

### **Full List of Consultation Questions**



### **Background Information Questions**

To enable UK Research and Innovation (UKRI) to effectively analyse responses from different stakeholder groups, respondents are requested to provide some background information about themselves. Questions marked with an asterisk (\*) are mandatory. In the online response for some questions, including mandatory questions, will only appear for specific types of respondent.

- I. Please provide a named contact and email address so that UKRI can contact you regarding your responses. \* Dr. Ashley Lenihan, policy@bam.ac.uk
- II. Please indicate if you are also happy for UKRI to contact you about the outcomes of the consultation. \* Yes
- III. Please indicate who you are responding on behalf of. \*
  - a. Yourself as an individual
  - b. An organisation
  - c. Other (including part of an organisation, department, informal group) please specify type:
- IV. Please specify the name of your organisation. \*
  The British Academy of Management
- V. Please specify the name of your group/department. The British Academy of Management
- VI. Please specify which country you, your organisation or your group are based in. The United Kingdom

VII. Which disciplinary area(s) would you associate you, your organisation or your group with? Please select all that apply. \*

- a. Arts and humanities
- b. Medicine, health and life sciences
- c. Physical sciences, engineering and mathematics
- d. Social sciences
- e. Interdisciplinary research
- f. Not applicable

If you, your organisation or your group is responding on behalf of a specific discipline within an area indicated above, please describe it using a maximum of five key words separated by spaces: Business and Management



## VIII. What best describes the capacity in which you, your organisation or your group are responding? \*

- a. Researcher(s)
- b. Publisher (including employees and representative bodies)
- c. Learned society or academy with an in-house publishing arm (including employees)
- d. Learned society or academy which outsources publishing to a third party (including employees)
- e. Learned society or academy which does not publish (including employees)
- f. Providers of scholarly communication infrastructure or services (including employees and representative bodies)
- g. Library or research management (including departments, employees and representative bodies)
- h. Higher education institute (HEI) (including departments, employees and representative bodies)
- i. Business that conducts, uses or publishes research and/or innovation (including employees and representative bodies)
- j. Research and/or innovation funder (including employees and representative bodies)
- k. Member(s) of the public
- I. Other research performing organisation (including departments, employees and representative bodies) please specify:
- m. Other user or producer of research outputs please specify:
- n. Other please specify:
- IX. UKRI will share responses to this consultation (excluding personal data) with its sponsor department, the Department for Business, Energy and Industrial Strategy (BEIS), and other UK government departments and agencies, to explore OA issues. Have you or members of your group applied or been part of an application for grant funding from the following? If applicable, please select all that apply.
  - a. UKRI (including AHRC, BBSRC, ESRC, EPSRC, Innovate UK, MRC, NERC, Research England, STFC, as well as predecessor bodies, HEFCE and RCUK)
  - b. UK Space Agency
  - c. Department for International Development (DFID) and subsidiary bodies
  - d. Department of Health and Social Care (DHSC) including National Institute for Health Research (NIHR) and other subsidiary bodies
  - e. Department for Environment, Food and Rural Affairs (DEFRA) and subsidiary bodies If you or members of your group have applied or been part of an application for grant funding from other UK government departments or their subsidiary bodies, please specify the awarding body:

Many members of BAM will have applied for grant funding from UK government departments and subsidiary bodies but they have not done so 'quae' BAM.



- X. If responding on behalf of a company, please provide your Company Registration Number (if known): 05869337
- XI. If responding on behalf of a charity, please provide your Charity Registration Number (if known): 1117999
- XII. If responding on behalf of an organisation, please indicate your staff headcount (if known).
  - a. ≥ 250 (large business)
  - b. < 250 (medium-sized business)
  - c. < 50 (small business)
  - d. < 10 (micro business)
- XIII. If applicable, which researcher career stage(s) do you, your organisation or your group represent? Select all that apply.
  - a. Postgraduate researcher
  - b. Post-doctoral researcher
  - c. Research leader (responsible for intellectual leadership and overall management of research projects)
  - d. Other (including retired researcher, citizen researcher) please specify: <u>Practitioners:</u> <u>Retired researchers.</u>



### **Section A: Research Articles**

Q1. To what extent do you agree or disagree that it is clear what research articles are in-scope of UKRI's proposed OA policy (see paragraph 46 of the consultation document)? Strongly agree / Agree / Neither agree nor disagree / Disagree / Strongly disagree / Don't know / No opinion.

**If anything is unclear, please explain why** (1,350 characters maximum, approximately 200 words).

It would help to pull footnote 12 of UKRI's consultation document into the definition of what constitutes UKRI funding in paragraph 27. This footnote crucially explains that UKRI "recognises that it is difficult to directly trace research outputs that result from unhypothecated block grant funding provided by Research England to English HE providers," and that "therefore, where block grant funding from Research England is the only UKRI funding acknowledged on an output, it will be exempt from the OA policy requirements." This clarification will be needed by many in the community and should be made more explicitly in the OA policy.

Q2. Are there any additional considerations that the UK HE funding bodies should take into account when defining research articles that will be in-scope of the OA policy for the REF-after-REF 2021? Yes / No / Don't know / No opinion.

If yes, please expand (1,350 characters maximum, approximately 200 words).

Please see paragraphs 29-31 of the consultation document before answering this question.

Applying this policy to the REF-after-REF2021 will essentially mean that all researchers at UK universities will need to publish OA. This may have unintended consequences in disciplines like business and management, where relatively few researchers are UKRI funded, but a majority must comply with REF requirements.

First, the most prestigious B&M journals are in the US, and it remains unclear what their model for OA publishing will be. If it entails high APCs, scholars may no longer have the academic freedom to pick the best publisher and may be forced instead to choose the cheapest – reducing academic freedom and the quality of peer-review.

Second, unless QR-related research funding includes a big increase to cover APCs or 'publish & read'/'read & publish' agreements become widespread, there will be an impact on equality, diversity, and inclusion (EDI). It is unlikely universities will prioritise APCs for early career researchers without additional funding, and there is concern that APCs will not be awarded in a way that promotes EDI when money is scarce. Other groups will also find it challenging to publish in journals with higher APCs, including academics in post-1992 teaching-intensive HEIs that tend to cut funding for research activities when times are tough, preventing them from fully contributing to the REF-after-REF2021.

Q3. In setting its policy, should UKRI consider any other venues for peer-reviewed research articles which are not stated in paragraph 47 of the consultation document? Yes / No / Don't know / No opinion.



If yes, please expand (700 characters maximum, approximately 100 words).

UKRI should consider allowing green OA with an embargo of one year in some cases.

In the B&M discipline, researchers often combine public and private sector funding for projects. Businesses may be less inclined to fund research in partnership with public bodies, if they can no longer benefit from embargoed access to the findings of the research for which they are paying.

It may also be worth allowing for such an embargo for sensitive research projects that may have national security implications.

Q4. Are there any specific challenges for you, your community or your organisation in terms of complying with the requirement in UKRI's proposed policy for immediate OA of in-scope research articles? Yes / No / Don't know / No opinion.

**Please explain and, where possible, evidence your answer.** UKRI notes that there will be a period allowing for implementation before the policy comes into force (see paragraph 70 of the consultation document). (2,650 characters maximum, approximately 400 words.)

The answer to this question depends on how UKRI proceeds with, and chooses to support, its proposed OA policy.

The policy requires UKRI-funded researchers to either publish their final version of record OA (Gold-OA) or the final or accepted version green-OA without an embargo period. Relatively few researchers in the business and management community are UKRI-funded, so if UKRI funding covers the APCs required for Gold-OA publishing in hybrid journals (which are the top journals in our field), the business models of our publishers and our business model as a learned society should remain sustainable, and most of our researchers will have the academic freedom to publish their work where they believe best for effective its dissemination.

However, if the policy proposed here is applied to the REF-after-REF 2021, meaning it will effectively apply to almost all UK-based researchers in business and management, our answer becomes very different. This is because the other OA 'option' of zero-embargo Green OA offered under the current policy is not part of a viable business model for publishers. Green OA without an embargo period will negatively impact subscription sales without bringing in any additional income for publishers. This will undermine the quality of peer-review, editing, dissemination, and discoverability that this income supports.

Thus, if this OA policy is applied to the REF-after-REF 2021, UKRI will need to heavily support widespread 'publish and read' / 'read and publish' agreements and the government would need to provide enough funding for UK researchers (at all levels in all institutions) to cover APCs where such an option is not available. This would be necessary to sustain the health and vibrancy of the UK academic research sector as a whole – to prevent negative impacts on equity, diversity, and inclusion in researchers ability to publish, to maintain academic freedom about where to publish their work for maximum impact, efficient dissemination, effective communication, and career progression, and to ensure the continued survival of independent academic publishers and learned societies in many disciplines (like our own).

The British Academy of Management is a learned society that supports the business and management research community in ways difficult to replicate or replace by government.



In answer to question 67, we outline our concerns about how the OA policy – if not properly supported and applied as just outlined – will threaten many of the key ways that we are able to provide support to the B&M research community, and to evidence-based policymaking, in the UK.

Q5. Should UKRI's OA policy require a version of all in-scope research articles to be deposited in a repository, irrespective of whether the version of record is made OA via a journal or publishing platform? Yes / No / Don't know / No opinion

**Please explain your answer** (700 characters maximum, approximately 100 words). Please note that some Research Councils already require articles to be deposited in specific repositories, as detailed in the terms and conditions of funding. UKRI does not expect this to change.

However, it should be noted that this may lead to unnecessary duplication and effort.

Q6. For research articles, are there any additional considerations relating to OA routes, publication venues and embargo periods that the UK HE funding bodies should take into account when developing the OA policy for the REF-after-REF 2021? Yes / No / Don't know / No opinion.

If yes, please expand (2,000 characters maximum, approximately 300 words).

Please see paragraphs 29-31 of the consultation document before answering this question.

We strongly urge that if the current OA policy being proposed is applied to the REF-after-REF 2021, that two considerations are made.

First, that sufficient government funding is provided to universities to cover the APCs their researchers will need to pay in order to publish with journals that make the final version of record immediately OA ('Gold OA'). This is needed to ensure that equity, diversity, and inclusion is not adversely impacted, and that there is full access for all UK researchers to pursue the Gold OA option where it is both available and the right choice for their research. To make this work, the government will need to work with the publishing community to ensure that APCs remain reasonable and appropriate, while maintain high-quality standards for peer-review.

Second, given the importance of hybrid journals to publishing in the social sciences and other disciplines, in the UK and abroad, we strongly urge a more flexible approach to publication in these journals for the REF-after-REF 2021. Plan-S' new guidance, allowing for publication in hybrid journals that aim for transformation to full OA by the end of 2024, is an encouraging recognition of the challenges that the community faces in finding sustainable solutions **and** the time needed to do so.

Third, green OA with an embargo of one year should be allowed for the OA policy that will apply to the REF-after-REF 2021. In the B&M discipline, researchers often access funding from business, other governments, and learned societies. Shifts in publishing income as a result of new OA policies will mean many learned societies may be unable help provide such support, and foreign private and public funding may be unavailable to researchers without the academic freedom to publish where they choose. Moreover, businesses may be less inclined to fund research in partnership with public bodies, if they can no longer benefit from embargoed access to the findings of the research for which they are paying.



Q7. To what extent do you agree or disagree that where compliance with UKRI's OA policy is achieved via a repository, a CC BY licence (or Open Government Licence where needed) should be required for the deposited copy? Strongly agree / Agree / Neither Agree nor disagree / Disagree / Strongly disagree / Don't Know / No opinion.

Please explain your answer (1,350 characters maximum, approximately 200 words).

Many researchers in the business and management community will have difficulty publishing their research under a CC-BY licence, because it allows for derivative reproduction of their work. The substantive content of B&M research must be understood within the context of their authors' arguments as a whole. Additionally, B&M research often also includes citations and reproductions of proprietary data and information that are allowed for embargoed or limited use, but which would not be possible to include in articles published under a CC-BY licence. Requiring a CC-BY licence in all circumstances would therefore not lead to useful data sharing in the B&M community and for its users (including government), and would instead lead to the inability of authors to share important information with their intended audiences, which sometimes need to be temporarily limited. Requiring a CC-BY licence would also lead to the potential for derivative arguments to spread within the community that muddy and confuse, rather than further and improve, scholarship and innovation.

Q8. To what extent do you agree or disagree that UKRI's OA policy should have a case-by-case exception allowing CC BY-ND for the version of record and/or author's accepted manuscript. Strongly agree / Agree / Neither agree nor disagree / Disagree / Strongly disagree / Don't know / No opinion.

Please explain your answer. UKRI particularly welcomes evidence supporting: specific cases where ND is considered necessary; an ND exception not being necessary; any implications an ND exception could have for access and reuse (2,000 characters maximum, approximately 300 words).

We would suggest that this simply be made an automatic option, at least in those disciplines where it is likely to be most often required.

Per the above, it will be difficult for many researchers within our discipline to publish their research under the CC-BY licence, unless they are allowed to do so in a way that does not allow derivate reproduction of their work (in other words through a CC-BY-ND licence). As above, B&M research requires the context of its original argument and theoretical framework to be accurately understood, meaning that allowing for derivative use would cause confusion and actually hinder innovation and progression of the discipline. B&M journal articles also often include citations and reproductions of proprietary data and information that would not be possible without the use of CC-BY-ND licence, meaning that the 'ND' option is critical for proper effective information sharing. Yet, only allowing for a CC-BY-ND licence by individual cases by case exemption will be administratively time-consuming and costly to the publishing and research community as a whole. For these reasons we believe CC-BY-ND licences should be an automatic option, at least for those disciplines and sectors where it is clearly likely to be necessary and case-by-case review will not be practical.

Q9. Would the proposed licensing requirements for UKRI's OA policy, which exclude third-party content (see paragraph 55 of the consultation document), affect your or your organisation's ability to publish in-scope research articles containing third-



party content? Yes / No / Don't know / No opinion.

If yes, please explain how (1,350 characters maximum, approximately 200 words).

As above B&M journal articles can include citations and reproductions of proprietary data and information that would not be possible without the use of CC-BY-ND licence, meaning that the 'ND' option is critical for proper effective information sharing.

Q10. Are there other considerations UKRI should take into account regarding licensing requirements for research articles in-scope of its proposed OA policy? Yes / No / Don't know / No opinion

If yes, please expand (1,350 characters maximum, approximately 200 words).

Q11. For research articles, are there any additional considerations relating to licensing that the UK HE funding bodies should take into account when developing the OA policy for the REF-after-REF 2021? Yes / No / Don't know / No opinion.

If yes, please expand (2,000 characters maximum, approximately 300 words).

The OA policy for the REF-after-REF2021 should include some form of exception for the CC-BY-ND licence, and should consider that for certain REF Panels (like Main Panel C which covers business and management studies along with other social sciences), CC-BY-ND should be made a standard option without the need for exceptional approval, for the same reasons stated above.

Please see paragraphs 29-31 of the consultation document before answering this question.

- Q12. Which statement best reflects your views on whether UKRI's OA policy should require copyright and/or rights retention for in-scope research articles?
  - a. UKRI should require an author or their institution to retain copyright and not exclusively transfer this to a publisher
  - b. UKRI should require an author or their institution to retain specific reuse rights, including rights to deposit the author's accepted manuscript in a repository in line with the deposit and licensing requirements of UKRI's OA policy
  - c. UKRI should require an author or their institution to retain copyright AND specific reuse rights, including rights to deposit the author's accepted manuscript in a repository in line with the deposit and licensing requirements of UKRI's OApolicy
  - d. UKRI should not have a requirement for copyright or rights retention
  - e. Don't know
  - f. No opinion

Please explain your answer. UKRI particularly welcomes views as to whether it is necessary to require copyright and/or rights retention if its policy were to require a CC BY licence, which enables reuse. If you selected answer b or c, please state what reuse rights you think UKRI's OA policy should require to be retained (2,000 characters maximum, approximately 300 words).

Please note that views are not sought on whether institutions should hold the copyright to work produced by their employees as this is subject to Section 11 of the Copyright, Designs and Patents Act 1988 and institutional copyright policies.



As the Academy of Social Sciences points out in its submission to this consultation, the current arrangements work well and, if articles are published using CC-BY licences, copyright becomes irrelevant.

# Q13. Regarding research articles in-scope of UKRI's OA policy, to what extent do you agree or disagree with each of the seven proposed technical standard requirements for <u>iournals and OA publishing platforms</u>?

For **each** of the seven standards (see paragraphs 67a-67g of the consultation document): Strongly agree / Agree / Neither agree nor disagree / Disagree / Strongly disagree / Don't know / No opinion

For **each** of the seven standards (see paragraphs 67a-67g of the consultation document), **please explain your answer** (700 characters maximum, approximately 100 words, per standard).

- a. persistent digital object identifiers (PIDs) for research outputs must be implemented according to international standards such as DOI, URN or Handle
- b. article-level metadata must be used according to a defined application profile that supports UKRI's proposed OA policy and is available via a CC0 public domain dedication; the metadata standard must adhere to international best practice such as the Crossref schema and OpenAIRE guidelines
- c. machine-readable information on the OA status and the licence must be embedded in the article in a standard non-proprietary format
- d. long-term preservation must be supported via a robust preservation programme such as CLOCKSS, Portico or an equivalent
- e. openly accessible data on citations must be made available according to the standards set out by the Initiative for Open Citations (I4OC)
- f. self-archiving policies must be registered in the SHERPA RoMEO database that underpins SHERPA/FACT
- g. unique PIDs for research management information must be used and must include the use of ORCID to identify all authors and contributors

# Q14. Regarding research articles in-scope of UKRI's OA policy, to what extent do you agree or disagree with each of the five proposed technical standard requirements for <u>institutional and subject repositories</u>?

For **each** of the five standards (see paragraphs 68a-68e of the consultation document): Strongly agree / Agree / Neither agree nor disagree / Disagree / Strongly disagree / Don't know / No opinion

For **each** of the five standards (see paragraphs 68a-68e of the consultation document), **please explain your answer** (700 characters maximum, approximately 100 words, per standard).

- a. PIDs for research outputs must be implemented according to international standards such as DOI, URN or Handle
- b. article-level metadata must be implemented according to a defined application profile that supports the proposed UKRI OA policy and is available via a CC0



public domain dedication; this should include the persistent identifier to both the author's accepted manuscript and the version of record; the metadata standard must adhere to international best practice such as the OpenAIRE guidelines

- c. machine-readable information on the OA status and the licence must be embedded in the article in a standard non-proprietary format
- d. unique PIDs for research management information must be used and must include the use of ORCID to identify all authors and contributors
- e. the repository must be registered in the Directory of Open Access Repositories (OpenDOAR)
- Q15. To support the adoption of technical standards for OA, are there other standards, actions and/or issues UKRI should consider? Yes / No / Don't know / No opinion.

Please explain your answer (2,650 characters maximum, approximately 400 words).

Q16. To support the implementation of UKRI's proposed OA policy requirement for research articles to include an access statement for underlying research materials (see paragraph 69 of the consultation document), are there any technical standards or best practices that UKRI should consider requiring? Yes / No / Don't know / No opinion.

Please explain your answer (1,350 characters maximum, approximately 200 words).

- Q17. UKRI's OA policy is proposed to apply to in-scope research articles accepted for publication on or after 1 January 2022. Which statement best reflects your views on this?
  - a. The policy should apply from 1 January 2022
  - b. The policy should apply earlier than 1 January 2022
  - c. The policy should apply later than 1 January 2022
  - d. Don't know
  - e. No opinion

Please explain your answer. UKRI particularly welcomes detailed evidence as to the practical implications of the choice of date. If you selected b or c, please also state what you consider to be a feasible implementation date (2,000 characters maximum, approximately 300 words).

It would make sense to apply this policy later than January 2022, and instead align it to the timing of the REF-after-REF2021 to ensure both maximum compliance and minimal confusion. As the AcSS points out in its submission to this consultation, articles often take a year to go through the publication process from submission to acceptance, meaning that many articles being accepted around the January 2022 date will have already been submitted in January 2021 (not long after UKRI's planned announcement of its OA policy).

Q18. For research articles, are there any considerations that UKRI and UK HE funding bodies need to take into account regarding the interplay between the implementation dates for UKRI's OA policy and the OA policy for the REF-after-REF 2021? Yes / No / Don't know / No opinion



**If yes, please expand** (2,000 characters maximum, approximately 300 words).

Please see response to Q17.

Q19. Do you think the proposals outlined in Section A will have any financial cost implications for you or your organisation? Yes / No / Don't Know / No opinion.

Please expand, providing evidence to support your view, where possible (2,000 characters maximum, approximately 300 words).

If this policy is applied widely, e.g. to the REF-after-REF 20201, we will lose about 30% of our total income as a learned society. As a charity, we put all our publishing income back into capacity building programmes and research grants for the public benefit. Much of the publishing income we will lose currently supports research grants in a community with little access to UKRI funding: a 2020 CABS report found that "Business & Management Studies received only 3.5% of total grants authorised by the ESRC for 2016/17 to 2018/19", which "is disproportionately small given that 8% of all academic staff in UK universities are employed in the Business & Management cost centre." The rest of this publishing income goes to support capacity and career building activities of various sorts, international research collaboration, international and interdisciplinary networking, and our policy and engagement activities. (We have outlined the activities we engage in for public benefit, which are at threat, in greater detail in answer to question 67.)

We should note that like many learned societies, the bulk of the rest of our income comes from membership subscriptions and the revenue from our annual conferences and events, income which has been drastically reduced as a result of the current Covid-19 pandemic. We have had to dramatically curtail all events, moving them and our annual conference 'online', leading to a dramatic loss of revenue for this year both from the annual conference and potentially from associated membership loss. The pandemic's impact on UK HE will continue to impact our income and hence our ability to support our community for some years to come. Our ability to survive in a post-pandemic environment will be deeply affected if this policy is applied to the REF-after-REF 2021 and UKRI does not go to great lengths to support widespread publish & read/read & publish agreements and the government does not provide widespread funding for APCs.

Q20. Do you think the proposals outlined in Section A of the consultation document will result in financial benefits for you or your organisation? Yes / No / Don't Know / No opinion.

Please expand, providing evidence to support your view, where possible (2,000 characters maximum, approximately 300 words).

Q21. Can you provide any evidence of a changing balance of costs across research organisations arising from an emphasis on publishing costs rather than read costs? Yes / No / Don't know / No opinion.

**Please expand** (2,000 characters maximum, approximately 300 words).

It is difficult to provide evidence for something that has not yet occurred. We will monitor the situation, and endeavour to provide evidence as it arises.



Q22. Can you provide any evidence on cost increases and/or price rises (including in relation to OA article processing charges (APCs)s and subscriptions) and reasons for these? Yes / No / Don't know / No opinion.

**Please expand** (2,000 characters maximum, approximately 300 words).

We understand from the publishers that we work with that the proposed cap of APCs at 2000 euros (under Plan S), will not necessarily cover the publishing costs of journals that are highly selective – i.e. which curate excellent content. Publishing more quantity would then be necessary, but that is not what makes a strong brand for effective dissemination or what leads to a high-quality research sector.

At the same time, APCs would need to be either nominal or fully funded for all, if equality, equity, and diversity is not to be adversely impacted – i.e., so that (for example) PhDs, early-career researchers, and those without institutional support can afford to publish their work in recognised journals.

Q23. Do you think there are steps publishers and/or other stakeholders could take to improve the transparency of publication charges? Yes / No / Don't know / No opinion.

Please expand. Views are also welcome on how greater transparency might inform future funding levels (2,000 characters maximum, approximately 300 words).

In the interest of transparency, we as a learned society already show our publication income in our annual accounts and the publishers that we work with share the accounts with us.

It would help, however, to either ensure that there is a general APC standard or cap (though this will be difficult to dictate to publishers for the reasons discussed above), and that APC charges for individual journals are made publicly available on their websites at the point of submission (rather than after acceptance). T&F, for example, are about to implement a new submission system that will allow authors to easily resubmit a manuscript to another journal within T&F, while also quoting applicable APCs at the point of submission.

- Q24. Regarding UKRI's consideration about restricting the use of its OA funds for publication in hybrid journals (see paragraph 80 of the consultation document), please select the statement that best reflects your views:
  - a. UKRI OA funds should <u>not</u> be permitted to support OA publication in hybrid journals
  - b. UKRI OA funds should <u>only</u> be permitted to support OA publication in hybrid journals where they are party to a transformative agreement or similar arrangement
  - c. UKRI OA funds should be permitted to support OA publication in hybrid journals
  - d. None of the above
  - e. Don't know
  - f. No opinion



Please explain and, where possible, evidence your answer (2,650 characters maximum, approximately 400 words).

In Business and Management studies, as in the social sciences more widely, hybrid journals offer the primary route to open access for the version of record (Gold OA). As the AcSS points out in its submission, there are "very few full OA journals" in the social sciences "and those that do [exist] are often either financially unsustainable or have to be subsidised (not something that learned societies generally have the resources to do). If UKRI did not fund Gold OA in hybrid journals it would dramatically limit the availability of publishing outlets and options for the social science community. Furthermore, UKRI wishes to see research it has funded published open access. Hybrid journals offer that facility just as well as fully OA journals and should be embraced within the policy. The emergence of P&R / R&P transformative arrangements offers an opportunity to many hybrid journals in social sciences to embrace OA more fully and this may well benefit the gradual transition to a more sustainable model of OA, while preserving the high quality of hybrid journals." Additionally, hybrid models provide routes to publishing in high quality outlets, which are available regardless of ability to pay and this is crucial for scholars in many parts of the world.

Q25. To what extent do you agree or disagree that UKRI OA funds should be permitted to support OA costs that support institutional repositories? Strongly agree / Agree / Neither agree nor disagree / Disagree / Strongly disagree / Don't know / No opinion.

Please explain and, where possible, evidence your view (2,650 characters maximum, approximately 400 words).

Q26. To help accelerate policy adoption, should UKRI introduce any other restrictions on how UKRI OA funds can be used? Yes / No / Don't know / No opinion.

Please explain your answer, including any views on how this could be implemented (1,350 characters maximum, approximately 200 words).

Q27. There are many business models that can support OA. A common model for journals is based on APCs, but there are also other models (such as membership models and subscribe to open). Are there changes or alternatives to the present UKRI funding mechanisms that might help support a diversity of OA models? Yes / No / Don't know / No opinion.

**Please expand** (2,650 characters maximum, approximately 400 words).

Q28. As discussed in paragraph 74 of the consultation document, transformative agreements are one way of moving to OA in a more cost-effective way. Are there approaches to managing transformative agreements or other mechanisms and developments that UKRI should consider to help manage the transition to OA in a way that is cost-effective and offers public value to the UK? Yes / No / Don't know / No opinion.

Please expand (2,650 characters maximum, approximately 400 words).

As mentioned above, it is important that Read & Publish / Publish & Read deals become widespread in the UK, and where they are not available that funding is made available to cover APCs for UK researchers in a manner that respects EDI. We support the AcSS



call for UKRI to "seriously consider using the block grant to fund R&P / P&R deals nationally for UK universities as a whole, across the main publishers." In addition, greater OA-funding or QR-related funding should be made available to HEIs to support APCs for those journals that are independently published, or where such deals do not prove feasible, and to support HEI repositories.

- Q29. Are there any existing or new infrastructure services that you think UKRI should fund the maintenance and/or development of, to support the implementation of its OA policy for research articles? Yes / No / Don't know / No opinion
  - If yes, please state what these are and explain and, where possible, evidence why UKRI should provide support (2,650 characters maximum, approximately 400 words).
- Q30. To what extent do you agree or disagree that UKRI should provide or support a national shared repository? Strongly agree / Agree / Neither agree nor disagree / Disagree / Strongly disagree / Don't know / No opinion
  - Please explain and, where possible, evidence your answer (1,350 characters maximum, approximately 200 words).
- Q31. Should UKRI require preprints to be made OA where there is a significant benefit with regard to public emergencies? Yes / No / Don't know / No opinion.

If yes, is there a recognised definition of 'public emergency' and/or protocols that UKRI should consider if this policy is implemented? (1,350 characters maximum, approximately 200 words.)

UKRI should require preprints to be made OA when there is significant benefit with regard to public emergencies, such as during this pandemic when the SAGE committee is mobilised. (Indeed, "when the SAGE Committee is mobilised" would be an appropriate criterion to consider, as this indicates that scientific knowledge is urgently required.) In many cases, this will essentially be a donation by learned societies that often supply the infrastructure of peer review and quality review.

Q32. Are there any supporting actions that UKRI could take alongside its OA policy to support the use of preprints in all disciplines? Yes / No / Don't know / No opinion.

If yes, please expand (1,350 characters maximum, approximately 200 words).

The social sciences do not traditionally use pre-prints, so it would be more practical for resources to focus on the goal of supporting Gold OA where possible through the means discussed above.



## Section B: Monographs, Book Chapters and Edited Collections

Q33. To what extent do you agree or disagree that the types of monograph, book chapter and edited collection defined as in-scope and out-of-scope of UKRI's proposed OA policy (see paragraphs 96-98 of the consultation document) are clear? Strongly agree / Agree / Neither agree nor disagree / Disagree / Strongly disagree / Don't know / No opinion.

**If you disagree, please explain your view** (2,000 characters maximum, approximately 300 words).

The 'in-scope' definitions are clear, but concerns remain. Further clarifications are needed, for example, around the OA requirements for edited volumes, when only some – perhaps a minority of – chapter contributors are UKRI funded.

'Out-of-scope' definitions seem clearer, and it is important that trade-books and text-books remain out-of-scope.

- Q34. Should the following outputs be in-scope of UKRI's OA policy when based on UKRI-funded doctoral research?
  - a. Academic monographs Yes / No / Don't know / No opinion
  - b. Book chapters Yes / No / Don't know / No opinion
  - c. Edited collections Yes / No / Don't know / No opinion

Please explain your view (1,350 characters maximum, approximately 200 words).

We support the evidence of the AcSS that: "Early career researchers have well documented difficulty in gaining access to OA funding in general, and there is no reason to expect the same not to apply to book chapters and doctoral theses published as monographs. We are concerned at issues of equality, inclusion and diversity if OA requirements include UKRI-funded doctoral research."

Q35. To what extent do you agree or disagree that UKRI's OA policy should include an exception for in-scope monographs, book chapters and edited collections where the only suitable publisher in the field does not have an OA programme? Strongly agree / Agree / Neither agree nor disagree / Disagree / Strongly disagree / Don't know / No opinion.

Please explain and, where possible, evidence your view (1,350 characters maximum, approximately 200 words).

Monograph publishers can be highly specialised in scope and often work on very low profit margins. Not allowing for an exception in such cases may threaten the survival of such vital publishers, and negatively impact the disciplines that depend on them.

Q36. Are there any other considerations that the UK HE funding bodies should take into account when defining academic monographs, book chapters and edited collections in-scope of the OA policy for the REF-after-REF 2021? Yes / No / Don't know / No opinion.



If yes, please expand (2,000 characters maximum, approximately 300 words).

Please see paragraphs 29-31 of the consultation document before answering this question.

- Q37. Regarding <u>monographs</u> in-scope of UKRI's proposed OA policy, which statement best reflects your view on the maximum embargo requirement of 12 months?
  - a. 12 months is appropriate
  - b. A longer embargo period should be allowed
  - c. A shorter embargo period should be required
  - d. Different maximum embargo periods should be required for different discipline areas
  - e. Don't know
  - f. No opinion

Please explain and, where possible, evidence your answer. If you answered b, c or d please also state what you consider to be (an) appropriate embargo period(s) (1,350 characters maximum, approximately 200 words).

The UUK Open Access and Monographs Evidence Review (2019) points out around 70% of sales from academic monographs take place in the first two years, helping publishers to recover the costs of outlays such as acquisition, quality peer-review, printing, marketing, and related staff time. Too short an embargo period could threaten the survival of specialist publishers, and of academic print publishing, in some disciplines. More investigation and pilot studies into appropriate embargo times are needed for monographs.

- Q38. Regarding <u>book chapters</u> in-scope of UKRI's proposed OA policy, which statement best reflects your view on the maximum embargo requirement of 12 months?
  - a. 12 months is appropriate
  - b. A longer maximum embargo period should be allowed
  - c. A shorter maximum embargo period should be required
  - d. Different maximum embargo periods should be required for different discipline areas
  - e. Don't know
  - f. No opinion

Please explain and, where possible, evidence your answer. If you answered b, c or d please also state what you consider to be (an) appropriate embargo period(s) (1,350 characters maximum, approximately 200 words).

The British Academy's report on <u>Open Access and Book Chapters</u> (2019) found that there is already a default difference among disciplines, and that among those publishers that already allow green OA for book chapters, "the most commonly stipulated embargo periods are 12 months (sometimes explicitly for science books), and 24 months (sometimes implicitly for humanities and social sciences books)."



- Q39. Regarding <u>edited collections</u> in-scope of UKRI's proposed OA policy, which statement best reflects your view on the maximum embargo requirement of 12 months?
  - a. 12 months is appropriate
  - b. A longer embargo period should be allowed
  - c. A shorter embargo period should be required
  - d. Different maximum embargo periods should be required for different discipline areas
  - e. Don't know
  - f. No opinion

Please explain and, where possible, evidence your answer. If you answered b, c or d please also state what you consider to be (an) appropriate embargo period(s) (1,350 characters maximum, approximately 200 words).

For the same reasons as given in our response to Q38.

Q40. Do you have any specific views and/or evidence regarding different funding implications of publishing monographs, book chapters or edited collections with no embargo, a 12-month embargo or any longer embargo period? Yes / No.

If yes, please expand (2,000 characters maximum, approximately 300 words).

Please note that funding is further considered under paragraph 110 of the consultation document (question 53).

Q41. To what extent do you agree that self-archiving the post-peer-review author's accepted manuscript should meet the policy requirement? Strongly agree / Agree / Neither agree nor disagree / Disagree / Strongly disagree / Don't know / No opinion.

Please explain and your view (1,350 characters maximum, approximately 200 words).

Q42. Regarding monographs, book chapters and edited collections, are there any additional considerations relating to OA routes, deposit requirements and delayed OA that the UK HE funding bodies should take into account when developing the OA policy for the REF-after-REF 2021? Yes / No / Don't know / No opinion.

If yes, please expand (2,650 characters maximum, approximately 400 words).

Please see paragraphs 29-31 of the consultation document before answering this question.

The UUK Open Access and Monographs Evidence Review (2019) points out that it could "cost somewhere in the region of £19.2m to make books submitted to the REF freely available ... assum[ing] an immediate OA model which may be accompanied by a fee (estimated at around £7,500 per book). This is a significant figure for funders and institutions to consider in any policy development for OA books."

We thus strongly support the point made by the Academy of Social Sciences in their submission to this review that:

"In the likely event that Gold OA funding is not available for many of the books submitted to future REF, then the Green AAM route will dominate. If this is the case, it is vital that



there is an embargo period that allows monograph publishing to be financially sustainable for the publisher to enable costs in the re-view, editing and production process to be recouped. ... 12 months is unlikely to be sufficient."

Q43. To what extent do you agree or disagree with CC BY-ND being the minimum licencing requirement for monographs, book chapters and edited collections inscope of UKRI's proposed OA policy? Strongly agree / Agree / Neither agree nor disagree / Disagree / Don't know / No opinion.

Please explain and, where possible, evidence your view (1,350 characters maximum, approximately 200 words).

This is the recommendation made in the 2019 UUK 'Open access and monographs' evidence review.

Q44. To what extent do you agree or disagree that UKRI's OA policy should include an exception for in-scope monographs, book chapters and edited collections requiring significant reuse of third-party materials? Strongly agree / Agree / Neither agree nor disagree / Disagree / Strongly disagree / Don't know / No opinion.

**Please explain your view** (1,350 characters maximum, approximately 200 words). Questions 45-46 concern how 'significant reuse' may be defined.

Q45. To what extent do you agree or disagree that if an image (or other material) were not available for reuse and no other image were suitable, it would be appropriate to redact the image (or material), with a short description and a link to the original? Strongly agree / Agree / Neither agree nor disagree / Disagree / Strongly disagree / Don't know / No opinion.

Please explain your view (1,350 characters maximum, approximately 200 words).

Q46. Do you have a view on how UKRI should define 'significant use of third-party materials' if it includes a relevant exception in its policy? Yes / No / Don't know / No opinion.

If yes, please expand (2,000 characters maximum, approximately 300 words).

Q47. Do you have any other comments relating to licensing requirements and/or the use of third-party materials, in relation to UKRI's proposed OA policy for academic monographs, book chapters and edited collections? Yes / No.

**If yes, please expand** (1,350 characters maximum, approximately 200 words).

Q48. Regarding monographs, book chapters and edited collections, are there any additional considerations relating to licensing requirements and/or third-party materials that you think that the UK HE funding bodies should take into account when developing the OA policy for the REF-after-REF 2021? Yes / No / Don't know / No opinion.

If yes, please expand (2,650 characters maximum, approximately 400 words).

Please refer to paragraphs 29-31 of the consultation document before answering this



question.

The OA monograph policy proposed here, that allows for the use of a CC-BY-ND licence, should also apply to the REF-after-REF 2021.

- Q49. Which statement best reflects your views on whether UKRI's OA policy should require copyright and/or rights retention for in-scope monographs, book chapters and edited collections?
  - a. UKRI should require an author or their institution to retain copyright and not exclusively transfer this to a publisher
  - b. UKRI should require an author or their institution to retain specific reuse rights, including rights to deposit the author's accepted manuscript in a repository in line with the deposit and licensing requirements of UKRI's OA policy
  - c. UKRI should require an author or their institution to retain copyright AND specific reuse rights, including rights to deposit the author's accepted manuscript in a repository in line with the deposit and licensing requirements of UKRI's OApolicy
  - d. UKRI's OA policy should not have a requirement for copyright or rights retention
  - e. Don't know
  - f. No opinion

Please explain and, where possible, evidence your answer. If you selected answer b or c, please state what reuse rights you think UKRI's OA policy should require to be retained (2,000 characters maximum, approximately 300 words). It is not necessary to repeat here, in full, information provided in response to question 12.

Please note that views are not sought on whether institutions should hold the copy-right to work produced by their employees as this is subject to Section 11 of the Copyright, Designs and Patents Act 1988 and institutional copyright policies.

- Q50. Regarding the timing of implementation of UKRI's OA policy for monographs, book chapters and edited collections, which statement best reflects your view?
  - a. The policy should apply from 1 January 2024
  - b. The policy should apply earlier than 1 January 2024
  - c. The policy should apply later than 1 January 2024
  - d. Don't know
  - e. No opinion

Please explain and, where possible, evidence your answer. If you selected b or c, please also state what you consider to be a feasible implementation date (2,000 characters maximum, approximately 300 words).

Q51. In order to support authors and institutions with policy implementation UKRI will consider whether advice and guidance can be provided. Do you have any suggestions regarding the type of advice and guidance that might be helpful? Yes/ No.

If yes, please expand (2,000 characters maximum, approximately 300 words).



Q52. Regarding monographs, book chapters and edited collections, are there any other considerations that UKRI and the UK HE funding bodies need to take into account when considering the interplay between the implementation dates for the UKRI OA policy and the OA policy for the REF-after-REF 2021 OA? Yes / No / Don't know / No opinion.

If yes, please expand (2,650 characters maximum, approximately 400 words).

Q53. Do you have any views regarding funding levels, mechanisms and eligible costs to inform UKRI's considerations about the provision of funding for OA monographs, book chapters and edited collections in-scope of its proposed policy? Yes / No.

If yes, please expand (2,650 characters maximum, approximately 400 words).

Q54. To support the implementation of UKRI's OA policy, are there any actions (including funding) that you think UKRI and/or other stakeholders should take to maintain and/or develop existing or new infrastructure services for OA monographs, book chapters and edited collections? Yes / No / Don't know / No opinion.

If yes, please state what these are and, where relevant, explain why UKRI should provide support (2,650 characters maximum, approximately 400 words).

Q55. Are there any technical standards that UKRI should consider requiring and/or encouraging in its OA policy to facilitate access, discoverability and reuse of OA monographs, book chapters and edited collections? Yes / No / Don't know / No opinion.

**Please expand** (2,000 characters maximum, approximately 300 words).

Q56. Do you have any other suggestions regarding UKRI's proposed OA policy and/or supporting actions to facilitate access, discoverability and reuse of OA monographs, book chapters and edited collections? Yes / No / Don't know / No opinion.

**If yes, please expand** (2,000 characters maximum, approximately 300 words).



### **Section C: Monitoring Compliance**

Q57. Could the manual reporting process currently used for UKRI OA block grants be improved? Yes / No / Don't know / No opinion.

If yes, please explain how (2,000 characters maximum, approximately 300 words).

Q58. Except for those relating to OA block grant funding assurance, UKRI has in practice not yet applied sanctions for non-compliance with the RCUK Policy on Open Access.

Should UKRI apply further sanctions and/or other measures to address non-compliance with its proposed OA policy? Yes / No / Don't know / No opinion.

Please explain your answer (2,000 characters maximum, approximately 300 words).

Q59. To what extent do you agree or disagree with the example proposed measures to address non-compliance with the proposed UKRI OA policy (see paragraph 119 of the consultation document)? Strongly agree / Agree / Neither agree nor disagree / Disagree / Strongly disagree / Don't know / No opinion.

Please explain your answer (2,000 characters maximum, approximately 300 words).



### Section D: Policy Implications and Supporting Actions

Q60. Do you foresee any benefits for you, your organisation or your community arising from UKRI's proposed OA policy? Yes / No / Don't know / No opinion.

Please expand (2,650 characters maximum, approximately 400 words).

The British Academy of Management (BAM) strongly supports Open Access (OA) publishing and the goal of increasing sustainable OA to allow for the wider dissemination of knowledge and an open exchange of ideas within society. We encourage UKRI to consider some modifications to its model to reach the goal of dramatically increasing OA. Relaxations to the transformative agreements required under cOAlition S guidelines are welcomed. Green-OA with a maximum year-long embargo, and the ability to more easily access CC-BY-ND licence options, would also be more appropriate for some social science disciplines, like Business and Management. Other business models for achieving fully Gold-OA journals (such as institutional subsidies of the type reached in Germany with Project-DEAL) should also be investigated to avoid the unintended consequences of a move to a fully 'pay-to-publish' system. And if the UK moves to a model where authors, rather than readers, bear the brunt of the cost of publications, strong consideration should be given to increase OA block grants in order to help ensure there is enough money available to avoid inequity in the system.

Q61. Do you foresee UKRI's proposed OA policy causing and/or contributing to any disadvantages or inequalities? Yes / No / Don't know / No opinion.

If yes, please expand, referencing specific policy elements and including any comments on how UKRI could address any issues identified (2,650 characters maximum, approximately 400 words).

A move to a pay-to-publish system will clearly disadvantage those unable to pay, for example early career researchers, those on fixed term and atypical contracts, those from poorer nations, and independent or practitioner researchers. Their choice of publishing outlet will need to be price-led rather than quality-led and this will impact career development. We know that this is likely to impact minority groups disproportionately as our new research is showing that the non-traditional career routes are, for example, highly gendered. It seems unlikely that sufficient funds will be available within HEIs to pay for publishing, and difficult choices – especially around new and innovative ideas – will need to be made. This will be particularly important if high-status journals charge high APCs. Permitting hybrid journals and embargoed green OA within the policy would mitigate this with small effect on the underlying desire for open publication.

The proposed open licensing requirements will disadvantage those working with proprietary or sensitive data, and inhibit work with commercial companies. Discipline-wide exceptions allowing for CC-BY-ND licences where appropriate, would help mitigate this issue.

Removal of income from learned societies would disadvantage those currently benefiting from additional grant, capacity building opportunities, and policy advice as there will no longer be the money to fund these activities.



Q62. Do you foresee any positive and/or negative implications of UKRI's proposed OA policy for the research and innovation and scholarly communication sectors in low-and-middle-income countries? Yes / No / Don't know / No opinion.

If yes, please expand, referencing specific policy elements and including any comments on how UKRI could address any issues identified (2,650 characters maximum, approximately 400 words).

Q63. Do you anticipate any barriers or challenges (not identified in previous answers) to you, your organisation or your community practising and/or supporting OA in line with UKRI's proposed policy? Yes / No / Don't know / No opinion.

If yes, please expand, including any supporting actions you think UKRI could undertake to remove or reduce any barriers identified (2,650 characters maximum, approximately 400 words).

As a learned society, BAM supports the B&M research community in ways that would be difficult to replicate or replace by government. We strongly support greater OA, but are concerned the proposed model (of only either Gold-OA or zero-embargo green-OA) will threaten the key ways we provide support to the B&M research community, and evidence-based policymaking, in the UK.

We publish two of the highest-ranking journals in our discipline: the *British Journal of Management* (BJM, rated 4 in the Academic Journals Guide and ranked 10 in the field by JCR with a 2.75 impact factor) and the *International Journal of Management Reviews* (IJMR, ranked 7 in the field by JCR with a 7.6 impact factor). These hybrid journals provide 25% to 60% of our income per year, all of which we spend on charitable activities for our community. It allows us to provide grant funding, career & capacity building activities, engage in policy work, and foster interdisciplinary & international networking and outreach programs. It also allows us to support international research collaboration: actively through research projects and supportively through collaborative grants.

Biennially, around 25% of BAM's publishing income goes to direct grant funding for research via 5 dedicated grant schemes and ad-hoc projects for early- and mid-career researchers doing blue skies research. These are valued in the community for their support of international collaboration & interdisciplinary research, and they are transformative for careers in an environment where wider funding is largely non-existent. Much of the work for our publications is carried out on a voluntary basis.

BAM's publishing income is also used to subsidise the capacity-building workshops we run. Constraints in HEIs and the wider funding landscape mean we must be able to provide these affordably if they are to benefit HEIs and individual researchers. Yet, while facilitators offer their time for free, their travel, venue costs and administrative support must still be covered.

Some of the income is also used to fund our policy & engagement work for the public benefit of the B&M and wider UK policymaking communities. We aim to foster engagement of B&M researchers with policymaking and policy issues. We train & assist them to translate their work for policymaking relevance, and encourage our experts to provide evidence to parliamentary inquiries and government consultations. We also submit to inquiries & consultations on behalf of our community, facilitating policymakers'



access to high-quality evidence-based advice from B&M research.

Q64. Are there any other supporting actions (not identified in previous answers) that you think UKRI could undertake to incentivise OA? Yes / No / Don't know / No opinion.

If yes, please expand (2,000 characters maximum, approximately 300 words).

We support the AcSS policy recommendation that UKRI support widespread adoption of Publish & Read / Read & Publish deals where possible.

Q65. Do you foresee any other implications (not identified in previous answers) for you, your organisation or your community arising from UKRI's proposed OA policy? Yes / No / Don't know / No opinion.

If yes, please expand (2,000 characters maximum, approximately 300 words).



#### **Section E: Further Comments**

Q66. Do you have any further comments relating to UKRI's proposed OA policy? Yes / No.

If yes, please expand (2,650 characters maximum, approximately 400 words.)

We urge UKRI to allow proper time for measured implementation of its OA policy both for itself, and for the REF-after-REF 2021, to ensure that it avoids counter-productive upheavals in the publishing ecosystem, and unintended distributive consequences in the UK research ecosystem. This is particularly important in light of the intense economic impact of the Covid-19 pandemic on UK learned societies and higher education institutions.

Q67. Do you have any further comments relating to commonality between UKRI's proposed OA policy for outputs acknowledging UKRI funding and the OA policy for the REF-after-REF 2021? Yes / No.

**If yes, please expand** (2,650 characters maximum, approximately 400 words.)

Moving to a 'pay-to-publish' OA model across the REF could limit academic freedom at all career levels. It would particularly impact career progression of UK-based business & management academics and the global reach of UK B&M research, by fundamentally changing the nature and quality of research that can and will be published in future.

Academic Freedom: UK-based researchers can currently publish their work where and how they deem appropriate for its effective communication and dissemination. An important component of this is the ability to publish in the field's highest-ranking journals, which are international in reach & scope. The top B&M journals are published in the US, where – even if it were to become Plan-S compliant for publicly-funded research – basic research is less than 45% funded by government and corporate funders pay for roughly 1/4 of basic research, making it unclear the US publishing model will shift to 'pay-to-publish.' If future REFs require OA, most B&M academics may no longer have the freedom to publish in these top journals, impacting career progression and disadvantaging our researchers on the global career market. It would limit the global influence of UK B&M research, as these top journals have dedicated readerships, benefitting from reputations built on careful curation, impeccable peer-review, and quality output. It could impact international collaboration, as researchers in non-Plan-S countries will be less likely to collaborate with UK researchers.

Freedom to access different sources of funding – or to publish without it – will also be affected. Few B&M researchers are funded by cOAlition-S supporters and most high-quality social science research is not funded at a level that includes publication costs. Yet, if REF adopts the same OA policy, most B&M researchers will likely need to pay APCs unless they are able to find a journal with no-embargo green OA – again limiting choices.

UK research quality would also be affected by such a curtailment of academic freedom, lowering our global competitiveness and ability to collaborate internationally. In B&M, peer review and high rejection rates play a crucial role in maintaining research quality and integrity. It allows research knowledge to be appropriately and efficiently filtered, and draws attention to high-quality work in top journals. The push towards a model that would encourage lower rejection rates, 'mega-journals,' and threaten peer-review in the name of economic efficiency would be inappropriate our field.

Q68. Do you have any further thoughts and/or case studies on costs and/or benefits of OA? Yes / No.

If yes, please expand (2,650 characters maximum, approximately 400 words).



### **NOTES**

https://www.sciencemag.org/news/2017/03/data-check-us-government-share-basic-research-funding-falls-below-50