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Advanced Postdoc.Mobility fellowships (SNSF): A policy evaluation

Policy Brief

Highlights

For the first time, the instrument "Advanced Postdoc.Mobility fellowship" of the SNSF has been evaluated with rigorous and modern econometric methods.

We found that Advanced Postdoc.Mobility fellowships:

- Boost grant recipients' opportunities for temporary mobility in highly ranked institutions.

For individuals in their first mobility experience:

- Contribute to extending grant recipient's scientific networks;
- Boost grant recipient's opportunities for academic careers.

These findings represent a strong base of evidence for policy makers to make further decisions about the future of this instrument.

Executive Summary

This policy brief summarizes and presents in a non-technical fashion the findings of an academic research dealing with the evaluation of a policy. The findings are in general positive and show and measure a causal effect of the policy to a certain number of relevant outcomes. The policy brief explains also the methodological and data challenges and the approach chosen to address them.

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Introduction

The Swiss National Science Foundation (henceforth SNSF) is the central public agency in Switzerland for funding academic research. The SNSF is a very innovative institution and has designed and implemented numerous instruments and programs during the last decades beyond the core of its mission, which is the allocation of competitive grants to individual projects. For example, instruments such as the NCCRs, Sinergia, DORE, and Postdoc.Mobility have been designed and implemented. It is obviously a good thing to see an institution with such a highly developed culture of experimentation and innovation testing and trying new modes of operation as new problems and opportunities appear in the academic research landscape. However, such capacity of experimentation would be very much incomplete if this were not coupled with a strong capacity to evaluate the instruments – to check whether they truly fulfill their missions and achieve their goals and measure the extent to which they have a causal effect on the "treated" population in the direction decided as they were conceived. If such evaluation is not undertaken – according to the "highest academic standard" – then there is a risk of having instruments that are not very well known or understood (in terms of their effects and impacts), similar to the medieval doctors who had and used drugs and treatments they did not understand (to borrow this analogy from Esther Duflo) [1]. We are talking here about the "highest academic standard" because only a few formal methodologies (an example is given below) can allow us to discern causality: if A, then B. Isolating the effect of a treatment is the gold standard in science and policy, and should be the obvious goal of any policy evaluation exercise. Other more descriptive or qualitative approaches, although useful for producing interesting information, cannot signify any causal association in terms of the change or evolution in the characteristics of a treated population with the instrument considered.

In some "treatment" cases, it is very difficult to do. Let's take the example of NCCR as an instrument. A rigorous evaluation of this instrument is undoubtedly very difficult for obvious measurement problems inherent in evaluating *large scale and long-standing programs*:

- i) *there is no pure treatment effects* (for an NCCR, there are interrelated sequences and processes that make it difficult to link the program to outcomes with any degree of precision);

- ii) *large scale programs are affecting complex systems* (an entire research community) in which the program is an important element, but only one of many important elements;

- iii) *there are selection effects* that are difficult to control (the research community that applies for large scale program funding appears to be better organized than average people. Moreover, successful applicants tend to receive multiple awards (at national and international levels). Of course, awarding good communi-

1 "If we don't know whether we are doing any good, we are not any better than the Medieval doctors and their leeches. Sometimes the patient gets better, sometimes the patient dies. Is it the leeches? Is it something else? We don't know."(Esther Duflo)

ties makes sense; however, it does complicate evaluation.

This situation, which describes the case of NCCRs, is therefore not very favorable. Nevertheless, in other cases, it is in principle not so difficult because the context, institutional setting and structure of the instrument are characterized by favorable features (pure treatment effect, reduced complexity since the instrument operates at the individual level, the selection effect is easier to control), and in such a case, the main condition for a rigorous evaluation is full access to the data (including the data about the non-granted applicants). This favorable case is very well exemplified by the SNSF instrument – Advanced Postdoc.mobility Fellowship – the evaluation of which is summarized in this short note.

The project was conducted by a team of researchers led by Professor Dominique Foray at the Chair of Economics and Management of Innovation at the Ecole Polytechnique de Lausanne, Switzerland. The study examines the impact of Advanced Postdoc.Mobility fellowships distributed to junior researchers by the SNSF during the period 2003-2009[2].

2 We would like to acknowledge the great cooperative attitude of the SNSF in terms of its data access and use, and we are particularly and extremely grateful to Daniel Sebastiani and his team, who were very cooperative, open and supportive. Without them and their help, this research would not have been possible.

Advanced Postdoc.Mobility fellowships: Goals and institutional setting

A growing number of researchers move every year across national borders to enroll in foreign educational training programs or to carry out work experience in a foreign institution or laboratory. Cross-border training and work experiences have been sponsored by several public funding programs. The Marie Curie program for young researchers is an important example in Europe. In Switzerland, the Advanced Postdoc.Mobility fellowships represent one of the flagship SNSF instruments supporting young researchers' mobility.

These funding schemes aim at fostering researchers' mobility, which in turn, is expected to constitute a unique opportunity to gain new competencies, enlarge collaborative networks and boost career opportunities. In a time of limited public resources and increasing public concern and awareness regarding the allocation of public spending, understanding the extent of the payoff of scientific research funding is undoubtedly a major issue. This *Policy Brief* presents the key findings of the project 'Advanced Postdoc.Mobility fellowships: A policy evaluation'. The project investigates a series of questions: *Do mobility grants boost opportunities for temporary mobility? Do mobility grants affect researchers' scientific productivity, enlarge researchers' collaborative networks, and boost researchers' academic careers?* [3]

Advanced Postdoc.Mobility fellowships are one of the principal SNSF instruments promoting young researchers' careers by supporting researchers' stay abroad. All PhDs holders of Swiss nationality or affiliated to a Swiss institution with at least two years of experience after their graduation can apply to the program. At the time of application, applicants indicate the host institution where they intend to spend their research period and must demonstrate the availability of a local supervisor hosting them. All disciplines are admitted, and each application is evaluated by a commission of experts on the basis of (i) the quality and originality of the research project, (ii) the applicant's scientific publication record, (iii) the applicant's career perspectives, (iv) the applicant's attitude versus an academic career and, (v) the quality of the hosting research institution proposed. Grants are assigned to applicants based on a priority score for the full funding expenditure. The fellowships include funding for a maximum period of two years. Despite not being formally required, returning to Switzerland after the period abroad is declared as an objective of the policy.

3 For the academic presentation of the methods, analysis and results, see Baruffaldi et al. 2015.

Data

This study relies on *all* Advanced Postdoc.Mobility fellowships applications submitted to the SNSF, from 2003 to 2009, having complete information in their evaluation dossiers. Our starting point was the SNSF database, and then the data were complemented with demographic and career information manually collected from Curriculum Vitae and publication data from the SCOPUS database. The final sample resulted in 569 applicants for which it was possible to find all relevant information needed for the study[4]. Table 1 reports the key figures describing the applicants' characteristics.

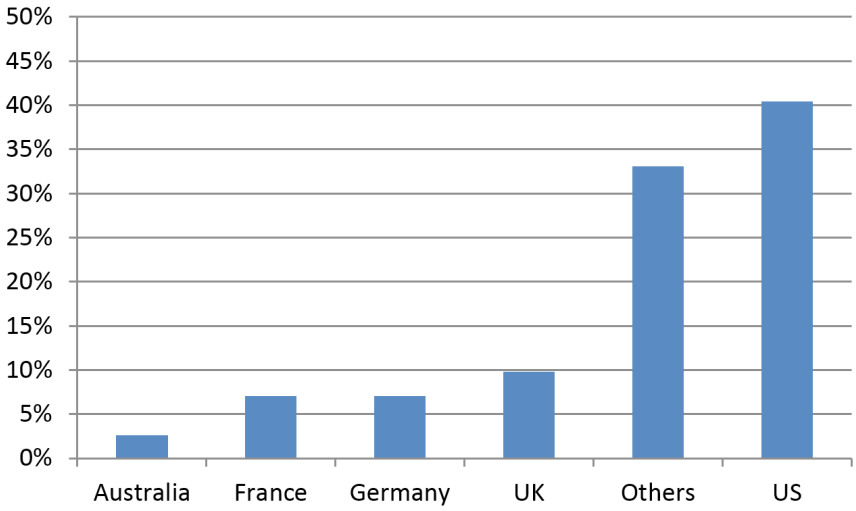
Table 1: Summary statistics

Variable	Mean	Std. Dev.	Min	Max
Female	0,29	0,45	0	1
Swiss nationality	0,74	0,44	0	1
Age at the time of application	33,35	2,92	27	48
Professor at the time of application	0,06	0,23	0	1
Hard science field	0,66	0,47	0	1
Previous experience abroad	0,5	0,5	0	1
Number of publications in the application year	5,88	7,97	0	113
Number of citations in the application year	37,17	95,06	0	1,160

At the time of application, the applicants' average age was 33. Twenty-nine percent of them were female. Almost half percent of them had already experienced a period of study abroad. The majority of the applicants were junior researchers, i.e. postdocs; however, a minority (6%) were already assistant professors. When classified by discipline, 66% of applications were in the hard science areas, including engineering, life sciences, mathematics, medicine and health sciences, and natural sciences. The remaining 34% were in the humanities and social sciences. Most individuals in our sample were young researchers with a successful record of publications. Note that almost 77% of applicants had at least one publication at the time of application, and the average number of publications was 6, receiving an average number of 37 citations. Looking at the destination country (Figure 1), 40% of the applicants opted for an American research institute. The other preferred destinations were the U.K. (10%), France (7%), Germany (7%), and Australia (3%), respectively.

4 To perform our analysis, we excluded from the original sample individuals for whom we were not able to reconstruct their complete career path, and for which the grade assigned by the SNSF during the evaluation phase was missing (our working paper provides more details on the sample construction).

Figure 1: Applications distribution by host destination country



Methods

To assess the fellowship's effectiveness, we compare granted and non-granted applicants, looking at the differences in their (i) probability to go abroad; (ii) scientific productivity; (iii) research collaboration networks; and (iv) career perspectives. First, we propose an e*xploratory graphical analysis*, where we compare granted and non-granted applicants' profiles over ten years, using the application year as a 'turning point' in the comparison. We look at applicants' characteristics in the five years *before* the application, and in the five years *after* the application. The exploratory graphical analysis provides us with some preliminary insights; however, a *simple comparison of granted and non-granted applicants is not an evaluation* and cannot be used to identify a causal effect of the program. Since fellowships are granted to applicants with a superior research profile and a superior project, it seems likely that granted applicants are expected to have better scientific output and career perspectives than non-granted applicants. To correctly infer and *isolate* the impact of the fellowship program on an applicant's scientific output and career perspective, we have to properly control for the applicant's quality. In other words, we have to create a scenario where we are comparing two individuals A and B, *equal in terms of scientific quality*, differing simply by the fact that one is accessing the grant, whereas the other is denied the grant. To do that, we complement the exploratory graphical analysis with a particular econometric methodology called Regression Discontinuity Design (RDD) (Angrist and Pischke, 2008; Jacob and Lefgren, 2011). RDD is a rigorous analytical approach used to estimate program impacts in situations where applicants are selected for a treatment (accessing a grant) based on whether their value for a numeric rating exceeds a given threshold or cut-point. The Advanced.Mobility fellowship appears

as the ideal context to implement this methodology.

We rely on the grade assigned by the SNSF evaluation commissions as an indicator of the application quality. By properly controlling for the value of the grade assigned in our analysis, we can account for any unobserved differences in quality between the treatment (granted) and comparison (non-granted) group[5].

In the Advanced.Mobility fellowship case, the commissions assign a priority score to each application and, due to budget constraints, we observe a jump in the probability of being granted or not, i.e., there is a threshold above which there is a high probability of being successful and below which the chances drop.

Figure 2 : Percentage of granted applicants, by assigned grade

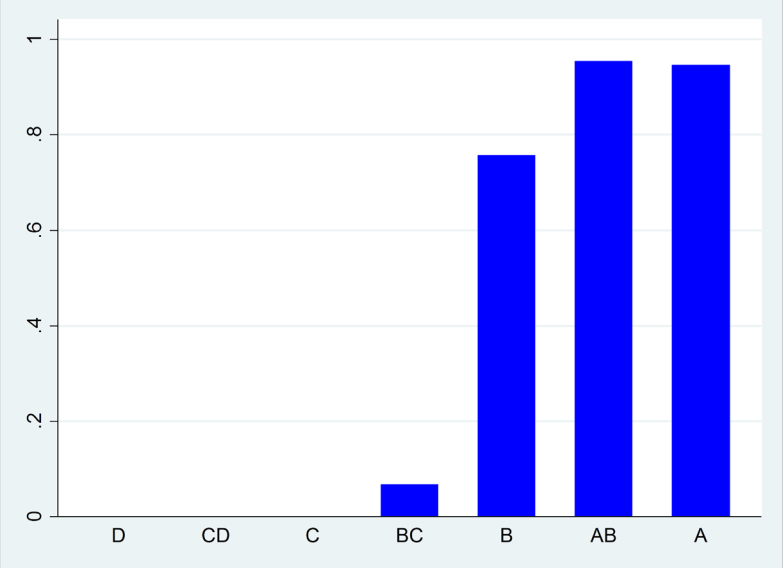


Figure 2 shows that less than 10% of applicants who obtained a B/C were granted, whereas about 80% of applicants with a B were granted. Therefore, we assume B to be the funding cutoff.

In the following section, we present first, for each of our questions, the figure (i.e., exploratory graphical analysis) where we plot the comparison between granted and non-granted applicants on scientific performances and career outcomes *and* second the figure (i.e., RDD graphical analysis), where we plot the relationship between the outcome and the grade variable. The direction and magnitude of the jump observed at the funding cutoff B is a direct measure of the causal effect of the treatment on the applicants. The series of tables presented quantify the effect in the correspondence of the variable 'granted'.

5 See our Technical Appendix for a detailed presentation of our methodology.

Preliminary results

Do mobility grants boost opportunities for temporary mobility?

This question is not trivial! Indeed anecdotal evidence tends to show that non-granted applicants often find another way to go abroad (relying on the network of their supervisors as well as on specific programs offered by some hosting institutions). Thus, they go abroad without the support of the SNSF instrument. Now, if there is no difference between the probability to go abroad of the granted versus the non-granted applicants, then the *raison d'être* of this program is seriously challenged. We need to verify therefore whether the fellowship program increases the probability to go abroad vis à vis those who do not benefit from it. In Figure 3, we observe that a significant share of non-granted applicants and a significant and greater share of granted applicants were already abroad just before the submission year or in the submission year. One year before the application, 38% of non-granted applicants compared to 50% of granted applicants had been abroad. The gap between non-granted and granted applicants in terms of the proportion of individuals abroad in the group rose at the time of application: 45% of individuals in the non-granted group were abroad, compared to 80% in the granted group. These differences remain after the application years. The majority of successful applicants were abroad one year after the time of submission (90%), while the percentage of non-granted applicants abroad did not increase with respect to the time of application.

Figure 3: Share of applicants abroad

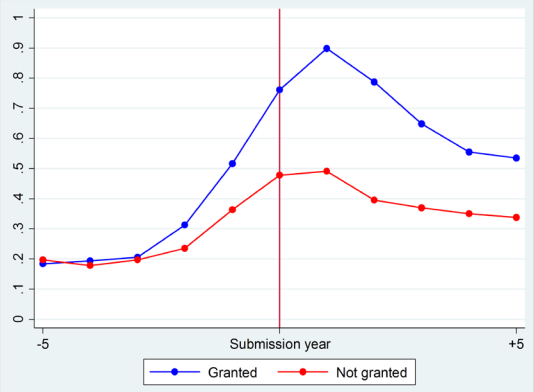
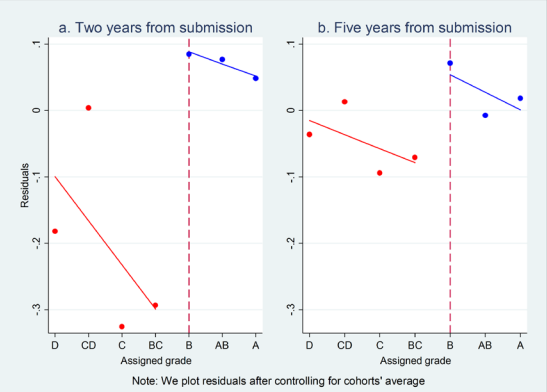


Figure 4: RDD graphical analysis of the probability of being abroad



The RDD analysis, reported in Figure 4 and Table C.1, *confirms that in the short term (two years), receiving a grant increases the probability that a researcher moves abroad*. Table C.1 in column I quantifies this effect as an increased probability of the 66% being abroad for a granted applicant. It is interesting to note that despite the fact that a higher share of granted applicants were abroad also after 4 and 5 years, *the impact of receiving a grant on the probability of being abroad after 5 years*, as estimated in the RDD analysis, *is not statistically significant and is relatively small in magnitude. This evidence suggests that to a large extent, granted applicants do not stay abroad as a direct consequence of receiving a grant*. The difference in the share of applicants

abroad after 5 years is largely explained by a higher propensity of granted applicants to move abroad, which is independent of receiving the grant.

Do mobility grants boost mobility toward excellent institutions?

Figure 5: Share of applicants in a top-50 institution

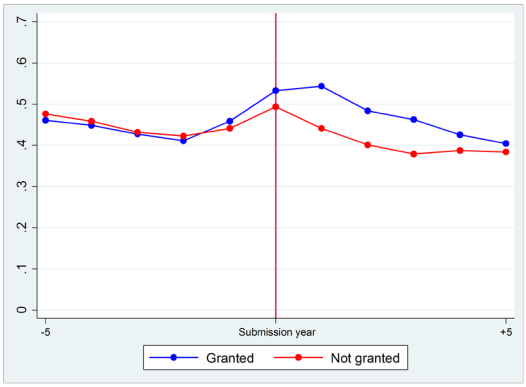


Figure 6: RDD graphical analysis of the probability of affiliation with a top-50 institution

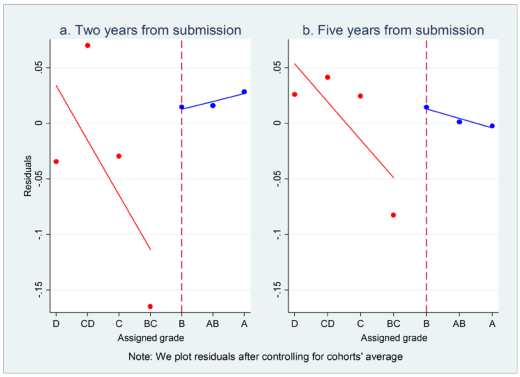


Figure 5 plots the proportion of individuals in a top-50 institution over time, relative to the submission year. By looking at the period before the time of application, we observe that there are no significant differences between the two groups of individuals. When we consider the period after the submission year, obtaining a fellowship increased individuals' chances of being affiliated with a highly ranked institution in the short period after submission. *The positive effect of obtaining a fellowship on the quality of affiliation is confirmed* in the graphical analysis reported in Figure 6 and in the estimates in Table C.2.

Do mobility grants affect researchers' scientific productivity?

Figure 7: Publication count

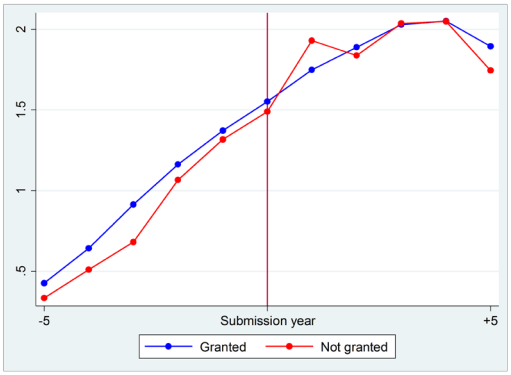
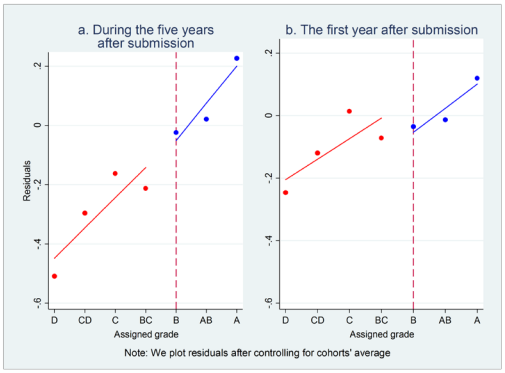


Figure 8: RDD graphical analysis of the publication count



In Figure 7, we observe that granted and non-granted applicants had a similar number of publications, with granted applicants slightly overtaking non-granted applicants. After the submission year, we do not record a significant difference between the two groups. The RDD graphical analysis (Figure 8) and our formal econometrics analysis show that *scientific productivity in the short period (one year after the application submission) decreases*. This result can be explained in light of the set-up costs of moving abroad that an individual has to sustain. Going abroad with a fellowship means starting a new project in a new institution, and the lags between the new project starting date and the first tangible outputs could explain the negative effect on productivity appearing in the negative sign for the variable *granted* in column II of Table C.3.

Do mobility grants enlarge researchers' collaborative networks?

Figure 9: Number of new coauthors

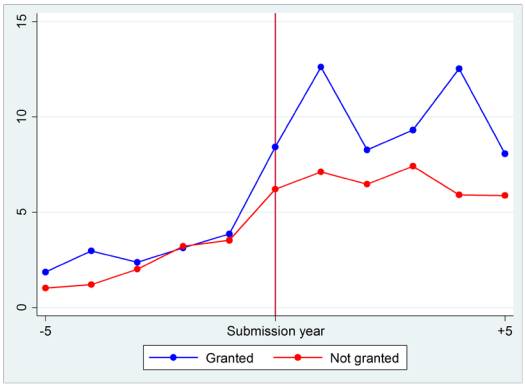
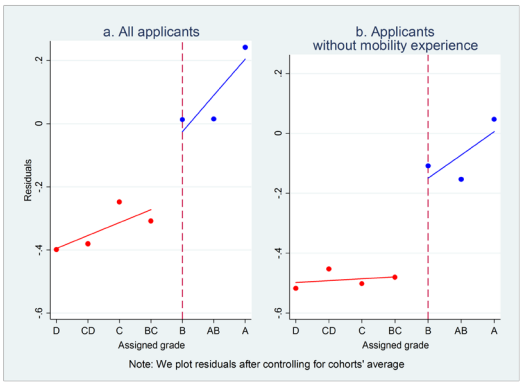


Figure 10: RDD graphical analysis of the number of new coauthors after submission



One of the main gains of an international experience is the opportunity to extend one's local network of collaborators, working face to face with scholars in different locations. To investigate the evolution of the researcher's collaborative network, we extract from his/her publications the co-authorship list. In Figure 9, we do not observe significant differences between the granted and non-granted applicants in the five years *before* the time of application. However, the right side of the figure shows that granted applicants experienced a greater enlargement of their research collaborative networks with respect to non-granted applicants. The RDD analysis reveals that this difference is at least partly explained by the different characteristics of the two groups: when looking at the entire sample, the effect of receiving a grant on the number of new co-authorships in the years following the application is not significant (Table C.4 column I). Interestingly, we find that the effect is strong and *significantly positive for researchers with no previous mobility experience* (Figure 10b and Table C.2 column II): *for this group, receiving a mobility grant increases the number of new coauthors by almost 100%*.

Do mobility grants boost researchers' academic careers?

Figure 11: Share of applicants in a faculty position

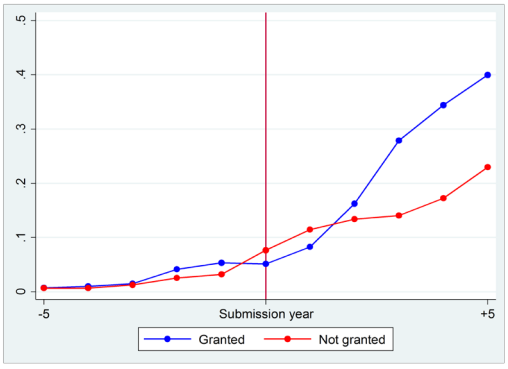


Figure 12: RDD graphical analysis of the probability of obtaining a faculty position

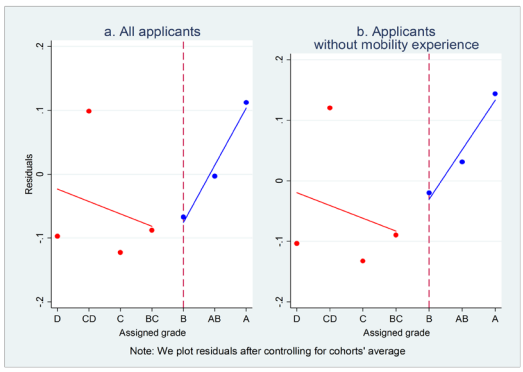


Figure 11 plots the proportion of individuals appointed as professor at time t. A few individuals already have a professorship position at the submission year, five years *after* the submission year, 40% of granted applicants are professors, whereas the percentage is reduced to 22% for non-granted individuals. In the RDD estimates, we focus our attention on *individuals who experience their first movement abroad supported by the fellowship*. Figure 12b and Table C.5 column II shows that for *this sub-group, the likelihood of being appointed as professor rises to 38%*.

Conclusion, policy remarks and perspectives on the evaluation for the SNSF

To summarize our preliminary findings, Advanced Postdoc.Mobility fellowships:

(1) Boost researchers' opportunities for temporary mobility toward highly ranked institutions;

(2) Do not increase researchers' scientific productivity, as measured by a simple publication count;

(3) Contribute to extending researchers' scientific networks; and

(4) Boost researchers' opportunities for careers.

The last two results ((3) and (4)) are stronger for individuals whose fellowships support their first mobility experiences in their academic careers.

Advanced Postdoc.Mobility fellowships effectively boost researchers' opportunities for temporary mobility toward highly ranked research institutions worldwide. Interestingly, this type of grant does not seem to favor permanent migration of researchers toward the hosting countries. In other words, there is no evidence that receiving a grant significantly increases the probability of staying abroad in the long period. Surprisingly, granted applicants do not increase their scientific productivity. In fact, receiving a mobility grant negatively affects scientific productivity in the five years after the grant submission, and especially in the first year after the submission. A possible explanation underlying this finding is related to mobility costs, which might cause lower productivity, especially in the short period. Moving to a new institution to start a new project requires time; for this reason, if we look at the simple number of publications as scientific output, we might observe a decrease. Additionally, the results suggest that non-granted applicants have the possibility to find alternative financial resources to support their research.

However, mobility grants assure researchers of the possibility to dedicate their time and resources to establish new collaborations that can be potentially fruitful in the later stages of their academic careers. Focusing on researchers who experience their first mobility experience, thanks to this kind of grant, we find that granted applicants gain a higher number of new co-authors in the years following the application; moreover, they are more likely to be appointed as professor in the medium period (4-5 years after the application year).

These results must be considered in light of the limitations of our study. First, the limited number of observations lowers the statistical significance of our results. Second, longer period effects cannot be judged, due to the limited time window where we could perform our analyses. Finally, the overall impact of the Advanced Postdoc.Mobility fellowships should be assessed, also considering the potential benefits that go beyond individual performance. In this sense, mobility grants increase researchers' opportunities to move toward highly ranked institutions, which is likely to be a key element in leading the internationalization of Swiss institutions toward a network of excellence.

On the basis of this evaluation, we would recommend, if asked, to continue this program since its assigned goals have been closely achieved, and the social benefits are likely to be higher than the costs sustained.

With this first application of our evaluation methods to a 'real case' of the SNSF, we hope to have demonstrated the great importance of a solid and rigorous evaluation for this institution. The credibility and public accountability of the SNSF is only partially fulfilled by its great innovativeness and administrative capabilities. Only its capacity to engage in rigorous evaluation of each of its modes of operation can ensure full credibility and accountability. Some years ago, evaluation methods were rudimentary and did not allow the discernment of causality in a rigorous way. It is no longer the case today – great progress have been made in econometric methods – therefore, it would be unwise for an institution such as the SNSF not to acknowledge this progress and not to use the new methods in a systematic way – just as it would be simply absurd to still be treated by medieval doctors in the age of modern medicine! This is why we think it is time for the SNSF to build a platform through which policy evaluation (of the type we have conducted for the Advanced Postdoc.Mobility fellowship) would be systematically undertaken. This would represent a very important step toward a better understanding, measurement and management of the SNSF instruments. The development of such a platform should undoubtedly represent a crucial element in the next strategic plan of the SNSF.

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Technical Appendix

A. *Method: Regression Discontinuity Design*

A challenge in grant evaluation is related to the fact that grants are not randomly assigned. Financial resources are limited and, on average, grants are assigned to individuals with greater performances. For these reason, if we compare granted and non-granted individuals in a descriptive way we are not able to capture the real impact of a grant. A technique that allows us to isolate the impact of a grant on individual performances is the so called Regression Discontinuity Design (RDD). A RDD allows for the creation of a scenario in which we are comparing individual A and B, who are equal in terms of scientific quality, but differ in the fact that one individual is assessing the grant, whereas the other is denied a grant. To reproduce this scenario, a quasi-experiment is implemented. We exploit a peculiar feature of grants like the one analyzed in this Policy Brief, where a commission assigns to each application a grade and it is possible to identify a cut-off point, i.e. applicants with a grade above the cut-off are granted ('treated' group) and applicants with values below the cut-off are placed in the 'control' group. Figure **A1.a** and **A1.b** give a representation of the basic logic behind RDD. We relate a rating variable with an outcome variable. The horizontal axis represents the rating value, the vertical axis the outcome. The crucial question that we ask is what happens at the cut-off point to the line that describes the relationship between the rating value and the outcome. At the cut-off point we are comparing individuals similar in scientific quality that differ for the sorting in the treatment group. Figure **A1.a** shows the case where the treatment has no effect: the line for the treated group is a simple extension of the line for the control group. Figure **A1.b** shows the case where the treatment has a positive effect: at the cut-off point we observe a discontinuity, the direction and the magnitude of the jump allow us to measure the impact of the treatment, in our case the grant assignment.

Figure A1 – RDD basic logic.

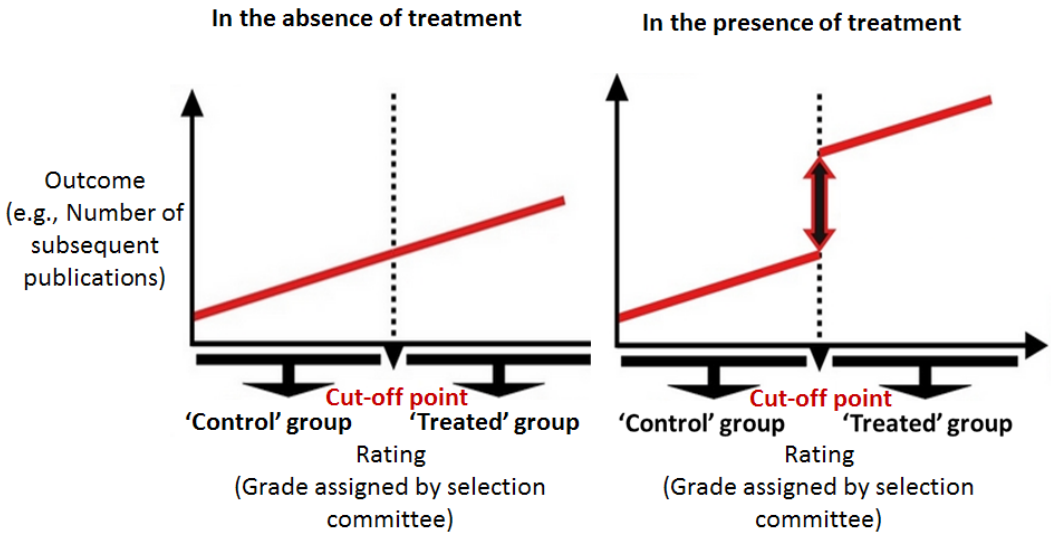
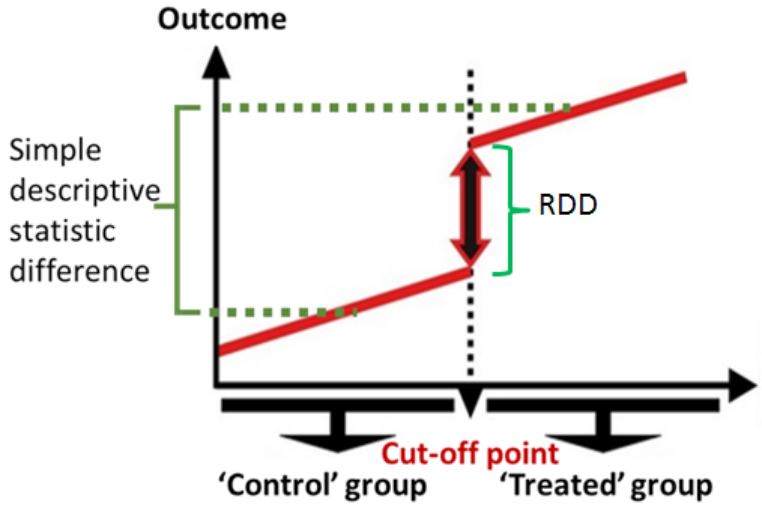


Figure **A2** shows how the RDD overcomes the bias of a simple descriptive statistic difference comparing granted and non-granted applicants. A simple statistic difference compares an average individual in the treated group with an average individual in the control group. In the example represented the figure this comparison would result in an overestimation of the treatment effect. On the opposite, the RDD isolates the direct effect of the treatment by comparing individuals at the cut-off point.

Figure A2 – Comparison between a simple descriptive statistic comparison between granted and non-granted individuals and RDD estimation.



B. Model and Variables

To implement the RDD analysis, we proceed in two steps. First, we define the functional form of the outcome variable as a function of the assigned grade adopting a linear functional form where we allow the slope to differ below and above the threshold. Second, since the grade does not perfectly predict the probability of receiving a grant (few applicants who received BC were granted and few who received B were denied the grant) we adopt a variant of the RDD methodology called "*fuzzy RDD*". We estimate a system of equations where a first-stage equation describes the probability of receiving the grant as a function of the assigned grade and a second-stage equation defines the outcome variable as a function of receiving the grant. Finally, additional control variables are taken into account to improve the efficiency of the estimation and to lower concerns on the possibility that other confounding factors, not perfectly captured by the assigned grade, might bias the estimation. Most importantly, we include controls for each cohort of student (group of student that submitted their application to the same evaluation commission) in order to average out all differences across commissions and over time. More formally, we estimate the following equations:

$$Y_i = \beta_0 + \beta_1 Grant\ released_i + \beta_2(Grade_i - Treshold) + \beta_3(Grade_i - Treshold) * Treshold + \gamma Ctrls_i + \varepsilon_i$$

$$Grant\ released_i = \delta_1 Treshold + \delta_2(Grade_i - Treshold) + \delta_3(Grade_i - Treshold) * Treshold + \theta Ctrls_i + \varepsilon_i$$

Where: Y_i is the outcome variable; Ctrls_i is the set of control variables considered; ε_i is the random error term, which is assumed to be independently and identically distributed. Table B1 lists and describes of the full set of variables used in the analysis.

In our tables, we report the coefficient β_1 that represents the marginal impact of the grant at the cut-off point.

In this technical appendix we are providing just the basis for the RDD. We invite the interest reader to guides providing a more general overview of the RDD approach, for example: *Jacob, Robin and Pei Zhu. 2012. A Practical Guide to Regression Discontinuity.*

Table B1. List of variables used in the analysis.

Variable	Definition	Source
Outcomes variables		
Being abroad at time t	Being outside Switzerland at time t	CV information
Being affiliated to a top-50 institution	Being affiliated with a top-50 institution in applicant's i field (the field that we considered are arts and humanities, engineering and technology, life science and medicine, and natural sciences)	QS World University Rankings
Publication count at time t	Count of publications in time t (in the analyses we also adopted as outcome variable a cumulative count of publications in the 5 years after submission).	Scopus database
Number of new coauthors at time t	New coauthors at time t (in the analyses we also adopted as dependent variable a cumulative count of new applicant's coauthors in the 5 years after the year of submission)	Scopus database
Being a professor at time t	Being a professor at time t	CV information
Main variable		
Grant released	Dummy equal to 1 if the applicant received the grant, 0 otherwise	SNSF database
RDD variables		
Threshold	Dummy equal to 1 if the applicant's grade is higher or equal to B.	SNSF database
Grade – Threshold	Assigned grade centered at the value of the cut-off: the variable takes values from-4 (grade D) to 2 (grade A). The value 0 corresponds to the cut-off, e.g. grade B.	SNSF database
Control variables (Ctrls)		
Female	Dummy equal to 1 if the applicant is female	SNSF database
Swiss	Dummy equal to 1 if the applicant is of Swiss nationality	SNSF database
Age at submission	Age of the applicant at the submission time	SNSF database
PhD_Top 50	Dummy equal to 1 if the applicant obtained his/her PhD degree from a top 50- ranked institution	CV information and QS World University Rankings
Amount requested	Amount in Swiss francs that the applicant required	SNSF database
Publications pre-sample	Number of publications in the last 3 years before the submission year	SCOPUS database
Top institute	Dummy equal to 1 if the applicant was affiliated to a top-50 ranked institution at the moment of submission	CV information and QS World University Rankings
N coauthors pre-sample	Number of coauthors with which the applicant had collaborated until the year of submission	SCOPUS database
Cohorts	A set of variables identifying each group (cohort) of applicants that submitted their applications to the same evaluation commission	SNSF database

C. RDD estimates

Table C.1: RDD estimates of probability of being abroad

	Two years after submission	Five years after submission
Granted	0.661***	0.181
	(0.126)	(0.127)
Observations	569	569
Number of Cohorts	51	51
Controls	YES	YES
Cohorts	YES	YES

Cluster robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table C.2: RDD estimates of the probability of affiliation to a top-50 institution

	Two years after submission	Five years after submission
Granted	0.264***	0.0454
	(0.0966)	(0.0932)
Observations	569	569
R-squared	0.107	0.052
Number of Cohorts	51	51
Controls	YES	YES
Cohorts	YES	YES

Cluster robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table C.3: RDD estimates of the publication count

	During the five years after submission	The first year after submission
Granted	-0.225	-0.346 **
	(0.235)	(0.150)
Observations	569	569
Number of Cohorts	51	51
Controls	YES	YES
Cohorts	YES	YES

Cluster robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table C.4: RDD estimates of the number of new coauthors after submission

	All applications	Applicants without mobility experience
Granted	0.0420	0.928*
	(0.305)	(0.475)
Observations	569	170
Number of Cohorts	51	36
Controls	YES	YES
Cohorts	YES	YES

Cluster robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table C.5: RDD estimates of the probability of obtaining a faculty position

	All applications	Applicants without mobility experience
Granted	0.0312	0.377*
	(0.123)	(0.213)
Observations	569	170
Number of Cohorts	51	36
Controls	YES	YES
Cohorts	YES	YES

Cluster robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1