

Open Access policy effectiveness: A briefing paper for research funders

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There are now almost 700 Open Access policies around the world, around one-quarter of them from research funders. There is considerable variation across these policies in terms of the conditions they lay down for authors and of their effectiveness. Based on the analysis of over 120 mandatory policies, this briefing paper lays out the main issues that affect the effectiveness of a policy in providing high levels of Open Access research material.

What an Open Access policy covers

An Open Access policy covers a number of issues including when and where research articles must be deposited, the length of embargo permitted, whether waivers may be granted and under what conditions publication charges may be paid. The database of Open Access policies, ROARMAP¹, records each policy's conditions under a set of categories. This database as a whole provides a rich source of data to analyse when studying policy effectiveness, and the data included in this briefing are sourced from such an analysis.

The main areas that a policy on Open Access should address are:

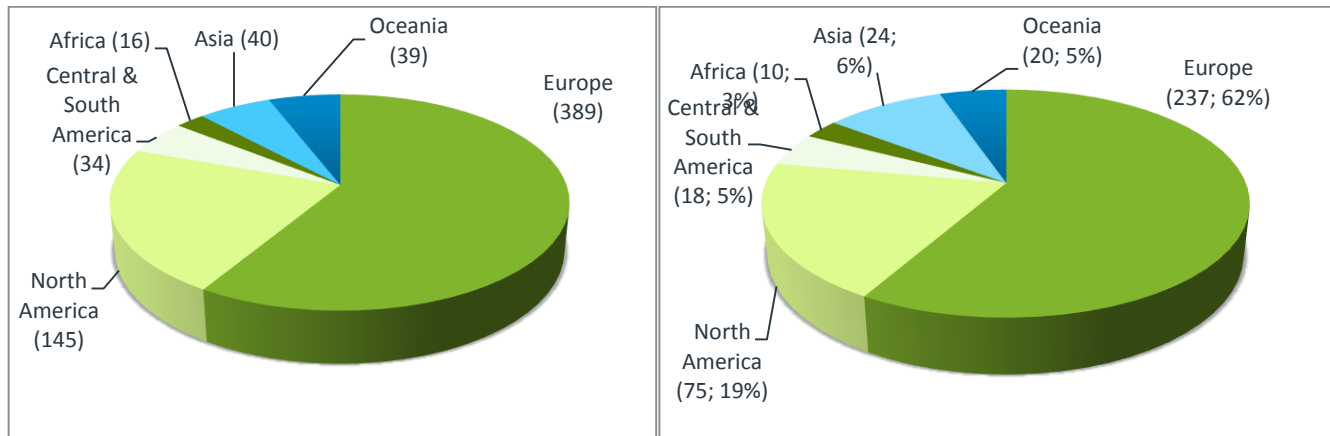
- whether or not the policy is to be mandatory
- whether the policy stipulates how Open Access should be provided (through deposit into an Open Access repository or by publication in Open Access journals)
- where repository-based OA is concerned, in which repository (or repositories) items may be deposited
- the length of permitted embargoes
- whether there are to be sanctions in the case of non-compliance
- whether there are to be any particular requirements regarding licensing, including whether authors should retain certain rights over their work (in practice, this means retaining the right to make the work Open Access by depositing it in an Open Access repository)

Analysing the effectiveness of policies

As part of the PASTEUR4OA project, all of these things and more were recorded for every Open Access policy in existence and entered into the ROARMAP database. It was already known that only mandatory

¹ Registry of Open Access Repository Mandates and Policies: <http://roarmap.eprints.org/>

policies raise the levels of Open Access material above that of the general baseline level of voluntary provision (about 15%).



The number of Open Access policies (left) and mandatory policies (right)

The project therefore looked at the mandatory policies in place at over 120 universities around the world and assessed the effectiveness of each policy. This was measured in terms of the percentage of Open Access material available from each institution compared to the total number of articles published from those institutions each year. It was not possible to study funder policies in this way because the outcomes are difficult to measure: this is because, as yet, tracking articles that are published from work supported by specific funders is very difficult as many articles do not acknowledge funding sources in systematic and traceable ways. In addition, funder-supported articles can be deposited in many different locations (many different institutional repositories, for example, or in one or more centralised repositories), making it hard to trace these articles. Institutional policies, however, stipulate that articles must be deposited in the institutional repository, making it easy to track them. For these reasons, the analysis was carried out on institutional policy effectiveness, but the principles discovered probably apply to all policies, including funder ones.

The analysis involved looking at how each element of the policy affected its success. This was done by regression analysis, which provides data on whether there is a positive correlation between effectiveness and a policy element, and if that positive correlation is statistically significant, which is a stronger level of correlation².

The important elements of a policy

The analysis showed that the following elements of a policy are positively correlated with a successful outcome:

- The policy states that research articles must be deposited in a repository (that is, the policy is mandatory)

² The methodology and results are presented in detail in the full report from the PASTEUR4OA project: Swan A, Gargouri Y, Hunt M and Harnad S (2015) Open Access policy: numbers, analysis, effectiveness <http://pasteur4oa.eu/sites/pasteur4oa/files/deliverables/PASTEUR4OA%20Work%20Package%203%20Report%20final%2010%20March%202015.pdf>

- The policy states that this action cannot be waived: that is, whatever the conditions of embargo, the article must be deposited at the point specified by the policy
- If the policy states that an author should retain certain rights over the published work, this action is mandatory and cannot be waived
- The policy states that deposited items must be made Open Access, and if there is an embargo then they must be made Open Access immediately the embargo comes to an end
- The policy links the deposit of articles with research assessment/performance evaluation procedures within the institution: that is, the policy states that articles that are not deposited in line with policy requirements will not count towards performance reviews or research assessment exercises

Policy element	Positive correlation
Articles <u>must</u> be deposited	☑
Deposit cannot be waived	☑
Deposit of articles is linked to research evaluation (performance assessment)	☑
Articles must be made Open Access	☑
Where the policy stipulates that authors retain certain rights, this cannot be waived	☑

The critical elements of a policy

It seems obvious, but is backed up by the statistical analysis, that the most critical elements of a policy are that it requires that research articles be deposited in an Open Access repository. In addition, the policy must state that this deposit step cannot be waived. These are the first two points in the list above and analysis showed them to be significantly correlated with resulting high levels of Open Access and, of course, they make the policy a mandatory one.

The other statistically significant element of a policy is the link between deposit and research assessment (performance evaluation). All three of these policy elements are significantly associated with success.

Policy element	Positive correlation	Significant correlation
Articles <u>must</u> be deposited	☑	☑
Deposit cannot be waived	☑	☑
Deposit of articles is linked to research evaluation (performance assessment)	☑	☑
Articles must be made Open Access	☑	
Where the policy stipulates that authors retain certain rights, this cannot be waived	☑	

The model Open Access policy

Having identified what a policy needs to contain to have a successful outcome, an optimal Open Access policy can be designed. A policy must make its requirements of authors minimally burdensome: at the

same time, it must require the actions (listed above) that are essential to provide Open Access. The policy should therefore address these issues specifically and an optimal policy will include them all as non-negotiable requirements.

It is also recommended that a policy stipulates that deposit is made at the time of acceptance for publication of an article. While the requirement for deposit immediately upon acceptance may seem to be in contravention of publisher embargo requirements, it is not. The deposit step is a separate action from making an article openly available and the publisher has no sanction over it. The aim is to get authors to deposit their articles as they are accepted for publication, which is the moment they are dealing with the paper for the last time in practical terms. So long as a paper is deposited, the author need not worry about it any longer: if it is under a publisher embargo the repository software automatically opens the article and makes it public at the end of the embargo period.

Finally, the version of an article that such a policy should specify for deposit is the author's version, once it has been peer-reviewed and all the changes required by the review process have been made. This is the final version that the author has, the last one submitted for publication once all corrections have been made: it will vary only marginally, if at all, and certainly not in substance, from the published version in the journal.

A model Open Access policy: criteria to include

Purpose: This policy aims to make the knowledge created in this institution available to all for the benefit of research itself and for society more widely

Policy conditions: The policy requires the following:

- All peer-reviewed publications must be deposited in the institutional repository *[name]* at acceptance for publication.
- The version to be deposited is the author's final document once the changes required by peer review have been made.
- The deposit must be made, regardless of whether a publisher embargo is to be observed or there are other legitimate reasons for not making the material openly available at a future date
- Articles must be made openly available immediately wherever possible, or once any embargoes have run their course
- All assessment and evaluation procedures in this institution will use the institutional repository to source publication lists for candidates: publications not deposited at acceptance for publication will not be eligible for consideration

Why this type of policy works

A policy that includes all these criteria and is implemented properly at the institution will succeed in gathering a large volume of Open Access content. The requirement to deposit, and the insistence that this step cannot be waived for any reason, ensure that authors deposit their work.

The authors themselves can be reassured that if there is any sound reason for not making the work Open Access at the time of deposit – a publisher embargo requirement, for example, or ethical or legal reasons why the work should not be made public – then the full text of item can remain closed for the duration of an embargo period, or even forever in those extremely rare cases where there is a legitimate reason.

Policies of this type

The numbers of policies that are like this model-type policy are growing. The first was from the University of Liège (Belgium) and others that have followed suit include the University of Minho (Portugal), University of Turin (Italy), University of Ghent (Belgium), Durham University (UK) and others, including a number of national and international research funding agencies.

Importantly, the policy for the European Commission's Horizon 2020 research funding programme is also of this type, meaning that institutions making this type of policy are aligning their own policy with that of the European funding programme. This is important, as researchers within the institution may be funded under this programme and will therefore have the agreeable experience of their funder's and institution's policies have matching requirements, making it simple to comply with both through one set of actions.