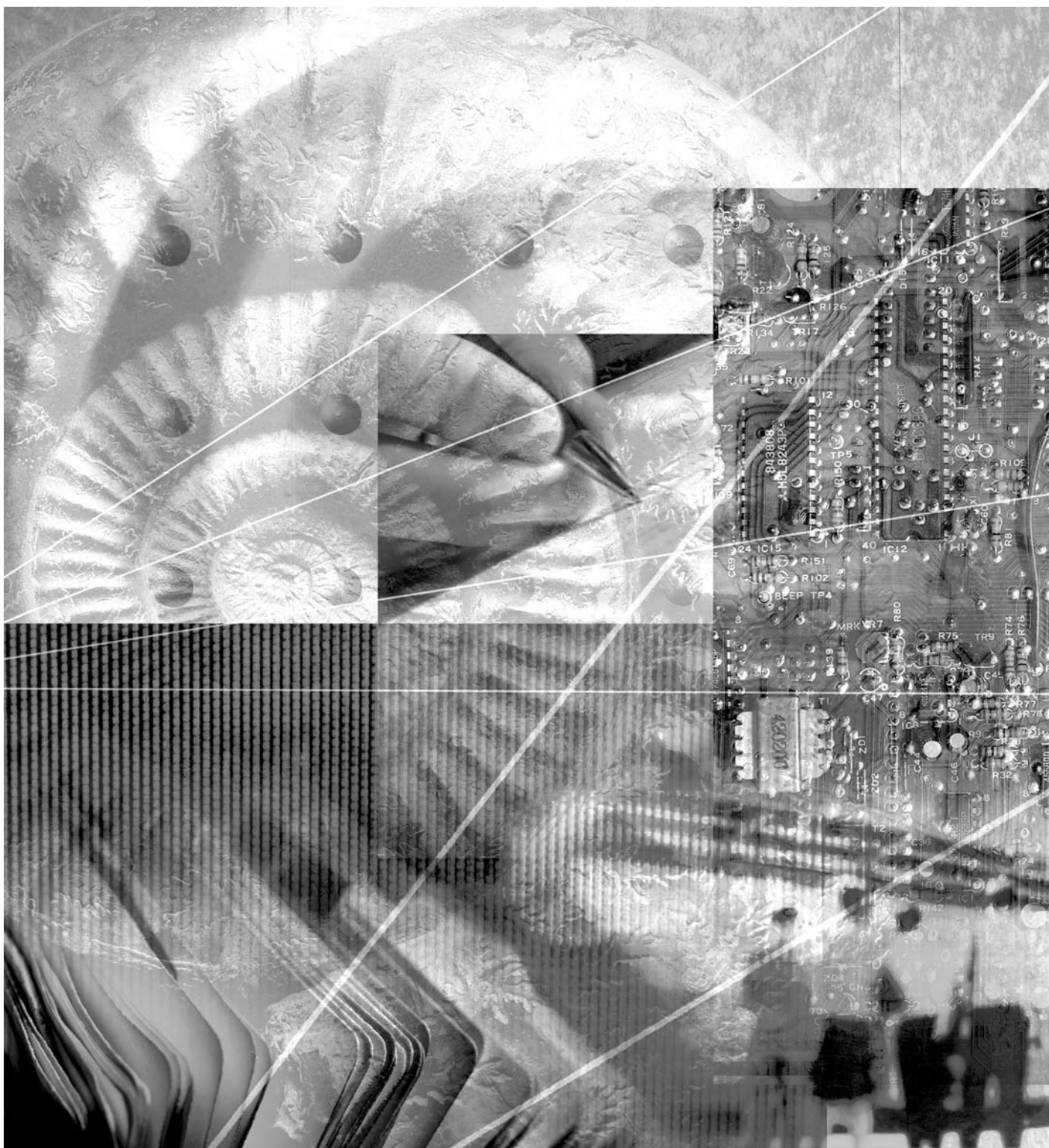


Liv Langfeldt and Karl Erik Brofoss

# Evaluation of the European Young Investigator Awards Scheme



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# Preface

This evaluation report is the result of NIFU STEP's evaluation of the first call and parts of the second call of the European Young Investigator Awards Scheme (EURYI). The evaluation was commissioned by the ESF and EUROHORCs and is performed in accordance with the Terms of Reference as found in Appendix 4.

The members of the evaluation team were Senior Researcher Liv Langfeldt (project leader), Research Director Karl Erik Brofoss, Research Director Randi Søgne and Senior Researcher Egil Kallerud. The report is authored by Langfeldt and Brofoss, while Søgne and Kallerud commented on drafts. The web-based applicant survey was developed and managed by Senior Researcher Nils Henrik Solum.

We are indebted to all the EURYI applicants, members, chairs and secretaries of the European panels and the informants in the organisations participating in the EURYI scheme, who took the time and effort to provide us with their views and insights through questionnaire replies and interviews, and the people at the ESF secretariat providing all necessary information and documentation. Without the helpful cooperation of all these people this evaluation would not have been possible.

Oslo, May 2005

*Petter Aasen*

*Director*



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## Executive summary

This evaluation of the European Young Investigator Awards Scheme (EURYI) was commissioned by the ESF and EUROHORCs and performed by NIFU STEP. Its central questions are to what extent the target group of the scheme has been reached, whether the selection process was able to adequately assess people with different backgrounds and in different stages of their research careers and whether the awardees were selected in accordance with the overall aim of the scheme. The evaluation is based on a large set of documents, interviews with the involved parties, and questionnaires to applicants and participating organisations. The data draw an overall very positive picture of the scheme.

### *Who applied?*

The first call of the scheme attracted a large number of applicants and was seen by the applicants as highly attractive compared both to national schemes and other European and international schemes. The call reached a broad age group and the full spectrum of eligible applicants in terms of their career stages. The call has mainly reached applicants in the participating countries, and the large majority are males. A large part of the applications come from the biological and physical sciences, whereas in several other areas the scheme has attracted few applicants.

### *Who succeeded?*

83 percent of the applicants did not pass the domestic selection. There are only minor differences between the countries in this respect. The data indicate that the number of months in post doc positions is highly significant as a predictor of who was awarded, while applicants' age is not important for understanding the outcome. The female applicants had a somewhat higher tendency to be filtered out in the domestic selection process and at the first stage of the European selection, than their male competitors. However, looking only at those candidates that were interviewed by the European panels, female candidates have a somewhat higher success rate than male candidates. The minority of applicants that apply to another country (i.e. have found a EURYI host in a different country from where they are living) were somewhat more successful than the non-mobile applicants. On the other hand, a large majority of the applicants have had professional visits of more than one year abroad, and this kind of prior mobility have no statistical effect on the outcome.

### *The domestic selection process*

The analysis of the domestic selection process points to several success factors related to the participating organisations' (POs) efforts and review procedures, which indicates that variations in domestic selection processes may explain part of the differences in success in the European selection process. Put differently, differences in the domestic review processes influenced the applicants' chances of success in the European competition. Especially applicants to POs in which the selection process were not informed by individual expert review reports seem to have had a disadvantage. Furthermore, POs' efforts in attracting particular highly qualified applicants to apply seem to be an important factor in understanding their success in the European selection. In the second EURYI call measures have been taken to harmonise the domestic selection processes. The findings of this evaluation clearly show that such harmonisation was an adequate answer to some of the major difficulties in the first call.

### *The European selection process*

Judging from the thorough and ‘risk minimising’ design of the European selection process, the selected candidates are likely to be the ones that most would agree have the best and most secure indications as being the best applicants, i.e. they are all most likely highly qualified. The question remains whether the most groundbreaking applications (which normally are more ‘risk taking’ projects) have been selected.

In the composition of the European panels short time limits caused some mismatch between panel competence and the applications. Such mismatch may have disadvantaged applicants in particular fields, and the thoroughness of the process seems particularly to have disadvantaged transdisciplinary applications, which received ‘double’ review. No indication of geographical bias was found, as the data clearly show that candidates evaluated by panels which included members from their host country were not favoured.

### *Confidence in the selection process*

The majority of the applicants assess their reviewers to be qualified to assess their application (not including the large share without an opinion). When it comes to opinions about the impartiality of the processes, the applicants seem to have more confidence in the European selection process than in the domestic processes. Confidence in the selection process seems to increase both with success and with more information. Lack of transparency of the process and lack of access to review reports seem to be applicants’ major disappointments with the EURYI scheme.

### *The awardees’ working conditions*

The awards have clearly given the awardees improved research conditions, and for most of them it would be difficult or impossible to carry out the project without the award. They report that it is easier to get research assistance, to pursue an independent research career, and to build a research group. On average the awardees get approximately 1 million Euros each from the scheme. As much as 92 percent of them say that their research budget is better than before.

### *How to improve the scheme?*

Recommendations for future calls are presented in Chapter 7. To effectively ensure that the selection of the awardees is in accordance with the aims of the scheme more weight should be put on forward looking criteria, and the eligibility criteria should be revised in order to ensure that the awards help young researchers establish an independent career. It is furthermore recommended that the scheme is made better known worldwide, and to increase efforts to attract applicants from outside Europe. It should be ensured that all highly qualified candidates are encouraged to apply regardless of research field and gender. To give applicants the same chances irrespective of geography, one should continue to keep an eye on differences in the domestic review processes and the result of harmonisation efforts. To ensure that applicants from all fields have equal chances in the European selection, there should be a better match between the panel members’ competencies and the applicants’ research fields. To increase the applicants’ confidence in the selection process, more transparency and feedback to applicants is needed.

# 1 Introduction

The aim of the European Young Investigator Awards Scheme (EURYI) is to attract outstanding young researchers from anywhere in the world to work in Europe for the benefit of European science and for the building up of the next generation of leading researchers in Europe. The awardees are granted up to 1.25 million Euros to pursue an independent research career and to build up a research group. The scheme was launched in 2003 by the European Heads of Research Councils (EUROHORCs) in cooperation with the European Science Foundation (ESF). In the first call for applications 25 awards were allocated for the period 2004-2008. 18 organisations/research councils in 15 countries participated in the Call. A two stage selection process was employed. First the participating organisations selected a number of candidates according to a quota determined by the economic contribution to the scheme (Stage 1), and then European evaluation panels selected the final awardees among those applications submitted by the various national organisations (Stage 2).

This evaluation of the EURYI scheme encompasses a broad set of issues and is based on an extensive set of data sources. The central tasks defined in the Terms of Reference for the evaluation (Appendix 4) include:

- to map the characteristics of the applicant population at various stages (initial applications to the national S1; initial submissions of the selected candidates to the European S2; candidates invited for an interview; awardees) with regard to age, gender, mobility, geography, employment and post doc research experience
- to survey the perceptions of the applicants
- to map and compare the procedures and documentation for the selection of candidates at the domestic level (Stage 1)
- to evaluate the European selection process (Stage 2), including the putting together of the panels; the independent assessments by panel members and the following panel meeting selecting candidates for interviews; the interviews with the selected candidates; and the meeting of the panel Chairs in which the final ranking was established
- to compare the budgets allocated to the 25 Awardees and their employment conditions

The central questions to be answered are to what extent the target group of the scheme has been reached, to assess whether the Stage 2 process was able to adequately assess people with different backgrounds, fields of research and different stages of their research careers and whether the awardees were selected in accordance with the overall aim of the scheme. These questions have been elaborated in dialogue with ESF and the EURYI Management Committee.

An understanding of the differences in and dynamics of peer review processes has been central in the approach of the evaluation. Different countries have different traditions of peer review, and so have different disciplines. And there are also different models of peer review for different kinds of policy instruments. However, the implications of various grant review

processes are often incompletely understood. Empirical studies are important in order to gain insight into the mechanisms of different review processes and to facilitate informed choices between review models. We have studied the selection processes of the EURYI scheme and used experiences from previous research on peer review to answer the question: What can we learn from the EURYI review processes in order to design processes that may better fulfil the aims of the grant scheme?

It is also worth noting that, whereas the purpose of the EURYI scheme is supposed to be common for all participating organisations (POs), the national contexts varies considerably, and the analysis needs to take this into account. We discuss how the general aims of the scheme may best be promoted while adjusting to the various contexts of the POs.

The social dynamics of peer review, as studied in the sociology of science, also affect our point of departure. Peer review is a central social control institution in the research community. It defines losers and winners in the competition for positions, grants, publication of results, and all kinds of awards. The reviewers are gatekeepers that ensure that the traditions and standards of good research are fulfilled. It is also an arena for power struggles between conflicting schools and paradigms, as different reviewers often have substantially different assessments of the same research (which may be a particular challenge for the broad disciplinary panels in charge of the selection of the applications to the EURYI scheme). Differences relate to different *scholarly traditions and interests*, which give a kind of structural/cognitive *bias*. These scholarly traditions and interests are important bases for peer review. As peer review distributes reputation and money, it also gives the awarded a better basis for obtaining more reputation and money (the Matthew effect). Also the *competition* for recognition and resources inherent in peer review has an important mission in promoting better research. In sum, peer review is a central element in the organisation and working of the scientific community, and research funding organisations may benefit greatly from better insights into the effects of different ways of organising review.<sup>1</sup>

## Data sources

The evaluation is based both on documents provided by the ESF and data collected by NIFU STEP. The documents provided by ESF include:

- Minutes from, and documents to, the meetings of the EURYI Management Committee and the Programme Committee.
- Samples of application dossiers from the POs to the European panel selection.
- Guidelines, scoring sheets, review comments and ranking lists from the European panel selection.
- Sample of ESF's correspondence with applicants.

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<sup>1</sup> The basis of the approach is presented in Langfeldt, L (2001) "The Decision-Making Constraints and Processes of Grant Peer Review, and Their Effects on the Review Outcome" *Social Studies of Science* 31(6):820-841; Langfeldt, L (2002) *Decision-making in expert panels evaluating research. Constraints, processes and bias*. Oslo: Unipub; Langfeldt, L (2004) "Expert panels evaluating research: decision-making and sources of bias" *Research Evaluation*, vol 13(1):51-62.

- The budgets of the awardees.

The data collected by NIFU STEP include:

- Questionnaire to the 18 national organisations participating in the first call (questions on both Call 1 and Call 2). All 18 organisations replied. Appendix 2 contains the questionnaire with summary replies.
- Interviews with 20 informants, mainly phone interviews, see Appendix 3 for an overview of informants.
- Questionnaire to all applicants in Call 1 to which we obtained correct e-mail addresses (671, of which 468 replied, as described below). The questionnaire is found in Appendix 1.

#### *Applicant survey sample characteristics*

The total number of applications in the first call was 778. In order to conduct a web-based survey the POs were asked to provide e-mail addresses for the applicants. NIFU STEP received 727 addresses. 56 of them were not updated or incorrect and the applicant could not be reached. Thus the total number of questionnaires sent was 671. After two reminders the total number of returned questionnaires was 468, which gives a 70 percent response rate. Of those questionnaires returned, 438 were fully completed. This gives a response rate of 65 percent, which is 56 percent of all the applicants.

*Table 1.1 The applicant sample distributed by country and stage reached in the selection process*

Country	Not evaluated*	Domestic evaluation	European evaluation	Interview	Award	Total	Sample %	% of total
Austria	3	5	2	1	1	12	63	63
Belgium - FNRS	3	6	2	1	0	12	80	71
Belgium - FWO	0	1	3	1	0	5	83	63
Denmark	1	18	2	3	1	25	69	58
Finland	1	31	1	3	0	36	68	66
France - CNRS	1	40	3	0	3	47	68	68
France - INSERM	0	6	2	3	1	12	66	57
Germany	5	54	14	5	4	82	67	60
Greece	1	3	0	0	1	5	50	42
Hungary	0	9	0	1	0	10	48	38
Ireland	0	16	2	0	0	18	60	54
Netherlands	1	32	5	3	4	45	71	70
Norway	0	9	6	1	0	16	64	59
Portugal	0	9	0	0	1	10	83	77
Spain	1	57	3	3	6	70	78	53
Switzerland	2	11	3	2	1	19	56	51
UK - EPSRC	0	29	4	2	2	37	93	69
UK - PPARC	0	3	3	1	0	7	88	64
Total	19	339	55	31	25	468	69,7	
Sample %		66	86	80	100		N = 671	N = 778

\*These are applicants that ticked the following alternative in the questionnaire "My application was not evaluated in the domestic selection process (e.g. because I was not found to fulfil the EURYI eligibility criteria)".

Only for three countries, Greece, Hungary and Switzerland, is the response rate below 60 percent. The distribution confirms that the survey is representative even on the national level. When split on the different stages in the evaluation process, the distribution indicates that the survey covers very well the three stages at the European level. Even on the domestic level have as many as 66 percent returned their questionnaires.

*Table 1.2 The applicant sample distributed by research area*

<b>Research area*</b>	<b># replies</b>	<b>Sample %</b>
Biomedicine	79	61
Engineering and & Computer Science	73	76
Life sciences/environmental	116	69
Humanities and Social Sciences	38	57
Natural science	114	73
Natural science 1	23	85
Natural science 2	22	92
Multidisciplinary	2	50
<b>All</b>	<b>467</b>	<b>70</b>

\*To be able to compare with the total population of applicants we have used the area defined for each applicant in the applicant list provided by ESF. This categorisation departs somewhat from the applicants own definition of their research field (cf. Tables 2.4 and 2.10).

The response rate for the different research areas varies from 50 percent (multidisciplinary) to 92 percent (Natural Sciences 2). The distribution of the sample by research area confirms that the responses are representative also for the different research areas.

## 2 The applicants

In this chapter we analyse the applicant population on the basis of the applicant survey. The overall questions are whether the scheme managed to reach outstanding young researchers from all over the world and whether there is anything about the success rates for various groups of applicants that indicate that the most qualified candidates were not selected. We also investigate whether the scheme was sufficiently known, the applicants' opinions of the qualifications of the reviewers, and whether they think the best applicants won.

### 2.1 Who applied?

The applicant population (Call 1) description below includes the dimensions given in the Terms of Reference: employment at the time of application, geography, age, gender, research experience and mobility (in the order mentioned here). In the first part we will give a description of the applicants (Section 2.1). In the second part we will analyse which groups have been more successful/unsuccessful using evaluation process stage and research area (Section 2.2).

#### *Employment at the time of application*

The vast majority of the applicants (86%) were employed in a full time research position when they applied for the award (Table 2.1). 34 percent of them had a permanent full time research position (Table 2.2). The rest were employed on a temporary basis. Only 5 percents of the applicants held a non-research position or had no position at all.<sup>2</sup>

Table 2.1 Applicants' position when applying

Employment	Percent	# cases
No position	2	10
A non-research position	3	12
Part time research position	9	40
Full time research position	86	369
<b>Total</b>	<b>100</b>	<b>431</b>

Source: Survey sample Call 1.

Table 2.2 Applicants' position and employment terms when applying

	Temporary	Permanent	# cases
A non-research position	45,5	54,5	11
Part time research position	73,5	26,5	34
Full time research position	66,5	33,5	337
<b>Total</b>	<b>66,5</b>	<b>33,5</b>	<b>382</b>

Source: Survey sample Call 1.

<sup>2</sup> Here the sample might not be fully representative for the population as the questionnaire might have reached a lower share of the applicants in temporary positions and unemployed.

Most of the applicants did not pass the domestic stage in the evaluation. None of the applicants from outside the research community did pass this stage (Table 2.3). There are only small differences between those who had part time and full time research position until the award stage where only applicants with full time positions succeeded. 59 percent of the awardees had a temporary full time position, whereas 41 percent had a permanent full time position.

*Table 2.3 Applicants' position by evaluation stage*

	Domestic	Stage 2	Interview	Awardee	Total
No position	9	1	0	0	10
%	90	10			100
A non-research position	12	0	0	0	12
%	100				100
Part time research position	32	3	5	0	40
%	80	7	13		100
Full time research position	276	43	25	25	369
%	75	11	7	7	100

Source: Survey sample Call 1. In this table and all the other tables splitting applicants by stage/success, each applicant is only included at the last stage he/she reached in the European process.

Does this mean that a substantial part of the awardees were fully established researchers – candidates that some will mean should be outside the target group of the scheme? Looking at the proportion of applicants in each country that holds a permanent position we find substantial geographical diversity in the employment terms (Table 2.4). From this we can conclude that whether the applicants hold a permanent position or not, is likely to depend more on the domestic employment terms for young researchers than to be an indicator of how established they are.



*Table 2.4 Applicants holding a permanent position when applying, by country*

<b>Country of residence</b>	<b>Permanent position %</b>	<b>Total # cases</b>
Hungary	100,0	3
Norway	78,6	14
France	62,9	35
Netherlands	45,2	31
Spain	42,9	49
Ireland	41,7	12
UK	40,6	32
Austria	37,5	8
USA	32,0	25
Belgium	28,6	14
Portugal	25,0	8
Denmark	21,4	14
Finland	16,7	30
Germany	4,5	66
Greece	0,0	2
Switzerland	0,0	9

Source: Survey sample Call 1. 352 cases, non-EURYI countries with few applicants not included.

### *Geography*

The number of applications to the different countries reflects in general the size of the scientific establishments in each country. Germany, Spain and France have received the most with 17,6 , 17,1 and 11,5 percent of the total applications. But even the Nordic countries and the Netherlands have got their fair share of the applications. Comparatively few applications were submitted in the UK, which may be explained by the fact that only UK research councils in selected fields participate in the scheme.

*Table 2.5 Number of applications in Call 1 and Call 2*

<b>Country</b>	<b>Call 1</b>	<b>Call 2</b>
Austria	19	6
Belgium - FNRS	17	8
Belgium – FWO	8	15
Denmark	43	
Finland	54	24
France – CNRS	69	39
France – INSERM	21	23
Germany	137	78
Greece	12	4
Hungary	26	15
Ireland	33	12
Italy – CNR		41
Italy – INFN		3
Netherlands	64	38
Norway	27	15
Portugal	13	7
Spain	133	104
Sweden		54
Switzerland	37	30
UK – EPSRC	54	76
UK - PPARC	11	30
<b>Total</b>	<b>778</b>	<b>622</b>

Source: Lists provided by ESF and the POs.

When we compare Call 1 and Call 2 the most striking difference is the marked drop in the number of applications. In total the scheme received 156 fewer applications in Call 2 in spite of Italy and Sweden having joined the scheme. On the other hand has Denmark decided not to participate in the Call 2. We advise the EURYI Management Committee to take a closer look at the reasons why fewer have applied for the award. Most of the participating countries have a decline in applications. This is especially marked in Austria, Ireland and Greece with more than a 60 percent drop in applications. Perhaps more alarming, is the marked drop in France and Germany. On the other hand there is a marked increase in applications to the UK.

Does the general decline mean that Call 1 more or less emptied the pool of potential applicants, or has Call 1 resulted in a ‘high level – few awards’-perception of the scheme that has discouraged candidates from applying? An interesting question in this connection is: how many of the unsuccessful applicants from Call 1 reapplied in Call 2? We are not able to answer this question for the time being, but it should be looked into. If very few from the first call reapplied, is it possible that the reasons can be found in the way applicants felt they were treated in the process, e.g. that lack of feedback have discouraged them from reapplying?<sup>3</sup>

On the other hand, if the most qualified candidates are particularly encouraged to apply (or at least not discouraged), a drop in the number of applicants could mean a release of the review burden on the POs without a drop in highly qualified candidates. Our data indicate that at

least one PO announced Call 2 with more restrictions on the possibilities to apply than in Call 1, but with more efforts to attract the best (part of the intention being to decrease the amount of review work). This may explain drop in the numbers of proposals in some of the countries. Future analysis of the outcome of Call 2 will be needed to see whether such change in announcement strategy entail success. Moreover, the EURYI Management Committee should consider whether the geographical diversity in attracting applicants is benefiting the scheme (se Chapter 3).

### *Research areas*

The EURYI calls have an inclusive profile in regards to research fields. This also characterises the profile of the applications to the first call. In order to give a more detailed account of the research areas included in the applications we have split the variable in 11 categories (constructed from the applicants' questionnaire replies).

*Table 2.6 Applications by disciplinary area*

<b>Area</b>	<b># cases</b>	<b>Percent</b>
Humanities	16	3,7
Social sciences	18	4,1
Engineering and technology	25	5,7
Biological sciences	124	28,5
Chemical sciences	61	14,0
Earth sciences	13	2,9
Mathematical sciences	16	3,6
Physical sciences	94	21,6
Medical sciences	41	9,4
Agricultural sciences	5	1,1
Other disciplines/crossdisciplinary	22	5,0
<b>Total</b>	<b>435</b>	<b>100</b>

Source: Survey sample Call 1.

As seen in Table 2.6, there are marked differences between the research areas. Biological and physical sciences have the most applications. Taken together, they represent 50 percent of all applications<sup>4</sup>. It is worth noting that applications from mathematical sciences are relatively few. Also in the humanities and the social sciences there are a moderate number of applications. But even more striking is the relative lack of applications from the fields of engineering and technology which in a European context are large research fields. Part of the explanation might here be that engineering and technology by a mistake was omitted from the pre-categorised alternatives in the questionnaire, and some applicants might have selected a neighbouring field in stead of filling in their field in the open category. It still seems that information about the EURYI scheme either has not fully reached out to researchers in this area or the scheme is not very attractive to its young researchers.

<sup>3</sup> Se Section 2.3.

<sup>4</sup> Provided the distribution in the sample reflects the total. As shown in Table 1.2, the response rates vary somewhat between the areas.

The general impression is that this scheme in the first call best reached the natural sciences, especially biology and physics. We do not have data that may indicate whether this reflects the normal distribution of applications in the involved countries or whether the EURYI call has reached out to a different set of research communities than other general calls.

### *Age*

The EURYI scheme is directed towards young researchers. In this paragraph we compare the age distribution in Call 1 and Call 2.

*Table 2.7 Applicants' average age in Call 1 and Call 2*

<b>Country</b>	<b>Call 1 Sample</b>	<b>Call 2 Total</b>
Austria	35,6	36,3
Belgium - FNRS		36,6
Belgium - FWO	34,7	34,2
Denmark	35,4	
Finland	34,6	36,6
France - CNRS		34,2
France - INSERM	33,8	37,1
Germany	34,6	34,5
Greece	35,0	33,5
Hungary	36,6	37,6
Ireland	31,9	32,6
Italy - CNR		35,1
Italy - INFN		35,0
Netherlands	35,9	36,4
Norway	35,4	36,8
Portugal	32,7	36,4
Spain	35,1	35,4
Sweden		35,7
Switzerland	35,0	35,0
UK - EPSRC		34,0
UK - PPARC	33,1	33,5
<b>Total</b>	<b>34,6</b>	<b>35,3</b>

Sources: Call 1 is based on the survey sample, Call 2 on a list of applicants provided by ESF. N Call 1 = 431, Call 2 = 622

If we compare the mean age for the two populations, we see that the average age is 0,7 year higher in the second call. Both populations are characterised as being young. When broken down by countries, there is a slight tendency in Call 2 for the applicants to be somewhat older in some countries, notably in Portugal, France and Finland, maybe due to chance or maybe because some younger applicants have been discouraged from applying after seeing the result of Call 1. The countries with the youngest applicants in Call 1 were Ireland, Portugal, Great Britain and France with an average age of 33 years or younger.

## *Gender*

Table 2.8 documents a skewed distribution between female and male applicants. In both calls a quarter of the applicants were female, which is somewhat below the proportion of female researcher in the European higher education sector.<sup>5</sup> There are obvious fluctuations between the two calls, but these fluctuations are probably due to chance. However, this table should be a wake up call to the countries lagging behind to attract more female applicants.

*Table 2.8 Applicants' gender, Call 1 and Call 2. Percent.*

<b>Country</b>	<b>Male</b>		<b>Female</b>	
	<b>Call 1</b>	<b>Call 2</b>	<b>Call 1</b>	<b>Call 2</b>
Austria	67	83	33	17
Belgium – FNRS	100	87	0	13
Belgium – FWO	80	87	20	13
Denmark	83		17	
Finland	79	71	21	29
France – CNRS	80	69	20	31
France – INSERM	58	70	42	30
Germany	77	72	23	28
Greece	80	75	20	25
Hungary	100	93	0	7
Ireland	69	75	31	25
Italy – CNR		61		39
Italy – INFN		67		33
Netherlands	83	87	17	13
Norway	75	87	25	13
Portugal	80	71	20	29
Spain	70	77	30	23
Sweden		67		33
Switzerland	56	83	44	17
UK – EPSRC	86	79	14	21
UK – PPARC	86	80	14	20
<b>Total</b>	<b>77</b>	<b>75</b>	<b>23</b>	<b>25</b>

Sources: Call 1 is based on the survey sample, Call 2 on a list of applicants provided by ESF. N Call 1 = 431, Call 2 = 622

## *Research experience*

As we can see from Table 2.9, the average post doc research experience for the sample is 4,6 years. There are some variations between the countries where Portugal has an average of 3,1 years of post doc experience and Spain an average of 5,9 years. Thus, we can conclude that the applicants on average are in the middle of the eligibility period concerning post doc research experience, but that there are notable differences between countries.

<sup>5</sup> According to statistics from 2000, 34 percent of the researchers in the higher education sector in both the EU and associated countries were female (“Women and Science. Statistics and Indicators. She Figures 2003” The European Commission, page 29-30).

*Table 2.9 Months of post doc experience by country*

<b>Country</b>	<b>Average months</b>
Austria	57,5
Belgium	56,1
Denmark	62,3
Finland	60,0
France	52,8
Germany	54,1
Greece	68,8
Hungary	49,9
Ireland	39,0
Netherlands	64,1
Norway	52,4
Portugal	38,3
Spain	71,5
Switzerland	55,1
UK	59,2
<b>Sample mean</b>	<b>56,1</b>

Source: Survey sample Call 1, N=435.

### *Mobility*

The table below indicates that the applicants have been very mobile. 79 percent have either moved permanently to another country or have longer professional visits abroad. Likewise have they changed research institutions. To our surprise, as many as 57 percent have also changed research fields. Probably the majority of them have changed to a closely related research field. It is difficult to envisage dramatic shifts in research fields.

*Table 2.10 Applicants' post doc mobility*

	<b>Percent</b>	<b># cases</b>
Permanent or > 1 year	79	327
Between institutions	85	350
Between research fields	57	234

Source: Survey sample Call 1.

Do we find the same tendency among the applicants to be mobile in the sense that they want to study in another country than their country of residence when applying? Of the 436 applicants we have information, 326 (75 percent) have applied to the country in which they are already working. Of the remaining 110 that apply in another country, 57 (13 percent of the applicants) come from a country not participating in the EURYI scheme (Call 1, see also the last table in Section 2.2).

The scheme seems to have had moderate success in terms of attracting applicants from outside the participating countries. To what degree the scheme has attracted awardees from outside the participating countries remains to be seen when we analyse the awardees background at the end of section 2.2. What it clear from the data presented above is that the large majority of applicants so far in their post doc career have been geographically mobile.

## 2.2 Who are the successful applicants?

In this section we analyse the success of various groups of applicants. Success is measured in terms of how far the applicants got in the evaluation process. We examine the following dimensions: country, research area, age, gender, research experience and mobility. Have particular groups of applicants been more successful/unsuccessful than others?

### *Country*

The 25 awards were given to researchers from 10 countries. Spain got 6 awards, Germany and the Netherlands 4 each, France CNRS 3, UK ESPRC 2 and Austria, Denmark, France INSERM, Greece, Portugal and Switzerland 1 each. The vast majority of the applicants reached only the domestic stage (82, 9 %). There are only minor differences between the countries in this respect. Spain and the Netherlands have had the greatest success when compared to the number of applications received.

*Table 2.11 Applicants' success by country*

	Domestic only		Stage 2, not interviewed		Interviewed		Awarded		Total	
	Percent	Cases	Percent	Cases	Percent	Cases	Percent	Cases	Percent	Cases
Austria	74	14	16	3	5	1	5	1	100	19
Belgium FNRS	82	14	12	2	6	1	0	0	100	17
Belgium FWO	63	5	25	2	12	1	0	0	100	8
Denmark	79	34	7	3	12	5	2	1	100	43
Finland	91	49	4	2	5	3	0	0	100	54
France CNRS	91	63	4	3	0	0	4	3	99	69
France INSERM	76	16	5	1	14	3	5	1	100	21
Germany	75	103	16	22	6	8	3	4	100	137
Greece	83	10	8	1	0	0	8	1	99	12
Hungary	92	24	4	1	4	1	0	0	100	26
Ireland	94	31	6	2	0	0	0	0	100	33
Netherlands	80	51	9	6	5	3	6	4	100	64
Norway	78	21	15	4	7	2	0	0	100	27
Portugal	85	11	8	1	0	0	8	1	99	13
Spain	90	120	2	3	3	4	5	6	100	133
Switzerland	76	28	11	4	11	4	2	1	100	37
UK EPSRC	83	45	7	4	5	3	4	2	99	54
UK PPARC	55	6	36	4	9	1	0	0	100	11
<b>Total</b>	<b>82,9</b>	<b>645</b>	<b>8,7</b>	<b>68</b>	<b>5,1</b>	<b>40</b>	<b>3,2</b>	<b>25</b>	<b>99,8</b>	<b>778</b>

Source: Applicant list provided by ESF. "Award" based on the 25 applicants that were offered an award in 2004.

Note: In this table and all the other tables splitting applicants by stage/success, each applicant is only included at the last stage he/her reached in the European process.

### *Research area*

In order to give a more detailed picture of the research fields the applicants are working in, we asked the respondents in the survey to state their research field. 435 respondents answered this question. Table 2.12 is based on the respondents' answers (disciplines) aggregated to disciplinary areas.

*Table 2.12 Research area by stage. Percent.*

Research area	Domestic	Stage 2	Interview	Award	# cases
Humanities	3,3	2,1	10,0	4,2	16
Social sciences	4,5	2,1	3,3	4,2	18
Engineering and technology	5,7	2,1	6,7	12,5	25
Biological sciences	27,2	36,2	23,3	37,5	124
Chemical sciences	14,4	14,9	13,3	8,3	61
Earth sciences	3,3	4,3	0	0	13
Mathematical sciences	4,5	2,1	0	0	16
Physical sciences	20,4	27,7	23,3	25,0	94
Medical sciences	10,2	6,4	10,0	4,2	41
Agricultural sciences	1,5	0	0	0	5
Other disciplines/crossdisciplinary	5,1	2,1	10,0	4,2	22
Percent	100	100	100	100	
<b># cases</b>	<b>334</b>	<b>47</b>	<b>30</b>	<b>25</b>	<b>435</b>

Source: Survey sample Call 1. See note to previous table for an explanation of the stages.

As seen in a previous paragraph the number of applications from the various research areas varies considerably. The areas with the fewest applications also have the fewest awardees. There are most awardees from the fields of biology (37,5 % of the awards), physics (25 %) and to a certain extent, from engineering and technology (12,5 %). There are no awardees from the earth sciences, mathematics or the agricultural sciences.<sup>6</sup>

### *Age*

There is a considerable age gap (22 years) between the youngest and oldest applicant. When we consider the average age at each stage in the evaluation process, we find no notable differences between the stages. This implies that age as such is not important for understanding the outcome of the evaluation process.

*Table 2.13 Applicants' age by stage, years*

	Domestic	Stage 2	Interview	Award
Mean	35	34	34	35
Minimum	27	28	26	30
Maximum	48	41	42	44
<b># cases</b>	<b>432</b>	<b>44</b>	<b>29</b>	<b>25</b>

Source: Survey sample Call 1.

### *Research experience*

In contrast to the lack of relevance of age in predicting the outcome of the process, the number of months in post doc positions is highly significant as a predictor of the outcome. The awardees have an average of 71 months, whereas the average of those who reached the domestic stage only is 57 months experience. We also note that the candidates that were interviewed but not awarded have an average of 64 months post doc experience. The more research experience, the more likely it is to succeed in the EURYI selection process.

<sup>6</sup> Note that only applicants that have replied to the questionnaire are included. All awarded applicants replied.



*Table 2.14 Number of months post doc experience by stage*

	<b>Domestic</b>	<b>Stage 2</b>	<b>Interview</b>	<b>Award</b>
Mean	57	54	64	71
Minimum	2	6	26	24
Maximum	124	118	108	115

Source: Survey sample Call 1.

When age and post doc experience are seen together, it raises the question whether or not the scheme, in order to better reach the young and most promising researchers needing support to establish an independent research career, should reconsider the eligibility criteria. One possibility is to set a lower limit of e.g. maximum eight years research career after having obtained the doctorate (see Chapter 7).

### *Gender*

The female applicants have a somewhat higher tendency to be filtered out at the domestic stage than the male applicants. The male applicants also do somewhat better at the two later stages of the process. However, the main problem remains that the scheme over all attracts far fewer female applicants (23 %) than male applicants (77 %).

*Table 2.15 Applicants' gender by stage, percent*

	<b>Domestic</b>	<b>Stage 2</b>	<b>Interview</b>	<b>Award</b>	<b>Total</b>
Male	75,4	10,4	7,7	6,5	100
Female	80,8	12,1	4,0	3,0	100
Total	76,6	10,8	6,9	5,7	100

Source: Survey sample Call 1.

Note: The 25 candidates offered an award in 2004 are included. Adding the 26<sup>th</sup> that were offered an award in 2005 increases the female share (see Table 4.3).

The applicants reaching the two later stages of the evaluation process are by far the most experienced researchers. However, there is a marked difference between the sexes in as much as the female researchers (on average) have by far more research experience than their male competitors (Table 2.16). It may indicate, but does not have to, that it is more difficult for them to pass through the evaluation process – as they seem to need to have a longer research career than their male competitors to reach the same stage in the selection process. A probable explanation is that this distribution is due to pure chance. The distribution is, however, so strongly skewed that the EURYI Management Committee should monitor this in future calls.<sup>7</sup>

<sup>7</sup> For instance, there is the possibility that in filling in our questionnaire, many of the applicants have not taken care only to include months of research work. If they have included parental leaves etc. this may have given female respondents a too long average post doc research experiences in our calculations. In monitoring future calls, the Management Committee should try to systematically compare males and females track record in terms of their amount of research experience and other available indicators.

Table 2.16 Applicants' post doc experience by gender and stage

	Domestic	Stage 2	Interview	Award
Male's average months post doc	56,6	60,9	62	69
Female's average months post doc	58,2	44,3	78	92

Source: Survey sample Call 1. The 25 candidates offered an award in 2004 are included in the calculations.

### Mobility

Table 2.17 gives the impression that the applicants are very mobile. Most of them have had professional visits of more than one year abroad and even more so among those who have reached the two later stages of the process. The differences are not statistically significant. The same applies to the mobility between institutions as well as mobility between research fields. None of these variables have any explanatory power.

Table 2.17 Applicants' post doc mobility by stage, percent

Mobility	Domestic	Stage 2	Interview	Award	Total
Permanent or > 1 year	77 (241)	83 (38)	90 (27)	91 (21)	327
Between institutions	83 (260)	89 (40)	97 (29)	84 (21)	350
Between research fields	57 (176)	50 (23)	70 (29)	56 (14)	234

Source: Survey sample Call 1. Frequencies in brackets.

Looking at the relation between the applicants' country of residence when applying and the country of agreed EURYI host, we see that for a large majority of the applicants this is the same country (Table 2.18). The mobility is however somewhat higher at the last stages of the selection process – the mobile are somewhat more successful than the not mobile.

Table 2.18 EURYI mobility by stage, percent

Mobility	Domestic	Stage 2	Interview	Award	Total
Different residence and host country	25,1	19,1	30,0	32,0	25,2
Same residence and host country	74,9	80,9	70,0	68,0	74,8
<b># cases</b>	<b>334</b>	<b>47</b>	<b>30</b>	<b>25</b>	<b>436</b>

Source: Survey sample Call 1.

## 2.3 How do applicants and awardees perceive the process?

In this section we look into the applicants' perceptions on the process and the feedback they have received. Did they find the assessments and selection processes to be qualified, fair and impartial?

### Information sources

The majority of the applicants got their information about the scheme from either colleagues or the domestic call. This is especially the case for applicants in the EURYI member countries. The ESF call is more important for applicants from outside the member states.

*Table 2.19 How did you first get information about the EURYI Scheme? Applicants' replies, percent.*

	From colleagues	Domestic call	ESF call	Media	Other	Total
Percent	38	37	14	4	7	100
# cases	172	165	65	17	30	437

*Table 2.20 How well known do you think the EURYI scheme is among young researchers in your country? Applicants' replies, percent.*

	1 Nobody	2	3	4	5 Everybody	I can not say	Total
Percent	13	28	28	18	4	8	99
# cases	60	127	126	81	16	37	436

It would be a gross exaggeration to say that the EURYI scheme is well known. Even among the participating states the majority of the applicants are of the opinion that the scheme is not well known. Evidently the POs and ESF have a major task ahead to inform the research communities in both the participating countries as well as targeted other countries about the existence and opportunities of the EURYI scheme.

#### *Necessary help*

As it turns out, the domestic organisations as well as the ESF seems to have played a minor role in helping the applicants during the application process. The host institution and senior colleagues are by far the most helpful in this stage of the process. In this respect especially the domestic organisation should consider further possibilities to be more helpful in the process.

*Table 2.21 To what degree did you get the needed help with your application? Applicants' replies, percent.*

Application help from:	1 No help	2	3	4	5 Very good help	Not relevant	# cases
Domestic org	33,2	14,9	11,1	15,8	13,3	11,7	443
Host institution	12,0	11,1	13,7	21,5	37,3	4,4	432
ESF	44,1	5,4	11,0	7,0	2,8	29,8	429
Senior colleagues	20,0	11,5	14,4	14,4	27,3	12,4	436

The interpretation of the eligibility criteria and whom the scheme is meant for seem to be issues where better information and help is demanded from the participating organisations. The target group of the scheme was one of the questions often commented on in the 'free space' of the applicant questionnaire. A question posed was whether full professors with their own research group are part of the scheme's target group, i.e. whether they can be defined as scientists at the beginning of their independent career. Some commented that if already established scientists/group leaders are eligible, this should be clearly stated. It was emphasised that this would save applicants that could not compete with established scientists

the large amount of time and effort they had invested in the application. We return to the question of eligibility in Section 6.4 and Chapter 7.

*Feedback*

Since only 9 of the POs sent the reviews from the domestic stage to the applicants, there is no surprise that 69 percent found the feedback unhelpful. Many applicants got only a short letter informing them of whether or not they had been selected for the next stage in the process. Judging from the open comments in the applicant questionnaire, lack of access to review reports is one of the applicants’ major disappointments with the EURYI scheme. They commented that proper feedback would have been a help in preparing future applications and in developing their projects, by telling them which aspect of their projects and applications were seen as the weakest points. Some also commented that they had received very sparse information about the selection process and even about which stage in the process they had reached. Quite a few of the disappointed applicants, who commented on this in the questionnaire, were reluctant to apply in future EURYI calls because of the lack of information and feedback.

*Table 2.22 To what degree was the feedback you received from the Domestic selection process helpful to you in understanding the reasons behind the outcome? Applicants’ replies, percent.*

Stage reached	1 Unhelpful	2	3	4	5 Helpful	# cases
Domestic review	69	13	8	6	4	319
European review	38	10	8	8	36	48
Interview	21	7	28	28	17	29
Award	12	20	24	20	24	25
<b>Percent</b>	<b>58,7</b>	<b>12,8</b>	<b>10,2</b>	<b>8,3</b>	<b>9,9</b>	<b>100</b>
# cases	247	54	43	35	42	421

Also in the European selection process the vast majority of candidates that were not awarded found the feedback unhelpful which may be explained by the fact that for the most part they did not receive any review comments. Only the awardees and the 10 applicants on the waiting list received such comments. As we discuss below, in order to increase the applicants’ confidence in the review process, more feedback and transparency may seem required.

*Table 2.23 To what degree was the feedback you received from the European selection process helpful to you in understanding the reasons behind the outcome? Applicants’ replies, percent.*

Stage reached	1 Unhelpful	2	3	4	5 Helpful	# cases
European review	80,9	12,8	4,3	0	2,1	47
Interview	33,3	30,0	20,0	10,0	6,7	30
Award	0	0	20,0	28,0	52,0	25
<b>Percent</b>	<b>47,1</b>	<b>14,7</b>	<b>13</b>	<b>9,8</b>	<b>15,7</b>	<b>102</b>
# cases	48	15	13	10	16	100

### *Reviewer qualifications*

The respondents were asked to assess whether the reviewers had the necessary qualifications to assess the quality of the applicants' research project and qualifications, the quality of the agreed host institution and research in the applicants' field of research in general. In Table 2.24 we have compared the respondents' assessments from the domestic stage with those applicants who reached the European stage. Close to 50 percent at the domestic stage could not say (about the same number of applicants that had no access to review reports). This percentage drops sharply to less than 25 percent at the European level. At both levels, of those who have an opinion about the qualifications of the reviewers, a majority assess them to be qualified or clearly qualified. However, it is worth noting that a larger proportion of the applicants at the European than at the domestic level are somewhat more critical of the reviewers' qualifications, especially their ability to assess research in the applicants' research field. The explanation for this is primarily that the European selection panels were generalists and not specialist in the specific research fields, whereas the reviewers at the domestic stage in most cases included specialists in the field.

*Table 2.24 Applicants' assessments of reviewer qualifications. Percent.*

Qualification of reviewers to assess:	1 Not qualified	2	3	4	5 Clearly qualified	Can not say	# cases
<b>Domestic stage</b>							
Quality of project	7,1	3,4	7,4	12,0	23,1	46,9	324
Applicants qualifications	5,0	1,9	7,5	11,9	26,9	46,9	320
Quality of host institution	3,1	0,9	8,8	13,2	24,8	49,2	319
Research in your field	5,6	6,0	8,5	13,2	19,7	47,0	319
<b>European stage</b>							
Quality of project	3,9	16,7	14,7	19,6	19,6	25,5	102
Applicants qualifications	2,0	9,9	10,9	22,8	32,7	21,8	101
Quality of host institution	2,0	14,9	9,9	22,8	26,7	23,8	101
Research in your field	6,9	21,8	18,8	14,9	13,9	23,8	101

In table 2.25 we present both the means and the share giving the highest score on the scale from one to five in the applicants' assessments of the reviewers' qualifications (both domestic and European stages) split on respondents' research area.

**Table 2.25 Applicants' assessments of reviewer qualifications split by research area**

	Domestic review		European review	
	*Mean rate	Clearly qualified %	*Mean rate	Clearly capable %
<i>Qualification of reviewers to assess research project</i>				
Biomedicine	2,0	18,6	2,8	25,0
Engineering	2,2	21,1	2,4	6,3
Life sc/environ.	2,0	27,3	1,9	25,0
Hum & soc sc	2,2	13,6	3,5	25,0
Nat sc 1			2,4	10,0
Nat sc 2	1,5	14,5	2,9	27,8
<i>Qualification of reviewers to assess applicants qualifications</i>				
Biomedicine	2,2	23,3	2,7	30,0
Engineering	2,6	32,4	3,6	33,3
Life sc/environ.	1,9	22,7	2,6	30,0
Hum & soc sc	2,3	18,2	4,0	50,0
Nat sc 1			2,9	25,0
Nat sc 2	1,6	17,1	3,4	38,9
<i>Qualification of reviewers to assess quality of host institution</i>				
Biomedicine	2,0	23,3	2,7	25,0
Engineering	2,9	39,5	3,1	26,7
Life sc/environ.	1,8	20,5	2,0	25,0
Hum & soc sc	2,1	19,0	3,8	25,0
Nat sc 1			2,9	30,0
Nat sc 2	1,5	17,1	3,3	33,3
<i>Qualification of reviewers to assess research field</i>				
Biomedicine	1,9	11,9	2,5	20,0
Engineering	2,2	18,4	2,3	0
Life sc/environ.	1,9	23,3	1,7	15,0
Hum & soc sc	2,1	13,6	2,9	12,5
Nat sc 1			2,3	10,0
Nat sc 2	1,5	15,9	2,7	22,2

Note: Total numbers of cases for the domestic stage in succession are: 324, 320, 319, 319, and for the European stage 102, 101, 101 and 101.

\*Average rating on the scale from 1 to 5, 1= Not qualified/capable, 5 = Clearly qualified/capable.

In general there are small differences between the research areas in the assessments given. However, very few of the applicants from the fields of engineering and computer sciences answer that the European panel was clearly qualified to assess their research project. This is quite atypical since applicants from this research area in general give the most positive assessments on the other dimensions.

As expected from the previous table, the applicants are most sceptical of the qualifications of the reviewers to assess the research fields. This is especially the case for applicants coming from the humanities and the social sciences where few think the reviewers were qualified.

### *Impartiality*

Approximately 40 percent do not have an opinion on whether the domestic process was impartial or not. More interesting is that about a third of the applicants who reached the domestic stage only and have an opinion, say that the domestic process was partial and biased and only 13 percent of them said the process was impartial and unbiased.

*Table 2.26 To what degree do you think the domestic selection process was impartial and unbiased? Applicants' replies, percent.*

Stage reached	1 Partial and biased	2	3	4	5 Impartial and unbiased	I can not say	# cases
<b>Domestic process</b>							
Domestic review	18,9	15,8	11,0	7,6	6,0	40,0	317
European review	4,1	0	0	14,3	42,9	38,8	49
Interview	0	0	0	31,0	34,5	34,5	29
Award	0	0	0	12,0	52,0	36,0	25
<b>Total</b>	<b>14,8</b>	<b>11,9</b>	<b>8,6</b>	<b>10,2</b>	<b>15,0</b>	<b>39,5</b>	<b>100</b>
# cases	62	50	36	43	63	166	420
<b>European process</b>							
European review	6,4	12,8	8,5	10,6	10,6	51,1	47
Interview	10,3	10,3	24,0	13,8	17,2	24,1	29
Award	0	0	4,0	28,0	56,0	12,0	25
<b>Total</b>	<b>5,9</b>	<b>8,9</b>	<b>12,0</b>	<b>15,8</b>	<b>23,8</b>	<b>33,7</b>	<b>100</b>
# cases	6	9	12	16	24	34	101

This distribution may of course partly be due to the fact that they reached only this stage and were disappointed, but the distribution is certainly worrying and should be looked closer into. The lack of information/feedback may explain some of the negative opinions, and opening up the process may give the applicants more confidence in the process outcome and consequently in the scheme. The answers given regarding the European process, clearly indicates this. The higher you get in the process, the more inclined will you be to assess it as impartial and unbiased. Again, this may be due to vanity, but not only. We suspect that this is also due to the fact that the higher you get the more the process opens up and becomes transparent. To increase credibility and legitimacy the EURYI scheme may therefore gain substantially by opening up the process and providing more information to the applicants at the different stages of the process.

### *The best applicants*

As there is no way to conclusively measure research quality, there is no way to reach a definite conclusion on whether the finale EURYI awardees were the best applicants or not. Expert reviewers will emphasise different quality aspects and hold different opinions.<sup>8</sup> We have approached the question by asking the opinions of the involved parties. Table 2.27

<sup>8</sup> On the other hand, quantitative track record indicators can be used to inform review, but not as a separate conclusive answer.

shows the applicants' replies to the question "To what degree do you trust that the final EURYI awardees were the best applicants?" (we also asked this question to the panel members/chairs and the participating organisations, see Section 6.3).

In the applicants' views the candidates who were awarded were good, but not necessarily the best. The applicants from the fields of biomedicine, life sciences and the natural sciences were the most favourable inclined, and the applicants from the fields of humanities and social sciences by far the most negative. When controlled for stages reached in the evaluation process, there were no differences in the applicants' assessments.

*Table 2.27 To what degree do you trust that the final EURYI awardees were the best applicants? Applicants' replies, percent.*

Research area	1 I think they were not the best applicants	2	3	4	5 I think they were the best applicants	Don't know	# cases
Biomedicine	8	13	13	20	7	38	74
Eng & computer sc	1	15	17	15	4	46	65
Life sciences/envIRON.	4	8	10	19	10	48	107
Hum & soc sc	8	17	17	3	8	47	36
Natural sciences	13	13	18	17	3	36	108
Natural sciences 1	4	14	9	23	9	41	22
Natural sciences 2	4	0	18	18	14	45	22
Multidisciplinary	0	0	0	50	0	50	2
<b>Total</b>	<b>7,1</b>	<b>11,9</b>	<b>14,7</b>	<b>16,9</b>	<b>6,8</b>	<b>42,4</b>	<b>100</b>
# cases	31	52	64	74	30	185	436

### *The scheme's standing*

An interesting question is what standing the scheme has among the applicants when compared to other domestic and European funding schemes in terms of working conditions and budgets offered to the awardees, and also how the scheme compares to other schemes in terms of honour and prestige in obtaining the award.

From Table 2.28 we see that the EURYI scheme is assessed to offer far better funding and working conditions compared to other schemes, both domestic and European. This is especially the case when compared to domestic schemes.

*Table 2.28 Compared to other funding schemes, how would you rate the EURYI scheme in terms of the working conditions and budget offered the awardees? Percent*

Compared to	1 Clearly inferior	2	3	4	1 Clearly better	I can not say	Total	# cases
Domestic schemes	1,1	1,8	9,4	22,2	57,5	7,8	100	436
Other European/international schemes	1,4	1,8	16,7	23,6	33,4	22,9	100	431



When we compare the honour and prestige of the scheme with both domestic and European schemes, the scheme stands out as being of great interest to the applicants, especially compared to the domestic schemes (Table 2.29).

*Table 2.29 Compared to other funding schemes, how would you rate the EURYI scheme in terms of the honour and prestige in obtaining the award?  
Percent*

Compared to	1 Clearly lower	2	3	4	1 Clearly higher	I can not say	Total	# cases
Domestic schemes	1,8	1,6	14,5	17,5	61,9	2,5	100	434
Other European/international schemes	1,6	3,2	19,9	24,7	32,1	18,5	100	433

## 2.4 Summary of applicants' profile, success and opinions

The first EURYI call attracted a large amount of applicants. The call reached a broad age group and the full spectrum of eligible applicants in terms of their career stages. Imbalances in the applicant population concern geography, gender and research fields. The call has mainly reached applicants in the participating countries, and the large majority are males. A large part of the applications come from the biological and physical sciences, whereas in several other areas the scheme has attracted few applicants.

83 percent of the applicants did not pass the domestic selection. There are only minor differences between the countries in this respect. In the European selection Spain and the Netherlands have had the greatest success when compared to the number of applications received, whereas 7 of the participating organisations obtained no awardees. The data indicate that the number of months in post doc positions is highly significant as a predictor of the outcome of the evaluation process, while applicants' age is not important for understanding the outcome. The female applicants had a somewhat higher tendency to be filtered out in the selection process, than the male applicants, and they seem to need to have a longer research career in order to reach the same selection stage as their male competitors.

The minority of applicants that apply to another country (i.e. have found a EURYI host in a different country from where they are living) were somewhat more successful than the non-mobile applicants. On the other hand, a large majority of the applicants have had professional visits of more than one year abroad, and this kind of prior mobility have no statistical effect on the outcome.

According to the applicants the EURYI scheme is not well known. On the other hand, the scheme is assessed by applicants to offer far better funding and working conditions compared to other schemes, both domestic and European. Also when they compare its prestige the EURYI scheme stands out as being of great interest to the applicants, especially compared to the domestic schemes.

Those of the applicants who have an opinion about the qualifications of the reviewers, seem in general fairly positive. A majority assess them to be qualified or clearly qualified to assess their application. Asked about their confidence in the selection process, a mixed picture emerges. About a third of the applicants who reached the domestic stage only and have an opinion, say that the domestic process was partial and biased and only 13 percent of them said the process was impartial and unbiased. The higher you get in the process, the more transparent it becomes, and the more inclined the applicants are to assess the selection as impartial and unbiased (both the domestic and European level). Applicants' major disappointment with the EURYI scheme seems to be lack of transparency and access to review reports. To increase credibility and legitimacy the EURYI scheme may therefore gain substantially by opening up the process and providing more information to the applicants at the different stages of the process.

### **3 The national selection processes (Stage 1)**

The selection of EURYI awardees consists of a two-stage process. Before submitting an application candidates have to make an agreement with a research unit in one of the countries participating in the scheme that they may be staying at that institution during the award period. They then submit their application to the participating organisation in the country of the host institution. The first part of the selection process (Stage 1) is a national selection process in which all the participating organisations (POs) select a number of candidates to proceed to the next stage of the selection. The number each organisation may submit, is determined by their economic contribution to the scheme (in Call 1 the number POs could submit varied between 2 and 34). In the second part of the selection process (Stage 2) European Panels selected the final awardees. The first stage is organised and executed solely by the specific PO, while the second stage is organised and executed by ESF.

In this chapter we investigate the diversity of procedures applied and the POs' experiences and opinions concerning their initiatives to reach the target groups, their review processes and the selection criteria applied. The aim has been to gain insight into which kinds of processes, in which contexts, seem best suited to reach the target group and select successful candidates.

The terms of reference for the evaluation asked for a benchmarking of the national selection processes. In agreement with the EURYI management committee we concluded that the grant review procedures were too complex to benefit from a regular benchmarking exercise. Instead all participating organisations were asked to fill in a specially designed questionnaire (based on information from a previous mapping exercise by a working group of the EURYI Management Committee). The questionnaire asked for the POs' views, experiences and reflections on their own practices in both Call 1 and Call 2, as well as their opinions on the European selection process. All 18 POs participating in the first EURYI Call for proposals answered the questionnaire. The questionnaire with quantitative summaries of replies is included in Appendix 2.

The focus in this part of the evaluation is on differences between POs' processes and contexts, and on the implications of different selection processes for the success of POs in selecting winning applicants. In asking "Why were some POs more successful than others in attracting and selecting winning applicants?" we foremost address the concerns of involved parties that differences in the domestic review processes influenced the POs' and/or the applicants' chances for success in the European competition. That is, we do not evaluate the national processes as such, but use the experiences and opinions of POs to better understand the effects of variations in the domestic selection processes.

Table 3.1 The First EURYI Call: Overview of applications and awards per participating country and organisation.

Country	Organisation	Disciplines	# Applications reviewed	# Applications submitted S2	# Awardees*
AUSTRIA	FWF	All disciplines	19	5	1
BELGIUM	FNRS	All disciplines	17	3	0
	FWO	All disciplines	7	3	0
DENMARK	DRC	All disciplines	42	9	1
FINLAND	AF	All disciplines	54	5	0
FRANCE	CNRS	All disciplines	69	6	3
FRANCE	INSERM	Biomedical research, public health	22	5	1
GERMANY	DFG	All disciplines	136	34	4
GREECE	NHRF	Biology, Chemistry, Physics, Ancient, Mediaeval & Modern Greek History & Civilization	12	2	1
HUNGARY	OTKA	All disciplines	26	2	0
IRELAND	NRSFB	All disciplines	32	2	0
NETHERLANDS	NWO	All disciplines	64	13	4
NORWAY	RCN	All disciplines	24	6	0
PORTUGAL	FCT	All disciplines	13	2	1
SPAIN	CSIC	All disciplines	133	13	(5) 6
SWITZERLAND	SNF	All disciplines	37	9	(2) 1
UK	EPSRC	Engineering and Physical Sciences	54	9	2
	PPARC	Particle Physics, Astronomy, Astrophysics, Cosmology, Planetary Science and Solar Research including Space Physics	11	5	0
<b>Average per participating organisation</b>			<b>42,9</b>	<b>7,4</b>	<b>1,4</b>

\*One of the 25 first offered an award withdrew and number 26 on the list was subsequently awarded. Numbers in brackets are the final awardees.

### 3.1 Variations in attractiveness and efforts to reach the target group

#### *Efforts to reach the target group*

The participating organisations' replies to the EURYI evaluation questionnaire reveal substantial differences in their efforts to attract applicants. For both Call 1 and Call 2 the POs were asked which initiatives were taken by the PO to reach the target group. For the first Call 14 of the POs answered that they made successful efforts to make publicity about the EURYI Call at relevant institutions. 8 made successful efforts to attract known outstanding candidates, whereas 7 made successful efforts to attract applicants from other countries (Table 3.2, see also summary of question 1 in Appendix 2 for number of unsuccessful efforts and for figures for Call 2).

*Table 3.2 POs' efforts to attract applicants Call 1. Counts PO.*

The PO made efforts to attract (known) outstanding candidates	8
The PO made efforts to attract applicants from other countries	7
The PO made efforts to "repatriate" overseas researchers	5
Efforts to make publicity about the Call at the relevant institutions	14
Efforts to make publicity about the Call in mass media	6
Other ways	4

For a simple analysis of the relation of the efforts to the outcome we grouped the organisations in two: The first group consists of 10 organisations that had done at least one of the following (Call 1):

- efforts to attract (known) outstanding candidates
- efforts to attract applicants from other countries
- efforts to 'repatriate' overseas researchers

The members of this group received on average 52 applications for their domestic selection process and on average 2 of their applicants are among the final awardees. This means that they were more successful than the remaining group of 8 organisations that only made publicity about the Call at the relevant institutions and/or in mass media. This group of organisations received on average 32 applications for their domestic selection process and on average 0,75 of their applicants are among the final awardees.

These numbers only give average success characteristics in relation to efforts to attract applicants, and cannot say anything directly about the results of the efforts. There is also one major exception: one PO only made publicity about the call at the relevant institutions, but still received far above the average number of applicants and awardees. In this case however, detection of the target group seems to have been facilitated by a similar national scheme for young researchers in which several of the PO's candidates to the S2 process had already held fellowships.

#### *Attractiveness*

We also made similar calculations relating to the POs' answers to the question about the attractiveness of the EURYI scheme for eligible domestic young researchers. 10 POs answered that the scheme was highly attractive, 8 answered that it was moderately attractive. Here the groups' differences in success were not as large as for the efforts to attract applicants. The group of POs who estimated the domestic attractiveness of the scheme to be moderate received on average 40 applications and 1,1 awardees, whereas the group of POs who estimated the scheme to be highly attractive received on average 45 applications and 1,7 awardees.<sup>9</sup>

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<sup>9</sup> As respondents were more uncertain about the scheme's attractiveness for researchers from abroad, we did not make similar calculations here (4 answered the scheme was highly attractive for researchers from abroad, 10 moderately attractive, 4 answered don't know or left it unanswered).

The POs' comments on their difficulties in reaching the target group, give a multifaceted picture. Some (3) thought that it was more difficult to detect outstanding applicants than to make them apply. Others (3) thought that it was most difficult to make them apply. Two answered that it was difficult neither to detect nor attract outstanding applicants, one answered it was difficult both to detect and attract them. One mentioned particular difficulties in reaching the young scholars within the humanities and social sciences, and to attract female applicants.

Whereas some POs assessed the scheme to be moderately attractive, nearly all POs were satisfied with their number of highly qualified applications. Only two replied that they received fewer highly qualified/outstanding applicants than their quota for the European selection process. 11 replied that they received many more than they could submit, 5 answered that they received the right number of qualified/outstanding applicants.

#### *Applicants views on the scheme's attractiveness*

In the applicant survey the applicants were asked to rate the working conditions and budget offered by the EURYI scheme compared to relevant domestic funding schemes (see Chapter 2, Table 2.28). On a scale from 1 to 5, the average rating given was 4,4 (by the 403 applicants that gave a rate). The highest average scores were given by the applicants to Portugal and Greece (4,9 and 4,8). The lowest average scores were given by the applicants to Switzerland and UK (3,9 and 4,1). The applicants were also asked to rate the honour and prestige in obtaining the EURYI award compared to relevant domestic funding schemes. On the scale from 1 to 5, the average rating given also here was 4,4 (by the 424 applicants that gave a rate). The highest average scores were given by the applicants to Portugal, Greece and Spain (5-4,8). The lowest average scores were given by the applicants to Switzerland, Norway and Ireland (3,7-3,9).

These geographical differences in the attractiveness of the EURYI scheme broadly correspond to the questionnaire replies from the POs, and indicate that the attractiveness of the scheme is related to different domestic contexts which might have had substantial impact on the ability of the various POs to attract the best candidates to the scheme.

We conclude that POs' differences in success seem related partly to the different domestic contexts influencing the attractiveness of the scheme, and in particular to the kind of initiatives they have taken to reach and attract applicants.

### **3.2 Selection process diversity that may explain success**

In the first Call for proposals it was agreed at all POs would use their normal review procedures to select the applications to be submitted to the European competition. These domestic review processes varied along several dimensions. The effects of these differences were discussed in the EURYI Management Committee and for Call 2 the POs agreed on more standardised processes.

#### *Reviewers/review phases*

In most cases each application was sent to 1-5 individual reviewers with specific expertise in the field of the application. Most POs used predominantly domestic experts for the reviews, though some (5) POs used mostly (or only) expertise from abroad. In some (6) POs applications had to pass a preselection before they were sent to the reviewers. In more than half of the cases disciplinary panels were central in the review process. In some (4) cases the chairs of the disciplinary panels met to agree on a final overall conclusion on which candidates to send on to the European selection process, but in most cases (11) this was done by a separate crossdisciplinary board (see also Appendix 2 question 4 for an overview including numbers for Call 2).

In three cases the selection process seems not (or to a low degree) to have been informed by individual expert review reports. In all these cases the PO ended up without any awarded candidate. Except for this we cannot see clear relations between review processes and success. The procedures applied by the most successful POs include pre-selection by the host institution (one case), minimum two domestic specialist reviews per application, interviews with selected applicant (one case), several disciplinary panels and final selection in meeting of the chairs of the disciplinary panels or in a separate multidisciplinary panel or board.

#### *Selection criteria*

In most cases the domestic selection was to a high extent (or only) based on written statements or scores given by the expert reviewers. Apart from the scientific quality criteria most (12) POs answered that one or more additional priority concerns also played a role in the selection. These included concerns as shown in Table 3.2. These priority concerns were in most cases used as tie-breakers when applications scored similar on the scientific quality criteria.

Table 3.3 Concerns other than expert review and scientific quality, Call 1. POs replies, counts.

Priority to the applicants with the longer researcher careers (“perhaps”)	(1)
Priority to applicants with the shorter researcher careers	2
Disciplinary distribution	4
Mobility between institutions	4
Attracting applicants from abroad	3
Project fitting host institution	5
Gender distribution	3

In general, including these other concerns in the domestic selection process does not seem to have had negative effect on the success in the European selection process. The 6 POs that did not include such secondary concerns, submitted in total 68 applications to the European selection process, of which 12 were offered an award (18 percent). The 12 POs that did include secondary concerns submitted in total 65 applications of which 14 were offered an award (22 percent). Disregarding the varying numbers of submitted applicants however, it may be argued that the number of awardees was higher for those not including secondary concerns (2 per PO) than for those including such concerns (1,2 per PO). The plausible reason for these differences is that many of the smaller POs that could submit only few applications used ‘tie-breakers’ to secure some variation in disciplines, gender, etc. In other words, there is a co-variation between the use of tie-breakers and a lower number of awardees due to small POs having particular reasons for using tie-breakers and at the same time having a lower probability of receiving awardees.

We cannot see any general evidence that such ‘tie-breakers’ entail disadvantage in the European selection. However, both POs that gave priority to those applicants who were at an early stage in their research career, ended up without any awarded candidate. Apart from that, we are not able to point to indications that the use of particular secondary selection criteria in the domestic selection process have entailed advantages or disadvantages in the European competition. The use of tie-breakers may still have had important effects on the final outcome as 2 of the 4 female awardees came from a PO that used gender as a tie-breaker.

#### *Additional quality indicators*

POs were also asked about what other indicators than expert review were used as indicators of outstanding quality (question 7 Appendix 2). Three POs answered that international publication and/or citations were used to inform the selection process.<sup>10</sup> Letting applicants respond to review reports is another way to add information to the selection process. Three answered that applicants’ rebuttals to the review reports were taken into consideration. Altogether 5 POs used additional information in form of track record on publication/citation and/or applicants’ rebuttals. This use of additional information might be seen as a success factor. The 5 POs using such information in total submitted 46 applications to the European

<sup>10</sup> Cases in which this was only part of the assessments from the individual reviewers and not a separate concern in the comparative selection are not included here.



competition and ended up with 10 awardees (22 percent success). The 13 POs not using such information in total submitted 87 applications to the European competition and ended up with 16 awardees (18 percent success). Put differently, those using such information on average received 2 awardees each, while those not using it, received on average 1,2. The PO that seems to have done the most systematic citation analysis was particularly successful.

The additional information may have had importance both in the selection of which candidates to submit to the European panels, and in informing the European panels. As for the citation and publications analysis, the importance seem restricted to the domestic selection process, as this kind of additional information was not forwarded to the European panels.

*Applicant interaction*

Half of the POs gave applicants various forms of input to the selection of experts, as shown in Table 3.4.

*Table 3.4 To what degree did applicants have input/influences on the selection of referees? Call 1. POs replies, counts.*

No influences	9
Applicants could propose referees and these referees might be used	3
Applicants could propose referees and there were specific routines for using these referees	1
Applicants could name referees that should be avoided, and such demands might be met	1
Applicants could name referees that should be avoided and these referees would not be used	4

The most frequent possibility of input was to avoid that particular experts would be used (4 POs, Table 3.4). In three POs the applicants had the possibility of proposing particular experts that might be used. As the various alternatives imply very different degrees of input and there also are very many other differences between the POs’ practices, it is hard to conclude anything about the effects of such input. Still a division of the POs into a group giving the possibility of input (9) and one not giving any input (9) gave a somewhat higher success rate for those not giving input. Likewise a simple comparison of those POs that provided applicants with a copy of the review report (9 POs) and those that did not (9 PO), showed a slightly higher success rate for those not distributing review reports (success rate of 20 percent and 1,9 awarded per PO, compared to a success rate of 19 percent and 1 awarded per PO).

We therefore conclude that other ways of applicant interaction than including applicants’ replies to review reports as an information source in the selection process, does not seem to have an identifiable positive effect on success.

*Other variations*

Other variations include the use of a rating scale and a review form or not, the role of letters of recommendation, and the kind of information forwarded from the domestic to the European selection process.

Six POs provided some kind of additional information for the application dossiers submitted to the European competition to highlight the qualities of the candidates, host institution or the reviewers. There are indications that these efforts were helpful. The success rate of the POs that provided such information is 33 percent of the submitted applications and 1,8 awarded per PO, compared to a success rate of 14 percent and 1,3 awarded per PO that did not provide such information (one PO that did not answer the question is excluded from the calculations). The questionnaire replies contain very little information about the nature of the additional information provided, and the question seems to have been interpreted in different ways. For instance, none of the POs that let the applicants' respond to the review reports and included the rebuttals in the applications dossiers answered that they had provided additional information. The answers to this question may therefore say more about the respondents' views on the need and possibility to provide additional information, than the kind of information actually provided.

We have not tried to calculate the potential importance of the use of rating scales, review forms and letters of recommendations. From the interviews of panel members, we can however conclude that they were quite unison in emphasising the importance of thorough review reports from individual experts. They emphasised that scorings not followed by detailed explanations and comments and letters of recommendations (that often contained general praise of the candidate) were of little help in their work.

### **3.3 A recipe to best reaching the target group and selecting successful candidates?**

Which kinds of processes, in which contexts, seem most appropriate and effective in terms of reaching the target group and selecting successful candidates? The analysis points to several success factors related to POs' efforts and review procedures, which indicates that variations in domestic selection processes may explain part of the differences in success on the European stage.

First and foremost, POs' efforts in attracting particular highly qualified applicants to apply, seems to be an important success factor. Moreover, POs that let the applicants reply to the review reports and used the rebuttals as additional information in their selection process, and/or used the candidates' records in international publications and citations as additional information, had a higher success rate than those that did not use such additional quality indicators to inform their selection process. Inversely, applicants to POs in which the selection process was not informed by individual expert review reports or gave priority to less established applicants seem to have had a disadvantage.

The success factors found should only be read as average success indicators and not as reliable recipes for reaching the target group and selecting successful candidates. In

formulating policy, the success factors pointed out here should therefore be related to more substantial reasons for, and explanations of, recommendable and successful ways of attracting and selecting successful candidates.

Still, the findings indicate that lack of harmonisation of domestic processes, implied unfairness to the applicants. Applicants should have the same opportunities irrespective of geography. It is also important to be able to dispel unfounded suspicion that particular factors have disfavoured particular groups of applicants or POs. The EURYI Management Committee's harmonisation work in the second call is therefore important and should be followed up by studying its effects. The design of the EURYI scheme makes it a good case for studying effects of peer review processes as well as for cooperative learning across institutional and country borders. The result of the second call for proposals will provide interesting information for further analysis: Will POs that improve their review process in Call 2 also improve their success rates? Whereas some POs have changed their selection processes along several dimensions (including preselection, more specialist individual reviewers and more specialists in the panels, more international experts, applicants' rebuttals and different secondary selection criteria), others have not changed anything, except for applying the common guidelines and review form agreed on in the Management Committee. The factors found to be the most connected to success in the first call – the existence of informative review reports and not giving priority to the most junior applicants – is likely to be much more congruent in the second call than in the first call (due both to the harmonisation work and the POs experiences from the first call). Other important factors still vary substantially. Only four of the POs answer that they give the applicants the opportunity to respond to review reports in the second call, and there is no indication that track record in terms of publications and citations will be considered in a more uniform way across the POs in the second call. And perhaps more importantly, their efforts in attracting particularly highly qualified applicants to apply differ substantially. Hence, future questions to be addressed by the Management Committee also include whether those increasing their efforts in Call 2 to reach and attract the target group to apply will improve their success rates compared to Call 1.

To keep up motivation to participate in the scheme without obtaining awards, POs need to have an understanding of the reasons for lack of success and what they could do to improve their success rates. Do the large variations in success rates depend on factors it is hard for the POs to change, or do increased efforts to attract the best applicants and improved domestic selection processes increase success? We expect that an analysis of the result of the second call may give an answer to that.

## 4 The European selection process (Stage 2)

In this chapter we ask whether the European selection process was able to adequately assess applicants' different backgrounds, fields of research and career stages, and investigate opinions concerning whether the most outstanding of the applicants were selected. In addressing these questions we map the opinions and experiences of the involved parties (applicants, POs, review panels, ESF staff) concerning the European selection process. In addition we draw on the mapping of the 133 candidates who reached the European selection. These data are combined with information on the composition of the European panels and scoring data to study potential biases against different kinds of applicants and research fields (Section 4.1). In Section 4.2 we look more closely at the various stages in the European selection process, the selection of members to the six European panels, the independent assessments from panel members and the following panel meetings, the interviews of selected applicants and the following ranking, and the meeting of the panel chairs and their final ranking.

### 4.1 Biases in the selection process?

#### **Potentials for disciplinary bias/lower scores to transdisciplinary applications**

Transdisciplinary applications<sup>11</sup> received a slightly lower average score than those evaluated in only one panel (average score of 11,1 vs. 11,7). However, when we look at the success rates, the transdisciplinary applications were clearly less successful than the rest (Table 4.1). The review process seems to have been particularly demanding for transdisciplinary applications. They were given a double evaluation; and more reviewers may imply a higher probability that doubts will be raised about the feasibility of the project. The evaluation in two panels was intended to give the transdisciplinary applications a more fair treatment, but might in fact have been to the disadvantage of the applicants involved. After the panels' first meetings, the transdisciplinary applications were 'given' to the panel that had given them the best scores. In the final meeting of the all the chairs, however, all applications had to compete with applications from all the other panels. Here the transdisciplinary applications risked being faced by the arguments of the panels that had not given them priority (the only transdisciplinary application that was awarded was given a 'secure' ranking by the panel that gave it priority).

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<sup>11</sup> Defined as applications evaluated by more than one of the six panels.

Table 4.1 Success rates for transdisciplinary applications. Counts and percentages.

Stage reached	Reviewed in 1 panel		Reviewed in 2 panels		Total	
	Percent	Count	Percent	Count	Percent	Count
Not interviewed S2	51,2	62	50,0	6	51,1	68
Interviewed S2	28,1	34	41,7	5	29,3	39
Offered an award	20,7	25	8,3	1	19,5	*26

\*In contrary to the data from the applicant survey presented in chapter 2, which categorise candidates according to the 25 who were offered an award in 2004, the award category in this chapter includes all 26 candidates that have been offered an award until April 2005.

In addition to transdisciplinary bias, we have looked more specifically at scoring according to disciplines in two panels, the Natural Science 2 panel and the Humanities and Social Science panel. We found little or no evidence of disciplinary bias. In the Natural Science 2 panel the panel members are dominantly chemists, but there is very little difference in the scorings received by the 11 applicants defining themselves as chemist and the 10 applicants not defining themselves as chemists (average score 10,98 to chemist 11,04 to non-chemists). Of the 5 awardees reviewed in this panel, 2 define themselves as chemist, 3 not. We consequently can find no evidence of disciplinary bias in the final result of the Natural Science 2 panel.

The result of analysis of the disciplinary scoring in the Humanities and Social Science panel is shown in Table 4.2. Panel members both within the humanities and the social sciences gave a somewhat higher average score to social science applications. One humanities, one social science and one transdisciplinary application were awarded. We therefore conclude that we find little evidence of disciplinary bias in this panel.

Table 4.2 Average of scores given by social science and humanities panel members to social science and humanities applicants (averages of scores given prior to first panel meeting)

	Average score social science reviewers	Average score humanities reviewers	Total average score
Social science applicants	12,67	12,80	12,76
Humanities applicants	11,33	12,50	12,07
<b>Total</b>	<b>12,00</b>	<b>12,72</b>	<b>12,46</b>

Scores from 0-5 were given on each criterion and summed up to an average score. 17 applications (10 humanities, 6 social sciences and 1 crossdisciplinary) were reviewed by the panel. The panel had 9 panel members of which 8 gave scores prior to the first meeting (5 from the humanities and 3 from the social sciences).

Comments from informants about the results for *mathematical* applications (no mathematical applications were awarded), also drew our attention to the work of the Natural Sciences 1 panel. There were, however, so few applicants from the mathematical sciences that reached the European selection that the question cannot be meaningfully analysed in terms of average scores. Our informants, on the other hand, emphasised the difficulties of non-mathematicians to assess applications in mathematics, and expressed a desire for additional panel members within mathematics. Similar arguments were raised concerning economics.

### Lower success rates for female applicants

As shown in Table 4.3, 14 percent of female applicants and 21 percent of male applicants in the European selection process were offered an award. A far lower proportion of females (29 percent) than men (54 percent) were selected for interview. Looking only at those female candidates that were interviewed by the European panels, we see that half of them have been offered an award (4 of 8). This is higher than the success rate for male applicants at this last stage (39 percent).

*Table 4.3 Success rates for male and female applicants. Counts and percentages*

Stage reached	Female		Male		Total	
	Percent	Count	Percent	Count	Percent	Count
Not interviewed S2	71,4	20	45,7	48	51,1	68
Interviewed S2	14,3	4	33,3	35	29,3	39
Offered an award	14,3	4	21,0	22	19,5	26

Female applicants received on average a score 1,17 lower than male applicants (average of scores given by individual panel members prior to the first panel meeting). Both male and female panel members gave higher scores to male applicants (males gave on average 1,25 higher scores, females 0,96 higher). 32 percent of panel members and 21 percent of applicants were female.

*Table 4.4 Average of scores given by male and female panel members to male and female applicants*

	Average score female reviewers	Average score male reviewers	Total average score
Female applicants	11,16	10,37	10,66
Male applicants	12,12	11,62	11,83

Note: Based on average of scores given prior to first panel meeting. Scores from 0-5 were given on each criterion and summed up to an average score. N=145 as applicants reviewed in two panels are included twice in the calculations.

### Higher scores to the more senior applicants

As shown in Table 4.5 the applicants with the longer research career obtained the highest scores. This does not only apply for score on applicant's qualifications (Q1), but also scores on the research proposal (Q2) and the research unit (Q3). Whereas the applicants with the shortest post doc experience (1,5 to 3,25 years) obtained a total average score of 11,03, the most senior of the applicants obtained an average score of 11,95.

*Table 4.5 Average scores relating to length of applicants research career after PhD*

Month of research experience after PhD	N	Score Q1 (Applicant)	Score Q2 (Research Proposal)	Score Q3 (Research Unit)	Total average score
18*-39	26	3,57	3,55	3,91	11,03
40-64	28	3,82	3,78	4,01	11,61
65-89	32	3,89	3,87	4,11	11,87
90-118	20	3,90	3,88	4,17	11,95
<b>All</b>	<b>106</b>	<b>3,79</b>	<b>3,77</b>	<b>4,04</b>	<b>11,61</b>

Notes: Based on average of scores given prior to first panel meeting. Scores from 0-5 were given on each criterion and summed up to an average score. Only applicants for whom we have information about research experience are included. Applications reviewed twice (in two panels) are also included twice in the calculations. \*The data includes two applicants with post doc experience below 2 years (defined by the applicants in the questionnaire) – the minimum requirement according to the EURYI eligibility criteria. This indicates unclarity in the definition of post doc experience.

### **No indication of country bias**

There are marginal differences between the total average scores given to applications evaluated by panels with and panels without a member from the host country. The major difference is found in the scores on the research unit, which might indicate a better basis for judging the research unit when a panel member lives in the host country (Table 4.6). Interviews with panel members revealed that a lack of knowledge about the research unit often resulted in low weight on this criterion.

*Table 4.6 Average of scores given depending on panel membership*

Application evaluated in panel containing a member from the host country	Score Q1 (Applicant)	Score Q2 (Research Proposal)	Score Q3 (Research Unit)	Total average score
No	3,87	3,74	3,96	11,57
Yes	3,73	3,77	4,11	11,61

Notes: Based on average of scores given prior to first panel meeting. Scores from 0-5 were given on each criterion and summed up to an average score. Applications reviewed in more than one panel are excluded from the calculations. Panel members' country is defined from their residence, not their nationality.

Table 4.7 shows that those applicants that were evaluated in a panel without any members from his or her host country have a higher success rate than those evaluated in panels with members from the host country. Some PO representatives have expressed a concern for country bias in the panel. The data clearly shows that candidates evaluated by panel members from their host country were not favoured; the opposite seems rather to be the case.

**Table 4.7** Success rates for applications depending on panel membership from host country or not. Counts and percentages

Stage reached	No PM from Host Country		PM from Host Country		Total	
	Percent	Count	Percent	Count	Percent	Count
Not interviewed S2	46,2	24	55,1	38	51,2	62
Interviewed S2	26,9	14	29,0	20	28,1	34
Offered an award	26,9	14	15,9	11	20,7	25

Note: Applications reviewed in more than one panel are excluded from the calculations (meaning that the table includes 121 of the 133 applications in the European selection process). Panel members' country is defined from their residence, not their nationality.

## 4.2 The views of panel members, applicants and participating organisations on the European selection process

### The composition of the review panels

The composition of the six interdisciplinary panels responsible for the European selection was handled by the ESF with input from the participating organisations. ESF first contacted candidates for the chair positions, emphasising the importance of enrolling scientists with a high international standing and the proper background for the work. The selected chairs, POs and ESF databases were consulted to find members to the six panels. The panels were put together by ESF trying to get a proper disciplinary balance, as well as a good geographical and gender distribution. In total 41 persons were appointed, from 6 to 9 for each panel (Table 4.8).

**Table 4.8** Composition of the six European selection panels

Panel	# Members	Females percent	Panel members' countries	# Applications
Biomedicine	6	50	Denmark, Ireland/Germany, Finland, France, Portugal, Switzerland	27
Engineering and computing science	6	50	Denmark, Ireland, Germany, Netherlands, Spain, UK	24
Humanities and social sciences	9	33	Belgium, France, Germany, Italy, Netherlands, Netherlands/USA, Norway, Spain, UK/Austria	17
Life sciences	7	14	Finland, France, Germany, Hungary, Netherlands, Portugal, UK	30
Natural sciences 1 (physics, astronomy, mathematics)	7	29	Belgium, France/Germany, Germany, Italy, Sweden, Spain, UK	26
Natural sciences 2 (chemistry, earth and environmental sciences)	6	17	Germany, Italy, Japan, Sweden, Spain, Poland	21
<b>Total</b>	<b>41</b>	<b>32</b>		<b>*145</b>

\* The total number of applications evaluated in the European selection process was 133. This table sums up to 145 because 12 applications were reviewed in two panels.

According to the informants involved in the process, the major problem in putting together the panels was time. Suitable and willing persons who would be available at all meeting-dates had to be identified within a short time limit. Several informants were concerned that the need to select panel members before information about the disciplinary distribution of the applications was available, caused some mismatch between the panel competence and the



applications. In some cases there were panel members within fields where there were hardly any applications, in other cases there were applications that no or only one panel member was competent to evaluate.

#### *Panel members' views*

The interviewed panel members seemed to have partly different views on the importance of good coverage of the various fields. Some thought that to have a panel member in a field was essential to conduct applicant interviews in that field, others commented that if sufficient information had been available in the review reports from the domestic selection process, lack of experts in the panel would not have been a problem. There are no indications that gaps in competence affected more than a very small proportion of the applications. Some still thought that ESF in the future would need to slow down the process of putting together the panel to better fill gaps in competence.

#### *POs' views*

Most POs thought the European selection process was able to adequately assess the applicants' different backgrounds, fields for research and career stages (9 replies). Of the 7 replies saying that the selection process were *partly* able to adequately assess this, only two stated explicitly that lack of coverage of some fields might have biased the process. However, several POs were concerned that insufficiencies in the review material from the domestic selection processes had caused bias in the European selection process, thus indirectly stating that limited disciplinary coverage of the European panels might have been a problem.

#### *Applicants' views*

Applicants have mixed views on the qualifications of the European panels. As shown in Section 2.3 some applicants are rather critical about the qualifications of the panel members. Still, most of those having an opinion think they were qualified. It emerges from the open comments in the applicant questionnaire that some of the applicants who were interviewed by the European panels were rather disappointed about the panels' lack of qualifications to understand the substance of their applications; they stressed that the panel members were high standing scholars, but were not familiar with their field.

The demand for disciplinary balance and better match between applicants and panels members is to some degree incongruent with the formal function of the European panels. The panels were not supposed to have review competence for the particular applications – they were supposed to have generalist competence and rely on specialists' reviews provided within the domestic selection processes. It may therefore be argued that incomplete disciplinary balance in the panels was more a cosmetic legitimacy-problem than a potential problem to the adequacy and fairness of the selection process.

Still there are important reasons why the problem of disciplinary balance in the panels should be taken seriously and be improved in future EURYI selection processes:

- A scholar is never only a generalist and all panel members will unquestionably have a stronger affinity with some of the applications. In case of major mismatches between panel members and applications, substantial inequalities may arise both in the thoroughness of the review of applications in different fields, and in the panels' understanding and enthusiasm for applications from different fields.
- The review material from the domestic selection processes were in many cases insufficient and interviews with panel members revealed that they in several cases did more or less an ordinary review including reading applicants' publications (which they found online).

The result is inevitably blurring of the task division between generalist and specialist reviewers. This implies that the better matching of panel members to applications, the better the selection process will be in terms of competent review and equal chances for applicants in all research fields. Below we summarise solutions (as suggested by the data) to this problem.

*Possible ways of improving the match between applications and panel members*

Different timing or having some members on a reserve list?

- a) If it is not possible to postpone panel appointments until knowledge about the disciplinary distribution of applications, appointments could be preliminary, and the putting together of the final panels take place when it is clear what competence will be needed.

A better match between panel members' competence and applications:

- b) Larger panels to include more expertise are seen as needed by several informants.
- c) Separate panels for fields that do not have comparable review basis, for instance by splitting of the Humanities and Social Science panel. Unless more humanities and social science applicants are attracted to the scheme, this will increase the differences in the number of applications per panel. In addition, according to analysis in Section 4.1 no particular problem of disciplinary bias was seen in the Humanities and Social Science panel.
- d) More 'overlapping' competence to ensure that a panel has more than one person fully capable of understanding and valuing each project description. Mathematics and economics were mentioned by informants as disciplines which require special review competence and where overlapping competence was lacking.
- e) The opposite alternative would be to ensure that no panel members have specialist competence in relation to any application. The consequence of this alternative may be that high level scientists will have to withdraw from the panel work, and this option may therefore be problematic.

A combination of alternatives a), b) and d) seems the most feasible way to improve the match of panel members to applicants: different timing and a reserve list, larger panels, and including more overlapping competence. In addition, one should take initiatives to supervise the review of applicants in fields whose review basis diverge from the other fields covered by the panel (e.g. mathematics, as pointed out above).

### **The selection of candidates to be interviewed**

Prior to the first panel meeting each panel member was asked to score all the applications to be evaluated in that panel. Scores from 0-5 were given on three criteria – (1) quality and potential of the candidate, (2) quality and groundbreaking character of the application and (3) quality of the research unit/host institution. These scores were summed up to a total average score, which provided a starting point for discussion in the panel meeting. This first panel meeting concluded with a list of candidates that should pass the first screening on the European selection process and be invited to an interview with the panel (about 50 percent of the applicants reaching the European selection process).

According to the interviewed panel members, the many cases of lack of detailed review reports were the major difficulty at this stage of the selection process. Judging originality for instance, demands expert knowledge and was supposed to be done by the reviewers at the domestic stage. Still, the panels did not always find helpful information on such issues in the review reports. Several informants stressed that if they were in doubt of the qualities of the applicant or the project description they would interview the applicant to clear up the uncertainties. In this way the interviews served to compensate for some of the inequalities in the review material from the domestic selection processes.

Another problem that was often mentioned was lack of information to assess the research units. All the interviewed seemed to agree that this was the least important of the three evaluation criteria. In most cases lack of information and ability to assess the quality of the research unit seems to have been solved by putting less weight on this criterion.

The problem of comparing established candidates with a long research career with those that had just started their career was discussed in length in the panel meetings. Several panel members thought that the selection process had favoured the most established applicants, because they had more visible merits to be assessed (publications records, citations, proven independence in research, etc.). In other words, they played safe, selecting those that they could be most sure about being excellent.

The amount of changes in the ranking resulting from the first panel meetings varies, but in all cases the top five candidates and none of the four bottom candidates (calculated from the individual scores given) were selected for interviews. The one exception is that in one of the panels the candidate with the lowest average score in advance of the meeting was selected and finally made it as long as to being on of the 10 candidates on the waiting list (i.e. ranked just below the final 25 awardees). The amount of changes in the ranking is an indicator of the degree of openness contra rigidity in the selection process. Judged from the chances of someone not being among the top candidates on the first list to end up with an award, there were some openings in the selection processes. But these chances vary between the panels. In

two of the panels<sup>12</sup> one candidate (in each panel) far down on the first list were finally awarded, whereas in the four other panels all awardees were among the top 9 or top 5 on the initial list. Regarding the degree of differences between the initial ranking list and the list of candidates selected for interviews, the panels do not vary much.<sup>13</sup>

Some informants said the panel used various kinds of diversity as secondary criteria when candidates had similar scores. That is, they tried to select candidates in various disciplines, in different career stages, and include some female applicants in the list of interviewees (including applicants both with short and long careers was only mentioned by one panel). Other informants stressed that selection was based on quality assessments only.

### *Strengths*

In all, the selection process seems thorough and well founded. All panel members (with few exceptions) gave written scores and comments to all applications before they met to discuss and agree on a 'preselection', i.e. who should continue to the interview stage. This procedure implies a broad basis for the assessments and discussions – all opinions are taken into account regardless of the research field of the panel members. The variations in assessments were then discussed and the meeting could draw on the various competencies represented to arrive at a common conclusion for each application.

This is a good design for a thorough and 'risk minimising' process. The selected candidates are likely to be the ones that most would agree have the best and most secure indications as being the best applicants. At the same time this was only a pre-selection phase and there was also room for including 'not sure' cases among the selected. This meant that in addition to the obvious cases, also the 'might be excellent' were included (in trying to prevent lack of information in the domestic reviews from working in an applicants disfavour).

### *Weaknesses*

There might still be outstanding talents with excellent projects that were bypassed in the pre-selection. If no (understood) proof of excellent talent was presented in their CV or in the domestic review reports, the application would most probably not pass this stage of the selection process, unless the panel included a member with the competence required to recognise the excellence from the project description. This means that fields badly represented in the panel and fields with less general and visible proofs of excellent merits than other fields, might have been overlooked in the pre-selection.

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<sup>12</sup> The Biomedicine and Life Science panels.

<sup>13</sup> In all panels there are substantial divergences in the individual rating of the applications (standard deviation in the total individual scores varies from 1,12 in the Biomedical Panel to 1,98 in the Natural Science 2 Panel). Looking only on the 26 that were finally offered an award, in all panels we find cases of applications given very different scores by the different panels members – awardees that initially were ranked as number 1 by some, but as number 12 to 20 by others (rank calculated from how many candidates were given a better rate by that panel member).

## The interviews and ranking of applicants

Each panel interviewed between 9 and 12 candidates. In the guidelines for the interviews the panel members were reminded of the criteria for assessing the candidates and advised about a standard interview format (30 minutes interviews starting with a brief introduction of the panel members, then a 10-minute presentation by the candidate, followed by 20-minute questioning by the panel). To provide some consistency in the questioning the guidelines also contained specimen questions. These included questions to probe the candidates' scientific insight in relation to the project and the extent of the candidate's individual research contributions, as well as their wider awareness of the research field and how the EURYI award fitted into their career plans.

Table 4.9 Outcome of the European selection, by panel

Panel	Proposals	Candidates selected for interview	Candidates offered an award
Biomedicine	27	13	5
Engineering and computing science	24	11	4
Humanities and social sciences	17	9	3
Life sciences	30	**12	5
Natural sciences 1 (physics, astronomy, mathematics)	26	10	5
Natural sciences 2 (chemistry, earth and environmental sciences)	21	10	4
Total	*145	65	26

\*133 were the total numbers of applications evaluated in the European selection process. This table sums up to 145 because 12 applications were reviewed in two panels.

\*\*14 candidates were selected for interview, but as two of them (located in the US) withdrew only 12 were interviewed.

The selection of the final awardees was more competitive than the selection of the candidates to be interviewed. The first half of the candidates in the European selection was sorted out without interview. After the next selection stages 38 percent of those interviewed were awarded. Changes in the ranking order of the candidates after interview were in some cases fundamental. Five candidates that were ranked among the top three candidates on the lists from the first meetings of the six panels, ended up without being offered an award. On the other hand, six candidates that were ranked below the top five on the lists from the first meetings ended up being awarded.

Judging from these figures, the applicant interviews were very important in the selection process. The accounts from the panel members' support this conclusion. All interviewed panel members held the view that the applicant interviews had provided information that was vital to the selection process. They said the interviews provided a much better basis for forming an impression of the capacity and potential of the candidates to lead a research team, of how the award would effect their research conditions, and of course to clear up unclear points in the research plans.

Statements from the interviewed panel members on the selection criteria indicate that there were differences between panels as to whether their main focus was on the application or the applicant (no one said that the quality of research unit was the criteria most emphasised). Some of the interviewed emphasised that both the application and the applicant were very important at this stage of the selection process, some thought the main assessment focus had been on the candidates, whereas other panels seem to have focussed most on the research plans.

In our questionnaire to the applicants that were interviewed by the European selection panels, we asked several questions about how they experienced the interviews. From the answers it is clear that the awarded and the non-awarded have quite different opinions of the interviews. 67 percent of the non-awarded interviewees answer that the interview gave them no useful scholarly feedback, whereas 88 percent of the awarded answer that it gave them clearly or partly valuable scholarly feedback (40 percent clearly, 48 percent partly). Moreover, 33 percent of the non-awarded answer that the interview had reduced their confidence in the review process. None of the awarded gave that answer (Table 4.10).

*Table 4.10 To what degree did the interview in the European selection process give you changed confidence in the review process? Applicants' replies, percent.*

	Non-awarded	Awarded	Total	# cases
Reduced confidence	33,3	0	18,2	10
Unchanged confidence	60,0	28,0	45,4	25
Increased confidence	6,7	72,0	36,4	20
Total	100,0	100,0	100,0	55

The differences are also clear when it comes to the applicants' judgements of whether the interview added anything to the bases of the panels judgements of not. 80 percent of the awarded think that the interview gave the panel a clearly better basis for their assessments, in contrast to only 20 percent of the non-awarded (Table 4.11).

*Table 4.11 Do you think the interview gave the review panel addition information/a better basis for their assessments? Applicants' replies, percent.*

	Non-awarded	Awarded	Total	# cases
No better basis	30,0		16,4	9
Partly better basis	40,0	16,0	29,1	16
Clearly a better basis	20,0	80,0	47,3	26
I can not say	10,0	4,0	7,3	4
Total	100,0	100,0	100,0	55

These differences between the awarded and the non-awarded may partly reflect that the interviews in retrospect appear less positive to the non-awarded than for the awarded because

they did not succeed. Still it may also reflect that the panel members had a better understanding of the projects of awarded applicants, and were thus able to give them more valuable feedback. Hence, these candidates may have felt that they could elaborate their project and give the panel additional information. If so, the difference between the opinions of the awarded and the non-awarded interviewees may be indications of scholarly/disciplinary bias.

### **The final ranking by the panel chairs**

Some days after the applicant interviews all the panel chairs (in one case represented by the vice-chair) met to set up a final integrated ranking list. The meeting was chaired by the CEO of ESF. The documentation provided for the meeting contained the six panels' ranking of the interviewed candidates, a summary of the panels' comments on the candidate, the project and the research unit, copy of the first page of the application form, plus the project summary (second page of application form), as well as the applicants' CV and publication list.

In the meeting it was first agreed to award the top three candidates from all the six panels' lists. In this way a certain disciplinary breath in the outcome was assured. Then all those ranked number four on the panels' lists were compared (five of these were awarded). Subsequently the next candidates on each list were compared (including the remaining number 4). This procedure continued until agreement was reached on a ranked list of 25 awardees and 10 candidates on a waiting list.

In each comparative round, the candidates were discussed one by one. The chair of the relevant panel first made a short presentation of the candidate, then the others provided their comments and views and then the chair proposed a conclusion taking the various views into consideration.

Concerning the central selection criteria in this meeting, the letters ESF sent to those not obtaining an award stated that: *“In the comparative integrated ranking, preference was given to candidates having a relatively better publication record, holding less well established positions, having made a more groundbreaking research proposal which opened up new areas of research.”*

According to this information, both quality criteria and concerns about the effects of the award were central in comparing applications across panels. Publication record was used as an indicator of excellence across disciplines, the novelty aspects of the proposed research project was compared, and at the same time priority was given to candidates that did not hold a well established research position, i.e. allocating money so that it would have a positive effect of the working conditions of the awardees. Still, as shown in Chapter 2, the more post doc experience the candidate had, the higher were their success rates.

The informants held different views about the adequacy of this selection process. Most seemed to agree that the chosen method of awarding all the top 3 from each panel list, was an adequate way of securing some disciplinary breadth in the final outcome, but several were very concerned about the difficulties in comparing the remaining candidates. Problems mentioned in comparing candidates from all different areas included the differences in track record profiles of different fields (such as publication and citation profiles, and experiences in group leadership), as well as the abilities to understand the projects in distant fields. Still, the view most emphasised was that there is no perfect way of ranking applications across all different areas and that the chosen method seemed to be a workable compromise between scholarly breadth and comparing excellence.

It should be noted that the stated criteria for the final comparisons, contain both aspects that are relatively easy to compare across different scholarly areas and aspects that are hardly comparable. How established the candidates are and how the award will improve their research conditions are among the more easily comparable aspects. How groundbreaking the projects are may also be compared, provided honest and thorough specialist reviews are available and the panel has enough insight into the topics to have a meaningful dialogue about it. Numeric comparisons of publication and citation records, on the other hand, will in most cases make little sense. To guard against bias due to different track record profiles of different disciplines, more weight ought to be put on the more easily comparable aspects, and to fulfil the aims of the scheme more weight ought to be put forward looking criteria in stead of backward looking at the finale selection stage (as discussed in Chapter 7).



## 5 The awardees' employment conditions and budgets

In this chapter we look into the budgets of the awardees (allocation to salary for the awardees, to salary for additional staff, equipment, travel and miscellaneous), the awardees' assessment of their working conditions and their assessment of the scheme's importance for doing the research they are involved in. Have the awardees obtained working conditions that enable them to develop and pursue an independent research career?

Table 5.1 The awardees' budgets decomposed

Area	Salary A	Salary P	Trav & Sub	Material	Equipment	Other	Overhead	Total
Biomedicine	465000	435000	60000	60000	10000	220000	0	1250000
Biomedicine	0	703600	30000	240000	25900	0	200000	1199500
Biomedicine	130000	350000	25000	420000	50000	97500	0	1072500
Biomedicine	335000	417000	25000	429000	21000	23000	0	1250000
Biomedicine	43331	519697	25000	280000	40000	69000	0	977028
Engineering & Computer Sciences	335000	526000	100000	0	0	44000	201000	1206000
Engineering & Computer Sciences	0	750000	60000	100000	280000	50000	0	1240000
Engineering & Computer Sciences	193871	391904	31693	158920	12000	300444	0	1088832
Engineering & Computer Sciences	418049	523847	96700	0	0	12895	0	1051491
Humanities and Social Sciences	0	0	57050	38500	27300	107000	0	229850
Humanities and Social Sciences	0	960000	125000	7000	20000	60000	0	1172000
Humanities and Social Sciences	303976	482219	100000	0	2300	78825	0	967320
Life Sciences	352892	520056	15000	225000	20000	0	0	1132948
Life Sciences	392520	514459	50000	193750	95000	0	0	1245729
Life Sciences	0	717500	30000	400000	31000	7500	0	1186000
Life Sciences	60000	473617	175000	53500	80030	160006	0	1002153
Life Sciences	90000	450000	25000	350000	95000	240000	0	1250000
Natural Sciences 1	310000	225000	15000	42000	28000	0	0	620000
Natural Sciences 1	250000	360000	50000	145000	320000	125000	0	1250000
Natural Sciences 1	569000	430000	75000	8000	25000	115000	0	1222000
Natural Sciences 1	331202	455166	78098	17748	50887	0	204776	1137877
Natural Sciences 2	0	409200	50000	190000	210000	171840	0	1031040
Natural Sciences 2	210000	102500	125000	250000	187500	375000	0	1250000
Natural Sciences 2	179808	285315	117137	157248	406830	0	131245	1277583
Natural Sciences 2	155000	813000	105000	105000	0	0	0	1178000
<b>Total</b>	<b>5124649</b>	<b>11815080</b>	<b>1645678</b>	<b>3870666</b>	<b>2037747</b>	<b>2257010</b>	<b>737021</b>	<b>27487851</b>
<i>Percent</i>	<i>18,6</i>	<i>43,0</i>	<i>6,0</i>	<i>14,1</i>	<i>7,4</i>	<i>8,2</i>	<i>2,7</i>	<i>100</i>

Data source: In July 2004 the total budget was reduced from 28 265 923 to Euro 27 399 996. The table is based on data from the 25 candidates that were first offered an award, provided by the ESF, and are not the final budgets of the awardees. There is also a discrepancy of Euro 87855 between the total sums appropriated presented in the table and the original budget. We have not been able to identify the reason for this discrepancy.

As seen from Table 5.1, the scheme has granted 27 million Euros to the 25 awardees. 43 percent cover salaries for research assistance. This gives the awardees ample possibilities to build research groups, which is one of the main goals of the scheme. 21 percent is for materials and equipments, and 19 percent is for the awardees' own salaries. A generous 1,6 million Euros are given to cover travel and subsistence expenditures. On average the

awardees get approximately 1 million Euros per project which should give them excellent opportunities to pursue their research.

This is reflected in table 5.2. The awardees were asked to assess to what degree the award has implied a change in their working conditions compared to their working conditions prior to obtaining the award. As much as 92 percent of them say that their research budget is better than before. They report that it is easier to get research assistance, to pursue an independent research career, and to build a research group. The scheme gives them also a higher standing in the research communities. Taken together, the awardees are clearly of the opinion that the scheme has given them a golden opportunity to pursue their research interests.

*Table 5.2 To what degree does the EURYI award imply changed working conditions for your research compared to your working conditions prior to obtaining the award. Awardees’ replies, percent.*

<b>Change concerning:</b>	<b>Inferior</b>	<b>Unchanged</b>	<b>Better</b>
Your research budget?	4	4	92
Infrastructure at the host institution?		56	44
Availability of research assistance?		16	84
Your ability to pursue an independent research career?		20	80
Your ability to build up a research group?		12	88
Which researchers you are able to collaborate with?		60	40
Your scholarly status/reputation?		8	92

Source: Applicant survey, all awardees replied (N=25).

32 percent of the awardees got less other duties after they started on their award period and only four of them got more other duties. Also in this respect does the scheme give them better research conditions by protecting them from non-research tasks.

So far the award has little effect on the awardees possibilities in the job market. However, there is a weak tendency for those with a temporary position to get more job offers than before (31%), but for the majority the situation is unchanged. In regard to funding offers, the situation is status quo for the majority of the awardees, but one third of them have received more funding offers than before.

*Table 5.3 To what degree has the award enabled you to do research you otherwise would not have been able to do? Awardees’ replies.*

	<b>Percent</b>	<b>Frequency</b>
I could partly have done the same research without the award	28	7
It would be difficult to do the same research without the a	36	9
It would be impossible to do the same research without the	28	7
I do not know	8	2
<b>Total</b>	<b>100</b>	<b>25</b>

Source: Applicant survey.

It is clear from Table 5.3 that the scheme has been instrumental in giving the awardees the opportunity to do research they otherwise would not have been able to do. Two thirds of them state it would have been difficult or impossible to do the same research without the scheme. 7 awardees think, however, that they could partly have done the same research without the award.

*Table 5.4 Enabled to do research, by position.*

	Temporary		Permanent		Total	
	%	Count	%	Count	%	Count
I could partly have done the same research without the award	23	3	22	2	23	5
It would be difficult to do the same research without the a	46	6	22	2	36	8
It would be impossible to do the same research without the	23	3	44	4	32	7
I do not know	8	1	11	1	9	2
<b>Total</b>	<b>100</b>	<b>13</b>	<b>99</b>	<b>9</b>	<b>99</b>	<b>22</b>

Source: Applicant survey.

There are only small differences between awardees with permanent or temporary positions in their assessments of whether they could pursue their research without the award. The majority in both groups find that it would have been difficult or impossible to do so without the award. We consequently have no indication that the award to a higher degree has enabled those holding a temporary position to do research they would otherwise not have been able to do, than those holding a permanent position. However, as the countries have different employment cultures, whether the candidate held a permanent position or not, is not a good measure of seniority (see Section 2.1).

Also when we compare the awardees according to the length of their post doc research careers, we find no indication that the award has been more important for awardees with shorter post doc careers, not even for their abilities to pursue an independent research career (see also Section 6.5).

*Table 5.5 Enabled to do research, by research area*

Panel	I could partly have done the same research without the award		It would be difficult to do the same research without the award		It would be impossible to do the same research without the		I do not know		Total	
	%	#	%	#	%	#	%	#	%	#
Biomedicine	0	0	60	3	20	1	20	1	100	5
Eng & computer sc	25	1	0	0	75	3	0	0	100	4
Life sciences	40	2	40	2	20	1	0	0	100	5
Hum & soc sc	33	1	33	0	33	1	0	0	100	3
Natural sciences 1	50	2	25	1	25	1	0	0	100	4
Natural sciences 2	25	1	50	2	0	0	25	1	100	4
<b>All</b>	<b>28</b>	<b>7</b>	<b>36</b>	<b>9</b>	<b>28</b>	<b>7</b>	<b>8</b>	<b>2</b>	<b>100</b>	<b>25</b>

Source: Applicant survey.

When broken down on research areas, some differences emerge. Three of four in engineering find it impossible to do the same research without the award in contrast to those working in physics, chemistry, environmental and earth sciences (Natural Science 2) who could have carried out the same research, albeit, with difficulty.

## 6 Discussion and conclusions

In this chapter we address the overall questions of the evaluation linking together the different sets of data and analysis presented in the previous chapters. Has the scheme managed to reach its target group – outstanding young researchers from all over the world? Was it adequately designed to reach this aim?

### 6.1 Did the call reach the target group?

Was the scheme sufficiently known, and sufficiently attractive to reach the target group? Our conclusions here are based on the applicant survey and the applicant mapping, the participating organisations' questionnaire replies and interviews with panel members.

The analysis of the applicant population (based on the survey sample) shows that the call reached a broad age group and the full spectrum of eligible applicants in terms of their career stages. Imbalances in the applicants reached concern geography, gender and research fields. The call has mainly reached applicants in the participating countries, and the large majority are males. Some research areas are very well represented, whereas in other areas the scheme has attracted few applicants.

#### *The scheme's attractiveness*

According to the applicants' assessments, the scheme is highly attractive. It is in general judged to give better working conditions and budgets than other schemes, both national and European/international, for which the applicants are eligible. It is also rated higher in terms of the honour and prestige in obtaining the award, in particular compared to national schemes, but also compared to other European/international schemes.

There are however, some geographical differences in the applicants' attractiveness rating, and according to the participating organisations the scheme is more attractive for domestic researchers than for researchers from abroad. In sum the findings indicate that the attractiveness of the scheme is related to different domestic contexts, and that this might have substantial impact on the ability of the various POs to attract the best candidates to the scheme. For future calls, an important way of enhancing attractiveness regardless of domestic context will be to increase the knowledge about the scheme (worldwide) – as the honour and prestige in obtaining an award from a well know scheme, will be higher than obtaining an award that is not well known. And as shown below, the EURYI scheme cannot be said to be well known.

#### *Knowledge about the scheme in the target group*

There were large variations in participating organisations' initiatives and efforts to announce the call and to attract candidates to apply for the scheme, both in the first and the second call.

There may consequently be substantial differences in how well known the scheme is in the different environments in different countries. There are also some geographical variations in the applicants' rating of how well known the scheme is among young researchers in their countries. The total picture is, however, that the scheme is not well known in its target group. The average score of the 410 applicants that rated the knowledge about the scheme, is 2,7 – on a scale where 1 means that nearly nobody knows it and 5 that everybody knows it. 15 percent of them answered that nearly nobody knows it, 4 percent that everybody knows it.

We should here add that several of the interviewed panel members were concerned that the scheme was not sufficiently well known, and that many well qualified candidates had not applied because they were not aware of the scheme.

We conclude that the scheme did reach its target group. The EURYI scheme is in general highly attractive and also sufficiently known to reach a large number of applicants in the target group. It still ought to be better known to better fulfil its aims, i.e. to attract the best young researchers from all over the world.

## **6.2 Adequate and fair selection processes?**

To answer the question of whether the EURYI selection processes were adequate and fair, we have surveyed the applicants, interviewed panel members and other involved parties and collected information and opinions from the participating organisations. We have also looked at the Stage 2 reviewer scores to investigate potential biases.

Of those applicants that have an opinion, a majority thinks the reviewers were qualified/ clearly qualified to assess their qualifications and their project, both at the domestic and European stage (but at the domestic stage close to half of the respondents were unable to answer the question because of lack of information).

When it comes to opinions about the impartiality of the processes, the results are less favourable for the domestic process. The applicants seem to have much more confidence in the European selection process than the domestic processes. When split up according to their success in the selection, however, we see that it is the applicants that did not reach the European stage that question the impartiality of the domestic process. Those that reached the European stage seem to have reasonable confidence in the impartiality of the domestic process. In general we see that the more successful the applicants are in the process, the more inclined they are to assess it as impartial and unbiased. Confidence seems to increase both with success and with more information – as the more successful received more information than the less successful. In their comments many applicants explain their scepticism by lack of information and feedback, when not receiving a referee report they often assume that no adequate expert assessments exist. To increase the confidence in the selection process, more transparency and feedback to applicants would therefore be needed.

### *Implications of differences in the domestic selection processes*

There are large variations in the selection processes of the different organisations involved in the domestic selection process that might have given applicants different chances depending on their host country. Especially applicants to POs in which the selection process were not informed by individual expert review reports seem to have a disadvantage. No candidates from these POs were awarded. This was also the case for the two POs that gave priority to the less established applicants (those that were in an early stage in their career) when they made the final decision about which applications to submit to the European selection. These are two examples where we find clear indications that lack of harmonisation of the domestic processes, implied unfairness to the applicants. Other examples are that the POs that let the applicants reply to the review reports (and used the rebuttals as additional information in their selection process), and/or used the candidates' records in international publications and citations as additional information, had a higher success rate than those that did not use such additional quality indicators to inform their selection process.

The interviewed panel members were very concerned about the lack of detailed specialists review reports. In many cases the reports only contained scores or general positive comments without the kind of specialist information the broad European panels needed to inform their assessments. The panel members had diverging opinions about the effects of such lack of information. Some said they read the applicants' publications (available online) to get additional information and to make up their own opinion and partly disregarded the review reports because they were of such varying quality. Others thought that the applicant interviews partly substituted for the lack of informative reviews, while some thought applications without informative review reports were probably disfavoured in the process.<sup>14</sup>

In the second call measures have been taken to harmonise the domestic selection processes – to involve a minimum of expert reviewers and use the same guidelines and review form. The findings of this evaluation of the first call clearly show that such harmonisation was the adequate answer to some of the major difficulties in the first call. The EURYI Management Committee should continue to keep an eye on differences in the review process and the result of the harmonisation efforts.

There are still large country differences in efforts to attract highly qualified applicants in the second call, but these differences are not important in terms of giving the applicants more equal opportunities (but would of course give the POs more similar conditions for success). Another factor affecting equal opportunities is the different sizes of the POs quotas to the European selection (from 2 to 34). Several POs experienced that their domestic ranking of the applicants differed from that in the European selection. This opens for the possibility that

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<sup>14</sup> Some informants from the participating organisations, on the other hand, suspected that thorough review reports also could more easily reveal weaknesses in the applications, and therefore in some cases have been a disadvantage to the applicant. We have found no evidence for that.

applicants that could have been awarded did not reach the European stage because their PO had only paid for submitting a very small quota.

#### *Some evidence of biases in the European selection process*

The most evident bias found in the European selection process is that the more senior applicants received the highest scores and were by far the most successful in the European selection process.

We have studied the scoring of humanities versus social sciences applications in the combined Humanities and Social Science panel without finding any evidence for disciplinary bias. We have likewise studied the scoring of chemist versus non-chemist applications in the natural Science 2 panel without finding any evidence for disciplinary bias.

There are, however, indications of bias against transdisciplinary applications. Applications submitted to evaluation in more than one of the European panels obtained lower scores and have lower success rates than applications reviewed in only one of the European panels. Similarly female applicants obtained lower scores and have lower success rates than male applicants. As the numbers both of transdisciplinary and female applicants are low, we have no evidence of bias, only indications.

On the other hand, the data clearly show that candidates evaluated by a panel including members from their host country were *not* favoured (see Section 4.1 for details).

Another important factor in judging the likelihood of biases in the European selection process is the design of the review process. It contained broad panels in which all panel members scored all applications and selection processes in which average scores were central (still there was a reasonable amount of changes in candidates' ranking throughout the process). This is a thorough and 'risk minimising' process that implies that the selected candidates are likely to be the ones that *most would agree* have the best and most secure indications as being the best applicants. Such processes also leave less room for disciplinary and personal biases than processes that are less rigidly designed. On the other hand, they may easily disadvantage groundbreaking proposals (as discussed in section 6.4)

### **6.3 Were the best candidates selected?**

In answering the questions of whether the selected candidates were the best ones, we shall first summarise the opinions of the involved parties.<sup>15</sup> A large part of the *applicants* have no opinion about whether the awardees were the best applicants or not (42 percent). Of those

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<sup>15</sup> In as far as peer review is just as much a process defining the best applications as detecting them, this is a way of measuring the authority in the process defining the best.



having an opinion the group who think the best applicants won are about as large as the group that think they did not (which indicates a moderate confidence in the selection process).

In the questionnaire half of the participating organisations reply that they trust that the final awardees were the best applicants, eight partly trust it. The reasons given for only partly trusting the selection include problems relating to all the different stages of the selection; some mention problems of insufficient reviews provided in the domestic selection process and/or the limited expertise in the European panels, others are concerned about problems in comparing applicants at different stages in their careers, two mention possible geographical biases in the European panels, and one are sceptical towards the selection procedure in the final meeting of the panel chairs.<sup>16</sup> The general picture is still that the participating organisations have a reasonable high confidence in the outcome.

As stated above (Section 6.2), the process was highly competitive and selective and the European selection process was designed in a way which makes it very improbable that someone that was not very highly qualified would be awarded. On the other hand, there might have been many other applicants that were as good as the awardees. There is no way to make an indisputable comparison of ‘outstandingness’ across disciplines. In addition, the call for applications to the EURYI scheme was not very well known in the target group, and many highly qualified candidates were probably not aware of the award scheme and therefore did not apply.

The general conclusion here is that the awardees are highly qualified. Another matter is whether the selection process was designed to select those applicants that would best fulfil the aims of the scheme, which is the topic of the next section.

## **6.4 Were the right applicants selected?**

There are some ambiguities in the definition of the target group that are vital to the discussions of the scheme’s success. The scheme allocates ‘awards’, indicating that it is supposed to honour those who have accomplished the best, and as we have seen the review procedures also favour prior merits. On the other hand, the scheme allocates funds for carrying out *future* research projects and the objectives of the scheme are clearly future oriented:

*“The aim of EURYI Awards will be to enable and encourage outstanding young researchers from all over the world, to work in a European environment for the benefit of the development of European science and the building up of the next*

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<sup>16</sup> Those responsible for the selection, the panel chairs and the panel members, also make some reservations as to which they were able to select the best. Some of those interviewed thought that the 25 selected certainly were among the best, but that they could not be sure that there were not candidates among the next 25 on the list that were equally good. Others said they were relatively convinced their panel had selected the best, but that they had no opinion about those selected from the other panels.

*generation of leading European researchers. The funding available will support research aimed at opening up new lines of groundbreaking research. The scheme will promote scientific excellence, with wide international recognition, by supporting outstanding young researchers to develop and pursue an independent research career, including developing a research group where appropriate.” (MoU Call 1, page 1)*

According to these aims the target group may be defined as those having the projects best able to make European research more attractive, visible and groundbreaking. Asked whether they thought “the finally chosen candidates are the right ones to meet the overall strategic objective of the scheme, i.e. to attract the best young researchers to Europe” some of the POs answered positively, whereas others were concerned that several of the awards did not help young researchers establish themselves and/or did not promote mobility. Some pointed to the high average age and long post doc experience among the awardees, and questioned whether the scheme had awarded established researchers already holding a permanent position in stead of the young and non-established, or had awarded actual achievements more than future potential. Other were concerned that there were too many domestic awardees and too few from outside Europe.

The interviewed panel members were concerned about the difficulties in comparing candidates at very different stages of their research career, and some expressed disappointment about awarding the most established, whereas others thought that they had chosen a mix of people at different career stages.

One of the major dilemmas in organising peer review is between thorough/rigid review (promoting safe and often conservative research) and processes opening for supporting unconventional and groundbreaking research. As pointed out in Section 6.2, the EURYI selection process is best characterised as thorough and ‘risk minimising’ and it may be questioned whether one was able to select the most groundbreaking proposals. The more reviewers and selection stages to pass, the higher is the probability that doubts will be raised about the feasibility of the project.<sup>17</sup> Our recommendation for future calls (Chapter 7) is to put more emphasis on forward looking criteria and added value for European research at the final selection stage, and throughout the selection process take care to emphasise groundbreaking projects.

## **6.5 The awardees’ working conditions**

On average the awardees get approximately 1 million Euros each. The average amount appropriated to cover salaries to research assistance is 43 percent of the project budget. This

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<sup>17</sup> One of the applicants commenting (in the questionnaire) on the selection process put it this way: “using a large number of referees often leads to emphasis on candidates’ faults rather than potential. This leads to conservative decisions and instead of selection of scientists with highly innovative work, results in selection of “well-rounded” candidates with predictable and not too ambitious research plans. In my understanding, this is the very problem that this Award was set to correct.”

should give the awardees ample possibilities to build research groups, and pursue an independent research career.

The large majority of the awardees assess the award as having given them substantially improved opportunities to pursue their research interests. They report that it is easier to get research assistance, to pursue an independent research career, and to build a research group. As much as 92 percent of them say that their research budget is better than before. Two thirds of them state it would have been difficult or impossible to do the same research without the scheme. 7 awardees think they could partly have done the same research without the award, and 5 report that the award has not changed their ability to pursue an independent research career. In one case the award has negatively changed the research budget of the candidate.

Surprisingly, the awardees with the shorter post doc research career do not report more positive effects of the award on their abilities to pursue an independent research career, or to build up a research group. A possible explanation is that for some of the less established it might be too early to assess effects, whereas some of the more established might possess the infrastructure to quickly enlarging their research group and starting up the project. In the questionnaire some of the awardees raised the question whether the ESF should be more involved in monitoring the implementation of the award. Apparently some of them experience difficulties in the upstart phase where there seems to be some problems with some of the institutions' management of the award. This only applies to a few cases, but may still affect the outcome of the survey in terms of the awardees' views on the effects of the award (because of the limited number of awardees).

## 7 Recommendations for future calls

In this final chapter we focus on how to improve the design of the scheme. Based on the findings and conclusions in the previous chapters we provide policy recommendations regarding the appropriateness of the design of the scheme in relation to its aims and how the design of the scheme may be improved.

Whereas the focus below is on issues that can be improved, we will first like to underline the overall very positive picture of the scheme that emerge from the evaluation data. Already in the first call the scheme attracted a large amount of applicants and was seen by the applicants as highly attractive compared both to national schemes and other European and international schemes. The involved parties are in general enthusiastic about the scheme and have a reasonable high confidence in the selection process. Judging from the design of the European selection process (thorough and ‘risk minimising’) all the awarded candidates are most likely highly qualified. Moreover, the awards have clearly given the awardees improved research conditions, and for most of them it would be difficult or impossible to carry out the project without the award.

### *How to better fulfil the aims of the scheme?*

- A major critique, concerning the outcome of the first call, has been the selection of many senior applicants, lack of mobility and doubts about the awards’ added value for European research. This indicates a need for a stronger emphasis on forward oriented criteria and added value for European research at the final selection stage. Forward oriented criteria imply less weight on comparing past merits across disciplines, and more weight on groundbreaking research proposals and how the award will improve the research conditions of the applicant. To promote such selection criteria and to secure fairness and transparency, these final selection criteria also need to be known to the applicants and the persons involved at all selection stages.
- In addition to changed emphasis on the various selection criteria, there also seems to be a need to revise the eligibility criteria in order to avoid that promising young researchers to whom the award will imply much improved research conditions, are ousted by well established researchers to whom the award add substantially less in terms of helping them establish an independent researcher career. A central aim of the scheme is to build up the next generation of leading European researchers by supporting them to develop and pursue an independent research career, and the EURYI Management Committee and Programme Committee should consider how to revise the eligibility criteria to better match this aim.

### *Attractiveness and need to make the scheme better known*

- The EURYI scheme is in general a highly attractive scheme for young scholars and also sufficiently known to reach a large number of applicants in the target group, but

still ought to be better known to better fulfil its aims. Special efforts seem needed to attract more applicants from outside Europe. This seems a major task for future calls. Making the scheme better known will make it even more attractive, as the honour and prestige in obtaining an award from a well known scheme, will be higher than obtaining an award that is not well known. A well known/renown and very attractive scheme should be more able to attract the best applicants, also from outside the countries participating in the scheme.

*How to reduce sources of potential bias in the selection process?*

- The findings contain indications that lack of harmonisation of domestic processes in the first call, implied unfairness to the applicants, as they should have the same opportunities irrespective of geography. The evaluation team finds the measures taken in the second call to harmonise the domestic selection processes to be an adequate answer to major difficulties in the first call. The EURYI Management Committee should continue to keep an eye on differences in the review process and the result of the harmonisation efforts.
- The low success rates for interdisciplinary and female applicants and our finding that female applicants seems to need to have a longer research career than their male competitors to reach the same stage in the selection process, may discourage them from applying. The participating organisations should discuss how they can more effectively encourage all highly qualified applicants to apply, regardless of gender and research field, and furthermore to monitor potential biases in the review process against interdisciplinary and female applicants.
- In the European selection process there is a need for a more balanced match of panel members to applicants' research fields in order to secure more equal chances for applicants regardless of their research field. How to deal with this is discussed in Section 4.2. In addition, potential biases in the review process against fields that seem difficult to evaluate, should be monitored.

*How to increase confidence and answer applicants' demands for better feedback?*

- To increase the applicants' confidence in the selection process, more transparency and feedback to applicants would be needed. Applicants also need to be better informed that the specialist review is the responsibility of the domestic process, whereas the European selection consists in generalist reviews based on the reviews from the domestic process. The calls should also contain information about what kind of feedback applicants will receive on their applications.

# Appendix 1 Applicant questionnaire

To be able to direct you to questions relevant to your situation we first need you to choose one of the following alternatives concerning your application (December 2003) to the EURYI scheme:

- My application was not evaluated in the domestic selection process (e.g. because I was not found to fulfil the EURYI eligibility criteria)
- My application was evaluated in the domestic selection process, but did not reach the European selection process
- My application reached the European selection process, but I was not among the candidates selected for an interview
- I was interviewed in the European selection process, but I was not among the candidates offered an award
- I was one of the candidates offered an award

Please note, in all questions that use a numeric scale, 1 designates the lowest and 5 the highest value

## Question 2 How did you first get information about the EURYI Scheme?

- From colleagues
- I saw the domestic call for applications
- I saw the ESF call for applications
- Publicity in the mass media
- Other (please, specify)

1 2 3 4 5

## Question 3 How well known do you think the EURYI scheme is among young researchers in your country? (your country of residence when applying)

- |  |                          |                          |                          |                          |                          |                          |
|--|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
|  | Nearly nobody knows it   |                          |                          |                          | Every-body knows it      | I can not say            |
|  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

## Question 4 To what degree did you get the needed help with your application from:

- |  |                          |                          |                          |                          |                          |                          |
|--|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
|  | No help                  |                          |                          |                          | Very good help           | Not relevant             |
| a) the domestic EURYI organisation/research council? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b) the agreed host institution?                      | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c) The European Science Foundation                   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| d) your senior colleagues?                           | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

1 2 3 4 5

## Question 5 Feedback from the *domestic* selection process

- |  |                          |                          |                          |                          |                          |
|--|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
|  | Un helpful               |                          |                          |                          | Helpful                  |
| To what degree was the feedback you received from the <i>domestic</i> selection process helpful to you | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

in understanding the reasons behind the outcome? (why your application reached/not reached the European selection process) ?

**Question 6** If the feedback from the domestic EURYI selection process contained reviewers' assessments, please answer the following questions about your impression of the qualifications of the (anonymous) reviewers.

	Clearly not qualified				Clearly qualified	I can not say
<b>Did the reviewers have the necessary qualifications to assess:</b>						
a) the quality of your research project?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) your qualifications and scholarly background?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) the quality of your agreed host institution?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) research in your field in general?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Question 7** Impartiality in domestic selection process

	Partial and biased				Impartial and unbiased	I can not say
To what degree do you think the domestic selection process was impartial and unbiased?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Question 8** Compared to other funding schemes, how would you rate the EURYI scheme in terms of the *working conditions and budget* offered the awardees:

	Clearly inferior				Clearly better	I can not say
a) Compared to domestic funding schemes that you are eligible for?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Compared to other European/international funding schemes that you are eligible for?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Question 9** Compared to other funding schemes, how would you rate the EURYI scheme in terms of the *honour and prestige* in obtaining the award:

	Clearly lower				Clearly higher	I can not say
a) Compared to domestic funding schemes that you are eligible for?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Compared to other European/international funding schemes that you are eligible for?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Question 10** The best applicants?

	I think they were <b>not</b> the best applicants				I think they were <b>the best</b> applicants	I can not say
To what degree do you trust that the final EURYI awardees were the best applicants?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

1 2 3 4 5

**Question 11** The applications reaching the European stage of the selection process were evaluated by broad disciplinary panels that were provided with the applications and review documents from the domestic evaluation process. To what degree do you think the European panel that handled your application was capable of assessing:

	Clearly not capable				Clearly capable	I can not say
a) the quality of your research project?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) your qualifications and scholarly background?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) the quality of your agreed host institution?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) research in your field in general?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<b>Question 12 Impartiality in European selection process</b>	Partial and biased				Impartial and unbiased	I can not say
To what degree do you think the European selection process was impartial and unbiased?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<b>Question 13 Feedback from the European selection process</b>	Unhelpful				Helpful
To what degree was the feedback you received from the European selection process helpful to you in understanding the reasons behind the outcome? (why your were/ not were among the selected awardees)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<b>Question 14 To what degree did the interview in the European selection process give you:</b>	No valuable feedback	Partly valuable feedback	Clearly valuable feedback
a) valuable scholarly feedback?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) better insight in what is emphasised in these kinds of review processes?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) changed confidence in the review process?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<b>Question 15 Do you think the interview gave the review panel additional information/a better basis for their assessments?</b>	No better basis	Partly better basis	Clearly a better basis	I can not say
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<b>Question 16 To what degree does the EURYI award imply changed working conditions for your research, compared to your working conditions prior to obtaining the award, concerning: :</b>	Inferior	Un-changed	Better	Not relevant
a) your research budget?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) infrastructure at the host institution?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) availability of research assistance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) your ability to pursue an independent research career?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) your ability to build up a research group?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) which researchers you are able to collaborate with?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g) your scholarly status/reputation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h) assignments/duties other than research (e.g. teaching, administrative tasks)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i) what jobs/positions you are offered?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
j) what funding you are offered?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Question 17 To what degree has the award enabled you to do research you would otherwise not have been able to do?**



- could have done the same research without the award
- could partly have done the same research without the award
- It would be difficult to do the same research without the award
- It would be impossible to do the same research without the award
- I do not know

**Question 18 Have you accepted/received the award?**

- a) Yes                      No                      b) If no, why not?
- 

**Question 19 Country:**

- please select your country of residence when applying for EURYI
- please select country of agreed EURYI host
- please select your nationality

**Question 20 Year of birth:**

Your year of birth  (4 digits please)

**Question 21 Gender**

- Male    Female
- 

**Question 22 Months of full-time postdoctoral experience (at the application deadline 15 December 2003)**

Number of months

**Question 23 Research field:**

Your research field (if more than one of the categories apply, please choose the one closest to the applied project):

**Question 24 Mobility after obtaining PhD:**

- |   | Yes                      | No                       |
|---|--------------------------|--------------------------|
| a) between countries  |                          |                          |
| i. more than 3 months position abroad                         | <input type="checkbox"/> | <input type="checkbox"/> |
| ii. permanent or more than 1 year position in another country | <input type="checkbox"/> | <input type="checkbox"/> |
| b) between institutions                                       | <input type="checkbox"/> | <input type="checkbox"/> |
| c) between research fields                                    | <input type="checkbox"/> | <input type="checkbox"/> |

**Question 25 Did you hold a full time or part time research position when applying?:**

- Full time research position

Part time research position

A non-research position

No position

If yes, was the position permanent or temporary?

Permanent

Temporary (limited term)

**Question 26 Comments:**

If you have other comments to the EURYI scheme or suggestions for improvements in future EURYI guidelines, application form or selection processes, please use the space below:

## **Appendix 2 Questionnaire to participating organisations**

## Evaluation of the EURYI scheme

### Questionnaire to participating organisations

[Including summary of replies from 18 POs that participated in Call 1]

Please fill in the questionnaire and return to [liv.langfeldt@nifustep.no](mailto:liv.langfeldt@nifustep.no) before 28 February 2005.

The boxes for the open replies and comments have no size limit and will expand according to the text that you enter. When answering the questions with fixed reply categories, please mark your choice with an 'x', or a number when so indicated.

<i>Name of organisation</i>	
<i>Country</i>	

#### A. The target group and the Call for proposals

\*1. Which initiatives were taken by the PO to reach the target group in Call 1 and in Call 2?

	No initiatives		Tried without success		Tried with success	
	C1	C2	C1	C2	C1	C2
The PO made efforts to attract (known) outstanding candidates	7	6	1	1	8	7
The PO made efforts to attract applicants from other countries	8	8	1	1	7	5
The PO made efforts to “repatriate” overseas researchers	10	8	1	2	5	5
Efforts to make publicity about the Call at the relevant institutions	1		2	1	14	13
Efforts to make publicity about the Call in mass media	8	8		1	6	3
Other ways (please specify):	1	1			4	4

Particular experiences/comments on efforts and success in attracting outstanding young researchers to apply:

What have been the most difficult – to detect young outstanding candidates or attracting them to apply for the scheme?

9 answers: most difficult to detect 3; most difficult to attract 3; both to detect and attract 1; difficult neither to detect nor attract 2.

**\*2. To what degree do you perceive the EURYI to be an attractive funding scheme in your country for the eligible young researchers?**

*For domestic researchers:*

Highly attractive	10
Moderately attractive	8
Not attractive	
Don't know	

*For researchers from abroad:*

Highly attractive	4
Moderately attractive	10
Not attractive	
Don't know	3

Why it is attractive/unattractive? (e.g. reasons related to the EURYI eligibility criteria or to its qualities in relation to alternative funding (incl. other schemes for young researchers), or the degree to which the scheme is fitted to the funding needs of young researchers in your country, or other ways in which domestic context influences its attractiveness)

Please also address any differences in attractiveness for domestic researchers and researchers from other countries:

If you have any information about particularly qualified researchers that did not apply or withdraw their application, please indicate what you think were their reasons:

**\*3. How do you assess the PO's success in attracting highly qualified/outstanding applicants?**

We received many more highly qualified/outstanding applicants than we could submit to S2	11
We received the right number of highly qualified/outstanding applicants to submit to S2	5
We received fewer highly qualified/outstanding applicants than our quota for S2	2
Don't know	

Comments:

One PO answered "fewer" in Call 1 and "many more" in Call 2.

**B. The domestic review process**

**\*4. Please indicate which of the following stages/review forms that were included in your selection process:**

	C1	C2
(a) Preselection of applications (i.e. only sending selected ones to expert review)	6	4
(b) Individual expert referees (please indicate no. of experts per application)	14	15
(c) Written reviews from board/panel members prior to meeting (please indicate no. of reviews per application)	7	7
(d) Several disciplinary boards/panels (please indicate no. of panels/boards)	10	10
(e) Interview with selected applicants	1	1
(f) Meeting of the chairs of the disciplinary boards/panels (to obtain joint selection after the meetings of (d))	4	5
(g) One crossdisciplinary panel/board (to obtain joint selection after (b), (c) and/or (d))	11	11
(h) Other ways stages (please specify):	1	1

Why did you organise your selection this way?

How do you think this way of organising the selection process affected your success in Stage 2 of the EURYI selection process? (effects on which applications you submitted to S2 or how the submitted applications were assessed in S2)

**\*5. In selecting the reviewers for the domestic selection process, what were your concerns? (Criteria in selecting referees or, if no individual referees, the panel members)**

	C1	C2
We used mostly reviewers with specific expertise in the research field of the application	12	13
We used mostly reviewers with more general expertise (e.g. scholarly discipline)	2	
We used both specific and general expertise to each application	7	7
We used mostly domestic expertise	11	7
We used mostly expertise from abroad	5	9
Other concerns (please specify):	2	2

Why did you emphasise this kind of expertise?

How do you think your choice of expertise affected your success in Stage 2 of the EURYI selection process? (effects on which applications you submitted to S2 or how the submitted applications were assessed in S2)

**\*6. To what degree was the domestic ranking/selection based on written statements and/or (average) scores given by expert reviewers?**

	C1	C2
Ranking/selection based only on scores/expert reviews	6	6
Ranking/selection to a high extent based on scores/expert reviews	10	10
Ranking/selection to a low extent based scores/expert reviews	1	2
Ranking/selection not based on scores/expert reviews	1	

Comments:

One PO ticked both 'only' and 'highly'.

**\*7. What other concerns than scores/expert reviews were emphasised in the domestic ranking/selection?**

	C1	C2
Other indications of outstanding quality than expert review (please specify below)	4	5
Priority to the applicants with the longer researcher careers ("perhaps")	(1)	
Priority to applicants with the shorter researcher careers	2	1
Disciplinary distribution	4	4
Mobility between institutions	4	3
Attracting applicants from abroad	3	4
Project fitting host institution	5	5
Gender distribution	3	2
Other concerns, please specify:	2	1

Elaboration of emphasises (including specification of other indicators of outstanding quality, e.g. citations, recommendations):

Why were these the emphasises of the PO/selection committee?

How do you think these emphasises affected your success in Stage 2 of the EURYI selection process? (effects on which applications you submitted to S2 or how the submitted applications were assessed in S2)

**C. Applicant interaction and feedback (S1)**

**\*8. To what degree did applicants have input/influences on the selection of referees?**

	C1	C2
No influences	9	7
Applicants could propose referees and these referees might be used	3	5
Applicants could propose referees and there were specific routines for using these referees	1	1
Applicants could name referees that should be avoided, and such demands might be met	1	1
Applicants could name referees that should be avoided and these referees would not be used	4	5
Other influences, please specify:		

How do you think this affected the success in Stage 2 of the EURYI selection process? (effects on which applications you submitted to S2 or how the submitted applications were assessed in S2)

**\*9. What kind of information about the review (S1) of their application did the applicants get?**

	C1	C2
a. Only the conclusion	8	6
b. Conclusion and copy of review	9	7

If b, were applicants given the possibility to respond to reviews before final S1 selection?

	C1	C2
Yes	3	4
No	7	4

Why did the PO give/not give copy of review and possibility to respond?

How do you think this affected the success in Stage 2 of the EURYI selection process? (effects on which applications you submitted to S2 or how the submitted applications were assessed in S2)

**D. Documentation following the applications to the European selection process (S2)**

**\*10. What were your concerns in putting together the individual applications dossiers to S2? (please tick off all relevant alternatives)**

	C1	C2
(a) Provide the information requested (application form, review reports etc)	14	12
(b) Additional information to highlight the qualities of the candidates	4	5
(c) Additional information to highlight the qualities of the host institutions	2	3
(d) Additional information to highlight the qualities of the reviewers	2	2

*NB: (b)-(d) includes concerns to assure that (a) contained such information.*

How do you think the quality of the information provided by the PO affected the success in Stage 2? (how the submitted applications were assessed in S2)

**E. Views on the European selection process**

**\*11. To what degree do you think the European selection process was able to adequately assess the applicants' different backgrounds, fields for research and career stages (Call 1)?**

We think they were able to adequately assess this	9
We think they were partly able to adequately assess this	7
We think they were not able to adequately assess this	
We have no opinion about it	2

Please elaborate your answer:

**\*12. Was the outcome of the European selection process – in terms of the internal ranking of applications from your PO – as you would expect from their S1 assessments?**

**\*13. To what degree do you trust that the final awardees were the most outstanding applicants?**

We trust they were the best applicants	9
We partly trust they were the best applicants	8
We do not trust that they were the best applicants	
We have no opinion about it	1

Please elaborate your answer:



**F. Overall issues**

**\*14. What are your organisation's motivations for participating in the EURYI scheme?**

**\*15. What do you see as the most important experiences from your domestic selection process? What are the main strengths and weaknesses of your selection process in relation to attracting outstanding young researchers from all over the world? (Please comment both on Call 1 and Call 2)**

**\*16. Do you think the finally chosen candidates are the right ones to meet the overall strategic objective of the scheme, i.e. to attract the best young researchers to Europe?**

**\*17. Are there other issues that you think are relevant to your organisation's involvement in the EURYI scheme, or to the success of 'your' applicants in the European selection?**

**\*18. If you have suggestions for improvements in the EURYI selection processes or comments/views on issues that has not been satisfactorily addressed by the questions above, please use the space below to elaborate:**

**Thank you for taking the time to fill out the questionnaire!**

## Appendix 3 Informant list

### 6 Panel Chairs and 6 Panel Members (phone interviews 1-1½ hour)

Carmen N. Afonso 30.03.05

Wim Blockmans 17.02.05

Catherine Césarsky 23.02.05

Patrick Charney 28.02.05

Frank Gannon 23.02.05

Jane Grimson 16.02.05

Tim Hunt 15.02.05

Jerzy Langer 01.03.05

Pilar Lopez 25.02.05

Bengt Nordén 16.02.05

Imre Vass 22.02.05

Claire Wallace 02.03.05

### 5 ESF staff informants (individual interviews in Strasbourg 0,75-2 hours)

Bertil Andersson 24.02.05

John Marks 24.02.05

Svenje Mehlert 24.02.05

Neil Williams 24.02.05

Jean-Claude Worms 24.02.05

### 4 EURYI Management Committee members/PO contact persons (phone interviews 0,75-1 hour)

Carmen N. Afonso 30.03.05

Merja Kärkkäinen 31.03.05

Beate Scholz and Anjana Buckow 07.03.05

# Appendix 4 Terms of reference

## EURYI

### Terms of Reference for the Evaluation of the first Call Invitation to Tender

#### 1. Summary

The European Science Foundation, also acting on behalf of the European Heads of Research Councils is inviting offers for the execution of an evaluation of the first Call of the joint scheme, the European Young Investigator Awards (EURYI).

Organisations interested in tendering are invited to submit a proposal in which they present

- their understanding of the tasks described in the Terms of Reference given below
- a description of the approach and methodology
- the evaluation team
- the time schedule for the evaluation
- the cost

The available maximum budget for the evaluation is 70 k€. The evaluation should be completed **by 11 April 2005** at the latest.

Offers should be received by ESF by 20 December 2004 at the latest.

#### 2. Introduction

The European Heads of Research Councils, in cooperation with the European Science Foundation, developed the European Young Investigator Awards Scheme to attract outstanding young researchers from anywhere in the world to work in Europe for the benefit of European science and the building up of the next generation of leading European researchers. EURYI Awards enable outstanding young researchers to devote their time solely to research for a period of up to five years. Awards provide up to M€ 1.25 to pursue an independent research career, including the development and building up of a research group where appropriate.

Funding for the 1<sup>st</sup> Call Scheme has been provided by contributions from 18 European Research Organisations from 15 countries. The scheme was initially set up with the intention to have five calls. A MoU for the 2<sup>nd</sup> Call has been signed by 20 national organisations from 16 countries and ESF, with a total budget of M€ 27.2.

Before deciding on a third and subsequent Calls for EURYI, the Organisations wish to have an evaluation of the first Call, as well as of the first part of the second Call.

As background material the following documents are attached to this Call for Tender:

- The MoU for the first Call
- The text of the Call for Proposals
- A description of the assessment process

## **Terms of Reference**

### *3.1. Organisation*

The evaluation will be executed by a Contracting Party with the responsibility for the collection and analysis of the material. The Contracting Party will be responsible for the recommendations for improvements in the EURYI scheme. The president of the European Heads of Research Councils, in consultation with the CEO of ESF will select on behalf of the EURYI Management Committee the contracting party on the basis of the competitive tender.

### *3.2. Tasks*

The Contracting Party will:

- Analyse populations of applicants at the four stages of EURYI: initial applications to the national S1; initial submissions of the selected candidates to the European S2; candidates invited for an interview; Awardees. The analysis should include: geographical distribution, age, research experience since obtaining their (first) PhD, gender, mobility (according to country, within a country and according to discipline (as defined by the domains of the six S2 panels)) and employment at the time of application.
- Prepare, send out and process a questionnaire to all applicants in S1 on their perceptions of the process (both S1 and S2 for those who were admitted to S2). Special efforts should be made to get a response from unsuccessful applicants. The questionnaire should include questions suggested by the Participating Organisations and ESF. An important question is whether the first Call has reached the target group as defined in the Call.
- Develop a view on the extent to which the target group has been reached, for example through interviewing PO representatives.
- Develop a basis for a benchmark for the S1 assessment processes for consideration by the Evaluation Panel by:
  - ⇒ Mapping selected PO processes for S1 assessment: both regarding the procedure followed and the documentation.
  - ⇒ Asking all PO's to compare their national review process to that emerging from the mapping
- Evaluate the S2 process, which has been carried out in four steps: the putting together of the panels; a pre-selection on the basis of independent assessments by panel members, followed by a panel meeting; the interviews with 65 candidates followed by a ranking; and the meeting of the panel Chairs in which the final ranking was established. An overall objective is to find out whether the S-2 process was able to correctly assess people with different backgrounds, fields of research and different stages of their research careers.

- ⇒ Interviews with Chairs of panels, ESF and PO's on the putting together of the panels
- ⇒ Interviews with panel members on the process, the documentation received from S1, the panel composition and the outcomes
- ⇒ Interviews with key ESF staff on the process and documentation
- ⇒ Interviews with EURYI Management Committee members on their observations of the process
- ⇒ Interviews with some successful and unsuccessful candidates on their perceptions
- Make a comparison of the budgets allocated to the 25 Awardees and of their employment conditions:
  - ⇒ Allocation of the EURYI budget to own salary, additional staff (PhD students, PDs, support staff), equipment, travel and miscellaneous
  - ⇒ Permanent versus temporary positions, expectations or promises of permanent employment during and after the EURYI Award period.
- A general question to be answered is whether the awardees were selected in accordance with the overall aim of the scheme.

### *3.3. Budget, contract and time schedule*

- The successful tender will present a workplan which stays within a budget of 70 k€. ESF does not pay VAT.
- A kick off meeting with the Contracting Party and the EURYI Management Committee will be held as soon as the contract has been signed.
- The contract will be signed by the 10<sup>th</sup> January 2005
- The final report of the evaluation is due by 11th April 2005 at the latest.
- The successful bidder will conclude a contract with the ESF, which will act on behalf of the European Heads of Research Councils.

15.11.04