

January 2012

Valuing Attribution and Publication in Intellectual Property (with C. Sprigman and Z. Burns)

Christopher J. Buccafusco

IIT Chicago-Kent College of Law, cbuccafusco@kentlaw.iit.edu

Follow this and additional works at: http://scholarship.kentlaw.iit.edu/fac_schol



Part of the [Evidence Commons](#), and the [Intellectual Property Law Commons](#)

Recommended Citation

Christopher J. Buccafusco, *Valuing Attribution and Publication in Intellectual Property (with C. Sprigman and Z. Burns)*, (2012).

Available at: http://scholarship.kentlaw.iit.edu/fac_schol/154

This Brief is brought to you for free and open access by the Faculty Scholarship at Scholarly Commons @ IIT Chicago-Kent College of Law. It has been accepted for inclusion in All Faculty Scholarship by an authorized administrator of Scholarly Commons @ IIT Chicago-Kent College of Law. For more information, please contact dginsberg@kentlaw.iit.edu.

University of Virginia School of Law

Law and Legal Theory Working Paper Series 2012-02

Valuing Attribution and Publication in Intellectual Property

Christopher Jon Sprigman
University of Virginia School of Law

Christopher J. Buccafusco
Chicago-Kent College of Law

Zachary C. Burns
University of Chicago- Booth School of Business

February 2012

This paper may be downloaded without charge from the
Social Science Research Network Electronic Paper Collection:
http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2011403

A complete index of University of Virginia School of Law research papers is available at
Law and Economics: <http://www.ssrn.com/link/U-Virginia-LEC.html>
Public Law and Legal Theory: <http://www.ssrn.com/link/U-Virginia-PUB.html>

Valuing Attribution and Publication in Intellectual Property

Christopher Jon Sprigman^{*}

Christopher Buccafusco[#]

Zachary Burns[‡]

Abstract

Despite considerable research suggesting that creators place substantial value on attribution – the right to be credited with having created a work – U.S. intellectual property (IP) law, unlike its European counterparts, provides creators with almost no protection for attribution rights. In this Article, we report a series of experiments that are the first to attempt to quantitatively measure the value of attribution to creators. In previous research, we have shown that creators of IP are subject to a “creativity effect” that results in them assigning substantially higher value to their works than rational choice theory predicts. The experiments reported in this Article suggest that creators are willing to significantly reduce the amount of money they are willing to accept to license their IP rights in exchange for the opportunity to receive attribution for their work. These findings shed important light on emerging debates over whether and how American IP law should adopt attribution rights.

^{*}Class of 1963 Research Professor, University of Virginia School of Law.

[#]Assistant Professor of Law, IIT Chicago-Kent College of Law

[‡]PhD Candidate, Managerial and Organizational Behavior, The University of Chicago Booth School of Business. The authors wish to thank Stefan Bechtold, Graeme Dinwoodie, Christoph Engel, Jeanne Fromer, Nick Strocchia, David Walker, and the attendees of presentations of this work at the MPI-ETH Zurich Workshop for Junior Researchers on the Law & Economics of IP & Competition Law, Cambridge University, Oxford University, Glasgow University, and the Max Planck Institute on Collective Goods. The authors are also grateful for grants from Google and the Batten Institute at the Darden School of Business that supported this research.

INTRODUCTION

Imagine that you are a professional photographer, and you have been approached by two magazines that would like to purchase the rights to publish a photograph that you have taken. Magazine *A* offers you \$1000 for the rights, while Magazine *B* offers you only \$800 for the same opportunity to publish your photo. From a strictly economic perspective, this seems like a simple decision. But imagine that the circulation of *B* is considerably larger than the circulation of *A*. Might you think to yourself that there is some artistic or emotional value, or perhaps future economic advantage, to having your work seen by so many more people such that you would choose to publish with *B* for less money?

Now imagine that you are a young and as-yet-unknown author. You have been contacted by a publishing company that wants you to assist a politician in writing her memoirs. They give you a choice between two contracts: the first contract will pay you \$25,000 but your name will not appear anywhere on the book, while the second contract will pay you \$10,000 but your name will appear on the cover and title page of the book as a second author. Might you be willing to take the smaller payment in exchange for having your name on the book? You might value being named as an author because you feel it is morally right that you get credit, because it will enhance your reputation and social standing at cocktail parties, or because it could help you receive other, more lucrative writing contracts in the future.

This Article tests empirically the propositions suggested by these hypothetical questions and by a growing body of research, including some by the authors of this Article, finding that, in many fields of

creative endeavor, people claim to assign considerable value to receiving attribution for the work that they have done.¹ Intellectual property (IP) law in the United States, however, accords only extremely limited protection to a creator's interest in her reputation. Instead, IP extends protection to an author or inventor's ability to obtain financial compensation for the sale or use of her work. To the extent that she desires recognition of her contribution to a work or product, she will typically have to bargain for it separately.

In earlier work, we have experimentally studied the ways in which creators assign monetary value to the things that they create.² That research has suggested that creators are subject to a systematic bias that leads them to overvalue their work. This bias, which we have called the "creativity effect," potentially results in inefficient markets in IP, because creators may be unwilling to license their works for rational amounts.³ That research, however, like American IP law itself, focused on the *monetary* value that creators derive from their

¹See KAL RAUSTIALA & CHRISTOPHER JON SPRIGMAN, *THE KNOCKOFF ECONOMY: HOW IMITATION SPARKS INNOVATION* (Oxford University Press, forthcoming 2012) (describing how chefs, open source software programmers, and other creators value attribution); Emmanuelle Fauchart & Eric von Hippel, *Norms-Based Intellectual Property Systems: The Case of French Chefs*, 19, 2 ORGANIZATION SCI. 187 (2008) (describing norms governing attribution among French chefs); Christopher J. Buccafusco, *On the Legal Consequences of Sauces: Should Thomas Keller's Recipes Be Per Se Copyrightable?*, 24 CARDOZO ARTS & ENT. L.J. 1121 (2007) (describing social norms governing attribution among American chefs); Catherine L. Fisk, *Credit Where It's Due: The Law and Norms of Attribution*, 95 GEO. L.J. 49 (2006) (describing attribution norms across various fields).

²Christopher Buccafusco & Christopher Jon Sprigman, *The Creativity Effect*, 78 UNIV. CHICAGO L. REV. 31 (2011) (hereinafter *Creativity Effect*); Christopher Buccafusco & Christopher Jon Sprigman, *Valuing Intellectual Property: An Experiment*, 96 CORNELL L. REV. 1 (2010) (hereinafter *Valuing IP*).

³Buccafusco & Sprigman, *Creativity Effect*, *supra* note 2, at 32.

work. We now expand that focus. The same methods used in our previous studies enable us to test the propositions that creators value opportunities for *publication and attribution* separately from the opportunity for financial remuneration. Although the research on reputation mentioned above has provided strong qualitative evidence for the notion that creators value attribution, it has made no effort to quantify that value. The experiments reported in this Article attempt to do just that.

The experiments reported below are based on a simple premise: if creators value opportunities for publication and attribution, they should be willing to trade off monetary compensation for those opportunities. In the experiments we conducted and report on in this Article, we set up a protocol that allows authors to make that tradeoff between monetary compensation on the one hand and publication and attribution on the other. The results offer new insight into the value of attribution, and, we hope, will enrich the ongoing debate over whether American IP law, and especially American copyright law, should incorporate some form of general creators' right to attribution.⁴ For reasons we will explain, our results suggest that adding a default right to attribution to American IP law would more

⁴There is already in U.S. copyright law a narrow right to attribution that is given to the authors of a small category of very valuable works of fine art. *See* 17 U.S.C. § 106(A). *See also* Roberta Rosenthal Kwall, *Inspiration and Innovation: The Intrinsic Dimension of the Artistic Soul*, 81 NOTRE DAME L. REV. 1945, 1992-93 (2006) (describing the limitations on the VARA that render the Act inapplicable to the majority of creative works). *See below*, notes 18-19. There is also in patent law a requirement that the actual inventor be named on the patent application, but nothing in patent law gives the inventor any right to have his name associated with his invention as it is actually made, sold, and used in the marketplace. 35 U.S.C. § 111.

likely worsen, rather than reduce, inefficiencies in IP licensing markets.

Part I of this Article describes our previous research on IP valuation and the questions that motivated the current research. It discusses earlier work on attribution and explains our premises for this new research. Part II reports on the methods and results of two experiments designed to test the value that photographers assign to publication and attribution. Part III explores the implications of our findings for the law.

I. ATTRIBUTION, PUBLICATION, AND THE VALUE OF IP

A. Valuing IP

In two previously published studies, we have examined the ways in which creators assign monetary value to their works. For decades, IP law has rested on a series of assumptions about how the creators of IP should behave. These assumptions are derived from ideas in neoclassical economics, and they propose that IP creators, like everyone else in the world, should behave according to the dictates of rational choice theory. Thus, creators should make rational, wealth-maximizing decisions with respect to valuing, licensing, and selling their IP.⁵ In recent years, however, the assumption that people's decisions conform to rational choice theory has been substantially undermined by empirical studies in behavioral economics. Most importantly, many studies have shown that when it comes to

⁵See WILLIAM M. LANDES & RICHARD A. POSNER, *THE ECONOMIC STRUCTURE OF INTELLECTUAL PROPERTY LAW* (2003).

assigning value to things that they own, people are subject to a significant bias, known as the “endowment effect,” that results in considerable over-valuation of the owned goods.⁶ Accordingly, the amount of money people are willing to accept (WTA) to part with goods that they own is typically significantly higher than the amount of money that similarly situated people are willing to pay (WTP) to purchase those same goods.

In our earlier work, we inquired whether these same findings would appear for intellectual property, as well, even though IP is a different sort of property than any previously studied in the existing endowment effects literature. Unlike land and ordinary personal property, IP is non-rival – i.e., its consumption by one person does not prevent another person from consuming it.⁷ And because IP is non-rival, transactions involving this form of property are

⁶See DAN ARIELY, *PREDICTABLY IRRATIONAL*, Chp. 7 (2008) (describing the endowment effect as a “peculiarity” of ownership that often affects owners’ abilities to deal rationally); Russell Korobkin, *The Endowment Effect and Legal Analysis*, 97 N.W. L. REV. 1227, 1229 (2003) (providing background on the endowment effect and analyzing its impact on legal analysis); Ziv Carmon & Dan Ariely, *Focusing on the Foregone: How Value Can Appear So Different to Buyers and Sellers*, 27 J. CON. RES. 360 (2000) (exploring possible explanations of the endowment effect); Herbert J. Hovenkamp, *Legal Policy and The Endowment Effect*, 20 J. LEG. STUD. 225 (1991) (exploring the impact of the endowment effect in various legal contexts); Daniel Kahneman, Jack L. Knetsch, & Richard H. Thaler, *Experimental Tests of the Endowment Effect and the Coase Theorem*, 98(6) J. POL. ECON. BEHAV. & ORG. 1325 (1990) (finding the existence of an endowment effect when subjects were given coffee mugs and offered their cash equivalent); Richard H. Thaler, *Toward a Positive Theory of Consumer Choice*, 1 J. ECON. BEHAV. & ORG. 39, 43-47 (1980) (labeling the common tendency to refuse to give up entitlements even when that entitlement would not have been purchased initially as the “endowment effect”).

⁷This is a fact that the record companies recently have learned to their cost, as consumers duplicated music files and shared them, at virtually zero cost to themselves, with friends and strangers alike.

fundamentally different from the sorts of transactions studied in the existing endowment effects literature. When parties transact over IP, the seller usually does not give up the tangible property itself but only the intangible right to earn money through it, and so unlike in cases of tangible property, alienation is typically incomplete.⁸ In light of IP's non-rivalrousness and the incomplete alienation that typically characterizes transactions in IP, we thought it possible that the valuation anomalies associated with the endowment effect would be mitigated, or perhaps even absent, from IP transactions. Why? Because the personal attachment to property or anticipated regret following its alienation that leads owners in endowment effect experiments to over-value their property may not operate where the transaction does not involve the owner's complete *loss* of the property.

On the other hand, unlike any experiment in the existing literature, the property we planned to study was not simply that with which owners had been "endowed" but, instead, property *subjects had actually created themselves*. We suspected that subjects would feel significantly greater personal attachment to property that they had created compared to property they had been given. Consequently, we arrived at a second hypothesis in direct opposition to our first: i.e., that the valuation anomalies associated with the endowment effect

⁸Buccafusco & Sprigman, *Valuing IP*, *supra* note 2, at 4. Note that in certain types of IP transactions, alienation is as "complete" as in transactions involving tangible property – for example where the IP transaction involves sale of an article like an oil painting or a sculpture that has only been produced in a single copy. For most IP transactions, however – such as those involving novels, plays, songs, films, poems, photographs, computer software, or prints – the work at issue may freely be copied, and therefore alienation is incomplete in that it does not entirely deprive the seller of access to the work.

would be *even more pronounced* for owners of the property if they had actually created it.

In a series of experiments involving the creation of poems and paintings, we confirmed the second hypothesis and provided evidence for the existence of a “creativity effect” – the tendency of creators of goods to assign higher value to their works than either mere owners of the goods or would-be purchasers of them.⁹

These earlier studies were designed to model the nature of IP markets, where the goods sold are not the underlying works themselves but simply the opportunity to seek rents through ownership of the rights. To do so, we established contests for creative works. In one such experiment, we solicited paintings for a contest that would be judged by an expert with the winning painting receiving a \$100 prize.¹⁰ The painters (Painters) of the works were told that they would be competing with nine other paintings for the prize. They were then told that their painting would be shown to another subject who had been recruited for the study. That subject (the Buyer) would make the Painter a cash offer for the Painter’s right to win the prize money if her painting was selected as the winner. The Painters were asked to indicate the least amount of money that they would be willing to accept (WTA) to sell their painting’s chance to win the prize. Each of the Buyers was then shown one of the Painters’ paintings and told to indicate the most amount of money that they would be willing to pay (WTP) to purchase the Painter’s chance to win the prize. Finally, a group of

⁹*Id.*; Buccafusco & Sprigman, *Creativity Effect*, *supra* note 2, at 38.

¹⁰*Id.*

Owners was recruited for the study. They were told that there would be a contest with a \$100 prize and that for purposes of the contest they owned one of the paintings' chances to win the prize. They were then asked to indicate the least amount of money that they would be willing to accept to sell their chance to win the prize. In no case would the ownership of the actual painting change hands; the parties were only transacting over the chance to win the prize.

Our data suggested a large gap between the WTA of the Owners of IP-style rights and the WTP of Buyers, consistent with previous research on the endowment effect. Furthermore, the data showed a large and significant gap between the Painters' WTA and the Owners' WTA. Thus, Painters' mean WTA was \$74.59, Owners' mean WTA was \$40.67, and Buyers' mean WTP was \$17.39. Differences between each condition were significant at the $p = 0.05$ level.¹¹ These results suggested the existence of a creativity effect – a pricing anomaly that, unlike the endowment effect, related not merely to the ownership of property, but to *the creation of property*. The creativity effect explains why Painters demanded significantly more than Owners to transfer the chance of winning the prize. Authorship, our study suggests, produces a tendency to value creativity more highly than does mere ownership.

These findings are significant for a number of reasons. First, they suggest that creators of IP place significantly higher value on their works than rational choice theory predicts. Given the zero-sum nature of the contest, the mean WTA for the Painters should have

¹¹*Id.* at 40.

been around \$10 (i.e., a 1 in 10 chance of winning a \$100 prize if randomly selected). Interestingly, much of the observed overvaluation appeared to have come from Painters' substantial overoptimism in the probability that their work would win the prize. On average, they predicted that their paintings would have a 52.8% chance of winning.¹² Additionally, we found some evidence that Painters' regret aversion (their anticipated anxiety about having sold the winning painting) could have led to their higher valuations, but that evidence was merely suggestive.¹³

Second, and most importantly, our findings suggested that IP markets may be significantly less efficient than law and economics accounts have previously supposed. These accounts propose that initial distributions of property will have little effect on ultimate distributions (at least in a world without transaction costs), because property will flow to its highest valued use.¹⁴ On the contrary, our findings indicate that initial distributions of IP may be incredibly sticky. The original owner of IP, very often its creator, will tend to systematically overvalue it compared to potential purchasers, resulting in a suboptimal number of wealth-maximizing transactions. In many instances, we believe, the creators of IP will refuse to sell or license their works or inventions when doing so would be mutually

¹²For Owners and Buyers the predicted probabilities are 41.9% and 31.8%, respectively. The differences between these probabilities were all statistically significant at the $p = 0.05$ level.

¹³*Id.* at 41.

¹⁴See Herbert J. Hovenkamp, *The Coase Theorem and Arthur Cecil Pigou*, 51 ARIZ. L. REV. 633 (2009); Francesco Parisi, *Coase Theorem*, in NEW PALGRAVE DICTIONARY OF ECONOMICS 855-61 (Laurence Blume and Steven N. Durlauf eds., 2007); Ronald H. Coase, *The Problem of Social Cost*, 3 J. L. ECON. BEHAV. & ORG. 1 (1960).

beneficial. Accordingly, in our previous publications, we offer potential remedies to bargaining impasses, including the adoption of liability rules and changes to the rules regarding formalities, works-made-for-hire, and fair use.¹⁵

B. The Value of Attribution and Publication in Law and Practice

Our previous research focused exclusively on the monetary value that the creators of IP assign to their works. As a considerable literature suggests, however, creators often seem to care about more than just the amount of money that they can earn through their work. Wikipedia authors and open source computer programmers write without compensation, but they enforce norms about attribution and credit.¹⁶ Stand-up comics and chefs work in fields without strong IP protection, but they often insist upon receiving credit for their innovations.¹⁷ These and other creators have a host of motivations that involve the desire to spread their ideas and the reputational value

¹⁵*Id.* at 44-52.

¹⁶See Jon M. Garon, *Wiki Authorship, Social Media, and the Curatorial Audience*, 1 HARV. J. SPORTS & ENT. LAW 95 (2010) (describing the norms governing attribution among authors of Wikipedia articles); Fisk, *supra* note 1, at 88-92 (describing the norms governing attribution among programmers of open source software).

¹⁷See Dotan Oliar & Christopher Sprigman, *There's No Free Laugh (Anymore): The Emergence of Intellectual Property Norms and the Transformation of Stand-Up Comedy*, 94 VA. L. REV. 1787 (2008) (describing the norms governing attribution among stand-up comics); Buccafusco, *supra* note 1 (describing the norms governing attribution among chefs); Fauchart & Hippel, *supra* note 1 (describing norms governing attribution among French chefs). See generally Raustiala & Sprigman, *supra* note 1 (describing how chefs, open source software programmers, and other creators value attribution).

of being thought a successful artist or inventor in addition (or related) to monetary compensation.

Despite the importance that creators apparently attach to attribution, American IP law accords it very little recognition. Attribution is nowhere classed among the exclusive rights that U.S. copyright law gives to authors – except for a narrow provision, the Visual Artists Rights Act (VARA), conferring attribution rights on a small number of authors of valuable works of fine art. Passed in 1990 following America’s accession to the Berne Convention,¹⁸ VARA gives the creators of certain categories of visual art a waiveable right of attribution when those works are produced only in single works or in limited editions.¹⁹ For example, if a movie producer licenses a song to be included in the film, copyright law creates no formal requirement that the song’s author be credited for it. Thus, aside from the narrow protection offered by VARA, if authors subject to American copyright law wish to gain attribution rights, they must negotiate separately for them.

For many years, American authors used trademark law to protect their rights to be named as the author of their works. They claimed that the failure to include their names on their works amounted to illegal “passing off” of the goods as coming from another source.²⁰

¹⁸H.R. Rep. No. 101-154 at 7-10 (describing relationship of VARA to Berne Convention).

¹⁹17 U.S.C. § 106A.

²⁰See Greg Lastowka, *The Trademark Function of Authorship*, 85 B.U. L. Rev. 1171, 1200 (2005) (hereinafter *TM Function*) (noting the “common belief that designations of authorship, like trademarks, could be determined to be true or false designations, could mislead consumers as to salient qualities of goods, and that protection under trademark law was thus required”).

This practice came to an end, however, with the U.S. Supreme Court's 2003 decision in *Dastar Corp. v. Twentieth Century Fox Film Corp.*, which effectively terminated the use of trademark as a tool for obtaining attribution.²¹ The Court held that trademark law is prohibited from extending "passing off" protection to the sorts of "communicative goods" that are regulated by copyright law.²²

American copyright law's scant concern for attribution is mirrored, for the most part, in U.S. patent law. American law has long required that the inventor or inventors be named on the patent even if the invention was developed and motivated by the inventor's corporate employer. The law has never required, however, that the inventor be given any form of credit for the invention as it is actually made, marketed, and used.²³

But the situation, at least with respect to copyright, is different abroad. Compared with U.S. copyright law, authorial rights to attribution figure much more prominently in the copyright law of many of our principal trading partners. Most European countries extend to creators certain kinds of attribution rights,²⁴ and recently, a

²¹539 U.S. 23 (2003).

²²*Id.* See generally Christopher Sprigman, *Indirect Enforcement of the Intellectual Property Clause*, 30 Colum. J. L. & Arts 565 (2007) (suggesting that result in *Dastar* represents Supreme Court's tacit enforcement of limits on Congress' legislative authority under the Patent and Copyright Clause).

²³35 U.S.C. § 111 ("An application for patent shall be made, or authorized to be made, by the inventor, except as otherwise provided . . .").

²⁴See, e.g., Law No. 92-597 of July 1, 1992, art. L. 121-1, Journal Officiel de la République Française [J.O.] [Official Gazette of France], July 3, 1991, p. 8801 (The French Code provides that "[t]he author shall enjoy the right of respect for his name, his authorship, and his work," and that "[t]his right shall be attached to his person"); Urheberrechtsgesetz [Copyright Law], Sept. 9, 1965, BGBl. I at 1273, § 4(1)(13) (F.R.G.) (The German Code provides that the author "shall

number of American scholars have called for the U.S. to recognize some form of attribution right in its copyright law.²⁵ Although there is substantial qualitative evidence that creators value attribution, there has, however, been no attempt to measure that value. Our experimental framework from the previous studies offered an attractive platform for understanding the relationship between creators' interest in reputation and publication and in monetary compensation.

1. *Attribution in Law and Practice*

Attribution—the label we use when we assign credit to a person's role in the production of a creative work – can have individual and social value for a number of reasons.²⁶ Attribution may be valuable to the individual producer of the work, for example, because being credited for producing the work may help her obtain further employment in the field or sell more works in the future. We can

have the right of recognition of his authorship of the work," may "determine whether the work is to bear an author's designation and what designation is to be used," and "shall have the right to prohibit any distortion or any other mutilation of his work which would prejudice his lawful intellectual or personal interest in the work"); Law No. 633 of Apr. 22, 1941, 20-1, *Gazzetta Ufficiale della Repubblica Italiana*, July 16, 1941, No. 166 (The Italian Code provides that "the author shall retain the right to claim authorship of his work and to object to any distortion, mutilation or any other modification of, and other derogatory action in relation to, the work, which would be prejudicial to his honor or reputation").

²⁵ See Greg Lastowka, *Digital Attribution: Copyright and the Right to Credit*, 87 B.U. L. REV. 41 (2007); Fisk, *supra* note 1, at 88-92; Laura A. Heymann, *The Birth of Authorship: Authorship, Pseudonymity, and Trademark Law*, 80 NOTRE DAME L. REV. 1377 (2005); Jane C. Ginsburg, *The Right to Claim Authorship in U.S. Copyright and Trademark Law*, 41 HOUS. L. REV. 263 (2004); Roberta Rosenthal Kwall, *The Attribution Right in the United States: Caught in the Crossfire Between Copyright and Section 43(A)*, 77 WASH. L. REV. 985 (2002).

²⁶ For detailed treatments of the values associated with attribution see Fisk, *supra* note 1, at 53-67; Lastowka, *TM Function*, *supra* note 20, at 1175-85.

think of this as attribution's *extrinsic value*. Separately, an individual may value attribution, because seeing her name attached to her work produces a positive psychic or emotional effect on her well-being.²⁷ We can call this attribution's *intrinsic value*. Finally, attribution may have some individual moral or ethical value to the producer of the work as a legal and social recognition of her relationship to the work.²⁸ We can call this attribution's *moral value*.²⁹

Apart from its individual value, assigning attribution to creators may have social value. Connecting a creator with her work can aid consumers in making decisions about which products to buy,³⁰ and it can assist industries and individuals in assigning credit and blame to the successes and failures of products.³¹ Throughout this Article, however, we will be directly concerned with the ways in which attribution confers *individual value*.

Because of the value that creators seem to attach to attribution, European IP regimes grant creators various forms of

²⁷See Fisk, *supra* note 1, at 50 (“Credit is instrumentally beneficial in establishing a reputation and intrinsically valuable simply for the pleasure of being acknowledged.”); ERIC S. RAYMOND, *THE CATHEDRAL AND THE BAZAAR* 64 (1999) (“The ‘utility function’ Linux hackers are maximizing is not classically economic, but is the intangible reward of their own ego satisfaction and reputation among other hackers.”).

²⁸See Kwall, *supra* note 25.

²⁹We do not intend to suggest that these different values are mutually exclusive. They almost certainly are not.

³⁰See Lastowka, *TM Function*, *supra* note 20, at 1179 (“Authorial attribution furthers the interests of consumers by reducing the costs of searching for creative content.”); Laura A. Heymann, *The Trademark/Copyright Divide*, 60 SMU L. REV. 55, 61-62 (2007).

³¹Fisk, *supra* note 1, at 61 (“...there are circumstances in which people think it important to plan for failure and to design attribution regimes whose purpose is to allocate blame.”).

rights to be named as the authors or inventors of their works. For example, the United Kingdom provides authors of certain copyrightable works with a waivable right to be named as the author of their works in a clear and reasonably prominent manner.³² Other countries, however, have established non-waivable attribution rights as part of an author's complement of "moral rights." The Berne Convention for the Protection of Literary and Artistic Works ("Berne Convention")³³ is the primary reference for moral rights in international law. Since 1928, the Berne Convention has codified the moral rights of attribution and integrity.³⁴ Further, many countries have included moral rights of attribution in their IP laws.³⁵ Most notably, France and Italy have statutorily granted authors a perpetual,

³²Copyright, Designs, and Patents Act §§77-78 (1988). See LIONEL BENTLY & BRAD SHERMAN, INTELLECTUAL PROPERTY LAW 244-49 (3rd ed. 2009).

³³Berne Convention for the Protection of Literary and Artistic Works, July 24, 1971, 25 U.S.T. 1341, 828 U.N.T.S. 221 [hereinafter "Berne Convention"].

³⁴Berne Convention, art. 6bis(1). See Also Henry Hansmann & Marina Santilli, *Authors' and Artists' Moral Rights: A Comparative Legal and Economic Analysis*, 26 J. LEG. STUD. 195 (1997); Roberta Rosenthal Kwall, *Copyright and the Moral Right*, 38 VAND. L. REV. 1, 10 (1985).

³⁵See, e.g., Law No. 92-597 of July 1, 1992, art. L. 121-1, Journal Officiel de la Republique Francaise [J.O.] [Official Gazette of France], July 3, 1991, p. 8801 (The French Code provides that "[t]he author shall enjoy the right of respect for his name, his authorship, and his work," and that "[t]his right shall be attached to his person"); Urheberrechtsgesetz [Copyright Law], Sept. 9, 1965, BGBI. I at 1273, § 4(1)(13) (F.R.G.) (The German Code provides that the author "shall have the right of recognition of his authorship of the work," may "determine whether the work is to bear an author's designation and what designation is to be used," and "shall have the right to prohibit any distortion or any other mutilation of his work which would prejudice his lawful intellectual or personal interest in the work"); Law No. 633 of Apr. 22, 1941, 20, Gazzetta Ufficiale della Repubblica Italiana, July 16, 1941, No. 166 (The Italian Code provides that "the author shall retain the right to claim authorship of his work and to object to any distortion, mutilation or any other modification of, and other derogatory action in relation to, the work, which would be prejudicial to his honor or reputation").

inalienable right to attribution.³⁶ Some countries (again, most notably, France) have granted some artists a “droit de suite” --i.e., a right to royalties on the resale of works.³⁷ As should be clear, many other countries have placed a much stronger emphasis on protecting artists’ moral rights than the United States, and they have sought to enforce these rights by international treaty.

Despite evidence that creators value attribution as well as pressure from international treaty obligations, the U.S. has been reluctant to recognize strong forms of attribution rights. The paucity of formal IP protection for attribution rights in the U.S. does not, however, mean that creators are unable to obtain credit for their efforts; it simply means that creators must seek other outlets for protecting their interests in attribution. Instead of being a subject of IP law, attribution in the U.S. becomes a subject of contract law and the operation of social norms.

In many creative fields, attribution is a matter of bargaining between initial creators and subsequent producers of content.³⁸ As in the example used at the beginning of the Article, the photographer desiring a published credit with her photograph may insist on the

³⁶See Law No. 92-597 of July 1, 1992, art. L. 121-1, § 2, Journal Officiel de la Republique Francaise [J.O.] [Official Gazette of France], July 3, 1991, p. 8801 (declaring the right “perpetual, inalienable, and indefeasible”); Law No. 633 of Apr. 22, 1941, 22-23, Gazzetta Ufficiale della Repubblica Italiana, July 16, 1941, No. 166 (declaring both that the right is inalienable and that it “may be asserted without limitation of time” by his descendants and their descendants).

³⁷See, e.g., Law No. 92-597 of July 1, 1992, art. L. 122-8 (declaring that “[a]uthors of graphic and three-dimensional works ... have an inalienable right ... to participate in the proceeds of any sale of such work”).

³⁸See Lastowka, *TM Function*, *supra* note 20, at 1174 (“...authors may use copyright as a lever to demand attributions of authorship”).

inclusion of a contract provision providing for credit as part of the bargain she strikes with the newspaper, and it may affect the price she gets paid for her work. Relatedly, creators in some fields, especially those involving computers and the Internet, often attach licenses to the use of their work that require attribution.³⁹ The most common of these licenses are established by the Creative Commons organization. Approximately 98% of the people who choose Creative Commons licenses demand attribution, and so since 2004 Creative Commons has not offered a license that does not include an attribution requirement.⁴⁰

In many industries, attribution practices are the subject of complex bargaining between parties.⁴¹ In the movie industry, for example, who gets credit and how they receive it (including the order, font, and size of their names) are determined by contracts negotiated between the movie studios and the guilds representing the various members of the industry.⁴² In other fields, attribution is governed by more-or-less formalized norms. Attribution practices for scientific research have been proposed by the International Committee of Medical Journal Editors. The guidelines dictate who should be named as a paper's author and in what order.⁴³ In other creative fields, however, there are few or no norms governing attribution. In

³⁹Lastowka, *Digital Attribution*, *supra* note 25, at 59.

⁴⁰See Glen Otis Brown, [Announcing \(and explaining\) our new 2.0 licenses, May 25, 2004, available at http://creativecommons.org/weblog/entry/4216.](http://creativecommons.org/weblog/entry/4216)

⁴¹See Fisk, *supra* note 1, at 76-101.

⁴²*Id.* at 76-81.

⁴³*Id.* at 83.

graphic design and elite cuisine, for example, there appears to be little attempt to formalize the norms regarding attribution.⁴⁴

The apparent value that creators attach to attribution has led to calls from a variety of scholars for enhanced legal protection for attribution and credit in the U.S. Interestingly, as Rebecca Tushnet notes, proponents of strengthened attribution laws come from both “high protectionist” and “low protectionist” camps.⁴⁵ Whereas high protectionists favor attribution rights as part of enhancing authors’ opportunities for complete economic and moral control of their works, low protectionists support attribution as a way of protecting some degree of authors’ interests in the face of uncompensated and uncontrolled uses that they might otherwise not support.⁴⁶ Although the proposals for enhancing attribution rights diverge in many ways, support for legal recognition of some sort of right to attribution appears to be increasing. Despite this interest, however, there has been little previous study of the quantitative value of such a right, or whether installing such a right as the default rule in copyright law would tend in general to ease or impede bargaining over rights to copy, distribute, and use creative works.

2. *Modeling the Value of Attribution and Publication*

If creators value opportunities for attribution and publication, then they should be willing to trade off some monetary return on their works in favor of those opportunities. It is possible,

⁴⁴*Id.* at 86-7; Fauchart & von Hippel, *supra* note 1.

⁴⁵Rebecca Tushnet, *Naming Rights: Attribution and the Law*, 2007 UTAH L. REV. 789, 792-93.

⁴⁶*Id.*

furthermore, that they value publication and attribution so much that the WTA-WTP gap that we have seen in our previous studies disappears. Thus, if the composer of a musical work places so much value merely on the opportunity to have her song heard or to improve her reputation as a composer, she might not insist on very much money at all to transfer her IP rights in the song to someone who would like to include it in a Hollywood movie. As Greg Lastowka has suggested, open source computer coding can be thought of in this way.⁴⁷ Open source coders allow their work to be freely distributed to the public on condition that they receive attribution for their efforts. Although their coding potentially has positive economic value, coders set the price of access at the point where it maximizes reputational gains, i.e., at \$0.⁴⁸ The same can be said of those who use Creative Commons licenses that require attribution or of those who voluntarily write and edit Wikipedia entries.⁴⁹

If this kind of attribution-based price discounting occurs often, IP markets may in fact be more efficient than we had given them credit for in our earlier work. Because creators are typically not given attribution rights by U.S. IP law, they will have to bargain for them. Presumably, this desire will drive down the price of licensing their works relative to licenses that do not provide for attribution. By contrast, however, it is possible that some creators will be resistant to the idea of having their work published without attribution. They

⁴⁷Lastowka, *Digital Attribution*, *supra* note 25, at 59.

⁴⁸*Id.*

⁴⁹Garon, *supra* note 16, at 107.

might believe that it is inappropriate or immoral for the work to be published without an indication of its creator.⁵⁰ Accordingly, such creators would be less attracted to publication without attribution than they would be to monetary compensation standing alone. Both of these possibilities receive at least anecdotal support.⁵¹

The experiments reported below test these propositions. Following earlier literature, we assume that creators value opportunities for publication and for attribution. Accordingly, when given a chance to trade off monetary compensation for those opportunities, they will do so, resulting in lower WTA numbers that are closer to the prices that prospective buyers might be willing to pay for them.

It is worth noting one of the assumptions of this model. Earlier we explained that creators might value attribution for economic and/or moral reasons. They might desire attribution as an opportunity to achieve greater financial or artistic success in the future, and they might desire attribution because they believe they have some ethical right to have their names attached to their works. Although one of these preferences is economic and the other moral, we assume that whichever reason the creator has for valuing

⁵⁰The attractiveness of attribution requirements in Creative Commons licenses suggests as much.

⁵¹*See*, *e.g.*, Ghostwriting FAQs, http://www.dmlowery.com/index.php?option=com_content&view=article&id=2&Itemid=7 (last visited Feb. 22, 2012) ("Q: Does the ghostwriter get a credit on the book? As mentioned above, depending on the arrangement, attribution or even co-author credit could be negotiated. If so, the fee structure usually changes or decreases"); 7 Questions to Ask Before you Hire a Ghostwriter, http://www.writeanonfictionbook.com/ARTICLES/7_Question_Ghostwriter.html (last visited Feb. 22, 2012) ("Acknowledgement in print is often considered part of the fee").

attribution, she will be willing to engage in market exchanges to receive it.

II. THE CURRENT STUDIES

We performed two separate experiments to test the propositions discussed above. The first involved “lay” creative subjects – those who indicated an interest in photography. The second involved professional and serious amateur creators.

A. Mechanical Turk Study

1. *MTurk Methods*

For the first experiment, we recruited two hundred participants using Amazon Mechanical Turk (mTurk), a service that connects people with online “human intelligence tasks”, or HITs.⁵² We listed a HIT on mTurk titled “Aspiring Photographers Wanted for a Contest and Study About How People Use Digital Photos.” We also provided a short description of the task.⁵³

mTurk participants were directed to the Qualtrics survey site,⁵⁴ where they consented to participate in the study. They uploaded a digital picture that they had taken themselves, and were instructed

⁵²See <https://www.mturk.com/mturk/welcome>

⁵³Subjects were told, “You will upload a digital photo of nature that you've taken and answer some questions about it. Your photo will then be entered in a contest and judged by photography experts. Prizes may include cash and/or publication on a major website.”

⁵⁴See <http://www.qualtrics.com/>

that it was not to include any people.⁵⁵ The contest rules appeared next; participants learned that their photo would be judged against 99 other photographs by a photography expert and that the winning photograph would receive a prize of \$1000.

At this point, the participants were randomly assigned to one of three conditions:

1) *Contest Condition*: In this condition, participants were told that their photo would be viewed by another participant before any judging would take place. The buyer would make a cash offer which, if accepted by the photographer, would result in the transfer of the opportunity to win the \$1000 prize from the photographer to the buyer. The offer was not for the photograph itself, but only for the right to be paid the prize if the photograph was judged the winner. We'll refer to this as the photograph's *contest rights*.

Once informed of the rules, the photographer's willingness to accept (WTA) was elicited: that is, she was asked to specify the lowest amount she would accept to sell her photograph's contest rights. She was told that if the buyer's offer for her photo's contest rights was higher than her WTA, then she would automatically receive that offer in cash payable through Mechanical Turk, and she would not receive the \$1000 should her photo win the contest. If the offer was lower, then she would not receive any cash from the buyer, but still win the \$1000 if her photo won. This condition replicates those used in our previous studies of the creativity effect.

⁵⁵This proviso was included to allay privacy concerns raised by the University of Virginia's Institutional Review Board for Social and Behavioral Sciences, which was the human subjects research review body that approved this study. See <http://www.virginia.edu/vpr/irb/index.html>

2) *Publication Condition:* The price elicitation and offer structure in the second condition were identical to the Contest condition. The change from the first condition involved the prize on offer. In the Publication condition, the photographers were offered the opportunity to have their photo *published, uncredited*, “on a major website like the Huffington Post.” But the possibility of publication would arise only if the photo (a) had been sold to the viewer and (b) it won the contest. That is:

-- If the photographer’s WTA was lower than the buyer’s offer, then the photographer would receive the offer in cash. If the photo then won the contest, the photographer would not receive the \$1000, but would have the photo published, albeit without the photographer’s name.

-- If the photographer’s WTA was higher than the offer, then the photographer would receive no cash from the buyer. If the photo won the contest, the photographer would receive the \$1000 prize, but the photo would not be published.

3) *Attribution Condition:* The condition was identical to the Publication condition, but if the conditions specified above were met, the photograph would be published *along with the photographer’s name*. Again, if the WTA was lower than the offer, the photographer would receive the cash offer. If the photo won the contest, the photographer would not win the \$1000 prize, but would have the credited photo published. If the WTA was higher than the offer, then the photographer would not receive the cash offer. If the photo won the contest, then the photographer would receive the \$1000 prize, but not have the credited photo published.

We structured the conditions this way in order to determine whether our photographer subjects valued publication and attribution, and whether their attraction to these prospects would reduce their WTA relative to a situation in which publication and attribution were not available. If they attached a significant value to the prospect of publication, then we would expect to see subjects in the Publication condition report lower WTA than those in the Contest condition. If they attached a significant value to the prospect of attribution, we would expect to see subjects in the Attribution condition report lower WTA than in both the Publication and Contest conditions.

After the rules were explained, and comprehension was checked, participants entered their WTA. Participants were asked a series of questions about their perceptions of the quality of their photographs and their emotional attachment to them.⁵⁶ We also asked several demographic questions. Participants were then thanked, and the experiment ended. Unlike in our previous studies, we did not recruit a separate pool of buyers in this experiment since our interest was only in the differences between creators' WTA.⁵⁷

⁵⁶Subjects were asked:

-- How good is your photograph? (responses were elicited on a seven point Likert scale ranging from 1 (Very Bad) to 7 (Very Good)).

-- What are the chances (the probability) that your photograph is going to win the prize? (responses were elicited on a 0-100 slider scale, indicating a percentage).

-- How would you rate your level of personal and emotional investment or attachment to your photograph? (responses were elicited on a seven point Likert scale from 1 (Very Low) to 7 (Very High)).

⁵⁷We received permission from the IRB to engage in this minor deceit, and subjects were told about it at the end of the experiment.

2. MTurk Results

Of the 200 participants recruited using mTurk, twenty were excluded for answering one or both of the rule comprehension questions incorrectly. Based on the scholarly literature reviewed above, we hypothesized that creators would find the prospect of publication with attribution to be the most valuable, and, thus, that the WTA for the Attribution condition would be significantly lower than in the Publication or Contest conditions.⁵⁸ Our hypotheses with respect to the Publication condition were less clear. If subjects valued the opportunity to get their work “out there” even without their names attached, then WTA in the Publication condition should be lower than in the Contest condition. But if subjects were indifferent to the opportunity for publication without credit or, moreover, if they were hostile to the idea, then WTA in the Publication and Contest conditions should not diverge.

We first compare participants in either the Contest or Publication condition, on the one hand, and those in the Attribution condition. The subjects in the Attribution condition did, as expected, report a *significantly lower* WTA than “Contest/Publication” subjects – i.e., subjects in those two conditions grouped together (Contest/Publication $M = \$202.26$, Attribution $M = \$132.28$, $t = 1.98$, $p = .05$). Thus, when subjects were offered a chance to receive credit along with publication of their work, they significantly reduced

⁵⁸Recall that because of the way our study is designed, attaching a higher value to attribution should result in a *lower* WTA in the Attribution condition, because creators are willing to sacrifice more monetary compensation in order to receive attribution.

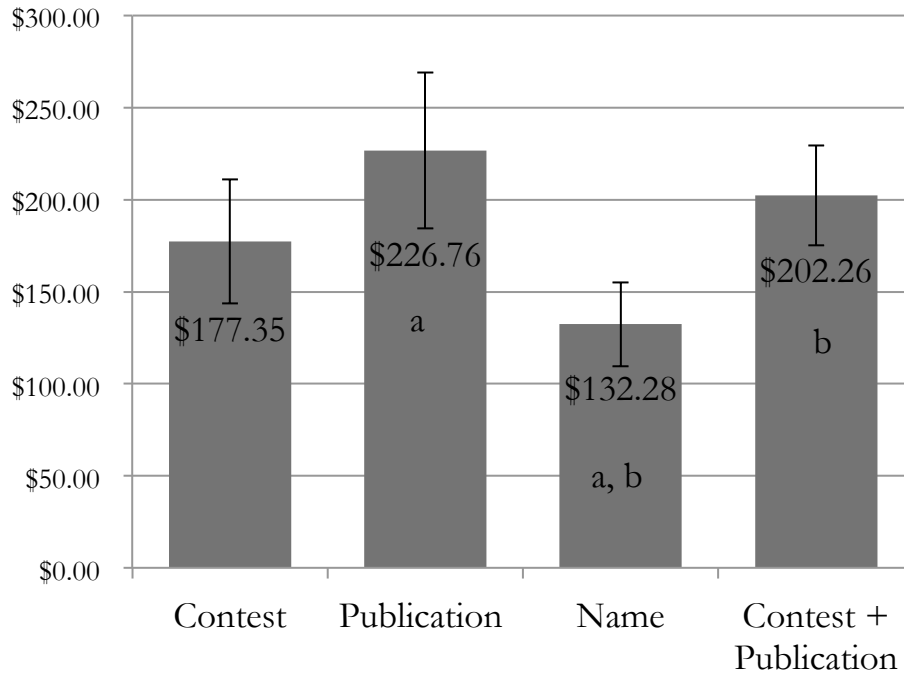
the amount of money they were willing to accept to part with their chance to win the \$1000 contest. Furthermore, participants in the Attribution condition reported lower WTA than participants in the Publication condition standing alone (i.e., not grouped with the Contest condition) (Publication M = \$226.76, Attribution M = \$132.28, $t = 1.97$, $p = .052$), and this difference was on the edge of significance.

Interestingly, the other dyadic comparisons were not significant at the .05 confidence level. Subjects' WTA in the Attribution condition was lower than in the Contest condition but only at the $p = .10$ level of significance. The difference between Publication and Contest was also significant at $p = .10$, *but in the wrong direction*. Subjects' WTA for publication without credit was *higher* than it was merely for the chance to win the prize. See Table 1 and Figure 1, below.

TABLE 1

Condition	N	Mean	SD
Contest	60	177.35	260.86
Publication	61	226.76 ^a	330.58
Attribution	59	132.28 ^{a,b}	174.92
Contest + Publication	121	202.26 ^b	297.85

FIGURE 1



a: means differ at a $p < .10$ level

b: means differ at a $p = .05$ level

There are several things we draw from these results. First, they align with what we have found in previous related experiments⁵⁹ involving poems and paintings – i.e., that the creators of works value them substantially more than rational choice theory predicts. Our photographers behaved similarly to the poets and painters in our previous experiments, and set their WTA significantly higher than their expected mean value. We did not have subjects act as buyers in this protocol, but given the enormous spread between the rational expected value of the contest chance (\$10) and the subjects' WTA,

⁵⁹Buccafusco & Sprigman, *Valuing IP*, *supra* note 2; Buccafusco & Sprigman, *Creativity Effect*, *supra* note 2.

which varied (on average) between \$132 (Attribution) and \$226 (Publication), we strongly suspect that there would be a very large gap between sellers and buyers were we to modify the protocol to include subjects acting as buyers. Thus, while not direct confirmation (because this different protocol does not replicate the earlier experiments), our results do align with and support what we have found previously.

Our major finding is that the prospect of publication with attribution results in a significantly lower WTA compared to the WTA reported by subjects in the Contest and Publication conditions, pooled together. This finding suggests that the prospect of publication with attribution has a modest but nonetheless statistically significant effect of reducing WTA compared to subjects who are not offered the prospect of publication with attribution.

Interestingly, the Contest and Publication conditions showed no significant difference. Recall that we were uncertain whether subjects would find uncredited publication attractive enough to meaningfully reduce their WTA. We were surprised, however, that the WTA reported by subjects in the Publication condition was, on average, *higher* than mean WTA reported in the Contest condition. Why might this be? Perhaps subjects found *unattractive* the prospect of publication of their photo without attribution. This is consistent with the Creative Commons data described above regarding the minimal attractiveness of licenses that did not require attribution.⁶⁰ Given the strong preference for attribution, publication without

⁶⁰Indeed, since 2004, all CC licenses require attribution as a condition of use – there was insufficient demand for licenses that did not. *See* Brown, *supra* note 40.

attribution may be viewed negatively, which would account for the higher average WTA in the Publication condition versus Contest. But the difference, it must be remembered, was not significant at the .05 confidence level (but it was at the .10 level), so it is also possible that the higher WTA in the Publication condition is a matter of chance.

We were also surprised that the Contest/Attribution dyad did not manifest a significant difference – although WTA in the Attribution condition was lower than in Contest, that difference was not significant at the .05 confidence level (although, again, it was significant at .10). Given the weakness of this association, and given the borderline significance in the Publication/Attribution dyad, we read these results to suggest that the subjects in the mTurk study, who were not professional photographers but were selected to be representative of the general population, had a modest desire for publication with attribution. These results suggest that non-professional creators place some value on the prospect of credited publication, but that attribution is not likely to serve as a complete curb on the tendency of non-professional creators to overvalue their works.⁶¹

⁶¹Subjects in all conditions reported WTA significantly higher than what a rational choice model would predict (\$10). These results align, as we have noted earlier, with the findings of our previous experiments. Nonetheless, we can check whether the subjects understood the basic structure of the task by comparing what the subjects reported regarding their self-perceived probability of winning the contest with reported WTA. If the subjects understood the task, as the former increases, so too should the latter. And we do see a strong association between subjects' reported percentage chance to win and their WTA – the r between the probability of winning and WTA is .38, which is highly significant and indeed the reported probability of winning emerges as far the most predictive factor of WTA in a regression analysis.

B. Professional and Advanced Amateur Photographers

We turned next to investigate whether professional and advanced amateur photographers would behave differently than the casual shooters in our mTurk subject pool. We recruited 88 participants with the aid of two different photography affinity groups, the Charlottesville Photography Initiative (CPI), a membership group of professional and advanced amateur photographers based in Charlottesville, Virginia, and Photo District News (PDN), the largest U.S. monthly magazine for professional photographers. In contrast to subjects in the mTurk sample, who reported spending an average of 5.56 hours a week on photography, the participants in the CPI/PDN sample reported spending an

We should note that although the strong correlation between the subjects' perceived probability of winning the contest and their WTA suggests that the participants understood the task and behaved rationally given their perceptions of their chances, the subjects' subjective perception of the likelihood that they would prevail are, on average, significantly overoptimistic. Only 5.6% of the sample reported that they believed their probability of winning was 1% or lower, the probability if the judges picked the winner of the contest at random. Fully 47.2% of the sample responded that their chances of winning were *better* than 50%. As an illustration, a well-calibrated, rational sample could have at most, two participants reporting their chances were 50%, and the rest reporting 0. A well-calibrated, rational sample will have a sum of probabilities of winning (for 180 subjects, each of whom was led by the experimenters to believe that he had a 1% average chance of winning) of 180%. Compare that to the sum of probabilities observed – which amount to 7862.4% (!) – and you begin to understand the extent to which over-optimism shapes our results.

Additionally, and importantly, none of the other measures differed as a function of condition. If the subjects understand the task correctly, their predicted probability of winning should not change between conditions, as the assumptions about the likelihood of winning (e.g. how many other participants there are, the estimated quality of the other participant's photos) do not vary. The fact that perceived probability of winning stays roughly constant across conditions suggests that differences in WTA are being driven by the individual's valuation of the publication and attribution.

average 21.24 hours per week on photography. Fully 72.4% of subjects in the CPI/PDN sample reported spending at least 10 hours a week on photography, compared to the 81.7% of subjects in the mTurk sample who spent fewer than 10 hours per week on photography.

The study design was identical to that used for the mTurk participants, with subjects randomly assigned to the Contest, Publication, or Attribution conditions. Eleven participants were excluded from analysis due to failure to understand the rules of the contest. The remaining 77 participants showed a pattern somewhat different from the mTurk sample. As in mTurk, participants in the Attribution condition reported a WTA lower than that reported by the pooled Contest and Publication subjects, and the difference was on the edge of significance at the .05 level (Contest/Publication $M = 380.44$, Attribution $M = 234.79$, $t = 1.97$, $p = .052$). Unlike in the mTurk study, however, the dyadic comparisons revealed that participants in the Attribution condition reported significantly lower WTA than those in the Contest condition (Contest $M = 440.25$, Attribution $M = 234.79$, $t = 2.098$, $p = .044$). Compared to the condition in which creators were merely offered a chance to win the \$1000 prize, subjects who were offered a chance to have their photographs appear in a major media outlet with their names attached reduced their WTA by over 50%.

Interestingly, in this sample of professional and serious amateur photographers, the pattern of the WTA responses was consistent with the hypothesis that creators attach some positive value to publication even in the absence of attribution, although the

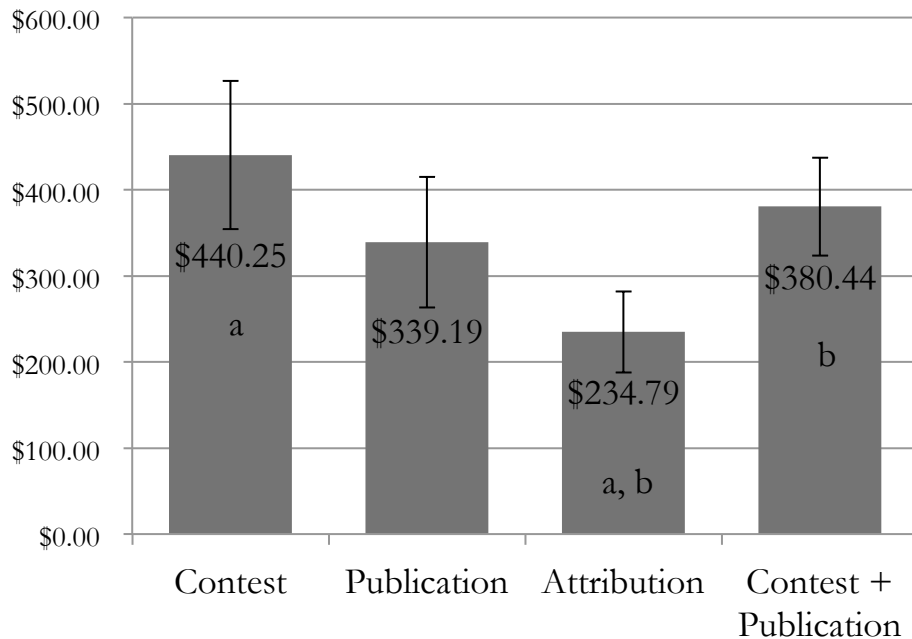
data, given our smaller sample size, do not reach statistical significance (Contest $M = \$440.25$, Publication + Attribution $M = \$287.90$, $t = 1.66$, $p = .10$). It is possible that a larger sample would reduce the variability of our data resulting in significant differences between Contest and Publication and between Publication and Attribution.⁶² See Table 2 and Figure 2, below.

TABLE 2

Condition	N	Mean	SD
Contest	20	440.25 ^a	384.20
Publication	29	339.19	409.04
Attribution	28	234.79 ^{a,b}	248.90
Contest + Publication	49	380.44 ^b	398.18

⁶²Once again, differences in the other dependent variables failed to emerge between conditions. Most importantly, participants were not more likely to believe in their probability of winning the contest as a function of condition, nor did their valuation of the nonmonetary benefits of winning the contest vary.

FIGURE 2



a: means differ at a $p < .10$ level

b: means differ at a $p < .05$ level

Again, we can draw a number of conclusions from these findings. First, as in the mTurk study, the CPI/PDN study broadly aligns with our previous studies involving poems and paintings – in all these studies, creators reported WTAs that were, on average, far above what the rational choice model would predict. And in the CPI/PDN study, professional and advanced amateur photographers reported average WTAs that were *even higher* than the significantly inflated WTAs reported by casual snaphshooters in the mTurk study. One might hypothesize that the subjects in our CPI/PDN study would have reported lower WTAs than those in the mTurk study because they had, on average, far more experience as photographers and would therefore have a more realistic appraisal of their photograph's

chance of winning the contest. But if anything, the opposite proved to be the case – the CPI/PDN subjects reported an even higher perceived likelihood of winning the contest (though not significantly so, mTurk $M = 43.68$ (27.58), CPI/PDN $M = 48.42$ (32.80), $t = 1.11$, *n.s.*), and this even more intense over-optimism translated into higher WTA (again, we found a powerful correlation between perceived chance of winning and WTA: mTurk $r = .239$, CPI/PDN $r = .383$, both r s significant at the .001 level).

Second, and most importantly, the data from the CPI/PDN subjects suggest that professional and advanced amateur photographers place a somewhat greater value on the prospect of publication with attribution compared with their mTurk counterparts. Subjects' WTA in the Attribution condition was lower by a significant amount compared the Contest subjects. This is fairly strong evidence that creators attach some substantial value to credited publication of their work.

Using the subjects' responses, we can roughly calculate the value that they attach to the prospect of publication with attribution. The differences between mean WTA for those in the Attribution condition from those in the Contest condition is \$205.46. But the photographers only would have received publication and attribution if their photograph won the prize. Thus, the average value they assigned to attribution can be thought of as the difference between the conditions' means divided by subjects' perceived chance of winning the prize. Across conditions, subjects' mean expected

probability of winning the prize was 49.5%. Accordingly, the creators' behavior indicates that they valued attribution at \$415.07.⁶³

We should emphasize, however, that although the prospect of publication with attribution does meaningfully reduce WTA, the subjects in the Attribution condition still reported mean WTA enormously in excess of what the rational choice model would predict (\$234.79 compared to an expected value of \$10). Thus, at least based on this study, we do not believe that the prospect of attribution is sufficient to eliminate the creativity effect shown in previous experiments.

A third, related observation arises from a comparison of subjects' WTA in the mTurk and CPI/PDN studies with those reported in the earlier poetry and painting studies. Mean WTA in every condition in both the mTurk and CPI/PDN studies exceeded the average rational choice expected value of the prize by a multiple far greater than mean WTA reported in either the poetry or painting studies. One difference between those studies was the size of the prize for winning the contest. In the poetry and painting studies, these were \$50 and \$100, respectively. Both prior studies involved contests with 10 participants, so the average rational choice expected value of the prize in those studies was therefore \$5 and \$10, respectively. In the mTurk and CDI/PDN studies, in contrast, a \$1000 prize was offered for winning the contest, which included 100 participants, with a resulting average rational choice expected value of \$10. In each

⁶³We observe a similar pattern, though to a lesser degree in the mTurk sample. The difference in WTA between the Contest and Attribution conditions was \$45.07, and the estimated probability of winning across conditions was 42.38%, indicating a valuation of attribution of \$106.35.

study, creators' WTA was a multiple of the rational expected value, but the multiples grew along with the size of the prize on offer. This suggests that subjects are focusing substantially more on the magnitude of the prize than on the probability of winning it.⁶⁴

One might have hypothesized that a larger prize would focus subjects' attention on the value of their chance, and therefore, would move subjects' WTA closer to the rational choice value. Alternatively, one might have hypothesized that a larger prize would be so attractive to subjects, and the prospect of winning so alluring, that the subjects' average WTA would grow along with the prize. This second hypothesis obviously fits better with our data, and, although we have not tested this proposition directly, the larger average valuation in this study relative to our earlier work suggests to us that in IP markets where the "winner" can expect to reap large rewards, creators will be especially prone to overvalue their chances of prevailing, and consequently the value of their work. We can readily imagine a protocol designed to test this directly and may do so in future.

III. IMPLICATIONS FOR LAW AND POLICY

Our previous poetry and painting studies demonstrated significant valuation gaps between creators and potential buyers in IP transactions. These valuation gaps do not mean that IP transactions

⁶⁴For similar findings see Yuval Rottenstreich & Christopher K. Hsee, *Money, Kisses, and Electric Shocks: On the Affective Psychology of Risk*, 12 PSYCHOL. SCI. 185 (2001) (finding that the typical subject was willing to pay \$10 to avoid a 99% chance of a painful electric shock, and \$7 to avoid a 1% chance of the same shock).

never occur – obviously, we see IP bought, sold, and licensed in the real world every day. Our initial experiments do suggest, however, that because the parties to such transactions might start further apart than the rational choice model would predict, they will be obliged to spend more on negotiation to get to a deal. These higher transaction costs mean fewer transactions,⁶⁵ and our results therefore raised the possibility that IP markets might be less efficient than previously believed. These markets may be clearing at a lower level of output – i.e., with fewer valuable deals being made – than they would be in the absence of endowment and creativity effects.

One limitation of our earlier experiments was that the expected payoff was purely monetary. This differs from the real world in which the parties – and especially the creators – may contemplate a number of possible monetary and non-monetary benefits of transacting. As noted above, there is considerable evidence in the academic literature suggesting that creators value opportunities for attribution and publication in addition to direct monetary compensation.⁶⁶ Thus, it seemed that the gap between creator and buyer valuation of IP might be substantially reduced or even eliminated were the prospect of publication – and especially publication with attribution – offered to the seller/creators. Thus,

⁶⁵See Russell Korobkin & Thomas S. Ulen, *Law and Behavioral Science: Removing the Rationality Assumption from Law and Economics*, 88 CALIF. L. REV. 1051, 1107-1110 (2000).

⁶⁶Buccafusco, *supra* note 1, at 1152-53.

these new experiments are, in part, an attempt to improve the ecological validity⁶⁷ of our previous research.

In addition, and perhaps more importantly, our new experiments provide the first quantitative measure of the monetary value that creators attach to attribution and publication opportunities. Although a considerable body of research has documented creators' desires for attribution, none of this work has attempted to measure attribution's economic value. Our experiments provide new data that can help shape the debate about the desirability of attribution rights in the U.S. and abroad.

A. Improving the Previous Studies

The new data we have obtained from the mTurk and CPI/PDN studies suggest that attribution opportunities may drive down creators' selling prices, thereby dampening some of the magnitude of the creativity effect. Our new results suggest that creators do attach some value to the prospect of publication with attribution, and they reduce their WTA when presented with that prospect. But our data also suggest that the prospect of publication with credit is no panacea – while we saw statistically significant reductions in both our studies, subjects in the Attribution condition in both studies persisted in reporting WTA significantly above what the rational choice model would predict. Note that although WTA dropped substantially in the Attribution condition, the mean WTA

⁶⁷Marilynn Brewer, *Research Design and Issues of Validity*, in HANDBOOK OF RESEARCH METHODS IN SOCIAL AND PERSONALITY PSYCHOLOGY (HARRY T. Reis & Charles Judd eds. 2000).

numbers were still \$234 and \$132 in the CPI/PDN and mTurk studies, respectively. Given our findings from the previous experiments, it is unlikely that there would have been many buyers willing to pay this much to obtain the creators' chances of winning the prize. In those studies, buyers' WTP amounts are usually fairly close to the rational expected value of the prize, which in this case was \$10.⁶⁸

Interestingly, our data also suggest that the prospect of publication *without* attribution has no effect in reducing creators' WTA, and may even, in some instances, *increase* it. Scholars who commented on our previous papers had suggested that creators may value having their work "out there." Perhaps they merely want to improve the world irrespective of financial or reputational gain. They may feel a "warm glow" of pleasure knowing that they have made a contribution to knowledge or the arts.⁶⁹ Some Wikipedia editors may feel this way.⁷⁰ Our study, however, did not detect any evidence of such an effect on creators' WTA.

Of course, we cannot say that our study proves that creators do not value publication absent attribution. There is good reason to

⁶⁸Buccafusco & Sprigman, *Valuing IP*, *supra* note 2, at 20-21; Buccafusco & Sprigman, *Creativity Effect*, *supra* note 2, at 40-44

⁶⁹James Andreoni, *Impure Altruism and Donations to Public Goods: A Theory of Warm-Glow Giving*, 100 ECON. J. 464 (1990).

⁷⁰*See* Garon, *supra* note 16, at 99-100; *see also* YOCHAI BENKLER, THE WEALTH OF NETWORKS: HOW SOCIAL PRODUCTION TRANSFORMS MARKETS AND FREEDOM 72-74 (2006) (contending that Wikipedia authors derive pleasure from writing, and agree to abide by particular writing norms to participate in a common publishing endeavor).

think that they do.⁷¹ Our failure to detect any effect on WTA by the prospect of publication may be due to the group of subjects we used. Mere publication may have less value in the field of photography than it does in the more networked and collective environment of Wikipedia. It is possible, however, that publication without attribution may be viewed negatively by creators – and perhaps more negatively than no publication at all. To the extent that creators believe they have a right to be credited for their work, they may dislike the idea of having their work published without attribution.

Thus, at least in the markets for photographs that we have created, attribution and publication do not play so strong a role in creators' utility functions that creators are willing to entirely part with their works' economic value to obtain them. While attribution seems to affect the amount of money that creators are willing to accept to sell their IP rights, the diminution is marginal when compared to the overall magnitude of the creativity effect. Accordingly, while bargaining over attribution might make markets for creative or innovative goods less inefficient than we previously suggested, it does not appear to produce a Coasean world of freely flowing goods. Initial distributions of IP rights will still likely be highly sticky, and otherwise efficient bargains will not be made due to creators' overvaluations.

B. Valuing a Right of Attribution

Beyond the supplement they provide to our previous research, our new experiments are also valuable, and perhaps more so, for the

⁷¹See Garon, *supra* note 16, at 100-102.

light they shed on the emerging question of whether and how to provide creators a right of attribution. U.S. copyright, which provides creators of a wide variety of artistic and literary works with broad rights to control reproduction, distribution, modification, and the public performance and display of their works, does not provide most creators with any specific right to attribution.⁷² This is in contrast with copyright laws in most European nations, which provide authors with rights to attribution as part of a broader complement of “moral rights” that also include provisions allowing authors to prevent the alteration or destruction of an their work,⁷³ and also, in some jurisdictions, to claim a share of proceeds from resale of the work.⁷⁴

Our research provides quantitative empirical evidence for the notion that creators significantly value attribution. The normative implications of this finding, however, are not entirely clear. We suspect that different readers will take divergent messages from our findings, and that follow-up experimental work will be required to better understand the specific policy implications of our present findings.

1. Implications for Moral Rights Theories of IP

⁷²With the exception of the narrow rights granted under VARA. *See* note 19, *supra*.

⁷³Berne Convention for the Protection of Literary and Artistic Works, art. 6bis, July 24, 1971, 25 U.S.T. 1341, 828 U.N.T.S. 221; *see also* Cyrill P. Rigamonti, *Deconstructing Moral Rights*, 47 HARV. INT’L L.J. 353, 357-59 (noting that French and German concepts of moral rights grant authors the right to object to modification of their works).

⁷⁴*See* CODE DE LA PROPRIETE INTELLECTUELLE art. L111 (Fr.)

On one hand, scholars who contend that a right of attribution should be protected by U.S. copyright law may find support for their position in the value that creators attach to it in our studies. Creators were potentially willing to sacrifice a significant amount of cash in order to have their names attached to their photographs if they won. As noted above, the estimated value that the professional photographers attached to publication with attribution was \$415.37. From this perspective, creators' statements about the desire for attribution do not merely appear to be post hoc rationalizations of prior behaviors or of community norms but rather explicit ex ante trade offs when they have skin in the game.

Yet even here, the implications are not entirely clear. Some moral rights theorists support an attribution right on the grounds that it is ethically required as a matter of the creator's relationship with her work. This is the *moral value* we discussed earlier.⁷⁵ Many creators, however, may value attribution not due to a moral or spiritual connection with their work but simply because attribution is a valuable economic tool for improving their reputations and obtaining additional work – the *extrinsic value* of attribution discussed above.⁷⁶ Unfortunately, our data were unable to distinguish between the different kinds of value that creators could have been attaching to attribution.

2. *Implications for Utilitarian Theories of IP*

⁷⁵ See Kwall, *supra* note 25.

⁷⁶ See Fisk, *supra* note 1.

Some proponents of attribution right protection see its justification not as a matter of moral principle but as a contribution to the utilitarian system of incentives and access that U.S. IP law implements. From this perspective, attribution, just like any other aspect of IP rights, should be assigned in such a way that it likely to reduce transaction costs and generate efficient bargains.⁷⁷ Contrary to its implications for moral rights theorists, our research seems to undermine the arguments for creating a waivable attribution right.

Our previous studies suggested that large bargaining gaps are likely to exist between creators and licensors of IP due to the formers' overvaluation of their work.⁷⁸ These bargaining gaps create substantial transaction costs that likely lead to inefficient markets and a suboptimal number of transactions.⁷⁹ Under the current copyright regime in the U.S., creators who desire attribution must bargain for it. The findings reported in this Article imply that creators are willing to significantly decrease the amount of money they are willing to accept to license their work in exchange for attribution. Accordingly, compared to a regime with a default attribution right, the current U.S. copyright system probably results in more efficient (albeit likely still far from perfectly efficient) bargaining.

To see how, recall the examples at the beginning of the Article. The party desiring to license a work has a budget determined by its estimate of the likely value of the work. It may also assign some cost to providing attribution to the creator. In cases like the magazine

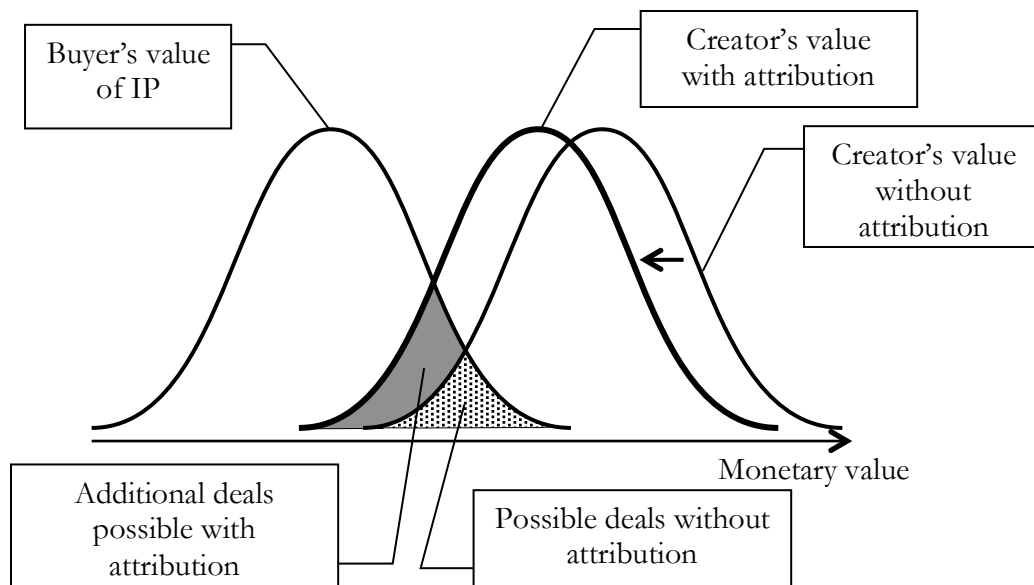
⁷⁷See LANDES & POSNER, *supra* note 5.

⁷⁸Buccafusco & Sprigman, *Creativity Effect*, *supra* note 2, at 38.

⁷⁹*Id.*

publisher, providing attribution may have very low cost to the publisher, while in cases like the politician’s memoir, it may have high cost to the publisher. The creator will also have an estimate of the value of her work and of the benefit of receiving attribution. As can be seen in the figures below, if creators value attribution and are willing to forego direct monetary compensation to receive it, the gap between the valuations of the two parties would shrink. This is true whether or not the licensor itself assigns any cost to providing attribution to the creator. As the valuations between the parties shrinks, we can expect more transactions to take place.⁸⁰ See Figure 3, below.

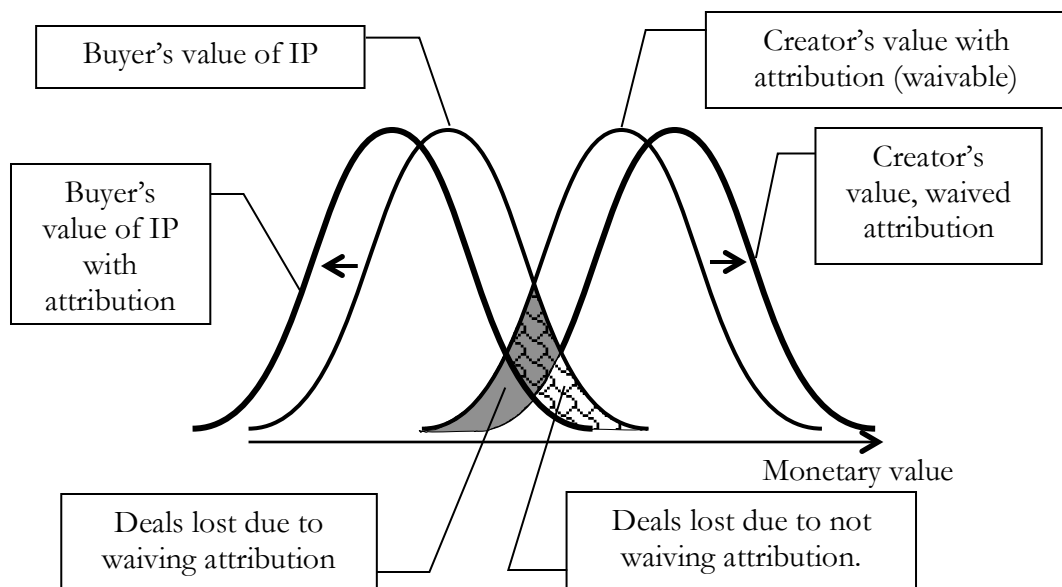
FIGURE 3



⁸⁰See Russell B. Korobkin, *Who Wins in Settlement Negotiations*, 11 AM. L. & ECON. REV. 162, 196 (2009) (showing that the distance between parties’ initial offers is inversely correlated with the likelihood of successful bargaining).

Now contrast this scenario with one in which the creator receives a default attribution right that is waivable. In negotiations with the magazine, for whom provision of attribution has a negligible cost, bargaining will look like it does in our previous studies, i.e., negotiations will only involve the economic value of the license. This creates the large bargaining zone that we have shown previously. The situation is even worse when the licensee assigns a significant cost to providing attribution, as with the memoirist. Here, we can expect to see not only the bargaining gap caused by the creativity effect but also an additional endowment effect attached to attribution. Once the creator has been given an attribution right as part of her default endowment, there is every reason to believe that she will overvalue it with respect to the amount of money she would have paid to receive it in the absence of an endowment. Thus, the licensor who assigns cost to providing attribution will have to negotiate over both the creative work and attribution. This will likely lead to even greater transaction costs and fewer bargains. See Figure 4, below.

FIGURE 4



Some creative industries – motion picture and software in particular – have objected to an attribution requirement, arguing that providing attribution to the large number of people who provide creative input to a movie or a software product would be impractical and would interfere with private arrangements within the industry that determine who is credited for creative work.⁸¹ Creating a default rule favoring attribution, given the modest benefits we observe, might make bargaining in these industries even more costly.

These arguments apply to the prospect of adopting a waivable attribution right as in VARA. Recall, however, that some European countries have established non-waivable attribution rights.⁸² From this perspective, the economic case against such a right is even stronger. In such a situation, the parties cannot transact at all over whether attribution is provided. Thus, in instances where it costs something to the licensee to provide attribution, and where transacting to waive it would leave both parties better off (i.e., where the cost to publisher outweighs benefit to rightsholder), having a non-waivable right introduces an intractable inefficiency into the licensing market. In such cases, we would expect deal prices to fall, although it is difficult to say by how much. This situation would be difficult to model experimentally, at least with a protocol like ours, because transacting over attribution is not possible by definition.

We wish to emphasize that our research does not definitively answer questions about the value of providing attribution rights.

⁸¹ See Fisk, *supra* note 1, at 77.

⁸² See sources cited at note 24, *supra*.

Whether copyright should incorporate an attribution right is a complicated question, to which our data provide nothing close to a full answer. They do, however, provide new insight into both the moral and economic value of attribution. From an economic perspective, the law's decisions about such matters should be the result of carefully weighing the costs and benefits of the right. While our data cannot fully describe these, they do point to some previously overlooked costs of creating a default waivable attribution right.

One possibility for overcoming the potential inefficiencies associated with creating a waivable attribution right would be to condition the right on the author complying with certain conditions upon publication of the work. The U.S. copyright system traditionally made the grant and maintenance of copyright subject to a set of mandatory requirements that together became known as copyright's "formalities".⁸³ At copyright's inception in 1790 and for almost 200 years thereafter, the initial grant of copyright was made subject either to a requirement that the author enter the work on the official copyright registry, or that he mark all published copies with notice of copyright (or both). In addition, traditionally the copyright system required authors to renew (effectively, to re-register) their works after a relatively short initial term. Failure to comply with registration and/or notice formalities meant that the work entered the public domain without a copyright ever arising. Failure to comply with the renewal requirement meant that the work moved into the public

⁸³For a summary of the details and effect of the traditional system of copyright formalities, see generally Christopher Jon Sprigman, *Reform(aliz)ing Copyright*, 57 STAN. L. REV. 485 (2004).

domain after the expiration of the initial term of copyright. There were, in addition, fees associated with the registration and renewal formalities, and these fees served as a filter – similar to those operating today in the patent system – that tended to restrict copyright to works with some substantial commercial value.⁸⁴

Given the substantial gaps between creators' WTA and buyers' WTP that we see in our experiments, some mechanism to limit aspects of copyright to works of substantial commercial value would be helpful, because it is only for these works that parties will be willing to invest in the negotiation necessary to overcome substantial valuation gaps. Thus, formalities served an important and previously unappreciated function in limiting copyright to those works for which a relatively expensive property regime could be expected to work efficiently. Following the Copyright Act of 1976, however, mandatory formalities have been removed from the law. Copyright now arises automatically and indiscriminately whenever a creative work is fixed in any tangible medium of expression.⁸⁵ There is now no screen that limits the application of copyright's strong property rights to works with some substantial commercial value. As a consequence, many – indeed, the vast majority – of works that are subject to copyright's property rule have no substantial commercial value. Until recently, that hardly would have mattered – the economics of distribution meant that few uses could effectively be made of works with low commercial value. But as the Google Book Search project – and other efforts involving mass digitization, such as

⁸⁴*See id.* at 502.

⁸⁵*See* 17 U.S.C. § 102(a) (defining copyrightable subject matter).

the Internet Archive’s Million Books Project – show, in the current environment of very low-cost digital distribution of works, a wide range of uses of works of otherwise low commercial value become possible. These contemplated uses, which may produce social value, may, however, often be insufficiently valuable (at least with respect to individual works) to bear the significant negotiation costs required to overcome the valuation anomalies arising from endowment effects, in addition to other negotiation costs and the risk of strategic behavior. And again, because these transactions will tend to involve parties who have less market experience, they are likely to involve the kinds of sellers most subject to valuation biases.

We have elsewhere described how the U.S. might change its copyright law to enjoy the benefits of formalities without offending the Berne Convention, the leading international agreement governing copyright law, which forbids the U.S. from implementing formalities (at least as they apply to the works of non-U.S. nationals) that affect the “exercise and enjoyment” of copyright.⁸⁶ The results of our current experiments, which suggest that attribution will play a modest role in abating pricing anomalies in IP transactions, counsel that adoption of Berne-compliant formalities would be a better strategy for addressing the inefficiencies in IP licensing created by endowment and creativity effects relative to the adoption of a copyright rule favoring or mandating attribution.

⁸⁶ See Sprigman, *Reform(aliz)ing*, *supra* note 83, at 547.

CONCLUSION

Scholars have often addressed the value that creators attach to publication and attribution, yet little research has attempted to empirically test the existence or magnitude of that value. These experiments have done so with interesting and suggestive results. Our research indicates that creators do assign significant value to attribution but limited if any value to publication on its own. The amount that they value attribution, however, does not completely eradicate the valuation gaps and market inefficiencies that we have found previously. Moreover, our research suggests that from a utilitarian perspective, providing a default waivable attribution right may make matters worse.

Future research is needed, however, to test the robustness of our findings. Moreover, our experiments all focused on a single medium – photography – that typically has low expectations of attribution. It is possible that in other media where attribution is standard – painting, literature, and music – the value that creators attach to it will be greater. It would also be worth comparing our findings to situations, such as open source computer coding, in which the value that creators attach to attribution results in free access to content.