

Evaluation of the Programme of fellowships of the Swiss National Science Foundation (SNSF)

Summary of the report

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The objective of this report is to evaluate the Programme of fellowships of the Swiss National Science Foundation (SNSF) by analysing the adequacy of its objectives and the results achieved. The main aspects considered are the **impact of the Programme** (promotion of the scientific and academic report, *brain drain*, development of the beneficiaries' careers and the promotion of women) **as well as the design and appeal of the Programme** (appropriateness of the objectives with regard to the design and organisation of the Programme and the appeal for the beneficiaries).

In line with these aims, this study offers **an approach or “objective” view of the effects of the fellowships Programme on promoting young scientists** (and in Switzerland non-academics as well), and on the careers of beneficiaries (and non-beneficiaries of SNSF fellowships), **as well as a more “subjective” approach which mobilises the perceptions of beneficiaries from the perspective of appeal** (needs of beneficiaries, services, satisfaction, etc.).

Two main types of investigation have been implemented in the context of this study:

- **A survey via an online questionnaire** (using the LimeSurvey software) among beneficiaries and non-beneficiaries of the Programme. To obtain a sufficiently large sample of candidates with fellowships, and based on the data available to SNSF, distinct benchmark periods have been established for both instruments: 1998-2000 and 2003-2005 for prospective researchers and 1996-2000 and 2003-2007 for advanced researchers. The choice of these two major periods has notably enabled measurement of the impact of removal of the age limit for women and the previous and recent impact on the career stages that followed for beneficiaries and non-beneficiaries.
- **A qualitative survey using semi-structured interviews** among both beneficiaries and non-beneficiaries of SNSF fellowships, for the preparation for the questionnaire, and among representatives of the SNSF administrative office, as well as members of the local SNSF research commissions at the Universities, to analyse the practices and systems in place.

The gathering of quantitative data was carried out by means of three different questionnaires (each one sent in three languages) sent to the beneficiaries of the fellowships for the prospective

and advanced researchers, and to non-beneficiaries of the two types of fellowship, respectively. The **response rate** sets the number of respondents (1540 individuals) against those contacted for the surveys. **It is particularly high for a survey covering a period of more than 10 years: it averages 55.8%** for all populations surveyed (41.8% for non-beneficiaries and 59.1% for all beneficiaries). The data were analysed using a dual methodology: descriptive (tabulations crossed on the basis of de 3 or 4 variables) and logistical regression.

Generally, the report established that **the Fellowship Programme has achieved its target audience and objectives of promoting scientific and academic take-up, and encouraging mobility and the support of women's careers.** In addition, the satisfaction of beneficiaries is indeed very high. The question of *brain drain/brain gain* is, on the other hand, more difficult to evaluate in terms of impact, even if you have to take into account that a good number of the beneficiaries have returned to Switzerland at the end of a period abroad.

The main results show, firstly with regard to the profile of people surveyed, that between the two periods under consideration (1996-2000 and 2003-2007), **the number of women applying for SNSF Fellowships has increased considerably**, from 26% to 37%. The average age comparison before and after 2000 also demonstrates a slight increase in the age of women fellowship applicants (+ 7 months). In the course of the change of rules which temporarily suppressed the biological age limit for women from 2002 to 2007 (the biological age limit was replaced by the academic age for women and men on 1st January 2008), it should be noted that **from one period to the other, the age of women has risen slightly more than that of men.** Our survey also showed **an over-representation of women among the non-beneficiaries**, but also for the two types of fellowship requested, that there are **more women than men without children.** Furthermore, the circumstances of females applying for the advanced fellowships are different to those of the males, as they are more often members of the middle to upper grades (for example, assistant professor, or teaching or research fellow) and less often assistants.

When becoming doctoral fellowship recipients, **more than three-quarters of the candidates had achieved their doctorate at the time of the survey.** Besides, the proportion of beneficiaries remaining in the academic world is somewhat higher (slightly below three-quarters against 64% for non-beneficiaries) and of these, slightly fewer than 30% have become professors. **Receiving a fellowship is therefore significant for continuing an academic career.**

In general, although the chances of accessing a post were slightly higher among non-beneficiaries, professional integration was particularly important for all populations surveyed, even though the results show that it was slightly lower among beneficiaries in the social and human sciences (and that the gap between men and women was also highest in these disciplines). From an academic perspective, **the probability of becoming a professor was greater for a person who has received a fellowship, and these chances increased if an advanced fellowship was obtained. However, it was proportionally lower for women than for men** (even though their opportunities increased more than those of the men once they have received an advanced fellowship).

The type of fellowship obtained also gives information on working status: **on their return, advanced fellowship recipients were more likely to occupy a full-time post than their prospective researcher counterparts or non-beneficiaries** (but a large difference was to be found between men and women, the latter being most often employed part-time). The time aspect also played an important part because the proportion of professors was of course higher in the popu-

lation surveyed before 2000 than afterwards, simply because the probability of being in a non-fixed term post increases with time. It should be noted that **the proportion of non-beneficiaries who had found a post abroad at the time of the survey, was higher in comparison with the more numerous beneficiaries who had found a post in Switzerland.**

The use of fellowships was fairly diverse. Experiencing international mobility was the first motivation mentioned by the beneficiaries, who seemed more motivated than non-beneficiaries in this respect (although the aspect of re-telling after the event probably influences their appreciation). Even if we observe a variation in disciplines which is fairly significant (between mathematics, natural sciences and engineering sciences on the one hand and biology and medicine on the other hand, where professional integration is more pronounced), it should be flagged up that, at the time of lodging the fellowship request, **two-thirds of fellowship recipients did not have a professional integration project planned post-grant.**

The host institution often played an important part in supporting the development of the request to SNSF. The support obtained by the beneficiaries at the time of developing the project distinguished them fairly significantly from non-beneficiaries who did not appear to have had recourse to such assistance. **Integration in a host institution has generally been very good among all fellowship recipients,** with 9 out of 10 of them having participated at a given time in the seminars of the host institution, with a frequency that varies depending upon the type of fellowship and, above all, the discipline. A high level of satisfaction was also expressed among beneficiaries with regard to interaction with members of the host institution in relation to their research project, with integration being slightly stronger among men than women, and not as high in human and social sciences as in other disciplines. Just less than one-third of fellowship recipients have led teaching activities within the host institution, and this is more the case among the advanced than the prospective researchers.

For both groups of fellowship beneficiaries, it was important to return to Switzerland at the end of the stay (all the more for human and social sciences, biology and medicine than for mathematics, natural and engineering sciences). The main reasons were family or contextual (quality of life) before becoming a professional. The family reasons were raised more frequently by men than women, probably because there was a higher proportion of men with a family. **The desire to pursue a career in Switzerland was also an important motivation for beneficiaries. However, the wish to live and work in Switzerland also increased after 2000 among women rather than among men,** logically because women have been better represented here in social and human sciences compared with the other disciplines. **The absence of career perspective when returning to Switzerland was nevertheless encountered by around one-third of the beneficiaries** (most frequently among the advanced rather than the prospective researchers and among women rather than men).

On the subject of the appeal of the fellowship, it should firstly be noted that **the subjective perception of the part played by the fellowship (prospective and advanced researchers) was very positive.** Four-fifths of the beneficiaries attributed an impact to it in the latter stages of their academic career (slightly higher among advanced compared to prospective researchers, and with slight variations by discipline) and judged that **the duration of the fellowship corresponded to their needs** (fewer after than before 2000). **For one quarter of beneficiaries, the status of fellowship recipient presented a problem in comparison with their status as salary recipient.** At the level of perception, this problem appears to have increased after 2000. Satisfaction with regard to standards of living have increased, as almost three-quarters of

beneficiaries stated that they were satisfied, with a satisfaction level that was higher among beneficiaries in social and human sciences and lower in biology and medicine.

For two-thirds of the beneficiaries, the amount allocated for the fellowship was considered to be sufficient (this was more the case among the advanced than among the prospective researchers). The fellowship recipients in biology and medicine were the least satisfied with the amount of their fellowship and those in social and human sciences were the most satisfied. **Fellowship recipients after 2000 also stated that they were more satisfied overall than those in the previous period.** Among the fellowship recipients who considered the amount of the fellowship to be insufficient, 9 out of 10 had to supplement the money through paid work in the country or institution where they were located. The proportion of self-financing varies according to the type of fellowship (higher among the prospective than the advanced researchers).

The satisfaction of the fellowship applicants also showed in the handling of their application, mainly in terms of speed (though the majority found the procedure simply to be normal). By contrast, **there were only a few who found the procedure to be slow.** Logically, there was twice the number of non-beneficiaries compared to beneficiaries who thought the selection procedure for the files was not transparent.

With regard to the family context, among those fellowship recipients who were parents at the time of the fellowship, more than one-third considered having a child to be an obstacle or a hindrance to the mobility project (this was more often the case among prospective researchers than among advanced researchers). And **being a parent was viewed as being more of a barrier for women than for men** (note that among those surveyed, there were more men than women with a child). Besides, for the majority of fellowship recipients living as couples, the partner was employed and half of them had attended university. **One-third of fellowship recipients were accompanied by their family** during their stay overseas, of which half were advanced researchers. With particularly significant differences, **women were less often accompanied by their families than men.**

Finally, from the perspective of academic career development, it appeared that **the probability of becoming a professor was influenced by several factors: elapsed time since the fellowship, having obtained an advanced fellowship, having stayed in the USA and being in the social and human sciences.** From these characteristics, a beneficiary within social and human sciences had almost five times more chance of becoming a professor than a beneficiary in biology and medicine. In general, **the gender variability was also very important in the development of academic careers,** whether this was for obtaining a fellowship, a non-fixed term contract, a full-time post or access to a professorship, and everything else being equal, women were more often disadvantaged in comparison with their male colleagues, except when it came to finding a post abroad.

In the part dedicated to **recommendations**, two major options were identified: **1. profound modifications in the fellowships programme; 2. modifications to the margin.** According to the option for modifying in depth, it appeared that **an SNSF funding scheme directly and exclusively addressed to PhD candidates may become increasingly important and necessary** (not only in social and human sciences but also, where necessary, in other disciplines). Even if the status of the dissertation is not identical according to the disciplines, the Bologna “model” could reduce the disciplinary differences and justify an SNSF instrument being completely dedicated to promoting PhD students (particularly since the progressive dissolution of the Pro Doc Pro-

gramme). Based on a margin modification option, the authors suggest **a formal harmonisation of information on the web-sites and in the documents of the SNSF research commissions at the Universities**, along with the selection procedures for applications, the handling of requests for extension and the duration of granting fellowships. For the advanced fellowships, it is suggested that **the criteria be more transparent for the determination of the duration of the fellowships in each field.**

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