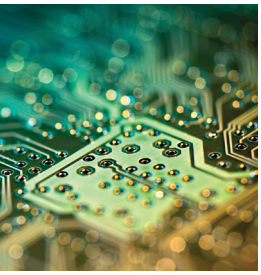



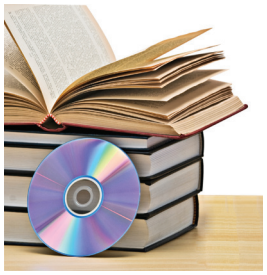

Open-Access Mandates and the Seductively False Promise of "Free"

Bhamati Viswanathan & Adam Mossoff

APRIL 2017

CENTER FOR THE PROTECTION OF INTELLECTUAL PROPERTY
ANTONIN SCALIA LAW SCHOOL
GEORGE MASON UNIVERSITY

Open-Access Mandates and the Seductively False Promise of "Free"

BHAMATI VISWANATHAN & ADAM MOSSOFF

Introduction

Federal agencies are increasingly mandating or proposing free public access for copyrighted works that report on federally-funded research.[1] These "open-access mandates" compel scholars and researchers to make their articles or other writings freely available to billions of people around the world.[2] Furthermore, many of the mandates also allow the public to modify these copyrighted works without the authors' consent.[3] Countless authors and publishers must comply with this legal mandate of "free."[4] Federal agencies—such as the Department of Education, the National Institutes of Health, and the Department of Energy—disburse billions annually in research grants.[5] As a result, open-access mandates encompass millions of published articles, test-related materials (including those relating to standardized tests and testing services), and even computer software source code.[6]

Open-access mandates have the potential to significantly harm the publishing industry. In 2015, the American publishing sector generated $27.78 billion in net revenue, representing 2.71 billion published works in electronic and print formats.[7] This includes over 500,000 works in higher education, as well as learning materials for primary and secondary education.[8] Works of scholarship, such as scientific research, also account for a significant share of revenue-generating materials. Unfortunately, open-access mandates are a direct threat to the business model that enables the multi-billion dollar market in scholarly and educational publishing to thrive.[9]

Open-access mandates require publishers to place their works in government-operated repositories that are openly accessible and free of charge to users.[10] But publishers typically invest hundreds of millions of dollars in building and supporting their own innovative and sophisticated systems for delivering copyrighted works to the public.[11] Open-access mandates frustrate these efforts, effectively undermining publishers' proven business models. Further, they force publishers to compete with government-run systems that need not be efficient, advanced, or profitable. By inserting the government as a competitor to private actors in the publishing sector, open-access mandates undermine publishers' incentives to invest in both copyrighted works and effective systems for disseminating those works.

Open-access mandates also strike at the heart of copyright law by depriving publishers of their right to own and commercialize their copyrighted works as they see fit. U.S. copyright law secures to copyright owners fundamental property rights in their works; these rights cannot be eviscerated by administrative fiat. By forcing publishers to forfeit their rights to commercialize their copyrighted works, open-access mandates in works that report on federally-funded research are incompatible with fundamental principles of copyright law.

The publishing industry is built upon a business model that is proven, realistic, and robust.[12] Moreover, the industry is constantly investing in innovation and improvement of its products and services. Proponents of open-access mandates seek to replace this model with an untested set of systemic changes. Yet they have not offered any evidence that the open-access model is viable and sustainable. Barring such evidence, open-access mandates should not be adopted.

Open-access mandates should be rejected as a prime example of regulatory overreach. In this paper, we address four reasons why this is the case:

- Open-access mandates undercut publishers' ability to invest in producing and distributing copyrighted works.
- Open-access mandates contradict basic principles of copyright law.
- Open-access mandates are the classic example of a solution in search of a problem: there is no evidence of a systemic market failure in scholarly publishing requiring a massive regulatory intervention.
- Open-access mandates are based on untenable economic models.

We begin, however, by noting that while open-access *mandates* raise serious legal, policy, and economic concerns, the open-access model itself is unobjectionable when done on a *voluntary* basis.

Open-access mandates should be rejected as a prime example of regulatory overreach.

I. Open Access Is Unobjectionable When Done on a Voluntary Basis

Before explaining why open-access mandates are indefensible on grounds of law, economics, and policy, it is first necessary to be absolutely clear that there is nothing wrong with open-access publication models when authors or publishers offer them on a *voluntary* basis. Private sector actors who invest considerable resources in the development and distribution of published works may choose to offer their works at varying price points, or even free of charge, as part of a sound business strategy.[13] Furthermore, for-profit publication models can certainly co-exist with entities or individuals who *choose* to forego commercial returns. All of these private practices are reasonable as a matter of policy and law.

For markets in published materials to function properly—and for innovation and competition to thrive in these markets—authors and copyright owners must be able to rely on the property rights that secure to them the fruits of their productive labors. They can transfer these rights, or even choose to release them, but it must be their *choice*. When authors or copyright owners voluntarily choose to make their works available at a given price or free of charge, the government is not interfering with the functioning market and no harm is done.

Indeed, the emergence of voluntary "open-access repositories" and the development of "open" scholarship may create positive competition in the educational and scholarly research marketplaces. It may spur improvements to the goods and services offered by publishers. Moreover, when open access is done on a voluntary basis, and is consistent with viable business models in publishing, it has been shown to have no impact on the sustainability of publishing.[14]

When the government intervenes in the marketplace and *forces* private actors to relinquish their property rights, it creates harmful distortions in otherwise well-functioning markets. As will be explained in the following sections, open-access mandates exemplify this harm. In the publishing industry, this not only undercuts publishers' business models, it also unfairly advantages the government. Through regulatory fiat, open-access mandates place the government in direct competition with private actors while offering the same copyrighted works for free.

It is important to note that the gift of "free" is illusory in two significant ways. First, it is not truly free, because creating and sustaining open-access repositories requires government funds. Second, these "free" repositories risk destroying the many valuable and successful distribution models created and sustained through substantial investments by private publishers. Open-access mandates fail precisely because they are *mandates* instead of voluntary business decisions based on sound economic principles. They should not displace a healthy free market that allows authors and publishers to commercialize their property rights as they see fit.

II. Open-Access Mandates Undercut Publishers' Ability to Invest in the Production and Distribution of New Articles

Open-access mandates threaten the viability of the scholarly and educational publishing sector. Scholarly publishers invest enormous resources, amounting to hundreds of millions of dollars, in the development and distribution of copyrighted works.[15] Publishers support research and scholarship from the very inception of new works.[16] Publishers also perform important editorial functions, such as vetting and approving manuscripts, editing, writing, fact-checking research, and supporting the peer review process.[17] Moreover, publishers finalize works, producing and delivering the polished, finished products that consumers expect and rely upon.[18]

One of the biggest misconceptions among consumers of written works is that publishers are expendable in an increasingly digital world. To the contrary, publishers provide essential services to authors and ensure that consumers of scholarly research receive high quality, well-supported, and professionally finished works. Publishers invest significant resources in building and refining an array of platforms, resources, and services that deliver copyrighted works to readers around the world. These investments entail large outputs of time and money.

For instance, in 1995 the RELX Group (then known as Reed Elsevier) began development of the online publishing platform *ScienceDirect*, which it beta-tested throughout 1997-1998 and ultimately rolled out to its

customers in 1999.[19] The initial development costs for *ScienceDirect* were approximately $26 million, and these initial costs comprised only a small part of the total investment in this platform.[20] In the last two decades, the RELX Group has invested *hundreds of millions of dollars* more in shifting to digital production and publication of journals, as well as scanning, archiving, and making articles that were previously published in print format accessible in digital format.[21] Delivery systems such as those created and supported by the RELX Group enable publishers to make scholarly and educational materials and resources available to diverse audiences at varying price points and levels of customization. Further, publishers are able to deliver content in multiple formats that can be tailored to consumers' differing needs and goals. Publishers increasingly invest large resources in ensuring that these sophisticated delivery platforms and services are accessible, affordable, and adaptable.

Publishers invest in the creation and distribution of written works because they expect to recuperate costs and earn profits from their investments. But open-access mandates reduce the likelihood that these investments will be cost-effective. By requiring publishers to make copyrighted works available to customers *free of charge*, open-access mandates significantly disrupt publishers' ability to generate revenue commensurate with the value they create.

Under open-access mandates, publishers cannot choose or vary the ways in which articles are delivered to consumers, nor can they look to a competitive market to determine the price (the fair market value) that is key to ensuring that costs are fully repaid with revenue. Instead, they are forced to compete with a government-set price of zero. This government interference with the free market poses a direct threat to publishers' ability to invest in the creation and dissemination of important works. In undermining publishers' ability to produce and deliver written works to paying customers, open-access mandates will reduce the availability of published materials and diminish the quality of the materials that are made available.

Just to be clear, the harmful impact of open-access mandates arises from the *legal mandate* and not from the open-access distribution model itself. As with all property rights, copyright owners can sell their works, license them, or give them away for free.[22] Authors and publishers have the right—morally and legally—to determine the conditions under which they distribute their copyrighted works. For scholarly publishers, the result is a vibrant and dynamic world of academic journals in which hundreds of different business models are deployed by hundreds of different publishers.[23] In fact, publishers have developed myriad open-access models for a wide range of academic journals.[24] There are also open-access websites that distribute scholarly articles, such as the Social Science Research Network (SSRN) owned by the RELX Group.

Publishers ensure that consumers of scholarly research receive high quality, well-supported, and professionally finished works.

But there is a vast difference between *government-mandated* open-access and authors and publishers *choosing* to place their articles in open-access databases when their business models allow them to secure a return on investment by other means. In the latter case, no one is compelled to relinquish their property rights, and authors and publishers can make sustainable and informed business decisions based on sound free-market principles. Moreover, when publishers are able to offer a range of goods and services—and to determine this according to the economic laws of supply and demand that make the free market function—they can underwrite the costs associated with open-access repositories with the gains from other enterprises. Indeed, similar to many commercial enterprises, publishers have created a vibrant market as a result of their freedom to make these decisions and to determine appropriate investments in the creation, distribution, and cross-subsidization of their many services and products.

III. Open-Access Mandates Are Incompatible With Basic Principles of U.S. Copyright Law

Copyright law secures to authors property rights in their written works. Authors can exclusively control how their works are created, copied, displayed, and distributed or sold.[25] As with all property rights, it is this exclusive control that secures to authors the fruits of their productive labors. Open-access mandates eliminate these longstanding property rights.

Many people believe this key principle does not apply to academic researchers and their scholarly articles because academics do not directly earn a living from their writings.

***Under open-access mandates, publishers are forced to compete with a government-set price of* zero.**

This is a mistake. While scholars may seek reputational and other intangible benefits from writing, many scholars also seek compensation derived from their written work. Copyright law secures to authors the right to earn rewards from their works to the extent they choose and are able to do so. Like all property rights, copyright is transferrable to other people and companies; so copyright law similarly secures to any secondary owners of copyrights—such as commercial publishers—the right to exploit their works gainfully. The promise of rewards gives authors and follow-on owners commercializing these writings clear incentives to invest in the production and delivery of articles and other scholarly writings, and to assume the risks associated with these efforts. Open-access mandates upend those incentives by *requiring* authors and copyright owners to forego the prospect of earning returns from their works. As such, open-access mandates eviscerate the fundamental principles that underlie American copyright law.

Open-access mandates severely harm the property rights and returns on investment of stakeholders in the publishing industry. A pillar of copyright law is that copyright owners retain authority in and control over their works.[26] Under open-access mandates, however, copyright owners must place their works in repositories that the government creates or chooses for them, allowing the public to access, use, and even modify the works, all free of charge. As a result, open-access mandates severely limit publishers' ability to commercialize the works either through direct sales or licensing. These mandates effectively eliminate the property rights that U.S. copyright law secures to copyright owners.

The Department of Energy's open-access regulations are a paradigmatic example of how these mandates eviscerate copyright owners' property rights. In its "Open Licensing Requirement for Direct Grant Programs," the Department of Energy states that a recipient of federal monies "must openly license to the public new copyrightable materials created in whole, or in part" from the research or work supported by these funds.[27] It requires that the mandatory license be "worldwide, non-exclusive, royalty-free, perpetual, and irrevocable."[28] It further orders the owner of the copyrighted material to "grant the public permission to access, reproduce, publicly perform, publicly display, adapt, distribute and otherwise use, for any purposes, copyrightable intellectual property created with direct competitive grant funds, provided that the licensee gives attribution to the designated authors of the intellectual property."[29]

In plain English, the Department of Energy's open-access mandate compels researchers or scholars who have received any federal funding to support one of their projects to make the resulting work freely available to the public by putting it into an open-access repository. When the works are made available they can be put to any conceivable use, regardless of whether the author approves of such use. This perpetual royalty-free license runs forever, which means that copyright owners must make their works available for free *forever*. These requirements completely contradict the basic principles and longstanding practices of copyright law.

Similarly, the Department of Education has established an open-access mandate that forces open licensing provisions on works that report on the results of federally-funded research.[30] The harm that is inflicted on copyright owners is even more egregious than the harm done by open-access provisions alone. By granting the public expansive rights to *use* the copyrighted material in any manner possible, the Department of Energy and the Department of Education have wholly abrogated copyright owners' rights in their work.

Like all other property rights, copyrights are circumscribed in limited ways and for specific reasons that clearly justify the limitations. Fair use, for example, permits certain specified uses of copyrighted works irrespective of the copyright owner's choices: for instance, a portion of a work may be used in an educational setting when this use does not adversely affect the market in the original work.[31] But it is the *limitations* on fair use that make it a viable and well-established doctrine. Use of a work for an educational purpose is only permissible fair use, if, among other requirements, it has no significant market effect on the copyright owner.

Sweeping open-access mandates such as those promulgated by the Department of Energy and the Department of Education lack any such limitations. By completely abrogating the property rights of copyright owners,

open-access mandates exceed any reasonable grounds for restricting the scope of protections that copyright secures to authors. In every respect, these overreaching regulations are inconsistent with fundamental principles of copyright law and policy.

IV. Open-Access Mandates Are Not Supported By Evidence

Open-access mandates also suffer from a troubling lack of empirical support for their stated goals. This is unacceptable given the havoc these mandates threaten to unleash on the publishing industry. For example, the Department of Education justifies its open-access mandate with speculative, hypothetical, and entirely unsupported claims; for a careful reader of the regulations, what is most notable is the absence of hard data. When it first announced its plans to implement an open-access mandate, the Department of Education's "Proposed Notice for Rulemaking" was rife with assumptions and unsubstantiated statements. Despite receiving substantial comments from stakeholders in the scholarly publishing industry and academia, the final regulations are noticeably unchanged. For instance, the Department of Education originally stated that "we believe that an open licensing requirement would improve the quality of educational resources"[32]– a bald assertion with zero evidence supporting this claim. This and other speculative claims remain unsubstantiated and uncorrected in the final open-access regulations the Department issued.[33]

This problem is not unique to the Department of Education's open-access mandate. Similarly unsubstantiated assertions permeate open-access mandates of the Department of Energy, the National Institutes of Health, the Office of Science and Technology Policy, and other government agencies that impose on publishers and scholarly authors.[34] They assert positive impacts and offer no evidence to support these claims. This bears repeating: There is no evidence that open-access mandates fix an actual problem in the availability of scholarly research or that open-access mandates achieve greater research results by scholars. The Office of Science and Technology Policy, for instance, stated in 2011 that "wider availability of peer-reviewed publications and scientific data in digital formats will create innovative economic markets for services related to curation, preservation, analysis, and visualization."[35] Similar to the Department of Education's open-access mandate, the Office of Science and Technology Policy cited no evidence that open access actually achieves these effects.[36]

Open-access mandates severely harm the property rights and returns on investment of stakeholders in the publishing industry.

Given that open-access mandates eviscerate the property rights of authors and publishers and substantially disrupt the free market for the production and dissemination of scholarly works, the government agencies issuing these mandates should bear the burden of proving why the mandates are necessary or helpful. The paucity of hard data is striking. Before an agency enacts such sweeping regulation there should be evidence of an actual, systemic problem, and there should be evidence that open-access mandates are an appropriate solution to the problem. Until this time, open-access mandates are simply another example of a solution in search of a problem—an unjustified act of regulatory overreach.

V. Open-Access Mandates By Federal Agencies Are Based in Untenable Economic Models

In addition to offering *no evidence* to support the need for open-access mandates or to support their efficacy, government agencies have also failed to offer any *sound reasoning* to explain why compulsory open access is preferable to unfettered and functioning markets. Proponents of open-access mandates have not closely examined the market impact of their proposed changes, and the federal agencies racing to adopt these mandates have done no better.[37] To the extent proponents of open-access mandates offer any analysis it all, it is not based in sound economic rationales.

The Department of Education's open-access mandate provides a good example of this problem (although it is certainly not the only mandate suffering from this troubling defect). The Department's Notice of Proposed Rulemaking acknowledged that the proposed mandate could adversely affect the market. It stated: "In addition, publishers and other third parties may incur loss of revenue since their commercial product will potentially compete with freely available versions of a similar product."[38] But the Notice went no further than simply raising the issue, offering no solution as to how publishers could offset these

There is no evidence that open-access mandates fix an actual problem in the availability of scholarly research.

prospective losses. Crucially, the proposal failed to make the case that the potential benefits outweigh the likely harms or that the prospective losses would be sustainable in the long run. Moreover, the Department of Education's codified regulation goes no further than its initial Notice of Proposed Rulemaking in addressing these substantive concerns or offering any viable solutions.[39]

The National Institutes of Health mandate, enacted into law by Congress in 2008,[40] also does not offer a justification for undercutting the market in published educational materials. It too is based in an untenable economic model. The agency rationalizes that its open-access mandate can coexist with commercially-maintained resources without undermining the latter's business model.[41] But commercial publishers invest enormous resources in creating, sustaining, and improving their goods and services. They cannot make such investments without the prospect of returns commensurate with their investment risks.

When the federal government mandates open access, the publishing industry is forced to compete with repositories that free-ride on publishers' investments and then offer the product to consumers at no cost. Forcing publishers to "compete" against a government-set price of zero makes it impossible for publishers to offer their products at competitive market prices. As a straightforward matter of economics, this creates an unsustainable business model for both commercial and non-profit publishing industries.

Publishers might survive for some time by using higher quality or prestige to differentiate their products from the open-access databases. But even in well-functioning markets where prices of published works are established by supply and demand, these are difficult features to build a business model around. In the long run, successfully competing on these features is near-impossible if the underlying works are available for free on databases owned or chosen by the government.

By placing works that report on the result of federally-funded research—offered at a price of zero—in direct competition with the works and products developed by authors and publishers, open-access mandates distort the market for educational and scholarly works and make it impossible for publishers to earn a return commensurate with the value of their products and their investment risks. Instead of supporting the development and distribution of published works, open-access mandates are premised on untenable economic models that will disrupt the robust market for the creation and dissemination of those works.

Conclusion

Open-access mandates are troubling on many grounds. They are incompatible with basic principles of copyright law, which secures to authors property rights in the fruits of their productive labors, and which allows copyright owners to develop and commercialize their works in a free market. Instead, open-access mandates disrupt copyright owners' ability to realize free market returns from their investments and productive labors. In so doing, open-access mandates undermine the constitutional objective that copyright "promote the progress of science." As the Supreme Court has stated:

> In our haste to disseminate news, it should not be forgotten that the Framers intended copyright itself to be the engine of free expression. By establishing a marketable right to the use of one's expression, copyright supplies the economic incentive to create and disseminate ideas.[42]

Open-access mandates undermine the ability of private companies to compete and succeed in the free market. Publishers that produce and distribute written materials lose their rights in works in which they have invested time, effort, and resources. Open-access mandates also undermine the prospective returns of investors, employees, and other stakeholders in these companies. Furthermore, open-access mandates improperly place the government in competition with publishers, causing corrosive market distortions. All of this negatively impacts publishers' ability to set free market prices and to secure a return on investment commensurate with the value they add and the risks they undertake. This in turn reduces publishers' incentives to bring products to market in innovative ways, thereby diminishing the quality, variety, and availability of high-quality published works. All of these factors harm consumers of publications just as much as the publishers themselves.

The simple fact is that proponents of open-access mandates have failed to show that their proposals improve upon the publishing industry as it functions today. Despite proposing sweeping changes to the scholarly publishing market, proponents of open-access mandates offer no evidence or sound rationales for making these radical legal and economic changes through regulatory fiat. They also fail to explain why the numerous voluntary open-access exchanges and journals currently operated by publishers and other private entities should be replaced by open-access mandates enacted through administrative agencies.

Open-access mandates are clear-cut examples of regulatory overreach by government agencies. For reasons of law, policy, and economics, they are an unacceptable substitute for robust free markets. The rhetorically seductive appeal of "free" access is not a legitimate justification to adopt these mandates. Until the proponents of open-access mandates offer proper empirical evidence and sound rationales for why these regulations are needed and how they will benefit everyone, these regulatory mandates should be vigorously opposed.

Government agencies have failed to offer any* sound reasoning *to explain why compulsory open access is preferable to unfettered and functioning markets.

ENDNOTES

1 These mandates include, among others: (i) the Department of Education mandate, effective in March 2017, requiring that recipients of its funding "openly license to the public copyrightable grant deliverables created with Department grant funds." 2 C.F.R. Part 3474 (2017), available at https://www.federalregister.gov/documents/2017/01/19/2017-00910/open-licensing-requirement-for-competitive-grant-programs; (ii) the National Institutes of Health (NIH) mandate, effective in 2008, requiring the deposit of the full text of all journal articles arising from NIH-funded research studies into PubMed Central, an open-access repository. Division G, Title II, Section 218 of Public Law 110-161 (Consolidated Appropriations Act, 2008), available at https://grants.nih.gov/policy/sharing.htm; (iii) the Department of Energy mandate, effective in 2015, requiring journal articles resulting from DOE grants to be deposited in the DOE PAGES open-access repository, available at https://www.energy.gov/downloads/doe-public-access-plan; (iv) the National Institute of Standards and Technology (NIST) mandate, effective in 2015, requiring peer-reviewed journal articles resulting from NIST grants to be deposited into the PubMed Central database, available at http://www.arl.org/storage/documents/NIST-Plan-for-Public-Access-1.pdf; (v) the National Science Foundation (NSF) mandate requiring peer-reviewed journal articles and juried conference proceedings resulting from NSF-funded research grants to be uploaded to the NSF-PAR open-access repository, available at https://www.nsf.gov/pubs/2015/nsf15052/nsf15052.pdf. (Collectively, "Mandates"). For a complete, and regularly updated, summary of federal open-access mandates and initiatives in publicly funded journal articles and research data, see http://libguides.gwumc.edu/c.php?g=27840&p=1577547.

2 For instance, the National Institutes of Health requires that the full text of all journal articles arising from NIH-funded research studies be deposited into the open-access PubMed Central database. By its own count, the PubMed database comprises more than 26 million citations for biomedical literature from MEDLINE, life science journals, and online books. https://www.ncbi.nlm.nih.gov/pubmed. The PubMed Central website indicates that it "is free and available to any user with access to the Internet." *Id.*

3 For instance, the Department of Education, commenting on its recently-finalized regulations for "Open Licensing Requirements for Competitive Grant Programs," explicitly notes that it "agrees with the importance of having the ability to adapt and modify openly licensed materials, and to distribute those adaptations and modifications." It goes on to state that it has "expressly clarified that for copyrightable grant deliverables created in whole or in part with Department competitive grant funds, the grantee or sub-grantee must include as a term of the open license, the right to prepare derivative works and reproduce, publicly perform, publicly display and distribute those derivative works," 2 C.F.R. Part 3474 (2017), available at https://www.federalregister.gov/documents/2017/01/19/2017-00910/open-licensing-requirement-for-competitive-grant-programs.

4 The scope of open-access mandates has grown exponentially, and continues to expand to date. One study measuring open access between the years 2000 to 2009 shows an annual growth rate of 18% for the number of journals and 30% for the number of articles. *See* Mikael Laakso, *et al.*, "The Development of Open Access Journal Publishing from 1993 to 2009," available at https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3113847/.

5 To take just one example, the National Institutes of Health disburses approximately $32.3 billion in medical research alone. More than 80% of the NIH's funding is awarded through approximately 50,000 grants to more than 300,000 researchers at more than 2,500 universities, medical schools and other research institutions. All of the recipients of this funding are subject to the NIH open-access mandate. Further, approximately 10% of the NIH's budget supports scientific research conducted by nearly 6,000 scientists in its own laboratories, all of whom are also subject to the NIH open-access mandate. *See* https://www.nih.gov/about-nih/what-we-do/budget.

6 For instance, the Department of Education mandate, promulgated in January 2017, states that it is intended to encompass an array of "copyrightable works that are wide ranging in nature and include instructional materials, personalized learning delivery systems, assessment systems, language tools, and teacher professional development training modules, just to name a few." *See* Department of Education Mandate, *supra* note 1.

7 *See* Association of American Publishers (AAP) StatShot Annual Survey (2015), cited in http://newsroom.publishers.org/us-publishing-industrys-annual-survey-reveals-nearly-28-billion-in-revenue-in-2015.

8 *Id.*

9 The scholarly and educational publishing market comprises, among others, research and writings that receive private or federal funding (or both), as well as open educational resources.

10 *See* U.S. National Library of Medicine, National Institutes of Health, PubMed Central database, available at https://www.ncbi.nlm.nih.gov/pmc/.

11 *See* Adam Mossoff, *How Copyright Drives Innovation: A Case Study of Scholarly Publishing in the Digital World*, 2015 Mich. St. L. Rev. 955, 972, n.62 (2015).

12 For one example of a strong market in scholarly scientific publishing, see the report issued by the National Academy of Sciences, "Electronic, Scientific, Technical and Medical Journal Publishing and Its Implications: Report of a Symposium," available at https://www.ncbi.nlm.nih.gov/books/NBK215820/.

13 These private sector actors include publishers, journals, and private funders of research and scholarship.

14 This outcome was shown in the final report of the PEER project in Europe, available at http://www.peerproject.eu/fileadmin/media/ppt_about_peer/Mabe-Wallace_ELPUB_2009.pdf.

15 *See* January 21, 2010 Letter from Association of American Publishers to White House Office of Science and Technology Policy regarding Public Access Policies for Science and Technology Funding Agencies Across the Federal Government, available at http://www.dcprinciples.org/ostp/JOINT.pdf. *See also* Mossoff, *supra* note 11, at 972-77.

16 *See* Mossoff, *supra* note 11, at 972-77.

17 *Id.* at 978-981.

18 *Id.*

19 *See* Adam Mossoff, *Why the NIH Open-Access Mandate Conflicts with Copyright Law,* at 14 (unpublished manuscript).

20 *Id.*

21 *Id.*

22 *See* 17 U.S.C. §106 (2012).

23 *See* Mossoff, *supra* note 11, at 972-986.

24 For instance, Elsevier, now part of the RELX Group, offers a wide variety of open-access options, including "Gold Open Access," "Green Open Access," CHORUS, a "low cost compliance service for open access," and an open-access archive of selected Elsevier journals. *See* https://www.elsevier.com/about/open-science/open-access. For more examples of these open-access options, *see also* "Your Guide to Publishing Open Access with Elsevier," available at https://www.elsevier.com/__data/assets/pdf_file/0020/181433/openaccessbooklet_May.pdf.

25 *See* 17 U.S.C. §106 (2012).

26 *Id.*

27 "U.S. Department of Energy Increases Access to Results of DOE-funded Scientific Research" (Aug. 4, 2015), available at http://www.energy.gov/articles/us-department-energy-increases-access-results-doe-funded-scientific-research.

28 *Id.*

29 *Id.*

30 *See* Notice of Proposed Rulemaking, "Open Licensing Requirement for Direct Grant Programs," 80 Fed. Reg. 67672, 67675 (proposed Nov. 3, 2015).

31 *See* 17 U.S.C. §107 (2012).

32 Notice of Proposed Rulemaking, *supra* note 30, at 67675.

33 *See* 2 C.F.R. Part 3474 (2017).

34 *See* Mandates, *supra* note 1.

35 *See* https://obamawhitehouse.archives.gov/sites/default/files/microsites/ostp/ostp_public_access_memo_2013.pdf. *See also* https://obamawhitehouse.archives.gov/blog/2016/02/22/increasing-access-results-federally-funded-science.

36 *Id.*

37 For example, in its Notice of Proposed Rulemaking issued prior to enacting its open-access regulation in January of this year, the Department of Education only vaguely acknowledged that "publishers and other third parties may incur loss of revenue since their commercial product will potentially compete with freely available versions of a similar product." Notice of Proposed Rulemaking, "Open Licensing Requirement for Direct Grant Programs," 80 Fed. Reg. 67672, 67675 (proposed Nov. 3, 2015). Despite raising this serious concern, the Department of Education has never followed up with any analysis of such market impact. In the "Summary of Potential Costs and Benefits" section of the same Notice, the Department of Education also blindly asserted that its open licensing requirement "will not impose significant costs on entities that receive assistance through the Department's direct competitive grant programs." This claim remains unsubstantiated by any sound reasoning or analysis of market impact.

38 Notice of Proposed Rulemaking, "Open Licensing Requirement for Direct Grant Programs," 80 Fed. Reg. 67672, 67675 (proposed Nov. 3, 2015).

39 *See* 2 C.F.R. Part 3474 (2017), *see also* https://www.federalregister.gov/documents/2017/01/19/2017-00910/open-licensing-requirement-for-competitive-grant-programs.

40 *See* Consolidated Appropriations Act, 2008, Pub. L. No. 110-161, §218, 121 Stat. 1844 (Dec. 27, 2007).

41 *Id.*

42 *Harper & Row, Publishers, Inc. v. Nation Enterprises*, 471 U.S. 539, 558 (1985).

ABOUT THE AUTHORS

Bhamati Viswanathan is a Legal Fellow who joined CPIP in July of 2016. Her academic work has primarily focused on the centrality of copyright and trademark to creative industries. At CPIP her research and scholarship extends to consider the full array of intellectual property rights and protection, including patents and trade secrets, and emphasizes the vital importance of intellectual property to both creative and innovative ecosystems.

Bhamati earned her S.J.D. and LL.M. from University of Pennsylvania Law School, and her J.D. from University of Michigan Law School. She holds a B.A. in English and French literature, cum laude, from Williams College.

Adam Mossoff is Professor of Law at Antonin Scalia Law School at George Mason University. He is a co-founder of the Center for the Protection of Intellectual Property (CPIP), and is a Director of Academic Programs and Senior Scholar at CPIP. He teaches a wide range of subjects in property law and intellectual property law, and he has published extensively on how copyrights, patents and other intellectual property rights are fundamental property rights that should be legally secured to their owners and commercialized in the marketplace. His article, "How Copyright Drives Innovation: A Case Study of Scholarly Publishing in the Digital World," 2015 Michigan State Law Review 955, presents for the first time data on the economics of academic publishing. He has been invited to testify before the Senate and House of Representatives, and he has been invited to present his research at the PTO, FTC, DOJ, National Academy of Sciences, and the Smithsonian Museum of American History. He is a member of the Public Policy Committee of the Licensing Executives Society, the Academic Advisory Board of the Copyright Alliance, and has served as past Chair and Co-Chair of the Intellectual Property Committee of the IEEE-USA.

The arguments and views in this policy brief are the authors' and do not necessarily reflect those of the Center for the Protection of Intellectual Property or of any other organization.

CENTER FOR THE PROTECTION OF INTELLECTUAL PROPERTY

The Center for the Protection of Intellectual Property (CPIP) is dedicated to the scholarly analysis of intellectual property rights and the technological, commercial, and creative innovation they facilitate. CPIP explores how stable and effective property rights in innovation and creativity can foster successful and flourishing individual lives and national economies.

Through a wide array of academic and public policy programming, CPIP brings together scholars, industry leaders, inventors, creators, and policymakers to examine foundational questions and current controversies concerning patents, copyrights, and other intellectual property rights. Ultimately, CPIP seeks to promote a healthy academic discussion, grounded in rigorous scholarship, and a well-informed public policy debate about the importance of intellectual property.

For more information about CPIP, please visit our website at: https://cpip.gmu.edu

Center for the Protection of Intellectual Property
Antonin Scalia Law School, George Mason University
3301 Fairfax Drive
Arlington, VA 22201

https://cpip.gmu.edu

Check out our blog at:
https://cpip.gmu.edu/blog/

Like us on Facebook at:
https://www.facebook.com/cpipgmu

Follow us on Twitter at:
https://twitter.com/@cpipgmu

CENTER FOR THE PROTECTION
OF INTELLECTUAL PROPERTY
ANTONIN SCALIA LAW SCHOOL
GEORGE MASON UNIVERSITY