

ANALYSIS OF THE RESPONSES TO THE KNOWLEDGE SHARING QUESTIONS IN THE ONLINE PUBLIC CONSULTATION ON THE FUTURE OF THE EUROPEAN RESEARCH AREA

Introduction

Quoted from the EU web site:

“In 2000, the EU decided to create the European Research Area (ERA). This means creating a unified area all across Europe, in which we should:

- **Enable researchers to move and interact seamlessly**, benefit from world-class infrastructures and work with excellent networks of research institutions;
- **Share, teach, value and use knowledge effectively** for social, business and policy purposes;
- **Optimise and open European, national and regional research programmes** in order to support the best research throughout Europe and coordinate these programmes to address major challenges together;
- **Develop strong links with partners around the world** so that Europe benefits from the worldwide progress of knowledge, contributes to global development and takes a leading role in international initiatives to solve global issues.

The idea was then – and is now – that such an ERA should inspire the best talents to enter research careers in Europe, incite industry to invest more in European research – contributing to the EU objective to devote 3% of GDP for research, and strongly contribute to the creation of sustainable growth and jobs.

Seven years on, the creation of ERA has become a central pillar of the EU 'Lisbon Strategy' for growth and jobs, together with the completion of the Single Market, the European 'broad-based innovation strategy' and the creation of a European Higher Education Area.

Where do we stand?

Many initiatives have been taken by the EU and Member States. But there are still strong national and institutional barriers which prevent ERA from becoming a reality.

For this reason, The European Commission has published a Green Paper on ERA reviewing progress made, where it still needs to be made and raising questions for debate. The Commission sought answers to these questions and solicited further new ideas in a public consultation which lasted from 1 May 2007 until 31 August 2007.

The Green Paper deals with 6 main aspects:

1. **Adequate flow of competent researchers**, with high levels of mobility between institutions, disciplines, sectors and countries;
2. **World class research infrastructures**, integrated, networked and accessible to research teams from across Europe and the world, notably thanks to new generations of electronic communication infrastructures;
3. **Excellent research institutions**, engaged in effective public-private co-operation and partnerships, forming the core of research and innovation clusters including virtual research communities. Such clusters and communities would be mostly specialised in interdisciplinary areas and would attract a critical mass of human and financial resources;
4. **Effective knowledge-sharing** notably between public research and industry, as well as with the public at large;

5. **Well-coordinated research programmes and priorities**, including significant jointly-programmed public research investment at European level with common priorities, coordinated implementation and joint evaluation;
6. **Opening the European Research Area to the world** with special emphasis on neighbouring countries and a strong commitment to addressing global challenges with Europe's partners.”

This report deals only with the questions and answers in the public consultation and questionnaire regarding point 4, Knowledge Sharing (the questions labelled **KSH2**).

A few quotes from the Green Paper on the topic of Knowledge Sharing:

“State-of-the-art knowledge is crucial for successful research in any scientific discipline. Reliable, affordable and permanent access to, and widespread dissemination of, scientific research results should therefore become defining principles for Europe’s research landscape. The digital era has opened up numerous possibilities in this respect. Opportunities for progress can be seen, notably in the development of online libraries, repositories of scientific information and databases of publications and publicly funded research results. These should be integrated at European level and interlinked with similar databases in third countries. In particular, the system by which scientific information is published is **pivotal** for its validation and dissemination, and thus has a major impact on the excellence of European research. Europe should stimulate the development of a ‘continuum’ of accessible and interlinked scientific information from raw data to publications, within and across different communities and countries.”

“Effective knowledge sharing [...] should consist of: open and easy access to the public knowledge base; a simple and harmonised regime for Intellectual Property Rights, including a cost-efficient patenting system and shared principles for knowledge transfer and cooperation between public research and industry; innovative communication channels to give the public at large access to scientific knowledge, the means to discuss research agendas and the curiosity to learn more about science.”

The Public Consultation and Questionnaire has sought to bring out the opinions of the various stake-holders with regard to the methods and timing of this knowledge sharing for that part of the knowledge that is represented in scientific and scholarly data and publications

The Questions

KSH2. How should data and publications resulting from publicly funded research be shared?

(a) Raw data resulting from publicly funded research should be made more readily accessible: Agree/Disagree/No opinion
If in agreement, how? Specify (Comment)
If in disagreement, why not? Specify (comment)

(b) Peer-reviewed scientific publications resulting from publicly funded research should be accessible without charge. Agree/Disagree/No opinion
If in agreement, when?
- As soon as they are published
- After 6 months from publication (to allow the publishers to recover return on investment)
- After 12 months from publication (same reasons as above)
- Other (specify)

(c) National and regional publicly funded research data should be made available in:

Local / National databases
European level databases

(d) National and regional publicly funded scientific publications should be made available in:

Local / National databases / repositories
European level databases / repositories

(e) EU funded (Framework Programme, European Institute of Technology etc) research **data** should be made available in:

Local / National databases
European level databases

(f) EU funded (FP, EIT etc) scientific **publications** should be made available in:

Local / National databases / repositories
European level databases / repositories

The Sample

There were 692 respondents. Not all of them replied to the questions on Knowledge Sharing, but a majority of 86% did. There were also some confidential submissions – from organisations – outside the questionnaire itself, some in addition to a web response to the questionnaire, some as the sole submission to the public consultation.

I have not counted these submissions in the statistics, but have taken their general gist

692 responses in total;
Responding to Knowledge
Sharing Questions: 86%

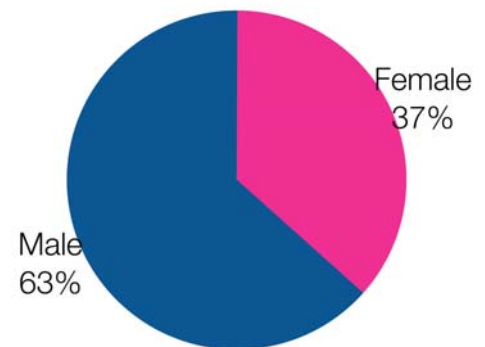


on board in my choice of quotes in order to give a sense of the range of opinions expressed. Some large organisations appear multiple times in the questionnaire results. I have taken that to mean – though without firm evidence – that respondents from different divisions responded simultaneously. Not everyone who responded to the Knowledge Sharing questions answered all of them, and for the purpose of statistical analysis I have regarded a response of ‘no opinion’ the same as no response.

The first four preliminary questions are about respondents’

identity and about privacy, so the responses have not been included in this report.

Question I(5) asked “**What is your gender?**” Of those who did respond, just under two thirds (63%) were male and just over one third (37%) female.

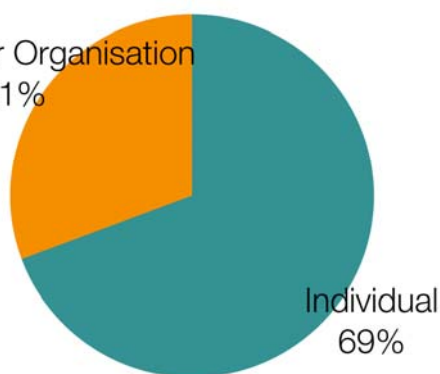


Question I(6) was: “**On behalf of whom are you replying?**”

Well over two-thirds of the respondents were individuals replying on their own behalf, and the results of those responses are relatively straightforward to interpret. It would have been more problematic to interpret the responses of the organisations, which form a rather mixed bunch (see figure on next page), were it not for the fact that for most of the questions – though not all – there

Response on behalf of:

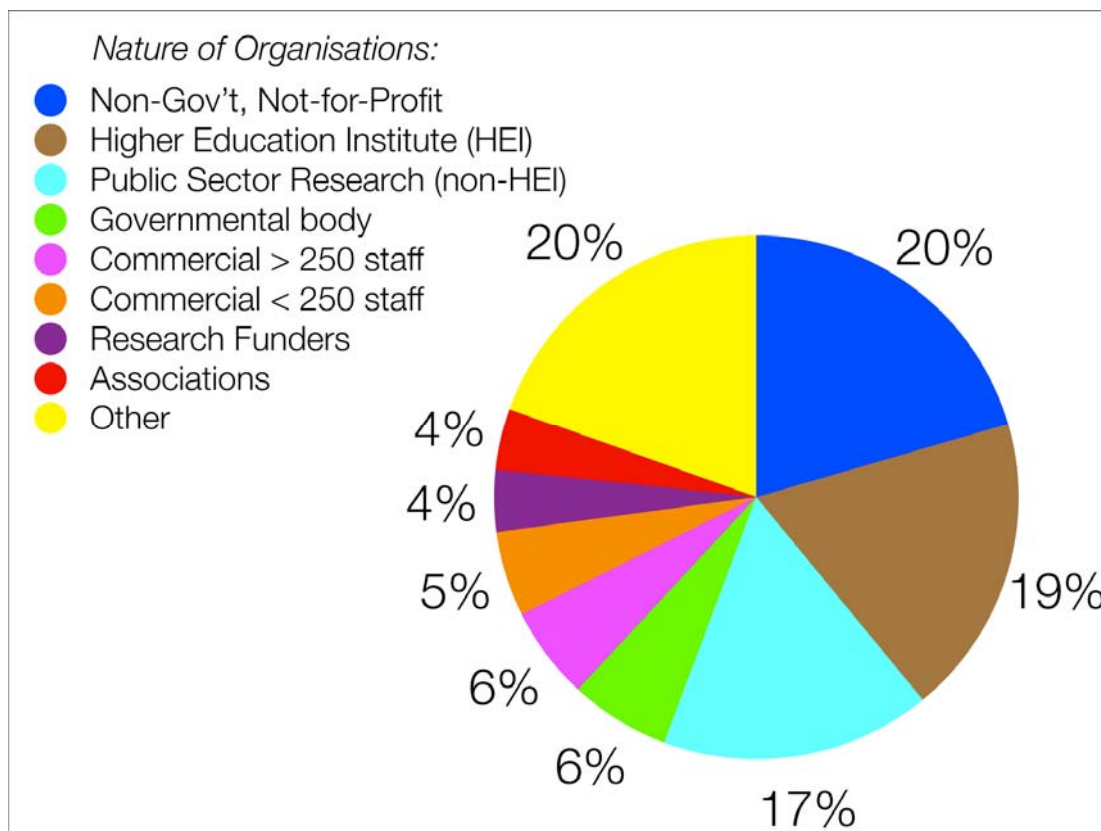
Employer or Organisation
31%



was very little statistical difference between the two.

That said, the non-commercial and government organisations are rather over-represented in the sample, which may colour the results for some questions.

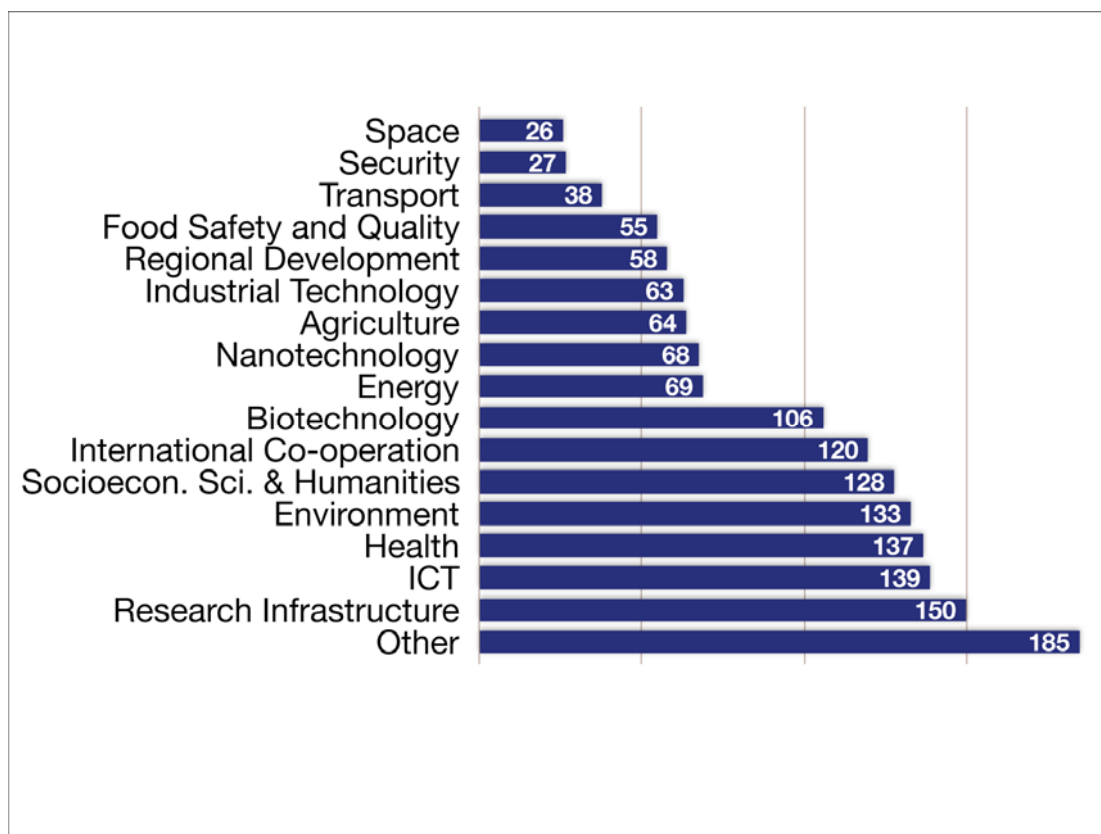
Question I(7), “**What is the nature of your organisation?**”, was asked of all respondents, whether or not they responded on behalf of an organisation.



With regard to the field of activity of the respondents, individuals as well as organisations, there is a wide spectrum. Some respondents expressed their surprise at the fact that very well-known disciplines such as chemistry (“the centre of all scientific disciplines”) or physics (“the basis of all science and technology fields”), were not given as alternatives, not even combined as ‘physical sciences’, or ‘general biology’ or ‘life-science’.

“It’s nice that you have a tick box for humanities people, but we natural scientist actually feel that we might also be concerned when you talk about research! I hope that the EU does not want to exclude us.”

The field of activity mentioned in the question referred, however, to the thematic areas of the Research Framework Programme (FP7). That wasn’t clear from the question, **I(8) “What is your field of activity?”** The number of responses of ‘other’ is therefore perhaps larger than might have been expected. The category ‘other’ comprises areas of activity as diverse as science publishing, water management, research policy, various physical sciences, philosophy, metrology, marketing, advocacy, art, anthropology, research administration, various applied sciences, mobility, media, law, history, religion (as a scholarly subject), religion (as representing a church), ethics, education, research and business politics, mathematics, management, and many others. As more than one tick box could be ticked, multi- and inter-disciplinary activities seem to be more the norm than the exception amongst respondents. See graph on the next page.



The Questions on Knowledge Sharing

There were three main topics that were addressed in the Knowledge Sharing questionnaire (see actual questions on page 3):

1. The accessibility of data resulting from publicly-funded research;
2. The accessibility of publications resulting from publicly-funded research;
3. The level on which any data or publication repositories should be available (national level or EU-level).

A statistical analysis of the responses to the Knowledge Sharing questions is given below. However, some questions allowed free fields for comments. There were many. I have clearly not included all comments that were given in this report, but made what I believe is a representative selection. The selection is not based solely on the frequency of the same or similar comment (though some comments were indeed made frequently), but also on what I believe is the relevance and significance in the context of a specific question.

Comments to the knowledge sharing set of questions in general – as opposed to relating to specific questions – were also given. Given the nature of the questions – about knowledge sharing – and the traditional role of publishers in that domain, it should not be a surprise that many of such comments did come from publishers or other organisations with publishing activities, and from organisations that represent HEI libraries.

One such comment addresses what is seen as an omission in the survey:

“The ‘Sharing Knowledge’ section of the survey asks: “How should data and publications resulting from publicly funded research be shared?” (KSH2) but omits any inquiry into how respondents view the current system acknowledged by the Paper itself as ‘pivotal’.”

In another comment, the role of the EU in supplying scientific information is questioned. This is done by quoting the German Bundesrat (Upper House of Parliament):

“The co-financing of research infrastructures (especially “digital repositories”) proposed by the Commission, in the opinion of the Upper House, poses the fundamental question as to what extent the supply of scientific information is a task for public authorities. In the framework of the discussion process that the Commission has now initiated, this question should be the subject of particularly intensive attention.”

It could be argued that where it concerns EU-funded research, the EU is by definition involved in the generation and supply of scientific information, by virtue of making the research possible. This argument, however, was not put forward as such in any of the submissions. But these points, focussing on the EU’s role of research funding body, were made:

“The Commission should ensure that all EC-funded research is made freely available to all interested readers. It should be a condition of grant that researchers deposit a copy of their final, peer-reviewed papers in suitable open access and interoperable electronic repositories.”

“The Commission should work with all member states to ensure that similar policies are adopted for research resulting from public funding within the member states.”

In one comment, research data and research publications are compared with regard to their respective accessibility:

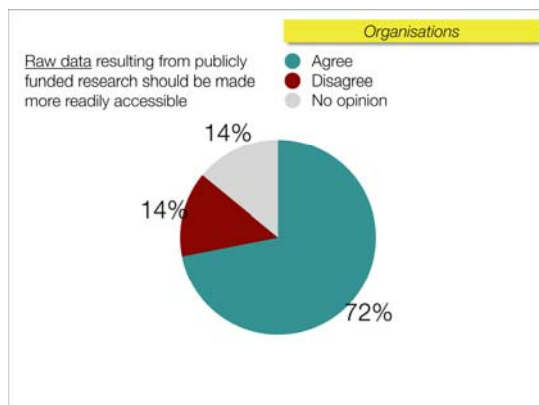
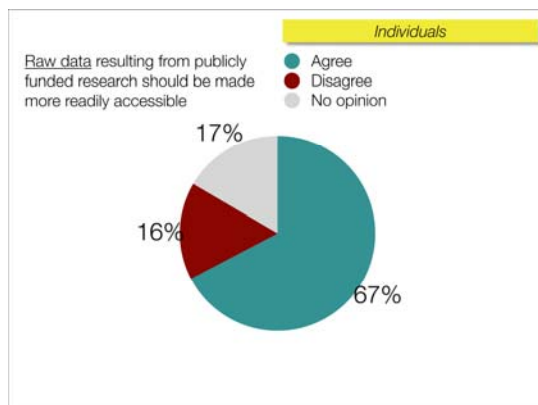
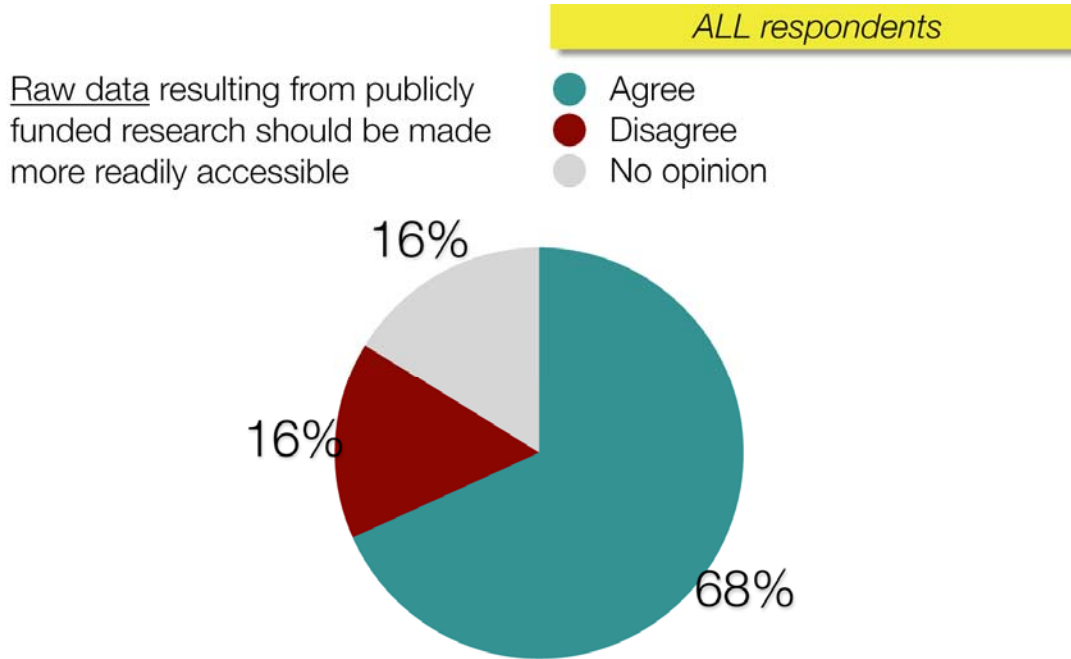
“As suggested in the Green Paper, it is in the area of raw data and unpublished material that a serious access gap exists (compared to access to published research, which is 12th on researchers’ list of concerns). In considering any potential economic benefits to taxpayers of investments in public repositories, we believe that the correct focus would be on the value of creating access to unpublished material, rather than mandating authors to post manuscripts of articles that are published.”

This is in line with most publishers, who as a group strongly support free access to raw research data.

Statistical results

Raw Data

The question, **KSH2 (a)** was: **“Raw data resulting from publicly funded research should be made more readily accessible – agree; disagree; no opinion.”** It looks as if there was a clear majority in favour of making raw research data more readily available. There is hardly a difference between respondents from organisations and individuals (see graphs on the next page). Those who agree hover around the 70% mark, and, perhaps more significant, those who disagree around 15%.



Some respondents were quite strict about the accessibility of data:

“Implement the strict rule “no data publishing – no money”

And some suggestions were offered as to how:

[Data should be available] “...via portals with well structured metadata and associated terminology (ontology) information; also with appropriate security and privacy controls provided the data is worth such access.”

And

“Create Global Data Self Storage web portals, where raw data are stored in a standardized fashion and can then be retrieved by others from that storage.”

Some would like to see the use of data regulated:

“...a public repository of research results, with new innovative rules on IPR conditions ensuring a faster, better as well as regulated utilization of those results.”

...and protected:

[Public availability] “...does not mean that users have a licence to use the data.”

“Data should remain property of Institution, through digital repositories.”

Some had serious qualms about making raw data publicly available:

“Some data are sensitive, so [open deposit] cannot be obligatory.” (A comment echoed by a respondent from the humanities whose data consist of interviews, which for reasons of privacy protection cannot be made public.)

“...if it is quantitative there is a strong danger that it will be misinterpreted by those without specialist skills and if it is qualitative there is a danger of breach of confidentiality/data protection regulations.”

“The statement is too unqualified. Not all "raw data" is readable even if it's made accessible.”

Quite frequently comments were concerned with the notion that free availability of raw data could lead to misinterpretation, even chaos.

Even though the question only ever was about data being made “more readily accessible”, I infer from the comments that it seems to have been interpreted by some – perhaps by many – as public availability without barriers.

Recommendation: It would be good to define what exactly is meant by ‘raw data’ and what ‘more readily accessible’ means, with possibly a formulation of a set of criteria for full access. Perhaps a task force could be set up to achieve this, or groups already working on these issues could be identified.

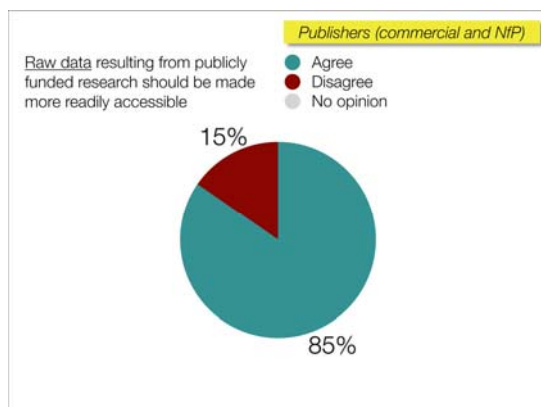
If we look at organisations only, the picture looks somewhat less unanimous in that within this category there is quite a range of opinions, with respondents who disagree reaching almost 20% if one considers just commercial organisations. The graph on the right shows the opinions of commercial, not-for-profit, and publishing organisations superimposed on one another, the overlap of the colours indicating the range and difference of views amongst these groups and the lack of unanimity.

Raw data resulting from publicly funded research should be made more readily accessible



Publishers and other Organisations superimposed

It is striking that amongst the publishing organisations in the sample (some of which are commercial, some of which not) the agreement on freely available data was overwhelming (see graph on the next page). Indeed, some publishers have started to make free public availability of the data on which an article is based a condition for its publication.



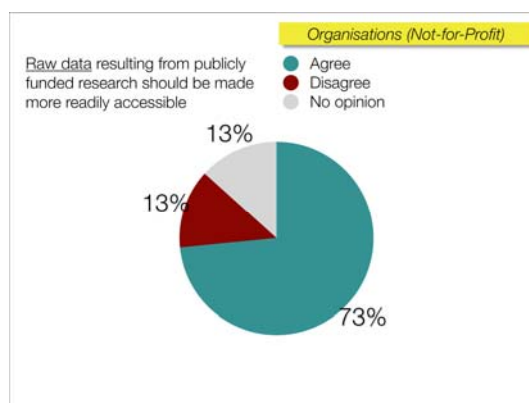
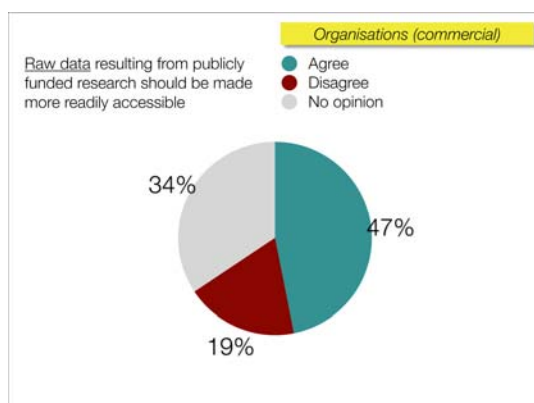
A prominent example is Nature, whose policies in that regard can be found on their web site:

http://www.nature.com/authors/editorial_policies/availability.html

Nature does recognise that data cannot always be made publicly available, but asks that authors make that known before their article is being published:

“Any restrictions on the availability of materials or information must be disclosed at the time of submission of the manuscript.”

Among non-publishing organisations there was not necessarily more of a disagreement with data being publicly available, but there was more uncertainty about the question, reflected in more ‘no opinions’:



In the light of uncertainty about what exactly is meant by ‘raw data’, an uncertainty to which I referred above, I fear that the question has indeed been read as “raw data should be made free and publicly accessible” and that the complexities surrounding at least some categories of data were not sufficiently taken into consideration by either those who formulated the questions, or many of the respondents.

It is not impossible that the relatively low level of agreement and high level of disagreement (and the high level of ‘no opinion’) amongst respondents from commercial organisations is caused by the realisation that data are often very sensitive and that making them available is often problematic. (Most commercial organisations are likely to have experience with privacy protection issues regarding data they hold).

Also among those who agree with ready accessibility of data, there were some critical notes:

“The nature of and arrangements for data publishing are currently very diverse and immature. Models for quality assurance, stewardship and access to data are urgently needed. The EC should make this a priority.”

Publishers indicated that there might – perhaps even should – be a role for them in that regard, though others see a different approach:

“Institutions should cooperate in creating databases and other infrastructures to ensure accessibility of research results.”

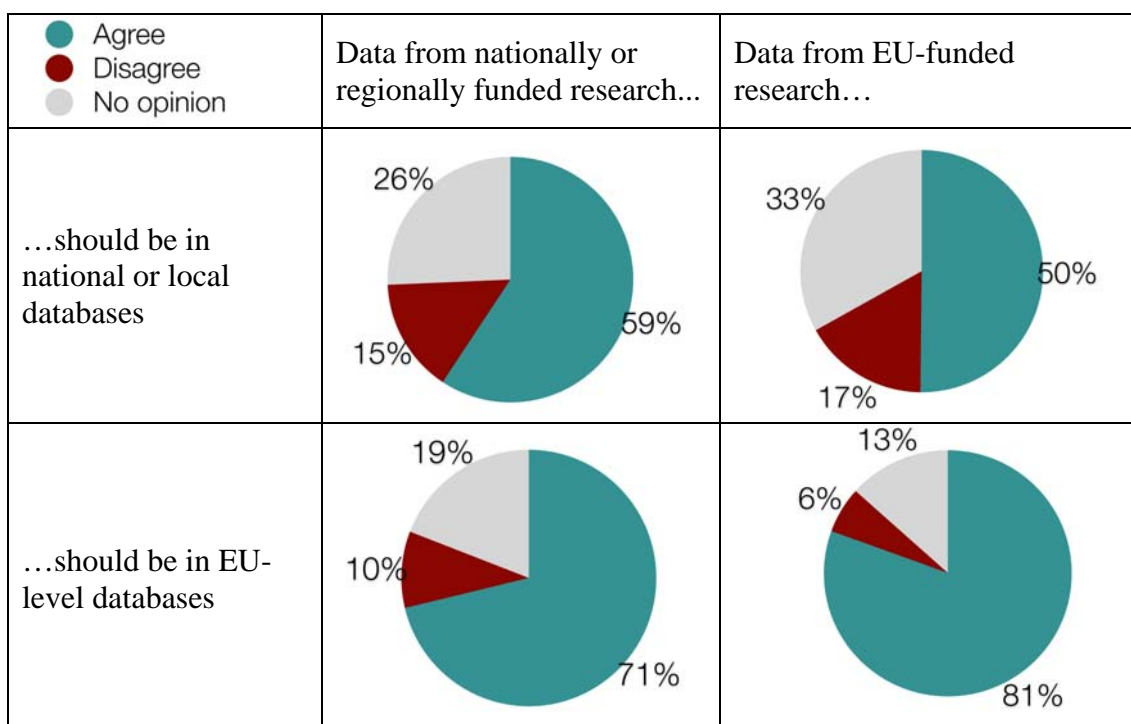
The wish to have active links between raw data and the publications based on them was frequently expressed. Here again, publishers indicated that they might help:

“Traditional publishers and learned societies may collaborate with researchers and funders to find the best way to link data to formal published research papers, and to manage the costs of hosting and access.”

Where should data be stored?

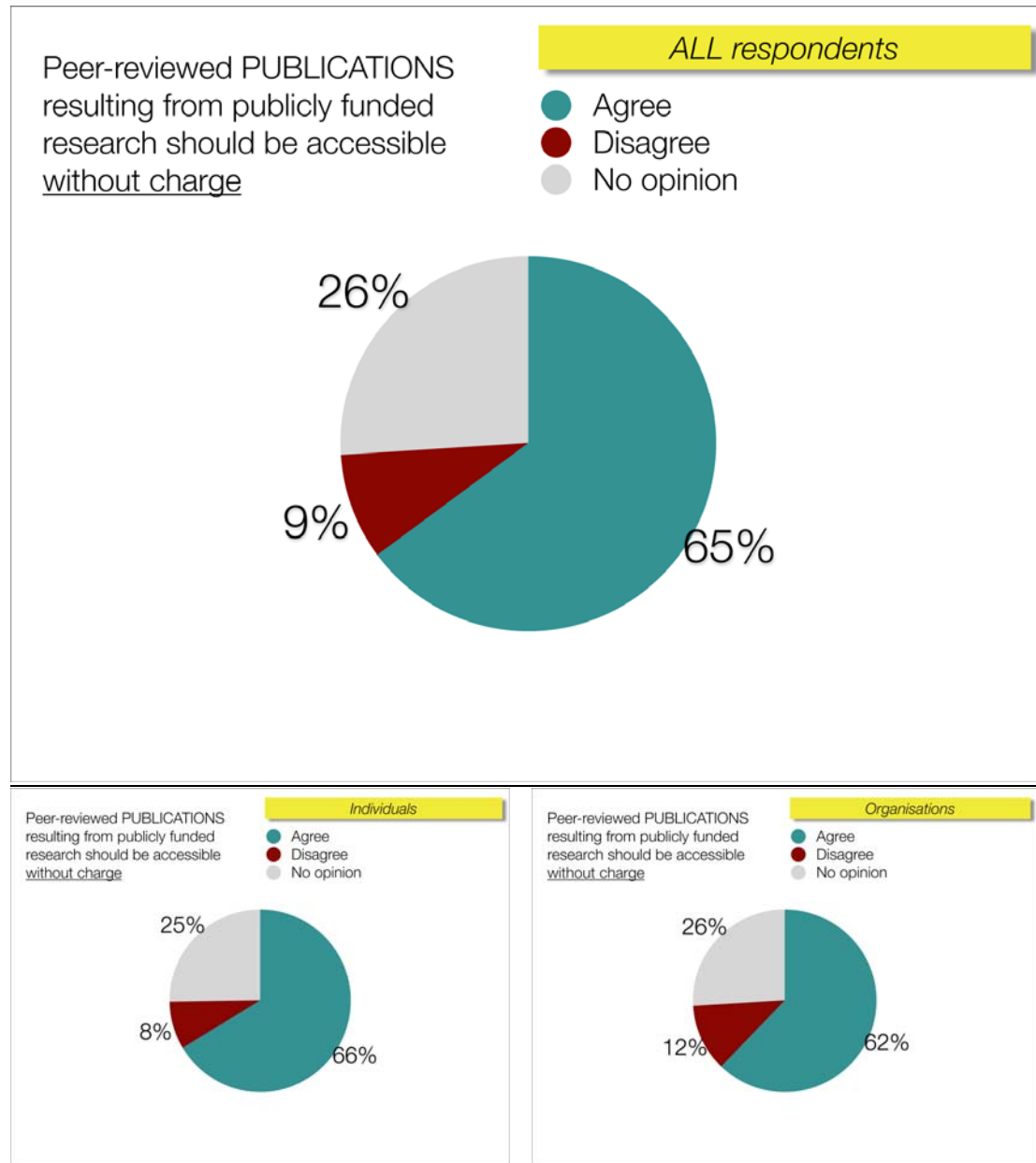
Questions **KSH2 (c)** and **KSH2 (e)** were concerned with where raw data should be made available: in national or local databases or at an EU-level. The response was quite communitarian, with overall more than 70% favouring EU-level databases and amongst individuals even three quarters where it concerns local or national data, and an even stronger preference for EU-level databases where it concerns data from EU-funded research. The preferences overlap, though. This is one of the comments that seeks to explain why:

“The WEB is global, any differentiation between national, regional or EU is actually not very intelligent.”

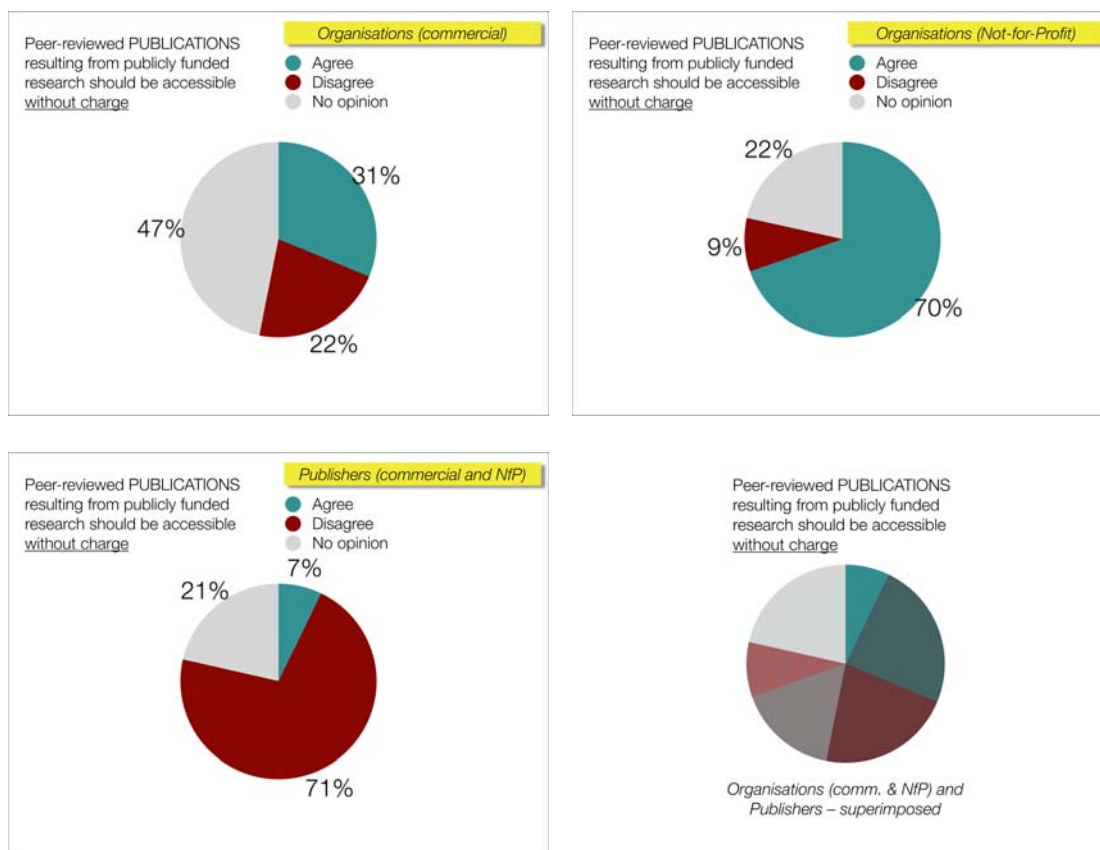


Scientific Publications

The question, **KSH2 (b)** was: **“Peer-reviewed scientific publications resulting from publicly funded research should be accessible without charge.”** The picture for scientific publications – the peer-reviewed articles resulting from publicly funded research – is quite similar to the one for raw data, albeit with generally somewhat lower levels of agreement.



Nonetheless, agreement levels are close to two thirds of respondents, and any difference there is between organisations and individuals is small. Until, that is, one looks at the respondents who represent organisations in more detail. It then appears that there are significant differences between commercial and non-commercial organisations, and particularly with publishers (be they commercial or non-commercial). The graphs on the following page illustrate that.



The category non-commercial organisations, most of which are in favour of free accessibility of peer-reviewed research literature, is to a large extent made up of Higher Education Institutes (HEIs), public sector research outfits, and not-for-profit non-governmental organisations. Their likely perception is that they have a lot to gain from the free availability of this literature.

Even though the category non-commercial organisations also includes some not-for-profit publishers, the publishers taken as a whole are not enthusiastic about free availability of research publications. Their likely perception is that they have a lot to lose.

The superimposed graph – the fourth in the set above – illustrates the different, disagreeing, views.

Question **KSH2 (b)** was criticised for using the phrase “without charge”. It was pointed out that whilst open access may not come with charges to readers, it may very well come with charges elsewhere in the system, to authors, for instance, or to authors’ institutions. This is indeed the case for the more prominent open access journals already in existence and for the so-called ‘hybrid’ journals, which give authors the (paid-for) choice of open access within already long existing and trusted journals, and do not compel them to choose between journals for any additional reason than they already do anyway. There was some strongly worded criticism from a respondent – a publisher – in the non-commercial organisation category:

“All aspects of current scientific research communication depend upon the infrastructure provided by the existing established publishing model. Values to science include: Academic freedom (to publish in the journal of your choice); Integrity of scientific information (you can

trust the referenced article); Advancement of scholarship and of careers (acknowledgment of discovery, imprimatur, citation); Scientific cooperation (linking of the literature achieved by publishers promotes collaborative research); Preservation of the scientific record (publishers have archived past and present scholarship); Universal availability of knowledge (currently there is near-universal access to formal literature by researchers, free at the point of use, by means of subscription and consortium models etc, and simple inexpensive means to access any occasional article outside that system); Investment in scholarship (the enormous growth in access to scholarly publications and the additional facilities within electronic publishing have all resulted from publisher investments). To suggest making published articles available free of charge not only fails to recognise the value of the above, more critically it threatens the continuation of those features and values upon which current scholarship depends and which are essential to all scientists. It does so because that would be the result of a weakening, or discontinuation, of current publishing models following from "free" access. This is a particular risk considering that the alternatives to the present successful infrastructure are mostly untried and have enjoyed very limited support when attempted."

But there were also other views, from organisations on the research and funding side of the discussion:

"Open access to research outputs will be a significant transformative change, allowing a variety of new business models to emerge. The organisations with both a demonstrated interest and track record in curating research outputs are institutional libraries, and they should take the lead in this transformation. However, technology enables views on the outputs by discipline, funder, etc. The IPR regime needs to allow that research outputs can be analysed using new techniques as they emerge, to stimulate innovation and further research."

"The parameters of publishing and making a profit (surplus for Not-for-Profit publishers) may be altered so as to ensure open access on the day of publication."

The last comment touches upon an aspect which the questionnaire doesn't seem to touch upon at all, save perhaps in the bracketed explanation of the reason behind a possible delay in the free availability: "to allow the publisher to recover return on investment". This is an omission that seems to have planted the foregone conclusion that such embargoes are the only concessions considered by the EU for publishers to recoup their investment. This is not adequate.

One respondent (an individual) puts it like this:

"If the EU were to fund the publication of scientific journals then it would make sense for articles to be published free of charge. However it does not. As it is, somebody has to pay for the editing and publication (whether this involves printing hard copies or publishing online) The profit made by commercial publishers in this field is outrageous but it is difficult to argue that the EU should put pressure on these publishers to reduce their costs if there is no real alternative. Publications produced independently can at present only survive on the basis of voluntary effort or subsidy. To ask these publications to make their contents available free would be to kill them off completely. Asking authors to put their articles online without any peer review or editing is not a viable alternative: it would lead to a catastrophic drop in standards, which are already quite low in some fields. One solution would be for the EU to provide funds for the publication of independent academic journals - especially in interdisciplinary fields which fall outside the scope of the discipline-based professional bodies that can sometimes offer an alternative framework for publication."

And another like this:

"Published articles are the result of investment in managing peer review, editing, layout, addition of links etc. This needs to be paid for and the question offers no mechanism for this beyond 'make it free'."

Recommendation: The EU should continue the debate on the possible scenarios for economic underpinning of immediate or delayed open access that do justice to the legitimate concerns of all stakeholders in the process and to the system of scientific knowledge exchange and preservation – and make the arguments of the debate more visible.

When should peer-reviewed publications be freely available?

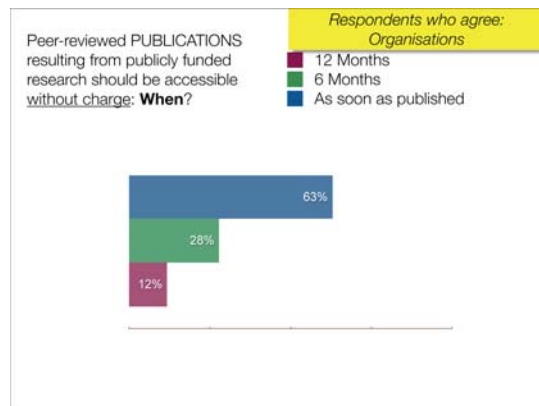
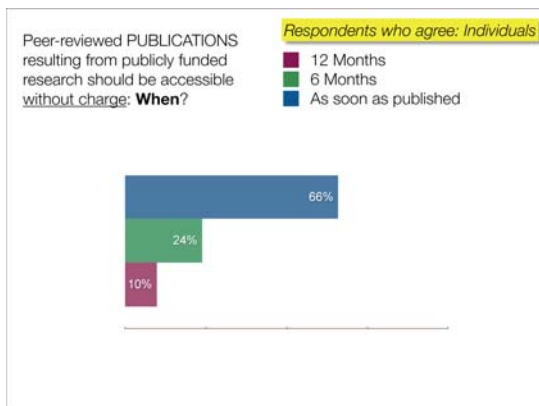
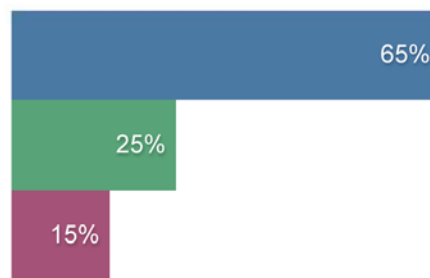
Question **KSH2 (b)** also asked those who agree that peer-reviewed publications should be freely available, when that should be the case, and three options were given: ‘As soon as they are published’ – ‘after 6 months from publication (to allow the publisher to recover return on investment)’ – ‘after 12 months (same reasons as above)’.

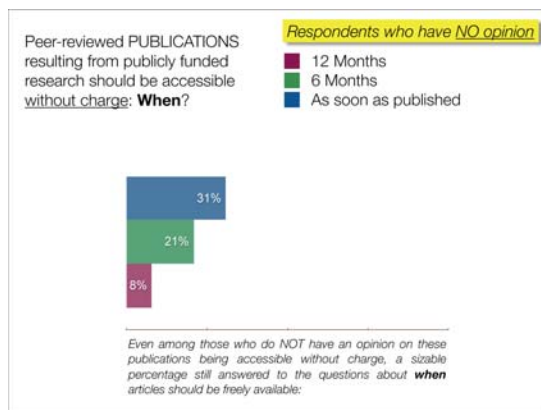
About two thirds of the respondents would favour immediate open access to published research, with some 25% after 6 months. The difference between individuals and organisations was slight.

Peer-reviewed PUBLICATIONS resulting from publicly funded research should be accessible without charge: **When?**

Respondents who agree: ALL

- 12 Months
- 6 Months
- As soon as published

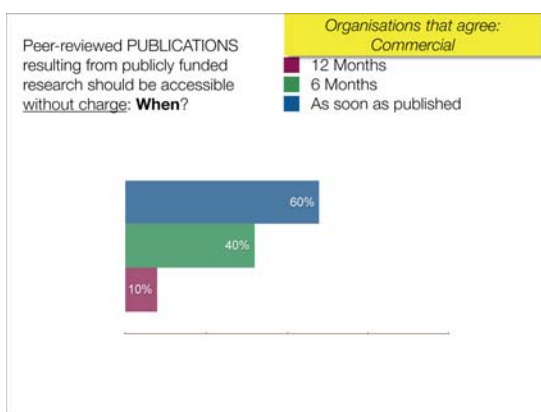
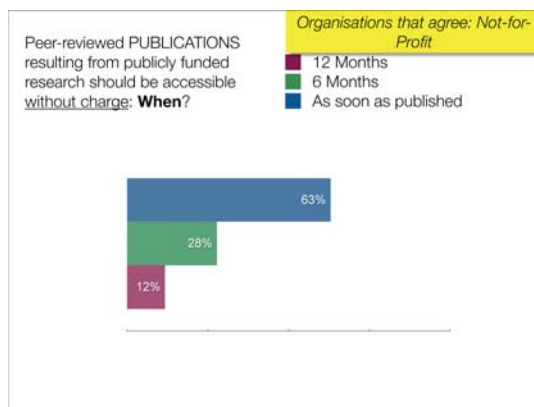
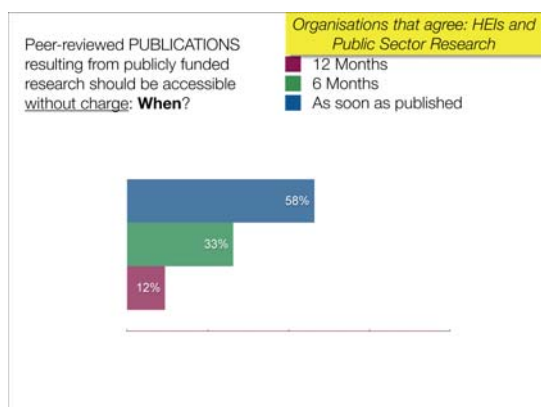




Although the question asks “If in agreement, when?”, implying that the questions about ‘when’ were meant only for those who agreed with the premise that articles should be freely available at some point, this was not understood by quite a few respondents. Of those who expressed ‘no opinion’, a sizeable proportion (about 60 respondents) still answered the questions about when the articles should be freely available. Of those, in spite of ostensibly having no

opinion, about a third was in favour of immediate free availability, a fifth after 6 months, and 8% after 12 months.

If the statistics are broken down for organisations, we observe a generally slightly lower preference for immediate free availability, with the figure for Higher Education Institutes and Public Sector Research establishments somewhat unexpectedly being even lower than that for commercial organisations and non-commercial organisations in general.



The number of publishing organisations among the respondents agreeing with the free availability of research publications is too small to be statistically broken out in terms of their preferences for any embargo periods. Most publishers disagree with the free availability of research articles.

The following quotes (similar comments made by several publishing organisations) generally capture the publishers’ opinions quite well:

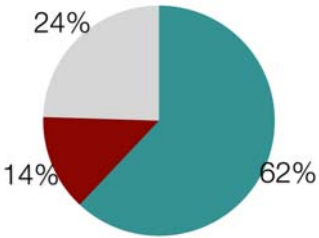
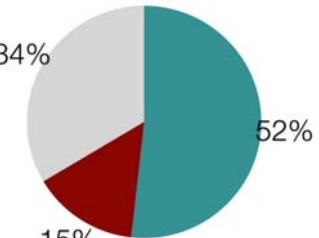
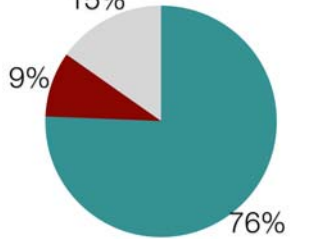
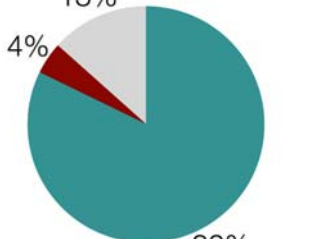
“We note that this part of the question does not have an “If in disagreement, why not?” section – as does Part A. We are concerned that this omission signals a desire to suppress any disagreement with the authors’ premise.”

“Peer reviewed original research articles are not only the result of public investment. They are also the result of significant publisher investment in ICT systems to support electronic submission and vetting of raw manuscripts as well as even greater investments in the organization, management, and financial support of the peer review process itself. The free availability of peer-reviewed articles could reduce subscriptions and lead to the demise of the journals essential to the registration, certification, dissemination, and preservation of research.”

There seems to be a fair amount of existential ‘angst’ that shines through in responses on the part of publishing organisations, non-commercial as well as commercial. This is largely due, I suspect, to the apparent lack of, or under-estimation of, consideration for the economic reality that open access does not eliminate the cost of formal peer-reviewed publishing. I reiterate my recommendation for a proper debate about the economic issues at hand. The need for such a debate is all the more apparent given that overall, the results of the questionnaire indicate a strong preference for immediate free accessibility of peer-reviewed research publications.

Where should peer-reviewed publications be deposited?

This question was not only asked about raw data, but also about research publications that come forth from publicly funded research: **KSH2 (d)** and **KSH2 (f)**. Both for locally and nationally funded research publications and for EU funded ones, the option was given of local or national repositories on the one hand, and EU-level repositories on the other. Whatever the origin of the funding, organisations have a slightly stronger preference than individuals to see publications made available in local or national repositories, but a large majority of respondents prefers EU-level repositories, especially when it concerns publications resulting from EU-funded research. These preferences are not mutually exclusive and there is a very substantial overlap between those respondents who would like to see them deposited in both local/national and EU-level repositories.

<ul style="list-style-type: none"> ● Agree ● Disagree ● No opinion 	Articles from nationally or regionally funded research...	Articles from EU-funded research...
...should be in national or local repositories		
...should be in EU-level repositories		

Conclusions

There were three main topics that were addressed in the Knowledge Sharing questionnaire:

4. The accessibility of data resulting from publicly-funded research;
5. The accessibility of publications resulting from publicly-funded research;
6. The level on which any data or publication repositories should be available (national level or EU-level).

The last set of questions was the least contentious. Indeed, a large fraction of the respondents were of the view that they should be available at both levels.

The questions relating to accessibility of publications on the other hand, were the most contentious, in spite of the fact that an overall majority of respondents – two thirds – were in favour of free availability of peer-reviewed publications resulting from publicly-funded research. Those who disagree, however, do so strongly, which is reflected in the free comments fields of the questionnaire and the additional submissions.

As for the questions relating to data, there was less contention, and generally free availability was supported by just over two thirds of the respondents, but issues of ownership, privacy and quality of data were highlighted, scepticism about the usefulness of raw data to anybody other than experts was expressed, and warnings of dangers of misinterpretations by laymen were given.