
Open Access to Publications: SNSF monitoring report 2013 - 2015

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1. Introduction

1.1 Context

In 2008, the SNSF began inviting researchers to make their findings accessible to a global public free of charge. Two years prior to that, it signed the Berlin Declaration of Open Access (OA), which calls for all users to be granted free, irrevocable, worldwide access to publicly funded research findings as well as the right to use these findings subject to proper attribution of authorship.

For the duration of the 2013-16 funding period, the SNSF has introduced a provisional measure to cover the costs of publishing articles in OA journals via the project budget. In spring 2014, OA policy was extended to include financing for book publications.

As a research funder, the SNSF plays a subsidiary role in Switzerland and actively promotes OA in consultation with national and international partners. At the end of 2015, the State Secretariat for Education, Research and Innovation mandated swiss-universities to draw up a national OA strategy for Switzerland in collaboration with the SNSF. Over and above that, the SUC P2 programme and the SNSF have jointly commissioned an external analysis of the financial flows in scientific publishing and of potential models for transitioning the system to OA. The preliminary findings of this study are expected towards the end of 2016.

The SNSF has a progressive OA and funding policy with relatively generous embargo periods that is comparable to the policies of leading funding agencies in Europe and the US. In terms of OA monitoring and financial flow reporting, the SNSF's aim for 2016 is to match the standards set by pioneers such as Austria, the Netherlands and the UK.

Science Europe recommends that its member organisations introduce OA monitoring, including cost¹ reporting. It should be borne in mind, though, that data completeness and data quality are likely to limit the information value of findings presented in this document. The present SNSF report follows this recommendation.

1.2 Open access policy of the SNSF

The SNSF supports and promotes the principle of open electronic access to scientific knowledge both nationally and internationally. It requires grantees generally to provide open access to research findings funded with SNSF grants. Research funded by the public should also be accessible free of charge to the public as far as possible, not least in the interests of science itself. The SNSF is looking to achieve this goal by following two paths:

- **Green road** of open access: researchers funded by the SNSF are obligated, at minimum, to self-archive their publications in an institutional or specialist repository. In addition to having their work published in a journal, they should self-archive it no later than 6 months afterwards, and in the case of book publications no later than 24 months afterwards (provided there are no insurmountable legal or technical obstacles).

¹ http://www.scienceurope.org/uploads/PublicDocumentsAndSpeeches/SE_OA_Pos_Statement.pdf

- **Gold road** of open access: the SNSF supports the gold road to OA by enabling researchers to cover the costs of direct publishing in pure OA journals via their project budgets. Since October 2013, therefore, it has been possible to approve up to CHF 3,000 per planned OA publication under the initial project budget.

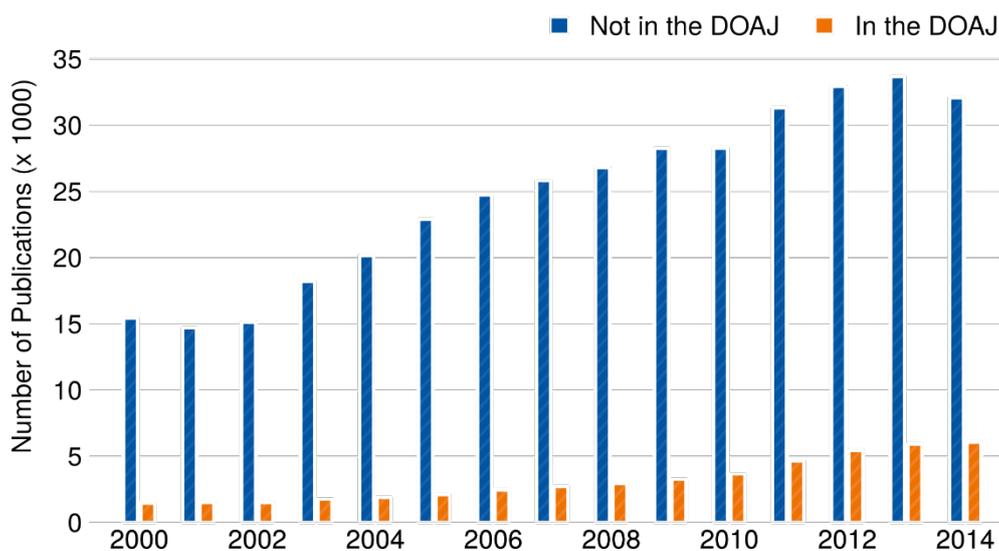
In addition, the SNSF finances digital book publications which become freely accessible no later than 24 months after initial publication. Researchers also have the option to publish a printed book parallel to the digital version.

The SNSF is carrying out a pilot project (OAPEN-CH) to gain experience in the process of publishing open access monographs and collect data on the use, sale and production costs of printed and digital books.

2. Open access to journal articles

2.1 Gold OA share among Swiss publications

According to an evaluation of publications with a Swiss affiliation in Scopus, the gold OA share (= contained in the Directory of Open Access Journals, DOAJ) grew from 6% (approx. 1,000 publications) in 2000 to 16% (approx. 6,000 publications) in 2014 (Figure 1).



The evaluated publication data in Scopus breaks down as follows: articles (70%), books and book chapters (2%), conference presentations (16%), letters (2%), reviews (8%), short surveys (1%).

Figure 1: *Gold OA share among Swiss publications, Scopus and DOAJ, 2000-2014*

2.2 Data from publication databases (WoS, Scopus, Pubmed)

An initial pilot study was conducted in summer 2015 to investigate the extent to which publication data in the Web of Science (WoS) and in Scopus overlap with the SNSF's output data. Random sampling was used to establish whether publications acknowledged in WoS/Scopus as funded by the SNSF/an SNSF grant are included in the SNSF's output data (platform P3²) and, vice versa, whether publications in the output data are acknowledged in WoS/Scopus as funded by the SNSF/an SNSF grant.

The analysis showed that a substantial proportion of the publications acknowledged in WoS as funded by the SNSF are not contained in the output data. This problem is also encountered the other way round. Numerous publications cited in the output data are either not in WoS or, if they are, do not include an acknowledgement. This is especially true for disciplines in the social sciences and humanities, where the data in WoS is evidently only supplemental to the output data. As for disciplines in the areas of mathematics, the natural sciences, engineering, biology and medicine, the data in WoS appears to be fairly complete, but is nonetheless also supplemental and could not fully replace the output data. The output data also contains publications from these disciplines that are either cited in WoS without any acknowledgement or not even included in WoS.

The number of publications included in Scopus that are acknowledged as funded by the SNSF is substantially lower than in WoS. Correspondingly, fewer of the publications cited in the output data are attributed in Scopus to the SNSF. While there are generally more publications from the social sciences and humanities in Scopus, they are not more frequently attributable to the SNSF than those in WoS.

We can therefore reasonably assume that **the actual publication databases also fail to provide a complete picture of the publications funded with SNSF grants.**

What is more, attribution of publications to SNSF grants also proved to be difficult. There are even cases where publications in WoS as well as in Scopus are attributed to a different application number than in the output data.

2.3 SNSF output data

The SNSF uses a self-regulated data quality assurance system for output data entry. Open access details are entered on an output data form in the publications data container. Since 31.3% of output datasets did not reference a publication (no output data at all was entered in the case of 8.2% of grants³), it is safe to assume that there is still scope for improving the quality of output data.

2.3.1 OA share after validations

In order to gain a more reliable measure of the actual OA share, the publications included in the output data (current as at September 2015) were validated against a very

² <http://p3.snf.ch/>

³ Calculations based on output datasets submitted up to 11 September 2015. A total of more than 10,000 output datasets had been submitted by this date.

wide range of external sources. A distinctly higher OA share of at least 39% can be established for publications (all document types) in the period 2013 to 2014 (publication date) than the self-declared figure of 20% suggests. The OA share even increases to at least 56% when open access full text on websites (i.e. not only in journals or repositories) is also factored in (Table 1).

Publications	Prior to validation		After validation	
Journal/publisher (gold OA)	1,225	7%	2,059	12%
Repository (green OA)	845	5%	4,684	27%
Website (green OA)	1,502	9%	3,004	17%
Closed access	13,824	80%	3,461	20%
Not yet validated			4,212	24%
Total OA (minimum)	2,422	20%	9,747	56%

Table 1: *Share of OA publications in P3 (2013-2014)*

Prior to validation, the actual publication date of publications with “in press/accepted” status was verified insofar as possible, and the details updated (approx. 3,300 publications). Publications that retain “in press/accepted” status are not included in the validation process. Duplicates, i.e. publications cited as output for more than one project (approx. 2,500) are also filtered out. Where identifiable as such, pure abstracts (e.g. in journal supplements), working papers and pre-prints are also excluded.

The basic goal was to locate a DOI for the publications and update the data. 78% of the 17,420 publications scrutinised have in the meantime been assigned a DOI. Using the DOI and the linked metadata available in CrossRef, unique searches could be performed in additional sources such as DOAJ, Pubmed and Pubmed Central, OpenAIRE (repository aggregator) and ADS (Astrophysics Data System). After the initial search for open access full text in these external sources, a search was made in Google Scholar using the DOI of the remaining publications still to be validated and links to any open access full text were extracted. Where even the Google Scholar search failed to turn up open access full text, the status was set to “closed access”. The OA status of 4,212 publications from the period 2013 to 2014 remained unclear, but it is more likely that they are in closed rather than open access mode.

The Google Scholar search in particular showed the huge popularity of the commercial platform ResearchGate. The latter contained a good 1,200 open access full text publications from SNSF-funded projects.

The publication date range (2013 to 2014) is also a key factor behind the relatively high OA share. Most of the embargoes imposed by publishers have lapsed and the articles have since been made publicly accessible.

An OA share of 57% is comparable to that of other funding agencies and programmes: FP7 at approx. 54%⁴ and Spain 58%⁵, with potential for higher percentages. The NIH achieved an impressive OA rate of 75%⁶. What is more, the self-archiving policies of numerous journals cite rates of around 80%⁷ as feasible.

2.3.2 Validated OA share by discipline

Table 2 represents the OA publications in P3 after validation. The high OA share for physics is not surprising and is largely due to articles archived in ArXiv (1,400 publications). PubmedCentral (2,270 publications) largely accounts for the high OA share in one repository in the case of medicine and the life sciences. The different shares also reflect the different science cultures.

The data used for this validation can be accessed at Zenodo: <http://doi.org/10.5281/zenodo.45442>

2.4 SNSF-funded journal articles

In order to establish the extent of SNSF resources used to fund open access publishing since the measure introduced in October 2013 to cover article processing charges (APC) via project costs, a random sample of the financial reports of the key funding schemes was evaluated.

Since an exhaustive evaluation of the available project funding data would have entailed an unreasonable workload, the data samples investigated were extrapolated to the available grants. Following a detailed analysis, these bookings were assigned to one of the following three data categories:

- Gold OA: The SNSF assumed the APC for publication of a project-related article in a pure OA journal.
- Hybrid OA: The SNSF assumed the costs for the OA publication of an article in a subscription journal. It is not actually part of the SNSF's OA policy to assume these costs.
- Other costs: The SNSF has assumed the publishing costs for publication of an article in a non-OA subscription journal. While there are no rules in place governing the assumption of such costs, this essentially does not reflect the SNSF's OA policy.

⁴ <https://www.openaire.eu/fp7-stats> (Current as at 2 Feb. 2016: OA: 93,057, embargoed: 312, total: 171,735)

⁵ Borrego, A. (2015) Measuring compliance with a Spanish government open access mandate. *Journal of the Association for Information Science and Technology*, 66, in press. <http://doi.org/10.1002/asi.23422>

⁶ <http://poynder.blogspot.com.es/2012/05/open-access-mandates-ensuring.html>

⁷ Laakso, M. (2014) Green open access policies of scholarly journal publishers: a study of what, when, and where self-archiving is allowed. *Scientometrics*, 99(2), pp. 475-494. <http://doi.org/bb8g>; open access: <http://hdl.handle.net/10138/157660>

<i>Discipline</i>	<i>Pub-lisher</i>	<i>Reposi-tory</i>	<i>Web-site</i>	<i>Closed</i>	<i>Not yet validated</i>	<i>Total OA</i>	<i>Total OA %</i>
<i>Physics</i>	310	1172	197	211	160	1679	81.9 %
<i>Biological basic sciences</i>	347	621	303	218	103	1271	79.8 %
<i>Astronomy, astrophysics and space research</i>	20	477	43	42	111	540	77.9 %
<i>General biology</i>	136	223	238	120	61	597	76.7 %
<i>Experimental medicine</i>	114	226	151	110	49	491	75.5 %
<i>Medical basic sciences</i>	201	292	220	148	102	713	74.0 %
<i>Mathematics</i>	28	277	169	69	107	474	72.9 %
<i>Preventive medicine (epidemiology/early detection)</i>	50	56	29	46	16	135	68.5 %
<i>Environmental sciences</i>	213	117	167	125	110	497	67.9 %
<i>Geosciences</i>	28	60	170	101	80	258	58.8 %
<i>Clinical medicine</i>	127	151	187	256	110	465	56.0 %
<i>Chemistry</i>	52	289	317	450	156	658	52.1 %
<i>Social medicine</i>	37	10	13	37	19	60	51.7 %
<i>Psychology, educational sciences</i>	94	150	138	186	223	382	48.3 %
<i>Engineering</i>	123	404	458	515	600	985	46.9 %
<i>Economics, law</i>	16	54	59	116	206	129	28.6 %
<i>Sociology, social work, political science, media and communications, health</i>	57	31	55	181	375	143	20.5 %
<i>Ethnology, social and human geography</i>	14	15	15	43	137	44	19.6 %
<i>Language and literature, philosophy</i>	45	40	34	223	534	119	13.6 %
<i>Theology, modern, pre- and early history, archaeology</i>	28	14	24	155	577	66	8.3 %

Table 2: Share of OA publications in P3 (2013-2014) after validation

2.4.1 Overview of publication costs assumed

Between October 2013 and August 2015, the SNSF assumed approximately CHF 195,000 in publication costs for journal articles. This relatively modest amount can be explained by the fact that the majority of evaluated grants were approved prior to October 2013, in which case publication costs could only be assumed if they fell within the limits of the approved resources and did not incur additional costs for the SNSF. Since October 2013 the SNSF can cover the costs of publishing articles in pure OA journals via the initial project budget, an increase in APC is expected.

During the evaluation period, the costs of approximately 40 gold OA articles were assumed. The resources required amounted to almost CHF 55,000. The average costs paid per article came to around CHF 1,350.

Under the revised OA policy, some 35 hybrid OA articles were funded for a total of CHF 57,000 (average costs per article: approx. CHF 1,600). The assumption of these costs is not in line with SNSF policy. Therefore, the SNSF will establish a more rigorous control system and these costs will not be assumed anymore.

Lastly, in connection with around 90 journal articles, the SNSF incurred other costs of around CHF 85,000 to cover e.g. oversight charges, colour illustrations and author's contributions. Although there are no rules in place specifically governing the assumption of such costs, given that the process of publishing the respective journals online has largely been completed in the meantime, these charges no longer appear to be current and are likely to be covered on a much more restrictive basis in future.

2.4.2 Breakdown by field

The collected data can also be analysed by subject field. The main beneficiaries of funding for the publication of articles in pure OA journals are the discipline clusters 'Physics', 'Psychology and educational sciences' and 'Medical basic sciences', together accounting for a gold OA share of over 50% of the publication costs paid. The largest share of publications in hybrid journals is to be found in the disciplines 'Art, musicology, film and drama, architecture', 'General biology' as well as 'Sociology, social work, political science, media and communications, health'. There are ultimately three further discipline clusters where only publication costs with no OA value were assumed (other costs). These are the subject fields 'Astronomy, astrophysics and space research', 'Economics, law' and 'Language and literature, philosophy'.

The Figure 2 shows the publication costs assumed by the SNSF in the different subject fields.

2.4.3 Breakdown by publisher

A publisher-based comparison also offers a useful insight. The major publishing houses (Elsevier, Springer, Oxford University Press, Wiley, PLOS and Frontiers) were evaluated individually for the purposes of the analysis. The relatively heterogeneous group of specialist publishers were bracketed together under a further category.

The analysis shows a fairly clear picture with few surprises (Figure 3). As expected, publishers PLOS and Frontiers show a 100% share of gold OA articles. Springer, Oxford University Press and the specialist publishers occupy the middle ground with a gold OA share of paid publication costs of around 30 to 40%. At the lower end of the scale are Wiley, miscellaneous publishers and Elsevier, where the lion's share of assumed publication costs were channelled into hybrid publications and other costs with no OA publication value. The following provides a detailed picture of the publishers evaluated.

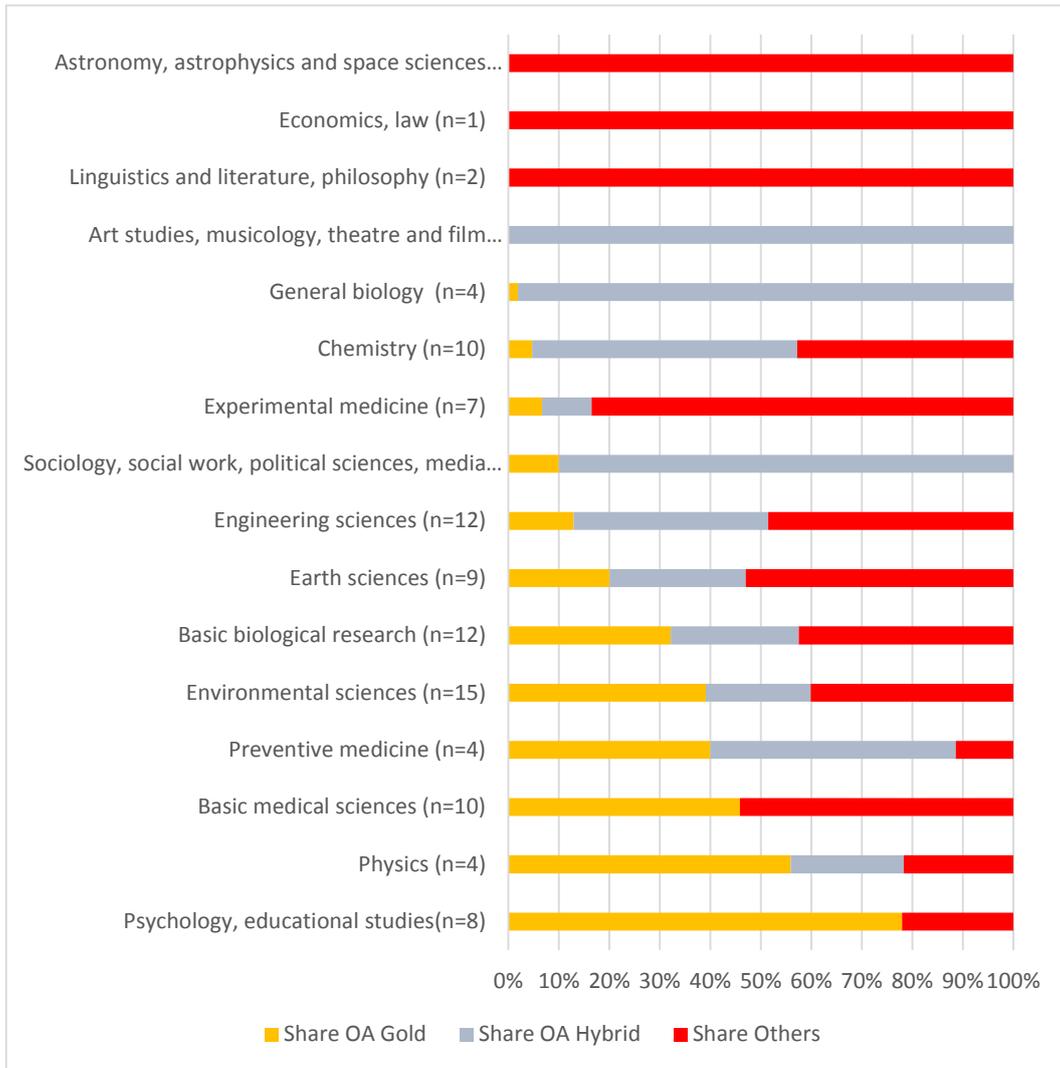


Figure 2: Share of OA gold, hybrid and other costs assumed by the SNSF broken down by subject field

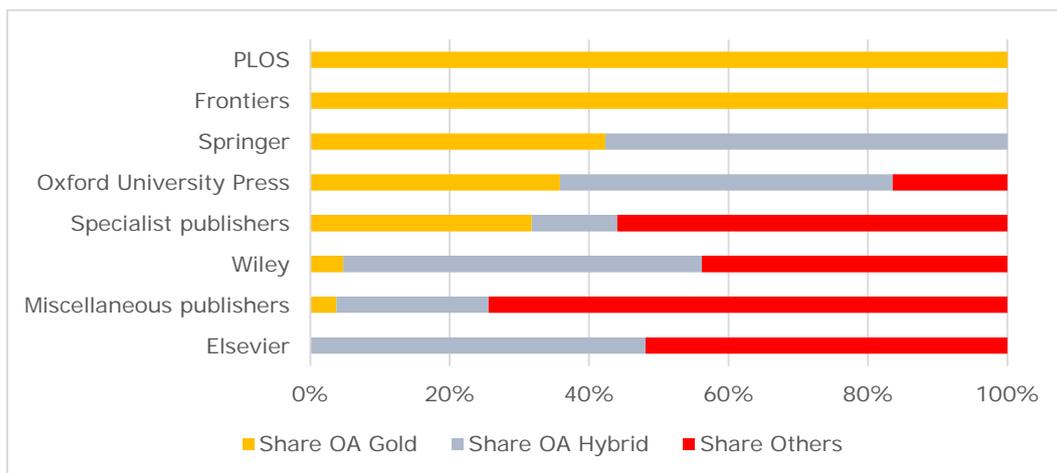


Figure 3: Share of OA gold, hybrid and other costs assumed by the SNSF broken down by publisher

3. Open access to book publications

3.1 OAPEN-CH pilot project

3.1.1 Objectives of OAPEN-CH and tested models

In February 2015, the SNSF issued the first of two planned calls for proposals for the [OAPEN-CH pilot project](#). The SNSF, in collaboration with science publishers, is using this study to gain experience of the OA monograph publishing process and to collect data on the use, sale and production costs of digital and printed books. The central focus of the pilot project is a joint learning process with the publishers and others involved in open access publication.

Two publication models are being tested under the pilot project:

- Model 1: Open access with no embargo period and with simultaneous publication in printed form (experimental group)
- Model 2: Open access after 24 months and with simultaneous publication in printed form (experimental group)

Publication model	Experimental group		Control group
	Open access	Printed form	
Model 1	immediately	✓	✓
Model 2	after 24 months	✓	✓

Table 3: Publication models

3.1.2 Statistics on publications under the first call

Of the 58 applications (29 book pairs) submitted under the first call for proposals, **54 were approved** (32 book publications in Model 1 and 22 in Model 2). In 2015, a total of **27 books were published in an OA version** under the pilot project. The OAPEN-CH evaluation panel awarded **a total of CHF 720,684** for the publication of the 54 pilot publications.

The requirements of the pilot project stipulate that the trialled book publications should provide as broad a data set as possible in terms of language, discipline, publication type and form. The formal selection criteria were met as follows:

- **Language:** German, French, English. The majority of books in the pilot project were in French.

Model	German	French	Italian	Total
Model 1	8	22	2	32
Model 2	10	12	0	22
Total	18	34	2	

Table 4: Language of the books in the pilot project

- **Publishers:** German-speaking Switzerland, French-speaking Switzerland, Germany. Ten science publishers from Switzerland and Germany participated under the first call.

German-speaking Switzerland	5	<ul style="list-style-type: none"> • Chronos Verlag, Zurich • Librum Publishers & Editors, Hochwald • Peter Lang Verlag, Bern • Schwabe Verlag, Basel • Seismo Verlag, Zurich
French-speaking Switzerland	3	<ul style="list-style-type: none"> • Editions ies, Geneva • Editions Alphil, Neuchâtel • Librairie Droz, Geneva
Italian-speaking Switzerland	1	<ul style="list-style-type: none"> • Edizioni Casagrande, Bellinzona
Germany	1	<ul style="list-style-type: none"> • Transcript Verlag, Bielefeld

Table 5: Distribution of publishers

The regional distribution of publishers mirrors the publishing landscape in Switzerland. It should be possible to increase the proportion of German publishers under the second call for proposals.

- **Publication types:** Monographs, anthologies (heavily revised dissertations may be submitted as monographs)

A large number of dissertations were proposed for the pilot project. Figures also show that the majority of applications for regular SNSF publication funding are for dissertations.

Model	Dissertation		Anthology		Monograph	
	EG	CG	EG	CG	EG	CG
Model 1	12	8	0	3	4	5
Model 2	4	3	2	3	5	5
Total	27		8		19	

Table 6: Experimental groups (EG) and control groups (CG)

3.1.3 Outlook and next steps

The second call for proposals under OAPEN-CH is scheduled for February 2016. At the same time, the SNSF – aided by publishers and the OAPEN Foundation (the SNSF’s external partner for the conception and implementation of the pilot project) – will be evaluating data on the production costs for printed and digital books, on the consumption of published monographs (download and sales figures) as well as on buyers of pilot books. A first interim report will appear in summer 2016, and the final report is expected to come out in 2018.

3.2 New publication funding regime since July 2014

The SNSF adapted its publication funding policy as of 1 July 2014. The SNSF only finances digital book publications which become freely accessible no later than 24 months after initial publication (open access commitment). Authors are also free to produce a printed version in addition to the digital book. However, SNSF funding can only be used to cover publishing costs for the digital publication.

With this new funding policy, the SNSF is adopting a twin approach to financing digital book publications:

- **“Publication grants” funding scheme:** Digital book publications produced independently of SNSF research projects can be funded through the “publication grants” scheme as before.
- **Publication funding through SNSF grants:** Just as researchers can claim publishing costs for OA journal articles, they can also request funding to publish an OA book under an SNSF research project. A request for payment of publication costs must be made with the initial application.

3.2.1 Independent publication grants

In the last four years, between **140 and 180 applications p.a.** were submitted under the “Publication grants” funding scheme (Figure 4). **In 2015, the total number of applications decreased substantially for the first time** (although the figures for December are still pending). The decline in the number of applications is due in part to the transition from financing printed books to funding OA book publications. Another factor is that 27 book publications were financed under the OAPEN-CH pilot project which would otherwise probably have received support under the “Publication grants” funding scheme.

The number of applications is expected to increase again in the next few years, assuming that open access monograph publishing establishes a foothold.

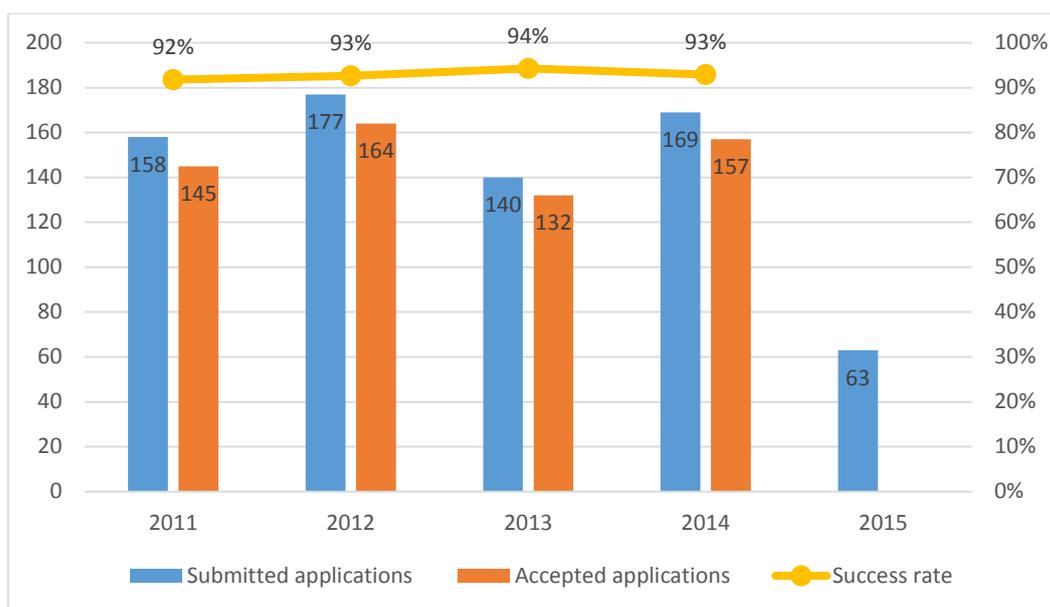


Figure 4: Applications submitted in 2011 to 2015 for publication grants (current as at: 3 December 2015)

A month-by-month evaluation of the applications submitted also indicates that the decline was attributable to the change in publication funding policy. In June 2014, the final month in which submissions for funding printed books were still being accepted, 69 applications were received. Prior to that, the usual monthly intake of applications was 10 to 20. This figure has been just under 10 per month since July 2014.

As previously, SNSF publication funding **is being primarily used to defray dissertation publishing costs** (Figure 5).

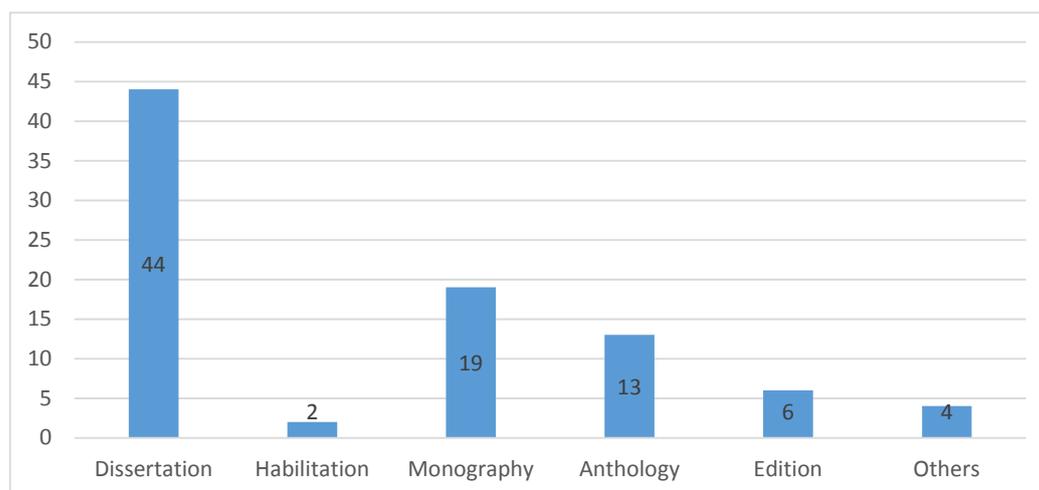


Figure 5: Number of application submissions broken down by publication type (current as at: 3 December 2015)

60 OA book publications have been cofinanced to date by the SNSF under its new funding policy, with **grants awarded totalling CHF 774,028**.

In order to facilitate cost budgeting for book publications, effective July 2014 the SNSF capped grants for simple and enriched book publications and also stipulated a flat-rate grant for dissertations and post-doctoral theses. **31 applications were received for simple and 11 for enriched book publications.**

An analysis of the grants requested shows that simple digital book publications can frequently also be effected at lower cost. By contrast, in a number of instances the costs for enriched e-books exceeded CHF 22,000. In the majority of cases, the amount of the CHF 8,000 flat-rate grant was not exceeded. This is probably also because authors are not required to submit a cost estimate when they apply for a flat-rate grant for their dissertation.

3.2.2 Fundability of publication costs

Publication costs for digital books qualify as fundable not only under a project budget, but also in the case of career development measures (with the exception of mobility grants) as well as specific programmes and research infrastructures. **Publication costs tend mainly to be integrated into project budgets for funding in the humanities and social sciences (HSS) and under the Doc.CH grants scheme, a career development programme hitherto intended exclusively for HSS researchers.** There is practically no demand for book publication financing under all the other funding schemes.

4. Summary

The results permit the following conclusions:

- Internationally the transition of scientific publishing towards Open Access is in constant progress. The present report shows that Switzerland keeps up pace with international evolvments. The validated output data confirm that a significant part of publications resulting from SNSF's subsidies are already open access.
- The SNSF sees the present analysis as confirmation of the soundness of its OA policy. It aims to continue the transition in the direction of open access together with the other actors, especially swissuniversities. The development of a national OA strategy for Switzerland should also be used as a vehicle for defining targets for national OA policy. Sensitising researchers to OA issues is pivotal, and swissuniversities in particular can play a significant role here.
- The SNSF will continue to follow the international debates on OA, particularly objectives and measures of pioneer organisations (NWO, FWF, EU) and will consider these developments in the implementation of its OA policy. The Dutch funding agency NWO is the first public funding organism worldwide to require research results from approved call projects to be immediately and unreservedly accessible. Under the initiative of Dutch Presidency, the EU targets a 100% OA share of scientific publications by 2020. This can only be achieved if the EU States tackle transition of their publishing system based on OA national strategies, also synchronized at EU level.
- The development of OA in the Humanities is strongly encouraged through the OAPEN-CH project.
- The analysis of the OA data shows that placing publications on authors' websites is not a suitable approach to take along the green road of OA. The SNSF has amended its regulations so that from January 2016 all publications should be made publicly and freely accessible in specialist or institutional repositories in order to satisfy the requirements of green OA.