The Research Council of Norway

Barriers and opportunities for Norwegian participation in the European Research Council (ERC)

Survey report

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Preface

This report presents the findings of a study on barriers and opportunities for Norwegian participation in European Research Council (ERC) grant funding, carried out by Technopolis Group between August 2018 and February 2019. The study was commissioned by the Research Council of Norway.

The main elements of the study were surveys conducted among applicants to the ERC and researchers who have received support from the Research Council's open competitive arena (FRIPRO). The surveys were complemented by interviews. The objective of the study is to contribute to a better knowledge base to increase Norwegian participation and success in the ERC.

The Research Council of Norway, February 2019

technopolis|group|

Barriers and opportunities for Norwegian participation in the European Research Council (ERC)

technopolis |group| February 2019

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Executive Summary

This report presents the findings of a study on barriers and opportunities for Norwegian participation in European Research Council (ERC) grant funding, which was commissioned by the Research Council of Norway (RCN) and carried out by Technopolis Group between August 2018 and February 2019.

The ERC provides large and prestigious single investigator grants for basic research funding in Europe. Norway has accounts for around 1.5% of ERC applications, placing it in the top quarter of all countries in terms of ERC applications proportional to population. The overall success rate of Norwegian ERC applications has been just over 8%, compared with an all-country average of over 11%. Norwegian ERC applications are a little bit less successful than the all-country average especially at the second of the two assessment stages, but also lag slightly behind the all-country average at the first stage of assessment.

We pursued four lines of enquiry, in order to understand Norway's engagement and performance in the ERC, and to highlight barriers and opportunities:

- Characteristics of Norway-based researchers and their suitability to ERC application
- Attitudes towards ERC funding and attractiveness of ERC to Norway-based researchers
- Appropriateness of support and 'pipeline' funding programmes such as RCN's FRIPRO (the funding environment)
- Institutional support (including national support such as the PES2020 application support measure and H2020 National Contact Points (NCPs))

Our findings are based on two online surveys (one of Norway-based ERC applicants, one of Norway-based researchers who have received basic research funding from RCN but have never applied to ERC, hereafter 'non-applicants') with a combined total of 714 responses, as well as a programme of 20 follow-up interviews with ERC applicants and non-applicants, and a set of eight interviews with representatives of the broader Norwegian stakeholder community. RCN also supplied internal and ERC data on Norwegian ERC applications and success rates to the study to provide contextual information.

Our headline findings are:

- Norway has a large pool of researchers (comprising both ERC applicants and non-applicants) interested in conducting fundamental scientific enquiry, with a focus on high-level scientific publication, collaboration, research team leadership, PhD student supervision and several other facets characteristic of the 'type' of researchers best suited to ERC
- ERC applicants and non-applicants alike view ERC grants as highly prestigious and career-furthering, almost without exception. With respect to size, length, career effects, PhD and postdoc supervision, as well as the kind of research activity permissible within ERC grants, applicants and non-applicants alike are overwhelmingly positive about ERC grants and see their characteristics as major incentives for application
- The great majority of both applicants and non-applicants would consider applying in the future. Many are aware of the competitive nature of ERC application, but the low success rate does not appear to be a major deterrent
- Most ERC applicants and non-applicants have a substantial track record of prior research grant experience. Moreover, large proportions of researchers have secured funding and managed grants from several sources, both within Norway and from international funders. Whilst there is an inevitable degree of heightened familiarity and comfort around RCN grant application, there is no evidence for insularity or 'lock-in' to RCN among researchers conducting basic science in Norway
- Around 10% of ERC applicants had very limited publication track and/or no prior research grant experience at the point of their first ERC application, which almost certainly limited their chances of success

- In addition to a high prevalence of international funding experience, around half of ERC applicants and non-applicants alike have a history of working as researchers in countries other than Norway. Such international experience appears to be at least a slight a success predictor in ERC applications
- Applicants and non-applicants alike most often take the view that their previous grant experience has been beneficial to them in terms of heightening their readiness for ERC application and ERC grant management. Prior grant experience and track is also acknowledged as an important success factor in ERC applications
- Whilst there is an overall positive picture regarding Norwegian researchers' characteristics, attitudes towards ERC and the suitability of their existing research grant 'pipelines', there are some perceived shortcomings around institutional support:
  - Around 10% of Norway-based ERC applicants report not having administrative support with their application.
  - Other support measures such as peer mentoring, funding for travel to networking events, relief from teaching or administrative duties were only reported to be available by between a third and half of all applicants
  - Engagement rates with NCPs are low: 64% of ERC applicants report not being in touch with an NCP at all. However, our data suggest that contact with an NCP is associated with a somewhat higher ERC application success rate
- Among non-applicants, there is also some lack of knowledge about whether or not various types of support would be available, should they ever choose to apply for ERC funding
- Whilst organisations such as RCN and high-level institutional managers strongly encourage ERC application, we find that individual researchers struggle to self-assess whether they are an appropriate candidate or at the right career stage to apply to ERC. Combined with lack of clarity about what support would be in place if they chose to apply, the end result is something of a mismatch between general encouragement and limited targeting and systematic support of specific candidates
- ERC applicants identify previous ERC application experience as the top success factor in their successful applications, and lack of such experience as the top failure factor in their unsuccessful ones. This is reflected in the fact only that 6% of ERC applicants are successful on a single attempt – significantly below Norway's overall ERC success rate. Most ERC grant winners have applied more than once
- Currently, around two thirds of all Norway-based ERC applicants have applied only once, been unsuccessful and have not re-applied since. It is important therefore to encourage re-application, and to ensure a culture change whereby first-time application is as much about familiarisation and capacity building as it is about winning the grant as such

In summary, we find that there are significant opportunities for greater ERC engagement (application and success) in Norway: There is a large pool of researchers with suitable publication track records, a diverse track of prior research grant experience, a range of other research-related skills and experiences (including internationally) and a strong focus on basic science. Many ERC applicants report that they would consider applying again, and many non-applicants also note they would consider applying in the future.

The main barriers to engagement are, first, that general encouragement for ERC application often does not translate into specific identification, encouragement and support of the right candidates (a task likely best conducted by individual departments and faculties rather than at the top level of institutions) and, second, that that there is a high proportion of people who apply only once to ERC, whilst previous experience with ERC funding is in fact a major success factor.

Targeting and encouraging the 'right' applicants and ensuring that the application process is seen as valuable and worth repeating even in the case of failure constitute the most important opportunities for greater ERC engagement.

1 Introduction

1.1 Overview and mandate for this study

The purpose of this study is to assess factors influencing Norwegian engagement with the European Research Council (ERC), or more specifically the barriers and opportunities for Norwegian engagement with ERC funding. We define 'engagement' as the blanket term to cover both application (participation) and success (outcomes).

The study was underpinned by existing data provided by the Research Council of Norway (RCN) on recent Norwegian ERC participation and success rates, which we briefly describe below. Our primary data collection consisted of the following:

- An online survey of Norway-based ERC applicants from 2010 to 2018. Out of a total of 711 individuals contacted, 293 responded, yielding a response rate of 41%
- An online survey of Norway-based researchers who have never applied to ERC, but have received at least one major grant for basic research from RCN during the 2010–2017 period (FRIPRO, Toppforsk or Young Research Talents). We treat this group as a suitable pool of 'non-applicants' who have demonstrably conducted basic research and engaged in research funding application, and to whom the prospect of ERC application would therefore be most relevant. Out of a total of 910 individuals contacted, 421 responded, yielding a response rate of 46%
- Following the surveys, we conducted a programme of follow-up interviews, targeting a couple of different informant categories. Twenty informants were randomly selected from the pool of survey respondents, although attention was paid to institutional affiliation, gender, and broad disciplinary background, in order to avoid unreasonable over- or under-representation. The informants include ERC applicants and non-applicants: eleven non-applicants (one of whom sent answers via mail), six one-time applicants and four multi-time applicants. Two of the multi-time applicants had won an ERC grant
- We conducted an additional interview programme with other stakeholders. This category includes administrative staff at institutions who work with supporting ERC application, and/or with internationalisation more broadly. RCN staff is also included, as well as representatives of two ministries. In total eight stakeholders were interviewed.

The study team included experts from Technopolis Group in Sweden and the United Kingdom. The study was conducted between September 2018 and February 2019. Göran Melin was overall project manager and Peter Kolarz led the British team. The study team also included Amanda Bengtsson Jallow, Kalle Nielsen and Neil Brown. Erik Arnold and Tomas Åström supported the team with insights, advice and quality control. The team is grateful to all those who gave their time during the interviews and generously shared their opinions and experiences.

1.2 European Research Council grants

ERC was created in 2007. Its mission is to encourage the highest quality research in Europe through competitive funding and to support investigator-driven frontier research across all fields, on the basis of scientific excellence. It is a constituent part of the European Framework Programmes, but its emphasis is on basic research rather than thematic or applied endeavours, which are typically the focus of other EU FP funding tools.

The ERC funds investigator-driven, bottom-up research through open competition via scientific peer review. Since 2007, some 9,000 projects have been selected for funding from more than 65,000 applications. The main long-standing grant types are ERC Starting Grants for early career researchers, ERC Advanced Grants for mid-career researchers, with ERC Consolidator Grants added as an intermediate category in 2013.

ERC participation forms a part of the wider importance of Norway's EU FP participation. Though Norway is not an EU member state, it has participated in the FPs since 1994, making an explicit and

substantial financial contribution. A suitable 'return rate' on the EU FP investment is therefore important. The government's 2014 Strategy for research and innovation cooperation with the EU therefore set out that Norway should bring back 2% of the competitive funds in Horizon2020.[1]

1.3 Norway's ERC application and success rates 2007–2017

Before we present the findings of our own research, we briefly describe here the situation on Norwegian ERC engagement as it stands, based on ERC and RCN data, in order to frame the remainder of this report.

RCN has provided the study team with a database of Norwegian applications to ERC between 2007 and 2017, containing basic details about the applicant (their name and institution), the application (call, year and grant type), the evaluation process (panel) and outcome (step reached, score and whether granted). Separately, RCN provided headline data for Norway and for all countries (combined), showing the number of applications per call, as well as a summary of evaluation outcomes. The full analysis of these figures is included in Appendix D. In brief, the main points are as follows:

- Application rate:
  - There have been 970 Norwegian applications to ERC over eleven years (2007–2017). These applications have been made by 687 unique individuals, meaning that many of these individuals have applied more than once to ERC during the period
  - The number of applications per year increased consistently to a peak of 172 in 2013, after which there was a sudden marked drop to just over 100 per year. This may be attributable to ERC rule changes about eligibility of failed applicants to re-apply. The preliminary results for the final call of 2017 suggest that application numbers may have picked up again to 149
  - ERC applications from Norway have made up between 1.4% and 1.9% of total ERC applications each year from 2010 to 2017. The figure fluctuates from year to year but there is a general upward trend, with 2017 having the highest figure on record (we do not have 2018 data)
  - The University of Oslo has the largest share of ERC applications (40%), followed by the University of Bergen (18%), NTNU (13%) and UiT The Arctic University of Norway (5%). The remaining 24% come from a broad range of other institutions, with none accounting for more than 3% of applications
  - In the time period 2007–2017, Norwegian applications are rather evenly split (around 33% each) among the three main ERC disciplinary domains (life sciences, physical sciences and engineering, social sciences and humanities). There is no evidence of excessive concentration in particular sub-fields within any of the three main domains
- Success rate:
  - Overall, 77 ERC grants were awarded to Norwegian applicants during the period covered by the data
  - Norway's success rate (grants awarded as a proportion of applications) for the 2007–2017 period has been 8%, compared to an all-country rate of 11%. Norway has had a below average success rate every year throughout the period
  - The proportion of all ERC grants (2007–2017) awarded to Norwegian applicants has been 1.0%. There is no clear trend: the rate has fluctuated between 0.3% and 1.4% between individual years, although the figure has been rising from 2015 onwards
  - Overall success rates are higher for 'Consolidator' grants than for 'Starting' and 'Advanced' grants

[1] MER (2014) 'Strategi for forsknings- og innovasjonssamarbeidet med EU. Horisont 2020 og ERA' ('Strategy for research and innovation cooperation with the EU. Horizon 2020 and ERA').

- The ERC application process involves two main stages.[2] Norwegian applications fare worse than the all-country average in both stages. However, the contrast tends to be greater at the second stage, with Norway lagging between 10–25 percentage points behind the all-country total in most years, whilst Norway's success rate at stage one has hardly ever been more than five percentage points behind the all-country total
- Repeat applicants (i.e. applicants who had applied to ERC on a previous occasion) have a higher success rate, something that is largely driven by those who were assessed more positively (i.e. won or reached stage two on a previous attempt)

1.4 The wider context of this study: previous work on Norwegian FP participation

There has been a substantial body of work in recent years on Norwegian FP participation, going back at least to 2004.[3] Much of this work has been conducted by Technopolis, and the present study on ERC participation can be viewed as part of this wider body of work. In 2012, Technopolis analysed Norway's options for affiliation with Horizon 2020,[4] and the same year studied Norwegian rationales for participation in the FPs.[5]

A 2013 impact evaluation studied seven of RCN's FP support measures, including one to provide "second chance funding" to well-rated ERC proposals through the FRIPRO programme.

A study of Norwegian participation in Horizon 2020 in health, ICT and industry from 2017 determined that ERC grants are largely unexploited instruments for Norwegian researchers in health and ICT, and those that have applied generally have experienced much lower success rates than their counterparts in comparator countries. The report proposed actions to improve Norwegian participation.[6]

In 2018, Technopolis also studied Norwegian FP7 and Horizon 2020 participation in an analogous assignment for the Finnish Prime Minister's Office wherein Norway was one of six comparator countries. This study included a case study on Norwegian support measures to facilitate Horizon 2020 participation.[7] Most recently, there has been an impact evaluation of RCN's two main Horizon 2020 support measures, PES2020 and STIM-EU, which considers ERC participation as part of its wider analysis.[8]

Whilst the present study adds to the larger body of work on Norway's EU FP participation, its distinctive focus must be noted: much of the EU FP funding focuses on applied or thematic research, whilst ERC funding is purely bottom-up, basic research, with scientific excellence as the main criterion and limited involvement of business and industry. The context is therefore different from that of much of the other work noted above. Nevertheless, we refer to it where relevant in this report.

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[2] A typical assessment process for research grants involves only one stage consisting of external peer review followed by a panel decision. However, multi-stage assessment processes are typical in many countries for larger award types. For recent international reviews on this topic see e.g. Kolarz P, Arnold E, Dave A, Andréasson H and Bryan B (2018) 'How research funders ensure the scientific legitimacy of their decisions'. Report by Technopolis to Formas; Kolarz P, Farla K, Krcal A, Potau X and Simmonds P (2018) UKRI Research and Innovation Funding Service (RIFS) visioning work. Report by Technopolis for UK Research and Innovation.

[3] "Evaluation of Norway's Participation in the EU's 5th Framework Programme", NIFU, STEP and Technopolis, 2004.

[4] Boekholt P, Arnold E, Carlberg M, Collins I and Fikkers DJ (2012) 'Norway's affiliation with the European Research Programmes: Options for the future'. MER.

[5] Åström T, Jansson T, Melin G, Håkansson A, Boekholt P and Arnold E (2012) 'On motives for participation in the Framework Programme', MER

[6] Åström T, Brown N, Mahieu B, Håkansson A, Varnai P and Arnold E (2017) 'Norwegian participation in Horizon2020 in health, ICT and industry'. Report by Technopolis Group for RCN. p 170-174

[7] Piirainen KA (ed.), Halme K, Åström T, Brown N, Wain M, Nielsen K, Potau X, Lamminkoski H, Salminen V, Huovari J, Lahtinen H, Koskela H, Arnold E, Boekholt P and Urth H (2018) 'How can the EU Framework Programme for Research and Innovation increase the economic and societal impact of RDI funding in Finland?', Publications of the Government's analysis, assessment and research activities 8/2018, Prime Minister's Office, Helsinki, Finland.

[8] Åström T, Brown N, Lindström M, Andréasson H, Engblom H and Arnold E (2018) 'Improving Norway's performance in the EU Framework Programme – Impact evaluation of the Research Council of Norway's main measures to support Norwegian participation, PES202 and STIM-EU'. Report by Technopolis for RCN.

1.5 Norwegian ERC engagement: framework for our study

The purpose of this study can be broken down into two fundamental questions:

1. Norwegian engagement (application and success rates) with ERC funding has been comparatively low; why is this the case?
2. What are the drivers behind any evident recent signs of improvement and how might further improvement be possible, especially in relation to support programmes (e.g. in the shape of the PES2020 application support measure, NCPs and RCN's own funding schemes such as *Fri prosjektstøtte* (FRIPRO))?

As our framework for investigating Norwegian ERC engagement, we have identified four possible types of factors or 'lines of enquiry' that could affect (positively or negatively) the level of engagement of Norwegian researchers with ERC:

- Characteristics of Norwegian researchers: are there any misalignments that mean Norway-based researchers may not be best suited to applying to ERC, e.g. in terms of their focus on basic vs. applied science, disciplinary orientation or their 'values' about what it means to be a researcher?
- Characteristics of ERC grants and attractiveness to Norwegian researchers: are there aspects of ERC grants that make them unattractive to Norwegian researchers?
- Institutional support: are there problems in terms of the support of potential ERC applicants at the institutional level? Do institutions have the staff and capability to support ERC applications?
- The presence and appropriateness of support programmes and grants offered within Norway: do they provide an adequate 'pipeline' towards ERC application and success?

Each of these four lines of enquiry is relevant to both application rates and success rates, though often in different ways. For example, the quality and utilisation of institutional support may be an important determinant of whether applicants are successful, but for current non-applicants it is more important to find out whether they are aware of what kind of support would be on offer in the first place, should they ever consider applying to ERC; in short, effectiveness is key for applicants and awareness for non-applicants.

We cover the various dimensions of each line of enquiry with regard to both success rates and application rates. For the former, our feedback from ERC applicants is the primary data source, whilst we draw strongly on feedback from non-applicants (i.e. potential applicants) for the latter.

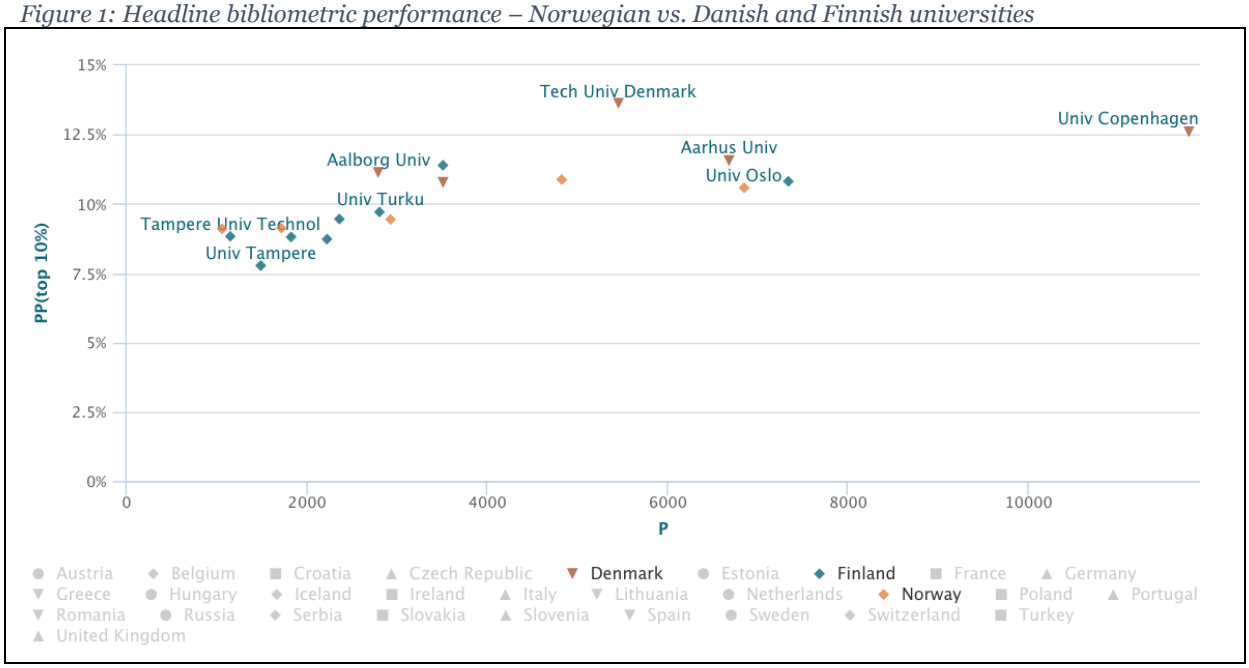
2 Characteristics of Norway-based researchers

In this section we present findings on the first of our four lines of enquiry. Before we consider institutional support, attitudes to ERC funding, or other support programmes and prior grant experience, it is important to profile Norway-based ERC applicants and non-applicants, to check for any characteristics that may suggest misalignments between what Norway-based researchers do and what the ERC is looking for. In short, this relates to two main questions:

- Are Norway-based researchers the right 'fit' to ERC?
- Are the right kind of researchers applying?

As a starting point, it is important to note that Norwegian research is productive and impactful. Comparing for instance with Denmark and Finland – two countries with higher ERC engagement rates – the overall productivity and citation impact of Norwegian research is entirely in line with these two comparators (Figure 1), and often superior to other European countries with higher ERC success rates. The universities of Bergen and Oslo plus NTNU, which make up the bulk of Norwegian ERC applications, compare especially favourably. In terms of overall research quality[9] and productivity, there is no evident problem.

Figure 1: Headline bibliometric performance – Norwegian vs. Danish and Finnish universities



'P': Number of publications per institution published in the 2013–2016 window and listed in Web of Science; 'PP(Top10%)': Percentage of those papers that rank among the top 10% most cited articles in their field (i.e. 10% would reflect average performance). Unlabelled Norwegian institutions (from left to right): NMBU, UiT, UiB, NTNU). Data from January 2019. Source: Leiden Rankings – http://www.leidenranking.com/ranking/2018/chart

Nevertheless, it is important to assess in more detail whether the kind of research that Norway-based researchers conduct, and their attitudes and values around conducting research might suggest any misalignments 'beneath' these aggregate indicators.

ERC grants are among the largest in the world for single-investigator awards for basic research. Scientific excellence is the central criterion for funding decisions, whilst industry collaboration,

[9] We infer here that citation impact is a proxy for quality. This is not strictly the case, and especially problematic in certain disciplines. However, low citation impacts at institutional or country aggregate levels often signal less developed research capacity, so we use it here as a short-hand to indicate that such deficiencies do not appear to apply to Norway.

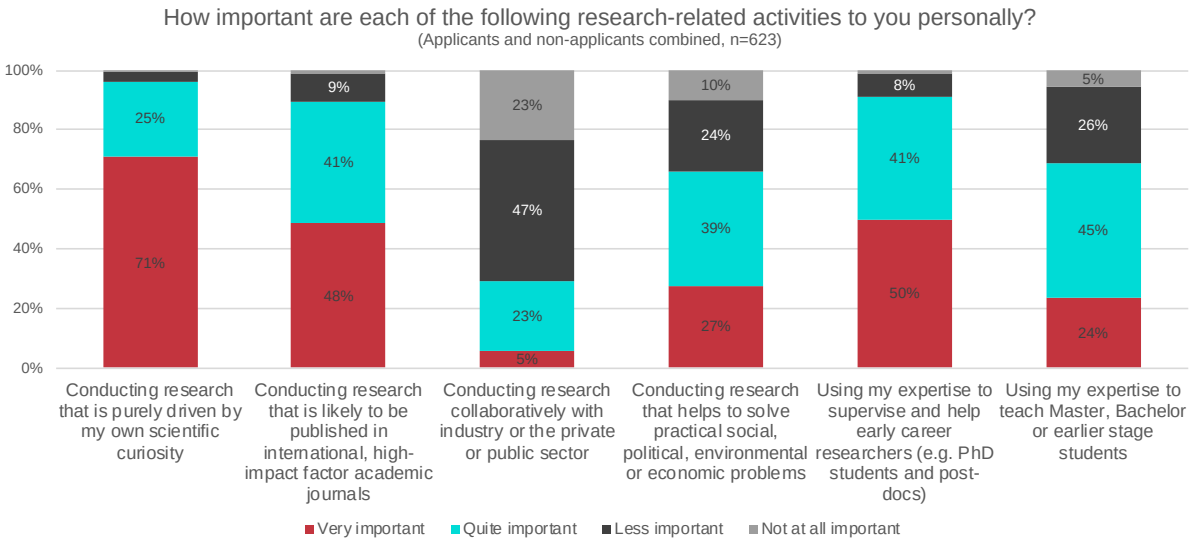
innovation and commercialisation are far more in the remit of other EU Framework Programme funding tools. As such, likely applicants ought to have a strong focus on basic research and research excellence, as well as a desire to help foster new research talent through the ability to fund PhDs and postdocs as part of an ERC award.

We asked both ERC applicants and non-applicants to rate the importance of various research-related activities they consider to be important. The answers from both groups were strikingly similar, so we present them here together (Figure 2, Figure 3).

Overwhelmingly, curiosity-driven research (or 'basic research'), publication in high impact factor journals and training of PhDs and postdocs are viewed as the most important aspects of research. Industry collaboration (more prevalent in FP tools other than ERC) as well as broader notions of thematic or 'use-inspired' research have a far lower degree of importance to most respondents.

Even though most university-based academics have jobs that involve teaching at predoctoral level, such activities likewise do not constitute a priority for most, though some importance is attached to them. These figures indicate that the great majority of Norway-based researchers are suited in terms of their outlook on research to a basic research funding instrument like ERC.

Figure 2: Researchers' values – appropriateness for basic research funding

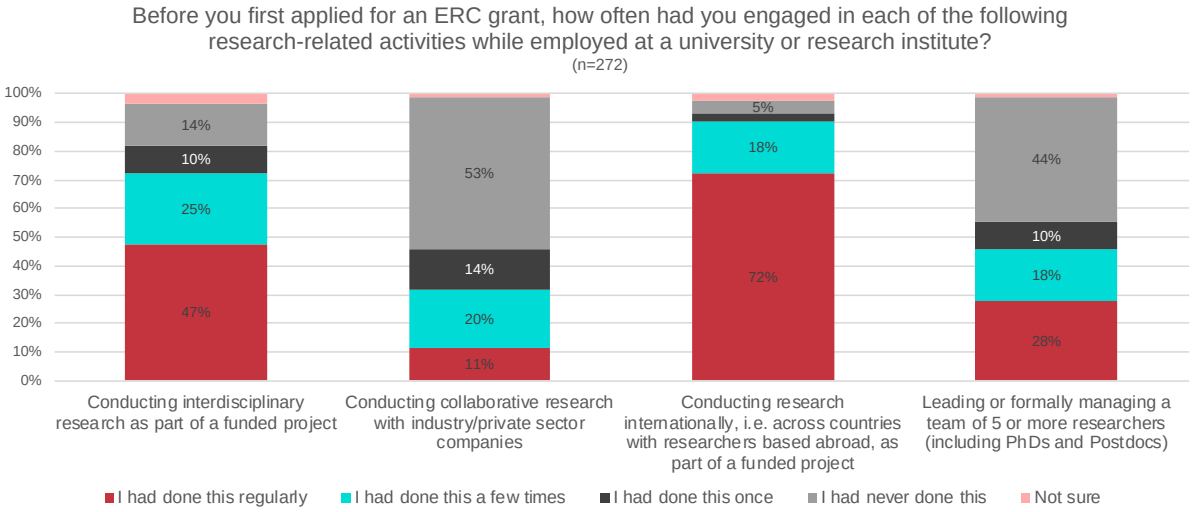


There are no significant differences between applicants and non-applicants; a random selection of 66 non-applicants was removed from these data to ensure equal representation of both groups in these combined survey figures removed to ensure both are represented with an equal response rate of 38.4%.

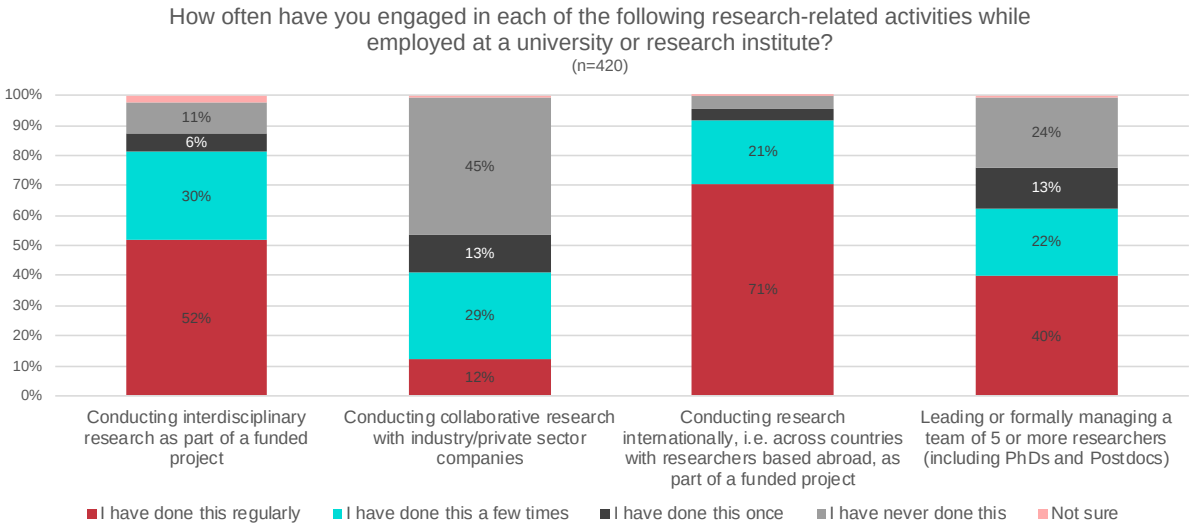
In terms of practical experience, we also asked both groups of survey participants whether they had engaged in various 'secondary' research-related activities. Once again, industry or private sector collaboration is relatively rare among both respondent groups. Interdisciplinary research, international collaboration and managing teams on the other hand are common skills across the board. We note that ERC applicants are less likely to have led research teams, which is at least in part attributable to Starting Grant applicants, who by definition are at an early career stage.

Nevertheless, these figures also show that activities associated with strong research expertise and experience are present both among ERC applicants and among non-applicant counterparts.

Figure 3: Experience in research-related tasks
ERC applicants:

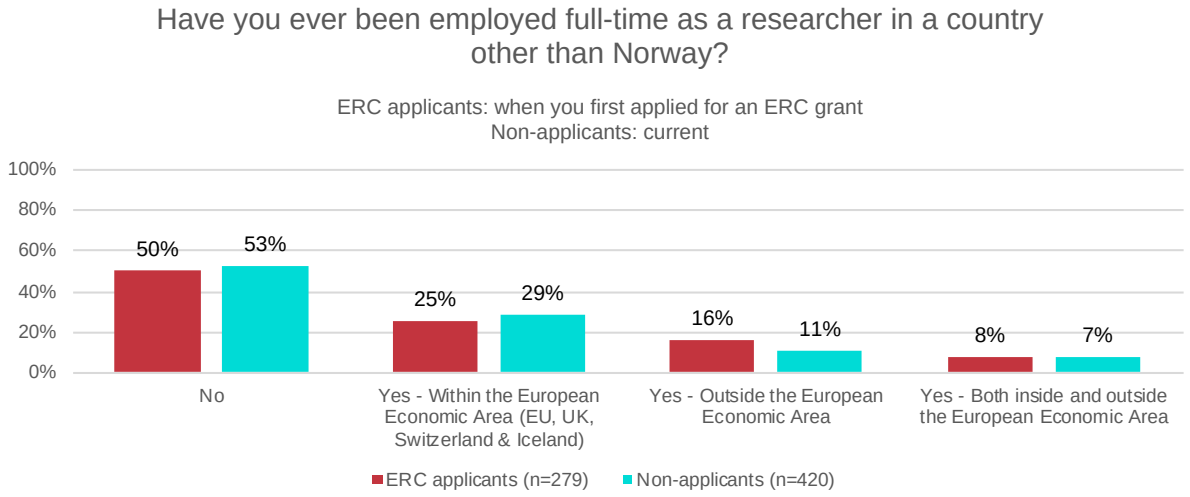


Non-applicants:



The issue of international experience is an important one: exposure to the global research landscape and 'internationalisation' more broadly is a further marker of possible research strength. Beyond the issue of international collaboration, we also asked about international careers. Half of ERC applicants noted that they had worked as a researcher outside Norway prior to their first ERC application. These figures are quite similar for our non-applicant respondents (Figure 4).

Figure 4: Internationalisation – previous employment as a researcher abroad



These high levels of prior international experience signal that 'insularity' is unlikely to be a major factor hindering greater ERC engagement, both among applicants and non-applicants. Additionally, we find that prior research employment abroad appears to be a success predictor, though far more so for ERC applicants who had worked outside of the European Economic Area (EEA) (Table 1).

Table 1: ERC success and previous employment abroad

Have you ever been employed as a researcher outside Norway?	**Applied to ERC once, lost**	**Applied to ERC more than once, lost all**	**Won at least one ERC grant**	***(no answer)***	**n**
No	49%	29%	14%	*8%*	140
Yes – Within the European Economic Area (EU, UK, Switzerland & Iceland)	48%	31%	15%	*6%*	71
Yes – Outside the European Economic Area	48%	24%	24%	*4%*	46
Yes – Both inside and outside the European Economic Area	32%	27%	32%	*9%*	22
Grand Total	**47%**	**29%**	**17%[10]**	***7%***	**279**

The relative lack of improved outcomes for those who worked within the EEA only may be explained by a large number of respondents who only worked for brief periods in other Nordic countries,[11] meaning that extensive exposure to international research may not have occurred to quite the same extent for these respondents. Further, these figures may in part be driven by international experience being associated with longer careers and more seniority. Nevertheless, a background of international engagement must be acknowledged as an important success factor and such engagement is widespread among Norwegian researchers.

It is beyond the scope of this study to conduct a full appraisal of individual applicants' academic track records and to ascertain research strength in every case. However, as a proxy we asked applicants about

[10] This figure does not correspond to the overall success rate for Norwegian ERC applications because we consider people rather than individual applications: an applicant who has been unsuccessful four times and successful once moves into the 'won category', effectively along with all applications attributable to them.

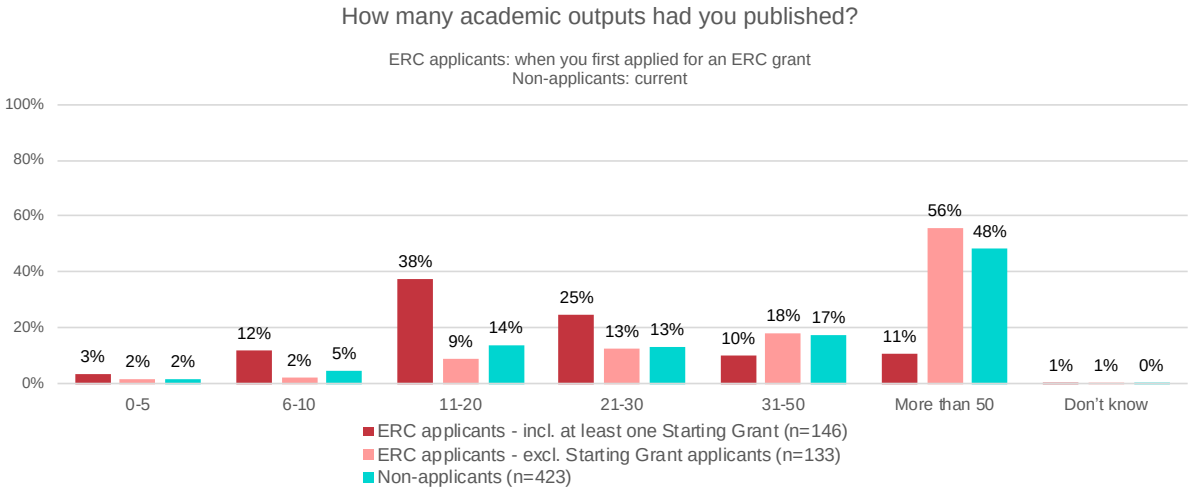
[11] We did not ask specifically about duration of time spent abroad. However, it is possible that employment within the EEA may be somewhat associated with shorter stays.

the number of academic publications they had produced by the time they first applied to ERC (Figure 5). Though publication patterns differ between disciplines and are therefore only a partial proxy for productivity and research strength, this allowed us to test whether significant shares of applicants (and indeed non-applicants) are characterised by especially low levels of productivity. Critically, it is important to distinguish here between Starting Grant applicants and others, as Starting Grant applicants are by definition less likely to have extensive publication tracks.

Starting Grant applicants cluster around 10–30 academic publications at the time of their first application, whilst the majority of applicants to other ERC grant types have over 50. We note that many non-applicants have comparable publication tracks in purely numerical terms – another indication that there are likely many individuals in the pool of non-applicants who might be suited to apply.

As noted, publication patterns differ between disciplines; in some cases, many short journal articles per year might be the norm, in others it is more typical to have a monograph every few years, interspersed with less frequent but longer journal articles. However, we note that there is a small share of applicants with very small publication records that cannot readily be accounted for in this way: fewer than ten publications for Starting Grant applicants or fewer than 20 for applicants to other grant types is unlikely to be sufficient to secure a basic research grant worth in the order of several million euros, regardless of disciplinary publication patterns. The issue is a minor one given the small numbers. However, these data may indicate that some individuals apply to ERC without having the necessary track record.

Figure 5: Publication histories



The survey questions further specified: "Please count only research articles in international, peer reviewed academic journals (excluding editorials or book reviews), as well as academic books (monographs), edited volumes (as editor) and book chapters. Please estimate as closely as you can."

The numbers at this level of disaggregation are too low to fully ascertain whether the number of publications is a predictor of success chances. However, the figures below (Table 2) show a clear contrast between those with more than 50 publications at the point of application, and those with fewer than 50. We have separated those who first applied for a Starting Grant, as these are for early career researchers unlikely to have extensive publication records. For this group, the highest categories (31 or more publications) are less prevalent, but a similar relationship between publication track and success rate still holds for this group as well.

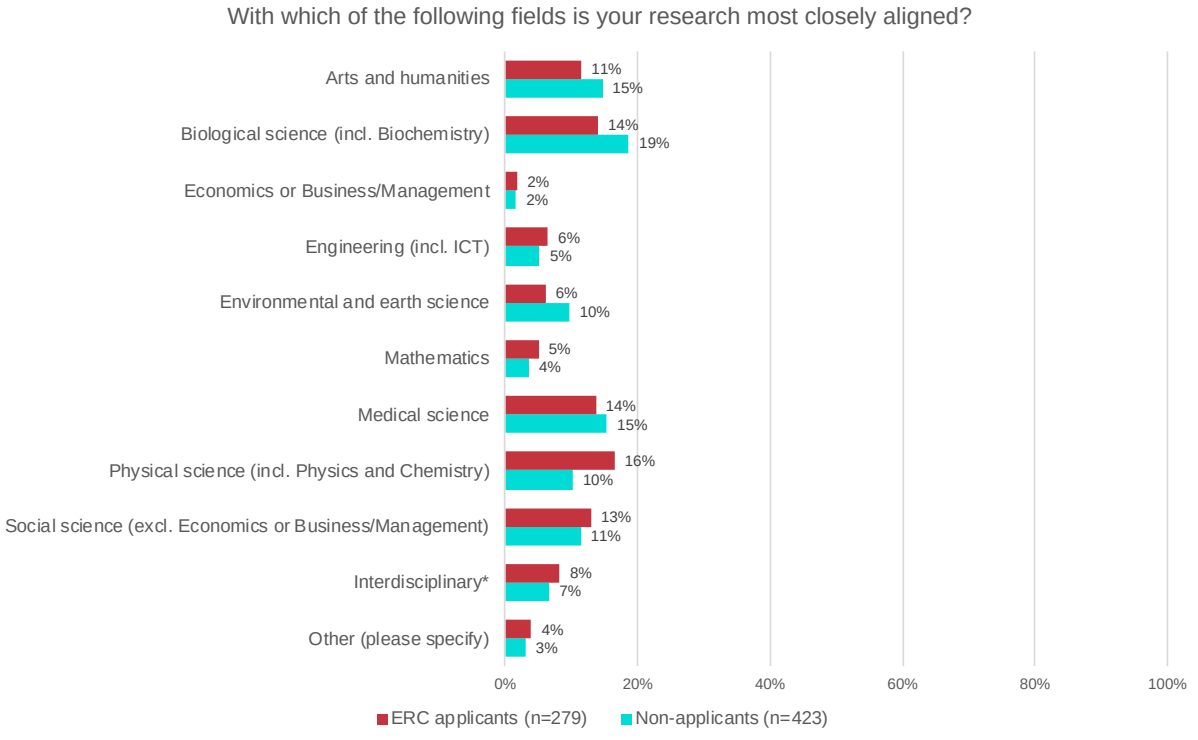
These figures conflate many different disciplines, and disregard multiple applications of (eventually) successful applicants. Nevertheless, they underline the fact that a strong and extensive publication record is an important factor correlating with the ERC success rate.

Table 2: Publication records and ERC outcomes compared

How many academic outputs had you published when you first applied too ERC?	**Applied to ERC once, lost**		**Applied to ERC more than once, lost all**		**Won at least one ERC grant**		***(no answer)***	**n**	
	Total	*StG only*	Total	*StG only*	Total	*StG only*		Total	*StG only*
10 or fewer	**57%**	*65%*	**21%**	*26%*	**4%**	*4%*	*18%*	28	*23*
11–20	**51%**	*55%*	**28%**	*29%*	**15%**	*16%*	*6%*	67	*55*
21–30	**51%**	*53%*	**26%**	*29%*	**17%**	*19%*	*6%*	53	*36*
31–50	**54%**	*40%*	**28%**	*27%*	**15%**	*33%*	*3%*	39	*18*
More than 50	**37%**	*31%*	**33%**	*38%*	**24%**	*31%*	*6%*	90	*16*

Finally, it is worth briefly reflecting on different research fields. Our survey data show that Norway-based ERC applicants and non-applicants have a broadly similar disciplinary profile, but with some subtle differences. Compared with non-applicants, researchers aligned with physical science are overrepresented among the ERC applicants, whilst biological sciences, earth and environmental sciences, and arts and humanities are under-represented (Figure 6).

Figure 6: Primary discipline – applicants and non-applicants in contrast



*The full answer option was: 'Interdisciplinary – my research regularly involves more than one of the above fields'

The slightly lower representation of arts and humanities may be explained by the fact that many disciplines within these fields tend not to involve large research teams or expensive equipment, so that

the attractiveness of an award of the scale of an ERC grant may be reduced. Aside from this, there are no evident explanations for the differing patterns.

We can however make some further observations when we contrast ERC applicants' stated research field alignment with the outcomes of their ERC application(s):

- Physical science and medical science have among the highest proportions of applicants who have won an ERC grant on at least one attempt
- Respondents who described themselves as fully interdisciplinary have the highest success rate. They are also least likely to report having only applied once and failed. This may be driven by the fact that interdisciplinarity often goes hand in hand with higher seniority (building a strong interdisciplinary track record takes time), so this group by definition has had more opportunity to apply more than once
- Social sciences and Engineering have amongst the lowest success rates, and also the highest rates of one-time unsuccessful applicants, together with biological sciences

Efforts to increase Norwegian ERC engagement may therefore benefit from giving particular attention to biological and social sciences, which do substantially less well than other fields (Table 3).

Table 3: Research fields and application outcomes in contrast

Primary discipline of ERC applicants	**Applied to ERC once, lost**	**Applied to ERC more than once, lost all**	**Won at least one ERC grant**	***(no answer)***	**n**
Physical science (incl. Physics and Chemistry)	46%	30%	20%	*4%*	46
Biological science (incl. Biochemistry)	62%	21%	13%	*5%*	39
Medical science	45%	29%	24%	*3%*	38
Social science (excl. Economics or Business/Management)	50%	31%	11%	*8%*	36
Arts and humanities	41%	31%	13%	*16%*	32
Interdisciplinary	35%	35%	26%	*4%*	23
Engineering (incl. ICT)	56%	33%	11%	*0%*	18
Environmental and earth science	53%	29%	18%	*0%*	17
Mathematics	21%	43%	14%	*21%*	14
Other (please specify)	64%	9%	18%	*9%*	11
Economics or Business/Management	40%	0%	40%	*20%*	5
Grand Total	**47%**	**29%**	**17%**	***7%***	**279**

Note: this table is sorted by sample size ('n'). For those research fields at the bottom-end of the table, overall numbers are too low to make meaningful observations so we focus in our judgements on these data on the fields with at least 20 entries.

It is interesting that there are some conflicting findings from the interviews with respect to whether Norwegian researchers have the right 'fit' for ERC or not. Especially the interviews with stakeholders revealed opinions that suggested that if looking to the whole research landscape in Norway, there is a lot of support for 'thematic' research, which targets grand challenges and seek solutions to apparent problems in our societies. Such research would at least in part be less successful at ERC, the argument went, and was followed by the view that the basic or curiosity-driven research that is believed to be most

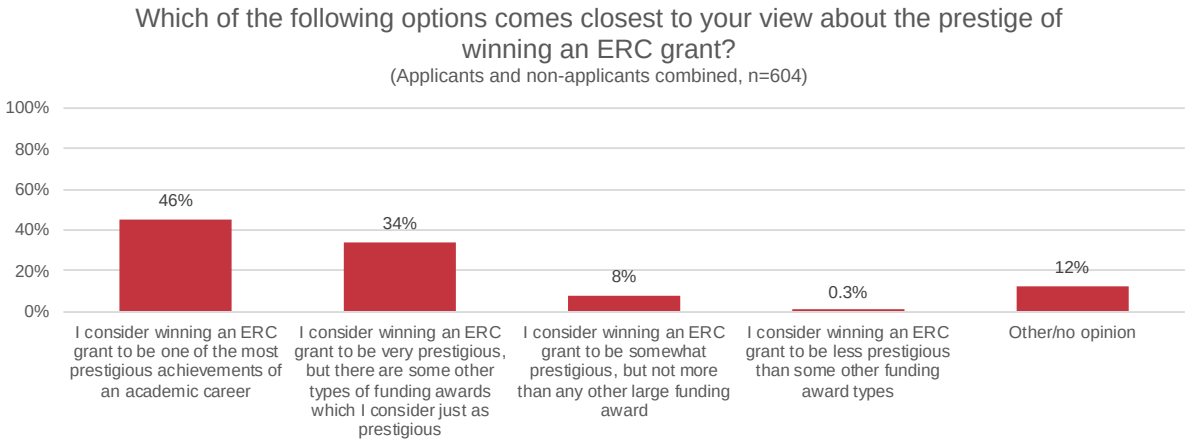
successful at ERC, could only be built up and maintained at a high enough quality level at the largest institutions. Therefore, the interviewees concluded, it makes sense that it is the three or four large universities that are successful at ERC.

We have no hard data that can confirm this view, but the point is valid. We cannot quite rule out the possibility that Norway's strong focus on thematic research has led to a less developed level of basic research at many institutions, except at the largest ones.

3 Attitudes and views on ERC grants

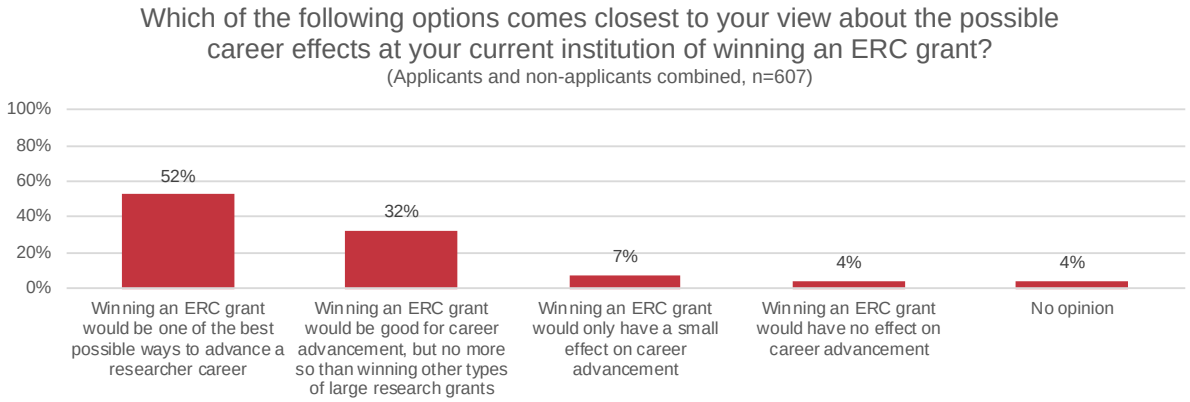
Our second line of enquiry around Norwegian ERC participation concerns researchers' views and attitudes towards ERC funding itself. Our headline findings here are on the whole positive (Figure 7, Figure 8). Around half of our survey respondents consider an ERC grant to be among the most prestigious and career-furthering achievements possible, with very few having a neutral or negative attitude on these matters. ERC applicants and non-applicants have almost identical views on this.

Figure 7: Attitudes on the prestige of ERC grants



There are no significant differences between applicants and non-applicants; a random selection of 69 non-applicants was removed from these data to ensure equal representation of both groups in these combined survey figures removed to ensure both are represented with an equal response rate of 37.3%.

Figure 8: Attitudes on the career benefits of an ERC grant



There are no significant differences between applicants and non-applicants; a random selection of 66 non-applicants was removed from these data to ensure equal representation of both groups in these combined survey figures removed to ensure both are represented with an equal response rate of 38.0%.

Our interview data further reflect these findings: all interviewees, regardless of whether they have applied or not, consider ERC grants to be prestigious and career-furthering. Several interviewees mentioned words such as '*stjerneglans*' and 'mark of excellence' when talking about the grants.

There are few evident trends in terms of different 'types' of respondents answering differently to these questions (e.g. by institution). Minor fluctuations are evident on both of the above questions when we split respondents by research field, though these may be explained by the presence of other major

awards in some areas (e.g. the Nobel Prize and other prestigious medals) or greater prevalence in certain disciplines of more applied career trajectories (e.g. in engineering and environmental science).

We also asked respondents to specify in more detail, which aspects of ERC grants make them either more or less attractive compared with other funding sources. Once again, the picture is positive: on size, length, career effects, PhD and postdoc supervision, as well as the kind of research activity permissible within ERC grants, applicants and non-applicants alike are overwhelmingly positive about ERC grants and see their characteristics as major incentives for application.

When interviewees were asked about this matter, many elaborated on this view and specifically stressed the grant length as a key comparative advantage – three years, or in some very rare cases four, are standard in Norway for large research grants. Some interviewees noted that three years can be rather short for large, complex research projects. As such, the grant length becomes a strong incentive for applying for the ERC grants. Moreover, international recognition was further noted by a large number of interviewees. ERC grants stands out in this respect for our interviewees in comparison with other grants. However, if there is one grant that is regarded as almost equally attractive, it is the FRIPRO (*forskerprosjekt* and to some extent Young Research Talents). FRIPRO is perceived to be comparably difficult to win, but the grant is significantly smaller than an ERC grant.

It may be expected that the relatively low success rate of ERC applications (not only for Norway-based researchers) might widely be seen as a major disincentive. However, reflecting interviewees' comparative assessments with FRIPRO, even on this aspect there is no cause for concern. Previous work by Technopolis Group found that some of RCN's success rates (FRIPRO in particular) are in fact lower than those in various parts of the EU Framework Programme,[12] and our data on ERC specifically show that there is no perceived disadvantage to applying in this respect. Only around 30% of applicants and 40% of non-applicants note their success chances as a 'minor' or 'major' disincentive to apply, which compares favourably with the actual ERC success rate of around 11%.[13] (Figure 9)

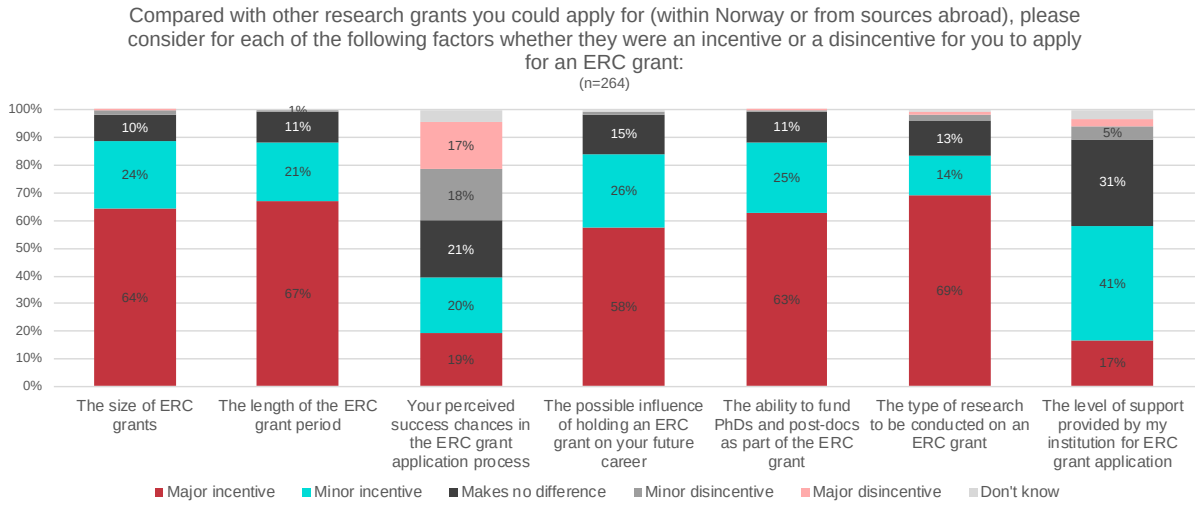
The interview findings further support this view: hardly any interviewees mentioned the low probability of success (in combination with a large amount of effort) as a disincentive. More often, interviewees tended to point out the hard work in writing the application, in combination with the low success rate, as a sign of success worth striving for. Some used the term 'high risk high gain', both in relation to their own research ideas as well as the application process itself.

[12] Åström T, Brown N, Mahieu B, Håkansson A, Varnai P and Arnold E (2017) 'Norwegian participation in Horizon2020 in health, ICT and industry'. Report by Technopolis for RCN. p 159-160

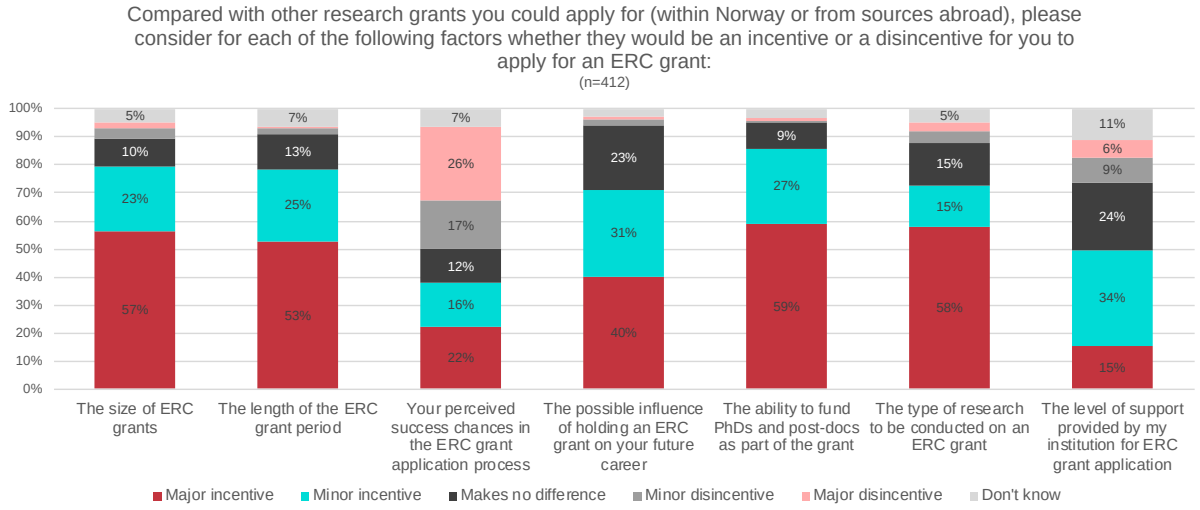
[13] Differing attitudes to perceived success chances also make surprisingly little difference to whether or not respondents would consider applying for an ERC grant. The only exception are those who cite success chances as a 'major disincentive'.

Figure 9: Incentives and disincentives to apply for an ERC grant

ERC applicants:



Non-applicants:



We additionally asked survey respondents to provide written statements on other possible disincentives for ERC application that they see. This yielded 56 comments from ERC applicants and 135 from non-applicants. Generally, these very much reflect some of the disincentives established through the quantifiable part of this question.

Qualitative survey data:

"Are there any other factors that you view as major disincentives to apply for an ERC grant that are not mentioned in the question above?"

- By far the largest group of respondents pointed to the time and effort required to prepare the proposal as the main disincentive to apply
- Many also commented that the chances of success were relatively low
- Discussing the burden of preparing the application, several commented on the need to complete the full application even though only the first part will be reviewed in the first round. This led a couple of respondents to suggest that the ERC should adopt a two stage application process
- Several respondents commented on the mismatch between their research and the subjects covered by the panels. Some who mentioned this are involved in interdisciplinary research but others did not find that their specific discipline was well covered in any of the panels
- Several respondents argued that the post-award administrative burden of managing an ERC project – ERC reporting requirements etc. – was a disincentive to applying. Some worried that they would become administrators and no longer be able to spend sufficient time on research and that the grant conditions did not allow sufficient flexibility

Some respondents also noted disincentives rooted not in ERC itself, but in 'domestic' factors:

- Several dozen respondents mentioned the lack of institutional support at the application stage as a disincentive to apply, especially insufficient relief from other duties and administrative support
- Many (mostly non-applicants) also mentioned insufficient post-award support from institutions
- High salaries in Norway was mentioned a couple of times as a factor which makes Norwegian proposals less competitive
- About a dozen respondents pointed to alternative Norwegian funding programmes which they thought provide a better opportunity for them to support the research they wanted to pursue. Among the programmes mentioned were FRIPRO and other RCN funding more generally
- Many also described the 'opportunity cost' of spending time on an ERC application, time they felt was better spent on pursuing other research and teaching activities
- Some also mentioned limitations in their publication record or CV as disincentives
- Finally, some respondents pointed to personal reasons for not applying, e.g. age and family obligations

These additional comments however should not detract from the fact that the great majority generally point to a low prevalence of major disincentives, and most did not engage with this additional invitation to note disincentives.

Further aspects mentioned by several interviewees as potential disincentives for ERC engagement were the lack of opportunities to get time buy-outs from teaching and other obligations such as Norwegian language classes (for international researchers), administrative duties and other institutional tasks. Other aspects were struggles of finding fixed positions, or in some cases, difficulties of finding steady funding for their upcoming research, as such they needed to find other 'more likely' funding sources to be able to pursue their career as researchers.

In light of this, several interviewees stated that funding from the RCN was easier to secure, both because the competition is limited to Norway-based scientists and also because the applications are not as demanding as the ERC ones. Reasons for this included the familiarity of RCN and its application processes in general, previous national recognition as scientists, but mainly the fact that ERC applications tend to be significantly longer**:** they require more detailed information about the research project and the applicant's past and include extensive administrative parts compared with RCN applications.

A few interviewees noted that the strong focus on administrative tasks also continued after receiving ERC funding, and brought up RCN in contrast to this as a good example of how a functioning reporting system should work, where the researcher is less burdened by extensive monitoring and reporting.

Despite these critical remarks, almost nobody we spoke to noted time issues as a direct disincentive; some mentioned that the time issue made them think twice before they started working on the application, but this did not stop them from applying.

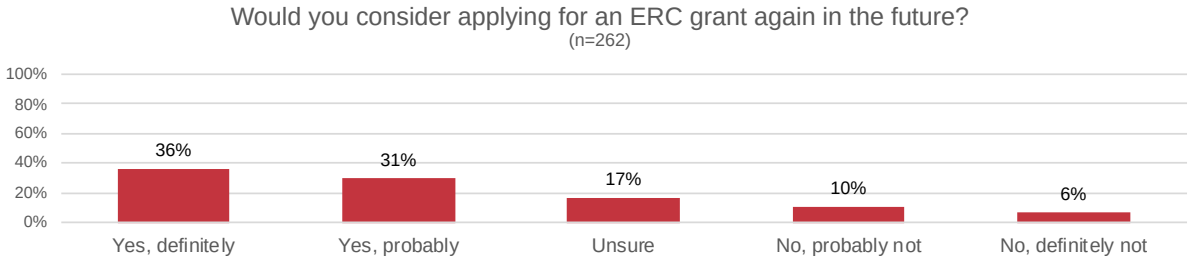
Our interviews reveal a further barrier not captured by our survey: some more junior scientists noted that they did not know if or when they might be eligible to apply for an ERC grant before being told so by colleagues or personal contacts. As such, most of them pointed out lack of information and communication as a major reason for not applying at an earlier stage in their career. Several respondents suggested mentors or senior advisers pushing them to apply would incentivise them.

Besides researchers' positive views on ERC grants voiced in the survey, and the additional points gleaned from qualitative data, we can also report that more than half of non-applicants would consider applying in the future, and two thirds of past applicants would consider doing so again (Figure 10). This is especially important given that multiple-time applicants have a higher success chance than one-time applicants.

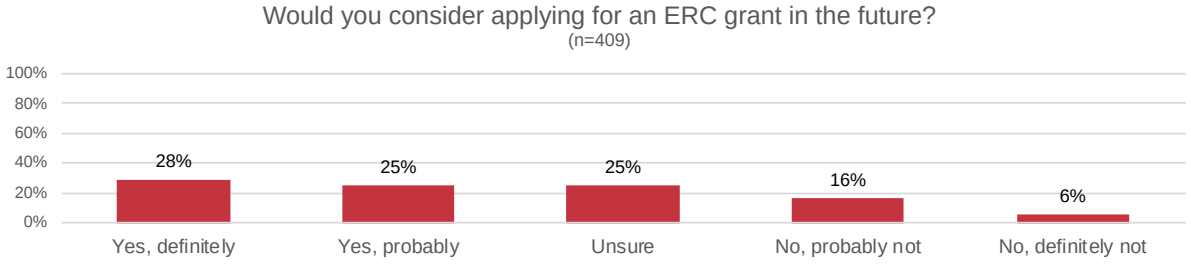
Likewise, it certainly shows that there is a large pool of researchers in Norway who have never applied for an ERC grant but may well do so (or could easily be persuaded) in the future. In terms of increasing the application rate, there is evidently no sign of 'saturation', whereby everyone who wants to apply has already done so.

Figure 10: Attitudes on possible future application

ERC applicants:



Non-applicants:



Looking more closely at non-applicants (a critical group for increasing the application rate), there are few clear predictors in the survey data regarding what 'types' of respondents are more likely to say they would consider submitting an ERC application in the future. However, some patterns exist. Typically, these make a difference of around 10–15% (e.g. 40% respondents who note a positive attitude on survey question [x] also say they would consider applying to ERC, whereas on 30% of respondents who noted a negative attitude on question [x] would say the same). There are however two clearer predictors.

- Respondents who believe ERC to be among the most prestigious achievements are more likely to say they will 'probably' or 'definitely' consider applying for an ERC grant in the future (around 30% difference from those who do not believe this)
- Respondents who believe ERC to be among the best ways to further an academic career at their institution are more likely to say they will 'probably' or 'definitely' consider applying for an ERC grant in the future (around 30% difference from those who do not believe this)

The remaining (and as noted above, less strong) predictors are as follows:

- Respondents who have worked as researchers full time outside of Norway are slightly more likely to say they will 'probably' or 'definitely' consider applying for an ERC grant in the future
- Respondents who report having engaged in regular international collaboration are more likely to say they will 'probably' or 'definitely' consider applying for an ERC grant in the future
- Respondents who note that conducting fundamental research and publishing papers in high impact factor journals is 'very important' to them are more likely to say they will 'probably' or 'definitely' consider applying for an ERC grant in the future
- Respondents who report the highest publication counts are slightly less likely to say they will 'probably' or 'definitely' consider applying for an ERC grant in the future (this is at least in part driven by age; the oldest respondents tend to consider themselves to be too old to apply)
- Respondents who report high levels of institutional support and expertise are more likely to say they will 'probably' or 'definitely' consider applying for an ERC grant in the future (10–15% difference depending on measure). This is an issue to which we return later in this report

We asked survey respondents to briefly explain the reasons for their answer to the headline question whether they would consider applying for an ERC grant (again) in the future, which yielded 188 responses from ERC applicants and 321 from non-applicants.

Qualitative survey data:

"Please briefly explain your answer to the above question" [wording of the above question: Would you consider applying for an ERC grant {again} in the future?]

- A large proportion of respondents ruling out further applications refer to their age as a reason not to apply again. Some also cited family commitments
- Many respondents cite the prestige and research opportunities afforded by an ERC grants as reasons to pursue application
- However, several respondents state that their ambitions lie elsewhere and do not feel an ERC grant would help them achieve what they want. Some have moved on with their career, either out of the country or away from (basic) research
- Echoing qualitative feedback reported elsewhere, several respondents cite the effort required and low success rate as reasons for not considering application
- A small number of respondents cite unhelpful feedback from previous applications – and/or a lack of clarity about what is required to be successful – as a reason not to try again. Conversely, others cite positive feedback on previous applications as encouragement to apply again
- Several respondents describe a 'gap' from one ERC grant type to the next which can be difficult to bridge, e.g. being too senior for a Starting or Consolidator Grant, but not yet in a good enough position to apply for an Advanced Grant
- Some are worried about the subject coverage of ERC panels and that their research would not fit well in any panel. This includes respondents who lean towards applying again and some who state they probably will not apply
- Some also note 'situational' problems: some are willing to try again in principle but are currently occupied by managing other grants

- A few state they would like to try if they are able to secure support for the application (e.g. teaching buy-out)
- A few state that they were encouraged by their institution or even contractually obligated to apply. In other words: for some, the desire to apply is contingent on their contractual status at their institution

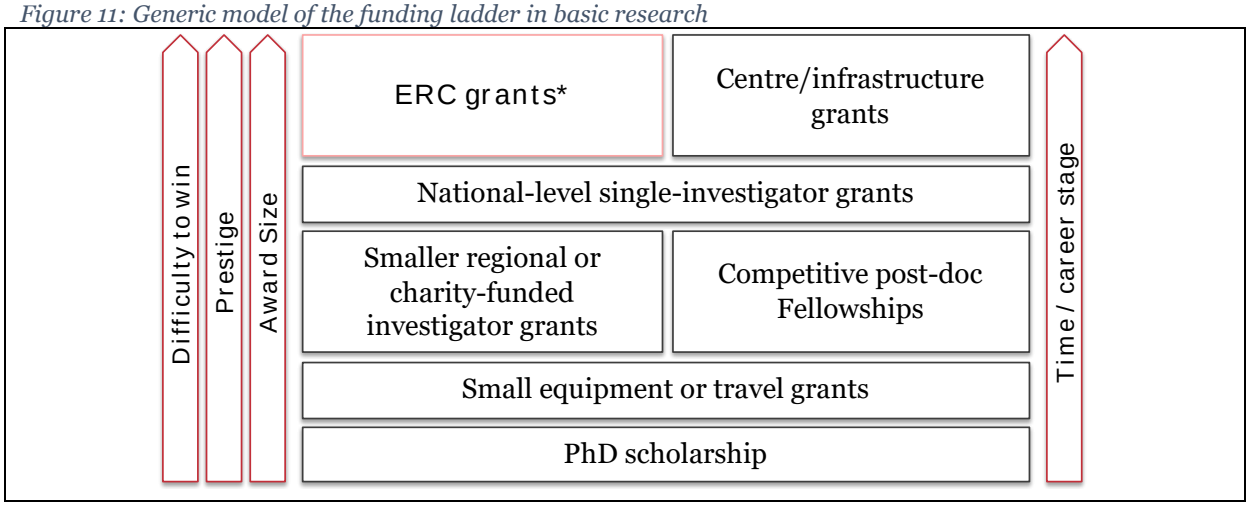
Our interviews with applicants and non-applicants reflect this overall picture; most interviewees said they would be happy to try to apply for an ERC grant. Some non-applicants were in fact working on an ERC proposal when the interview was conducted. A handful of interviewees said that they had had good feedback on a previous application and wanted to try once more with a new and improved proposal. Others said they were planning on applying again once they had built their CV a bit further, to be able to compete at this high level of competition.

4 Pipelines to ERC: previous research grants

For our third line of enquiry, we consider whether other grants – in particular those from RCN – provide an adequate 'pipeline' and preparation for ERC application. This is an important aspect, as ERC application does not occur in isolation, but is preceded by other research grant applications, which can build experience in the process.

As a framework for this line of enquiry, we use the idea of a 'funding ladder', where an academic career will typically start with small funding successes, which incrementally build to larger, more prestigious awards (Figure 11). The exact 'route' will of course differ between individuals, but the principle is that there are 'stepping stones' towards eventual ERC application. Here we assess the appropriateness and health of these stepping stones.

Figure 11: Generic model of the funding ladder in basic research



*We note that ERC Starting Grants are intended for early career stages. However, securing such a grant still presupposes some prior success in winning smaller awards for basic research, so the same 'ladder' logic applies, though over a shorter time period and, potentially, with one or two fewer steps.

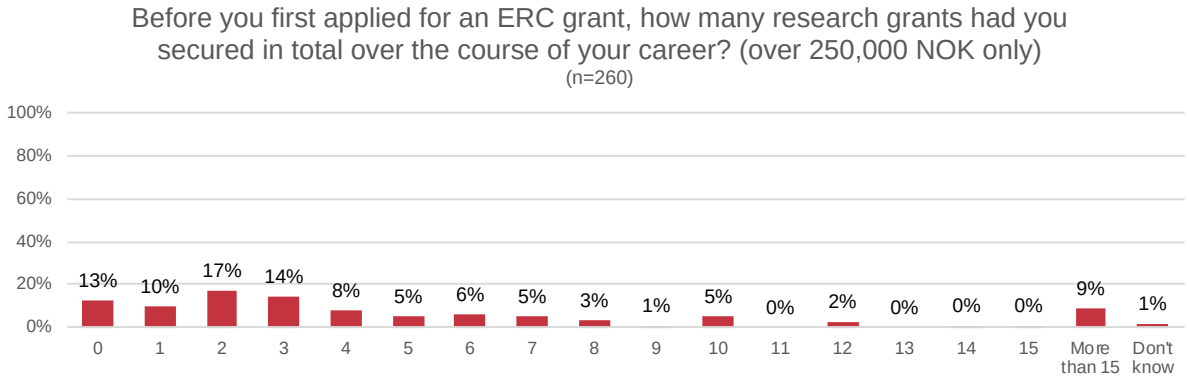
Most survey respondents have a history of several research grants that they have secured in the past (at the point of first application for ERC applicants, at present for non-applicants). We asked respondents only to include grants worth more than NOK 250,000 so that small travel, conference and equipment grants are excluded from these figures (Figure 12).

Non-applicants tend to report greater numbers, largely because they have a higher seniority profile, whilst the ERC applicants contain many Starting Grant applicants, who by definition would have been at an earlier career stage.

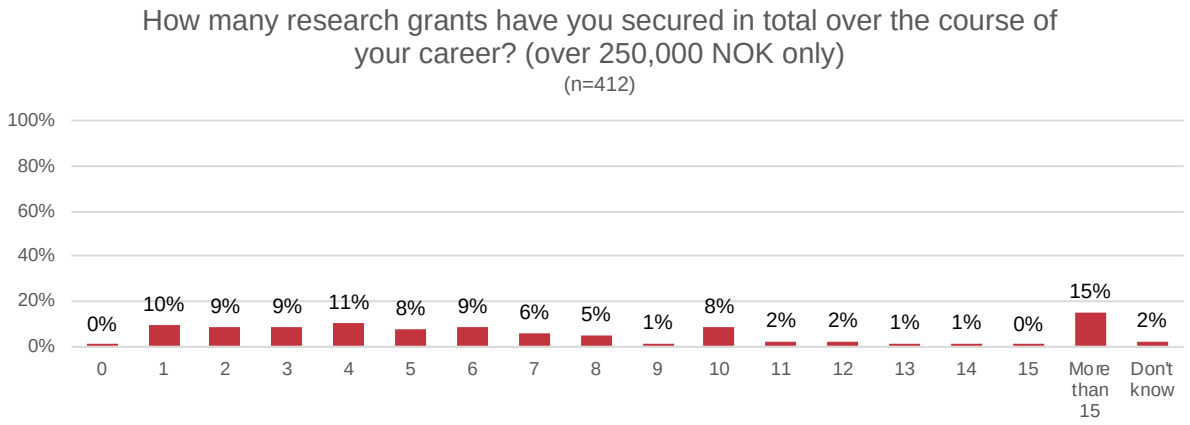
There is nevertheless a slight point of concern in these figures: a small but significant number of ERC applicants report having held no research grants (13%) or just one research grant (10%) at the point of their first ERC application. Most of these are Starting Grant applicants, but some applicants to other ERC grant types also have very modest track records in this respect.

This lack of previous grant experience is likely to pose a challenge to an applicant's success chances. Indeed, we find in further analysis that those applicants who had no prior research grant experience are far less likely to have won an ERC grant (even in subsequent attempts).

Figure 12: Track record of previous research grants
ERC applicants:



Non-applicants:

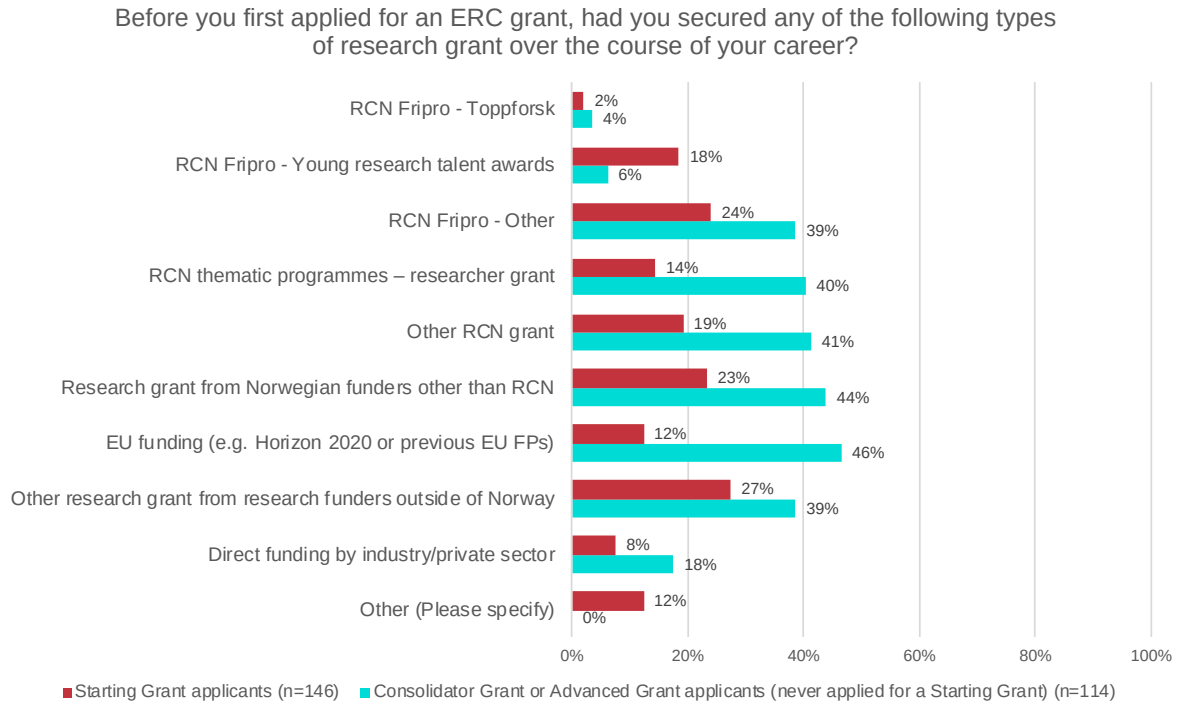


ERC applicants have a wide profile of different awards that they had secured prior to their first ERC application. This includes various types of RCN awards, but also awards from other funders both inside and outside of Norway, as well as funding from other Framework Programme funding instruments and direct funding from industry or the private sector (Figure 13).

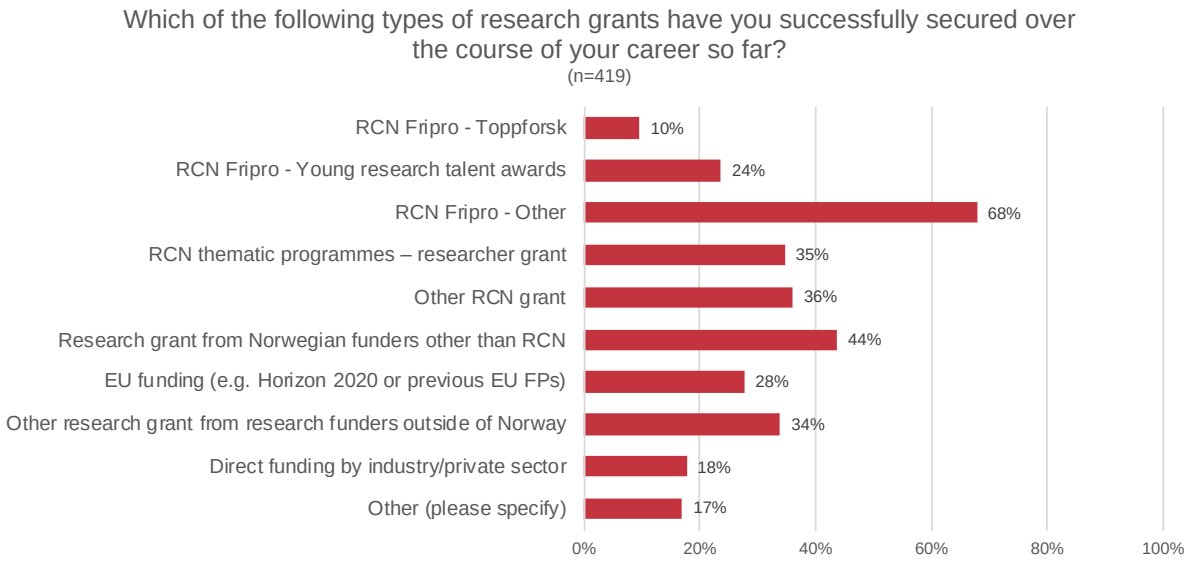
The same is the case for non-applicants. The different distributions are affected by the fact that we sampled our pool of non-applicants through RCN awards (specifically FRIPRO's instruments). Nevertheless, the broad range of grant experience shows that there is little concern about 'lock in', i.e. that researchers are only familiar with the RCN application and grant management processes and are insulated from other funders.

The interview findings are to some extent conflicting to the point above; the researchers who said that they did not have time or were not planning on applying to ERC also explained that the RCN applications were more appealing in this respect. The majority of interviewees also noted that they 'know how to write' RCN applications better; they perceive the RCN applications as easier, more familiar and a less demanding process compared with ERC. Whilst the quantitative figures gained from the survey suggest an entirely positive picture (little concern about 'lock in'), the interviews suggest that there may indeed not be full 'lock in' to RCN, but certainly a degree of noticeable preference.

Figure 13: Previous grant types
ERC applicants:



Non-applicants:



There are some evident patterns at the level of disciplines: 'Funding from sources within Norway other than RCN' is strongly driven by medical sciences, indicating the presence of medical research foundations, whilst industry funding is concentrated in the fields most associated with applied research and commercialisation. The arts and humanities have the lowest level of diversity of funding sources, with Toppforsk and FRIPRO dominating the funding sources in this field. Nevertheless, there is evidence in all disciplines of a mix of funding histories, indicating not just previous grant experience, but experience of dealing with a range of different funders (Table 4).

Table 4: Research fields and previous grant experience in contrast

n	What grants have you secured over your career so far? (ERC applicants and non-applicants n=634) / Primary research field	RCN FRIPRO – Toppforsk	RCN FRIPRO – Young research talent awards	RCN FRIPRO – Other	RCN thematic programmes – researcher grant	Other RCN grant	Research grant from Norwegian funders other than RCN	EU funding (e.g. Horizon 2020 or previous framework programmes)	Other research grant from research funders outside of Norway	Direct funding by industry/private sector
85	Arts and humanities	9%	11%	52%	14%	18%	22%	8%	21%	5%
102	Biological science (incl. Biochemistry)	10%	26%	63%	29%	29%	42%	30%	38%	11%
10	Economics or Business/Management	0%	40%	20%	10%	30%	10%	20%	50%	10%
38	Engineering (incl. ICT)	8%	21%	37%	39%	53%	37%	45%	24%	26%
53	Environmental and earth science	6%	23%	53%	51%	36%	38%	51%	51%	30%
26	Mathematics	4%	8%	58%	27%	27%	15%	31%	23%	15%
92	Medical science	4%	17%	54%	27%	36%	77%	28%	41%	22%
82	Physical science (incl. Physics and Chemistry)	6%	21%	38%	27%	41%	22%	26%	28%	23%
77	Social science (excl. Economics or Business/Management)	6%	16%	45%	36%	18%	35%	12%	31%	4%
46	Interdisciplinary	7%	24%	37%	33%	37%	41%	22%	28%	17%
23	Other (please specify)	0%	9%	43%	22%	43%	39%	30%	35%	22%

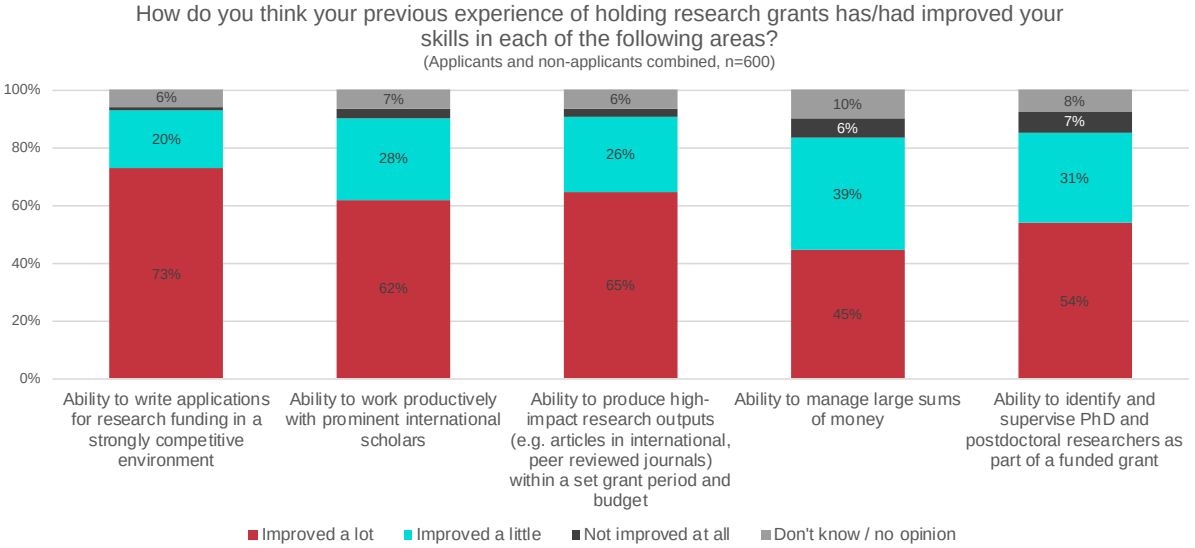
'Toppforsk' and 'FRIPRO young research talent awards' are the most evident likely future pipelines to ERC funding. Non-applicants who have held either of these two award types are far more likely than others to say they will probably or definitely consider applying for ERC grants in the future. We understand that future ERC application is explicitly encouraged by RCN as a follow-on to these two programmes, and this encouragement appears to be bearing fruit. Those with non-Norwegian grant experience are also slightly more likely to consider ERC application in the future, indicating once again that internationalisation is positively associated with ERC engagement (Table 5).

Table 5: Previous grant experience and ERC application attitudes in contrast

'Would you consider applying for an ERC grant in the future? (non-applicants only, n=417)' / ***'Which of the following grant types have you secured in the past?'***	**n**	***No answer***	**No, definitely not**	**No, probably not**	**Unsure**	**Yes, probably**	**Yes, definitely**	**Yes (definitely + probably)**
RCN FRIPRO – Toppforsk	40	*3%*	5%	18%	5%	23%	48%	**70%**
RCN FRIPRO – Young Research Talent awards	99	*2%*	1%	5%	12%	36%	43%	**80%**
RCN FRIPRO – Other	284	*3%*	6%	16%	29%	22%	23%	**45%**
RCN thematic programmes – researcher grant	145	*3%*	8%	17%	25%	24%	23%	**47%**
Other RCN grant	151	*2%*	7%	18%	26%	21%	26%	**47%**
Research grant from Norwegian funders other than RCN	183	*3%*	7%	17%	23%	21%	29%	**50%**
EU funding (e.g. Horizon 2020 or previous framework programmes)	116	*3%*	3%	18%	22%	27%	27%	**53%**
Other research grant from research funders outside of Norway	142	*3%*	6%	16%	23%	21%	31%	**52%**
Direct funding by industry/private sector	74	*4%*	7%	16%	34%	15%	24%	**39%**

Overall, respondents attest to lessons learnt and skills development across a range of factors from their previous grant experience, indicating that these prior experiences build the foundations necessary to apply for and manage an ERC grant (Figure 14).

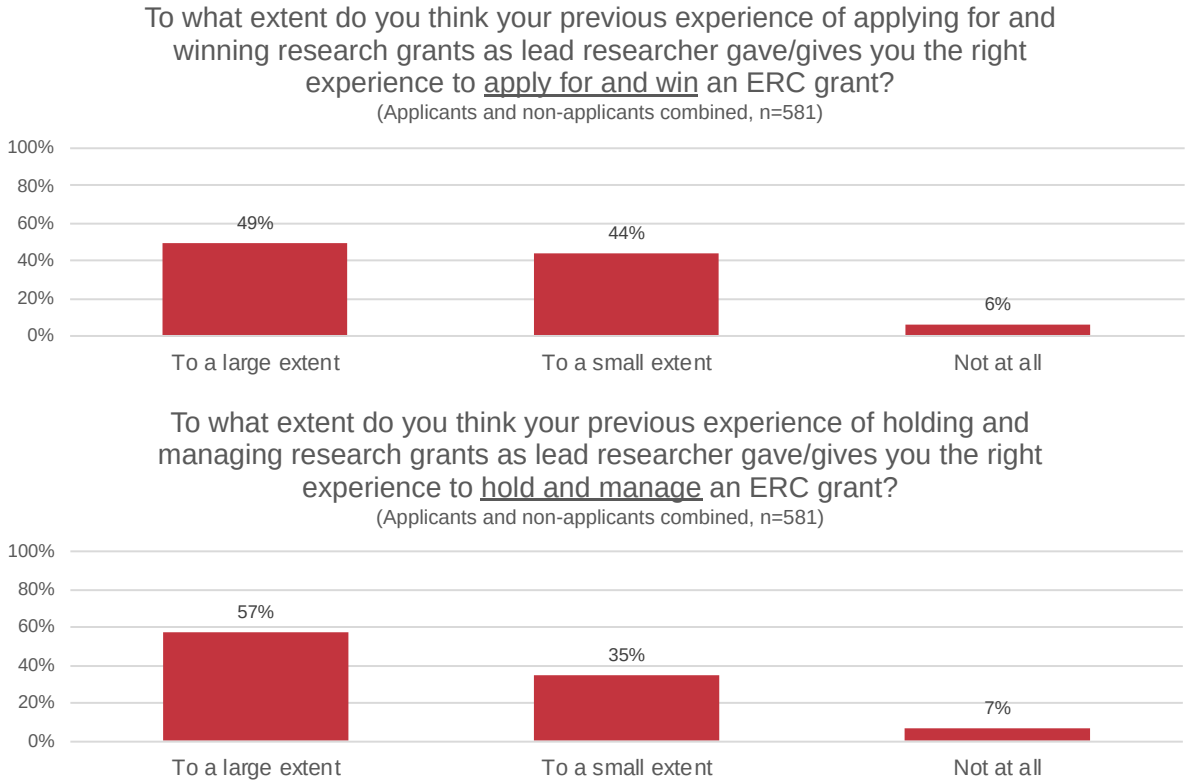
Figure 14: Skills gained from previous grant experience



There are no significant differences between applicants and non-applicants; a random selection of 78 non-applicants was removed from these data to ensure equal representation of both groups in these combined survey figures removed to ensure both are represented with an equal response rate of 37.0%.

When asked directly about whether previous grant experience had increased their ability to either apply for and win, or hold and manage, an ERC grant, applicants and non-applicants also respond positively (Figure 15). However, large shares of respondents note that this is only the case 'to a small extent', especially on the issue of ERC application (as opposed to management). This may indicate that whilst previous grant experience constitutes important capacity building, there are aspects around ERC grant application specifically for which other experiences cannot fully prepare an applicant.

Figure 15: relevance of prior grant experience for ERC application and management



There are no significant differences between applicants and non-applicants; a random selection of 88 non-applicants was removed from these data to ensure equal representation of both groups in these combined survey figures removed to ensure both are represented with an equal response rate of 35.6%.

To broaden the findings from these survey items, we invited respondents to also contribute some written statements on whether there are any specific types of experience and preparation for ERC grants that their previous grant experience had not given them. This yielded information from 112 ERC applicants and 166 non-applicants. The main issues appear to lie not with generic grant application and management skills, but to understanding the process and requirements for ERC applications specifically. We return to this issue in section 5 of this report.

Qualitative survey data:

"Are there any skills or experiences you consider necessary to win an ERC grant that your previous experience of research grants has not given you?"

A large number of respondents raised the importance of understanding and meeting the specific criteria for ERC funding. This includes:

- Understanding the right risk profile required. For some respondents, this meant a departure from a more incremental approach in favour of being bolder and proposing higher risk research. For others, it was about finding the right balance between high risk high return proposals on the one hand, and being able to demonstrate feasibility and provide initial data on the other. In practice, some felt that the panels were, in fact, asking for more well tested avenues of enquiry, to the exclusion of truly novel research
- Some commented on the importance of 'getting the right panel', and some felt that no panels covered their specialist field
- Some ERC applicants and non-applicants spoke about the importance of understanding and using the right language and terminology to conform to ERC standards. More negative comments

(especially from ERC applicants) noted an importance of knowing the right people, and were rather critical of the merits of the ERC selection process

Some commented on the more personal focus of ERC application, i.e. that there is more focus on the Principal Investigator (research leader) than in typical Norwegian project applications. Related to this, many noted a need for 'soft skills':

- First and foremost, this is about writing and communication, e.g. the ability to write an 'effective' proposal section B1 (summary)
- Several respondents also talked about the ability and confidence to 'sell' yourself (one respondent in fact commented that this is somewhat contrary to cultural instincts of many Norwegian researchers)
- Finally, some mentioned the ability to engage effectively in networking and being able to ascertain where research is going

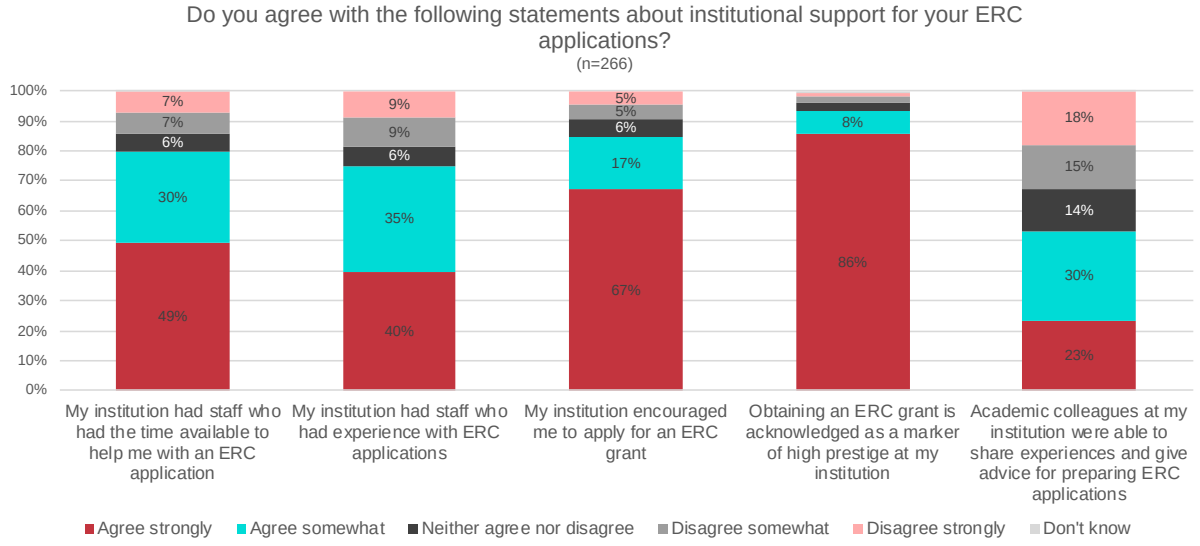
5 Institutional support and NCPs

Institutional support is our fourth line of inquiry. We include in this both applicants' institutions of employment, but also consider here the role of NCPs. While we have found few major causes for concern in the previous three lines of inquiry, this is an area where our data suggest the presence of some problems.

At the level of respondents' general assessment, we find that institutions generally encourage people to apply to ERC, and that ERC grants are acknowledged as a high marker of prestige (Figure 16).[14] The picture is overall quite positive, but a little more mixed on the issue of whether administrative staff and academic colleagues actually have the time and expertise to support ERC applications.[15] Generally, non-applicants are slightly less positive on all but one of the factors we asked them to consider.

Figure 16: Overall judgements on institutional support (figure continues on next page)

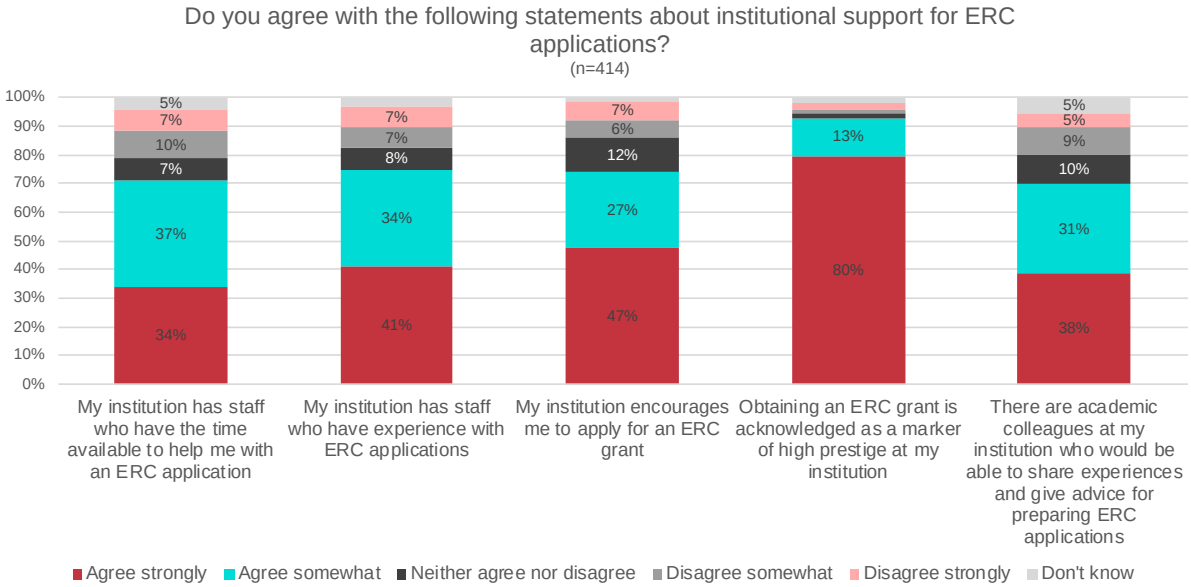
ERC applicants:



[14] Note that this is slightly different from the survey question we reported previously, which is about researchers' own feelings about ERC grants, whilst the present question is about whether researchers think their employer has the same view.

[15] We checked the possibility that Advanced Grant applicants had different views from Starter Grant applicants (because the latter might have more junior circles of colleagues able to advise). However, the responses from these two different groups of applicants are almost identical on the issue of academic colleagues able to advise.

Non-applicants:

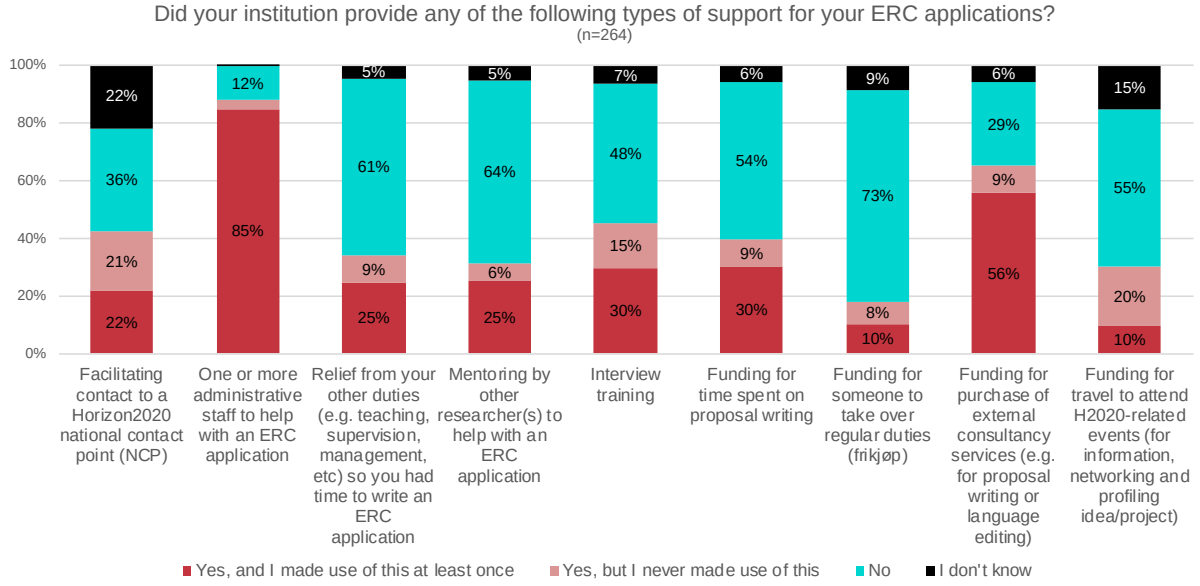


A more complex and concerning picture arises when we consider specific institutional support measures in detail. Between 50% and 70% of ERC applicants report that a range of possible institutional support measures were not available to them (Figure 17). This includes above all relief from existing duties and ensuring applicants have the time available to put together an application, as well as mentoring schemes with academic peers (who may have applied for ERC in the past and can share experience) and funding for travel to engage in networking. We note of course that these findings may indicate that applicants were not aware that these measures were available, rather than the definite absence of such measures.

We note that the survey findings on institutional provision of 'Interview training' may only be advertised to applicants who pass to the second ERC assessment stage. In more analysis detail, we find that 75% of applicants who have won at least one ERC grant report that interview training was available to them (and 60% actually made use of this), indicating greater prevalence than the headline survey findings suggest.

Whilst administrative support is the norm, it is also concerning that over 12% of ERC applicants report that they received no help from administrative staff with their ERC application.

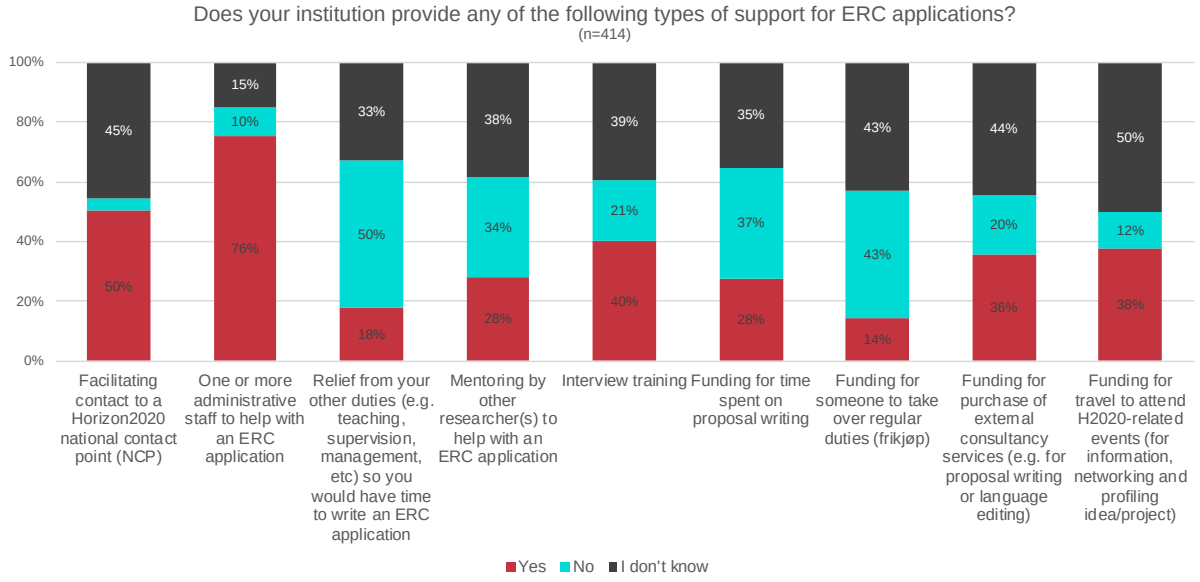
Figure 17: Specific institutional support measures offered and taken up by ERC applicants



We asked non-applicants whether they know what kind of support types would be available at their institution. Of those who were able to specify 'yes' or 'no', the proportions somewhat reflect the 'true' picture reported by ERC applicants themselves (Figure 18).

This is positive in the sense that there do not appear to be misunderstandings regarding what support types are on offer (i.e. non-applicants expecting support measures to exist when in fact they do not or vice versa). However, it is concerning that between 30% and 50% of non-applicant respondents do not in fact know whether various support types would be on offer for them should they choose to apply for an ERC grant. Whilst there is little evidence of miscommunication, there appears to be an overall lack of communication (potentially including a lack of absorptive capacity) between institutions and potential applicants regarding what kind of support they might be able to expect if they chose to apply.

Figure 18: Institutional support availability perceived by non-applicants



The interviews yield results similar to our survey findings, but also provide some additional detail.

The overall view on institutional support is that there are sufficient levels of support present at the different departments and institutions. However, there are concerns about some aspects of the support available, largely reflecting the issues also noted in our survey data. Suggestions for improvements included having more academically trained advisors with enough time to help fine tune applications, systematic support and review from colleagues, institutional guidance in the process of applying to the ERC (e.g. in the shape of workshops or hands on examples of dos and don'ts) as well as interview training.[16]

Furthermore, the overarching concern of the interviewees was about time constraints and time management issues. The aid of having time buy-outs was consequently a major concern for most interviewees.

The interviews highlighted a further critical point not captured by our survey data. Many interviewees suggested there is often a mismatch between the institution's recognition of the ERC grants and individual departments' support and involvement. The higher levels of institutions are perceived to push for ERC application, whilst departments do not focus on them as much as needed in order to match the encouragement from the higher level. This means that there is general encouragement (effectively to all researchers) to apply to ERC, but far less targeting of the 'right' candidates at the departmental level, or indeed specific department- or discipline-based support for applicants.

A great number of the interviewees either did not know that they might be eligible for the grants or did not know how to apply for them at earlier stages in their career. Several said therefore that it would be beneficial to have personnel at the department level who could target eligible researchers and provide them with guidance on the matter and perhaps even approach them and encourage them to apply at the right time. This was mentioned both by younger and more mature scientists. Some interviewees also mentioned that communication to recently hired staff members can be especially weak, as communications are often informal so that there is a need to be 'in the loop' in order to hear about support opportunities in the first place.

A different, yet related aspect of this was that a number of the interviewees expressed concerns about the actual administrative capacity at the department level; this goes for both larger and smaller universities. This shows that the departments might not sustain the institutional encouragement adequately, as the sufficient support mechanisms might not be in place everywhere. One interviewee specifically said that 'if all scientists they encourage to apply actually did so, they would not be able to support them all with the level of support resources they have now'.

Despite these aspects mentioned, there seems to be an overall satisfaction with the support provided. Indeed, some repeat applicants touched on the fact that the support now present was not there at all when they first applied to ERC several years ago.

5.1 A note on National Contact Points

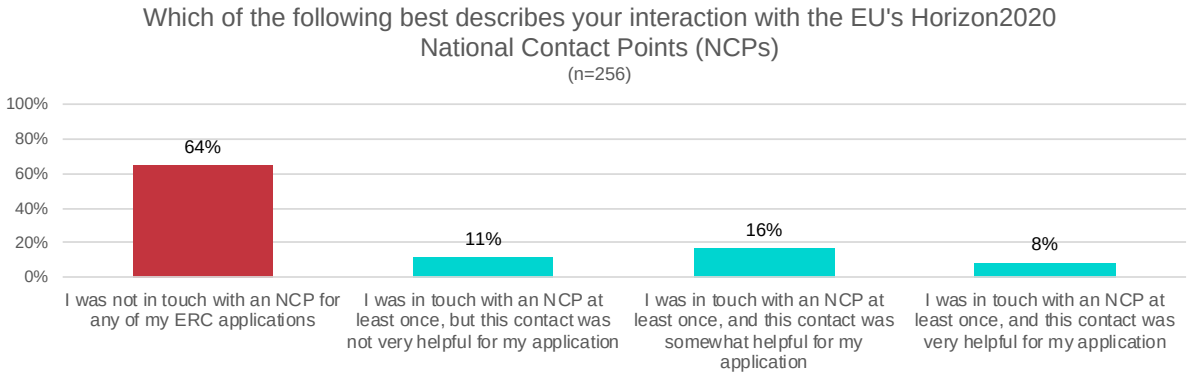
A further issue of particular concern is the National Contact Points (NCPs). Engagement with these appears to be particularly low, even among ERC applicants whose institutions facilitate contact with NCPs. Of the ERC applicants, 64% report that they have not been in touch with an NCP for any of their

[16] More interview training was mentioned particularly by those who had been called to the interview part of the application process. It was also mentioned that men tend to do significantly better than women at the interview stage and that women might be less comfortable presenting their research as such. A struggle to present the project properly in English was also mentioned by a couple of interviewees. However, when we asked in the survey whether poor performance at the interview stage was a factor behind unsuccessful applications, there were no significant differences between male and female respondents. Our findings cannot confirm whether this is a widespread problem.

ERC applications.[17] This is also reflected in our interviews, where knowledge about the NCPs and what role they played in relation to the ERC grants was very limited.

For the survey respondents who have been in touch with an NCP, the feedback is mixed. Less than a quarter of those that did make contact deem the experience 'very helpful', whilst one third deems it 'not helpful at all' (Figure 19).

Figure 19: Experience and use of NCP interaction



There appear to be issues around the NCPs themselves,[18] but also around the extent of contact between applicants and NCPs. It is important to assess whether this issue is limited to certain institutions (as the institution is a possible facilitator of contact to NCPs). Our further analysis on this suggests that the universities of Oslo, Bergen and NTNU – those with the highest ERC application rates – in fact have the lowest contact rates with NCPs, whilst researchers at these three institutions are also less likely to report that the contact was helpful (Table 6).

It is perhaps not surprising that there is less contact between the UiO/NTNU/UiB applicants and the NCPs. These three universities send a majority of the applications and as a result they have EU-advisors who are very experienced with ERC. All three institutions also have agreements with consultancy companies that they use to help their applicants. Thus they should be perfectly capable of assisting their own applicants without much help from the NCPs. As a consequence the NCPs are concentrating their efforts on helping applicants from institutions with little or no prior ERC experience. Unfortunately our response numbers for other institutions are too low to further break down the results meaningfully.

[17] Note that this figure contrasts with the previous survey item featuring NCPs (**Feil! Fant ikke referansekilden.**), where only 22% said that their institution facilitates contact to an NCP and another 21% said that the contact was facilitated but that they never used it. The present survey item considers multiple applications, which yields a different result. Additionally, it is quite possible that several respondents contacted an NCP autonomously, without their institutions' facilitation.

[18] According to information from RCN, the NCPs are resourced with less than 2 FTEs per year for Marie Skłodowska-Curie Actions and ERC combined.

Table 6: Experience with NCPs by institutional affiliation

Experience with NCPs	University of Oslo	University of Bergen	NTNU	Other
I was in touch with an NCP at least once, and this contact was very helpful for my application	6%	9%	0%	14%
I was in touch with an NCP at least once, and this contact was somewhat helpful for my application	10%	13%	15%	31%
I was in touch with an NCP at least once, but this contact was not very helpful for my application	14%	11%	9%	9%
I was not in touch with an NCP for any of my ERC applications	70%	67%	76%	47%
n	**117**	**45**	**33**	**58**

5.2 Institutional support – summary and significance

The mixed picture on institutional support is significant; in our survey data, positive feedback on institutional support is generally higher among applicants who have won at least one ERC grant. This is especially the case on two issues: presence of administrative staff with the necessary time to help with applications, and general institutional encouragement (Table 7).

Table 7: Institutional support and ERC application outcomes in contrast

Do you agree with the following statements about institutional support for your ERC applications?	% "agree strongly"		
	Applied to ERC once, lost	Applied to ERC more than once, lost all	Won at least one ERC grant
My institution had staff who had the time available to help me with an ERC application	45%	45%	67%
My institution had staff who had experience with ERC applications	37%	43%	40%
My institution encouraged me to apply for an ERC grant	64%	66%	79%
Obtaining an ERC grant is acknowledged as a marker of high prestige at my institution	83%	90%	88%
Academic colleagues at my institution were able to share experiences and give advice for preparing ERC applications	23%	20%	29%
n	**131**	**80**	**48**

When we look at specific institutional support measures and whether or not applicants actually made use of these, a similar picture emerges (Table 8). Facilitating contact to NCPs, administrative support staff, peer mentoring and funding for travel for networking events are all associated more clearly with ERC grant winners than with unsuccessful applicants. However, we do not find any relationship here between ERC success and 'relief mechanisms' for applicants (e.g. buy-out from teaching time or other duties).

Table 8: Specific institutional support types and ERC application outcomes in contrast

Did your institution provide any **of the following support types?**	**% "Yes, and I made use of this at least once"**		
	Applied to ERC once, lost	Applied to ERC more than once, lost all	Won at least one ERC grant
Facilitating contact to a Horizon2020 national contact point (NCP)	20%	21%	27%
One or more administrative staff to help with an ERC application	78%	88%	98%
Relief from your other duties (e.g. teaching, supervision, management, etc) so you had time to write an ERC application	27%	16%	29%
Mentoring by other researcher(s) to help with an ERC application	22%	25%	31%
Interview training*	16%	34%	60%
Funding for time spent on proposal writing	31%	28%	31%
Funding for someone to take over regular duties (frikjøp)	12%	8%	10%
Funding for purchase of external consultancy services (e.g. for proposal writing or language editing)	48%	66%	58%
Funding for travel to attend H2020 related events (for information, networking and profiling idea/project)	6%	11%	17%
n	**131**	**80**	**48**

*Note: only respondents who made it to the interview stage were asked to respond on this item, so findings on 'interview training' are not readily comparable to the other items. We refer to responses on interview training in Figure 18.

Further written comments provided by survey respondents (37 ERC applicants and 54 non-applicants) on institutional support suggest a very diverse picture, ranging from strong reported levels of support to no support at all, often within the same institution (suggesting that lack of awareness of support may be a factor, rather than absence of the support itself).

Qualitative survey data:

"Please feel free to note any other types of support that you know you institution gives for ERC applicants."

- Some respondents were very positive about the support they had received from their institutions
- Others felt that their institutions were ill-equipped to support ERC applications, either because they did not have the competence or the resources
- Some noted that the funding made available by their institution was hard to find and/or insufficient in terms of the time and costs of the application
- Several noted that support in earlier years had been rather poor but had since improved
- Some commented on the role of the head of department or others within the institution in making decisions about support and that support is not necessarily equally available to everyone. One mentioned that the institution was supportive but the department was not, hinting at potentially conflicting aims at different levels of the institution
- A number of respondents mentioned external support, often made available by the institution. A range of different courses and workshops were mentioned, including application writing and

improving one's CV. There were mixed comments about the quality of these services, some were positive while others felt that the external consultants lacked understanding. Several respondents mentioned 'Yellow Research' in this context and those who expressed a view were generally positive.

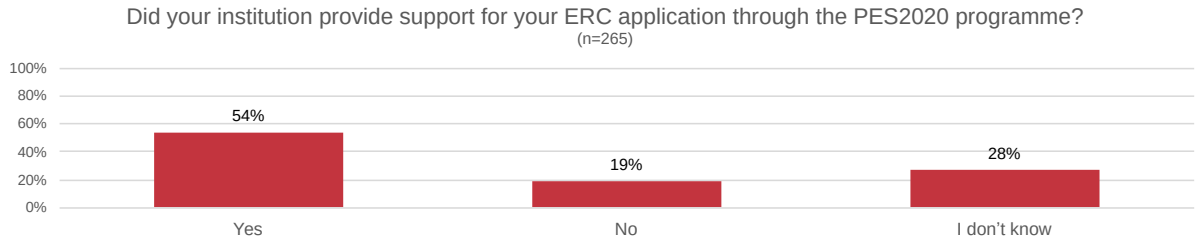
5.3 A note on PES2020

As a final point of investigation, we also considered the funding to Norwegian institutions intended to help with support for Framework Programme applications, PES2020. PES2020 aims to improve the quality and number of Norwegian EU Framework Programme proposals (of which ERC is one constituent part). This support tool was subject to a major recent evaluation by Technopolis.[19] It found that PES2020 had overall positive effects on Norwegian FP participation, though most obviously for smaller organisations or those with less EU FP experience. The report therefore recommended that PES2020 should be limited to the least FP-active institutions, hospital trusts, and beginners among institutes and SMEs. The most FP-active institutions should be excluded from support.

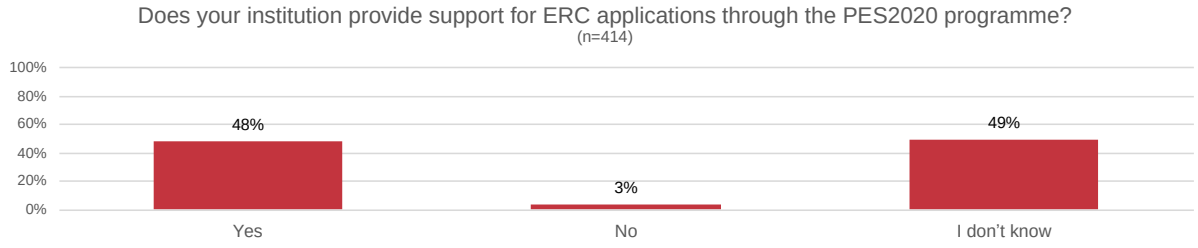
As this is institutional funding available to all universities and university colleges and research institutes, applicants or non-applicants themselves do not necessarily have a direct view of its use or effectiveness, so we are unable to delve in much depth into this additional support measure. However, we note some findings on the relationship between awareness of PES2020 and application outcomes (Figure 20). We find that just over half of ERC applicants and just under half of non-applicants are aware of their institutions' PES2020 funding, whilst large proportions of both groups do not know (this share is inevitably greater for the non-applicants).

Figure 20: Awareness of PES2020

ERC applicants:



Non-applicants:



Whether these levels of awareness should be classed as especially high or low is a matter for debate: ideally researchers ought to know about the support in place, but as PES2020 funding often comes in the form of institutional payments, it may not be immediately visible.

[19] Åström T, Brown N, Lindström M, Andréasson H, Engblom H and Arnold E (2018) 'Improving Norway's performance in the EU Framework Programme – Impact evaluation of the Research Council of Norway's main measures to support Norwegian participation, PES202 and STIM-EU'. Report by Technopolis Group for RCN.

We do however find that such awareness is somewhat linked to application outcomes. Applicants who have won at least one ERC grant are more likely to report that their institution provides support through PES2020 (Table 9). We note that these figures are researchers' own views, rather than necessarily an accurate reflection of who exactly receives the funding and what exactly is funded through it.

Table 9: Application outcomes and awareness of PES2020

Did your institution provide support for your ERC application through the PES2020 programme?	Applied to ERC once, lost	Applied to ERC more than once, lost all	Won at least one ERC grant	n
Yes	48%	58%	60%	**139**
No	21%	18%	17%	**50**
I don't know	30%	25%	23%	**71**
n	**132**	**80**	**48**	**260**

Additionally, we find that applicants who say that their institution provides support through PES2020 are also more likely to say their institution provided various specific support types, including:

- Administrative staff with the time available to help with ERC applications
- Facilitating contact to NCPs
- Relief activities/buy-out from teaching and other duties
- Interview training
- Funding to attend networking events

In our survey data, there is also a slight trend (though within the margins of error) for respondents who note that their institution provides support through PES2020 to be less concerned about low success chances of ERC applications. This may not be attributable to PES2020 itself, but rather to the fact that PES2020 may be part of a larger institution culture of visible ERC application support.

In short: though we cannot provide evaluative judgement on PES2020 in the context of this study, we do find that awareness of this support funding is high, and is associated with stronger institutional support for ERC applications.

6 Success and failure factors – reflections from ERC applicants

Beyond this four-pronged analysis, it is important for the issue of success rates also to consider the views of applicants themselves on why they won or lost. We asked ERC applicants to consider any unsuccessful applications, as well as any successful applications they have had, and rank a range of possible success or failure factors.

The responses to these survey items largely confirm the points made so far: past publications and research grant experience clearly play a role, as does mentoring, time available, and institutional/administrative support. We note especially that despite institutional support being a perceived area of weakness in many cases, applicants themselves in fact do not readily blame or 'point the finger' at insufficient or poor support they may have received. It may be expected that respondents are more likely to point to reasons beyond their own control or expertise, but this has not happened.

However, ERC applicants' self-assessment brings in one further crucial point, namely the importance of prior ERC experience. Besides the other points, which have already been covered elsewhere in this report, ERC applicants consider 'insufficient experience with writing ERC applications' to be the top factor behind their failed applications. Likewise, 'previous experience with ERC applications' is also the most noted 'major' success factor acknowledged by successful applicants (Figure 21, Figure 22).

Figure 21: Self-assessment – factors behind unsuccessful ERC applications

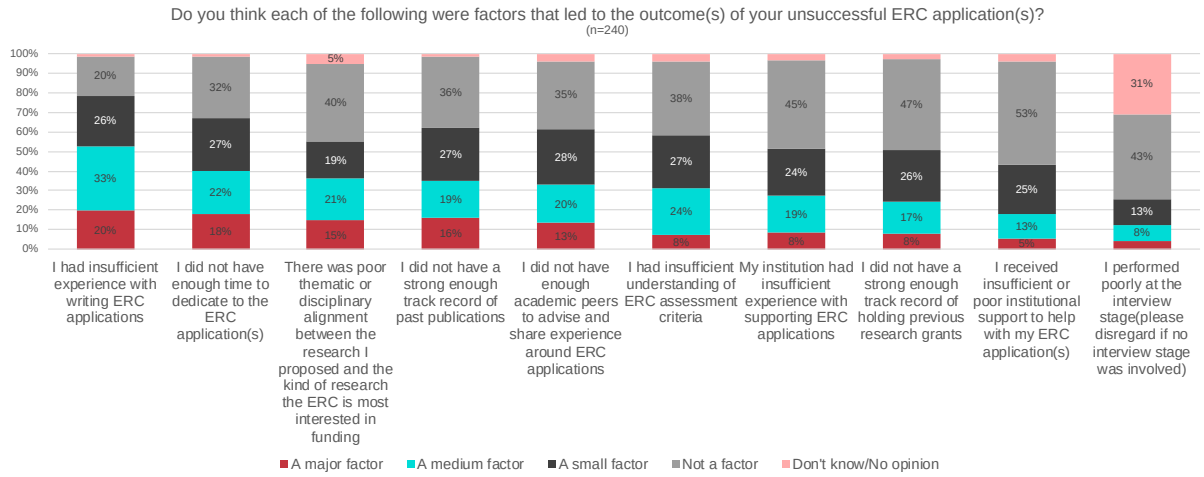
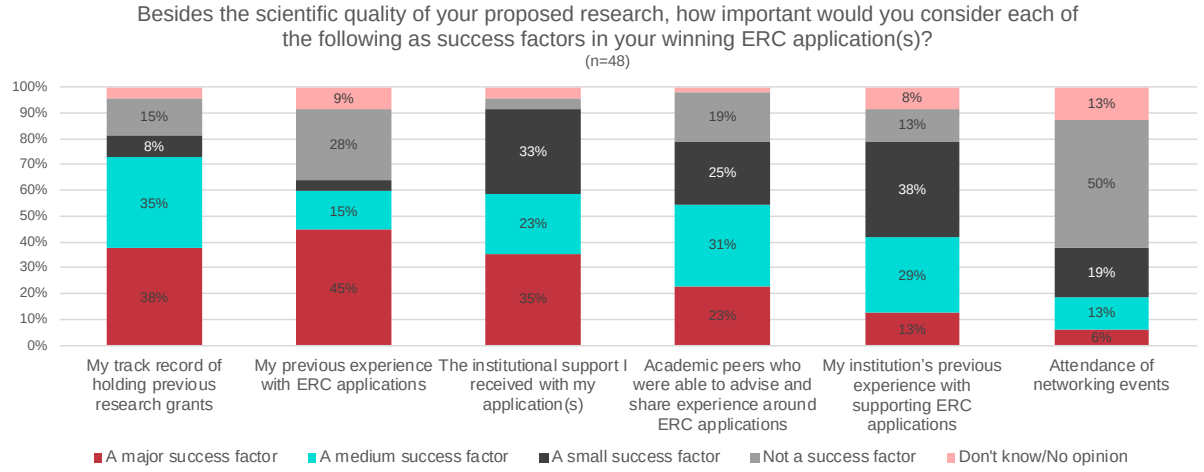
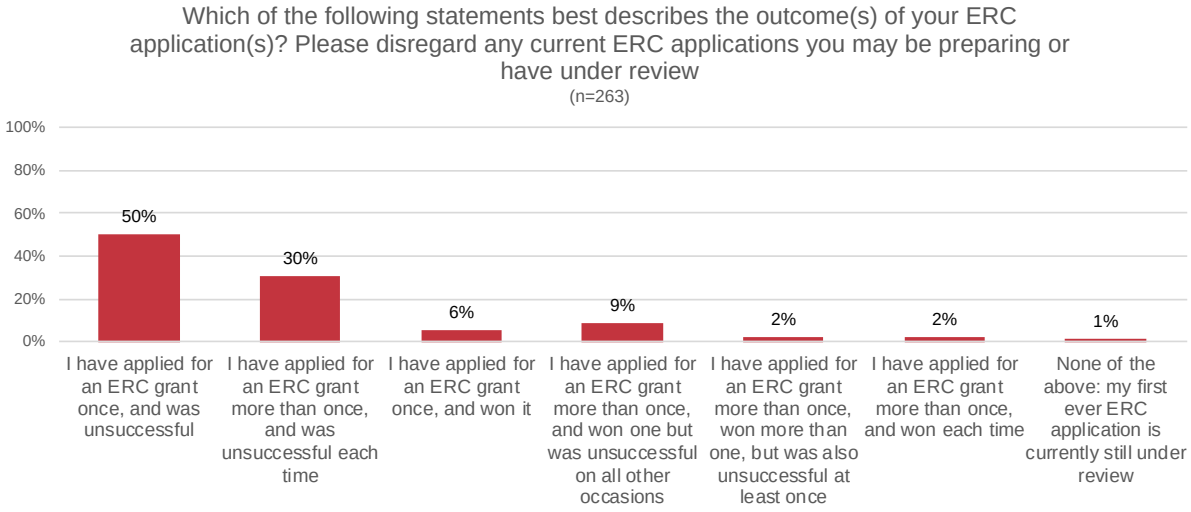


Figure 22: Self-assessment – factors behind successful ERC applications



We noted at the outset of this report that repeat applicants have a higher success rate than one-time applicants. Indeed, our survey findings indicate that the majority of successful applicants have also had unsuccessful ERC applications (Figure 23).

Figure 23: Application outcomes – single and multiple time applicants



Combined with the finding that past ERC application is a key success factor and lack of ERC experience a key failure factor, we conclude that encouraging reapplication will be an important mechanism to boost Norway's ERC success rate.

By the same token, there is a case to ensure that first time application is understood by institutions as an important 'training' activity; first time applicants will always be less likely to succeed and find the process more challenging, but the first-time application will build capacity and increase the probability of success in the future.

There are currently many one-time ERC applicants (almost all of whom were unsuccessful), and it is this pool that might also best be mobilised and encouraged to reapply, especially those who did well despite failing (i.e. those whose application made it to the second assessment stage).

7 Conclusions

Our findings via our four lines of enquiry are conclusive: many Norwegian researchers are well-suited to ERC application (with some caveats); ERC grants enjoy a high profile and prestige (with some caveats); previous grant experience offers good preparation and 'pipelines' to ERC application (with some caveats); but there appear to be quite widespread challenges concerning institutional support for ERC application.

Norway has accounted for around 1.5% of ERC applications with some year to year fluctuations, which roughly places the country in the top quarter of all countries in terms of ERC applications proportional to population. The all-time success rate of Norwegian ERC applications has been just over 8%, compared with an all-country average of over 11%. Norwegian ERC applications underperform especially at the second of the two application stages, but also lag slightly behind the all-country average at the first stage of assessment.

To identify reasons behind Norway's engagement and performance in ERC funding, and to highlight barriers and opportunities, we considered four main lines of enquiry: the characteristics of Norway-based researchers; attitudes towards ERC funding and attractiveness to researchers; appropriateness of support and 'pipeline' funding programmes (the funding environment); and institutional support. Our headline findings on each are:

- Characteristics of Norwegian researchers: We have found no evidence of misalignments that mean Norway-based researchers may not be best suited to applying to ERC, e.g. in terms of their focus on basic vs. applied science, disciplinary orientation or their 'values' about what it means to be a researcher. It should however be noted that there is a strong focus on thematic research in Norway but although we heard voices suggesting that this may have had a negative impact on the development of basic research, at least at smaller institutions, our data contain no evidence supporting this view. International experience, in particular periods abroad, has a positive impact on ERC engagement. In short: Norway has a large pool of researchers interested in conducting fundamental scientific enquiry, with a focus on high-level scientific publication, collaboration, research team leadership, PhD student supervision and several other facets characteristic of the 'type' of researchers best suited to ERC. A caveat is that there are small but significant numbers of ERC applicants who had very limited publication track and/or no prior research grant experience at the point of their first ERC application. This almost certainly limited their success chances, raising questions about whether these applicants should have been encouraged to apply at all (or whether they should have been discouraged). However, the first-time application will build capacity and increase the probability of success in the future
- Characteristics of ERC grants and attractiveness to Norwegian researchers: ERC grants are viewed as highly prestigious and career furthering almost across the board. With respect to size, length, career effects, PhD and postdoc supervision, as well as the kind of research activity typical of ERC grants, applicants and non-applicants alike are overwhelmingly positive about ERC grants and see their characteristics as major incentives for application. The great majority of both applicants and non-applicants would consider applying (again), though quite naturally, those who express the strongest positive attitudes when it comes to the prestige and the impact on the research career of an ERC grant, are most likely to say that they will apply in the future. Many are aware of the competitive nature of ERC application, but the low success rate does not appear to be a major deterrent. Indeed, RCN's own basic research funding (FRIPRO) is acknowledged to be competitive as well (reflecting findings from a previous Technopolis study on Norwegian participation in Horizon2020 health, ICT and industry), so there is little evidence of 'too much easy money' within Norway that might discourage ERC application. Among the disincentives towards applying, the administrative burden is often mentioned
- The presence and appropriateness of support and pipeline programmes: Most ERC applicants and non-applicants have a substantial track record of prior research grant experience. Moreover, large proportions of researchers have secured funding and managed grants from several sources, both within Norway and from international funders. Whilst there is an inevitable degree of heightened

familiarity, preference and comfort around RCN grant application, there is little evidence for insularity or 'lock-in' to RCN among researchers conducting basic research in Norway. Applicants and non-applicants alike most often take the view that their previous grant experience has been beneficial to them in terms of heightening their readiness for ERC application and ERC grant management. Prior grant experience and track are also acknowledged as important success factors in ERC applications

- Institutional support: there is a lot of variation in terms of what kind of support ERC applicants report to have received. Most had at least one administrative staff available to support them, though it is noteworthy that just over 10% of applicants report not having any such help. Peer mentoring, buy-out from teaching and other duties, interview training or funding for travel and networking are less commonly noted to have been available, but do exist for some applicants. It is unclear whether such support measures are in fact not available at all, or whether applicants are not aware of them. The large institutions (universities of Oslo and Bergen and NTNU) have substantial support programmes, so awareness is likely to be the major issue. But at smaller institutions there is a possibility that support is in fact not always in place. Among non-applicants, there is an evident lack of knowledge about whether or not various types of support would be available, should they ever choose to apply for ERC funding. Notably, there is also less than optimal contact facilitation to H2020 NCPs. Around two thirds of applicants report never having contacted an NCP. Yet, NCP contact is associated with higher success rates, especially for institutions other than the universities of Bergen, Oslo and NTNU – which, again, have good internal support functions. The NCPs consequently focus their efforts towards other institutions than the three-four largest ones

Across our investigation, two further critical conclusions have become apparent:

First, there appears to be a mis-match between national and institutional strategies on one hand and the ability of individual departments or faculties to target and support specific ERC applicants on the other. In short: it is evident (especially from our interviews with wider stakeholders) that there has been a drive in recent years for institutions to advocate and encourage ERC application. However, many researchers struggle to self-assess whether they are the right 'fit' and at the right career stage to apply, and are either unsure about what support would be in place, or do not receive support that would help increase their success chances.

The presence of a small but significant portion of ERC applicants with very limited prior publication or funding track is almost certainly a symptom of this. There is a need for departments or faculties to draw on wider institutional encouragement of ERC application, by identifying, encouraging and supporting specific individuals best suited for ERC application – as well as discouraging researchers that are not ready yet. Based on our findings, likely important characteristics would include:

- A suitable track record of scientific publications[20]
- Experience of winning and managing at least one grant (ideally more) for basic research
- Some prior experience with international research collaboration or research abroad
- A focus on basic, curiosity-driven research

Identification criteria of this kind will result in ensuring that those likeliest to win will actually apply. Administrative support, peer mentoring any other support types highlighted in this report can then be made available to them as appropriate.

Second, there is a critical need to focus on multiple application. 'Previous experience with ERC application' is noted as the top success factor by Norway-based ERC grant holders, and lack of such prior experience is the top failure factor among unsuccessful applicants. The applications data themselves confirm this: most ERC grant winners applied more than once.

[20] We cannot specify exact numbers, as publication patterns vary depending on field, and different standards for ERC Starting, Consolidator and Advanced grants are also necessary. However, as an absolute minimum standard, it is clear that a track record of fewer than 5–10 academic publications will almost certainly be insufficient to compete for an ERC grant of any kind, in any field.

This stands in considerable contrast to the largest share of Norway-based ERC applicants (50% of total), who applied once, lost and have not reapplied since. Our survey data indicate only 6% of ERC applicants apply once and win – significantly lower than Norway's total ERC success rate.

More systematic identification of ideal ERC 'candidates' may well drive up the success rates of first time applicants. But regardless of this, our findings point to a need to acknowledge that first time ERC application is as much about capacity building and familiarisation as it is about success. To reduce the proportion of one-time unsuccessful applicants and increase the rate of reapplication (and success!), possible approaches may include:

- Ensuing applicants are made fully familiar with the process and requirements of ERC application
- Ensuring the presence of enough support that the experience will not discourage reapplication
- Ensuring a 'culture change', whereby ERC application is in itself viewed as prestigious, that failure on the first attempt may be regrettable, but not a 'waste of time'

Of course, in order for institutions (and especially departments and faculties) to be able to support ERC applications in such sophisticated fashion it is important to be more selective about who is to be encouraged to apply in the first place, as per the point we make above.

Appendix A Survey details

A.1 Response rates and representativity

Survey of ERC applicants

Day-by-day survey response tracker

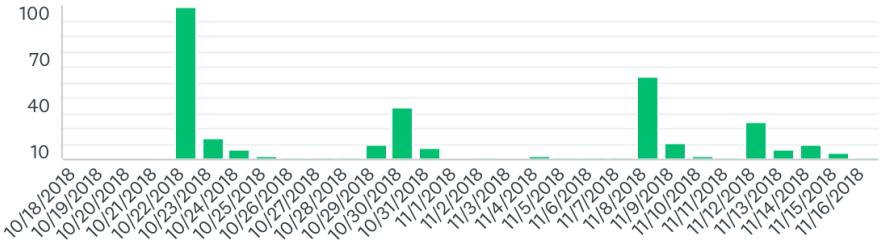


Table 10: Survey of ERC applicants – details of response rates

Population Definition	Population	Responses	Response rate
Norway-based researchers who have applied to ERC as main applicant at least once from 2010 to the present	711	293	41.2 %
Comment: The number of responses is sufficient for statistically significant claims at a 95% confidence level and a confidence interval of 4.4. Given the relatively large confidence interval (2-3 would be preferable), the small population size and the possibility of self-selection bias, we need to be cautious and suggest the survey results should be classed as indicative rather than significant. We can control for respondents' home institution, gender, academic title, year of most recent ERC application and number of ERC applications. On all these parameters, our responses are closely representative of the entire surveyed population, i.e. there is minimal bias based on the characteristics for which we can control. We do note that more recent ERC applicants are slightly more likely to have responded than applicants who applied in the earliest years captured by this survey (2010/11/12). Furthermore, Applicants from the University of Oslo has a higher propensity to reply. Oslo however is a special case, so we opted not to apply weightings, but instead to check where relevant whether survey responses from UiO-based applicants differ at all from the rest of the population, and we highlight differences where relevant in the main report.			

	Population (N)	Population (N)	Responses (n)	Responses (n)
Institution				
NTNU	90	13%	39	13%
Oslo University Hospital HF	20	3%	8	3%
University of Bergen	122	17%	49	17%
University of Oslo	276	39%	135	46%
University of Stavanger	8	1%	4	1%
UiT	39	5%	9	3%
All others	156	22%	49	17%
Gender				
Male	489	69%	187	64%
Female	222	31%	103	36%
Academic title				
Prof	212	48%	90	45%

	Population (N)	Population (N)	Responses (n)	Responses (n)
Dr	231	52%	110	55%
Year of most recent ERC application				
2010	38	5%	11	4%
2011	47	7%	15	5%
2012	70	10%	16	6%
2013	123	17%	51	18%
2014	87	12%	36	13%
2015	83	12%	40	14%
2016	86	12%	37	13%
2017	117	17%	54	19%
2018	58	8%	26	9%
Number of ERC applications 2010-18 (does not preclude additional applications pre-2010)				
1 application only	459	73%	215	75%
More than 1 application	171	27%	70	25%

We asked our survey respondents to specify what type(s) of ERC grants they have applied for, and also to tell us about the outcomes of their application(s). We cannot fully compare these figures to the population as a whole, as they might go back beyond 2010. However, we can confirm that responses to these two questions appear roughly to approximate to the likely 'true' proportions in our population. For example, around half of all ERC applications from 2010–2017 are starter grants (a proportion that rises to 60% in the earliest years, likely owing to the introduction of Consolidator grants), so the figure of 56% gathered through our survey indicates a representative respondent pool.

Likewise, 81% of our respondents say they were unsuccessful on all occasions they applied, with a further 11% saying they have both won and lost on various occasions. There may therefore be a marginal over-representation of ERC grant winners in our pool of responses, but not to the point of decisively skewing our findings.

Figure 24: Survey of ERC applicants – ERC grants applied for

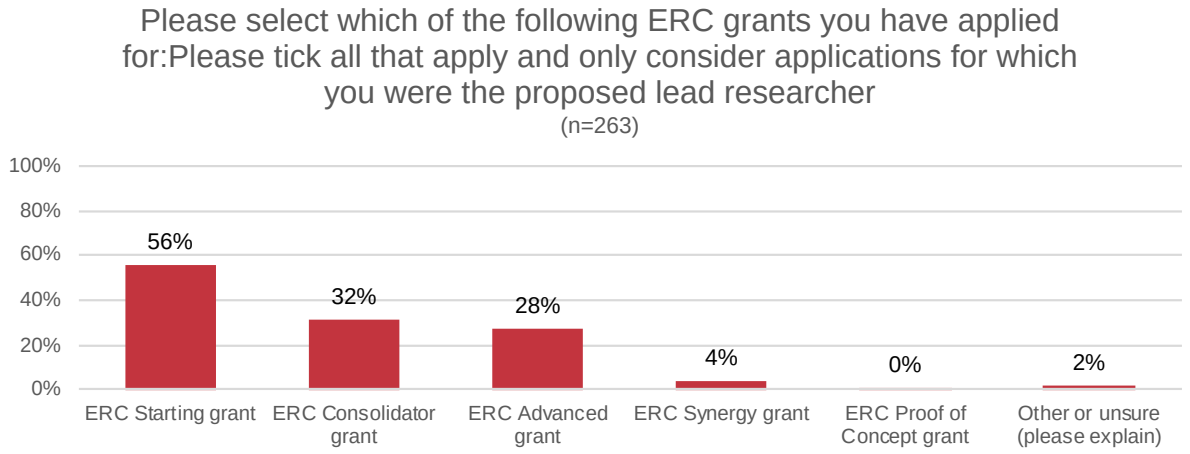
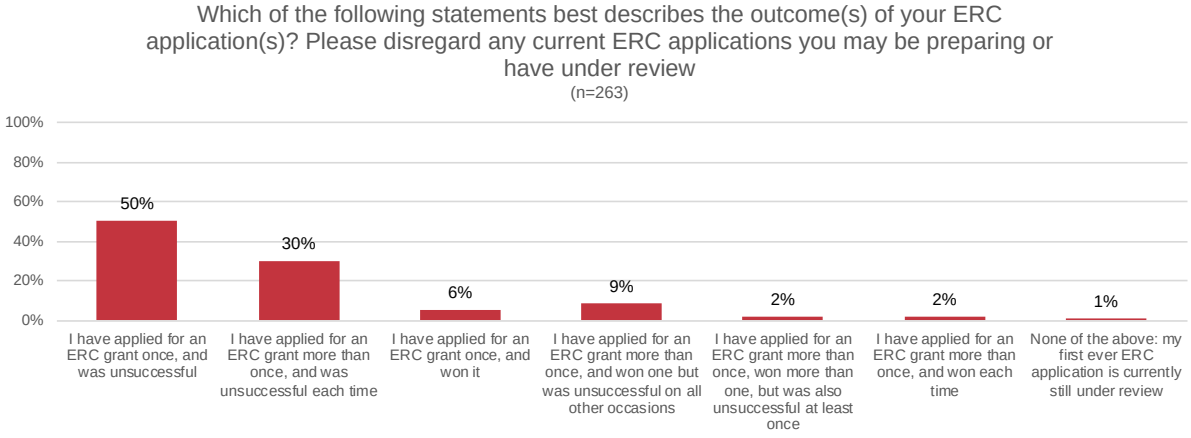


Figure 25: Survey of ERC applicants – application outcomes



Survey of non-applicants

Day-by-day survey response tracker

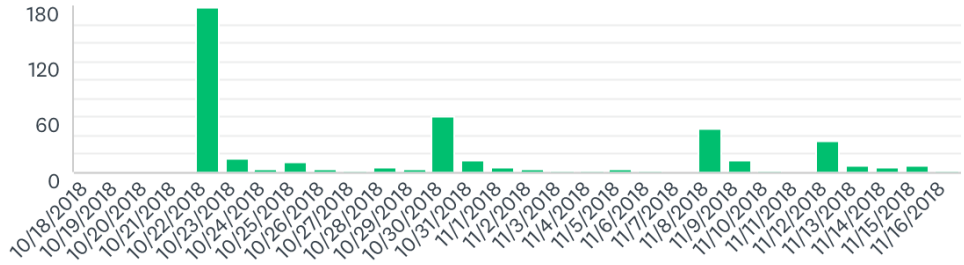


Table 11: Survey of non-applicants – details of response rates

Population Definition	Population	Responses	Response rate
Norway-based researchers who have never applied to ERC as main applicant, but have received at least one large grant from RCN between 2010 and the present (FRIPRO, Toppforsk and Young Research Talents).	910	421	46.3 %
Comment: The number of responses is sufficient for statistically significant claims at a 95% confidence level and a confidence interval of 3.5. Given the small population size and the possibility of self-selection bias, we need to be cautious and suggest the survey results should be classed as indicative rather than significant. We can control for respondents' home institution, gender and age cohort (decade of birth). Our responses are very strongly representative of the total population on each of these parameters, i.e. there is minimal bias based on the characteristics for which we can control.			

	Population (N)	Population (N)	Responses (n)	Responses (n)
Institution				
NMBU	32	4%	15	4%
NTNU	150	16%	65	16%
Oslo University Hospital	33	4%	17	4%

	Population (N)	Population (N)	Responses (n)	Responses (n)
University of Bergen	142	16%	72	17%
University of Oslo	289	32%	150	36%
UiT The Arctic University of Norway	63	7%	17	4%
All others	201	22%	83	20%
Gender				
Male	576	63%	251	60%
Female	334	37%	166	39%
Age cohort (decade of birth)				
1930s	5	1%	1	0%
1940s	64	7%	23	5%
1950s	170	19%	82	19%
1960s	228	26%	103	24%
1970s	287	33%	137	33%
1980s	119	14%	60	14%
n/a (not specified)	37	4%	15	4%

Combined survey data presentation

In some cases, it is feasible and sensible to combine data on the same question from the two surveys, and thereby to provide consolidated views from all Norway-based researchers who have obtained either ERC or large RCN grants between 2010 and the present. In such cases, our total population is 1,621 (the populations of the two surveys combined). To ensure ERC applicants and non-applicants are equally represented, we need to remove at random a small number of responses from the survey of non-applicants (given its slightly higher response rate). Where we present such combined survey data in this report, we note in each case how the final sample was constructed, its size and response rate. Typically this resulted in samples of between 600 and 650 responses and a response rate of between 37% and 40%. These response numbers are sufficient for statistically significant claims at a 95% confidence level and a confidence interval of around 3.0.

Appendix B Interview details

B.1 Details of interviews with Norway-based researchers

Table 12: Details of interview

Methodological details	
Sampling method	130 respondents to our survey of ERC applicants and 193 respondents to our survey of non-applicants indicated in their survey response that they would be willing to be contacted for a follow-up interview. From these, we selected a random sample of 20, stratified in the following way: • 10 non-applicants (selected at random) • 5 ERC applicants who had applied to ERC only once (selected at random) • 5 ERC applicants who had applied to ERC more than once (selected at random) The distinction between the latter two categories owes to the fact that the great majority of ERC applicants in Norway have only applied once. However, it was important to also get views from those who have engaged with ERC more regularly and may therefore have more experiences to draw on. Further random selections were made to ensure there were 'backup' individuals to contact in each of the three groups.
Invites and reminders sent	15/11/2018 – 13/12/2018
Total individuals contacted	34
Bounced	0
Interviews conducted	20 (+1 via email)
Response rate	62%
Comment: All interviews were conducted via telephone or Skype, except for one were the interviewee answered our interview questions via email due to time constraints on the interviewee's behalf.	

Name	**Institution**	**Category (non-applicant/one time-applicant/ multi time-applicant)**	**Primary discipline**	**Gender**
Agartz, Ingrid (Prof.)	University of Oslo	Non-applicant	Medical science	F
Asdal, Kristin (Prof.)	University of Oslo	Multi time-applicant (winner)	Interdisciplinary (Natural science and Economics)	F
Bleiklie, Ivar (Prof.)	University of Bergen	Non-applicant	Social science (excl. Econ. or Business/ Management)	M
Chekenya Enger, Martha (Senior Researcher)	University of Bergen	One time-applicant	Medical science	F
Danielsen, Anne (Prof.)	University of Oslo	Multi time-applicant	Arts and humanities	F
Frost Bathen, Tone (Prof.)	NTNU	Non-applicant	Medical science	F
Hervik, Sigbjørn (Prof.)	University of Stavanger	Multi time-applicant	Mathematics	M
Jørgensen, Kristine (Prof.)	University of Bergen	Non-applicant	Interdisciplinary (Information and Media Studies)	F

Name	Institution	Category (non-applicant/one time-applicant/ multi time-applicant)	Primary discipline	Gender
Kolås, Åshild (Dr.)	Peace Research Institute Oslo	One time-applicant	Social science (excl. Econ. or Business/ Management)	F
Krüger, Steffen (Postdoc.)	University of Oslo	Non-applicant	Arts and humanities	M
Larsen, Ann-Cecilie (Dr.)	University of Oslo	Multi time-applicant (winner)	Physical science (incl. Physics and Chemistry)	F
Leuven, Edwin (Prof.)	University of Oslo	Non-applicant	Social science (excl. Econ. or Business/ Management)	M
Løvvik, Ole Martin (Senior Researcher)	SINTEF	Non-applicant	Physical science (incl. Physics and Chemistry)	M
McNamara, Courtney (Senior Researcher)	NTNU	Non-applicant	Social science (excl. Econ. or Business/ Management)	F
Nahrgang, Jasmine (Associate Prof.)	UiT	Non-applicant	Biological science (incl. Biochemistry)	F
Nielsen, Nanette (Dr.)	University of Oslo	One time-applicant	Arts and humanities	F
Orr, Russell (Researcher)	University of Oslo	Non-applicant	Biological science (incl. Biochemistry)	M
Snoeren, Eelke (Dr.)	UiT	One time-applicant	Medical science	F
Star, Bastiaan (Researcher)	University of Oslo	Non-applicant	Biological science (incl. Biochemistry)	M
Van Erp, Titus (Dr.)	NTNU	Multi time-applicant	Physical science (incl. Physics and Chemistry)	M
Verones, Francesca (Dr.)	NTNU	One time-applicant	Environmental and earth science	F

Interview questions

B.1.1.1 Interview questions: non-applicants

- Did you ever consider applying for an ERC grant? If yes: why did you choose not to? If no: why not?
- Would you consider doing so in the future? If yes, what kind of conditions would need to be in place for you to want to do so?
- Are you aware of any support that you could get if you want to apply? (support as: both institutional and funding)
- Are there any kind of support that should have been provided and that would have made you apply, but was not provided?
- How could available support be developed or changed in order to provide better support for future ERC engagement?
- Are there other sources of research funding that appeal to you more than ERC grants? If so, why?
- Is ERC the top grant that one can get? Or is it equal to some other grants? Can you elaborate on this?
- Has this view changed over time? How?
- Anything else that you wish to underline or send with us?

B.1.1.2 Interview questions: one time-applicants and multi time-applicants

- Is there sufficient level of support available for writing an application? What support exists? (support as: both institutional and funding)
- How could available support be developed or changed in order to provide better support for future ERC engagement?
- What role does the National Contact Points (NCP) play?
- Are there other sources of research funding that appeal to you more than ERC grants? If so, why?
- Is ERC the top grant that one can get? Or is it equal to some other grants? Can you elaborate on this?
- Has this view changed over time? How?
- When is the 'right time/situation' to apply? And what are the sort of 'circumstances' in which (a) it would make sense to apply for ERC, and (b) when a researcher would consider themselves in a good position to win it
- Anything else that you wish to underline or send with us?

B.2 Details of interviews with stakeholders

Name	Institution
Anja Hegen	University of Bergen
Per Ivar Høvring	Research Council of Norway
Troels Jacobsen	University of Stavanger
Hege Landmark-Høyvik	Ministry of Education and Research
Hjørdis Møller Sandborg	The Ministry of Health and Care Services
Ingse Noremsaune	University of Oslo
Alf Rasmussen	Universities Norway (*Universitets- og høgskolerådet*)
Nina Sindre	NTNU

Interview questions

- How does the research that is typically carried out in Norway align with the research that usually receives funding from the ERC?
- How has this alignment played out over time/in recent time? Is it possible to point out any specific trends?
- The application rate has increased a lot in recent years. however, the success rate has dropped. Why has the application rate increased?
- Why has the success rate gone down? Do the 'wrong' persons apply, or do they not get sufficient support along the process?
- How effective would you say the support programmes (such as PES2020, FRIPRO/SFF) are for increased Norwegian ERC engagement?
- Have they (the support programmes) developed over time/in recent time? In a positive or negative direction?
- How could these support programmes be developed or changed in order to provide better support for future ERC engagement?

- What is your view on ERC funding in comparison with other international research funding programmes? Are there any specific aspects, positive or negative, of this source of funding?
- Has the view on ERC changed over time? How?

Only to university representatives:

- How has the form and volume of the support measures developed over time? Is it possible to spot any specific changes during recent time?
- What is the situation regarding resources (such as staff and capacity) for these support activities? What kind of resources are needed and to what extent? Are the resources sufficient?
- Has institutional shifts such as merges of universities and institutes affected the availability of institutional support?

Only to governmental agency representatives:

- There are National Contact Points at RCN. Less than half of the applicants are in touch with them, and not all think that they got meaningful help from them. Do you have a view on what can be improved with respect to the NCPs?
- Has institutional shifts such as merges of universities and institutes affected the availability of institutional support?

Appendix C Survey results – raw data tables

C.1 Survey of ERC applicants and winners – full results

Please tick the box below to confirm that you consent to your personal data being used in this way.		
Answer Choices	Responses	
I consent to my personal data being used in the way described above	100.0%	293
	Answered	**293**
	Skipped	**1**

Note: This question followed a pre-amble text about data protection, anonymity and right to withdraw. Any respondents who 'skipped' were not included in the survey data analysis.

When you first applied for an ERC grant, for how many years had you worked as an academic or researcher (excluding PhD studies)?		
Answer Choices	Responses	
0-5 years	71	25.5%
6-10 years	103	37.1%
11-15 years	38	13.7%
16-20 years	29	10.4%
21-25 years	16	5.8%
26-30 years	13	4.7%
31-35 years	3	1.1%
36-40 years	3	1.1%
More than 40 years	2	0.7%
	Answered	**278**
	Skipped	**16**

Note: Answers have been grouped here. Respondents were able to select the exact number of years, with 'More than 40 years' the only category that appeared in the survey as such.

When you first applied for an ERC grant, what was your academic job title?		
Answer Choices	Responses	
Professor (Professor)	36.3%	101
Research Professor (Forsker I / Forskningsprofessor)	2.5%	7
Associate Professor (Førsteamanuensis)	15.5%	43
Senior Researcher (Forsker II / Seniorforsker)	10.4%	29
Assistant Professor (Universitetslektor)	1.1%	3
Researcher (Forsker III / Forsker)	13.3%	37
Postdoctoral Fellow (Postdoktor)	17.6%	49
Research Fellow (Stipendiat)	0.4%	1
Research Assistant (Vitenskapelig assistant)	0.0%	0
Senior Teaching Fellow (Førstelektor)	0.0%	0
Teaching Fellow (Dosent)	0.0%	0
College Lecturer (Høgskolelektor)	0.0%	0

Chief Scientist	0.4%	1
Research Manager	0.4%	1
Research Director	0.4%	1
Other (please specify)	1.8%	5
	Answered	**278**
	Skipped	**16**

Before you first applied for an ERC grant, had you ever been employed full-time as a researcher in a country other than Norway?		
Answer Choices	Responses	
No	50.2%	140
Yes - Within the European Economic Area (EU, UK, Switzerland & Iceland)	25.5%	71
Yes - Outside the European Economic Area	16.5%	46
Yes - Both inside and outside the European Economic Area	7.9%	22
	Answered	**279**
	Skipped	**15**

Before you first applied for an ERC grant, had you ever been full-time employed in research and development (R&D) in industry or business?		
Answer Choices	Responses	
Yes	9.0%	25
No	88.9%	247
Unsure (please explain)	2.2%	6
	Answered	**278**
	Skipped	**16**

With which of the following fields is your research most closely aligned?		
Answer Choices	Responses	
Other (please specify)	3.9%	11
Interdisciplinary – my research regularly involves more than one of the above fields	8.2%	23
Social science (excl. Economics or Business/Management)	12.9%	36
Physical science (incl. Physics and Chemistry)	16.5%	46
Medical science	13.6%	38
Mathematics	5.0%	14
Environmental and earth science	6.1%	17
Engineering (incl. ICT)	6.5%	18
Economics or Business/Management	1.8%	5
Biological science (incl. Biochemistry)	14.0%	39
Arts and humanities	11.5%	32
	Answered	**279**
	Skipped	**15**

When you first applied for an ERC grant, how many academic outputs had you published?

Please count only research articles in international, peer reviewed academic journals (excluding editorials or book reviews), as well as academic books (monographs), edited volumes (as editor) and book chapters. Please estimate as closely as you can.

Answer Choices	Responses	
0	0.0%	0
1-5	2.5%	7
6-10	7.5%	21
11-20	24.0%	67
21-30	19.0%	53
31-50	14.0%	39
More than 50	32.3%	90
Don't know	0.7%	2
	Answered	**279**
	Skipped	**15**

Before you first applied for an ERC grant, had you secured any of the following types of research grant over the course of your career?

Please tick all that apply. Include any grants where you made substantial contributions to the proposal, but disregard small awards such as travel grants, conference grants or any other award worth less than 250,000 NOK

Answer Choices	Responses	
RCN Fripro - Toppforsk	3%	8
RCN Fripro - Young research talent awards	14%	34
RCN Fripro - Other	33%	79
RCN thematic programmes – researcher grant	29%	69
Other RCN grant	33%	78
Research grant from Norwegian funders other than RCN	36%	86
EU funding (e.g. Horizon 2020 or previous framework programmes)	31%	73
Other research grant from research funders outside of Norway	36%	85
Direct funding by industry/private sector	14%	33
Other (please specify)	12%	28
	Answered	**237**
	Skipped	**57**

Before you first applied for an ERC grant, how many research grants had you secured in total over the course of your career?

Please include any grants where you made substantial contributions to the proposal, but disregard small awards such as travel grants, conference grants or any other award worth less than 250,000 NOK

Answer Choices	Responses	
0	12.7%	33
1	9.6%	25
2	16.9%	44
3	14.2%	37
4	7.7%	20
5	5.4%	14

6	5.8%	15
7	5.0%	13
8	3.1%	8
9	0.8%	2
10	5.4%	14
11	0.0%	0
12	2.3%	6
13	0.0%	0
14	0.4%	1
15	0.4%	1
More than 15	9.2%	24
Don't know	1.2%	3
	Answered	**260**
	Skipped	**34**

Please consider your research career so far and tell us how important each of the following activities are to you personally:

	Not at all important		Less important		Quite important		Very important		Total
Conducting research that is purely driven by my own scientific curiosity	0.7%	2	2.6%	7	21.3%	58	75.4%	205	272
Conducting research that is likely to be published in international, high-impact factor academic journals	1.1%	3	8.1%	22	43.4%	118	47.4%	129	272
Conducting research collaboratively with industry or the private or public sector	27.1%	73	45.0%	121	21.6%	58	6.3%	17	269
Conducting research that helps to solve practical social, political, environmental or economic problems	11.1%	30	25.5%	69	36.2%	98	27.3%	74	271
Using my expertise to supervise and help early career researchers (e.g. PhD students and post-docs)	0.7%	2	9.9%	27	41.5%	113	47.8%	130	272
Using my expertise to teach Master, Bachelor or earlier stage students	6.3%	17	28.7%	78	45.6%	124	19.5%	53	272
								Answered	**272**
								Skipped	**22**

Before you first applied for an ERC grant, how often had you engaged in each of the following research-related activities while employed at a university or research institute?

	I had never done this		I had done this once		I had done this a few times		I had done this regularly		Not sure		Total
Conducting interdisciplinary research as part of a funded project	14.3%	39	9.6%	26	25.0%	68	47.4%	129	3.7%	10	272
Conducting collaborative research with industry/private sector companies	53.3%	144	13.7%	37	20.4%	55	11.5%	31	1.1%	3	270
Conducting research internationally, i.e. across countries with researchers based abroad, as part of a funded project	4.8%	13	2.6%	7	18.4%	50	72.1%	196	2.2%	6	272
Leading or formally managing a team of 5 or more researchers (including PhDs and Postdocs)	43.8%	119	9.6%	26	18.0%	49	27.6%	75	1.1%	3	272
										Answered	**272**
										Skipped	**22**

Before you first applied for an ERC grant, how do you think your previous experience of holding research grants had improved your skills in each of the following areas?									
	Not improved at all		Improved a little		Improved a lot		Don't know / no opinion		Total
Ability to write applications for research funding in a strongly competitive environment	1.5%	4	18.3%	48	70.0%	184	10.3%	27	263
Ability to work productively with prominent international scholars	4.2%	11	25.5%	67	60.8%	160	9.5%	25	263
Ability to produce high-impact research outputs (e.g. articles in international, peer reviewed journals) within a set grant period and budget	3.8%	10	24.0%	63	62.4%	164	9.9%	26	263
Ability to manage large sums of money	8.0%	21	38.2%	100	39.7%	104	14.1%	37	262
Ability to identify and supervise PhD and postdoctoral researchers as part of a funded grant	7.6%	20	30.4%	80	50.2%	132	11.8%	31	263
								Answered	**263**
								Skipped	**31**

To what extent do you think your previous experience of applying for and winning research grants as lead researcher gave you the right experience to apply for and win an ERC grant?		
Answer Choices	Responses	
Not at all	7.5%	19
To a small extent	40.7%	103
To a large extent	51.8%	131
	Answered	**253**
	Skipped	**41**

To what extent do you think your previous experience of holding and managing research grants as lead researcher gave you the right experience to hold and manage an ERC grant?		
Answer Choices	Responses	
Not at all	10.4%	26
To a small extent	34.9%	87
To a large extent	54.6%	136
	Answered	**249**
	Skipped	**45**

Are there any skills or experiences you consider necessary to win an ERC grant that your previous experience of research grants did not give you?	
Answered	**111**
Skipped	**183**

Note: This is a free-text entry question, yielding qualitative information. The full text answers are omitted here as some of them may compromise anonymity of respondents.

Do you agree with the following statements about institutional support for your ERC applications?													
	Disagree strongly		Disagree somewhat		Neither agree nor disagree		Agree somewhat		Agree strongly		Don't know		Total
My institution had staff who had the time available to help me with an ERC application	6.8%	18	7.1%	19	6.0%	16	30.5%	81	49.3%	131	0.4%	1	266

My institution had staff who had experience with ERC applications	9.1%	24	9.4%	25	6.4%	17	35.5%	94	39.6%	105	0.0%	0	265
My institution encouraged me to apply for an ERC grant	4.5%	12	4.9%	13	6.0%	16	17.3%	46	67.3%	179	0.0%	0	266
Obtaining an ERC grant is acknowledged as a marker of high prestige at my institution	1.1%	3	2.3%	6	2.6%	7	7.5%	20	85.7%	228	0.8%	2	266
Academic colleagues at my institution were able to share experiences and give advice for preparing ERC applications	17.7%	47	14.7%	39	13.9%	37	30.1%	80	23.3%	62	0.4%	1	266
												Answered	**266**
												Skipped	**28**

Did your institution provide support for your ERC application through the PES2020 programme?		
Answer Choices	Responses	
Yes	53.6%	142
No	18.9%	50
I don't know	27.6%	73
	Answered	**265**
	Skipped	**29**

Did your institution provide any of the following types of support for your ERC applications?									
	Yes, and I made use of this at least once		Yes, but I never made use of this		No		I don't know		Total
Facilitating contact to a Horizon2020 national contact point (NCP)	21.7%	57	20.5%	54	36.1%	95	21.7%	57	263
One or more administrative staff to help with an ERC application	84.8%	223	3.0%	8	11.8%	31	0.4%	1	263
Relief from your other duties (e.g. teaching, supervision, management, etc) so you had time to write an ERC application	24.6%	65	9.5%	25	61.0%	161	4.9%	13	264
Mentoring by other researcher(s) to help with an ERC application	25.1%	66	6.1%	16	63.5%	167	5.3%	14	263
Interview training	29.9%	78	15.3%	40	48.3%	126	6.5%	17	261
Funding for time spent on proposal writing	30.3%	80	9.5%	25	54.2%	143	6.1%	16	264
Funding for someone to take over regular duties (frikjøp)	10.2%	27	8.0%	21	73.1%	193	8.7%	23	264
Funding for purchase of external consultancy services (e.g. for proposal writing or language editing)	55.7%	147	9.5%	25	28.8%	76	6.1%	16	264
Funding for travel to attend H2020-related events (for information, networking and profiling idea/project)	9.9%	26	20.2%	53	54.8%	144	15.2%	40	263
Please feel free to note any other types of support that you know you institution gives for ERC applicants (simply skip if not applicable)									37
								Answered	**264**
								Skipped	**30**

Which of the following options comes closest to your view about the prestige of winning an ERC grant?		
Answer Choices	Responses	
I consider winning an ERC grant to be one of the most prestigious achievements of an academic career	49.4%	131
I consider winning an ERC grant to be very prestigious, but there are some other types of funding awards which I consider just as prestigious	32.5%	86
I consider winning an ERC grant to be somewhat prestigious, but not more than any other large funding award	5.7%	15
I consider winning an ERC grant to be less prestigious than some other funding award types	0.0%	0
I have no opinion on this	3.8%	10
Other (please specify)	8.7%	23
	Answered	**265**
	Skipped	**29**

Which of the following options comes closest to your view about the possible career effects at your current institution of winning an ERC grant?		
Answer Choices	Responses	
Winning an ERC grant would be one of the best possible ways to advance a researcher career	57.4%	152
Winning an ERC grant would be good for career advancement, but no more so than winning other types of large research grants	29.4%	78
Winning an ERC grant would only have a small effect on career advancement	6.4%	17
Winning an ERC grant would have no effect on career advancement	3.4%	9
No opinion	3.4%	9
	Answered	**265**
	Skipped	**29**

Compared with other research grants you could apply for (within Norway or from sources abroad), please consider for each of the following factors whether they were an incentive or a disincentive for you to apply for an ERC grant:													
	Major incentive		Minor incentive		Makes no difference		Minor disincentive		Major disincentive		Don't know		Total
The size of ERC grants	64.3%	169	24.3%	64	9.5%	25	1.5%	4	0.4%	1	0.0%	0	263
The length of the ERC grant period	67.2%	176	21.0%	55	11.1%	29	0.8%	2	0.0%	0	0.0%	0	262
Your perceived success chances in the ERC grant application process	19.2%	50	20.0%	52	20.8%	54	18.5%	48	17.3%	45	4.2%	11	260
The possible influence of holding an ERC grant on your future career	57.6%	151	26.3%	69	14.5%	38	0.8%	2	0.0%	0	0.8%	2	262
The ability to fund PhDs and post-docs as part of the ERC grant	63.0%	165	25.2%	66	11.1%	29	0.4%	1	0.4%	1	0.0%	0	262
The type of research to be conducted on an ERC grant	69.2%	182	14.5%	38	12.6%	33	2.3%	6	0.8%	2	0.8%	2	263
The level of support provided by my institution for ERC grant application	16.8%	44	41.2%	108	31.3%	82	4.6%	12	3.1%	8	3.1%	8	262
												Answered	**264**
												Skipped	**30**

Are there any other factors that you view as major disincentives to apply for an ERC grant that are not mentioned in the question above?

Answered	**61**
Skipped	**233**

Note: This is a free-text entry question, yielding qualitative information. The full text answers are omitted here as some of them may compromise anonymity of respondents.

Please select which of the following ERC grants you have applied for:

Please tick all that apply and only consider applications for which you were the proposed lead researcher

Answer Choices	Responses	
ERC Starting grant	55.5%	146
ERC Consolidator grant	31.6%	83
ERC Advanced grant	27.8%	73
ERC Synergy grant	4.2%	11
ERC Proof of Concept grant	0.4%	1
Other or unsure (please explain)	1.5%	4
	Answered	**263**
	Skipped	**31**

Which of the following best describes your interaction with the EU's Horizon2020 National Contact Points (NCPs)

Answer Choices	Responses	
I was not in touch with an NCP for any of my ERC applications	64.5%	165
I was in touch with an NCP at least once, but this contact was not very helpful for my application	11.3%	29
I was in touch with an NCP at least once, and this contact was somewhat helpful for my application	16.4%	42
I was in touch with an NCP at least once, and this contact was very helpful for my application	7.8%	20
Please feel free to note any specific comments you may have about your interaction with NCPs		28
	Answered	**256**
	Skipped	**38**

Which of the following statements best describes the outcome(s) of your ERC application(s)? Please disregard any current ERC applications you may be preparing or have under review

Answer Choices	Responses	
I have applied for an ERC grant once, and was unsuccessful	50.2%	132
I have applied for an ERC grant more than once, and was unsuccessful each time	30.4%	80
I have applied for an ERC grant once, and won it	5.7%	15
I have applied for an ERC grant more than once, and won one but was unsuccessful on all other occasions	8.8%	23
I have applied for an ERC grant more than once, won more than one, but was also unsuccessful at least once	1.9%	5
I have applied for an ERC grant more than once, and won each time	1.9%	5
None of the above: my first ever ERC application is currently still under review	1.1%	3
	Answered	**263**
	Skipped	**31**

Do you think each of the following were factors that led to the outcome(s) of your unsuccessful ERC application(s)?

	Not a factor		A small factor		A medium factor		A major factor		Don't know/No opinion		Total
I received insufficient or poor institutional support to help with my ERC application(s)	53.3%	128	24.6%	59	12.9%	31	5.4%	13	3.8%	9	240
There was poor thematic or disciplinary alignment between the research I proposed and the kind of research the ERC is most interested in funding	39.7%	95	19.2%	46	20.9%	50	15.1%	36	5.0%	12	239
I had insufficient experience with writing ERC applications	20.1%	48	26.4%	63	32.6%	78	19.7%	47	1.3%	3	239
My institution had insufficient experience with supporting ERC applications	45.1%	107	24.1%	57	19.0%	45	8.4%	20	3.4%	8	237
I had insufficient understanding of ERC assessment criteria	37.9%	91	27.1%	65	23.8%	57	7.5%	18	3.8%	9	240
I did not have a strong enough track record of past publications	36.3%	87	27.1%	65	18.8%	45	16.3%	39	1.7%	4	240
I did not have enough academic peers to advise and share experience around ERC applications	35.0%	84	28.3%	68	19.6%	47	13.3%	32	3.8%	9	240
I did not have a strong enough track record of holding previous research grants	46.7%	112	26.3%	63	16.7%	40	7.9%	19	2.5%	6	240
I did not have enough time to dedicate to the ERC application(s)	31.7%	76	27.1%	65	22.1%	53	17.9%	43	1.3%	3	240
I performed poorly at the interview stage(please disregard if no interview stage was involved)	43.4%	59	13.2%	18	8.1%	11	4.4%	6	30.9%	42	136
Please feel free to note any other major factors											**47**
										Answered	**240**
										Skipped	**53**

Besides the scientific quality of your proposed research, how important would you consider each of the following as success factors in your winning ERC application(s)?

	Not a success factor		A small success factor		A medium success factor		A major success factor		Don't know/No opinion		Total
The institutional support I received with my application(s)	4.2%	2	33.3%	16	22.9%	11	35.4%	17	4.2%	2	48
My previous experience with ERC applications	27.7%	13	4.3%	2	14.9%	7	44.7%	21	8.5%	4	47
My institution's previous experience with supporting ERC applications	12.5%	6	37.5%	18	29.2%	14	12.5%	6	8.3%	4	48
Academic peers who were able to advise and share experience around ERC applications	18.8%	9	25.0%	12	31.3%	15	22.9%	11	2.1%	1	48
My track record of holding previous research grants	14.6%	7	8.3%	4	35.4%	17	37.5%	18	4.2%	2	48
Attendance of networking events	50.0%	24	18.8%	9	12.5%	6	6.3%	3	12.5%	6	48
Please feel free to note any other major success factors											**9**
										Answered	**48**
										Skipped	**245**

Would you consider applying for an ERC grant again in the future?

Answer Choices	Responses

Yes, definitely	35.9%	94
Yes, probably	30.5%	80
Unsure	16.8%	44
No, probably not	10.3%	27
No, definitely not	6.5%	17
	Answered	**262**
	Skipped	**32**

Please briefly explain your answer to the above question:	
Answered	**188**
Skipped	**106**

Note: This is a free-text entry question, yielding qualitative information. The full text answers are omitted here as some of them may compromise anonymity of respondents.

Please feel free to note any other thoughts you may have on ERC funding, especially regarding barriers, incentives and the presence (or absence) of support in doing so. Please also feel free to note if there is anything the Research Council of Norway could do to make it easier to get ERC grants.	
Answered	**93**
Skipped	**201**

Note: This is a free-text entry question, yielding qualitative information. The full text answers are omitted here as some of them may compromise anonymity of respondents.

One final request: to complement this survey, we will also be running a programme of interviews (via telephone or skype) over the next few months, to hear in a little more depth about motivations and barriers to ERC-participation in Norway. Would you be willing to participate in such an interview?		
Answer Choices	Responses	
Yes - I am happy to be contacted for a follow-up interview	55.25%	142
No - Please do not contact me for a follow-up interview	44.75%	115
	Answered	**257**
	Skipped	**37**

C.2 Survey of Non-applicants – full results

Please tick the box below to confirm that you consent to your personal data being used in this way.		
Answer Choices	Responses	
I consent to my personal data being used in the way described above	100.0%	431
	Answered	**431**
	Skipped	**0**

Note: This question followed a pre-amble text about data protection, anonymity and right to withdraw. Any respondents who 'skipped' were not included in the survey data analysis.

For how many years have you worked as an academic or researcher (excluding PhD studies)?		
Answer Choices	Responses	
0-5 years	7.8%	33
6-10 years	23.6%	100
11-15 years	14.7%	62
16-20 years	16.1%	68
21-25 years	14.9%	63
26-30 years	12.8%	54
31-35 years	3.8%	16
36-40 years	3.5%	15
More than 40 years	2.8%	12
	Answered	**423**
	Skipped	**8**

Note: Answers have been grouped here. Respondents were able to select the exact number of years, with 'More than 40 years' the only category that appeared in the survey as such.

What is your current academic job title?		
Answer Choices	Responses	
Professor (Professor)	51.8%	214
Research Professor (Forsker I / Forskningsprofessor)	4.6%	19
Associate Professor (Førsteamanuensis)	14.3%	59
Senior Researcher (Forsker II / Seniorforsker)	8.5%	35
Assistant Professor (Universitetslektor)	0.7%	3
Researcher (Forsker III / Forsker)	8.5%	35
Postdoctoral Fellow (Postdoktor)	2.4%	10
Research Fellow (Stipendiat)	0.0%	0
Research Assistant (Vitenskapelig assistant)	0.0%	0
Senior Teaching Fellow (Førstelektor)	0.7%	3
Teaching Fellow (Dosent)	0.0%	0
College Lecturer (Høgskolelektor)	0.0%	0
Chief Scientist	1.0%	4
Research Manager	0.7%	3

Research Director	0.5%	2
Other (please specify)	6.3%	26
	Answered	**413**
	Skipped	**18**

Have you ever been employed full-time as a researcher in a country other than Norway?

Answer Choices	Responses	
No	53.1%	223
Yes – Within the European Economic Area (EU, UK, Switzerland & Iceland)	28.6%	120
Yes – Outside the European Economic Area	11.0%	46
Yes - Both inside and outside the European Economic Area	7.4%	31
	Answered	**420**
	Skipped	**11**

Have you ever been full-time employed in research and development (R&D) in industry or business?

Answer Choices	Responses	
Yes	13.0%	55
No	84.6%	358
Unsure (please explain)	2.4%	10
	Answered	**423**
	Skipped	**8**

With which of the following fields is your research most closely aligned?

Answer Choices	Responses	
Arts and humanities	14.7%	62
Biological science (incl. Biochemistry)	18.7%	79
Economics or Business/Management	1.7%	7
Engineering (incl. ICT)	5.2%	22
Environmental and earth science	9.7%	41
Mathematics	3.6%	15
Medical science	15.4%	65
Physical science (incl. Physics and Chemistry)	10.2%	43
Social science (excl. Economics or Business/Management)	11.4%	48
Interdisciplinary – my research regularly involves more than one of the above fields	6.6%	28
Other (please specify)	3.1%	13
	Answered	**423**
	Skipped	**8**

How many academic outputs have you published over the course of your career so far?

Please count only research articles in international, peer reviewed academic journals (excluding editorials or book reviews), as well as academic books (monographs), edited volumes (as editor) and book chapters. Please estimate as closely as you can.

Answer Choices	Responses	
0	0.0%	0
1-5	1.9%	8
6-10	4.7%	20
11-20	13.7%	58
21-30	13.5%	57
31-50	17.3%	73
More than 50	48.5%	205
Don't know	0.5%	2
	Answered	**423**
	Skipped	**8**

Which of the following types of research grants have you successfully secured over the course of your career so far?

Please tick all that apply. Include any grants where you made substantial contributions to the proposal, but disregard small awards such as travel grants, conference grants or any other award worth less than 250,000 NOK

Answer Choices	Responses	
RCN Fripro - Toppforsk	9.6%	40
RCN Fripro - Young research talent awards	23.6%	99
RCN Fripro - Other	67.8%	284
RCN thematic programmes – researcher grant	34.6%	145
Other RCN grant	36.0%	151
Research grant from Norwegian funders other than RCN	43.7%	183
EU funding (e.g. Horizon 2020 or previous framework programmes)	27.7%	116
Other research grant from research funders outside of Norway	33.9%	142
Direct funding by industry/private sector	17.7%	74
Other (please specify)	17.0%	71
	Answered	**419**
	Skipped	**12**

How many research grants have you secured in total over the course of your career?

Please include any grants where you made substantial contributions to the proposal, but disregard small awards such as travel grants, conference grants or any other award worth less than 250,000 NOK

Answer Choices	Responses	
0	0.5%	2
1	10.0%	41
2	8.7%	36
3	9.0%	37
4	10.7%	44
5	8.0%	33
6	8.7%	36
7	5.8%	24

8	5.1%	21
9	1.2%	5
10	8.3%	34
11	1.9%	8
12	1.7%	7
13	1.5%	6
14	1.0%	4
15	0.5%	2
More than 15	15.1%	62
Don't know	2.4%	10
	Answered	**412**
	Skipped	**19**

How important are each of the following research-related activities to you personally?

	Not at all important		Less important		Quite important		Very important		Total
Conducting research that is purely driven by my own scientific curiosity	0.2%	1	3.8%	16	27.9%	117	68.1%	286	420
Conducting research that is likely to be published in international, high-impact factor academic journals	1.2%	5	9.8%	41	39.0%	163	50.0%	209	418
Conducting research collaboratively with industry or the private or public sector	20.7%	86	49.6%	206	25.1%	104	4.6%	19	415
Conducting research that helps to solve practical social, political, environmental or economic problems	8.6%	36	24.2%	101	41.3%	172	25.9%	108	417
Using my expertise to supervise and help early career researchers (e.g. PhD students and post-docs)	1.2%	5	6.0%	25	40.6%	170	52.3%	219	419
Using my expertise to teach Master, Bachelor or earlier stage students	4.3%	18	23.7%	99	45.5%	190	26.6%	111	418
							Answered		**420**
							Skipped		**11**

How often have you engaged in each of the following research-related activities while employed at a university or research institute?

	I have never done this		I have done this once		I have done this a few times		I have done this regularly		Not sure		Total
Conducting interdisciplinary research as part of a funded project	10.5%	44	6.0%	25	29.6%	124	51.8%	217	2.2%	9	419
Conducting collaborative research with industry/private sector companies	45.4%	190	12.7%	53	28.6%	120	12.4%	52	1.0%	4	419
Conducting research internationally, i.e. across countries with researchers based abroad, as part of a funded project	4.3%	18	3.6%	15	21.2%	89	70.6%	296	0.2%	1	419
Leading or formally managing a team of 5 or more researchers (including PhDs and Postdocs)	23.8%	100	13.3%	56	22.4%	94	40.0%	168	0.5%	2	420
									Answered		**420**
									Skipped		**11**

How do you think your experience of holding research grants has improved your skills in each of the following areas?

	Not improved at all		Improved a little		Improved a lot		Don't know / no opinion		Total
Ability to write applications for research funding in a strongly competitive environment	1.4%	6	21.6%	90	74.0%	308	2.9%	12	416
Ability to work productively with prominent international scholars	3.4%	14	28.9%	120	63.4%	263	4.3%	18	415
Ability to produce high-impact research outputs (e.g. articles in international, peer reviewed journals) within a set grant period and budget	3.1%	13	30.5%	127	62.8%	262	3.6%	15	417
Ability to manage large sums of money	5.5%	23	40.4%	168	47.6%	198	6.5%	27	416
Ability to identify and supervise PhD and postdoctoral researchers as part of a funded grant	7.2%	30	33.2%	138	55.1%	229	4.6%	19	416
								Answered	**417**
								Skipped	**14**

To what extent do you think your previous experience of applying for and winning research grants as lead researcher has given you the right experience to apply for and win an ERC grant?		
Answer Choices	Responses	
Not at all	5.8%	24
To a small extent	46.3%	192
To a large extent	48.0%	199
	Answered	**415**
	Skipped	**16**

To what extent do you think your previous experience of holding and managing research grants as lead researcher has given you the right experience to hold and manage an ERC grant?		
Answer Choices	Responses	
Not at all	4.3%	18
To a small extent	36.9%	153
To a large extent	58.8%	244
	Answered	**415**
	Skipped	**16**

Are there any skills or experiences you consider necessary to win an ERC grant that your previous experience of research grants has not given you?	
Answered	**179**
Skipped	**252**

Note: This is a free-text entry question, yielding qualitative information. The full text answers are omitted here as some of them may compromise anonymity of respondents.

Do you agree with the following statements about institutional support for ERC applications?												
	Disagree strongly		Disagree somewhat		Neither agree nor disagree		Agree somewhat		Agree strongly		Don't know		Total
My institution has staff who have the time available to help me with an ERC application	7.0%	29	9.7%	40	7.5%	31	37.4%	155	33.8%	140	4.6%	19	414
My institution has staff who have experience with ERC applications	7.3%	30	7.3%	30	7.8%	32	33.7%	139	40.9%	169	3.2%	13	413

My institution encourages me to apply for an ERC grant	6.5%	27	6.3%	26	11.6%	48	26.9%	111	47.5%	196	1.2%	5	413
Obtaining an ERC grant is acknowledged as a marker of high prestige at my institution	1.9%	8	1.2%	5	1.9%	8	13.0%	54	79.7%	330	2.2%	9	414
There are academic colleagues at my institution who would be able to share experiences and give advice for preparing ERC applications	5.3%	22	9.2%	38	10.4%	43	31.4%	130	38.4%	159	5.3%	22	414
												Answered	**414**
												Skipped	**17**

Does your institution provide support for ERC applications through the PES2020 programme?		
Answer Choices	Responses	
Yes	48.1%	199
No	3.1%	13
I don't know	48.8%	202
	Answered	**414**
	Skipped	**17**

Does your institution provide any of the following types of support for ERC applications?							
	Yes		No		I don't know		Total
Facilitating contact to a Horizon2020 national contact point (NCP)	50.2%	206	4.4%	18	45.4%	186	410
One or more administrative staff to help with an ERC application	75.6%	313	9.7%	40	14.7%	61	414
Relief from your other duties (e.g. teaching, supervision, management, etc) so you would have time to write an ERC application	17.7%	73	49.5%	204	32.8%	135	412
Mentoring by other researcher(s) to help with an ERC application	28.2%	116	33.7%	139	38.1%	157	412
Interview training	40.2%	165	20.7%	85	39.2%	161	411
Funding for time spent on proposal writing	27.8%	114	36.8%	151	35.4%	145	410
Funding for someone to take over regular duties (frikjøp)	14.2%	58	42.9%	176	42.9%	176	410
Funding for purchase of external consultancy services (e.g. for proposal writing or language editing)	35.9%	147	19.8%	81	44.4%	182	410
Funding for travel to attend H2020-related events (for information, networking and profiling idea/project)	37.6%	155	12.1%	50	50.2%	207	412
Please feel free to note any other types of support that you know you institution gives for ERC applicants (simply skip if not applicable)							54
						Answered	**414**
						Skipped	**17**

Which of the following options comes closest to your view about the prestige of winning an ERC grant?		
Answer Choices	Responses	
I consider winning an ERC grant to be one of the most prestigious achievements of an academic career	42.7%	175
I consider winning an ERC grant to be very prestigious, but there are some other types of funding awards which I consider just as prestigious	35.4%	145
I consider winning an ERC grant to be somewhat prestigious, but not more than any other large funding award	10.0%	41
I consider winning an ERC grant to be less prestigious than some other funding award types	0.7%	3

I have no opinion on this	6.1%	25
Other	5.1%	21
	Answered	**410**
	Skipped	**21**

Which of the following options comes closest to your view about the possible career effects at your current institution of winning an ERC grant?		
Answer Choices	Responses	
Winning an ERC grant would be one of the best possible ways to advance a researcher career	47.6%	195
Winning an ERC grant would be good for career advancement, but no more so than winning other types of large research grants	34.6%	142
Winning an ERC grant would only have a small effect on career advancement	8.3%	34
Winning an ERC grant would have no effect on career advancement	4.6%	19
No opinion	4.9%	20
	Answered	**410**
	Skipped	**21**

Compared with other research grants you could apply for (within Norway or from sources abroad), please consider for each of the following factors whether they would be an incentive or a disincentive for you to apply for an ERC grant:

	Major incentive		Minor incentive		Makes no difference		Minor disincentive		Major disincentive		Don't know		Total
The size of ERC grants	56.6%	232	22.9%	94	9.8%	40	3.7%	15	2.4%	10	4.6%	19	410
The length of the ERC grant period	52.8%	216	25.4%	104	13.0%	53	1.7%	7	0.5%	2	6.6%	27	409
Your perceived success chances in the ERC grant application process	22.3%	91	15.7%	64	12.0%	49	17.4%	71	26.2%	107	6.6%	27	409
The possible influence of holding an ERC grant on your future career	39.9%	163	31.3%	128	22.7%	93	2.4%	10	0.7%	3	2.9%	12	409
The ability to fund PhDs and post-docs as part of the grant	58.9%	242	26.8%	110	9.5%	39	0.7%	3	1.0%	4	3.2%	13	411
The type of research to be conducted on an ERC grant	57.7%	236	15.2%	62	14.9%	61	4.4%	18	3.2%	13	4.7%	19	409
The level of support provided by my institution for ERC grant application	15.4%	63	34.1%	139	24.0%	98	9.1%	37	6.4%	26	11.0%	45	408
												Answered	**412**
												Skipped	**19**

Are there any other factors that you view as major disincentives to apply for an ERC grant that are not mentioned in the question above?	
Answered	**138**
Skipped	**293**

Note: This is a free-text entry question, yielding qualitative information. The full text answers are omitted here as some of them may compromise anonymity of respondents.

Would you consider applying for an ERC grant in the future?		
Answer Choices	Responses	
Yes, definitely	28.4%	116

Yes, probably	24.7%	101
Unsure	24.9%	102
No, probably not	16.4%	67
No, definitely not	5.6%	23
	Answered	**409**
	Skipped	**22**

Please briefly explain your answer to the above question:	
Answered	**321**
Skipped	**110**

Note: This is a free-text entry question, yielding qualitative information. The full text answers are omitted here as some of them may compromise anonymity of respondents.

Please feel free to note any other thoughts you may have on ERC funding, especially regarding barriers, incentives and the presence (or absence) of support in doing so. Please also feel free to note if there is anything the Research Council of Norway could do to make it easier to apply for ERC grants.	
Answered	**146**
Skipped	**285**

Note: This is a free-text entry question, yielding qualitative information. The full text answers are omitted here as some of them may compromise anonymity of respondents.

One final request: to complement this survey, we will also be running a programme of interviews (via telephone or skype) over the next few months, to hear in a little more depth about motivations and barriers to ERC-participation in Norway. Would you be willing to participate in such an interview?		
Answer Choices	Responses	
Yes - I am happy to be contacted for a follow-up interview	51.1%	207
No - Please do not contact me for a follow-up interview	48.9%	198
	Answered	**405**
	Skipped	**26**

Appendix D Analysis of ERC application and success rates

RCN have provided the study team with a **database of Norwegian applications to ERC**. This includes 970 entries (applications) made to ERC calls between 2007 and 2017. (Note that the year 2007 is missing information/applications, while the 2017 figures do not include information from the Advanced Grant call that year). The database provides basic details about the applicant (their name and institution), the application (call, year and grant type), the evaluation process (panel) and outcome (step reached, score and whether granted). Some Norwegian applicants have made multiple applications and / or held multiple grants (discussed further in the analysis below).

Separately, RCN have provided headline data for Norway and for **all countries (combined)**, showing the number of applications per call, as well as a summary of evaluation outcomes. This covers calls between 2007 and 2017, including the 2017 AdG call not covered in the database above, but excluding Synergy Grants. The information is based on preliminary information provided to the programme committee and should not be considered final. As such, there are some minor differences in the Norwegian totals between this data and the main Norwegian applications database (above).

The analysis below focuses on Norwegian activity and is based on the main database of Norwegian applications to ERC. However, we also draw on the all country databases in places, for comparison.

D.1 Norwegian applications and applicants

There have been **970 Norwegian applications** to ERC over eleven years (2007–2017) where the applicant can be identified (named); for the year 2007, there are applications where the applicant could not be identified. These 970 applications have been made by **687 Norwegian applicants** (unique individuals), meaning that some of these individuals (nearly one third) have applied more than once to ERC during the period.[21]

The number of **Norwegian applications each year** to the programme (Figure 26) has changed significantly over the period. The number increased each year during FP7, peaking at 172 applications in 2013, before falling in more recent years. One factor behind lower H2020 application numbers may be the introduction of stricter "quarantines" in the 2014 work programme. Previously, applicants evaluated as weakest (grade C) in the first step of the evaluation process had to wait a year before applying again. However, from 2014, the quarantine period for these Grade C applicants was increased to two years, while a one-year quarantine for grade B applicants was also introduced.

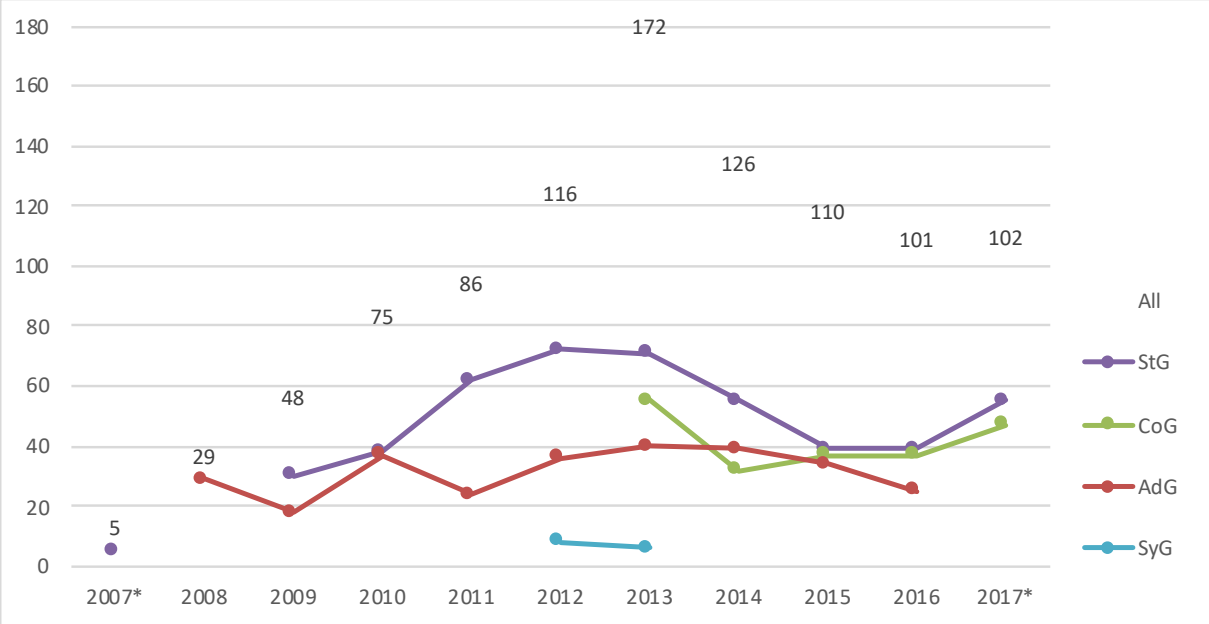
Figure 26 also shows Norwegian application numbers **by individual grant type**. The number of types of grant has increased over the period. In addition to Starter Grants (StG) and Advanced Grants (AdG), there were calls for Synergy Grants (SyG) in 2012 and 2013 and for Consolidator Grants (CoG) from 2013 onwards. CoG covers individuals who are 7–12 years post-PhD, which had previously been included within the scope of StG (the StG scope was reduced to 2–7 years post-PhD in response).

The number of Norwegian applications to each type of grant has broadly followed the overall trend in applications over time (within the period relevant for each grant).

Note that 2007 data is incomplete (i.e. missing some applications). The separate all-country data provided by RCN suggests there were 91 Norwegian applications to the 2007 StG call in this year. Also, the 2017 figures do not yet include information from the ERC-2017-AdG call. The preliminary all-country data provided by RCN suggests there were 47 Norwegian applications to the 2017 AdG call, taking the total number of applications in the year to 149. This means that 2017 application numbers are almost certain to have been the highest in the H2020 period so far (2014–), but still below the 2013 peak (of 172 applications) at the end of FP7.

[21] 480 applicants have applied once. 149 have applied twice, 44 applied 3 times, 10 applied 4 times and 4 applied 5 times.

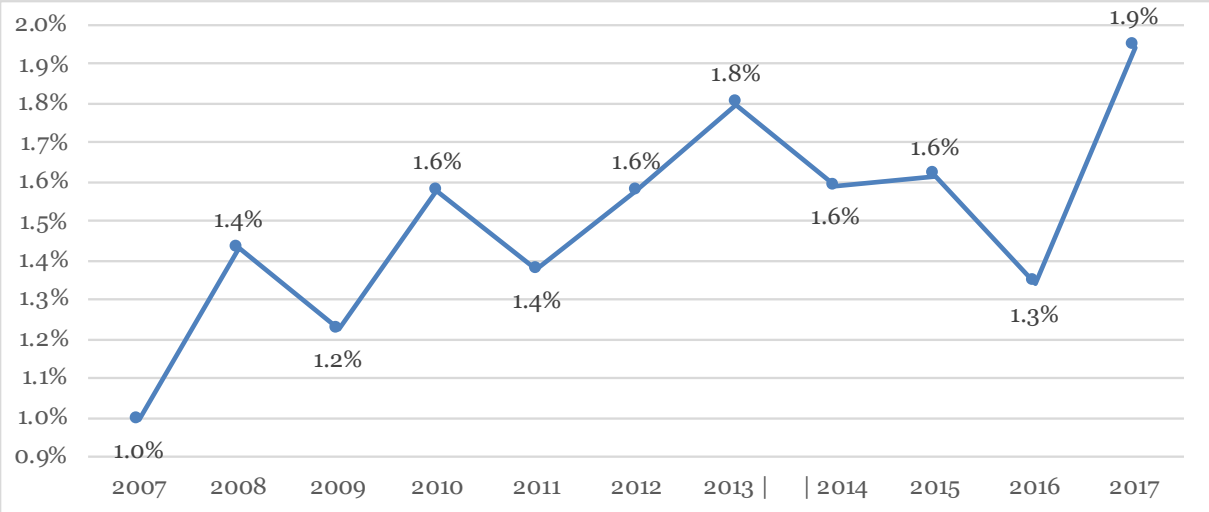
Figure 26: Number of Norwegian applications to ERC, by year and by grant type



RCN Database of Norwegian applications to ERC. *Separate (preliminary) all country data suggests there were in fact 91 Norwegian applications to ERC in 2007 and 149 in 2017.

The preliminary **all country data** suggests that 1.5% of applications to ERC during the 2007–2017 period have been from Norwegian applicants. Figure 27 shows that this rate has varied year-on-year, between 1.0% and 1.9%, but has (broadly) tended to increase over time. 2017 has been a particularly 'good' year for Norway, with the country accounting for 1.9% of all applications.

Figure 27: Norway as a proportion of all applications to ERC, by year



Programme Committee Database of applications to ERC

Norwegian applicants come from **57 different institutions**. Table 12 shows just the 'top 19'. Each of these organisations accounts for at least 5 applications and / or 5 applicants to ERC, and together they account for 92% of applicants (629) and 93% of applications (906). The University of Oslo alone accounts for more than one third of ERC applicants and 40% of applications. The University of Bergen

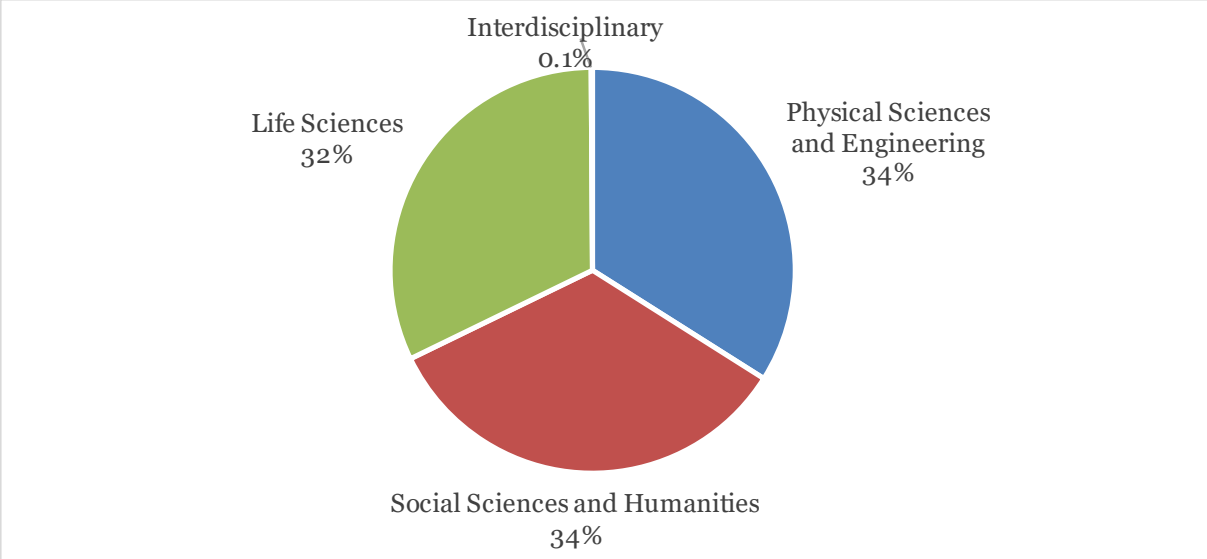
and NTNU together account for another third of each. The other 38 institutions (not listed) collectively account for just 8% of applicants (58) and 7% of applications (64).

Table 12: Institutions accounting for the most ERC applicants and applications

Institution	Applicants	Applications
University of Oslo (UiO)	37%	40%
University of Bergen (UiB)	18%	18%
Norwegian University of Science and Technology (NTNU)	13%	13%
UiT The Arctic University of Norway (UiT)	6%	5%
Oslo University Hospital (OUS)	3%	3%
Simula	2%	2%
Norwegian University of Life Sciences (NMBU)	2%	2%
UNI Research	1%	1%
Peace Research Institute Oslo (PRIO)	1%	1%
SINTEF (incl. SINTEF Energy, Ocean & Stiftelsen SINTEF)	1%	1%
University of Stavanger (UiS)	1%	1%
Norwegian School of Economics (NHH)	1%	1%
Norwegian Institute for Water Research (NIVA)	1%	1%
Norwegian Geotechnical Institute (NGI)	0.4%	1%
Norwegian Institute of International Affairs (NUPI)	1%	1%
University of Agder (UiA)	1%	1%
Norwegian Business School (BI)	1%	1%
Centre for International Climate Research (Cicero)	0.4%	1%
Norwegian Institute of Public Health (FHI)	1%	1%
Other institutions (n=38)	*8%*	*7%*
Total	**687**	**970**

RCN Database of Norwegian applications to ERC

Figure 28: Norwegian applications, by ERC Domain



RCN Database of Norwegian applications to ERC. Excludes 122 applications where peer review panel not given.

Norwegian applications are spread evenly across the **three main domains** (LS, PE and SH). There has also been one interdisciplinary application (Figure 28).

The individual **peer review panels** with the highest numbers of Norwegian applications (accounting for 53% of the total) are shown in Table 13. The remaining 18 panels accounted for 1–35 applications each.

Table 13: Norwegian applications, by Peer Review Panel – top 8

Panel		Applications
SH2	Institutions, Values, Environment and Space	101
PE10	Earth System Science	62
SH5	Cultures and Cultural Production	55
LS8	Ecology, Evolution and Environmental Biology	54
SH4	The Human Mind and its Complexity	54
LS7	Applied Medical Technologies, Diagnostics, Therapies, & Public Health	45
PE1	Mathematics	42
SH3	The Social World, Diversity, Population	40
Other	*(n=18)*	*395*
Total		**848**

RCN Database of Norwegian applications to ERC. Excludes 122 applications where peer review panel not given.

D.2 Quality and success rate of Norwegian applications

The **evaluation assessment process** has changed during the period covered by the data.

During the earlier (2007–2011) calls, applications were classified as mainlist, reserve, rejected and ineligible (some are also withdrawn). Grants were then awarded to the applications mainlisted and (some of the) applications reserved. The number of proposals included within the mainlist and reserve lists were capped by (a multiple of) the budget available. As such, some of the proposals that were rejected may have been of sufficient quality to fund, but there was insufficient budget available to include them within a reserve list. Given that we do not have more detailed scoring information for this period, it is not possible, based on the categorisations available, to analyse the proportion of proposals considered to be 'of sufficient quality to fund'.

During the more recent (2012–2017) calls, the project manager's CV and extended project synopsis (5 pages) are evaluated, with applications classified A to C. Those classified in group A are then assessed again in a second step. The numbers being classified A and going through to step 2 are determined by the budget available for the relevant call.

In the second step, full project descriptions (15 pages) are evaluated (and candidates are interviewed in the case of StG and CoG). Applications are then classified A (which in fact includes three sub-categories: 'proposed for funding', 'reserve list' and 'not enough funds'[22]) or B ('below threshold'). Grants are then awarded to (some of the) applications in Group A at the second step.

We have formed five different groups for the analysis of this second period of the programme, based on the point reached by applications. These are:

- Granted (awarded funding at step 2)
- 2A (classified A at step 2, but not awarded funding)
- 2B (classified B [below threshold] at step 2)
- 1B (classified B [below cut-off budget limits] at step 1 and so did not proceed to step 2)
- 1C (classified C [below threshold] at step 1 and so did not proceed to step 2).

[22] This sub-classification is not detailed within the data provided to the study team.

There are 69 Norwegian applications, where the evaluation assessment is not shown (these relate to SyG applications and the CoG call in 2013). These have been excluded from the following analysis, although it should be noted that two of these applications did result in awards being granted.

Overall there were **77 ERC grants awarded** to Norwegian applicants during the period (plus the 2 grants that are excluded from our analysis). This equates to 8.5% of all Norwegian applications.

The preliminary **all country data** suggests that the proportion of all ERC grants (2007–2017) that are awarded to Norwegian applicants has been 1.0%. There is no clear trend in the Norwegian proportion of grants across the period (the rate has fluctuated between 0.3% and 1.4% between individual years), although the figure has been rising in the past two years (2015–2017). In every year for the past decade Norway has accounted for a smaller proportion of all grants than of all applications.

Table 14 summarises the outcome of the assessment process for all Norwegian applications 2012–2017. This shows that during this period, the proportion of applications that were granted was 8%.

We have also shaded the grants in each period that are above threshold and therefore might be considered as being **'of sufficient quality to fund'** (regardless of whether they eventually were or not). This provides an alternative (broader) indicator of quality (in addition to grants awarded), that is less influenced by the budget size of individual calls.

During the 2012–2017 period, there were 51 grants awarded, and a further 26 applications classified A in step 2 (but not funded). The proportion of applications that were granted or scored A in the second step (G/2A) was therefore 12% overall.

Table 14: Outcome of assessment process for Norwegian applications, 2012–2017

2012–2017	**Applications**	**%**
Granted	51	8%
2A (no grant)	26	4%
2B	83	13%
1B	304	46%
1C	194	29%
All applications	**658**	

RCN Database of Norwegian applications to ERC.

There is little difference in Norwegian success rates between the different grant types. The granted and G/2A rates were similar in each case to the overall rates (8% granted and 12% G/2A) (Table 15).

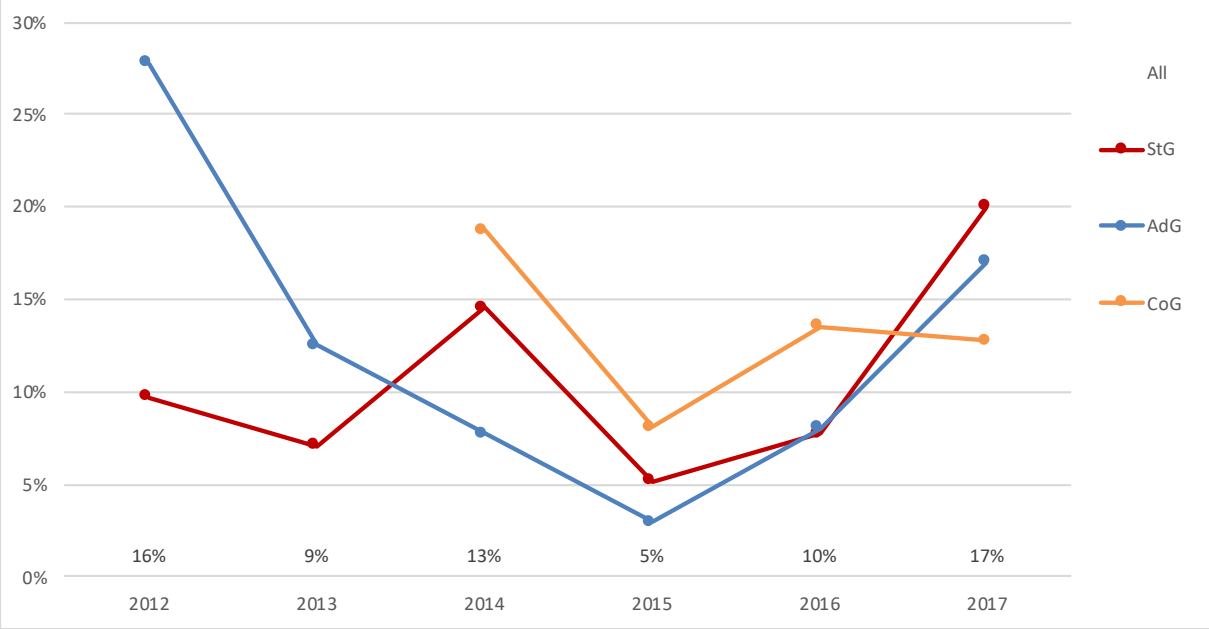
Table 15: Outcome of assessment process for Norwegian applications, 2012–2017, by grant type

2012–2017	**AdG**	**CoG**	**StG**	**All Grant types**
Applications	174	153	331	658
Granted %	7%	10%	7%	8%
G/2A %	12%	13%	11%	12%

RCN Database of Norwegian applications to ERC.

Figure 29 traces the 'quality' rates over time, overall and for each grant type. It shows the overall quality rate has swung between 5% and 17%, with most of the individual grant types following a similar pattern. There has been a steady rise in quality rates over the most recent three years (driven mainly by improvements in StG and AdG), but it is too early to say whether this will be maintained in the longer-term.

Figure 29: Proportion of applications that are Granted or scored A at step 2, 2012–2017, by grant type



RCN Database of Norwegian applications to ERC.

Table 16 shows that there is also variation in quality rates of applications between the different ERC domains. During this period, the quality rates for LS and SH are below average, while those for PE are higher.

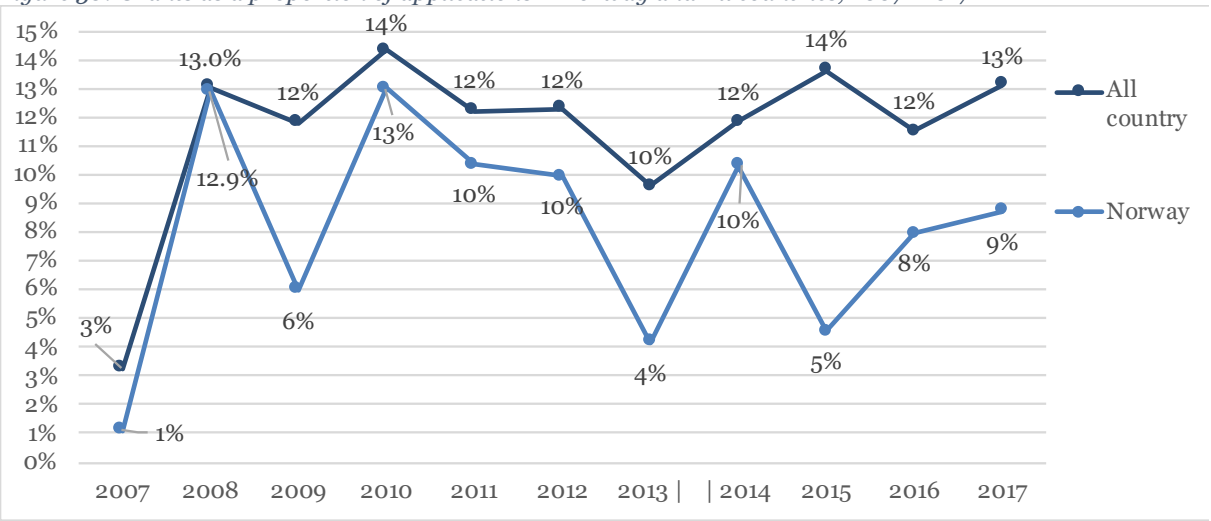
Table 16: Proportion of applications that are of sufficient quality to fund, 2012–2017, by domain

Domain	ID	LS	PE	SH	*Unknown*	Total
2012-17 Applications	0	196	220	242	-	**658**
G/2A rate	-	10%	17%	8%	-	**12%**
Granted	-	7%	10%	6%	-	**8%**

RCN Database of Norwegian applications to ERC.

The preliminary all country data suggests that Norway's **success rate** (grants awarded as a proportion of applications) for the 2007–2017 period has been 8%, compared to an all-country rate of 11%. In fact, Norway has had a below average success rate every year throughout the period (see Figure 30). There is some evidence to suggest that Norway's relative position has worsened over time.

Figure 30: Grants as a proportion of applications – Norway and All countries, 2007–2017

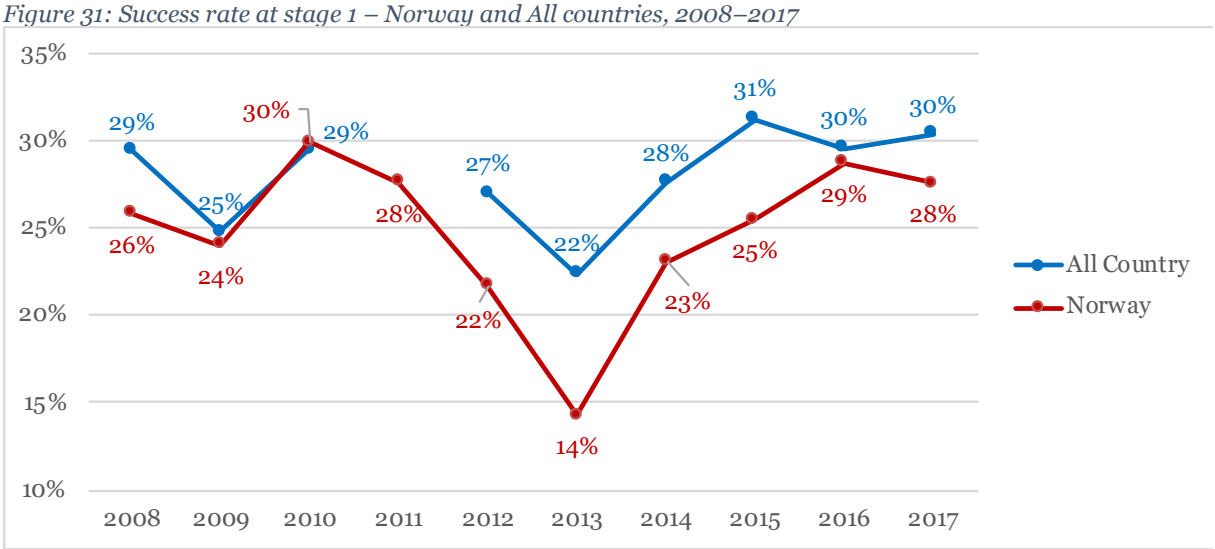


Programme Committee Database of applications to ERC

This database breaks down achievement according to whether applications did / didn't reach stage 2 and then whether awards were granted. From this we can calculate two success rates with which to compare Norway with the overall average.

Figure 31 shows the proportion of all applications that reach stage 2 (i.e. they are successful in the first stage of competition). In all-but-one of the years, the Norwegian rate is below the all country average. The average of the rates shown across the period is 24% for Norway and 31% for all countries.

Figure 31: Success rate at stage 1 – Norway and All countries, 2008–2017



Programme Committee Database of applications to ERC. Shows the proportion of applications reaching stage 1. Number of all country AdG applications reaching stage 2 in 2011 is missing.

Figure 32 shows the breakdown of success rates at stage 1 by grant type and by programme period (FP7 on the left, H2020 on the right). Norway performs below average across all grant types and in both periods, with one exception (AdG in 2008–2013). However, Norway's success rate with AdG has dropped well below average in the H2020 period, while the performance of CoG and StG has improved (i.e. success rates have moved closer to the all country average in H2020).

Figure 32: Success rate at stage 1, by grant type – Norway and All countries, 2008–2013 and 2014–2017

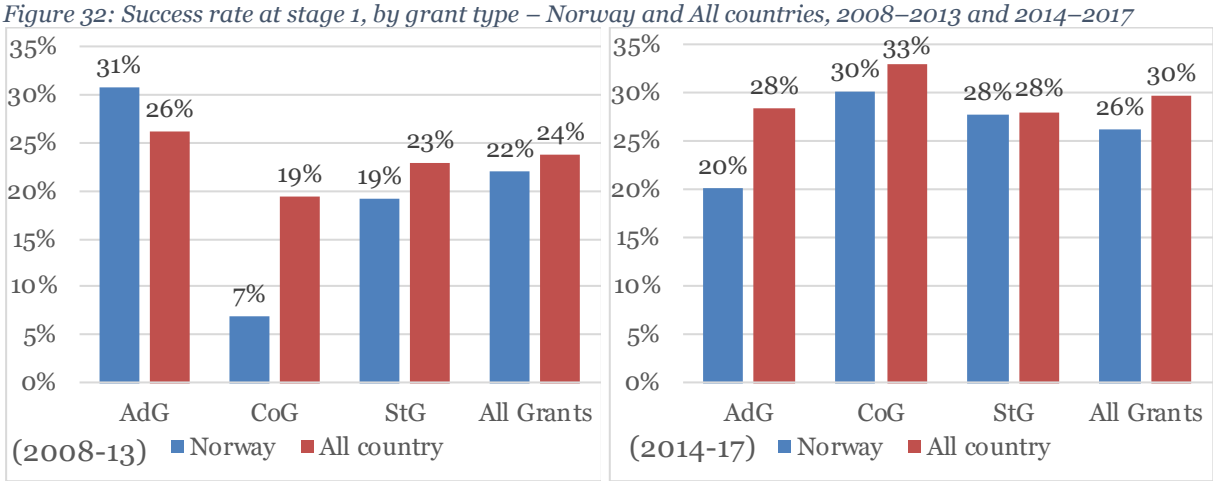
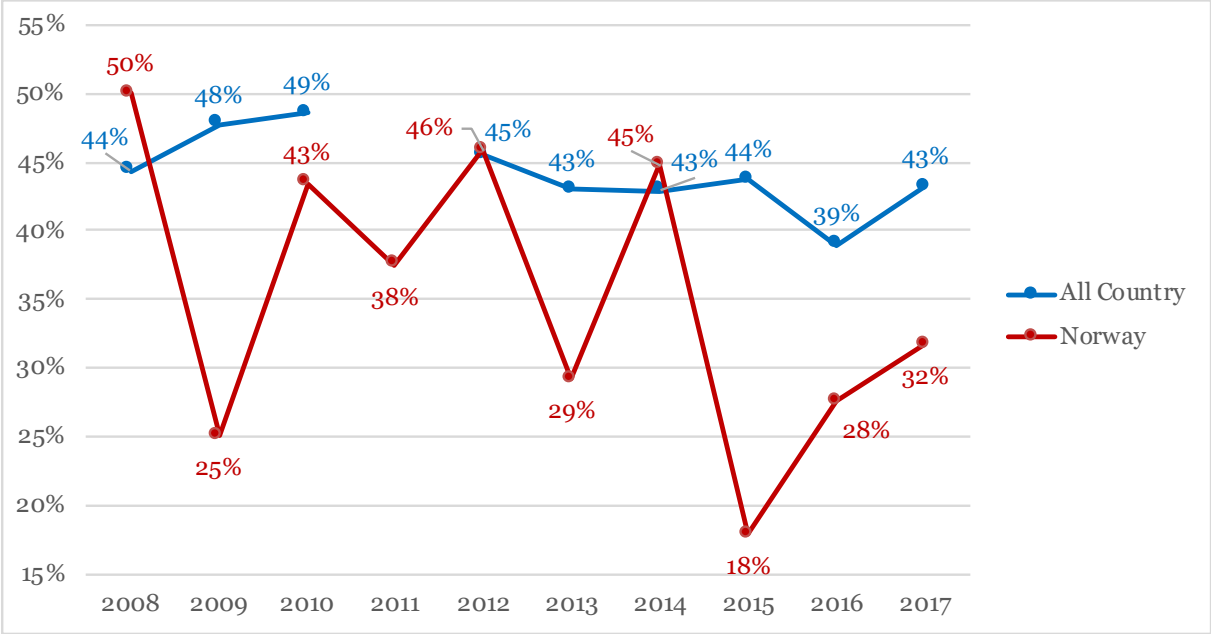


Figure 33 then shows the proportion of the applications that reach stage 2 that are then awarded (i.e. they are successful in the second stage of competition). Again, in most years, the Norwegian rate is below the all country average. (The average of the rates shown across the period is 35% for Norway and 44% for all countries).

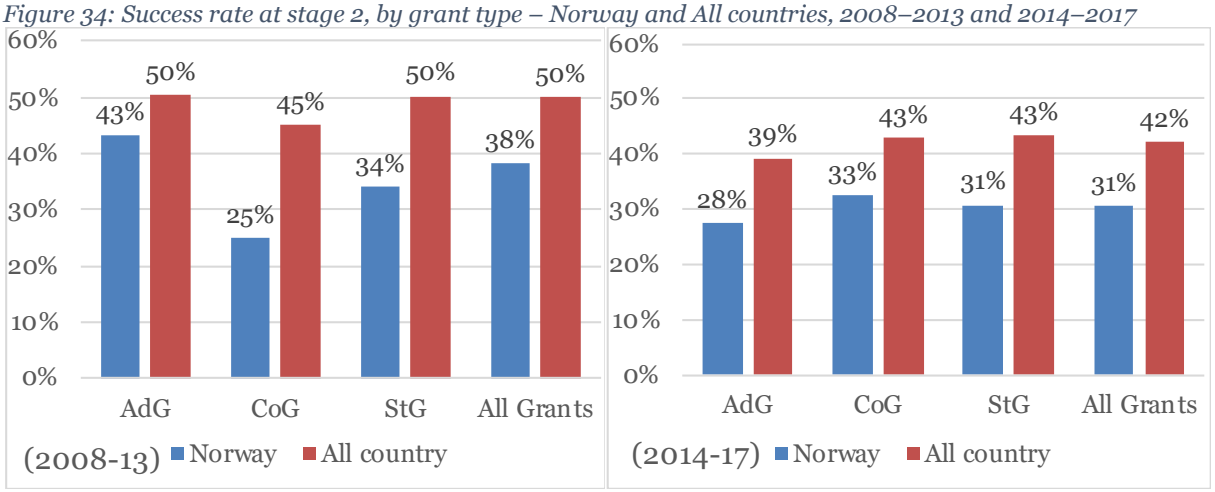
Figure 33: Success rate at stage 2 – Norway and All countries, 2008–2017



Programme Committee Database of applications to ERC. Shows grants awarded as a proportion of applications reaching stage 2. Number of all country AdG applications reaching stage 2 in 2011 is missing.

Figure 34 shows the breakdown of success rates at stage 2 by grant type and by programme period (FP7 on the left, H2020 on the right). Norway performs below average across all grant types and in both periods. However, Norway's success rate with CoG and StG has improved between the two period (i.e. Norwegian success rates have moved closer to the all country average in H2020). The relative position of Norway for AdG has worsened between the two periods. These differences between grant types are similar to those shown above for stage 1.

Figure 34: Success rate at stage 2, by grant type – Norway and All countries, 2008–2013 and 2014–2017



D.3 Repeat applicants

Large numbers of applicants apply more than once, usually reapplying after being unsuccessful, but also occasionally when they have been awarded one grant already.

Across the full period (2007–2017) 8.5% of Norwegian applications were successful. However, if we only consider individuals making their **first application** to the programme, then their success rates are slightly lower (6.4%). Where individuals make subsequent attempts, the overall success rate of these second, third, fourth, or even fifth attempts is much higher (13.7%). In fact, of the 77 ERC grants made to Norwegian applicants, only half (53%) arose from a first application to the programme.

Applicants are likely to learn lessons from their earlier applications (and feedback received), have gained a better sense of what is required of the evaluation process, and have just grown older and more experienced in the intervening period. [However, it is worth noting that RCN analysis (which just considered multiple applications within the H2020 period) shows applicants are more likely to score lower in their new application than they did in their earlier attempt.]

We should not jump to the conclusion that reapplication will always increase the chances of success though. Success rates have been higher on re-application, but we must remember that not everyone has reapplied. There is likely some self-selection occurring, in that the sub-set of unsuccessful applicants that decide to apply again may be more likely to succeed than the unsuccessful applicants that don't reapply. This can be seen in the data:

- Around half of the individuals who were unsuccessful with a first application during the 2007–2011 period went on to reapply. This rate of reapplication is much higher amongst those whose first (unsuccessful) application was mainlisted (71%), than amongst those whose first application was rejected (47% reapply)
- The picture is similar for those applying for the first time in 2012–2017. Around half (47%) of those that reached the second stage (and were unsuccessful) reapplied, while only 16% of those that only reached the first stage did so.

This pre-filtering of applicants will undoubtedly boost overall success statistics amongst this group.

Table 17 considers just those applications that come from **individuals who have applied at least once before**. It shows the outcome of the evaluation process for their previous attempt, as well as the number (and proportion) that are successful with the current application.

This shows that re-applicants did have a range of experiences with their previous application (everything from being graded C or rejected, through to being awarded a grant). However, the data also suggests, that those who were assessed more positively in their previous attempt were more likely to be successful

this time around. So, for example, they will more likely be successful (on average) with an application if their previous attempt resulted in a reserve or 2A classification, or even a grant award. This may be an obvious result, but it does confirm that encouragement / support for reapplication may often be best targeted at those that 'just missed out' in a previous attempt.[23]

Table 17: Reapplications – outcome of previous and new attempt

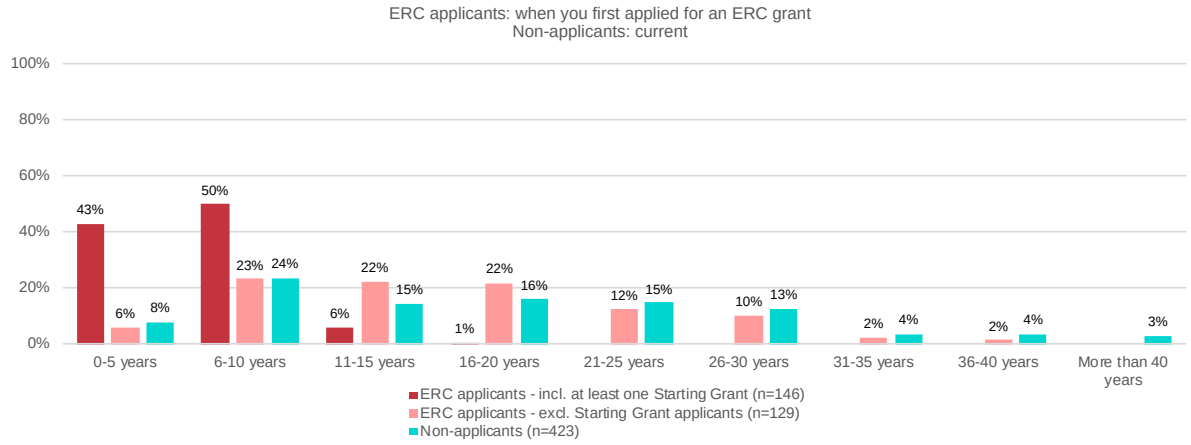
Where there has been a reapplication...	Score in previous attempt	Of these, how many awarded grant in this attempt	Success rate (%)
Grant awarded in previous attempt	16	6	38%
Mainlist (no grant)	0	0	-
Reserve (no grant)	5	1	20%
Rejected	104	12	12%
Ineligible / withdrawn	0	0	-
2A (no grant)	12	4	33%
2B	38	6	16%
1B	71	3	4%
1C	11	1	9%
Unknown	*21*	*3*	*14%*
Total	**278**	**36**	**13%**

RCN Database of Norwegian applications to ERC.

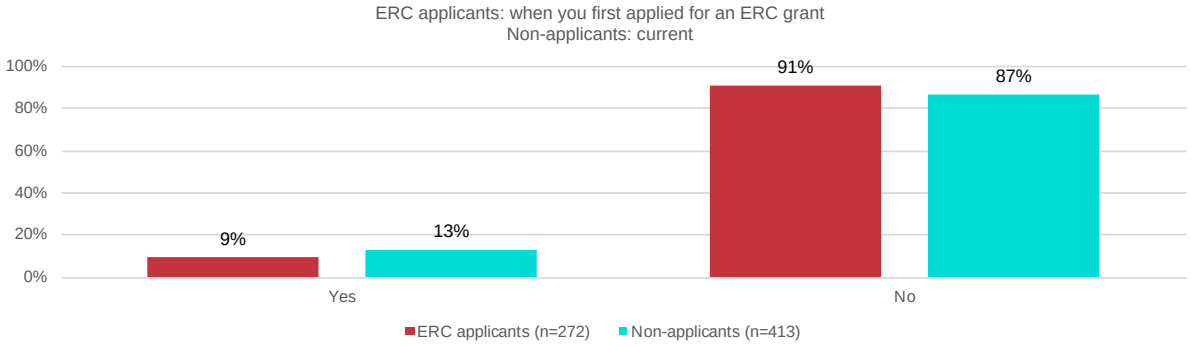
[23] In line with this, Norway introduced a new scheme in 2016 to support the submission of a new ERC application for those who almost succeeded (reaching step 2 in the evaluation process).

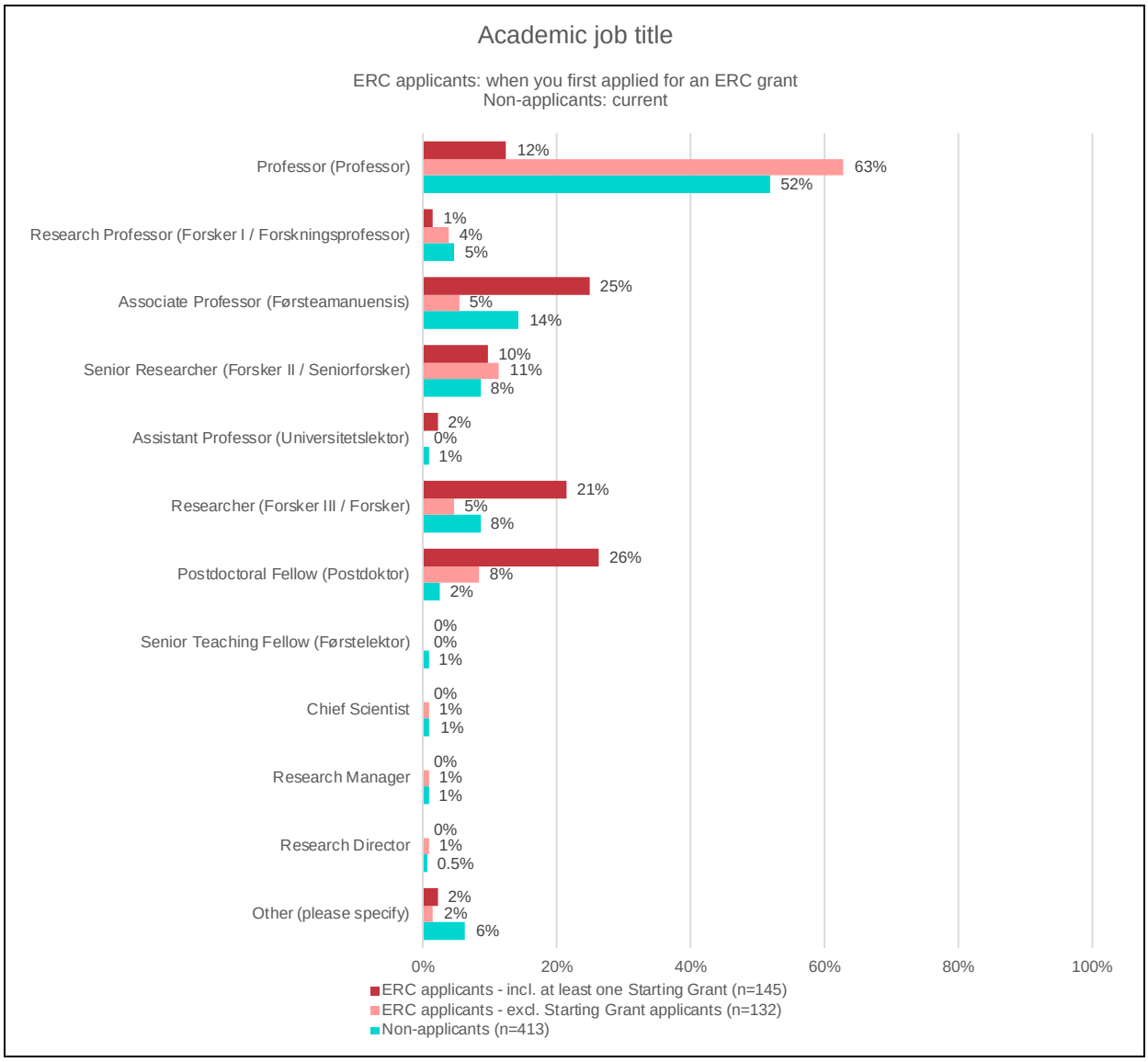
Appendix E Additional figures not used in main report

How many years had you worked as an academic or researcher (excluding PhD studies)?



Have you ever been full-time employed in research and development (R&D) in industry or business?




Academic job title
ERC applicants: when you first applied for an ERC grant
Non-applicants: current
Professor (Professor)
12%
63%
52%
Research Professor (Forsker I / Forskningsprofessor)
1%
4%
5%
Associate Professor (Førsteamanuensis)
25%
5%
14%
Senior Researcher (Forsker II / Seniorforsker)
10%
11%
8%
Assistant Professor (Universitetslektor)
2%
0%
1%
Researcher (Forsker III / Forsker)
21%
5%
8%
Postdoctoral Fellow (Postdoktor)
26%
8%
2%
Senior Teaching Fellow (Førstelektor)
0%
0%
1%
Chief Scientist
0%
1%
1%
Research Manager
0%
1%
1%
Research Director
0%
1%
0.5%
Other (please specify)
2%
2%
6%
0%
20%
40%
60%
80%
100%
ERC applicants - incl. at least one Starting Grant (n=145)
ERC applicants - excl. Starting Grant applicants (n=132)
Non-applicants (n=413)

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