time, employment relations with the research institution back home are fully maintained or temporarily suspended in the case of longer time periods. In this type of researcher mobility, the researcher returns home when the period ends.

Type II – the researcher goes abroad first for a predetermined period of time just like in Type I, but the scope of opportunities offered there broadens during the stay (e.g. a job offer, a new scholarship), and the researcher therefore decides to stay for a longer period of time than initially planned. This, in turn, leads to changes in the relations with the existing employer.

Type III – this type of researcher mobility is more common among doctoral students and young researchers. The purpose of going abroad and returning to Estonia is to find better conditions to continue studies as well as individual development (supervisor), and the researcher therefore applies for various scholarships. Kristjan Jaak Scholarship is one such example – it finances four years of doctoral studies in a foreign university, but stipulates that the student must return to Estonia upon the completion of the studies. The other option included in this type is that people apply for post-doctoral studies or a job. Upon the completion of doctoral studies, post-doctoral studies or employment contract, the researcher comes/goes back and starts working for one of the research institutions in the home country.

Type IV – this type of researcher mobility is characterised by the fact that going abroad for doctoral studies or for a job is part of a clear decision to undertake a research career abroad. First studying abroad (starting with bachelor studies), followed by a research career. In addition to the academic career, the researcher's personal life gets more and more bound to the new country of residence, which further decreases the likelihood of ever going/coming back.

Conclusions

Importance of researcher mobility

Focus group interviews revealed that academic mobility of researchers is regarded a natural part of research career, and considered critical to participation in contemporary research universe. Since a research system must to be viewed as one holistic body, it is only normal that researchers move around between different research institutions.

Estonia is a small country and the number of research institutions is limited. Researchers therefore really need to be updated on things going on in the research institutions of other countries; to know what and how others in their research area are doing; find contacts; exchange information. Completing post-doctoral studies abroad should also be a significant part of researcher mobility.

Estonian research could also play the role of a bridge between the East and the West; developing cooperation in both directions would be extremely useful for Estonia.

Foreign researchers in Estonia

The decision to come to Estonia is mostly influenced by the possibility to share one's experiences and establish something new in case of foreign researchers and lecturers, and by the presence of potentially suitable supervisors in case of doctoral students. In both groups, the decision is also significantly influenced by general interest in Estonia and by personal aspects. While searching for information about opportunities to come to Estonia, doctoral students make more use of the generally accessible sources of information; researchers and lecturers, on the other hand, have gained plenty of professional contacts through their prior work and can use these contacts as effective sources of information.

Foreigners are generally satisfied with their stay in Estonia. Foreign doctoral students in Estonia are more satisfied than foreign researchers-lecturers with their professional activity in Estonia. Researchers-lecturers, on the other hand, are more satisfied than doctoral students with everyday matters. This explains the variation in problems highlighted by the two groups: doctoral students are more concerned with problems related to language barrier, everyday issues and communication. Researchers, lecturers and post-doctoral students, on the other hand, are more troubled by problems directly related to their work, the low level of research infrastructure, for instance. Both groups are worried about financial problems and about the administrative procedures to do with studying/working in Estonia. Respondents have received help with solving problems encountered in Estonia from their supervisor (doctoral students), from Estonian colleagues/co-students, from friends/acquaintances outside work, and from the support structures of host institutions.

Friendly work environment and positive and helpful colleagues were repeatedly listed as the most positive experiences. Several researchers pointed out their satisfaction with the opportunity to have been useful to the local developing society and research circles, and with the fact that they have managed to "accomplish something" in Estonia. The most negative feedback was given to the low level of remuneration to researchers as well as to the under-financing of universities and to the lack of necessary research equipment.

The most preferred option for future cooperation was to continue collaboration with Estonian researchers and to come to Estonia for short-term professional visits. More than three out of four foreign researchers in Estonia view continued cooperation with Estonia as at least likely, and none of the doctoral students surveyed ruled out this option completely. More than half of the respondents also contemplate both part- and full-time employment in Estonia, about a third of researchers have already decided to continue working in Estonia on a full-time basis.

Estonian researchers abroad

Availability of necessary research infrastructure, internationally known researchers of the destination country in the research area, presence of a potentially suitable supervisor abroad, and competitive remuneration or stipend constitute the main reasons why Estonian researchers, post-doctoral and doctoral students go abroad.

General satisfaction with the stay abroad was high in regard to professional activity. Satisfaction with everyday life and with the opportunities to spend spare time was a little lower. The most noteworthy concerns were difficulties with finding a job for the spouse and lack of local friends. Doctoral students also indicated problems with insufficient supervision, with everyday issues, and difficulties with a language barrier in handling everyday issues.

In regard to future plans, about one fifth of all respondents admitted that they are going to continue with a full-time job abroad. A slightly smaller group of respondents is planning to continue working abroad, but simultaneously keep a part-time job in Estonia.

Significant factors facilitating return to Estonia include a sense of mission, a desire to develop one's research area in Estonia and opportunities for a suitable academic position, possibility to establish a personal research team or academic unit (primarily post-doctoral students) and several personal factors.

Estonian research environment

While comparing Estonian research environment with that of other countries, foreign researchers and lecturers in Estonia consider the level of remuneration, research infrastructure and the general competence of researchers in their respective research area as being clearly better in the countries of prior employment. Estonia has a slight advantage only in regard to broader possibilities for academic career. Estonian researchers working or having worked abroad regarded the research environment in their country of destination as being better than that in Estonia in all aspects evaluated. Research environment in destination countries is roughly equal to that in Estonian in regard to the legal regulation of the research area and the general competence of undergraduate/graduate students. The advantages of destination countries included better remuneration, research infrastructure and activities regarding recruitment of foreign specialists. Participants in focus group interviews, too, emphasised financial issues as the main problem of Estonian research environment; they also pointed out that the system is excessively formal in its operations.

Suggested activities to facilitate researcher mobility

As mentioned above, the survey of researcher mobility identified financial issues as the main problem for the local research environment as well as for the researcher mobility – especially in the aspects of remuneration, stipends and infrastructure expenditures. Estonian higher education and research funding levels cannot, of course, compete with those of larger countries in absolute terms, but the current share of research and higher education expenditures in the national budget is clearly insufficient to support a functioning system of researcher mobility. Using any resources, however, necessitates the making of clear choices among various research directions as well as on the more individual level, for instance, in the choice of individual researchers to be invited to Estonia (paying a significantly higher salary to a foreign researcher as compared to local academics needs to be very well justified through a demonstrated advantage in that person's research quality).

The survey demonstrated that in today's mobile research environment it might not be all that important that the researcher permanently returns to Estonia (especially when giving up the opportunity to use foreign infrastructure would diminish the value of research), but rather that he/she retains the ties to local universities and research institutions (e.g. supervising graduate students, working in Estonia on a part-time basis, initiating joint projects, etc). The constant back-and-forth travelling can then be partially replaced by the use of videoconferencing and other means of communication. It appears that Estonian researchers currently working abroad are willing to join in this kind of cooperation.

Possibilities to complement existing opportunities with additional scholarship and support systems should be considered – these would be meant specifically for individual development and research travel. Application deadlines would either be very frequent or the applications would be reviewed on a rolling basis. Expanding the financing for doctoral and post-doctoral studies abroad should also be contemplated, along with the idea of binding these scholarships with a responsibility to work in Estonia upon the completion of the studies abroad.

Participants in the focus group interviews conducted for this study pointed to the need to pay more attention to East-West mobility, and suggested that Estonia could play the role of a bridge linking the two sides. Establishing information services or campaigns that target researchers and graduate students in Eastern countries and invite them to come to study and work in Estonia should therefore be considered. Eastbound mobility and its promotion will most likely also require somewhat less resources.

Another suggestion is to consider developing a graduate student exchange programme on the basis of research groups. Many of the foreign researchers currently working in Estonia established their first contacts with Estonia precisely as exchange students.

Relevant service providers should take into account the varying needs of foreign students depending on how long they plan to stay in Estonia. Students and researchers that come to Estonia for long-term studies or work should be offered different accommodation and language training opportunities better corresponding to their specific study/work related needs. Web-based information materials should be developed to offer potentially interested foreign researchers and graduate student resources and information about coming to and staying in Estonia, albeit

several of the administrative problems were solved (but only for people coming from the European Union member states) when Estonia joined the European Union. Foreign researchers currently working in Estonia could also use a forum that allows them to exchange information about work-related matters as well as to discuss issues regarding everyday problems.

Improving access to videoconferencing resources can help solve some Tartu-specific logistics problems related to organising different meetings, and facilitate more flexible cooperation with foreign researchers.

One suggestion for solving some pressing financing problems is to establish a professional unit/team that writes project proposals and manages funding applications (incl. private sector funding).

In order to enhance high-quality research activities in Estonia, participants in the survey suggested that Estonia "import" (probably following a careful consideration of research area priorities) a world-renowned researcher (most likely by offering a truly competitive remuneration and infrastructure), who would then build a new research team around himself. This "top player" will attract the attention of private sector and make them invest in research.

Support structures of host universities that work with foreign researchers currently focus mostly on the new incoming foreigners, whereas they should also offer continued support to foreign researchers who work in Estonia, and try introducing them to foreign researchers who work in other Estonian research institutions. Separate units could also try offering additional personal assistance to foreigners who have recently arrived in Estonia and need help with solving various problems (at least during the early months of their stay in Estonia).

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Appendix. Questionnaire for foreign researchers and lecturers[1]

Dear respondent!

Together with Archimedes Foundation and Estonian Ministry of Education and Research, Tartu University is conducting a survey on the mobility of researchers and lecturers, doctoral and post-doctoral students connected to Estonia. Results from this survey will be used for drafting mobility policies for research and higher education.

As you are or have been working in research or higher education in Estonia, we kindly ask you to fill in this questionnaire. Your answers will be studied generally and will not anyhow be traced back to you personally.

For more information about the survey please contact .... at the University of Tartu (.....@ut.ee, phone +372 7 ... ...).

1. How did you learn about working possibilities in Estonia?

Working possibilities in Estonia: via Estonian colleagues

- ☐ mainly
- ☐ also
- ☐ not from this source

Working possibilities in Estonia: via colleagues outside Estonia

- ☐ mainly
- ☐ also
- ☐ not from this source

Working possibilities in Estonia: via other personal contacts

- ☐ mainly
- ☐ also
- ☐ not from this source

Working possibilities in Estonia: via education and research institutions in Estonia

- ☐ mainly
- ☐ also
- ☐ not from this source

Working possibilities in Estonia: via international research programs

- ☐ mainly
- ☐ also
- ☐ not from this source

Working possibilities in Estonia: through the European Researcher's Mobility Portal http://europa.eu.int/eracareers/

- ☐ mainly
- ☐ also
- ☐ not from this source

Working possibilities in Estonia: searched for information on the Internet

- ☐ mainly
- ☐ also
- ☐ not from this source

Working possibilities in Estonia: from the databases/websites of researchers' exchange programs

- ☐ mainly
- ☐ also
- ☐ not from this source

(Please specify which databases/websites.)

.....

[1] The layout of the questionnaire has been condensed for printing purposes and does not reflect the layout of the original web-based questionnaire.

2. If you received information about working possibilities in Estonia via any other source, please specify.

.....

3. Which aspects influenced your decision to come to Estonia?

My decision to come to Estonia was influenced by previous cooperation with Estonian researchers.

☐ mainly

☐ also

☐ not really

My decision to come to Estonia was influenced by possibilities to carry out Estonia-related research projects.

☐ mainly

☐ also

☐ not really

My decision to come to Estonia was influenced by possibilities to join a specific research group in Estonia.

☐ mainly

☐ also

☐ not really

My decision to come to Estonia was influenced by an opportunity to get a higher academic position.

☐ mainly

☐ also

☐ not really

My decision to come to Estonia was influenced by possibilities to share my experience, establish something new.

☐ mainly

☐ also

☐ not really

My decision to come to Estonia was influenced by internationally known Estonian researchers in the research area.

☐ mainly

☐ also

☐ not really

My decision to come to Estonia was influenced by the research infrastructure in my research area in Estonia.

☐ mainly

☐ also

☐ not really

My decision to come to Estonia was influenced by competitiveness of remuneration offered in Estonia.

☐ mainly

☐ also

☐ not really

My decision to come to Estonia was influenced by general interest in Estonia.

☐ mainly

☐ also

☐ not really

My decision to come to Estonia was influenced by general interest in the Baltic states, Eastern Europe or former Soviet Union.

☐ mainly

☐ also

☐ not really

My decision to come to Estonia was influenced by a chance to see the world, spend some time in another environment.

☐ mainly

☐ also

☐ not really

My decision to come to Estonia was influenced by other personal aspects.

- ☐ mainly
- ☐ also
- ☐ not really

(Please specify which other personal aspects.)

4. **If there is anything else you would like to add about the aspects which influenced your decision to come to Estonia, please specify.**

.....

5. **How satisfied are you with your stay in Estonia...**

...in terms of professional activity?

- ☐ very
- ☐ more or less
- ☐ do not know
- ☐ not very
- ☐ not at all

...in terms of everyday life, spare time, etc?

- ☐ very
- ☐ more or less
- ☐ do not know
- ☐ not very
- ☐ not at all

6. **Which problems have you encountered in Estonia?**

Difficulties with getting information about legal procedures to do with working in Estonia (applying for work permits, etc)

- ☐ major problem
- ☐ also
- ☐ not really

Difficulties with administrative procedures to do with working in Estonia

- ☐ major problem
- ☐ also
- ☐ not really

Problems with legal requirements for foreign employees in Estonia

- ☐ major problem
- ☐ also
- ☐ not really

Language barrier at work

- ☐ major problem
- ☐ also
- ☐ not really

Language barrier handling everyday issues

- ☐ major problem
- ☐ also
- ☐ not really

Different working culture in host institution

- ☐ major problem
- ☐ also
- ☐ not really

Different working culture in the research group or department

- ☐ major problem
- ☐ also
- ☐ not really

Difficulties with solving work-related problems

- ☐ major problem
- ☐ also
- ☐ not really

Insufficient professional competence of co-workers

- ☐ major problem
- ☐ also
- ☐ not really

Low level of research infrastructure (equipment, etc)

- ☐ major problem
- ☐ also
- ☐ not really

Difficulties with solving everyday problems (place of stay, service, hobbies)

- ☐ major problem
- ☐ also
- ☐ not really

Lack of local friends, communication problems

- ☐ major problem
- ☐ also
- ☐ not really

Insufficient remuneration

- ☐ major problem
- ☐ also
- ☐ not really

Difficulties with finding a job for the spouse/ partner

- ☐ major problem
- ☐ also
- ☐ not really

Difficulties with finding a suitable school or day care centre for children

- ☐ major problem
- ☐ also
- ☐ not really

7. If there is anything else you would like to add about problems you encountered in Estonia, please specify.

.....

8. From which sources have you received help with solving problems encountered in Estonia?

Help with solving problems: governmental or municipal support structures for mobile researchers and academic personnel

- ☐ mainly
- ☐ to some extent
- ☐ contacted them, but got no help
- ☐ have not contacted them for help

Help with solving problems: support structures of the host institution

- ☐ mainly
- ☐ to some extent
- ☐ contacted them, but got no help
- ☐ have not contacted them for help

Help with solving problems: embassy of your home country in Estonia

- ☐ mainly
- ☐ to some extent
- ☐ contacted them, but got no help
- ☐ have not contacted them for help

Help with solving problems: ERA-MORE network of mobility centers

- ☐ mainly
- ☐ to some extent
- ☐ contacted them, but got no help
- ☐ have not contacted them for help

Help with solving problems: Estonian student and researcher mobility portal http://www.smartEstonia.ee

- ☐ mainly
- ☐ to some extent
- ☐ contacted them, but got no help
- ☐ have not contacted them for help

Help with solving problems: Estonian colleagues

- ☐ mainly
- ☐ to some extent
- ☐ contacted them, but got no help
- ☐ have not contacted them for help

Help with solving problems: other foreigners working in Estonia

- ☐ mainly
- ☐ to some extent
- ☐ contacted them, but got no help
- ☐ have not contacted them for help

Help with solving problems: friends/acquaintances outside work

- ☐ mainly
- ☐ to some extent
- ☐ contacted them, but got no help
- ☐ have not contacted them for help

Help with solving problems: other sources

- ☐ mainly
- ☐ to some extent
- ☐ contacted them, but got no help
- ☐ have not contacted them for help

(Please specify which other sources.)

.....

If there is anything else you would like to add about received help with solving problems encountered in Estonia, please specify.

.....

9. Please compare the following aspects of Estonian higher education and research environment to those in the country you worked in before coming to Estonia.

Your country of comparison is

.....

Legal regulation regarding working possibilities for foreigners. Compared to Estonia, the situation in the previous country of work was

- ☐ a lot better
- ☐ a bit better
- ☐ about the same
- ☐ a bit worse
- ☐ a lot worse
- ☐ do not know

Legal regulation of your research area. Compared to Estonia, the situation in the previous country of work was

- ☐ a lot better
- ☐ a bit better
- ☐ about the same
- ☐ a bit worse
- ☐ a lot worse
- ☐ do not know

Possibilities for applying for grants. Compared to Estonia, the situation in the previous country of work was

- ☐ a lot better
- ☐ a bit better
- ☐ about the same
- ☐ a bit worse
- ☐ a lot worse
- ☐ do not know

Research infrastructure. Compared to Estonia, the situation in the previous country of work was

- ☐ a lot better
- ☐ a bit better
- ☐ about the same
- ☐ a bit worse
- ☐ a lot worse
- ☐ do not know

Possibilities for academic career. Compared to Estonia, the situation in the previous country of work was

- ☐ a lot better
- ☐ a bit better
- ☐ about the same
- ☐ a bit worse
- ☐ a lot worse
- ☐ do not know

General working environment. Compared to Estonia, the situation in the previous country of work was

- ☐ a lot better
- ☐ a bit better
- ☐ about the same
- ☐ a bit worse
- ☐ a lot worse
- ☐ do not know

Organizational culture. Compared to Estonia, the situation in the previous country of work was

- ☐ a lot better
- ☐ a bit better
- ☐ about the same
- ☐ a bit worse
- ☐ a lot worse
- ☐ do not know

Remuneration. Compared to Estonia, the situation in the previous country of work was

- ☐ a lot better
- ☐ a bit better
- ☐ about the same
- ☐ a bit worse
- ☐ a lot worse
- ☐ do not know

General competence of researchers in your research area. Compared to Estonia, the situation in the previous country of work was

- ☐ a lot better
- ☐ a bit better
- ☐ about the same
- ☐ a bit worse
- ☐ a lot worse
- ☐ do not know

General competence of undergraduate/graduate students in your research area. Compared to Estonia, the situation in the previous country of work was

- ☐ a lot better
- ☐ a bit better
- ☐ about the same
- ☐ a bit worse
- ☐ a lot worse
- ☐ do not know

Activities regarding recruitment of foreign specialists. Compared to Estonia, the situation in the previous country of work was

- ☐ a lot better
- ☐ a bit better
- ☐ about the same
- ☐ a bit worse
- ☐ a lot worse
- ☐ do not know

Support structures for foreign employees. Compared to Estonia, the situation in the previous country of work was

- ☐ a lot better
- ☐ a bit better
- ☐ about the same
- ☐ a bit worse
- ☐ a lot worse
- ☐ do not know

10. What would you recommend to coordinators of Estonian higher education and research in order to invite more foreign researchers and lecturers to actively participate in Estonian higher education and research?

.....

11. What are your plans concerning Estonia?

I am planning to continue cooperation with Estonian researchers in my research area (e.g. research projects), coming to Estonia for short-time professional visits.

- ☐ yes
- ☐ maybe
- ☐ no

I am planning to continue working in Estonia part-time while working in another country.

- ☐ yes
- ☐ maybe
- ☐ no

I am planning to stay in Estonia to work full-time.

- ☐ yes
- ☐ maybe
- ☐ no

12. If you have any other working plans regarding Estonia, please specify.

.....

13. What has been your most positive and most negative experience regarding working in Estonia?

The most positive experience

.....

The most negative experience

.....

And finally some general information about yourself.

NB! Your answers will be studied generally and will not anyhow be traced back to you personally.

14. You are

- ☐ male
- ☐ female

15. Your age (years)

.....

16. Your country of birth

.....

17. Your citizenship

.....

18. Are you married/cohabiting?

- ☐ yes
- ☐ no

19. The number of children under 18 in your family

.....

The number of children attending school

.....

20. Did your family stay in Estonia while you were working here?/Is your family staying in Estonia while you are working here?

- ☐ yes, all the time
- ☐ partly here, partly elsewhere
- ☐ mostly elsewhere
- ☐ other

(Please specify.)

.....

21. Is your spouse originally from Estonia?

- ☐ yes
- ☐ no

22. When speaking of languages...

Estonian

- ☐ I speak fluently
- ☐ I can manage with everyday communication
- ☐ I am a beginner
- ☐ I do not speak at all

Russian

- ☐ I speak fluently
- ☐ I can manage with everyday communication
- ☐ I am a beginner
- ☐ I do not speak at all

23. Your main research area/field of interest

.....

24. Your highest academic degree

.....

Obtained in (year)

.....

25. For how long have you been working as a university teacher and/or researcher (years)?

.....

26. Which academic position did you hold/are you holding in Estonia?

.....

27. Which institution did you work/are you working at in Estonia?

- ☐ Tartu University and its research institutes/colleges
- ☐ Tallinn University of Technology and its research institutes/colleges
- ☐ Estonian University of Life Sciences and its research institutes/colleges
- ☐ Tallinn University and its research institutes/colleges
- ☐ National Institute of Chemical Physics and Biophysics
- ☐ Other

(Please specify which institution.)

.....

28. Approximately how many years and/or months have you worked in Estonia during the last 5 years?

- ☐ Years
- ☐ Months

29. How many times have you visited Estonia for work-related purposes during the last 5 years?

Visits

.....

30. Did you work/Are you working in any other country while working in Estonia?

☐ no

☐ yes (specify below)

Country

.....

Position

.....

31. If you have already left Estonia, in which country and on which position are you currently working?

Country

.....

Position

.....

If you wish to receive feedback on the results of the survey, please leave your email address.

.....

Thank you for your time and answers!

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