ESSAYS ON THE INSTITUTIONAL ANALYSIS OF COPYRIGHT AND ITS ALTERNATIVES

by

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Essays on the Institutional Analysis of Copyright and Its Alternatives

A dissertation submitted in partial fulfillment of the requirements for the degree of Doctor of Philosophy at George Mason University

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Dedication

I dedicate this to my parents, my sister Tori, and my girlfriend Elana. I love you all, and I thank you for your unending support.
Acknowledgments

Although my name is affixed to this dissertation, writing is always a collective effort. I am but the main beneficiary of a vast network of support, encouragement, and assistance by many friends, family, colleagues, and mentors. While I have a brief pedestal to publicly reflect upon on my academic life thus far, I would like to thank them all here and give each their due.

I first want to thank my parents, Trish and Vince, for raising me to be an independent and critical thinker unafraid to go against the grain. The same goes for my sister, Tori, who has had my back and also encouraged me to pursue my dreams and always to keep thinking about the world. I thank you for all of your love and support.

I also want to thank my girlfriend, Elana, who has been an unending source of comfort, love, and support during this stressful process. I cannot thank her enough for putting up with me, keeping me sane, and encouraging me to pursue my dreams with her by my side.

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At George Mason, the idiosyncratic yet brilliant research, teaching, and mentorship of many professors helped inspire me to dare to be different and to craft me into a passionate economics educator and proselytizer. Being here has allowed me to acquaint myself with many of my intellectual heroes, whose research I read eagerly in my spare time at college and enticed me to apply to graduate school here and here only. I only wish that I could have gotten to know them better, but their advice on research, teaching, and getting ahead in the profession has been immensely valuable. In particular, I would like to mention Peter Boettke, Chris Coyne, and Peter Leeson as my ideal role models.

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# Table of Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>List of Tables</td>
<td>viii</td>
</tr>
<tr>
<td>List of Figures</td>
<td>ix</td>
</tr>
<tr>
<td>Abstract</td>
<td>x</td>
</tr>
<tr>
<td>1 Wiki-nomics: Bringing Institutions Back into the Analysis of Copyright with a Case Study of Wikipedia</td>
<td>1</td>
</tr>
<tr>
<td>1.1 Introduction</td>
<td>1</td>
</tr>
<tr>
<td>1.2 Theory of Expressive Works</td>
<td>4</td>
</tr>
<tr>
<td>1.2.1 Are “Property Rights” Suitable for Expressions?</td>
<td>4</td>
</tr>
<tr>
<td>1.2.2 Critique of the Traditional Theoretical Framework</td>
<td>6</td>
</tr>
<tr>
<td>1.2.3 Knowledge as a Common Pool Resource</td>
<td>10</td>
</tr>
<tr>
<td>1.3 Institutional Entrepreneurship: The Case of Wikipedia</td>
<td>12</td>
</tr>
<tr>
<td>1.3.1 Defined Boundaries</td>
<td>15</td>
</tr>
<tr>
<td>1.3.2 Proportional Costs &amp; Benefits</td>
<td>18</td>
</tr>
<tr>
<td>1.3.3 Collective-choice Arrangements</td>
<td>20</td>
</tr>
<tr>
<td>1.3.4 Monitoring</td>
<td>21</td>
</tr>
<tr>
<td>1.3.5 Graduated Sanctions</td>
<td>23</td>
</tr>
<tr>
<td>1.3.6 Conflict-resolution Mechanisms</td>
<td>23</td>
</tr>
<tr>
<td>1.3.7 Recognition of Self-Organization Rights</td>
<td>26</td>
</tr>
<tr>
<td>1.3.8 Polycentric External Relations</td>
<td>26</td>
</tr>
<tr>
<td>1.4 Implications</td>
<td>27</td>
</tr>
<tr>
<td>2 Pirate Thy Neighbor: The Protectionist Roots of International Copyright</td>
<td>30</td>
</tr>
<tr>
<td>2.1 Introduction</td>
<td>30</td>
</tr>
<tr>
<td>2.2 Theory</td>
<td>35</td>
</tr>
<tr>
<td>2.2.1 International Tier Game</td>
<td>35</td>
</tr>
<tr>
<td>2.2.2 Domestic Tier Game</td>
<td>36</td>
</tr>
<tr>
<td>2.2.3 Evolutionary Mechanism</td>
<td>37</td>
</tr>
<tr>
<td>2.3 Case Studies</td>
<td>41</td>
</tr>
<tr>
<td>2.3.1 Great Britain</td>
<td>41</td>
</tr>
<tr>
<td>2.3.2 The United States</td>
<td>49</td>
</tr>
</tbody>
</table>
List of Tables

<table>
<thead>
<tr>
<th>Table</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1</td>
<td>Major Tariff History of Imported Books</td>
<td>54</td>
</tr>
<tr>
<td>2.2</td>
<td>Demographic Comparison of Britain and Germany</td>
<td>62</td>
</tr>
<tr>
<td>3.1</td>
<td>Market share of top record labels</td>
<td>88</td>
</tr>
<tr>
<td>3.2</td>
<td>Market share of top film distributors</td>
<td>89</td>
</tr>
<tr>
<td>3.3</td>
<td>Estimates of advances and revenues of artists by clout level</td>
<td>90</td>
</tr>
<tr>
<td>3.4</td>
<td>Descriptive Statistics of Kickstarter data (U.S. Projects only)</td>
<td>106</td>
</tr>
<tr>
<td>3.5</td>
<td>Correlation table between covariates</td>
<td>107</td>
</tr>
<tr>
<td>3.6</td>
<td>Description of crowdfunding variables</td>
<td>108</td>
</tr>
<tr>
<td>3.7</td>
<td>Summary of Regression Results</td>
<td>109</td>
</tr>
</tbody>
</table>
# List of Figures

<table>
<thead>
<tr>
<th>Figure</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1</td>
<td>Number of articles on Wikipedia since its creation</td>
<td>3</td>
</tr>
<tr>
<td>1.2</td>
<td>Incentive-access tradeoff</td>
<td>7</td>
</tr>
<tr>
<td>1.3</td>
<td>Breakdown of Wikipedians by gender</td>
<td>17</td>
</tr>
<tr>
<td>1.4</td>
<td>Breakdown of Wikipedians by highest education attained</td>
<td>17</td>
</tr>
<tr>
<td>1.5</td>
<td>Distribution of article edits by registered Wikipedia users</td>
<td>18</td>
</tr>
<tr>
<td>1.6</td>
<td>Example “Public Choice” Article Page</td>
<td>28</td>
</tr>
<tr>
<td>1.7</td>
<td>“Public Choice” Edit Page</td>
<td>28</td>
</tr>
<tr>
<td>1.8</td>
<td>“Public Choice” History Page</td>
<td>29</td>
</tr>
<tr>
<td>1.9</td>
<td>“Public Choice” Talk Page</td>
<td>29</td>
</tr>
<tr>
<td>2.1</td>
<td>Publishing game between two international publishers</td>
<td>36</td>
</tr>
<tr>
<td>2.2</td>
<td>Publishing game between two domestic publishers</td>
<td>37</td>
</tr>
<tr>
<td>3.1</td>
<td>Simple expressive works game with no enforceable legal sanctions.</td>
<td>75</td>
</tr>
<tr>
<td>3.2</td>
<td>Patronage game</td>
<td>79</td>
</tr>
<tr>
<td>3.3</td>
<td>Expressive Works Game With Copyright</td>
<td>86</td>
</tr>
<tr>
<td>3.4</td>
<td>Patronage game with copyright</td>
<td>90</td>
</tr>
<tr>
<td>3.5</td>
<td>Histogram of funding amounts for U.S. projects</td>
<td>101</td>
</tr>
<tr>
<td>3.6</td>
<td>Histogram of Funds per Backer</td>
<td>102</td>
</tr>
<tr>
<td>3.7</td>
<td>Histogram of Funding Goals</td>
<td>103</td>
</tr>
</tbody>
</table>
Abstract

ESSAYS ON THE INSTITUTIONAL ANALYSIS OF COPYRIGHT AND ITS ALTERNATIVES

Ryan Safner, PhD
George Mason University, 2015
Dissertation Director: Richard E. Wagner

Intellectual property rights are rapidly becoming one of the focal points of political and legal controversy in the 21st century. Copyright laws in particular have become a particularly salient issue due to recent legal developments and the explosion of technological developments that reduce the cost of copying expressive works. The fundamental dilemma is a free rider problem in creating expressive works, as once a work is produced, it is potentially accessible to everyone at low marginal cost, which dissipates the returns from producing in the first place. Copyright laws are intended to encourage the creation of expressive works by granting exclusion rights to prevent unauthorized users from accessing produced works, but the monopoly power engendered in these laws creates considerable costs. This dissertation compiles a series of three essays which aim to explore copyright laws – their function, evolution, and their alternatives – by using an institutional approach to the underlying problem of free riding in the production of expressive works.

The first chapter explores and critiques the traditional argument for copyright laws as the legal optimization of a tradeoff between increasing innovation (by strengthening monopoly power of copyright-holders to increase returns) and decreasing access to existing works (lost due to increase in monopoly power and transaction costs). This framework, while
logically consistent, is incomplete due to its neglect of entrepreneurship, which manifests itself in the real world through a variety of anomalous examples such as free and open source software. Instead, I offer an institutional approach, following the Bloomington School’s IAD framework, to outline principles of institutions which can successfully manage a commons of expressive works. In particular, I use Wikipedia, the free online encyclopedia, as a case study of success and entrepreneurial innovation in this arena.

The second chapter explores the history of copyright’s evolution and legal internationalization in the context of the modern movement to harmonize intellectual property globally under the Trade Related Aspects of Intellectual Property Rights (TRIPS) Agreement. Proponents of harmonization argue, in part, that stronger laws will encourage economic development in both developed and developing countries. However, history is inconsistent with this narrative, as I suggest that the strength and spread of a nation’s copyright laws chiefly depends on the interests of its domestic publishers. I construct a simple game-theoretic interaction between two publishers at two tiers – domestic and international – to elucidate this mechanism. Publishers emerge by pirating other works (especially foreign) until they become dominant market players and seek to protect their own works abroad via international copyright agreements. I demonstrate a stable historical pattern of three phases of development and use the United Kingdom, United States, and Germany as case studies.

The final chapter provides a comparison between three enduring institutions that provide expressive works. I show copyright to be but one institutional equilibrium that manages the free rider problem for expressive works (albeit at significant cost). I construct a simple game-theoretic model of repeated play between creators and consumers, demonstrating the multiple institutional equilibria that can emerge to effectively provide expressive works if they feature (1) an agent that bears fixed costs (2) in exchange for some distribution of the gains, and (3) deter external replication. I compare copyright with patronage of the arts and crowdfunding, and demonstrate that all three institutions utilize these three mechanisms and are fundamentally extensions of patronage. As crowdfunding is the most understudied system, I provide simple empirical evidence to locate it within my institutional framework.
Chapter 1: Wiki-nomics: Bringing Institutions Back into the Analysis of Copyright with a Case Study of Wikipedia

1.1 Introduction

Imagine it is 1995, and someone proposes to construct an encyclopedia on the internet that is free for everyone to read, with very weak filters, few editors, and no peer review, open to expert and uncertified amateur alike, to publish anonymously on whatever they wanted, from the Frisch elasticity of labor supply, to the Loch Ness Monster, to a list of animals with fraudulent diplomas.¹ It would have barely passed the giggle test.

Economists would worry about the “public good” aspects about original articles (Arrow, 1962; Besen and Raskind, 1991; Nordhaus, 1969). Expressive works feature high fixed costs of production and low marginal costs of distribution and use. It requires significant effort and investment of time, research, experimentation, and capital to produce an expressive work, but as expressive works are nonrival in consumption – that is, one person’s reading of an article does not prevent others from reading the article simultaneously, especially if it is online – the original producer must worry about “free riders.” If enough users are able to consume the work without paying (via copying, sharing, or otherwise pirating), then the original author is unable to recoup her fixed costs and has no reason to produce in the first place because her expected return is negative. Copyright laws establish a tradeoff between generating the incentive to produce original works by legally prohibiting free riders from unauthorized uses and subsequently reducing access to existing works as a result of this veto power (Landes and Posner, 1989).

Furthermore, anyone would recognize that without strong, centralized control, abuse is

¹For the hypothetical, see Boyle (2007, 128ff); Benkler (2002); Litman (2004). Additionally, as of this writing, these are all actual Wikipedia articles.
likely, if not guaranteed, to be flagrant. Users would pass rumor and fancy as fact, and
the careful, dispassionate analysis of scholarly experts would be buried by the demagogues,
the quacks, and the mob. Not to mention, without a central controller, negative network
externalities are likely to emerge, where different users would create their own works ac-
cording to different standards and levels of quality, reducing consistency and potentially
interoperability with other works or systems.

Perhaps as a response to these perfectly rational and legitimate fears, Jimmy Wales
launched Nupedia, “the open content encyclopedia,” online in March of 2000. While Nu-
pedia was written by volunteers, and ultimately licensed as free content to readers, the
content was reviewed by expert editors prior to official publication, and the site expected
that contributors would be Ph.Ds or experts in their respective fields. Under editor-in-chief
Larry Sanger, Nupedia had a seven step peer review process that gradually filtered out
low-quality articles. In its first year, Nupedia approved publication of just 21 articles.

As a response to Nupedia’s slow productivity, in early 2001, Wales and Sanger founded
Wikipedia to further open up the flow of articles. In contrast to the centralized management
of Nupedia, Wikipedia utilized a new web application known as the “wiki.” This system
allows for multiple users to edit a single article without it having a pre-defined structure or
owner, archives each change, and allows for users to discuss and reverse changes. In its first
month, Wikipedia had 200 articles, and in its first year, 18,000.

Today, Wikipedia is the seventh most visited website in the world. By its own count
(as of January 27, 2015), it has 34,293,180 articles in 288 languages (4,705,212 of them
in English, the largest Wikipedia) and 51,976,748 users making 1,945,996,972 edits. The
leading encyclopedia in the English-speaking world, the famed Encyclopædia Britannica,
on the other hand, had at its final printing (in 2010), 40,000 articles, and about 120,000
online. Figure 1.1 shows stunning success, compiled from Wikipedia’s own statistics.

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2See the memoir from its editor, Larry Sanger, at http://features.slashdot.org/story/05/04/18/
4http://meta.wikimedia.org/wiki/List_of_Wikipedias
The success of Wikipedia and other projects that feature mass-collaboration, open-source, and free software – everything from Linux to R to Mozilla Firefox\textsuperscript{6}, have lead to a dearth of popular books by scholars, entrepreneurs, and pundits making bold claims about a “new economics” of the internet age (see e.g. Anderson (2008, 2009, 2012); Benkler (2006); Kelly (1999); Raymond (1999); Shirky (2008); Tapscott and Williams (2007)).

In any event, the rise of Wikipedia stands as an existence proof for the possibility of alternative methods of providing expressive works (and perhaps \textit{a fortiori}, public goods) without strictly following the formal model of intellectual property (IP) rights. Standard theory precludes the existence of wikipedia due to an inherent free rider problem in the production of expressive works. Without recourse to exclude others from consuming expressive works (through legal fiat, as with copyright laws), producers have no incentive to produce the works in the first place. As Wagner (2013b) astutely observes, the problem of free riding is not inherent in the ontology of the good itself, but “an artifact of a particular set of institutional assumptions.” Applying this idea to Hardin’s original tragedy of the commons example, Cole et al. (2014, 353) similarly highlight that the tragedy results only with a particular set of institutions.

\textsuperscript{6}For a fairly comprehensive list, see http://en.wikipedia.org/wiki/List_of_free_and_open-source_software_packages
Thus, we must explore the range of institutional settings under which expressive works are created. Doing so will give us a more robust understanding of what conditions will lead to more works being created, and the true impact of intellectual property laws, which everyone acknowledges to have some cost. This paper, following Hess and Ostrom (2007b) and Dourado and Tabarrok (2014), draws upon the institutional analysis of Ostrom (1990) and other scholars collectively known as the “Bloomington School.” This approach elucidates nine principles for successful and long-enduring institutions, which I apply to examine the case of Wikipedia.

1.2 Theory of Expressive Works

1.2.1 Are “Property Rights” Suitable for Expressions?

Economists have recognized that property rights have played a critical role in both the successes and failures of attempts to cultivate economic growth (Acemoglu and Johnson, 2005; North, 1990). Economic resources, at least conceptually, originate in the commons, potentially available for use by anyone. Demsetz (1969) famously argues that through technological advance and entrepreneurial foresight, once resources obtain exchange value greater than the cost of enclosure and maintenance, entrepreneurs will establish exclusive property rights over the resource. For those resources that have yet to become “propertized,” they remain subject to the “tragedy of the commons,” where each user faces a personal incentive to extract as much of the resource as possible before others do likewise because no user can exclude one another (Hardin, 1968). Hence, the resource gets depleted. The natural solution, then, is to propertize the resource to align individual incentives to conserve use of the resource, to allocate it efficiently among highest valued uses, and to promote investment in producing more of the resource.

However, the rhetoric of property rights can often be a facade for political action used for private gain (Stigler, 1971). Whether for taxi medallion auctions, defense contract procurement, or tradeable pollution permits, the language of property rights and markets
often merely consecrates that which is to be perceived as wise and efficient political program, when in fact it is a rent-seeking victory by some interest group. If rights are designed poorly and distributed from on high, or they are thrown into a hostile institutional framework that has little historical respect for liberty of contract, freedom of association, or judicial enforcement, then what results is the symmetrically opposite “tragedy of the anti-commons,” (Buchanan and Yoon, 2000; Heller, 1997). In such a situation, multiple users are granted rights to exclude others from using a resource, requiring a would-be user to secure the blessing of every potential veto-holder that would block her use. The tragic result is that the valuable resource lies dormant, mummified in bureaucratic red tape and holdout problems. Thus, the key to understanding economic growth and the role of property rights is not to ask the simple binary question “do property rights exist for X?” or exist at some theoretical optimum, but how those rights fit within an existing framework of institutions that promote or stifle cooperation, exchange, and production (Boettke et al., 2004; Buchanan, 1964).

The language of “intellectual property rights,” however, makes it seem natural to extend the logic of property rights to the ethereal realm of non-rivalrous ideas and expressions. The common parlance entices many economists, conditioned by the association of “property rights, good; no property rights, bad,” to support intellectual property rights. For instance, North and Thomas (1973, 147-149) claim that the 1623 Statute of Monopolies, which created the modern system of patents, was a watershed moment that enabled the rise of England as the world’s first industrial power. Some, however, recoil and retort that the rhetoric of “property rights” is a misappropriation of a legal concept for the political benefit of a particular industry (Kinsella, 2008; Lessig, 2004). Such opponents prefer the term intellectual privilege, both analytically and normatively, to describe the actual dynamic at work (Bell, 2014). Intellectual “property rights” appear in this view to be merely enforceable claims to continue existing business models and veto disruptive innovations (Acemoglu and Robinson, 2000), akin to horse-and-buggy producers having the “property right” to prevent

 Boldrin and Levine (2008), however, argue that North is correct for the wrong reasons: The law was successful in removing the rent-seeking component of the Crown’s power to grant permanent monopolies to political allies. This power was replaced by a weaker Parliamentary grants of temporary monopolies to individuals on the basis of “novel” inventions.
the automobile from being manufactured. As Landes and Posner (2003, 23) remind us, “[a] fundamental principle of American law is that competition is not a tort, that is, an invasion of a legally protected right.” The pioneering work of Arnold Plant (1934, 31) further clarifies that so-called intellectual property rights are peculiar because unlike ordinary property rights in physical goods, IP rights are not a consequence of scarcity, they are a deliberate creation of scarcity by a legislature.

1.2.2 Critique of the Traditional Theoretical Framework

The traditional argument for copyright emerges from the analysis of a market failure of underprovision of expressive works (Arrow, 1962; Besen and Raskind, 1991; Nordhaus, 1969; Samuelson, 1954). In response to the under-provision of expressive works, copyright laws are meant to provide producers the right to exclude others from use, in order to prevent other users to “free ride” and appropriate the value of an expressive work without compensating the producer. Naturally, as this exclusion right provides incentives for creators to produce new works without fear of earning a negative return, this also grants monopoly power and all of the efficiency losses of monopoly. Thus, there is a careful balancing between the two forces of increased innovation incentives and reduced access to works via monopoly power and its distortions.

Figure 1.2 briefly depicts the relationship in very simplified graphical form. It should not be taken too literally, but serves the purpose of illustrating intuition. Society can place value the creation of new original works (innovation) and on greater distribution of existing works (access). Depending upon the existence of existing works and intellectual production possibilities, as depicted by the intellectual production possibilities frontier curve (IPPF), and on the relative strength of preferences between innovation and access, the optimal copyright law exists at the tangency point between the two curves.

The state of the theoretical literature on intellectual property rights in general has focused on determining just what the optimum is (Gilbert and Shapiro, 1990; Klemperer, 1990; Landes and Posner, 2003). In terms of Figure 1.2, one can easily dispute the shape
and relative position of either or both curves. Granted, Figure 1.2 displays only a single point of tangency in two-dimensions, when in fact, the optimal law may be a vector of many facets, limitations, and exceptions (ranging from permissible fair use defenses to the administrative procedures of acquiring a copyright). Thus, what is “efficient” in this framework is that bundle of legal rules which maximizes innovation subject to constraints on access and monopoly power.

This is about the maximum extent that pure economic theory can bring to scholarly analysis of expressive works, and in terms of economic logic, it is difficult to find fault in the analysis. It then falls to empirical studies to determine where the optimum is and how various changes and violations of laws affect efficiency. The law and economics literature on copyright, which primarily investigates the impact of illegal downloading on (typically music) industry revenues, is contentious, messy, and full of mixed results. Tschmuck (2010) provides a good survey on the literature, its conflicting results, and its methodological and data-quality difficulties. Scholars have attempted to explain the conflicting empirical studies and defended their position with ad-hoc additions to economic theory.

The overarching framework, however, is fundamentally incomplete. The traditional
argument neglects forces of entrepreneurship which can and do overcome these theoretical problem under a wide range of institutional settings. The existence of thriving legal business models despite strong copyright laws, imperfect enforcement, and extremely low costs of copying are sufficient to demonstrate this fact. Streaming services such as Spotify, Hulu, and Netflix have likely had a strong role in reducing the plague of piracy in music and films (Shen, 2013). Alternatively, as the costs of legally accessing works has increased as copyright law has strengthened in the past 40 years, various methods of accessing works through illegal means (filesharing and torrenting) have also become relatively attractive. Furthermore, many authors give reasons why, even in total absence of copyright law, the number of expressive works might be less than today, but certainly not zero (see e.g. Landes and Posner (2003, 41-50); Boldrin and Levine (2008)). Finally, as Leeson and Boettke (2009) suggest, there also exist higher-tiered entrepreneurs who find it in their interest to establish entirely new institutions that better provide public goods. The open source software movement and creative commons projects, collectively known as “copyleft,” leverage existing copyright law through a privately constructed set of compulsory licenses (primarily the GNU General Public License and the Creative Commons licenses), granting all users the right to use, modify, and distribute existing licensed software and furthermore compel future creators to follow the original license conditions and openly reveal their own source code (see e.g. Benkler, 2002; Boyle, 2008, Ch.7). Thus, at nearly every level of the tradeoff between granting incentives to innovate and reducing access to existing works, we can find examples of private entrepreneurship overcoming technological, legal, and imagination barriers. Indeed Buchanan and Wilson (2014) find in an experiment that entrepreneurship is the key factor in determining the outcome of innovation in both strong and weak IP environments.

My purpose is not to argue against the logic of the traditional framework, as it is difficult to contest on a priori grounds, but to suggest examining the robustness of various

8 http://www.gnu.org/copyleft/gpl.html
9 https://creativecommons.org/licenses/
10 Under such a license, erecting barriers to distribute, modify, or view the source code violates the compulsory license, and thus is ironically a case of copyright infringement.
institutions that can mitigate the problems of producing public goods. It may be, as public choice scholars demonstrate, that substituting a political solution (such as IP laws) for a market one may yield a government failure of a greater magnitude than the original market failure (see e.g. Simmons (2011)). My purpose is not to examine all of the imperfections and unsavory outcomes of the existing system of IP laws, as countless others have already done that (see e.g. Bell (2014); Boldrin and Levine (2008); Boyle (2008); Johnson (2012); Kinsella (2008); Landes and Posner (2003); Lessig (2004); Patterson (1968b); Rustiala and Sprigman (2012)). Instead, I aim to critique the standard theoretical framework of understanding intellectual property rights and to establish an alternative theoretical toolkit to apply to examining the various comparable institutional arrangements.

Rather than a closed-form approach which, while tractable and amenable to comparative statics, neglects entrepreneurship and endogenous evolution, a more robust understanding of the market for expressive works would encompass an open-ended, dynamic, and institutional view (Buchanan, 1964; Wagner, 2013a). The plethora of present legal disputes suggests that it is difficult enough to define and properly delineate the boundaries of ideas or expressions, let alone to try to calculate the socially efficient level of their production. Policymakers and analysts simply cannot obtain the requisite knowledge to calculate such an optimum and account for all potential consequences (Hayek, 1945). An institutional approach shifts analytical focus towards the rules and public and private organizations which best facilitate creation, exchange, and evolution of expressive works. The form of the system itself, in all of its rules, organizations, and informal norms, is generated “through the process of its emergence,” rather than dictated exogenously in advance by a theorist (Buchanan, 1982). “Efficiency” in this framework means the ability of individuals to maximize plan consistency – that is, to maximize the ability (and number) of individuals to generate and successfully complete plans (Kirzner, 1973). The innumerable conflicting goals of participants can not easily be quantified, and can only be estimated comparatively, by searching for which institutions facilitate expression the best, are are most robust to failure (Cordato, 1992, 62).
Many scholars have productively suggested that we can best view culture, expression, and knowledge as a commons (Benkler, 2002; Dourado and Tabarrok, 2014; Frischmann et al., 2014; Hess and Ostrom, 2007b; Schweik and English, 2012). Rather than a strict binary public or private distinction (Hardin, 1968) that dictates success or failure, the Bloomington School has shown that there is a wide variety of institutional forms operating in between markets and states that can mitigate the tragedy of the commons (Ostrom, 2010). Hess and Ostrom (2007b, 3) offer a rather wide interpretation of a commons, defining it merely as “a resource shared by a group of people that is subject to social dilemmas.” Economists usually classify commons as situations involving common pool resources, such as a fishery, where use is nonrivalrous, but there is possibility of exclusion if certain institutional conditions are met to overcome the costs of exclusion. The definition that Hess and Ostrom (2007b) offer allows us to view expressive works as a commons, as the resource of “expressive works,” is shared by every (non-Philistine) member of society who values expression, and further by those who benefit from the fruits of science and innovation. The creation of knowledge and expressive works requires access to the commons of previous works in order to build upon.

Rather than traditional fears of overuse and nonsubtractability in resource commons, the knowledge commons can be, in fact, additive, or, in the words of Dourado and Tabarrok (2014, 19), “Super-Lockean” as, contingent upon it being relatively accessible, the more people draw from it and share, the more value they add to society (see also (Hess and Ostrom, 2007b, 5)). John Locke famously included a “proviso” of legitimate property appropriation provided the appropriator leave “enough and as good left” (Locke, 1980[1690], Ch. V, §.33). Knowledge and expressive works, being nonrivalrous, can add more than “enough and as good left” when used, as consuming, replicating, and constructiving derivate works more widely distributes the original. Furthermore, the production of new works requires use of older works as inputs. As Matt Ridley (2011, 7) memorably relates, “ideas have sex with each other,” that is, they are combinatorial, and it is only through the exchange of ideas.

\[11\] I thank Mike Madison for directing me to recent literature on this.
rather than a single orphan idea from a lone genius, that great technologies are born. The camera pill, for instance, was born out of a conversation between a gastroenterologist and a guided missile designer (Ridley, 2011, 270). Henry Ford is supposed to have said that he “simply assembled into a car the discoveries of other men behind whom were centuries of work.” Rather than reinventing the wheel at every iteration, all expressive works require some amount of existing expressive works as inputs, hence the important access part of the incentive-access tradeoff. One of the primary challenges of the knowledge commons is to prevent it from becoming an anti-commons from an excessive amount of veto points.

As described above, traditional views of commons imply that unpropertized commons are automatically subject to the tragedy of the commons, where the resource gets depleted due to incentives to over-exploit private uses without concern for the social value of the resource. Research by the Bloomington school, however, demonstrates that the commons is not, by default, tragic, but instead presents an opportunity. Cole et al. (2014) argue that the example of Hardin (1968) is contingent only on specific institutions being present and leading to the tragic overexploitation outcome. There are many successful common fisheries, water basins, and other shared resources that the Bloomington school has examined and analyzed (in e.g. McGinnis (1999)). Their lengthy studies have culminated in constructing a grammar of institutions, the Institutional Analysis and Development (IAD) framework Hess and Ostrom (2007a).

Ostrom (1990, 90), Hess and Ostrom (2007b, 7), and Wilson et al. (2013, S22) summarize eight “design principles” for institutions to successfully manage common pool resources. (Dourado and Tabarrok, 2014, 19) call these “the eighfold path to success.” Long-enduring institutions that successfully manage common pool resources have the following features:

1. Clearly defined boundaries for group membership and for the shared resource

2. Proportional equivalence between benefits/costs and the contributions/transgressions of members

3. Collective-choice arrangements to allow members to establish rules and make decisions
for the group

4. Monitoring of member behavior through detectable norm-abidement to prevent free-riding

5. Graduated sanctions for transgressors ranging from informal gossip to expulsion

6. Conflict-resolution mechanisms that are viewed as efficient and fair

7. Recognition of rights of group members to self-organize internally

8. Polycentric relations between the group and other social orders to maintain optimal size and autonomy

In the next section, I investigate the success of Wikipedia by applying each of these principles to the rules, norms, and history of Wikipedia.

1.3 Institutional Entrepreneurship: The Case of Wikipedia

Wikipedia, “the free encyclopedia” stands as a testament to entrepreneurship that persists in spite of the risk of an anti-commons from copyright and the traditional theory that precludes its success. Rimmer (2009) argues that Wikipedia emerged in an adverse legal environment and its success has recommends new policy prescriptions that better facilitate the success of collective authorship.

While many serious scholars are beginning to liberally refer others to Wikipedia articles as good primers for intellectual topics, scholarship on Wikipedia itself is widely dispersed and idiosyncratic. Among economists, Wikipedia itself is often relegated as an interesting example used briefly in the service of some larger point, whether for modelling contribution spillovers (Aaltonen and Seiler, 2014), estimating the relationship between group size and contributions (Zhang and Zhu, 2011), expanding the theory of the firm (Frey et al., 2011), examining club competition and individual recognition (Polborn, 2007), applying network theory (Ransbotham et al., 2012), or discussing the role of user generated content in the rise
of the Web 2.0 (Kaletka and Pelka, 2011). Others have primarily focused on empirically assessing whether Wikipedia is factually accurate and unbiased, relative to other encyclopedias. Giles (2005), writing for the prestigious Nature found that, on average, the difference in the accuracy of 42 science articles on Wikipedia and their counterparts in the prestigious Encyclopedia Britannica “was not particularly great.” Greenstein and Zhu (2012), writing for the American Economic Review found that on net, wikipedia remains neutral, interestingly not because of the revision mechanism within individual controversial articles, but because for every biased article on an issue, there appear equal and opposite biased articles on that issue. However, Hasty et al. (2014, 371) find “[m]ost Wikipedia articles for the 10 costliest [medical] conditions in the United States contain errors compared with standard peer-reviewed sources.” Only a handful of economists or lawyers have briefly mentioned Wikipedia’s impact on intellectual property rights, again often as a utilitarian example (see e.g. Benkler (2006); Boldrin and Levine (2008); Dourado and Tabarrok (2014); Frey et al. (2011); Polborn (2007); Shirky (2008); Tapscott and Williams (2007)).

The three main components that define Wikipedia are its use of the wiki, its self-conscious efforts to be a wikipedia, and the licensing of its work (Benkler, 2006, 70-71). A wiki, named after the Hawaiian word for “quick,” is a web application created by Ward Cunningham, allows multiple users to collaborate on a document. Ownership is not assigned to any person or entity and the structure of the document is not set in advance. Users can write, modify, and delete portions of the document anonymously (though typically they must register under a username or pseudonym). Each document is bundled with a “talk” page, where users can discuss the actions and edits of other users regarding the document. All actions and changes to the document by users are recorded and archived, allowing quick reversion of the document to previous forms if necessary (for instance, to reverse vandalism). Figures 3-6 uses an example of an article on “Public Choice”13 to illustrate a wiki’s features bundled with an article.

13 http://en.wikipedia.org/wiki/Public_choice
Second, wikipedia is a deliberate effort by participants with a unifying goal: to disseminate knowledge on all topics. This generates a community of interested members, which enables co-production by users to generate the content of the encyclopedia articles.

Finally, all text on Wikipedia, by virtue of being “fixed in a tangible medium of expression” (17 USC §102) is automatically copyrighted under U.S. law (and the Berne Convention internationally). However, the wiki software does not establish a sole owner that can control the work, “no editor owns an article and any contributions can and will be mercilessly edited and redistributed.” Moreover, Wikipedia employs a compulsory license, the Creative Commons Attribution-ShareAlike 3.0 Unported License (CC BY-SA). This license itself is a private entrepreneurial creation by Lawrence Lessig, Hal Abelson, and Eric Eldred, who founded the Creative Commons, a nonprofit organization that provides licenses which promote greater access and distribution of copyrighted works. The CC BY-SA license permits users to share and adapt the work without requesting permission, even for commercial purposes, so long as they attribute credit to the source and document any changes. Furthermore, derivative works based on the original must also employ the same license conditions as the original. This ensures that all Wikipedia articles remain open to satisfy the goal of becoming a freely accessible public encyclopedia.

Wikipedia is governed by its members adherence to the “five pillars” that normalize articles and interactions on the site:

1. Wikipedia is an encyclopedia
2. Wikipedia is written from a neutral point of view
3. Wikipedia is free content that anyone can use, edit, and distribute
4. Editors should treat each other with respect and civility
5. Wikipedia has no firm rules

[^15]: https://creativecommons.org/licenses/by-sa/3.0/us/
I now turn to examining how Wikipedia’s success in terms of how it unconsciously implements all eight of the Bloomington School’s principles for successful institutions.

1.3.1 Defined Boundaries

The definition and purpose of Wikipedia is made quite clear by its first pillar – it is a voluntary encyclopedia open to all to use and edit. In further defining the purpose of building an open online encyclopedia, Wikipedia has a made clear list of what it is not meant to be\textsuperscript{17}. Wikipedia is not, for instance, a dictionary, a place to public original research, a soapbox, a newspaper, a manual, or a technical journal.

Wikipedia exhibits perhaps one of the clearest possible examples of coproduction. Co-production allows consumers or end-users of a commons to input skills or information into the production of public goods (Aligica and Tarko, 2013). For many public goods, such as Wikipedia articles, the input of consumers is essential “if there [is] to be any production at all” (Parks et al., 1981, 1001-1002). Precisely this fact is highlighted in the fact that Wikipedia deliberately refers to Wikipedians (all users who use Wikipedia) as editors – a title that outside of Wikipedia connotes authority and gate-keeping power. Indeed, without this key element of blurring the line between consumer and producer, Wikipedia would have gone the way of Nupedia long ago, and languished in the shadow of authoritative expert encyclopedias like the Britannica.

The borders of the group sharing the resource are quite well defined. Merely anyone who visits the website is automatically a user of Wikipedia, and catalogued according to their computer’s IP address. They can consume Wikipedia’s content anonymously. In principle, any of these users can also contribute and edit articles. At its original inception, Wikipedia was truly “anarchic” in that anyone could create and edit articles without any formal registration requirement. However, over time, users have become required to register a username (pseudonym or real name) with the website in order to create new articles, edit certain articles, and acquire other privileges\textsuperscript{18}. There are further exceptions in cases of

\textsuperscript{17}http://en.wikipedia.org/wiki/Wikipedia:What_Wikipedia_is_not
\textsuperscript{18}http://en.wikipedia.org/wiki/Wikipedia:Tutorial/Registration
suspected vandalism, described below.

A 2010 survey of 170,000 self-selected Wikipedians across 231 countries and in 21 languages provides some of the first comprehensive demographic information of who uses and who contributes to Wikipedia (Glott et al., 2010). Most users (about 65%) identified themselves as only a reader, with 23% reported themselves as occasional contributors, and a small minority 7% called themselves regular contributors (5). Readers are on average 250 years old, with about half of respondents younger than 22 years (7). Readers tend to be slightly younger (on average 24.79 years old) than contributors (on average 24.79 years old). There is also a disproportionate percentage of male readers (69%) and contributors (86%) relative to female readers (30%) and contributors (13%), as depicted in Figure 1.3. Furthermore, contributors are slightly better educated than readers, with most users having at least a high school or bachelors level of education, reflective of the dominance of low age groups, as shown in Figure 1.4. Additionally, while users report a variety of unique reasons they choose to contribute, most resemble desires to share and spread knowledge and fix errors, while very few contribute for the purpose of earning money, furthering a career, or, interestingly, even to gain reputation among the Wikipedia community (9). For those who do not contribute, the most common reasons were unfamiliarity with the process, lack of time, uneasiness about editing others work, the beliefs that they are not qualified or do not know enough about a subject to contribute, and the satisfaction with simply reading rather than getting involved (10). Those users that do contribute edits tend to make only a handful of them, with a very small proportion of users making many contributions, as shown by Figure 1.5.\(^{19}\) The left panel shows the proportions of users who contribute a certain number of edits and the right panel shows the proportion of total edits made by those users who contribute a certain number of edits.

Stemming from Wikipedia’s intentional collective goal of being an encyclopedia, Wikipedians will use several mechanisms to exclude users and editors who run contrary to this goal. Primarily, users who deliberately and systematically try to edit Wikipedia articles for any

\(^{19}\)Data compiled from http://stats.wikimedia.org/EN/TablesWikipediaEN.htm.
reason other than a good faith addition of accurate information (i.e. spreading lies, rumors, biased views, edits-for-hire, etc), will have their IP address and (if applicable) username banned - which will allow them to read but no longer edit articles. This process is described in more detail in the next section.

Figure 1.3: Breakdown of Wikipedians by gender

Figure 1.4: Breakdown of Wikipedians by highest education attained
1.3.2 Proportional Costs & Benefits

Proportional equivalence between costs and benefits ensures that certain subsets of the group are not being bearing disproportionate costs or benefits, which would threaten the internal stability of the group and its shared resource.

Wikipedians do not get paid, even the Wikimedia Foundation, which owns the physical infrastructure behind Wikipedia and oversees its operation, is a non-profit organization financed by donations. Thus, Wikipedians do not contribute edits motivated by financial interest. Scholars have long observed that in many cases of expressive works, such as analogously writing a book, authors do not necessarily require financial motive to produce such a public good (see e.g. Landes and Posner (1989, 41-50) and Johnson (2012)). Wikipedia’s structure seems to have tapped the right ingredients to motivate individuals to contribute in the public interest. Primarily, this is because Wikipedia is modular and additive. Researchers studying free and open source software have long noted that modularity is a key component of successful non-proprietary software (Benkler, 2002; Raymond, 1999). An article on Wikipedia is an independent good, and is capable of being effectively produced by one person or one million. Furthermore, each individual by any given user contributes to

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I thank Alex Tabarrok for emphasizing this key distinction between Wikipedia and other public goods.
the social product (provided that edit is not intentionally malicious), and an individual edit can take as little or as much time as a reader has time (and passion for). This could range from a 30 second correction of a misspelled word, to hours-long creating of a new article that the user is passionate about. Thus, the ease, modularity, and additive nature of editing Wikipedia helps motivate users to edit for the social good out of their own personal desires without requiring financial incentives (which would be necessary if making contributions were of a larger and individually costlier scale).

The main currency within Wikipedia’s community is reputation within the community. Building a reputation, conceived as investing in social capital, can allow an editor to engage in a lot of activities that others can not. First, she can expect a higher likelihood of her edits to be approved and not removed. Additionally, she can “run” for higher office as a bureaucrat or an administrator. However, as indicated by the reasons given for contribution/noncontribution in Glott et al. (2010) above, reputation is only valuable to those who wish to be very active, visible, and well-ranked among the Wikipedia community. Most users are satisfied with simply get by with reading or editing to feel good, rather than seeking to join a close-knit community (which one can participate in only by actively posting and talking).

Wikipedia has a small degree of hierarchy that naturally emerges from within the community, in the form of functional roles of administrators (admins) and bureaucrats. Admins are users that are granted greater control over articles and other user abilities, such as the power to block and unblock user accounts and IP addresses from editing articles, protect and unprotect pages from editing entirely, delete and undelete articles, and rename articles.21 Originally, every user was granted admin powers, but over time to protect Wikipedia against vandalism, a small number of dedicated users have been granted administrative powers. Wikipedia does not have any formal rule for selecting an administrator, every user can apply to become an admin, but the community holds a discussion about each application and if there is a clear positive consensus after 7 days, that user is approved. Thus,
only members who are deeply involved in the community and make frequent contributions will be rewarded with adminship. Jimmy Wales argues that the administrator is merely a technical role played by regular community users and is reserved for editing emergencies, rather than any inherent authority or hierarchical superiority. The role, like the rest of Wikipedia, is purely voluntary and uncompensated. The English wikipedia currently has 1,463 administrators.\footnote{Some fear that the declining number of admins is worrisome, see e.g. http://www.theatlantic.com/technology/archive/2012/07/3-charts-that-show-how-wikipedia-is-running-out-of-admins/259829/}

Bureaucrats are users simply invested with the power to add and remove administrator powers to a user to enact a community consensus.\footnote{http://en.wikipedia.org/wiki/Wikipedia:Bureaucrats} The process of becoming a bureaucrat is similar to that of requesting adminship, though a higher degree of community consensus is required for this role. There are currently 33 bureaucrats on the English wikipedia.

\subsection*{1.3.3 Collective-choice Arrangements}

All successful groups need some sort of decisionmaking procedure to create and modify rules that affect all members of the group in furtherance of the group’s ends. The main way Wikipedia’s ends are achieved is through informal community consensus on article content and user activities.\footnote{http://en.wikipedia.org/wiki/Wikipedia:Consensus} As there are few formal rules that govern the editing process (mostly reserved for resolving crises), most rulemaking is emergent and norm-based, contingent on the overall goal of creating an open encyclopedia.

Following the tradeoff between internal decisionmaking costs and external costs identified by (Buchanan and Tullock, 1962), Wikipedia features quite low internal decisionmaking costs and high external costs.\footnote{I thank Vlad Tarko for emphasizing the predictive power of the Calculus of Consent model for this case.} As typified by Wikipedia’s first pillar, Wikipedia’s collective goal of being a genuine high-quality encyclopedia places hard constraints on articles and editors: edits that are viewed as detracting from this goal are fiercely resisted and will be removed by nearly anyone. Thus, external costs are rather high. Despite this, internal decisionmaking costs are quite low, since the number of people interested in any given page
is quite small (certainly this group size varies across article subjects from “Tholeiitic magma series” to “Capitalism”). Additionally, Wikipedia is able to achieve its goal of a neutral point of view by including all perspectives that heterogeneous users are willing to contribute into an article. Often, any controversial article (“Capitalism”, for instance) will feature a “Criticism” section where users of different persuasions express their dissent through opposing arguments. As a result, with relatively high external costs and low decision costs, the model of the Calculus of Consent predicts that the optimal decisionmaking rule is a very large proportion of the deciding group. Wikipedia confirms this prediction, as it is a foundational feature of Wikipedia that major decisions are made “by consensus.”

Wikipedia delineates several tiers of a normative structure to govern user interactions: policies, guidelines, and essays.\textsuperscript{26} Policies “have wide acceptance among editors and describe standards that all users should normally follow.” Guidelines are “sets of best practices that are supported by consensus,” that users are encouraged to follow, but common sense is mostly needed. Essays are merely opinions of a single user or group of users about an issue that has not reached community consensus. Users can post essays that they do not wish others to edit on their own personal user page.

Even at a higher, constitutional level, to change overall policy, Wikipedia does not employ any sort of formal voting system. Wikipedians can propose and discuss changes to overall Wikipedia policy or guidelines on relevant talk pages. “Village pump” pages exist as a forum for members to provide notice and discussion of proposals for major rule changes.\textsuperscript{27}

1.3.4 Monitoring

The success of any group effort strongly depends upon the ability of members to cheaply monitor defection and behavior harmful to the collective goals of the enterprise. One might soundly imagine that Wikipedia faces a gargantuan collective action problem in monitoring the accuracy of millions of articles that are subject to being hostiley edited by anonymous readers at all hours of the day. However, several technical components to the wiki application

\textsuperscript{26}https://en.wikipedia.org/wiki/Wikipedia:Policies_and_guidelines

\textsuperscript{27}https://en.wikipedia.org/wiki/Wikipedia:Centralized_discussion
mitigate this problem, as well as the incentives of individual users.

Monitoring is still important for Wikipedia, despite the fact that neither its product nor its members’ contributions are denominated in dollar terms. In meeting its collective goal of being a genuine encyclopedia, Wikipedians must still monitor the quality of each other’s articles. Fortunately, the wiki platform enables the site to distribute monitoring capacities across its members with relevant knowledge and interests.

As part of the wiki platform, each article has a talk page, where users can comment on changes by other users, as well as view an archive of all changes made by ever user according to their username or IP address (if unregistered). Users can also add a particular page to their “watchlist,” where they will automatically be notified of any change to the page’s content, and of conversations occurring on the article’s associated talk page. Edits to an article that are malicious can easily be detected and reversed with the click of a button, reverting the article to its state before the particular edit. Figures 1.6-1.9 again illustrate this with an example.

There are no editors that are charged with overseeing the entire set of articles, but all users have editing power. Typically, any given editor is interested only in a particular set of topics that they have expertise, interest, or passions in.

Should a malicious user attempt to “troll” and intentionally edit an article for the purpose of mockery, irrationality, or prejudice, their edits are quickly discovered by interested users. Furthermore, users that repeatedly troll articles are identified by their username or IP address, which can be suspended or permanently banned by admins (see sections 3.5 and 3.6).

A second type of monitoring dilemma exists between ordinary users and admins. Ordinary users must have some recourse over admins that have gone rogue or are otherwise abusing their admin powers, such as improperly banning users or excessively locking articles. Admins are monitored by other users who are interested in respective articles that are being abused, including other admins. Admins suspected of continual abuse of their powers

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28I thank Joy Buchanan for raising this issue.
can be removed by Jimmy Wales or the arbitration committee (see below).

1.3.5 Graduated Sanctions

In order to ensure compliance with community norms, any group must have punishments to deter unsocial behavior. Punishments for violations further must be scaled gradually, to ensure they do not further incentivize worse behavior (e.g. minor infractions should not be met with immediate expulsion, or else there is no relative cost difference between committing a minor or a major infraction).

Wikipedia has three main sanctions against individual violators: communal shaming, temporary bans, and permanent bans. Individual users that vandalize articles or otherwise violate Wikipedia’s policies are first often met with discussion on the article’s talk page. A user’s malicious edits will typically be reversed by another user and documented on the talk page. For continual vandalism by a particular user, identified either by their username or IP address, admins can block the username/IP address from editing temporarily, or for severe cases, permanently. Wikipedia publicly posts all active sanctions in place against violators\textsuperscript{29}.

1.3.6 Conflict-resolution Mechanisms

Any group must have mechanisms to resolve disputes between individual members that are effective at resolving conflict, and are viewed by all participants as impartial and decisive. In general, with respect to its mission of creating an open source encyclopedia, Wikipedia strives to minimize potential conflict over the content of articles by mandating a “neutral point of view.”\textsuperscript{30} Rather than aiming for consensus on a single point of view and subsuming, Wikipedia encourages a diversity of opinion. To productively channel the passions of competing factions of opinion, Wikipedia articles often feature sections that include the various arguments for different opinions.

\textsuperscript{29}\url{https://en.wikipedia.org/wiki/Wikipedia:Arbitration/Active_sanctions}

The main type of conflict that naturally and predictably emerges is a disagreement over the content of an article. This can range from honest disagreements between varying perspectives on an issue (i.e. Republicans and Democrats editing an article on U.S. politics) to deliberate “trolling” and vandalism of an article. To the extent that different opinions are not productively expressed in critical sections of an article, users attempt to resolve it in the talk page discussion. As noted above, when this does not work, it falls to admins to mete out punishment of uncooperative users.

As both monitoring and control over content are distributed across potentially all users, conflicts over article content can easily trigger an “edit war,” where multiple users each repeatedly edit articles in their favor and reverse all edits from other users expressing dissident content.\(^{31}\) This includes cases where an individual editor repeatedly restores his preferred version of the article after it has been removed by other editors. Wikipedia normally encourages editors to come to a consensus on the talk page and essentially “talk-it-out.” When disagreements turn into outright edit wars, Wikipedia employs a “three-revert rule” (3RR), a bright line rule which declares that no editor may perform three reversions of others’ content on one article in a 24 hour period.\(^{32}\) Editors who frequently edit war and/or violate the 3RR rule are subject to the graduated sanctions listed above.

Additionally, for articles on topics, persons, or events that systematically cause controversy (the reader can certainly imagine them), articles can be placed under “protection.”\(^{33}\) While any user can call for an article’s protection in its associated talk page, it is up to an admin to change the protection settings for an article. Protection constitutes a range of measures, ranging from preventing any changes by unregistered users without admin approval to full protection where only admins can edit articles.

Wikipedia’s “court of last resort,” at least on the English Wikipedia, is the Arbitration Committee (ArbCom).\(^{34}\) The committee is comprised of 12 users appointed by Jimmy Wales after advisory elections by the community, and to date has decided over 370 cases

\(^{34}\)https://en.wikipedia.org/wiki/Arbitration_Committee
of user conduct. The committee’s decisions are binding on Wikipedia members, and their punishments have ranged from warnings to bans. Hoffman and Mehra (2010) show that the arbitration committee stays true to its ideal of focusing primarily on behavioral disputes between user conduct, rather than the content of articles under controversy.

Jimmy Wales has quite a lot of de jure control over Wikipedia. As he appoints the Arbitration Committee members, although constrained by selecting those members that have been approved by community consensus, he could potentially wield the ArbCom’s power to ban any users that post content he disagrees with. However, use of the ArbCom has been extremely limited (although not without some critics).

Wales appears to act as if he was a benevolent despot, although he has rejected others’ use of this term to describe him, and instead chooses to compare himself to the Queen of England, a constitutional monarch with no real power. If we can assume, based on his statements, that Wales’ objective function is to maximize the spread of information, then the literature on rational dictatorship implies that he will select the optimal amount of interference with production (see e.g. Congleton (2011); Olson (1993); Tullock (2005); Wintrobe (1990)). Unlike a dictator over a country, however, Wales is not in the strict sense a residual claimant to the financial success of Wikipedia, as Wikipedia is a non-profit organization that has no products to exchange for money. Wales does, however, potentially benefit from donations to the Wikimedia Foundation and in reputation gains from Wikipedia’s success. Wales thus would choose to engage in minimal intervention into the production of Wikipedia articles – only enough to ensure basic order and prevention of severe vandalism that would jeopardize information creation and spread. Furthermore, to ensure that this is a credible commitment on his part, Wales can empower the ArbCom to veto his actions and have members of the ArbCom selected by popular vote, similar to the evolution of the constitutional King and Council models in Congleton (2011). This ensures that editors are convinced that Wales will restrain his authority and will continue to produce articles, increasing the success of achieving Wikipedia’s mission, and satisfying

Wales’ preference for disseminating information (not to mention, presumably filling the coffers with donations).

1.3.7 Recognition of Self-Organization Rights

All successful groups must have the authority to conduct their own affairs and their members autonomy respected. As stated in the fifth pillar, Wikipedia does not have firm rules, but instead has mere “policies and guidelines...not carved in stone.” Contingent on respecting the basic rules of common sense and human decency, with wanton exceptions listed above, the openness of Wikipedia achieves respect for individual autonomy in spades, with its categorical rule “to ignore all rules.”

As noted above, the English Wikipedia’s Arbitration Committee has only decided 370 cases of user conduct, despite the existence of millions of articles, tens of millions of users, and almost two billion edits. This indicates that Jimmy Wales and the Wikipedia project do indeed respect users rights to self-organize.

1.3.8 Polycentric External Relations

For those groups that interact with other groups and with the social order at large, the given group must have mechanisms that coordinate activity productively across different groups such that the size of various groups are proportional to the size of the collective problem faced. Wikipedia is an internet website that produces content available to all with an internet connection across the world. As the raison d’etre of Wikipedia is producing written expressive content, Wikipedia must interact with other media vis-r-vis national and international copyright laws. Since all original expressive works require inputs from previous existing works, Wikipedia users must not run afoul of existing expressive works or their copyright holders.

To fit in with other media, most of which do use and enforce copyright, Wikipedia has taken care to respect copyrighted material.\footnote{http://en.wikipedia.org/wiki/Wikipedia:Ignore_all_rules} Wikipedia policy requires users seek\footnote{https://en.wikipedia.org/wiki/Wikipedia:Copyrights}
permission prior to posting any copyrighted work (text, image, video, or sound recording) within a Wikipedia article. Wikipedia strongly encourages users to use works that are in the public domain, works that can be used under the fair use doctrine, works that users themselves create and post on Wikipedia, or other existing works that are freely licensed (such as works under Creative Commons licenses). Owners of existing works that are posted on Wikipedia without consent have recourse to a special request to take down a Wikipedia article for copyright infringement.

Finally, as mentioned above, Wikipedia content is protected by the Creative Commons CC BY-SA license. Articles that are produced on Wikipedia are freely accessible to anyone to use, distribute, and modify, so long as they give attribution to Wikipedia and all modifications follow these conditions as well.

1.4 Implications

Wikipedia stands as an existence proof that the model of intellectual property, where creators will not create unless they are legally permitted to exclude others from using their product, has limitations as a descriptive theory, and perhaps even as a normative one. Despite the fact that Wikipedia still resides within a system of copyright, its content is not created with the intent to exclude others from use, quite the contrary. While Wikipedia should certainly not be taken as a model for all production of expressive works, it opens up the possibility of other forms of organization to provide these peculiar goods. The rise of alternative methods of production, such as free and open source software from Linux to \LaTeX{}, in which this article was written, further add challenges to the traditional framework of copyright.

Hence, we must revise our theoretical frameworks of how expressive goods are produced to account for greater institutional diversity. Closed form solutions, such as optimizing the tradeoff between incentive and access holding a society's institutional form constant prevents us from greater understanding of cultural expression and its production. Furthermore, we risk destroying additional dimensions of culture-preserving institutions by altering the
law along a two-dimensional model. Instead, we must take a broader, comparative institutional approach to studying efficiency and effectiveness in the provision of expressive works. Following the Bloomington School’s theory and methodology, we must continue to examine other case studies to uncover the true breadth of institutional variety.
Figure 1.8: “Public Choice” History Page

Figure 1.9: “Public Choice” Talk Page
Chapter 2: Pirate Thy Neighbor: The Protectionist Roots of International Copyright

2.1 Introduction

Copyright today is defined and partially enforced by a web of international treaties and agreements. However, this is only a comparatively recent phenomenon, particularly in the United States, which only began respecting foreign copyrights in the mid-20th century, decades after its European counterparts. Today, interests in the United States and other developed countries have pressured developing countries around the world to strengthen their intellectual property laws up to par with that of Western nations under agreements such as the Trade Related Aspects of Intellectual Property Rights (TRIPS) Agreement. Indeed, these treaties, such as the Anti-Counterfeiting Trade Agreement, declare that “effective enforcement of intellectual property rights is critical to sustaining economic growth across all industries and globally” (ACTA, 2011, E-3).

If the purpose of international copyright is to promote cultural and scientific development among developing countries, how is it that the nations that are today pushing international harmonization today developed into cultural powerhouses in a world without recourse to international copyright? During the epoch of Dickens, Goethe, and Dumas, to say nothing of Faraday, Maxwell, and Darwin, Western nations protected their own but rampantly pirated their neighbors. It was only by the close of the 19th century that Western nations begun to enter into treaties to respect one another’s copyright laws on equal terms, and even then, it took the United States until 1988 to join the club. How is it that copyright law emerged and was reciprocated across national borders? The dynamics of that evolution are the focus of this chapter.
This analysis focuses specifically on copyright, rather than patents, which are disproportionately represented in scholarly research on intellectual property, for two reasons. First, as Landes and Posner (2003, 5) recognize, most legal developments, both in the United States and abroad, concern changes in copyright law, largely due to explosion of copying and sharing technology (ranging from VCRs to Bittorrent), as well as the pace of the legal and technological arms race between copyright-holders and infringers foreign and domestic. Second, there are clear concentrations and delineations of interest groups within the specter of copyright policy—creators and publishers,¹ incumbents and entrants—with the capacity to collectively organize and influence policy, rather than individual patent or trademark-holders who face greater difficulty organizing collectively and systematically influencing policy.

The traditional view of copyright, and all intellectual property laws for that matter, is that laws are specifically instituted to encourage expression and innovation. In order to ensure that authors and inventors can capture the greatest returns to their product, IP laws grant the right-holder the ability to exclude others from using the product without authorization. This is necessary due to the inherent “public good” characteristics of expressions and inventions, which allow anyone to use the good at low marginal cost after it is published (Arrow, 1962; Besen and Raskind, 1991; Landes and Posner, 2003; Nordhaus, 1969). It is not difficult to see how this logic naturally extends from one country to the world at large: developing countries must introduce the same Western IP laws or else fail to be competitive in the international cultural and scientific arenas.

However, this static view overlooks elements of political economy, where interest groups find it in their interest to use the law as a tool to serve their own ends. As economists have pointed out in other aspects of economic development, the contextual and cultural constraints of a society also matters, such that an institution imposed externally may not

¹I use the term “creator” to cover the producer of original works, and “publisher” to be the retail distributor of those works. Historically, much of the body of work, and indeed the basis for most historical and legal developments described below, concerns authors of books and printer-publishers. The conceptual terms “creator” and “publisher” as I use them here, however, are broad enough to cover the broad range of works that fall under copyright law today (see 17 U.S.C. §102).
“stick” (Bauer, 2000; Boettke et al., 2004; Easterly, 2002). Hesse (2002, 26) and Michalopoulos (2003, 17-18) remind us that the very notion of ideas or expressions being capable of being owned in any sense is a product of European enlightenment thought, alien to many other cultures. As the pioneering work of Arnold (Plant, 1934, 31) best summarizes, so-called intellectual property rights are peculiar because unlike property rights in physical goods, they are not a consequence of scarcity, they are a deliberate creation of scarcity by a national legislature. Wagner (2013b) astutely observes that the problem of “free riding is an artifact of a particular set of institutional assumptions.” That is, rather than observing the problems of free riding and development as being inherent in expressive works and designing a uniform policy to rectify a market failure (as the traditional argument for IP does), we must look at the contextual institutional constraints which influence outcomes.

This paper aims to provide an analytic narrative, in the tradition of Bates et al. (1998), to describe how the evolution of the incentives of strategically-interacting publishers collectively guided the legal evolution of copyright within and across countries. Publishers across different countries and time periods have used different strategies to protect their publications, including influencing the political and legal process. I model the evolution of strategies as a simple game-theoretic relationship between representative publishers competing both within countries and across countries. Publishers can choose to publish original works (“innovate”) or to republish existing works by their competitors without authorization (“pirate”). Publishers can easily enter the market by pirating existing works, but once they become dominant players, seek methods to protect their existing works from piracy. Changes in the value of their works caused by market and institutional conditions impel publishers to seek to strengthen their “property rights” to those works. Thus, history follows a general pattern of developing publishers and nations pirating more established ones, until

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2 In particular, the global TRIPS regime follows the particular French conception of “droit d’auteur,” an inherent natural right of authors. This particular strand is even alien to American copyright law, which, since joining the Berne Union in 1988, has been forced to incorporate European notions of intellectual property that are inconsistent with the economic and jurisprudential rationales for US copyright, namely, recognizing “moral rights.” Khan (2005, 222-223) argues that moral rights emanate from an old-world elitist view of protecting authorship as an act of individual genius, rather than the American conception of judiciously weighing the costs and benefits of copyright for utilitarian ends like public learning.
those publishers themselves become established enough to seek to block competition and increase rents. I categorize the copyright history of a nation according to three analytical stages of this process: where there is no copyright and fierce competition, where domestic publishers establish themselves via foreign piracy but enforce their own copyright at home, and where there is mutual recognition of international copyrights. Thus, a nation’s copyright statutes and relationships with other nations depend chiefly upon the net inflow/outflow of works with other nations, and the relative lobbying ability of domestic publishers.

I primarily focus on the 19th century legal evolution of copyright. The 1886 Berne Convention for the Protection of Literary and Artistic Works established the first international regime of copyright, primarily among Western European nations, and is the very font of international copyright today. The Berne Convention (1979) extends protection to “every production in the literary, scientific and artistic domain, whatever may be the mode or form of its expression” (Article 1), granted automatically upon publication (Article 5) to all authors who are nationals of Union countries (Article 3), who enjoy all of the rights their respective countries have decreed by legislation (Article 5), for at least the life of the author plus 50 years (Article 7). Thus, my analysis primarily examines the evolution of publishing and national copyright policies up until the Berne Convention.3

Research on this subject is largely an interdisciplinary effort, and as such, this paper engages several literatures. Several groups of scholars have researched and commented on this key period of copyright development. Legal scholars have attempted to locate the modern tradition of international copyright lawmaking in this period, and sternly note the anomaly of the U.S.’ refusal to participate in the process (Henn, 1953; Ringer, 1968). Historians have attempted to trace the continuous intellectual history of copyright through to this period. Patterson (1968a) provides the most comprehensive overview of copyright’s development from English monopoly origins. Clark (1960) notably traces the evolution of the American push for international copyright in the 19th century. A number of economists have also

3The United States is a major and interesting exception, since it did not join the Berne Convention until 1988, as discussed below.
noted the political economy aspects of IP laws, though they mention the history of copyright and its international aspect in passing (Bell, 2014; Boldrin and Levine, 2008; Khan, 2005; Khan and Sokoloff, 2001; Landes and Posner, 2003). Khan (2005) is most sensitive to the idiosyncratic and endogenous component of copyright history, primarily to distinguish the unique and superior American system of IP from that of European systems. However, her analysis somewhat downplays the role of political economy in favor of benevolent regulators judiciously optimizing national policy. While policymakers play a role, history demonstrates that most key legal and political developments coincide with changes in the publishing industries.

In the following section, I create a simple model of a game-theoretic interaction between two publishers to investigate the dynamics of how the interests of publishers evolve through time. I then select the history of Great Britain, the United States, and Germany to demonstrate the similar dynamics of how copyright emerges and internationalizes according to the dynamics of domestic publishing industries contingent on national institutions within each nation. Thus, we must study the national policies of the major developed players whom would ultimately expand and dictate the terms of copyright to the rest of the world.

In Great Britain, the world’s first developed nation, publishing was from the beginning controlled by a state-sanctioned guild of publishers, and by regulating that guild, the modern notion of copyright was born. While the guild lapsed, the dominant publishing houses were able to secure their interests by favoring national treatment over foreign works, and gradually lobbying to get their works protected overseas to maintain their rents against foreign pirates of less-developed nations.

The United States was born with the English legal conception of copyright and used it to protect domestic works while making a habit of pirating foreign works. Domestic publishing was viewed as an “infant industry” protected by a tariff, which was finally lifted and the nation respected foreign copyrights with a subsidy to domestic publishers. This was finally lifted and the U.S. met international standards once it was the world’s dominant nation in the mid- to late-20th century.
The German experience, due to a lack of centralized political authority, was one of a patchwork of mini-states unable to extend publishing privileges beyond their borders. The publishing market was one characterized by fierce competition and pirating for centuries. Only with the rise of the German state in the mid- to late-19th century under the Kingdom of Prussia were publishers able to lobby a central authority for copyright protection and a competitive edge over their rivals.

Finally, I draw implications from this narrative that impact the movement for global harmonization and strengthening of intellectual property laws today under TRIPS.

2.2 Theory

The basic interaction is a simultaneous two-tiered game, one game between representative publishers A and B from Countries A and B, and another within Country A, between representative publishers 1A and 2A (with the unexamined complement game between 1B and 2B occurring similarly in country B). I examine each “tier” first, starting with the international tier.

2.2.1 International Tier Game

At the international level, publishers from each country can choose to publish an original work at a price \(P_o\) and fixed cost \(C_o\), or to “pirate” and republish an existing original work of the opposite country at price \(P_p\) and fixed cost \(C_p\). I assume that the marginal costs of publishing an additional work is 0.\(^4\) I also assume that both the price and the costs of publishing a pirated work are both lower than the costs and price of original works, that is, \(C_o > C_p\) and \(P_o > P_p\). The publishers each earn a share of the revenues of the work according to their choices, with the original publisher earning share \(\sigma \in (0,1)\), and the pirating publisher earning share \(1 - \sigma\).

In the event that both publishers produce original works, they each earn the full share

\(^4\)This is more accurate for digital works that are nearly costless to replicate, less so for tangible works like paintings or physical books, but this simplifying assumption does not affect the analysis.
of their work (assuming that the works are not identical). If both publishers were to pirate, I have defined the payoffs as 0 for both publishers under the plausible assumption that there are no previously existing original works to pirate unless at least one publisher has produced an original work. Figure 2.1 displays the payoffs.

<table>
<thead>
<tr>
<th>Publisher A</th>
<th>Pirate</th>
<th>Original</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pirate</td>
<td>0</td>
<td>((1 - \sigma)P_p - C_p)</td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>(\sigma(P_o - C_o))</td>
</tr>
<tr>
<td>Original</td>
<td>(\sigma(P_o - C_o))</td>
<td>(\sigma(P_o - C_o))</td>
</tr>
<tr>
<td></td>
<td>((1 - \sigma)P_p - C_p)</td>
<td>(\sigma(P_o - C_o))</td>
</tr>
</tbody>
</table>

Figure 2.1: Publishing game between two international publishers

With symmetric payoffs, the mixed strategy Nash equilibrium, each publisher will choose to pirate with probability:

\[
\rho_p = \frac{\sigma(P_o - C_o) - [(1 - \sigma)(P_p - C_p)]}{-(1 - \sigma)(P_p - C_p)}
\]  
(2.1)

2.2.2 Domestic Tier Game

I have chosen to select two publishers, \(1_A\) and \(2_A\) from country A as representative players. One can imagine a similar game occurring in country B between \(1_B\) and \(2_B\). Similar to the international tier game, at the domestic level, each publisher can choose to publish an original or pirated work. However, in this case, conditional on another country (B) publishing an original work, both domestic publishers of country A can choose to pirate and reprint the foreign work. If this occurs, both publishers \(1_A\) and \(2_A\) earn the pirate payoff and split the “pirate’s share” 50:50, that is \(\frac{1 - \sigma}{2}\). If however, there are no existing foreign works to be reprinted, these payoffs collapse back to 0 (\(\sigma = 1\) for some hypothetical
non-existant alien publisher) and the game is identical in structure to the international tier game. Figure 2.2 displays the payoffs.

![Figure 2.2: Publishing game between two domestic publishers](image)

With symmetric payoffs, the mixed strategy Nash equilibrium, each publisher will choose to pirate when:

$$\rho_p = \frac{\sigma(P_o - C_o) - [(1 - \sigma)(P_p - C_p)]}{[(\frac{1-\sigma}{2})(P_p - C_p)] - [(1 - \sigma)(P_p - C_p)]}$$ (2.2)

and will choose to innovate with probability $1 - \rho$. Or, more broadly, about $\rho_p\%$ of publishers would pirate, and $(1 - \rho_p)\%$ of publishers would publish original works.

### 2.2.3 Evolutionary Mechanism

The specific payoffs are largely a function of the legal institutions in place, private agreements, changes in copying technologies, and changes in market demand. These conditions are partly endogenous, and can be influenced by the publishers themselves. Primarily, publishers can seek to reduce the shares of other (pirating) publishers by organizing to enforce a copyright law at a cost. Original publishers can expend higher costs to organize and enforce copyright to raise their share (and proportionately decrease the pirate’s share) of the revenues $\sigma$. That is, $\sigma = \sigma(C_o)$ with $\frac{\partial \sigma}{\partial C_o} > 0$. Furthermore, successful legal changes
will also raise the costs of the pirating publisher, who now must incorporate the risk of apprehension. That is, $C_p = C_p(C_o)$ with $\frac{\partial C_p}{\partial C_o} > 0.5$.

Demsetz (1969) famously argues that once resources increase in exchange value sufficient to cover the cost of enclosure and maintenance, entrepreneurs will establish exclusive property rights over the resource. In this particular case, the resource in question is published works. Consumers value published works sufficiently for publishers to bear the cost of producing them. However, since expressive works are more easily copiable once published, publishers are not able to capture the full returns to the work, as rival pirate publishers can appropriate some of the work's returns. Thus, it would be in (original) publishers' interest to craft individual business strategies or wider social institutions to recover those returns by attempting to exclude other publishers' from reprinting (Schotter, 1981).

Publishers throughout history have adopted various private methods of providing this exclusive power. Established publishers may form a cartel to prevent rival publishers from reprinting works “protected” by the cartel. This was the case with the English Stationers' Company from the 16th–19th century, as well as the American “courtesy of the trade” system in the late 19th century, or the “net system” in late Middle Age Germany, as described in sections 2.3.1, 2.3.2, and 2.3.3 respectively. While unsuccessful in completely removing all threats of national or international piracy, they greatly reduced piracy in their local area and allowed original publishers to maximize the value of their works.

When private methods fail, publishers seek to influence the legal and political systems to maximize their returns on works. In the case of expressive works, the legal “property right” which publishers can persuade the state to establish is that of copyright, which grants the holder a right to exclude all others from publishing it without provision.\(^6\) Unlike a trademark, trade secret, or other private commercial strategy for maximizing the value

\(^5\)For simplicity, I aggregate all costs together as a single average cost, each for original and pirate publisher. In reality, the costs are different: the original publisher under copyright must incur the separate costs of production, lobbying the government for copyright, enforcing copyright, negotiating with other copyright-holders, etc; and the illegally operating pirate publisher under copyright must incur the separate costs of production and avoiding apprehension.

\(^6\)As explained in Chapter 1.2.1, many scholars argue that use of the term “property right” for expressive works is illegitimate, see e.g. Bell (2014); Kinsella (2008); Landes and Posner (1989).
of intellectual works, copyright is not found in common law, but is entirely a statutory creation.

Copyright, however, is costly to all parties as it introduces added costs of searching and negotiating with existing right-holders, and even risks a tragedy of the anti/commons, where any successful use of the good requires the blessing of multiple veto-holders (Buchanan and Yoon, 2000; Heller, 1997). Copyright does, however, benefit innovative publishers who can secure more returns to their existing works by blocking competition from other publishers (increasing $\sigma$). Thus, as the value of existing works increases (from increases in technology, market demand, and other institutional changes) enough to justify the cost of copyright, established publishers will push to protect copyright over an ever expanding domain across boundaries, to protect their works from rival publishers.

A country begins as a cultural net debtor, which we can define as a country where the domestic publishing game has a MSNE of pirating $\rho \geq 50\%$. Over time, as the extent of a country’s market expands, and the profits/rents of their publishers increases, they become a net cultural creditor, where the MSNE of pirating $\rho < 50\%$. Over the course of this evolution, there are typically three conceptual stages of a country’s experience with copyright law, according to the relationships of domestic and foreign publishers in the publishing game:

1. **Open Competition:** In developing countries, rights to existing works are not very valuable relative to the cost of administering copyright. Without any law, publishers fiercely compete with one another to publish and republish works. Publishers may devise some private means of excluding others from reprinting.

2. **Domestic Copyright, International Competition:** To build up a domestic publishing industry, publishers push for domestic copyright laws to promote domestic production, while simultaneously republishing foreign works.

3. **Reciprocal Copyright:** When a nation becomes a culturally dominant net creditor, more publishing houses find it in their interest to begin protecting their own original
works than pirating existing works, they aim to reduce copyright arbitrage across borders. Established publishers see the cost of copyright finally surpassed by the benefits of protecting themselves from competition, foreign and domestic.

These should not necessarily be understood as strict stages with clear boundaries and transitions. Just as different publishing firms have different interests (incumbents favor strong copyright protection to preserve rents, while upstarts favor loose laws and pirate to cut into their rents), so there may be temporal overlap between these “stages.” The general direction, however, remains fairly linear in the aggregate across all publishing interests within a nation.

A careful reader might object that, in focusing exclusively on the interaction between publishers, this analysis ignores the critical interest of creators, who surely must play a role in the political determination of copyright laws at home and abroad. Aside from Occam’s Razor, there are reasons to believe that the role of creators is minimal compared to publishers. Creators face higher collective action costs than publishers. Publishers own the rights to a wide variety of works bundled together, and achieve economies of scale from publishing and distributing en masse. Very few individual creators or authors associations have deep enough pockets or can wield enough political influence as can publishers. While luminary authors such as Charles Dickens or Mark Twain have historically become the visible faces of the movement for international copyright, their involvement only has translated into political change at the moments when their interests happened to align with those of publishers (as is rarely the case). Furthermore, creators do not have a method of distributing their works, and require publishers to distribute their works, in exchange for some bundle of the creator’s copyrights and revenue streams. Publishers indeed are the new “patrons” of creators and most of the copyrights and derived revenues flow to publishers, making them central to the story of copyright evolution.

Indeed, while much of the rhetoric, and even law (especially continental European law, enshrined by the Berne Convention and later TRIPS) focuses on giving rights to authors,
it was the *publishers* that lobbied heavily for these rights, as stronger authors rights redistribute more income to the right-holder, whom, in time, nearly always became a publisher (Khan, 2005, 17, 228-229; DaSilva, 1980). To use the terms of Yandle (1983), the publishers functioned akin to bootleggers, aiming to use the moral high ground of author’s natural rights (Baptists), to convince the public and government to grant the rights-holder (in the end, publishers) greater market power.

2.3 Case Studies

This section looks at the development of three nations – Great Britain, the United States, and Germany – to apply the theoretical model of publisher interaction and demonstrate a historical pattern.

2.3.1 Great Britain

**Stage One: Competition and the Publishing Guild**

Contrary to popular opinion or industry rhetoric, copyright did not emerge from overworked or impoverished authors organizing to demand legal protection to ensure they could pay rent. In fact, at the dawn of the printing era, the English Crown was not worried about the *under*production of works (as would economists), but rather an *over*production, specifically of works viewed seditious or heretical to the English monarchy and the official religion du jour. Shortly following William Caxton’s introduction of Gutenberg’s printing press to England in 1486, Queen Mary granted a royal charter to the Worshipful Company of Stationers. This guild of printers was granted the exclusive authority to publish and sell all books within the realm (with the exception of a few rare royal patents granted to specific individuals) (Blagden, 1960, 19; Aldis, 2000[1907-1921], §1).

The Stationers’ Company was granted the power to regulate printing presses, to search out illegal presses, and even the power of “seizing, taking, or burning the forsaid books and things” (Patterson, 1993, 9). Like all Medieval guilds, this political bargain functioned as
a mutually beneficial relationship between the private Stationers’ Company, and the crown (Ogilvie, 2014). The crown utilized the guild as a political weapon to suppress writings of the heretic du jour, while the Company was entitled to literally burn its competition. The Company was used:

in turn, an instrument of the Stuarts against the Puritans, in the early seventeenth century; the instrument of the Puritans, against their royalist enemies, when the Puritans came to power; the instrument of the royalists against the Puritans, after the Restoration; and, for a brief time, the instrument of the triumphant Whigs, after the “Glorious Revolution” of 1688. But through all these vicissitudes, the stationers themselves steadfastly remained, what they had always been, eminently practical men (Crosskey and Jeffrey, 1953, 478).

As England was one of the first nations to develop economically and culturally, and most of the world had yet to reach the Enlightenment or cultural renaissance, there were precious few works for Stationers to pirate and reprint from foreign countries. This kept the domestic publishing game, referenced in Figure 2.2 out of the total pirating equilibrium within the nation. At least one publisher had to produce original works, and that publisher was a member of the Stationers Company.

In relation to the domestic publishing industry, the Company functioned as a cartel, carving up the profits of existing works and controlling entry from rival publishers via restrictive licensing procedures and fees. The Stationers raised the cost of piracy $C_p$ by forcing unregistered publishers underground as pirates, risking discovery and destruction. Those who did pirate were forced to reprint popular Stationer works and sell them in the remote reaches of the countryside, where the London-based Company had less reach (Aldis, 2000[1907-1921], §5). Furthermore, the Stationers devised an internal control mechanism for maintaining control over their original works and ensuring publishers could only publish original works, what they would develop as a “common law copyright.” This “right” was more an exclusive benefit of club membership or association than a universal legal right. It was only available to members automatically upon registering a copy of the book under
the publisher’s name with the Company, and it could be transferred or sold in perpetuity (Patterson, 1993, 12-13; Aldis, 2000[1907-1921], §11).

However, following the tumultuous 17th century with the upheaval of the British monarchy and the Glorious Revolution, the newly empowered Parliament sought to eliminate the Crown’s ability to censor written works. In a reforged nation, tempered by the English Bill of Rights and Milton’s *Areopagitica*, Parliament strategically terminated the Licensing of the Press Act in 1694, along with the Stationers’ royal charter. As a result of this external political institutional change, the cost of pirating $C_p$ dropped substantially. In this period, “there now followed a period of anarchy for...there was nothing to prevent anyone from printing anything [and] piracy was rampant,” (Bonham-Carter, 1978, 16). Some, such as the infamous “Henry Hills the Pirate” began to reprint the Stationers’ copyrighted works in large quantities. From 1707 on, Hills republished up to 250,000 popular poems, pamphlets, and sermons under the motto “for the benefit of the poor,” charging from halfpenny to twopence, a fraction compared to the typical price of sixpence (Balázs, 2011, 404).

In response, seeing the value and share of their work ($\sigma$) drop substantially, the Stationers petitioned Parliament several times in 1703, 1704, 1706, and 1707 to redress the situation (Patry, 2000, 10). The hostile political environment forced the guild to retool their rhetoric in order to sway Parliament to (unwittingly) consolidate their monopoly power (Patterson, 1968b, 127-134). The Stationers’ strategically recognized the value of promoting copyright not as a royal monopoly privilege bestowed upon publishers, but as a “natural right” that emanates permanently from authors’ sacred act of creation. Publishers realized that even if English law were to decree that authors legitimately possessed inherent copyrights, authors have always been financially dependent upon their sponsoring patrons (whether wealthy elites, government, or publishers) who cover their fixed costs up front, in exchange for ownership of these rights.

Parliament responded with the landmark Statute of Anne in 1710, which created the

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7It is ironically from these petitions, and subsequent arguments in English common law cases described below, that the idea of copyright as a natural right of authors, or, in French (under similar origins), the “droit d’auteur” that is enshrined in international copyright law today.
basis of modern copyright law. The act divorced the censorship function from the publishing
guild, and replaced it with a newly crafted temporary (14 year with potential 14 year
renewal) exclusive privilege to authors to print and sell their newly published works. Despite
being lauded to this day as a watershed moment in the history of copyright and recognition of
author’s rights, the statute’s effect on the publishing industry functioned as little more than
a modest “anti-censorship trade regulation,” (Patterson, 1993, 12). As further evidence for
this interpretation, the law enacted price controls on publishers by listing public officials
that authors could complain to if they believed the prices charged by booksellers were “too
high and unreasonable” (ibid, 12). In sum, the act legalized a systematic transfer of rights
from authors to publishers.

While the Stationers Company was regulated and restrained de jure, de facto, they
continued to act as the dominant player in the domestic publishing industry. In court, pub-
lishers argued that despite author’s having copyrights, which they elect to sell to publishers,
the Statute of Anne had not extinguished the publishers’ original “common law copyright”
privately crafted and enforced within the Stationers’ guild. The Court of Kings Bench
agreed with them for a brief period following the ruling in Millar v. Taylor. Despite legal
victories, the Stationers’ still faced challenges from rural British pirate presses. Many Scot-
tish publishers, outside of the reach of the London monopoly, eagerly raced to flood markets
with cheaper reprints of English titles (Balázs, 2011, 406). The Stationers argued that such
competition violated their perpetual copyright in prior works. Ultimately, this was settled
in the landmark case between a Scottish pirate and and English publisher in Donaldson v.
Beckett in 1774, in which the House of Lords reversed Millar and held that authors do

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8The preamble of the law signifies its intent as such, “Whereas Printers, Booksellers, and other Persons,
have of late frequently taken the Liberty of Printing, Reprinting, and Publishing, or causing to be Printed,
Reprinted, and Published Books, and other Writings, without the Consent of the Authors or Proprietors
of such Books and Writings, to their very great Detriment, and too often to the Ruin of them and their
Families: For Preventing therefore such Practices for the future, and for the Encouragement of Learned Men
to Compose and Write useful Books; May it please Your Majesty, that it may be Enacted...”
9The statutory copyright was the stationers’ copyright with a limited term and thus a publisher’s copyright
made available to authors. Statutory copyright did not even come into existence until the book to be
copyrighted was published, which required a publisher, who could...exact the assignment of the copyright in
partial payment for his services” (Patterson, 1993, 21).
10(1769) 4 Burr. 2303, 98 ER 201
have a common law copyright over *unpublished* work, but once published, the work enters the public domain, extinguishing common law rights under the Statute(s). Thus, while the Stationers’ never got their perpetual copyright, in the long run, this decision secured the legal and moral underpinning of statutory copyrights as deriving from a natural right.

**Stage Two: National Protectionism**

While there is little evidence that publishers in Britain pirated and resold existing works of other nations, there is plenty of evidence that other nations frequently pirated from England. As described above, distant Scottish publishers caused major headaches for the Stationers in London prior to the Statute of Anne (which covered Scotland). Publishers in Ireland, however, were never covered by the Statute of Anne, and “virtually depended for their living by battening upon English works” (Bonham-Carter, 1978, 17). As British colonies started blooming beyond Europe in the 18th century, publishers in these culturally-dependent societies frequently pirated British works in order to get off the ground. Upstart publishers in the United States, and to a lesser extent, Canada, proved to be the most troublesome competitors. Thus, with little foreign works of interest to the British public and hence no foreigner to pirate from, British publishers tended to produce original works, while other nations chose to pirate British works in the international publishing game in Figure 2.1. As a result, British publishers tried to do all they could to raise the costs of piracy $C_p$ and maximize their own share of publishing revenues $\sigma$ by pushing for international copyright laws that would give them a competitive edge.

Domestically, over the course of 1735-1875, various publishing interests lobbied Parliament to pass 14 Copyright Acts extending copyright protection from books, under the Statute of Anne, to engravings (1734, 1766), prints (1777), sculpture (1814), dramatic works (1833), lectures (1835), fine arts (1862), and musical compositions (1882, 1888), as well as to extend copyright terms to the longer term of the author’s life plus seven years or 42 years (1842).

Cobbett’s Parl. Hist. 953 (1813)
Relative to other countries, the United Kingdom enacted copyright statutes which served a nationalistic bent, forbidding the importation of foreign reprints of British works, including from its own colonies (Redmond, 1990, 3). Foreigners could apply for copyright in the United Kingdom, but only if they presented themselves in a part of the British Empire at the time of publication, the book had to be published in the United Kingdom, and have no prior publication history in foreign countries (Khan, 2005, 233). Only the copyright owner, or his agents, could import works published outside of the UK.

Publishers further managed to convince Parliament to pass the Foreign Reprints Act 1847, which allowed Britain’s colonies to import unauthorized foreign reprints of British copyrighted works if importers paid a 12.5% tariff used to compensate British publishers (Deazley, 2008a). However, the colonies for obvious reasons scantily enforced the tariff. Between 1866–1876, for example, only £1,155 was received from 19 colonies, and £1,084 from Canada, which benefitted heavily from American piracy (Khan, 2005, 232). An 1878 British Commission report found that this protectionist measure had produced “injurious effects produced upon our more distant colonists” (Deazley, 2008f).

British publishers also practiced price discrimination across the Empire. For books sold domestically, publishers often gave discounts to reading clubs, libraries, and other learned organizations to reduce the price of books. Britain’s colonies had not yet developed enough of a market to generate such organizations to warrant discounts, and thus were forced to pay higher prices for English exported books Putnam (1891).

Furthermore, improvements in the technology in the late 19th century’s Second Industrial Revolution were increasing the value of high-quality published books (and new other works), \( (P_b) \). Reprinting became much cheaper with stereotyping, improvements in paper-making machinery, and steam-powered presses. Graphic design also improved with lithography and photography. These developments increased the profits of publishers, and furthermore encouraged authors to begin joining the publishers’ lobby for stronger recognition of copyright overseas in order to obtain their own larger share (Khan, 2005, 234). Overall, this would set the stage for Britain to become a driving force for establishing an international regime
of copyright recognition and enforcement to maximize returns for British publishers.

Stage Three: Internationalizing Copyright

As British literature entered into a golden age with Dickens, Blake, and Austen, demand for such classics in other countries was met largely by foreign pirates. Member of Parliament and author himself Bulwer Lytton observed in 1838 in the House of Commons that “[a]s soon as a book was published the press of France reprinted it at one-fifth the original price, and the country thus became deluged with foreign piracies”, and continued that “the Government ought to take steps to prevent such occurrences,” (Deazley, 2008b). As a response, Parliament passed the (largely symbolic) International Copyright Act 1838, which authorized Queen Victoria to grant equal copyright protection under the Statute of Anne to foreign publishers (Deazley, 2008b). This was the first sign of potential for copyright recognition across national boundaries in the western world.

Eager to resolve the piracy mess with its most mature, yet troublesome former-colony, representatives from the U.K. met with U.S. representatives in that same year to negotiate a bilateral treaty between the two nations for mutual recognition of their copyrights.12 As part of the public campaign for the bilateral treaty, eager publishers sent famed author Charles Dickens to America for a highly successful speaking tour in 1837, with public arguments for international copyright recognition occupying much of his agenda. In the U.S. Senate, Henry Clay introduced a report, backed by Justice Story, urging the Congress to ratify an international convention. It was, however, soundly defeated by American publishing interests, and would be repeatedly introduced and defeated half a dozen times until the late 1880s.13

Ultimately Parliament, directed by publishers to combat the problem of foreign piracy of British works, would pass future acts in 1844 and 1852 to continue attempts to allow mutual international recognition of copyrights (Deazley, 2008c,d). In 1851, representatives

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12At this time, the United States was legally ripe for equal footing, as it operated under the Copyright Act of 1790, which was a near verbatim copy of the Statute of Anne, as discussed below.
13For accounts of this movement and its legislative history, see e.g. Kampelman, 1947, 414; Clark, 1960 Dozer, 1949; (Khan, 2005, Ch.9); Putnam (1891); Ringer (1968); Henn (1953)).
from Britain and France concluded the Anglo-French Copyright Convention, aiming to begin the process of mutual copyright recognition. Implemented in the U.K. by the International Copyright Act 1852, British (and French) authors would be granted exclusive rights to translations in the opposite language. As there was a greater demand for British works in France than French works in Britain, this played to the advantage of British publishers. Whenever to British publishers’ advantage, Parliament erected significant barriers for French authors to acquire British copyright, such as requiring French creators to publicly declare their right to English translations, register and deposit a copy of the work with the Stationers’ Company and the British Museum within three months, and publish and deposit a copies of the translation within a year (Deazley, 2008d). British courts were also skeptical of translated works, requiring very narrow versions of translations to qualify for English translation rights, as exemplified by the case of Wood v. Chart.\textsuperscript{14}

England also signed a bilateral treaty with the Kingdom of Prussia in 1846 (Kawohl, 2008a). Similar to the implementation of the Anglo-French convention, Prussian authors were required to follow all of British formal procedures to register foreign copyrights. Meanwhile, in Prussia, there were no formal copyright procedures at all, allowing British publishers near-instant access to Prussian copyright. While the agreement with France was deliberately calculated to be in British national interest, the Prussian agreement was more ambiguous – it did not harm British interests, but as described below, Prussian authors certainly expected to benefit (ibid).

Finally, by the mid 1880s, authors across Europe, feeling threatened by the loss of their royalties from pirates and increasing value of the book trade, formed the International Literary Association in Paris in 1878, under the presidency of French author Victor Hugo. It was the head of the German Publishers’ Guild, Paul Schmidt, however, that suggested that the association form a union of literary property and led to the establishment of the Berne Convention in 1886 (Deazley, 2008e). While concerned that the United States (the nation British publishers were most threatened by) was conspicuously absent from

\textsuperscript{14}(1870) LR 10 Eq. 193
negotiations, the U.K. joined the Berne Union, and introduced legislation in 1886 to ratify its membership. The International Copyright Act of 1886 did away with the protectionist registration requirements.

The full revision of domestic law to comply with the Berne Union would be implemented by the Copyright Act 1911, which finally “rationalized” the “obscure, arbitrary, piecemeal” nature of British copyright jurisprudence to that point (Putnam, 1891). The act also applied universally throughout the British Empire.

While Britain and the rest of the world adopted a French “natural rights” view of copyright as a result of the Berne Convention, ironically the British utilitarian approach to copyright would be most faithfully reproduced in the United States (Khan, 2005, 234).

2.3.2 The United States

Stage One

“[A] literary pirate is not only not an outlaw; he is protected by the law. He is the product of law.” (Publishers Weekly, 1882, 430)

Prior to 1783, no copyright laws were found in any of the future United States, while every state had at least one printing press, frequently printing books, pamphlets, and newspapers. It became a generally accepted trade practice to pirate and republish British works at a low price, as it kept small printers in business, and disseminated works cheaply to the masses (Bender and Sampliner, 1996, 433). These printers were commonly viewed as critical to shaping the budding nation’s culture and politics (ibid, 433). It was somewhat uncommon for publishers to print original works, yet profitable to produce pirated works, as it was extremely difficult for British publishers to enforce their copyrights overseas. As such, the cost of piracy $C_p$ was very low, resulting in piracy at both the international level (Figure 2.1), and the domestic level (Figure 2.2).

Seeking to distinguish himself and better secure returns to his own original work, following the publication of his monumental spelling book, Noah Webster lobbied the state of
Connecticut to pass the first copyright law in the U.S. in 1783 (Bender and Sampliner, 1996, 256). Notably demonstrating the microcosm of international piracy, the statute extended protection only to residents of Connecticut, and to no author “residing in or inhabitant of any other of the United States” (Kampelman, 1947, 408). Bender and Sampliner (1996) argue that while Webster is undoubtedly the main interest who benefitted from the copyright act, his purpose may have been to promote a new nationalist American culture.\textsuperscript{15}

As publishers in certain U.S. states without copyright protection were known to pirate the works of American authors in other states, Webster tirelessly pushed for other states to adopt copyright laws similar to his home state of Connecticut’s, as well as a unified national law (Bender and Sampliner, 1996, 256). This led first to the declaration by the Continental Congress in 1783 that “it be recommended to the several States to secure to the authors or publishers of any new book not hitherto printed, being citizens of the United States,...the copy right of such books for a certain time not less than fourteen years from the first publication.” By 1786, all states with the exception of Delaware had passed a copyright statute similar to Connecticut’s.

The United States Constitution that emerged from the Philadelphia Convention included the noted “copyrights clause,” arguing that Congress shall have the power “To promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries” (U.S. Constitution, Article I, §8, Cl. 8). Soon after the birth of the new republic, authors and publishers flocked to get a uniform law passed to reduce printing arbitrage across state lines. Indeed, the first version of what would become the first copyright act was written by Webster, who would have granted copyrights not only to authors, but to publishers Patry (2000). Ultimately, Congress passed the Copyright Act of 1790, which largely emulated the 1710 Statute of Anne, granting:

\[
\text{the author[s] of any map, chart, book or books already printed within these}
\]

\textsuperscript{15}\textsuperscript{a}“The origin and progress of laws, securing to authors the exclusive right of publishing and vending their literary works, constitutes an article in the history of a country of no inconsiderable importance,” (Webster, 2010[1843], 173)
United States, being a citizen or citizens thereof [and who have] have purchased or legally acquired the copyright of any such [item] shall have the sole right and liberty of printing, reprinting, publishing and vending such [item], for the term of fourteen years from the recording the title thereof in the clerk’s office...and [if they are still living after expiration] the same exclusive right shall be continued to him or them...for the further term of fourteen years [provided they meet further conditions listed] (U.S. Copyright Act of 1790, §1)

Notably, section 5 of the act explicitly denied these rights to foreigners. 16

While authors such as Noah Webster, and rhetoric of authors’ rights was prominent in the arguments for domestic copyright (Bender and Sampliner, 1996), as was the case in England, it was truly the publishers who benefitted most. Khan (2005, 236-237) shows that nearly half of all copyrights issued under the 1790 Act were issued not to authors, but “proprietors,” e.g. publishers, and that the majority of American authors did not even both to register for copyright protection. Furthermore, over the next century, as American jurisprudence tied copyright to more utilitarian economic ends rather than natural rights of authors, authors were a falling fraction of plaintiffs in infringement suits, compared to publishers (ibid, 239). 17

Stage Two: National Protectionism

By the 1830s, American publishers had established themselves by cheaply reprinting unauthorized foreign (especially British) works. The famed Harpers Monthly magazine, for example was exclusively a patchwork of pirated reproductions of British magazines (Hesse, 2002, 41). In 1843 a copy of Charles Dickens’s popular A Christmas Carol was sold in England for the equivalent of $2.50, while American publishers sold it for $0.06 (Clark, 1960,

16“...And be it further enacted, That nothing in this act shall be construed to extend to prohibit the importation or vending, Reprinting or publishing within the United States, of any map, chart, book or books, written, printed, or published by any person not a citizen of the United States, in foreign parts or places without the jurisdiction of the United States.”

17See e.g. National Telegraph News Co. v. Western Union Telegraph Co. and Koppel v. Downing.
40). This continued the equilibrium of British original publishing and American piracy of British works.

“Virtually every new book of consequence to appear in London before 1825 was reproduced immediately in Philadelphia, New York, Baltimore, and/or Boston, usually over several imprints...[and interestingly] the American printing community was peopled to a very large extent by immigrant Irish printers, than whom none could have found greater glee in turning out things English to their personal profit” (Kaser (1969, 17) quoted in Redmond (1990, 4)).

American authors, however, increasingly found themselves getting underpriced by cheap pirated European classics (Clark, 1960, 27). Increasingly, American authors joined British and European authors arguing for the U.S. to respect international copyright throughout the 19th century. They argued on moral grounds that it would bring justice to European authors, and also that it would subsidize a unique American literature, rather than a vulgar offshoot of British literature (Vaidhyanathan, 2001, 50). These arguments, however, fell on deaf ears for many years. The counterarguments by both publishers and the American public proved more effective – that cheap foreign literature helped expand literacy on the impoverished frontier; that there were no inherent “property rights” in literate recognized by Anglo-American courts; that international copyright would grant foreigners monopoly power over American readers; and that American publishers needed “de facto” protectionism as an infant industry (ibid, 51). Thus, authors found themselves at odds with the more dominant publishing interests in the U.S. for the vast majority of the 19th century (Dozer, 1949, 83-84). In 1831, Congress did pass its first major amendment to the Copyright Act, which doubled the initial term of copyright protection, from 14 to 28 years.

By the time that the United Kingdom had passed its first International Copyright Act in 1837 and began negotiations with France and the United States for bilateral copyright recognition, the political arguments in the U.S. became more fierce. As noted above, English authors, notably Charles Dickens, but also Robert Southey, Thomas Carlyle, and others,
toured the United States lobbying the public and Congress to recognize English copyrights. Senator Henry Clay introduced legislation to approve an Anglo-American Copyright Treaty in 1837, but was met with uniform rejection for the reasons above. Clay, and his successors, introduced the bill five more times from 1837–1842, and all failed due to opposition by booksellers and typesetters (see e.g. Clark, 1960, 79; Wilf, 2011, 186; Ringer, 1968, 1055; Vaidhyanathan, 2001, 50-55; Anderson, 2010, 38). As one impassioned publisher argued:

All the riches of English literature are ours. English authorship comes to us as free as the vital air, untaxed, unhindered, even by the necessity of translation; and the question is, Shall we tax it, and thus impose a barrier to the circulation of intellectual and moral light? Shall we build up a dam, to obstruct the flow of the rivers of knowledge? (Balázs, 2011, 408)

Notably, two established American publishing houses, Appleton and Putnam, supported Clay’s bills.

Throughout this period, Congress further encouraged piracy of foreign works by imposing a tariff on imported books ranging from 10-25%. Books began to be singled out for special protection in U.S. tariff laws following the Tariff of 1842 under the Tyler Administration, (Dozer, 1949, 73). Dozer (1949, 95) contends that the question of international copyright “has been...a tariff question involving the protection of American manufacturing interests.” Table 2.1 compiles the major tariff acts that served in the institutional background to perpetuate the benefits of U.S. piracy.

In the meantime, by the mid-19th century, a number of American publishers on the east coast had entrenched themselves as the dominant players in the U.S. market. As they were eager to protect their returns and prevent piracy of their own “original” works from other American pirate publishers, they formed a cartel to internally regulate the domestic book trade. Under what was known as the “courtesy of the trade,” a system of “gentlemanly price-fixing” emerged as follows: A major publishing house in New York or Boston would announce their intentions to publish a major European work by writing in a trade journal or in private letters to other major publishing houses. The other publishers would
Table 2.1: Major Tariff History of Imported Books

<table>
<thead>
<tr>
<th>Year</th>
<th>Rate</th>
<th>Duty-Free Exceptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1842</td>
<td>10%</td>
<td>–</td>
</tr>
<tr>
<td>1846</td>
<td>10%</td>
<td>–</td>
</tr>
<tr>
<td>1861</td>
<td>15%</td>
<td>–</td>
</tr>
<tr>
<td>1864</td>
<td>25%</td>
<td>–</td>
</tr>
<tr>
<td>1870</td>
<td>25%</td>
<td>Books manufactured 20 years prior to importation</td>
</tr>
</tbody>
</table>
| 1890 | 25%  | Books manufactured 20 years prior to importation  
“by authority or for the use of the U.S. or the Library of Congress”  
“for educational, philosophical, literary, or religious purposes”  
“books and pamphlets printed exclusively in languages other than English” |
| 1913 | 15%  | Books manufactured 20 years prior to importation  
“by authority or for the use of the U.S. or the Library of Congress”  
“for educational, philosophical, literary, or religious purposes”  
“books and pamphlets printed exclusively in languages other than English”  
“Bibles, comprising the books of the Old or New Testament, or both” |

respectfully abstain from publishing said work, and would often claim their own works to be respected by the other sporting publishers. For example, Harper Brothers commonly published Edward Bulwer-Lytton, and Frederick Marryat reprinted Carey & Lea (Khan, 2005, 280). Newer European authors were typically allocated to the first publishing house to stake a claim. Publishers that violated this system were threatened with punishment. Spoo (2013, Ch.1) praises this as a private solution to prevent a tragedy of the commons through an artificial analogue of “copyright.” Participating publishers essentially allowed homesteading of foreign works, entitling the first-mover to exclusive publishing rights (to the extent they were enforceable), and incentivizing different firms to compete to be the first mover on different foreign works.

Thus, while in the international publishing game from Figure 2.1, most American publishers were indeed pirating international works, in the domestic game from Figure 2.2, most were producing “original” works vis-r-vis one another. In any event, the system held stable until after the U.S. Civil War, when a bunch of younger, upstart frontier publishers in the
Western U.S. initiated the “cheap books movement.”

During the Civil War, dime novels became popular among many of the soldiers and family on the home-front. In 1874, Chicago’s Donnelly, Gassette and Lloyd publishers started selling 270 books for just $0.10-20 as part of their new “Lakeside Library,” (Vaidhyanathan, 2001, 52-53). Erastus Beadle, a baron of the dime novels, introduced his own Fireside Library to compete with DGL. One of Beadle’s own employees, George P. Munro, broke off and started his own Seaside Library, which became the most successful. By 1877, at least 14 “cheap book libraries” were in competition with one another, all of them disrupting the gentlemanly price-fixing of the Eastern Establishment publishers.

The courtesy of the trade system had kept most publishers content to pirate foreign works and reject pushes for international copyright. Henry Holt, a major publisher, testified before the Senate about the value of such a “gentlemanly” system and the chaos that its decline had caused in the publishing industry (Vaidhyanathan, 2001, 52). In this time, publishers began to realign their interests with those of the authors who had been calling for international copyright throughout the century (Hesse, 2002, 41). They now began to retool their arguments and recognize it in their own economic interest to support international copyright to maintain their position within the book trade. In the 1880s, both authors and publishers began to heavily lobby Congress to join the international copyright initiatives put forth by Britain and France under the guise of the The Author’s Club, the American Copyright League, and the Publishers Copyright League (Vaidhyanathan, 2001, 53-54). Congress remained reluctant, even finding convincing the testimony of famed Philadelphia pirate Henry Carey Baird, who reiterated the practical arguments for American piracy listed above (U.S. Senate, 1886, 115-120).

Ultimately, the Congress passed the International Copyright Act of 1891, also known as the Chace Act, amid fierce political debate. The bill passed Congress in the eleventh hour when Rep. Simonds introduced a section of the bill which featured the notorious

\[\text{Vaidhyanathan (2001, 55) argues that the final straw was that the low prices of printing houses forced them to start employing non-unionized women to operate the printing presses, prompting the Typographical Union to support the bill.}\]
“manufacturing clauses.”\(^\text{19}\) The act tried to have it both ways by recognizing the copyright of all foreigners, but through the manufacturing clause, provides an indirect subsidy to American publishers such that:

In the case of a book, photograph, chromo, or lithograph [when] printed from type set within the limits of the United States, or from plates made therefrom, or from negatives, or drawings on stone made within the limits of the United States, or from transfers made therefrom. (Act of March 3, 1891, 51st Cong, 2nd Sess. 26 Stat. 1107 §3.)

Ringer (1968, 1057) comments that the law had enough loopholes to “make the extension of copyright protection to foreigners illusory.” The foreign creator had to be present in Washington D.C. on or one day prior to their publication to receive American copyright recognition. The inclusion of the manufacturing clause and other restrictions would result in the United States’ failure to qualify for membership in the Berne Convention until 1988 (Khan, 2005, 260). Additionally, as the Berne Union was amended in 1908 to remove all formality of registration, so as to make copyright automatic once fixed in a tangible medium, the United States further failed to qualify for membership without a substantial revision of its copyright statutes (Ringer, 1968, 1057-1058).

Under the official guise of international harmonization, the U.S. continued to tacitly endorse domestic piracy for those works that did not qualify under the 1891 and later 1909 Copyright Act – the latter of which extended American copyright renewal terms from 14 to 28 years. This tension between American and European publishers and authors remained palpable in the 20\(^\text{th}\) century. Authors seeking international recognition were forced to strategically copyright their works first in the United States (if they were lucky enough to be a citizen). Ezra Pound representatively and publicly lamented the “thieving copyright law” of the U.S. (Spoo, 1998, 645). Even in the mid 1930s, some Dutch publishers had long given up on legal remedies and chose instead to retaliate against American publishers and

\(^{19}\)For his efforts in establishing international copyright, the French government awarded Simonds the Cross of the Legion of Honor (Khan, 2005, 264).
disavowing the latter’s copyrights (Balázs, 2011, 409).

But George Putnam (1891, v), a large publisher who had advocated for full U.S. membership in the Berne Convention, keenly recognized that the 1891 Act “which makes American manufacture a first condition of American copyright for aliens, brings us, therefore [to] the first stage in the development of International Copyright—a stage which was reached in Europe more than half a century ago.”

**Stage Three: Internationalizing Copyright**

The United States ultimately switched its position from parochial protectionist to a strong international enforcer of copyrights by the middle of the 20th century. While in the short run, the copyright acts at the turn of the 20th century continued to espouse protectionism, in the long run, the United States began to switch from net debtor of cultural works to a net creditor and exporter. The rise of Hollywood and its influence over global film in particular led publishers to begin to ponder enforcing international copyright more strenuously. Following World War II, as the United States became more of a services and information-oriented economy (and relatively less of a manufacturing based economy),

As European publishers had done in the 19th century, so U.S. publishing interests began to seek their own copyrights to be protected overseas in the early 20th. The U.S. initiated its own alternative to the Berne Convention between a number of Latin American nations under the auspices of the Buenos Aires Convention (1910). This permitted mutual recognition of copyrights in works that have a notice containing the statement “all rights reserved,” next to the copyright notice (Article 3), and is protected for the shorter term between the author’s nationality and the nation copyrighted in (Article 6-7). This was substantially weaker compared to the Berne Convention’s stringent prohibitions on formal registration requirements, but fit well with existing U.S. law and jurisprudence. Under the direction of the U.S., the Buenos Aires Convention would ultimately morph into the Universal Copyright Convention (UCC) in 1952, a UN-sponsored alternative to the Berne Convention for developing nations who thought that Berne was too strict and favored Western exporters.
After the second world war, the U.S. was the world’s largest economy and primarily exported intellectual property from computers to films to pharmaceuticals. By the 1970s, as U.S. businesses started to feel pressure from international competitors, pirates, and a general economic malaise, domestic businesses began to focus on lobbying to protect their intellectual property overseas (Archibugi and Filippetti, 2010). Politicians, eager to address the growing trade deficit and economic slump, also began to take heed of these arguments. The path of least resistance was to aim for harmonization of global copyright laws through the ongoing multilateral trade agreement negotiations. In particular, many pharmaceutical firms lobbied hard to place international IP protection as one of the key issues to be addressed in these discussions (Braithwaite and Drahos, 2000, Chapter 7). As IP is such an arcane and technical matter, business interests were brought in to play a key role in shaping the terms of international agreements (to their advantage).

Domestically, the United States drastically revised its copyright law with the Copyright Act of 1976, which dramatically altered the duration, scope, bundle of rights granted, and acquisition procedure, indeed the whole conception of copyright, importing the natural rights approach of France and the Berne Convention (?). As (Bohannan and Hovenkamp, 2012, 136) notes, “The Copyright Act [of 1976] bears all of the hallmark characteristics of a special interest statute, including: (1) statutory benefits concentrated in small groups while the statutory costs are diffuse and borne by a large number of people, (2) uncertainty about the optimal regulatory framework, (3) a specific and highly detailed structure (indicating interest-group compromise) rather than a general structure that would allow more judicial discretion, and (4) a legislative history that reveals extensive interest-group influence.” Litman (1987, 1989) argues that the bill was primarily hashed out by representatives of all industries with an interest in copyright, rather than on the floor of Congress.

Upon passage of the 1976 Act, then U.S. Register of Copyrights Barbara Ringer (1977, 477,479) argued it was “as radical a departure as was our first copyright statute, in 1790 [making] a number of fundamental changes in the American copyright system, including some so profound that they may mark a shift in direction for the very philosophy of copyright
itself.” In the end, Ringer commented that the law represented “a balanced compromise that comes down on the authors’ and creators’ side in almost every instance” (Time, 1976).

Ultimately, once the U.S. had revised its own copyright law and pushed for the harmonization of other nations, it finally implemented the Berne Convention in 1988 with the Berne Convention Implementation Act.

### 2.3.3 Germany

The German experience in the 19th century provides a unique case study due to its relative absence of enforceable copyright law beyond parochial privileges. This does not mean that publishers had not tried to push for it, only that prior to German unification in the late 1860s-1870s, political decentralization and competition prevented publishers from capturing a focal entity with a monopoly of force to enforce copyright. While studies of this period are few and far between, a general sketch of the process substantively matches the above narrative. Eckhard Höfner’s 2 volume opus, *Geschichte und Wesen des Urheberrechts* (2010, 2011) provides most of the background. The major difference for Germany is that stages two and three are blurred together, with stage 2 being relatively short lived. In other words, publishers had been unable to create a national copyright law since there was no nation-state until the time that the other Great Powers were beginning the international copyright process, and hence “Germany” evolved from a pirate haven to a member of the Berne Convention rather quickly.

**Stage One: Pirating and Weak Copyright**

From the fall of the Roman Empire in the mid-5th century to the Napoleonic Wars in the early 19th century, there were over 300 Germanic “small-states” in Central Europe, loosely

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20 For convenience, I use the term “Germany” to collectively refer to the varying Germanic polities strewn across Central Europe across the Middle Ages that would ultimately coalesce to form the nation-state of Germany by the 1870s.

21 Höfner persuasively argues theoretically and empirically that the German experience without copyright was welfare-enhancing, and questions copyright’s overall utility.
collected under the banner of the “Holy Roman Empire.” Despite their de jure subjugation to the Holy Roman Emperor, each imperial town, city-state, bishopric, principality, duchy, free city, or other polity de facto possessed some degree of sovereign autonomy and the legislative authority. Each established their own system of weights, measures, and protectionist policies, and were famous for erecting enormous barriers to trade by demanding payment of feudal tolls to transport goods down the Rhine, which acted as a prime revenue source for the empire (Gardner et al., 2002). Likewise, many parochial principalities passed economic privileges to publishing guilds that had emerged within their towns, allowing them a monopoly of publishing manuscripts in the 16th century, a form of proto-copyright (Bettig, 1996, 17).

By the 18th century there emerged a number of prominent “Reichsbuchhandel” book fairs in the rising capitalist cities of Leipzig and Frankfurt where publishers from around the continent would converge and barter books. Hoping to establish a guild and reduce their own costs at the advantage of rival publishers, a number of Saxon publishers (largely in Leipzig), introduced the “net system,” whereby all book exchanges must occur in currency, privileging the local publishers who saved on travel expenses (Wittmann, 2004, 4). As a consequence, publishers outside of Saxony revolted and retaliated by mass pirating of Saxon books. Through this mass pirating, publishers were able to disseminate works from the wealthier north German states like Liepzig to the more rural Southern part of the empire and boost Southern literacy and demand for written works. Furthermore, this precedent created an internal norm within the publishing trade – piracy was viewed as a legitimate practice in retaliation to publishers who raised prices or broke other trade norms, and to spread existing works to areas where they were presently unavailable (ibid, 6). In the words of one German pirate, Schmieder:

> Pirating is politically very important for each state of the Empire. Money for desirable books, under other circumstances forwarded to Saxony, stays within the Empire, helping us not to make a trade balance loss with Saxony any more.

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22Which, as Voltaire famously reminds us, was “neither holy, nor Roman, nor an empire.”
Therefore a new branch of industry, providing so many and so different citizens with food while filling the prince’s cash box has been established (ibid, 8).

Even the government of the Kingdom of Prussia viewed this as a legal remedy for abuse by foreign monopolies. The Saxon publishers, of course, found this tantamount to fratricide. Martin Luther (2008[1545]) famously warned Wittenburg’s pirate publishers of their “downright public robbery [that] will surely be punished by God.”

This microcosm describes the overall dynamics of the publishing industry in the Germanic states for the next century. Individual principalities like Leipzig and Frankfurt enacted privileges that provided exclusive printing rights to local publishing guilds, much like the Stationers Guild of London (Putnam, 1962, 412). Also similar to Medieval England, publishing rights were also intimately connected with the censorship function of the local principality. For example, the Frankfurt Printers’ Ordinance of 1598 required printers to submit, during the book fair, a catalogue of works they intended to publish, to censors (Höffner, 2010, 203). Despite the parochial protectionism of major bourgeois cities and towns, the politically fragmented “empire” had no means of standardizing or enforcing protection to distant German publishers. Labor, on the other hand, was relatively mobile. Thus, the industry became characterized by fierce competition, low prices, and greater bargaining power for authors relative to publishers. The best selling works were often reprinted by multiple publishers.

As a result, with high enforcement costs for original publishers $C_o$ and low costs of pirating $C_p$ the domestic game in Figure 2.2 was largely a highly competitive mix of original and pirate publishing. Internationally, unlike the experience of the United States, since the most developed nations were non-German speakers, it was difficult for German publishers to pirate or import foreign works for a mass audience, resulting in primarily original production in Figure 2.1. This equilibrium persisted well into the mid-19th century.

Höffner (2010, 2011) views the German experience in the late 18th to mid-19th century as a perfect natural experiment to compare a nation with copyright laws (Great Britain) to one without them (Germany). Relative to Britain, the Germanic Confederation (1815-1871)
Table 2.2: Demographic Comparison of Britain and Germany

<table>
<thead>
<tr>
<th>Year</th>
<th>Great Britain</th>
<th>German Confederation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1770</td>
<td>8,400,000</td>
<td>21,000,000</td>
</tr>
<tr>
<td>1800</td>
<td>12,000,000</td>
<td>24,000,000</td>
</tr>
<tr>
<td>1830</td>
<td>22,000,000</td>
<td>30,000,000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Year</th>
<th>Great Britain</th>
<th>German Confederation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1800</td>
<td>50%</td>
<td>20%</td>
</tr>
</tbody>
</table>

was a poor nation with a smaller population. Table 2.2 compares the demographics of these two countries during this period (Höffner, 2011, 142, 146).

Höffner (2011, 270) then compares the publication of new novels that appear at the famous book fairs across the two countries, demonstrating that Germany produced many more new novels than the Britain from 1770-1870, but its lead began to decline around 1840 with the introduction of German copyright statutes. He attributes the major differences to that of the copyright law across the two nations. In the U.K. under the Statute of Anne, books were printed at high prices and offered only as luxury goods to the relatively wealthy (ibid, 226-230). In Germany, however, many more books were printed (original and pirated) under fiercely competitive conditions, resulting in lower prices for a mass audience. Furthermore, what was being published was, unlike Britain, not primarily limited to novels or works of literature, but

Countless, now forgotten compendia, anthologies and encyclopedias from the fields of jurisprudence, medicine, technology, natural sciences and economics crowded into the homes still wider population...Only the steady stream of these works, the greater variety at reasonable prices, allowed that science in production took hold...(Höffner, 2011, 380).

It is from this cheap dissemination of scientific and literary material, Höffner argues, that allowed Germany to rapidly emerge as a scientific and industrial leader later in the century.
Furthermore, the legal regime and extent of the market also determined the type of contractual forms which authors, publishers, vendors, and consumers negotiated. In Britain, the most common type of arrangement was for authors to sell their entire rights to the manuscripts to publishers outright, or for a commission on the sale, and earn low royalties. Only the exceptional luminary, the Charles Dickens, could earn a fortune from royalties under the system of copyright. In Germany, however, with more competitive publishing markets, authors were able to better negotiate sales of their manuscripts, typically a fee per page, with the average author actually earning enough from sales to sustain a living. An obscure Berlin chemist could earn more for a tract on how to tan leather than Mary Shelley did for writing *Frankenstein*, prompting a publishing craze in Germany for authors and discoverers eager to disseminate their works.

**Stages Two & Three: Centralization and Regulatory Capture**

Höffner (2011, 371) describes the emergence of copyright in Germany as closely “intertwined with the change of society, law and jurisprudence, with a revised understanding of the state, the government or citizens.” The gradual process of German unification began in 1815 with the Congress of Vienna, established by the Great Powers of Britain, Austria, France, Russia, and Prussia after the defeat of Napoleon, which reorganized the Germanic states into the new “Germanic Confederation,” comprised of 38 separate states. This drastically improved the stability and maintained peace for a solid half century, until the rise of the imperial Prussian State and its battle for dominance in the 1860s. Leaders of the German Confederation resolved the Federal Act of 1815, which functioned as the constitution of the confederation. Among the provisions were to establish national treatment

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23 Some scholars, notably Acemoglu et al. (2009) argue that Napoleon’s invasion of the decaying empire functioned as an exogenous shock that destroyed feudal rent-seeking institutions and substituted more inclusive institutions that improved the prospects for economic growth. By removing the existing political elites, this would allow for radical innovation which would otherwise be blocked by the elites who would lose political power (Acemoglu and Robinson, 2000). Wegner (2014), however, disputes this thesis, arguing that most of the Germanic states had already begun an institutional transformation prior to Napoleon’s invasion, and that, despite their politically exclusive institutions, Germanic states had begun adopting inclusive economic institutions. Furthermore, landed nobles, who remained dominant in the decentralized Germanic political order until the mid-19th century, were not engaged in mercantile commerce, and hence had no opportunity to create significant protectionist rents that capitalism and liberalization would threaten.
of all confederation citizens, removing barriers to internal movement and property right recognition. With lobbying from several German publishers eager to capture privileges from the new federal state, the Act included a non-binding declaration in article 18:

The confederate princes and free cities agree to guarantee the following rights to the subjects of German Federal States: ... During its first meeting the Federal Assembly will work at the drawing up of uniform provisions on the freedom of the press and the protection of the rights of authors and publishers against reprinting. (Kawohl, 2008b)

While in principle this recognized the potential for national copyright, the proper legislation failed to materialize in the new Federal Diet. Austria, under famed Prince Klemens Wenzel von Metternich, sought to block the introduction of author-based copyright and maintain control of the press as a purely censorious function (ibid). While the other German states had become more enlightened and liberal, Austria maintained strict repression of domestic press. Hence, internal politics and struggles between Austria and the other German states precluded consensus on copyright for the entire Confederation.

By the 1830s, the Kingdom of Prussia grew in political influence to dominate the Germanic Confederation. Under Prussian leadership, the Diet enacted the German Customs Union (Zollverein) in 1834, opening up a common market across the Confederation, promoting an economic boom (including for German publishers). Due to internal politics, Austria failed to join the customs union, leaving Prussia in full control. Once publishers recognized the direction that Prussia was taking the Confederation in, they jumped on board to push for their own copyright to provide a competitive advantage in the fiercely competitive book trade. Prussia enacted the Prussian Copyright Act of 1837, and then extended it to the entire Confederation through the Directive of 1837 (Kawohl, 2008b,c). These acts established a modern form of copyright in Germany for the first time, granting rights to authors instead of publisher privileges. Furthermore, the act protected subject matter of abstract works, rather than specific physical works.

As Höfner (2011)’s graph in Figure ?? depicts, however, the rise of German copyright
significantly reversed the trend of booming German publishing to some degree. Authors and publishers found themselves switching positions of relative influence within the book trade. Authors incomes took a permanent hit and began a steady decline, such that German authors today still do not earn as much as they did prior to 1840 (Höffner, 2011, 206), and, as is the case in all nations over time, intellectual property transitioned from the hands of the author to that of the publisher (337).

Within a decade, Prussia also began signing bilateral copyright treaties. In 1846, Prussia signed the Bilateral Treaty between Britain and Prussia (Kawohl, 2008a). Prussian publishers had hoped to entice British authors to publish their works in Prussia, where relative to Britain, the history of competition had rendered publication costs cheap. Adolf Asher, a Berlin publisher announced in a German trade journal that an “elegant brochure of 5 sheets” would cost 23 points sterling and 13 shillings in London (160 German thaler), but 61 thaler in Berlin (ibid). The highly successful German language “Library of British Authors” editions printed by Christian Bernhard Tauchnitz in Lepizig were published so cheaply that Tauchnitz was able to offer his British clients a small compensation in 1843 (ibid). Furthermore, exporting German publishers would be able to take advantage of lower import duties in Britain, allowing them to extend their audience from the Continent to the most industrialized nation in the world.

The final nail in the coffin of legal German pirating came with the unification and rise of the German Empire under the “Iron Chancellor” Otto von Bismarck in the 1870s. Bismarck set out to build the world’s first progressive industrial state, which entailed centralizing and managing education, production, and industry with the driving force of a newly forged German nationalism. In the midst of the “Long Depression,” or Gründerkrise, in the 1870s, Bismarck’s economic policies took a decidedly nationalistic turn, establishing guild monopolies at home, and abandoning free trade internationally with a series of protectionist tariffs and import-substitution (Feuchtwanger, 2002). Bismarck introduced the Copyright Act for the North German Confederation and the German Empire in 1870 (as the North German Confederation evolved into the newly declared German Empire), modeled off of Britain’s
Statute of Anne, thus bringing parity to international copyright laws between the Great Powers (Kawohl, 2008a). Germany’s legal equivalence by the 1880s would ultimately lead it to attend and ratify the Berne Convention in 1886.

### 2.4 Implications for TRIPS and Developing Countries

The present international system of intellectual property governance is a somewhat tedious collection of alphabet soup international agencies, organizations, and agreements. The primary, and most comprehensive framework is the Agreement on Trade-Related Aspects of Intellectual Property, or TRIPS. TRIPS is merely the apex of the pyramid of historical agreements, building off of the cornerstone Berne Convention for matters of copyright.\(^{24}\)

TRIPS emerged in 1994 out of the Uruguay Round of Multilateral Trade Negotiations (1986-1994) under the General Agreement on Tariffs and Trade (GATT), a framework of international agreements which structured the liberalization of international trade regulations for the second half of the 20th century. These negotiations produced the World Trade Organization (WTO), the successor to GATT, which would implement the agreements reached during the Uruguay Round, including uniform minimum intellectual property standards, as described in TRIPS. WTO membership is conditioned upon accepting and implementing TRIPS (in addition to the other substantive areas of trade policy), functioning as a carrot that has goaded developing countries such as China, which otherwise would likely balk at intellectual property agreements, into strengthening their IP laws (Farah and Cima, 2010, 100-101).

TRIPS promotes the basic principles of international trade liberalization known as “national treatment,” (World Trade Organization, 1994, Article 3), and “most favored nation” provisions (Article 5). In effect, these provisions requires equal treatment of foreigners

\(^{24}\)In 1967 the executive apparatus of the Berne Convention (along with the patent-equivalent 1893 Paris Convention for the Protection of Industrial Property) transitioned into the newly established World Intellectual Property Organization (WIPO, 1967). WIPO became a special agency within the United Nations in 1974, broadening its mandate to also promoting “creative intellectual activity and for facilitating the transfer of technology related to industrial property to the developing countries in order to accelerate economic, social and cultural development” (WIPO, 1974).
and national copyright-holders within and across WTO member countries. For substantive provisions relating to copyright, TRIPS incorporates articles 1-21 of the Berne Convention (World Trade Organization, 1994, Article 9), which includes all of the substantive provisions summarized above.\textsuperscript{25} One substantial increase under TRIPS was to define all computer programs as literary works copyrighted under the Berne Convention rights (Article 10), as well as rental rights (Article 11). As nearly every nation is a member of the WTO, it in effect applied the rules of the Berne Convention to all nations, especially non-Berne Union and developing nations.

TRIPS was later augmented by the 1996 WIPO Copyright Treaty (WIPO, 1996a), and WIPO Performances and Phonograms Treaty (WIPO, 1996b) in that same year, which collectively sought to strengthen and unify global copyright laws in response to the precipitous rise of information technology. The Copyright Treaty most notably prohibits the circumvention of rights-protecting technology such as Digital Rights Management software (DRM) (Articles 11-12).\textsuperscript{26} The official stance of the international community is that agreements such as these, which raise minimum standards of copyright protection worldwide, encourage economic development. The UN and the WIPO maintain that there is evidence of a positive correlation between strengthening IP and subsequent economic growth in developing countries (Yasuda, 2007). Furthermore, disagreements over intellectual property rights across nations can, in effect, function as a non-tariff barrier to international trade, discouraging foreign investment, technology transfer, and other developmental gains from trade.\textsuperscript{27} The goals of the internationalization of IP through the WIPO are

\begin{itemize}
\item to give statutory expression to the moral and economic rights of creators in
\end{itemize}

\textsuperscript{25}The only exception is that TRIPS does not implement the “moral rights” of the 1971 text of Berne Convention (section 6bis), that is, “the author shall have the right to claim authorship of the work and to object to any distortion, mutilation or other modification of, or other derogatory action in relation to, the said work, which would be prejudicial to his honor or reputation” (Berne Convention, 1979, Section 6bis).

\textsuperscript{26}In the United States, all of these provisions were enacted as part of the controversial Digital Millennium Copyright Act of 1998. The main controversy (among others), is that circumvention is often required even for otherwise legal, non-infringing “fair use” of works, but is prohibited under both the WIPO Copyright Treaty and DMCA. See e.g. Boyle (2008, Ch.5); Hinze (2010); Lee (2006); Urban and Quilter (2006).

\textsuperscript{27}Hence, following the evolution of international trade liberalization in the late 20\textsuperscript{th} century, international reformers have sought to incorporate international intellectual property rights agreements as part and parcel of multilateral trade liberalization negotiations.
their creations and the rights of the public in access to those creations [and] to promote, as a deliberate act of Government policy, creativity and the dissemination and application of its results and to encourage fair trading which would contribute to economic and social development (WIPO, 2008, 3).

In effect, the argument for extending First World IP laws to the Third World serves as an analogue to the “poverty trap” in development economics. The poverty trap argues that people in the Third World earn very low incomes, which they must consume entirely at a subsistence level in order to survive, rather than save some of that income to invest in capital, which would facilitate economic growth and lift them out of poverty. The historical implication of this argument was that First World countries can and must provide that requisite capital for growth via external foreign aid. Analogously, one could argue that if countries do not have strong IP laws, their people will never invest and innovate new technologies since the gains will be captured by consumers and pirates, leading to a lack of profitability and incentive to innovate. Thus, they must enact IP laws as designed and used by developed countries to combat this threat and exit the stagnant “innovation trap.”

However, as economists have noted, foreign aid has been a failure for its inability to properly align incentives of donors and recipients and utilize the knowledge of existing local institutions (Bauer, 2000; Boettke et al., 2004; Easterly, 2002). An international regime of equally strong mandatory minimum intellectual property rights under TRIPS may face similar problems, as it functions like a Procrustean bed, chopping off innovations that run afoul of IP, and stretching existing indigenous institutions to fit with an exogenous and potentially incompatible western plan.28 Indeed, Khan (2005, 304) notes that historically, the United States has had strong patent protections but weak copyright protection, while European nations have had weak patent protections but strong copyright protection, yet the international system crafted today forces developing countries to submit to both strong patent and strong copyright policies. TRIPS in particular has been met with fierce criticism,

28In Greek mythology, Procrustes was a roguish blacksmith with an iron bed he had all of his guests to sleep in, “fitting” them forcibly: if they were too short for the bed, he would stretch their limbs; if they were too long for the bed, he would cut them off.
primarily from the costs it imposes on developing third world nations for accessing Western technology (Corbett, 2001; Cullet, 2007; Lanoszka, 2003; May, 2004; Picciotto, 2003).

History shows that one international copyright law is not necessarily a logical conclusion of legal evolution nor a dispassionate creation by policymakers to stimulate economic development or innovation. International copyright should thus not be understood as an exogenous feature of international relations or economic development. It is in fact an endogenous creation of publishing interests to protect their property once the benefits (of preventing competition) outweigh the costs (of preventing them from pirating existing works).

While this paper has focused on a positive analysis of the evolution of international copyright, it is not difficult to draw normative policy conclusions. While providing a globally uniform rule of law and reducing regulatory arbitrage and are laudable goals, economists should be wary of the costs disproportionately imposed across nations. Developing nations particularly suffer from decreased access, and developed nations particularly benefit from stronger protections. The moral opprobrium against acts of piracy also must be thrown into question, considering it was frequently employed, even encouraged, as good national policy.
Chapter 3: Crowdfunding Expressive Works, Crowding Out Copyright?

3.1 Introduction

All expressive works face a free rider problem in their creation, and yet many are still produced. In modern times, economists claim that intellectual property (IP) rights—laws establishing primarily copyrights and patents—act as the main mechanism to ameliorate the free rider problem of unauthorized copying, and allow producers to recover fixed costs that they might not otherwise.

In recent years, a number of online platforms have arisen which enable many people to contribute varying (often small) amounts of funding to projects of their choice, a practice known as crowdfunding. Crowdfunding is different from micro-lending (platforms such as Kiva), which allow users to make small for-profit loans to borrowers (often in the developing world), or other platforms which serve traditional donations (such as Fundable or Donors Choose). Crowdfunding platforms, such as Kickstarter, Indiegogo, GoFundMe, Petridish, and others typically function as an assurance contract (Bagnoli and Lipman, 1989; Tabarrok, 1998). A creator posts a project proposal (e.g. a film, a video game, a gadget) on the platform, describing the plans for the project in detail, often with a video, and sets a funding goal and a deadline. Consumers (known as “backers”) can then pledge money to the project at a variety funding levels (ranging anywhere from $1 to $10,000), and earn custom rewards. When the deadline is reached, the platform disburses all funds raised to

\footnote{For convenience, to cover the broadest set of goods that constitute copyrightable expressions of ideas & art, I use the term “expressive works,” and “creators” to cover the individual entrepreneurs (artists, authors, etc) who produce these goods.}


the creator, sometimes contingent upon meeting the initial funding goal.

Crowdfunding has proved to be an institution of considerable value and disruption to the creative industries. Deloitte (2013) predicts that in 2013, crowdfunding will have raised $3 billion, up from $1.5 billion in 2011, and rewards-based crowdfunding (like Kickstarter) $700 million. While this remains small compared to traditional measures of fundraising such as venture capital ($40 billion annually) or donations ($300 billion in 2011), it is the fastest growing, and “the rewards-based market is expected to have the largest impact in technology and media developers” (Deloitte, 2013, 1). In 2013, Kickstarter raised more funds for artistic programs than the National Endowment for the Arts (Boyle, 2013).

A few business researchers have taken note of crowdfunding as a new means of fundraising seed capital (Mollick, 2014; Mollick and Nanda, 2014; Schweinbacher and Larralde, 2012) as it combines documented elements of microfinance (Morduch, 1999) and crowdsourcing (Poetz and Schrier, 2012). Despite this, Mollick (2014) notes that “even basic academic knowledge of the dynamics of crowdfunding is lacking.” More significantly, few economists have noticed that crowdfunding exhibits a highly visible example of private production of public goods. This further has economic implications for the efficient legal rules to managing the free rider problem of expressive works and to incentivize creative activity. The necessity of intellectual property rights such as copyright, with all of their downsides, may no longer be a forgone conclusion. In general, what is missing is an explanation of how an institutional arrangement such as crowdfunding emerges and functions in contrast to intellectual property. Furthermore, since many scholars have expressed concerns with the current regime of intellectual property laws, we need a wider exploration of the alternative institutions that might provide expressive works under different regimes of intellectual property, including the absence of any at all.

The main problem with providing expressive works is that they tend to exhibit a free rider problem since once the goods are produced (after incurring a large fixed cost), they can be consumed en masse for a negligible marginal cost. In other words, once such a good such as a film is produced, one person’s consumption of it often does not subtract from
anyone else's ability to consume it simultaneously (nonrivalry) and furthermore it is often difficult to exclude others from consuming it (nonexcludability) (Samuelson, 1954). With the rise of both information technology and the economics of information, economists have applied the logic of public goods and market failures (Bator, 1958; Pigou, 1920; Samuelson, 1955) to (patentable) practical ideas and to (copyrightable) expressive works. Arrow (1962) famously notes the “indivisibilities” (low subtractability) and “inappropriability” of such goods: If it is cheap to replicate these goods, then producers face no incentive to produce it in the first place since they cannot fully appropriate the surplus generated by the good, and their private return falls below the fixed costs. To boost incentives to innovate, economists support intellectual property (IP) rights which provide a guarantee of recovering fixed costs by legally prohibiting others from using the good (or its derivatives) without purchasing it. However, economists recognize the static and dynamic inefficiencies of this temporary monopoly privilege: restricted output, higher prices, rent-seeking expenditures invested in lobbying the government, and the barriers to entry and subsequent loss of dynamic competition over time (Boldrin and Levine, 2008; Boyle, 2008; Heller, 2008). Thus, economists traditionally view the solution to the problem of intellectual property as one of optimizing a tradeoff between increased innovation and limiting access (as a result of monopoly power) (Landes and Posner, 1989). Much of the literature on IP consists of discussions about just what that optimum is (Gilbert and Shapiro, 1990; Klemperer, 1990; Nordhaus, 1969).

However, as Wagner (2013b, 2) astutely observes, the problem of “free riding is an artifact of a particular set of institutional assumptions.” A large literature has demonstrated that the prima facie existence of public goods or an externality does not necessarily indicate a market failure, and is necessary but not sufficient to require government intervention. The standard story seems to implicitly assume that producers of public goods and members of the public act anonymously and that once a good is produced, everyone is instantaneously

4Numerous case studies demonstrate markets or other voluntary social arrangements providing goods that economists consider classic public goods that only government must provide, e.g. lighthouses (Coase, 1974), property rights (Anderson and Hill, 2004), roads (Klein, 2002), police (Davies, 2002), law & order (Benson, 1989; Ellickson, 1994; Friedman, 1979), international trade (?), and the internalization of externalities (Cheung, 1973)
made aware of its existence and plans to exploit it to a maximal degree. Wagner argues that such a scenario is not inherent in the ontology of the good itself, but an indication of institutional failure: “In any case, free riding does not accompany the provision of public goods; rather it accompanies the inalienability of ownership in conjunction with the ability of associated organizations to impose taxes on activities that take place within their precincts” (Wagner, 2013b, 11). This is confirmed by experimental evidence where individuals free ride less when their actions are not anonymous (McCaleb and Wagner, 1985).

Despite the presence of nominal “property rights” through IP laws, a cursory glance over the litany of patent and copyright court cases in the last 40 years indicates that behavioral boundaries and enforcement are not always so clear.\(^5\) If rights in expressive works were as clear and enforceable as property rights in ordinary private goods, there are a potentially a variety of mechanisms by which entrepreneurs could provide these goods profitably.\(^6\) Instead, expressive works can more productively be better analyzed as a potential commons (Dourado and Tabarrok, 2014; Hess and Ostrom, 2007b), where without strong ability to exclude others from consumption, each user faces an individual incentive to exploit it by extracting as much as possible before others do likewise, which potentially leads to the infamous “tragedy of the commons” (Hardin, 1968). The Bloomington School tradition demonstrates that a diversity of private institutions with clear rules can efficiently govern the commons and avoid the tragedy (Ostrom, 1990, 2010; Wilson et al., 2013). The choice of institutional arrangement takes center stage, rather than an aseptic rational choice of optimizing individuals acting anonymously without any coordinating institutions Wagner (2012, 2013b). These institutions are shaped by the technology, the extent of the market,

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\(^5\)Some have concluded that IP has no grounding in common law as a property right, and is better viewed as a privilege. See e.g. Bell (2014); Kinsella (2008).

\(^6\)Following Coase (1960), scholars have theorized and observed number of private mechanisms by which entrepreneurs can provide public goods: by a “selective access” where only paying customers are permitted to consume through entrance fees to an exclusive club (Buchanan, 1965; Goldin, 1977); through “dominant assurance contracts,” which provide a good only if a sufficient threshold of potential consumers commit to funding it (Brubaker, 1975; Tabarrok, 1998); through price discrimination by charging prices to each consumer just below their marginal valuations (Besen and Raskind, 1991; Demsetz, 1970; Hirschleifer and Riley, 1992); by bundling a public good with a private good (Demsetz, 1964); or at very least, by being the “first-mover,” an entrepreneur could appropriate sufficient private value that it still outweighs the losses from free riders (Hirschleifer, 1971).
and the cultural preferences of particular times and places. In short, “local circumstances of
time and place” (Hayek, 1945) and culture matter (Boettke et al., 2008), calling attention
to study of the specific content of successful informal institutions that manage common
pool resources without recourse to formal institutions. Whether through social mores,
heuristics, traditions, or other focal arrangements, institutions emerge by human action but
not necessarily human design, which provide a stable outcome that overcomes free riding.

This paper takes up the institutional approach to producing expressive works, and out-
lines a framework for analyzing alternative methods of creative production through a game
theoretic interaction between creators and consumers. I argue that intellectual property
(specifically copyright for this analysis) is just one of multiple potential institutions that
emerge out of repeated interactions among creators and consumers that approximate the
“folk theorem.” In doing so, I investigate and compare three institutions: patronage of the
arts, where wealthy patrons personally sponsor artists up-front, copyright as it exists today,
and the emerging institution of crowdfunding. Notably, each of these institutions use three
main mechanisms in different ways to achieve the goals of fostering creation: (1) External
agents bear the fixed cost of production for creators; (2) in exchange for bearing the costs,
these agents contract to appropriate some of the value of the creation (whether by obtain-
ing distribution rights/copyrights, portions of revenue, creative control, prestige, or some
other reward); and (3) defection is deterred by both disincentivizing replication by con-
sumers (whether through legal fiat, customization, or reputation) and preventing creators
from shirking in their contracts (by reputational mechanisms). In effect, both copyright
and crowdfunding are just continuations of the patronage system, with wealthy elite pa-
trons being replaced by publishing studios or the crowd, respectively. Finally, I provide
some empirical analysis of Kickstarter to shed some light on the selection mechanisms of
determining successful projects with a unique dataset.
3.2 A Model of Expression Production

As a baseline analysis, suppose a creator chooses whether or not to produce an expressive work $x$ with high fixed costs, $F$, that can be reproduced at a very low, constant marginal cost $C_x$.7 If the creator chooses to produce the good, they must pay $F + C_x$. If produced, a consumer, who values the good subjectively at $V_x$ can choose to purchase the good at price $P_x$, earning $V_x - P_x$ or choose to copy it (unauthorized) at a replication cost $R_x$, and earning $V_x - R_x$.9 Figure 3.1 displays the decision tree.

Figure 3.1: Simple expressive works game with no enforceable legal sanctions.

For now, the game ends after the consumer makes their choice to purchase or copy. That means that should the consumer copy, the creator has no legal remedy at their disposal to punish the offense or recoup their costs. Future specifications of this game below will relax this restrictive assumption.

If replication costs are prohibitively high ($V_x \leq R_x$), this would generate a negative payoff to the consumer were they to copy the good, and thus for any positive valuation

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7We could assume, safely, that $C_x = 0$ for simplicity. However, to maintain generality, I maintain $C_x > 0$.

8I assume that $R_x > C_x$, since an outside individual who does not have the special knowledge that the creator has must reverse-engineer the product to gain insight into replicating it.

9Here, I assume that the only alternative to purchasing the good is attempting to copy or “pirate” it. So long as $V_x$ is positive, a rational consumer will choose to acquire it, so long as the costs do not outweigh its value. Where replication becomes prohibitively costly, this term will drop to 0. Thus, an individual will always purchase so long as $V_x < R_x$. 

75
above the price $V_x > P_x$, the consumer will seek to purchase the good. This creates a dominant strategy for the consumer to purchase the good so long as $P_x < R_x$.

The only problem remains for the creator to decide whether to create or not. If we take the goal of the system to be “To promote the Progress of Science and useful Arts,” (U.S. Constitution, Article I §8), then we hope to maximize the possibility of creators producing (it is of secondary importance, though often made a normative goal, that we should ensure creators are justly compensated). As it is in the benefit of the creator to produce when the consumer purchases, but not when the consumer copies, it will depend on the probability of whether the consumer purchases. Employing a mixed strategy, the creator will be indifferent between producing and not producing when

$$
\rho_2 = \frac{F + C_x}{P}
$$

where $\rho_2$ is the probability of the consumer choosing to purchase. Thus, anything higher than this value is sufficient to induce production.

As the voluminous literature on game theory suggests, under repeated play where players can observe past behavior of their counterparts, the dynamics of games change substantially. Rather than choosing a one-shot strategy by strict rational choice, over time players can choose strategies over which conditions they will employ cooperative strategies (purchasing and producing).

One extreme equilibrium is established by the “grim trigger” strategy, where each player cooperates until their opponent defects, triggering the player to defect forevermore as punishment. Under the trigger strategy, consumers will purchase the good so long as:

$$
\sum_{t=0}^{\infty} \beta^t V_x - P_x > V_x - R_x + \sum_{t=1}^{\infty} \beta^t[0]
$$

where $t = 0$ is the initial period of defection, and $\beta$ is the rate of discounting. This holds
so long as $\beta > 1 - \frac{P_x - F}{K_x}$. Creators will create so long as:

$$\sum_{t=0}^{\infty} \beta^t P_x - C_x - F > P_x + \sum_{t=1}^{\infty} \beta^t [0]$$

(3.3)

This holds so long as $\beta > 1 + C_x$.

The grim trigger strategy of course is not very realistic, and is better replaced in reality by the “tit-for-tat” strategy, whereby players cooperate if their opponent did in the previous turn, and defects if their opponent previously defected (Axelrod, 2006[1984]). Tit-for-tat sustains robust cooperation by preventing a cascade of defection following an error or informational asymmetry in determining players’ historical choices.

The celebrated “folk theorem” demonstrates that there are a wide variety of cooperative equilibria that emerge, rather than a single equilibrium as determined by a single iteration. In reality, various institutions emerge to approximate the folk theorem by rewarding cooperation and punishing or deterring defection.

In the context of expressive works, I identify three mechanisms that, when combined, overcome the free rider problem and subsequently encourage innovation and creative production:

1. the fixed costs of production are borne and recouped by some agent (typically by an outside sponsor other than the artist);

2. in exchange for bearing the fixed costs, that agent contracts for a portion of the resulting gains (whether through creative control, distribution rights, profit sharing, or other reward)

3. defection is deterred via high replication costs for consumers (whether from product customization, price-discrimination, or legal fiat), and by reputation mechanisms for artists.

In exploring alternative institutions which meet these conditions, I examine one historical,
one present, and one emerging case – the arts patronage system, the contemporary copyright system, and crowdfunding. All of these three institutions serve as an institutional equilibrium with large-scale cooperation.

3.3 Patronage of the Arts

For most of human history, expressive works were commissioned, funded, and sponsored by wealthy and politically powerful patrons. A budding artist (clientela) would showcase their skills to become a client for a wealthy patron (patronus), who would commission the artist to produce a custom work, often to enhance the patron’s reputation and social standing. Patronage of the arts as an institution is so old that “Cicero thought that the origins of Roman clientela were so ancient that it must have been brought to Rome by Romulus himself” (Biagioli, 1993, 15). Many famous artists, scientists, philosophers, and men of letters would not be known today were it not for the patronage of wealthy elites. Galileo was sponsored by both the Marchese del Monte and the Grand Duke of Tuscany, Cosimo II de Medici; Leonardo da Vinci was a client of Cesare Borgia and Lorenzo de Medici; Michelangelo was commissioned by both Lorenzo and the later Pope Julius II to paint his famous Sistine Chapel scene; the composer Joseph Haydn, father of the string quartet, wrote his famous pieces when we was living with the Esterházy family; and Mozart spent his early life as a court musician in Salzburg. As Biagioli (1993) describes it, for creative individuals, patronage was not simply an “option.” It was the key to social status and career development amidst a very rigid social hierarchy. Artists who attempted to produce independently apart from the patronage system would risk their career for severe want of social mobility and a limited market.

The patronage system effectively added a preemptory stage to the expressive works game from Figure 3.1, as depicted in the updated Figure 3.2. In the first stage, the consumer (patron) can choose to “sponsor” the creator (client) ex ante, by offering to pay their fixed costs $F$. Following this, the game proceeds in similar fashion with the creator choosing to produce or not in the second stage, and the consumer choosing to purchase or copy in the
third stage. This yields a potential new equilibrium, where the consumer could sponsor the creator, but the creator “shirks” and chooses not to produce, ripping the consumer off by running away with the consumer’s payment of $F$.

\[
\begin{align*}
\text{Consumer} & \quad \text{Don’t} \quad \text{Sponsor} \\
\text{Creator} & \quad \text{Shirk} \quad \text{Produce} \\
(0,0) & \quad (-F, F) \\
\text{Consumer} & \quad \text{Copy} \quad \text{Purchase} \\
& \quad (V_x - R_x, -(F + C_x)) \quad (V_x - P_x, P - (F + C_x))
\end{align*}
\]

Figure 3.2: Patronage game: An expressive works game where the consumer has the option of “sponsoring” the creator by paying for their fixed costs \textit{ex ante}. There is still no enforcement mechanism. Note that for consistency with the previous game, for all outcomes, I indicate the consumer’s payoff first and creator’s second.

Looking at the game through backwards induction, the previous analysis of the baseline expressive works game holds in the final stage—consumers will purchase when $R_x > P_x$. At the second stage, however, the creator can choose to shirk and run away with the money, and would only shirk if they believed the consumer would copy the work, and if the marginal costs $C_x > 0$. This creates a potential moral hazard problem for the consumer-sponsor, risking the possibility that the creator may run with the money. Again, however, if they believe the consumer will purchase the good (which is likely unless $R_x < P_x$, it is still in creator’s interest to produce, since $P - (F + C_x) > F$ for sufficiently high $P$ and low $C_x$. Lastly, in the first stage, if the consumer believes that the creator will produce and not shirk, the consumer will choose to sponsor the creator since $V_x - P_x > 0$. Thus, assuming the conditions from the original game hold, this structure facilitates cooperative production.
The patronage system as an institution stewarded over the creative commons and solved the public goods problem through several mechanisms:

First, patrons bore the high fixed costs to produce creative works by sponsoring a client *ex ante* and committing to pay for all necessary expenses before production actually starts. Naturally, this creates a principle–agent and asymmetric information problem between the patron and client (Nelson and Zeckhauser, 2008, Ch. 1). In order to overcome the adverse selection problem, patrons would have their artists draft plans for a trial period of several months once the task was outlined. Citing the Renaissance architect Filarete, Nelson and Zeckhauser (2008, 18-19) explain that “the patron ‘generated’ the original idea or the seed for a building. The architect, like a mother, then ‘gestated’ the seed for seven to nine months while he produced various designs for the project. To follow this biological metaphor, commissions usually led to a symbiotic collaboration between patrons and artists.” Often visual artists would provide detailed drawings and prototypes to clarify how the artist intended to carry out the patron’s request, and “also gave him an opportunity to justify a deviation from the patron’s requirements,” (ibid, 20). This allowed the patron to approve or modify the proposal before they fully sponsored a client.

Second, once hired, patrons must ensure that after the client is set to work, that they do not squander the funds, botch the work, or do anything to damage the patron’s reputation. Were the creator-client to run off with the consumer-patron’s advance $F$, he would earn a one time windfall, but this would greatly hurt the creator’s reputation for future dealings. Assuming one incident of shirking will tarnish the possibility of any future commission, cooperation would be a dominant strategy for the creator, since

$$
\sum_{t=0}^{\infty} (P_x - (F + C_x)) > F + \sum_{t=1}^{\infty} \beta^t 0
$$

(3.4)

A client-creator’s career depended upon their expected future dealings with other patrons, ideally increasing the notability of their patrons in the future. Working under an increasingly prominent aristocrat made one an increasingly credible intellectual, craftsman,
or artist Nelson and Zeckhauser (2008). Thus, an artist such as Michaelangelo could work his way up from commissions from local elites to achieving nearly divine status among Florentine artists for his commissions with the Pope himself.

Third, the low marginal costs of producing additional creations posed no threat to creation since creative works were highly specific and purposefully rendered one-of-a-kind. Patrons sought works that could readily stand as an identifier of their noble family and enhanced its prestige. Having a client copy existing works of other elites and their clients would have defeated this purpose. Thus, patrons and clients only agreed to exchange one single unit of $x$ for price $P$ (to cover the fixed and marginal costs). Additionally, as the extent of the market was largely limited to wealthy elites, other threats of copying such as to distribute to a mass audience, or for personal consumption, were nonexistent. For these two reasons, replication costs, $R_x$ were prohibitively high, resulting in only the fully cooperative outcome as an equilibrium.

Finally, in order for the entire nexus of patronage relationships function as a whole, the society required a certain bundle of preferences and cultural traditions to exist the background. This is particularly important since the patron-client relationship often was not governed by explicit contracts. Indeed, even in Ancient Rome, the relation between patronus and clientela was not legally enforceable, but instead found basis in the norms of mos maiorum, “ancestral custom” (Dillon and Garland, 2005, 87). Gilbert (1998, 392) calls the creative contracts that do emerge in the Italian Renaissance “disappointing” as they rarely extend “beyond specifying pigments, sizes, and delivery dates...The one variant in each contract is the subject matter...limited to a standard formula.” Often artists were given significant liberty to select particular scenes or figures. Rather it was the social approval of reputation and other mechanisms of repeated interactions echoes through history as the glue which fosters cooperation and creation. As Adam Smith observes in his Theory of Moral Sentiments (1790[1759], Part I, Section II, Ch. V) that “the chief part of human happiness arises from the consciousness of being beloved,” which is only fulfilled through the approval of others.

81
In Renaissance Italy, this atmosphere was embodied in the virtue of “magnificence,” held in the highest esteem. Giovanni Pontano’s *The Virtue of Magnificence* (1999[1498], 180) explains how his contemporaries aimed “to realize the long lasting of their name and reputation, for which man’s desire is infinite; moreover, especially for public buildings, the longer they last, the greater the glory they bring the person who built them.” Nelson and Zeckhauser (2008) describe the most prominent examples of the patronage system in Renaissance Italy, describing the patronage system and its conspicuous consumption as one of signalling, signposting, and stretching. Even if the expenditure was not financially prudent, patrons used the high cost of patronizing artists as a way to signal their social and political “magnificence,” which cannot be cheaply replicated by others unable to afford such lavish displays. Patrons would also “stretch” and “signpost” their magnificence and legacy by commissioning works that highlight the unique virtues of the individual patron (and downplaying their personal flaws), to enhance their magnificence. In this fashion, the elite contribute to a norm of what Greenblatt (1980) calls “self-fashioning,” whereby elites project an image of themselves through their patronage of the arts which simultaneously corresponds to, and shapes, the norms of their society.

Additionally, both patrons and clients were constrained by the reception of the audiences—present, future, and (for divinely-inspired works) heavenly, of each work. In the Renaissance era in particular, magnificence of patrons and clients only worked if it were publicly visible. Patrons sought to display their magnificence and establish their legacy to provide security for their families and social groups in the midst of economic and political turmoil in Renaissance Italy. Clients sought to establish a reputation for their quality by pleasing audiences, as it could lead to future works and greater monetary rewards from higher-status patrons.

Despite the fact that both patron and artist are privately exchanging services with one another solely for their own reputational or financial ends, society and culture as a whole ends up with the *Mona Lisa*, the *Sistine Chapel* ceiling, and observational astronomy. In this sense, patrons represent all of “society” as the main consumers of art, even though there is no direct box office resultant. The patronage system in this way acts as an invisible
hand mechanism that transforms private vices into public virtues in such a small market (Mandeville, 1988[1732]; Smith, 1904[1776]).

3.4 Copyright

With the rise of the printing press in the 16th century, the democratization of production, and dissemination of expressive works, new challenges emerged to solve the public goods problem and manage the creative commons. The cost of replicating goods \( R_x \) has fallen dramatically, especially in recent decades, enabling individuals to copy and reproduce goods, with or without consent of creators.

Additionally, underlying preferences and cultural traditions that drove the elite patronage system have faded in modern times. The focus on elite magnificence has moved towards the independence, genius, and autonomy of the artist, as well as an appreciation of “art for arts sake.” As the “magnificence” and prestige of noble families waned in political importance with the rise of nation-states and democratic electorates, so did the demand for customized works of art, and was ultimately replaced by appeals to mass markets. Further, the political restructuring from small princely states to large nation-states run nominally for and by the masses in turn lead to a restructuring of the market for art and also of political institutions.

Elements of the patronage system still persist as a hybrid system of public and private sponsorship. Governments took up the role of patron in some cases, providing public sponsorship of the arts, funding a significant portion of arts by transforming the choice of clients from a private one to a political and a budgetary one. Private entities, whether wealthy elites or nonprofit foundations, still act as patrons of the arts to a significant degree. The purposes and relationships continue to carry over from the classic patronage system, as patrons seek a modern but limited form of “magnificence” by demonstrating their status and acculturatedness through their sponsorship.\(^{10}\)

Thomas Babington Macaulay, the great 19th century British Whig historian, in a famous speech before the House of Commons in 1841 cogently summarizes the issue in historical context:

It is then on men whose profession is literature, and whose private means are not ample, that you must rely for a supply of valuable books. Such men must be remunerated for their literary labour. And there are only two ways in which they can be remunerated. One of those ways is patronage; the other is copyright...I can conceive no system more fatal to the integrity and independence of literary men, than one under which they should be taught to look for their daily bread to the favour of ministers and nobles...It is desirable that we should have a supply of good books; we cannot have such a supply unless men of letters are liberally remunerated, and the least objectionable way of remunerating them is by means of copyright...The system of copyright has great advantages, and great disadvantages...Copyright is monopoly, and produces all the effects which the general voice of mankind attributes to monopoly...Monopoly is an evil...For the sake of the good we must submit to the evil; but the evil ought not to last a day longer than is necessary for the purpose of securing the good...(Young, 1967) quoted in Karjala (n.d.).

Note how Macaulay first recognizes the need for remunerating the fixed costs independent artists who cannot support themselves financially. Second, his passionate speech against patronage (“the favour of ministers and nobles”) indicates the modern shift in preferences in favor of the independent artist. It also demonstrates that patronage and copyright are viewed as two of the possible equilibria (to Macaulay, the only two) which produce expressive works. Finally, Macaulay describes the copyright system as a necessary evil, noting its many shortcomings, but still deeming it a second-best solution in an imperfect world.

Macaulay spoke against Serjeant Talfourd’s 1841 Copyright Bill (February 5th, Hansard, Vol. LVI) which would have extended copyright terms to the author’s life plus 60 years, (Plant, 1934, 170-171).
In any case, creators today, in theory, act independently and produce creative works as sole proprietors of their works, rather than as clients for elite patrons. At first glance, this theory appears to mesh well with the anonymous Samuelsonian public goods theory. Artists under copyright are entitled to be the sole vendor of their works, ensuring that they can earn a modest return and recoup the cost of their efforts, more and more of which must now come from their own pockets. Thus, with the advancement of technology and the falling cost of replication, the public good problem of high fixed and low marginal costs rears its ugly head again.

Since the early 17th century, modern democracies have substituted the formal legal privilege of copyright for the informal norms of the patronage system to combat the public goods problem. Under copyright, individuals who acquire a copyright over their work are entitled to sue for damages suffered by other individuals utilizing the work without the authorization of the copyright holder (usually requiring royalty payments). The current system of copyright, as a result of the 1976 Copyright Act and subsequent amendments, is automatic for any “original works of authorship fixed in any tangible medium of expression” including literary works, musical works, dramatic works, choreographs, pictorial, graphic, and sculptural works, motion pictures, sound recordings, and architecture (17 U.S.C. §102). Copyright grants the owner the exclusive right to reproduce the work, to prepare derivative works, to distribute copies, to sell, lease, and lend, to perform, and to display publicly. (17 U.S.C. §106). Copyright lasts for a term of the author’s life plus 70 years (90/120 years for works-for-hire) (17 U.S.C. §302). Infringement of copyright is liable to either actual damages and profits in civil suits, or statutory damages of up to $30,000 per work. If willful infringement is proved, then statutory damages increase to up to $150,000 per work. (17 U.S.C. §504(a-c)). The only major legal defense against infringement is “fair use” – where infringed work is used for criticism, comment, news reporting, teaching (including multiple copies for classroom use), scholarship, or research (17 U.S.C. §107).

12For a discussion of copyright as a privilege as compared to a legal right, see e.g. Bell (2014); Kinsella (2008).
This effectively changes the payoffs from the public goods game significantly, particularly for the equilibrium where the creator produces and the consumer copies (pirates) rather than purchases. Under this system, with low enough replication costs, $R_x$, I assume a decision not to purchase is assumed to be a decision to “pirate” or copy the creative work. If the consumer chooses this strategy, she can earn her subjective value $V_x$, but must incur costs of replicating the good $R_x$, as well as suffering legal sanctions $D$ with probability $\sigma$ (Becker, 1968). In this equilibrium, the creator can sue the consumer to recover $D$ with probability $\rho$, but after incurring the enforcement costs $E_x$ of using the legal system.\(^{13}\) Figure 3.3 shows the updated game.

![Game Diagram](image)

Figure 3.3: Simple expressive works game with a probabilistically-enforced copyright.

Under any single iteration of this game, if the creator produces, the consumer will purchase when the price is lower than the replication cost and potential apprehension cost.

\[
P_x < R_x + \sigma D \quad (3.5)
\]

\(^{13}\)Here, I assume that every case of piracy is detected and enforced by the creator, albeit probabilistically. Of course, the creator could choose not to exercise their legal remedy for infringement, and thus $\sigma$ (and $E_x$) falls to 0, yielding the original, acquiescent payoff of simply $-(F + C_x)$.
Or under repeated interactions, with the threat of the creator following a trigger strategy:

\[
\sum_{t=0}^{\infty} \beta^t (V_x - P_x) > (V_x - R_x - \sigma D) + \sum_{t=1}^{\infty} \beta^t 0
\]  

(3.6)

This holds so long as \( \beta > 1 - \frac{V_x - P_x}{V_x - R_x - \sigma D} \).

Barbara Ringer, U.S. Register of Copyrights during the passage of the foundation of modern copyright law, the 1976 Copyright Act, called the new law a “a balanced compromise that comes down on the authors and creators side in almost every instance” (Ringer, 1977; Time, 1976). Despite this glowing rhetoric, one of the most popular (and populist) criticisms of the current copyright regime has been that actual compensation of artists is of secondary, if any, concern. Legal authorities have always argued for copyright solely in terms of the “public welfare” rather than a respect or advantage for artists and creators. Indeed, the legal authority originates from the U.S. Constitution stating explicitly this purpose: “The Congress shall have the Power...To promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries” (U.S. Constitution, Article I §8). Copyright jurisprudence also upholds this public welfare view. Justice Blackmun’s majority opinion in *Sony Corp. of America v. Universal City Studies, Inc.*, 474 U.S. 417 (1984) asserts that

> [c]opyright is based on the belief that by granting authors the exclusive rights to reproduce their works, they are given an incentive to create, and that encouragement of individual effort by personal gain is the best way to advance public welfare through the talents of authors and inventors in Science and the useful Arts...[Copyright] has never accorded the copyright owner complete control over all possible uses of his work (417,431).

The legislative history of the Copyright Act of 1976 appears to concur, as a Congressional report declared that copyright law is “not primarily for the benefit of the author, but primarily for the benefit of the public” (Rudd, 1969, 141).
Despite the theory of anonymous artists acting independently, copyright in practice has proved to be a very different animal. Patterson (1968a, 370) notes that “copyright in America is an author’s, rather than a publisher’s right” as it historically originated, yet notes the irony that “The law confers the rights not upon the author, but upon the copyright owner, who may or may not be the author and who is usually the publisher.” Furthermore, “the creative interest of an author in his own work has had no role in American jurisprudence.”

A cursory glance at the industrial organization of major creative industries, e.g. books, music, and films, demonstrates that creators are still largely dependent on patrons, only the patrons now are major studios and distributors. These large entities continue to bear the fixed costs $F$ and act as a sponsor –although their sponsorship today is no longer an instrument for personal magnificence, but a choice to maximize a direct box office resultant. Economic and legal history shows that it was largely these interests that have continually fought hard for stronger copyright laws (Bell, 2014; Boldrin and Levine, 2008; Crosskey and Jeffrey, 1953; Johnson, 2012) due to their comparative advantage of organizing political pressure (Olson, 1965). Thus, the advantages that copyright generates can to a large degree be captured in the rents to these large publication houses.

Across various media, this can be seen by the concentrations of large publishing/distribution firms within industries. In music, the “Big Four” studios account for 88% of market share in digital album sales, as Table 3.1 shows from 2011 data (Nielson, 2012). In the book industry,

<p>| Table 3.1: Market share of top record labels |
|-----------------|------|</p>
<table>
<thead>
<tr>
<th>Rank</th>
<th>Studio</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Universal Music Group</td>
<td>29.85%</td>
</tr>
<tr>
<td>2</td>
<td>Sony Music Entertainment</td>
<td>29.29%</td>
</tr>
<tr>
<td>3</td>
<td>Warner Music Group</td>
<td>19.13%</td>
</tr>
<tr>
<td>4</td>
<td>EMI Group</td>
<td>9.62%</td>
</tr>
<tr>
<td>-</td>
<td>Total of Big 4</td>
<td>87.79%</td>
</tr>
<tr>
<td>-</td>
<td>Independent labels</td>
<td>12.11%</td>
</tr>
<tr>
<td>-</td>
<td>Total</td>
<td>100%</td>
</tr>
</tbody>
</table>
the “Big Five” publishing houses (or their subsidiaries) Penguin Random House, Hachette, HarperCollins, Simon & Schuster and Macmillan, produce 60% of English-language books.\(^{14}\) In film, the “Big Six” film studios account for 75% of box office revenues, as shown by Table 3.2 for the year 2013 (Nash, 2013).

<table>
<thead>
<tr>
<th>Rank</th>
<th>Studio</th>
<th>Movies</th>
<th>Revenues</th>
<th>Tickets</th>
<th>Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Warner Bros.</td>
<td>29</td>
<td>$1,861,194,799</td>
<td>228,097,584</td>
<td>17.08%</td>
</tr>
<tr>
<td>2</td>
<td>Walt Disney</td>
<td>18</td>
<td>$1,721,354,677</td>
<td>210,950,321</td>
<td>15.79%</td>
</tr>
<tr>
<td>3</td>
<td>Universal</td>
<td>19</td>
<td>$1,415,663,293</td>
<td>173,488,139</td>
<td>12.99%</td>
</tr>
<tr>
<td>4</td>
<td>Sony Pictures</td>
<td>20</td>
<td>$1,149,187,808</td>
<td>140,831,830</td>
<td>10.54%</td>
</tr>
<tr>
<td>5</td>
<td>20th Century Fox</td>
<td>20</td>
<td>$1,069,359,977</td>
<td>131,049,009</td>
<td>9.81%</td>
</tr>
<tr>
<td>6</td>
<td>Lionsgate</td>
<td>20</td>
<td>$1,017,528,833</td>
<td>124,697,152</td>
<td>9.34%</td>
</tr>
<tr>
<td></td>
<td>Total of Big 6</td>
<td>126</td>
<td>$8,234,289,387</td>
<td>1,009,104,035</td>
<td>75.55%</td>
</tr>
<tr>
<td></td>
<td>All 143 Others</td>
<td>619</td>
<td>$2,654,995,088</td>
<td>325,371,423</td>
<td>24.26%</td>
</tr>
</tbody>
</table>

As can be seen, publishing companies have in effect become the new “patron” by paying the fixed costs of creators. In effect, for a majority of creative production, copyright has not fully displaced the patronage system, altering only the distribution of gains and granting greater legal rights towards direction of publishers as a result of their lobbying. Thus, what is really occurring is a modified form of the patronage game, as depicted in Figure 3.4.

The dynamics of this game are again similar to both the copyright game of Figure 3.3 and the patronage game of Figure 3.2. The consumer will end up purchasing when the price is greater than the replication cost and the probable apprehension cost. If this condition holds, creators will produce, and consumers will sponsor.\(^{15}\)

Large publishing companies typically front “advances” to creators they have signed on with, in exchange for a large percentage of the profits. Publishers in the music industry often take this in the form of “360 rights” which encompass shares of the artist’s revenues

---

\(^{14}\)I have not found comparable data on market shares for book publishers to illustrate in a table.

\(^{15}\)Here, for analytic simplicity, rather than introduce a third party sponsor, I equate “consumers” who purchase the end product with studios who advance the fixed costs. In reality, these are separate agents with different objectives, but the equilibrium analysis is relatively unaffected.
Don’t

\(-F, F\)

\(\sigma D, \sigma D - (F + C_x + E_x)\)

\((V_x - R_x, P - (F + C_x))\)

Figure 3.4: Patronage game with probabilistically-enforced copyright.

in royalties, CD sales, concert ticket sales, merchandise sales, fan club dues etc. (Passman, 2012, 97). Passman (2012, 8) notes that “[a] record company will often pay an advance to an artist in exchange for the full amount royalties earned by the artist enough to recover the costs of the advance.” This is exactly the economic logic of setting an advance low enough to break even on the fixed costs to switch from an equilibrium where the creator does not produce to one where they do produce, while also solving the adverse selection problem. Table 3.3 summarizes common advances in the music industry based on Passman (2012, Ch. 9).

<table>
<thead>
<tr>
<th>Clout</th>
<th>Album Sales</th>
<th>Royalties</th>
<th>Advances</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Artist</td>
<td>&lt;100,000</td>
<td>13%–16%</td>
<td>$0–150,000</td>
</tr>
<tr>
<td>Midlevel Artist</td>
<td>200,000–400,000</td>
<td>15%–17%</td>
<td>$100,000–200,000</td>
</tr>
<tr>
<td>Superstar</td>
<td>750,000+</td>
<td>18%–20%</td>
<td>$1,000,000+</td>
</tr>
</tbody>
</table>

Independent creators do exist, sometimes in significant quantities (one report claims
one-quarter to one-third of e-book sales come from independent authors (Author_Earnings, 2014), but face an uphill battle in distribution. In film, for example, where distribution is critical and costly, “indie” filmmakers can produce the film but contract with a major studio to distribute it in exchange for about 30–40% of the profits (Kuppuswamy and Baldwin, 2012, 2). This grants more legal rights to the indie filmmakers than the traditional route where studios maintain complete copyright control over all aspects (script, musical score, performance rights, royalties, synchronization rights, etc) (Crabb, 2005; Kuppuswamy and Baldwin, 2012).

3.4.1 Copyright’s Chilling Effects on Production

Copyright features a number of criticisms, as the distortions caused by the law can lead to lower levels of innovation by raising the transaction costs of new creation. In terms of Figure 3.3 copyright can often chill new production in a number of ways.

First, copyright creates a nexus of veto points that can make production of new creative works unviable. This raises the fixed costs $F$ to a prohibitively high level (though $C_x$ is largely unchanged). Creative works still remain part of a commons, since courts are still attempting to determine which firms or individuals have copyrights over which goods and which actions infringe copyright. Many have argued that because of the excessive veto-power created by expanding the definition and duration of copyright, overlapping veto rights have created a tragedy of the “anti-commons” Buchanan and Yoon (2000); Heller (2008); Heller and Eisenberg (1998). In music, for example, if two people (say Lennon-McCartney or Simon-Garfunkel) collaborate to write a song together, one writing just the lyrics and one writing just the instrumentals, each owns a part in both the lyrics and the instrumentals, and neither owns the whole composition, and neither can use just the music or just the song without paying the other (Passman, 2012, Epigram).

Unlike traditional rivalrous competition and technological development which would displace existing businesses and property values, copyright legally blocks specific types of
production and entry by legal fiat, not by threat of entry or being outpriced by rival competitors. Furthermore, copyright causes entrepreneurs to channel a significant portion of business expenditures (potential consumer surplus), and occasionally personal expenditures, into litigation over copyright disputes. Between 2001 and 2009, the cost of the average copyright lawsuit rose 73%, and is projected to rise 20% per year (Warren, 2009, 26).

This also explains why most of the creative industries are so concentrated and the lack of independent artists – large publishing firms can exploit economies of scale to bear the fixed costs of creative production, in exchange for acquiring the legal veto rights to exert dominance over their rivals.

The odyssey of film production provides an illustrative example. The filmmaking business is unique in its embrace of all aspects of copyright law relating to both works and performances. In general, the production of a film involves contracting over the acquisition of literary works, procurement of talent, distribution and bonding, financing and music licensing. Each one of these aspects requires significant investment in time and financial resources to pay the legal costs of searching for already existing copyright holders of musical, artistic, pictorial, or audiovisual works which might be used, negotiating royalties with those holders for limited use, the same process for trademarks and product placement, declaring and establishing copyright in the final product, its performance rights and synchronization rights, preparing for offensive and defensive copyright infringement suits, crafting an argument for fair use (applicable only for documentaries), securing a legally-defensible venue for public screening, let alone the actual contract negotiation and production using the normal factors of production (Couch, 2014; Crabb, 2005; Garon, 2009; Heinlin, 2014; ?)

Courts have had to determine first which new technologies and goods are able to obtain copyrights and patents, and further, whether particular activities by individuals and firms constitute infringement of previously existing copyrights and patents (?). Furthermore, under the intellectual property rights regime, the common law doctrines of first sale and

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16 See here for a good guideline for the hoops to jump through in filmmaking: [http://www.lmu.edu/Assets/WEBADMIN+ONLY+++Special+Content/copyright/sftvclearance.pdf.pdf](http://www.lmu.edu/Assets/WEBADMIN+ONLY+++Special+Content/copyright/sftvclearance.pdf.pdf)

17 Once a person has rightfully purchased a copy of a good from a copyright holder or their licensed reseller, they are allowed to resell or distribute that particular copy without consent of the original copyright owner.
exhaustion\textsuperscript{18} prevent copyright and patent owners from restricting resale of their works and thus preclude price discrimination (Besen and Raskind, 1991, 5).

In general, those which are copyrighted become more expensive relative to those ideas which are not copyrighted and remain in the public domain. Tabarrok (2011) mentions the costs associated with inventors attempting to navigate “the patent thicket” of firms who own patents that act as necessary inputs into other firms’ products, and their concomitant lawsuits which serve as deterrents to production. There is an analogous “copyright thicket” which raises the fixed cost $F$ of new creation through the cost of search, negotiation, and royalty payment.

As a response to these rising prices, consumers (and producers building upon previous works) turn to the noncooperative strategy of not purchasing the work, and instead pirating it. Over 70 million Americans illegally download, or “pirate” copyrighted material through filesharing software on the internet (Delgado, 2004). One study estimates that over 25% of all global internet use infringes copyright (Envisional, 2011), and file sharing is significantly popular, even legitimized, by many young Americans Cosgrove-Mather (2009).

Second, the industrial organization of creative industries concentrates political power to encourage rent-seeking. It may well be that the efficient scale and process of production calls for a few large studios paying advances to the vast multitudes of creators in order to capture economies of scale in distribution. However, the acquisition of copyrights by these few large studios in exchange for their patronage gives them an incentive to act as an interest group to lobby Congress for favorable copyright legislation Olson (1965). As a result, these groups, through trade associations such as the Motion Picture Association of America (MPAA) and the Recording Industry Association of America (RIAA) have largely captured the legislative process (Litman, 1987, 2006; Patry, 1996), and over the last decade, have increased their expenditures on lobbying efforts by 425%, from $4 million in 2000 to $17.5 million in 2009 (Gain, 2011).

(17 U.S.C. §109). This is precisely how libraries lending and yard sales reselling books are permissible.

\textsuperscript{18}Analogous to copyright’s first sale doctrine, the exhaustion doctrine dictates that once patent owners have been compensated, they can no longer restrict a purchaser from using or reselling the good (Adams v. Burke, 84 U.S. 17 Wall. 453 453 (1873)).
Third, since copyright lasts the author’s life plus 70 years, it adds an additional constraint on producing, since original works can become “orphaned” when they are no longer commercially available, or if the original copyright holder cannot be tracked down. Most of 20th century culture is genuinely unavailable for these reasons. Of the music, movies, and books that were produced in 1923-1946 (the first 23 years affected by the recent Copyright Term Extension Act of 1998), less than 6% are commercially available today (Lessig, 2004, 228). Boyle (2008), O’Reilly (2005), and others suggests up to 96% of written works indexed in the Library of Congress are unavailable. Works that require a vast assembly of complement works compound this problem. For instance, a film, might have one copyright for the sound track, another for the movie footage, another for the script, and another for merchandising rights. Even if one wanted to legally access these works for personal consumption, or for derivative use in further creative production, there is no owner to be found and contracted with.20

3.5 Crowdfunding: Patronage v.2.0

In the last several years, riding the tails of microlending (Morduch, 1999) and crowdsourcing (Poetz and Schrier, 2012) developments in business, a number of platforms have emerged on the internet allowing creators to solicit small amounts of funds from vast amounts of people. Schwienbacher and Larralde (2010) define crowdfunding as “an open call, essentially through the internet, for the provision of financial resources either in form of donation or in exchange for some form of reward and/or voting rights in order to support initiatives for specific purposes.”

As noted above, the impact and public awareness of crowdfunding is substantial, and growing. One of the most publicized instances is the Oculus Rift21, a virtual reality headset

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19 The current duration was a result of a 20 year increase under the 1998 Copyright Term Extension Act (commonly called the Sunny Bono Act). For corporate “works-for-hire” the duration is the minimum of 95 years after publication or 120 years after creation.

20 Thus begins one common argument for the benefits of illegal piracy.

21 Now Oculus VR, see http://oculusvr.com
designed primarily for use with video games. Oculus raised $2.4 million on its Kickstarter page, despite only seeking $250,000 as a fundraising goal. On March 25, 2014, Facebook announced that it had agreed to purchase Oculus for about $2 billion (Kovach, 2014).

Although there has been something of a frenzy in the popular media surrounding the crowdfunding phenomenon, as Mollick (2014) notes, there is very little academic research on crowdfunding. Several studies by business school professors explore how crowdfunding relates to theory and literatures on entrepreneurship, finance, and business management practices for startups (Kuppuswamy and Bayus, 2014; Schwienbacher and Larralde, 2010).

A few business researchers have attempted to isolate factors which predict initial success in startup projects (Greenberg et al., 2013), including using specific phrasing (Mitra and Gilbert, 2014), videos (Walker, 2011), geographic clustering (Agrawal et al., 2010), and important managerial decisions and implications for investment (Belleflamme et al., 2013). Interestingly, Mollick and Nanda (2014) find that “the crowd” largely chooses to fund similar projects as a counterfactual panel of experts. Optimistically, “the democratization of entry that is facilitated by the crowdfunding has the potential to lower the incidence of ‘false negatives,’ by allowing projects the option to receive multiple evaluations and reach out to receptive communities that may not otherwise be represented by experts” (ibid, 1).

The prime example of a crowdfunding platform is Kickstarter. With $1,294,528,354 pledged to projects from 6,912,474 people (2,065,269 of them repeat backers), and 68,894 successfully funded projects, Kickstarter is the clear industry leader. Its biggest rival, Indiegogo, has a paltry 9.3% of their projects successfully funded, compared to Kickstarter’s 44%, (Jeffries, 2013) and Kickstarter has raised six times more money than Indiegogo (Lau, 2013). Kickstarter is an all-or-nothing system, which only transfers pledged money to creators if the funding goal was met within a deadline, as compared to a keep-it-all model, such as Indiegogo, which transfers all pledged money upon the deadline, regardless of whether

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23See e.g. http://salon.com/2011/10/05/your_favorite_author_brought_to_you_by_a_wealthy_patron, it has even earned its own South Park episode, the hallmark of popular awareness: http://southpark.cc.com/full-episodes/s18e01-go-fund-yourself.
24These numbers were self-reported by Kickstarter as of 1 September 2014 (Kickstarter, 2014).
the funding goal was met (Cumming et al., 2014).

On Kickstarter, project creators choose a deadline and a minimum funding goal, and create a webpage detailing their plan, how they will spend the money, and typically a video describing the project. Typically, project creators also create “funding levels” for consumers (called “backers”) to provide, e.g. $10, $20, $50, $100, $500, and $1,000. As expected, most contributions occur at the lower levels, with a power distribution between money funded and number of people contributing at each level of funds. Each funding level usually features some “reward” or souvenir for the backer – perhaps a T-shirt, a poster, an eponymous character inserted into the plot, a first edition of the product, an autographed copy of the product, public recognition, and so on, with higher funding levels providing more rewards.\(^{25}\) If the funding goal is not met by the deadline, no funds are collected, just like an assurance contract.\(^{26}\) If a project is successful, the money pledged by donors is collected using Amazon Payments, and Kickstarter takes 5% of the funds raised, with Amazon charging an additional 3–5% for use of its payment system.

Most notably as an alternative to the original patronage system and the traditional structure of industrial organization under copyright, Kickstarter claims no ownership, copyright, or patent over the projects and the work they produce. The funds to use for expenses (and revenues) flow entirely to the creator/artist (minus the 8% to Kickstarter and Amazon) who has complete creative control over the work (with the exceptions of very minor “concessions” to attract contributors (such as personalizing some element of the product to attract contributors).

As Adam Smith reminds us, the division of labor is limited by the extent of the market. Under patronage, the extent of the market for expressive works was limited to the custom desires of the portion of elites seeking to display “magnificence.” Under copyright, the market expanded dramatically beyond just the elite, but was limited by the range of overlapping

\(^{25}\)Notably, products are actually sold to general consumers after the project is funded, and only those backers who fronted an amount of money that has a first edition of the product attached as a reward will actually receive the product.

\(^{26}\)Cf. Kickstarter’s rival Indiegogo, which releases all funds raised to the creator, regardless of if the original goal is met.
veto powers, and sometimes driven back into the hands of large publishing houses. Under crowdfunding, the market extends to such a magnitude that it can begin to incorporate individual preferences in production and exchange processes.

Crowdfunding allows coproduction of a sort between consumers and creators, a key ingredient of the Bloomington School’s recipe for successful commons-governance institutions (Aligica and Tarko, 2013).\textsuperscript{27} Coproduction allows consumers or end-users of a commons input skills or information into the production of public goods. For many public goods, the input of consumers is essential “if there [is] to be any production at all” (Parks et al., 1981, 1001-1002).

Crowdfunding combines and builds upon the original patronage system, while simultaneously existing within a legal framework of copyright. Thus, the analysis of crowdfunding is actually identical to that of the modified patronage with copyright game depicted previously in Figure 3.4. However, crowdfunding often is able to elude some of the downsides of copyright (at least, crowdfunding itself does not lead to the uncooperative outcomes of copyright, but those outcomes can still exist as a result of copyright). Crowdfunding platforms generate incentives to encourage cooperative equilibria and discourage uncooperative equilibria through several mechanisms.

First, like patronage, consumers purchase the good \textit{ex ante}. However, rather than a single person bearing the fixed costs $F$ through paying a high price and low quantity (and the risk of the creator not following through), a diverse multitude of people bear the costs at different prices and quantities. This lowers the risk faced by each individual, incentivizing more funding to projects.

Second, like patronage, repeated interactions constrain creators from defecting and running away with promised funds. In order to avoid the principle-agent problems associated with the sucker’s payoff equilibrium, backers search for projects which have a high probability of success, and a low probability of the creator simply taking the money and running (and failing to deliver rewards). Kickstarter attempts to mitigate these possibilities through

\textsuperscript{27}Also see Chapter 1.
several ways. In general, Kickstarter considers a project as a legally binding contract, which gives backers a standing to sue for cases of outright fraud. Unlike Indiegogo, Kickstarter also requires submissions to be screened by Kickstarter staff, and has a list of prohibited projects such as projects that make medical claims, that distribute contraband, political campaigns, or financial services\textsuperscript{28} In recent years, Kickstarter has also added a required “risks and challenges” section for creators to document their plans for coping with uncertainty in the process of production. These factors aid backers in choosing which projects to back. Mollick and Nanda (2014) notes that surprisingly, “the crowd” tends to choose projects that a panel of experts would choose, indicating that the asymmetric information problem is limited.

Third, crowdfunding platforms also keep a permanent record of projects that were funded (and not funded\textsuperscript{29}) on their websites. This prevents any work from being orphaned, or any question about who currently controls the copyright of the good. This ensures that prior projects can be easily identified for creators who wish to build upon previous work, ensuring that the transaction costs of producing new creative works does not get prohibitively high enough to yield an uncooperative equilibrium where no new work gets produced.

Fourth, replication costs $R_x$ are kept low to a degree through customization. Like the patronage system which featured individual patrons contracting with artists to produce a unique creative work, crowdfunding allows backers to select the creative work they wish to contribute to, as well as the amount of funding. In exchange, backers can get specific rewards for their contribution. In effect, this creates the possibility for price-discrimination, which is not possible for copyright and patent. By charging difference prices to different consumers, creators are able to appropriate more of the social value of their creations, which has always been one of the primary problems with creative works and the key argument for copyright (Arrow, 1962; Besen and Raskind, 1991).

Finally, similar to the underlying cultural institutions that sustained the patronage

\textsuperscript{28}See https://www.kickstarter.com/rules and https://www.kickstarter.com/rules/prohibited.

\textsuperscript{29}Though there has been controversy recently that Kickstarter hides failed projects. One can find a failed project by searching for it specifically by name or other identifier, but it will not show up on the general list of projects.
system, crowdfunding draws upon a similar environment. Prive (2012) describes that the draw of contributing to crowdfunding campaigns,

The idea of ‘its not what you do, but why you do it,’ really hits home here. By focusing on a bigger purpose, the driving force behind a brand, project creators will be able to create a unique community of likeminded individuals...There are three main reasons why people unconnected to a project or business would support it: [1] They connect to the greater purpose of the campaign, [2] They connect to a physical aspect of the campaign like the rewards, [and 3] They connect to the creative display of the campaign’s presentation

While it would be reasonable for one to *prima facie* dismiss these developments as a mere drop in the bucket compared to the oligopoly of the big publishing firms, the magnitude and effects of crowdfunding are surprising. At least 86 Kickstarter-funded films have been released in over 1,500 North American theaters in 2012, with three of them being among the 20 best-reviewed films, five films have been nominated for Oscars, and at least 16 have been picked up for national broadcast through HBO, PBS, Showtime, and other networks Strickler et al. (2013). In a highly publicized campaign, musical artist Amanda Palmer raised $1.2 million on Kickstarter to produce a new album, art book, and concert tour.30 Her album was posted on her website 31 for free download under a Creative Commons license32. As noted above, the virtual reality headgear device, the Kickstarter-funded Oculus Rift, has been purchased by Facebook for $1 Billion.

### 3.5.1 Empirical Factors for Crowdfunding Success

What makes a successful crowdfunded project? Following the pioneering exploration of Mollick (2014) into the data of Kickstarter, I collect data scraped from Kickstarter that ranges from April 15, 2012 to September 6, 2012.33 Since the base comparison of this

31http://amandapalmer.net/producttypes/featured/
32https://creativecommons.org/licenses/by-nc-sa/3.0/
33The data comes from a python web scraper tool initially developed by Neight Allen: https://github.com/neight-allen/django-kickstarter-scraper.
analysis is American copyright law, I select only the 13,214 projects that were proposed in the United States over this period, focusing especially on expressive works under the categories “Books,” “Music,” and “Film.” Of this group, about 35% of all US projects were successful, with success rates of 22% for books, 43% for music, 30% for film, 33% for this three categories of expressive works combined. Table 3.4 reports summary statistics broken down by relevant category.

During this period, Kickstarter reports a slightly higher success rate of 44% for all projects. I expect this is due to both the fact that Kickstarter combines non-U.S. project data, and also the possibility of error in the data scraping process from the Kickstarter website. My analysis assumes that my dataset is complete and accurate without systematic measurement error. Projects that are missing, contain incomplete data, or were somehow corrupted by the scraping process are likely to be randomly distributed from the population of projects. While the coefficients of estimators will differ from the true model of the Kickstarter population, the statistical significance of variables will not be effected, and my main goal in this analysis is to analyze the marginal effects of variables rather than estimate true structural parameters.

Most projects have relatively modest goals under $25,000, with a small proportion asking for greater funds, as depicted in the distribution in Figure 3.7. While there is some variation in how much successful projects are funded relative to their goals, unsuccessful projects usually fail by a wide margin. This is demonstrated by Figure 3.5 and confirm Mollick’s (2014) findings. All projects also feature a relatively small contributions per backer, with most backers contributing under $250, as displayed in Figure 3.6.

In order to estimate the factors that determine a successful crowdfunded provision of expressive works, a simple linear probability model (LPM) will be sufficient to estimate the marginal effects of various covariates on success. The dependent variable, whether or not the project was successful, is a dummy variable, taking the value 0 if unsuccessful (again, unsuccessful projects on Kickstarter forfeit all pledged funds back to the would-be backers), and 1 if the project was successfully funded. A probit or logit model would be too unwieldy
Figure 3.5: Histogram of funding amounts for U.S. projects, grouped by successful (red) and unsuccessful projects (blue), cf. (Mollick, 2014, 7)

with this amount of observations and covariates, and I am more interested in identifying causal marginal effects than estimating the structural parameters of the true model for predictions (Wooldridge, 2009, Chs. 7.5, 17.1). As one of the issues with the LPM is that its standard errors often violate the homoskedasticity assumption and may be incorrectly estimated, using Huber-White robust standard errors largely negates this problem (Huber, 1967; White, 1980).

I regress projects’ success on a vector of covariates listed in Table 3.6, similar to the design of Mollick (2014). I run separate regressions for the major categories of expressive works – books, music, and films, their combination, and all US works on Kickstarter. Since the focus of this analysis has been in the context of American copyright law, I limit the analysis of Kickstarter only to U.S.-based projects. If the forgoing theoretical exploration is correct, we would expect the following results:

H.1 The coefficient on the log of Facebook friends, number of previously backed projects, and project number, should be positive and significant, as networking and being a visible part of the community acts as a good screening process for selecting credible
Figure 3.6: Histogram of Funds per Backer (under $1,000) for all US projects (successful and unsuccessful)

H.2 Assuming that number of rewards serves as a proxy for the degree of “price discrimination” and market segmentation, we might expect more rewards increasing the likelihood of the project being funded.

H.3 The miscellaneous variables specific to the platform itself, such as setting the goal and duration of funding, and the ultimate number of backers, function largely as controls. We might expect that projects with smaller goals and shorter duration signal greater confidence in the project’s success (and less desperation or delusions of grandeur) and having more backers will increase the odds of reaching the funding goal.

As the results in Table 3.7 show, most factors prove to be significant and largely confirm the above hypotheses:

R.1 Having backed more previous projects is positive and significant. For every project a creator has previously backed on Kickstarter, it raises their likelihood of success by
Figure 3.7: Histogram of Funding Goals (under $100,000) for all US projects (successful and unsuccessful)

1-2%. The prior backing effect seems to dominate the effect of having more Facebook friends, which is not statistically significant. This may be due to the fact that in the time period this data was collected, fewer Kickstarter users connected their Facebook account. Additionally, the project number is significant, but notably negative. This could be due to a potential negative effect if the creator had previously proposed projects that failed, dampening the potential for success in future projects. Or, perhaps most projects are “one and done” events, with creators not returning to fundraise additional projects. Overall, however, these results demonstrate the importance of social networks, at least on Kickstarter itself, in generating reputation and community trust and interest.

R.2 As expected, having more rewards significantly increases the likelihood of crowdfunding success. Offering an additional reward level increases the probability of success by about 2-2.5% by segmenting the market.

R.3 Finally, the various Kickstarter-specific variables have a significant effect on success. 

34Surprisingly, this effect is absent for music – perhaps crowdfunders tend to support independent unknown artists for novelty or hipness.
Decreasing one’s funding goal by 100% will increase success by 10-12%. Decreasing the project’s fundraising duration by a day will weakly but significantly increase success by about 0.2-3%. The more backers that tend to contribute will also increase success, with each additional backer raising the possibility of success by about 0.01-0.1%.

Overall, these factors confirm the above theory and demonstrate that a significant recipe exists for creators to follow if they should choose crowdfunding to finance their creations.

3.6 Conclusions

Crowdfunding, along with copyright and patronage, exists as one of the many possible efficient equilibriums in the production of expressive works. Historically, there has been a significant recipe for the institutions that facilitate creation, namely that (1) an external agent bearing the fixed cost of production (2) in exchange for a portion of revenues/rights/reward, (3) and replication of the product by other producers or consumers is deterred, expressive works can be effectively produced in a number of ways.

For too long, economists and legal scholars have argued that having intellectual property rights laws such as statutory copyright was the only necessary and sufficient condition to reach an outcome where expressive works get produced efficiently. IP turns out to resemble the institution of arts patronage, with significant added downsides. Shifting the analytic focus from the traditionally static analysis of public goods theory to a wider institutional view, however, sheds light on the diversity of potential arrangements that can overcome these problems. Since traditional public goods theory operates in an institutional vacuum and simply assumes an endemic free rider problem, more research on the potential institutional equilibria for other public goods is necessary. This requires both a general institutional theory and specific case studies of public good production.

Researchers should also further examine the nature and consequences of crowdfunding itself. Recently, Congress enacted the 2014 JOBS Act, which legalizes crowdfunding of equity capital following the model of Kickstarter (Mollick, 2014, 2). There may be some
possibility that this mechanism may further extend into and disrupt existing production and provision mechanisms of both private and public goods.

Furthermore, crowdfunding at present exists as an institution embedded within the larger context of intellectual property rights laws which protect expressive works. Crowdfunding platforms such as Kickstarter or Indiegogo neither grant to nor absorb copyrights or patents from creators who use their websites. Creators are free to patent their inventions and automatically acquire copyright in their creative works once they are published.35 Despite this fact, however, crowdfunding as a public-goods-providing institution satisfies all of the requirements of efficiently providing expressive works, as described in the theoretical model of this paper. The classic arguments for intellectual property have always been that without the right to exclude future producers and appropriate enough much social value from sales of a produced product to recover fixed costs. Crowdfunding solves this problem prior to production, by guaranteeing (if their campaign is successful and set the proper goal) that the creator can recover those costs relatively quickly, and prior to the sale of their first unit. Crowdfunding functions as a sort of “fifth column” within the realm of intellectual property: Though it operates within a world of IP laws, were those laws repealed, it is not difficult to extrapolate the possibility of crowdfunding taking over as one of many primary mechanisms for providing public goods. Instead of the modified copyright game, crowdfunding returns to the patronage game, only substituting the crowd for the original patron. The question remains as to what degree we are “locked-in” to the potentially sub-optimal copyright/IP equilibrium.

35Notably, only one of the top ten most funded Kickstarter projects claims to have a patent pending.
Table 3.4: Descriptive Statistics of Kickstarter data (U.S. Projects only)

<table>
<thead>
<tr>
<th>Category</th>
<th>Successful</th>
<th>% of Goal Funded</th>
<th>Backers</th>
<th>Goal</th>
<th>Duration</th>
<th>Backed</th>
<th>Rewards</th>
<th>Friends</th>
<th>Project #</th>
</tr>
</thead>
<tbody>
<tr>
<td>mean Books</td>
<td>0.22</td>
<td>0.47</td>
<td>39.61</td>
<td>11248.05</td>
<td>34.07</td>
<td>0.65</td>
<td>4.98</td>
<td>163.02</td>
<td>1.09</td>
</tr>
<tr>
<td>sd Books</td>
<td>0.42</td>
<td>2.52</td>
<td>188.29</td>
<td>32791.53</td>
<td>11.25</td>
<td>2.80</td>
<td>4.84</td>
<td>352.20</td>
<td>0.51</td>
</tr>
<tr>
<td>mean Music</td>
<td>0.43</td>
<td>1.38</td>
<td>47.91</td>
<td>16260.34</td>
<td>34.27</td>
<td>0.35</td>
<td>5.76</td>
<td>167.65</td>
<td>1.07</td>
</tr>
<tr>
<td>sd Music</td>
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<td>29.26</td>
<td>110.07</td>
<td>403388.15</td>
<td>11.83</td>
<td>1.50</td>
<td>5.57</td>
<td>365.06</td>
<td>0.56</td>
</tr>
<tr>
<td>mean Film</td>
<td>0.30</td>
<td>1.02</td>
<td>66.87</td>
<td>47064.17</td>
<td>34.72</td>
<td>0.52</td>
<td>6.01</td>
<td>166.93</td>
<td>1.06</td>
</tr>
<tr>
<td>sd Film</td>
<td>0.46</td>
<td>18.34</td>
<td>285.05</td>
<td>561135.54</td>
<td>12.48</td>
<td>2.10</td>
<td>5.65</td>
<td>364.61</td>
<td>0.31</td>
</tr>
<tr>
<td>mean Creative</td>
<td>0.33</td>
<td>1.02</td>
<td>53.26</td>
<td>27001.36</td>
<td>34.40</td>
<td>0.49</td>
<td>5.67</td>
<td>166.25</td>
<td>1.07</td>
</tr>
<tr>
<td>sd Creative</td>
<td>0.47</td>
<td>21.17</td>
<td>211.49</td>
<td>427547.32</td>
<td>11.95</td>
<td>2.11</td>
<td>5.45</td>
<td>361.77</td>
<td>0.46</td>
</tr>
<tr>
<td>mean Noncreative</td>
<td>0.37</td>
<td>1.04</td>
<td>143.40</td>
<td>19960.99</td>
<td>33.18</td>
<td>0.86</td>
<td>5.97</td>
<td>152.06</td>
<td>1.10</td>
</tr>
<tr>
<td>sd Noncreative</td>
<td>0.48</td>
<td>6.36</td>
<td>1089.38</td>
<td>73092.03</td>
<td>11.21</td>
<td>4.68</td>
<td>5.73</td>
<td>340.56</td>
<td>0.49</td>
</tr>
<tr>
<td>mean All</td>
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<td>1.03</td>
<td>90.18</td>
<td>24117.34</td>
<td>33.90</td>
<td>0.64</td>
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<tr>
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<td>Backers</td>
<td>Goal</td>
<td>Duration</td>
<td>Others Backed</td>
<td>Rewards</td>
<td>Friends</td>
<td>Project #</td>
</tr>
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<td>----------------------</td>
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<tr>
<td>Successful</td>
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<td>%ofGoal</td>
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<td>0.13***</td>
<td>0.04***</td>
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<td>Goal</td>
<td>-0.03***</td>
<td>0.00</td>
<td>0.04***</td>
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<tr>
<td>Duration</td>
<td>-0.15***</td>
<td>0.00</td>
<td>0.00</td>
<td>0.02**</td>
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<tr>
<td>Others Backed</td>
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<td>0.02</td>
<td>0.04***</td>
<td>0.00</td>
<td>-0.02**</td>
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<td></td>
<td></td>
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<tr>
<td>Rewards</td>
<td>0.26***</td>
<td>0.01</td>
<td>0.09***</td>
<td>0.01</td>
<td>-0.04***</td>
<td>0.15***</td>
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<td>0.01</td>
<td>-0.01</td>
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<td>-0.03***</td>
<td>0.20***</td>
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<td>0.00</td>
<td>-0.01</td>
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<td>0.00</td>
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<td>Pledged</td>
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<td>0.91***</td>
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<td>0.02**</td>
<td>0.06***</td>
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<td>Creative</td>
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<td>0.05***</td>
<td>-0.05***</td>
<td>-0.03**</td>
<td>0.02*</td>
<td>-0.03**</td>
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Table 3.6: Description of crowdfunding variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Description</th>
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<tbody>
<tr>
<td>Successful</td>
<td>Binary variable, =1 if project was funded, =0 if project failed</td>
</tr>
<tr>
<td>Ln(Goal)</td>
<td>Natural Log of Fundraising Goal (in $)</td>
</tr>
<tr>
<td>Duration</td>
<td>Length (in days) project was active until goal met/failed</td>
</tr>
<tr>
<td>Backed</td>
<td>Number of other Kickstarter projects the creator has previously backed</td>
</tr>
<tr>
<td>Ln(Friends)</td>
<td>Natural Log of number of Facebook friends of the creator</td>
</tr>
<tr>
<td>Rewards</td>
<td>Number of different reward levels offered</td>
</tr>
<tr>
<td>Backers</td>
<td>Number of backers that have pledged money to the project</td>
</tr>
<tr>
<td>Project #</td>
<td>Indicates whether this project is the first, second, etc. project created by the creator</td>
</tr>
</tbody>
</table>
Table 3.7: Summary of Regression Results

<table>
<thead>
<tr>
<th></th>
<th>Successful? (0=No, 1=Yes)</th>
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<tr>
<td></td>
<td>Books</td>
</tr>
<tr>
<td></td>
<td>(1)</td>
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<tr>
<td>In(Goal)</td>
<td>$-0.097^{***}$</td>
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<td>(0.007)</td>
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<td>Duration</td>
<td>$-0.002^{**}$</td>
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<td>(0.001)</td>
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<td>Backers</td>
<td>0.001$^{**}$</td>
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<tr>
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<td>(0.0002)</td>
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<tr>
<td>Backed</td>
<td>0.016$^{***}$</td>
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<tr>
<td></td>
<td>(0.005)</td>
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<tr>
<td>In(Friends)</td>
<td>$-0.004$</td>
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<td>(0.004)</td>
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<tr>
<td>Rewards</td>
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<td>(0.002)</td>
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<td>Project No.</td>
<td>$-0.030^{**}$</td>
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<td>(0.013)</td>
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<tr>
<td>Constant</td>
<td>2.021$^{***}$</td>
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<tr>
<td></td>
<td>(0.065)</td>
</tr>
<tr>
<td>N</td>
<td>1,892</td>
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<tr>
<td>R²</td>
<td>0.227</td>
</tr>
</tbody>
</table>

*Notes:*

***Significant at the 1 percent level.
**Significant at the 5 percent level.
*Significant at the 10 percent level.
Bibliography


——— (2004): “Sharing and Stealing,”.


Mitra, T. and E. Gilbert (2014): “The Language that Gets People to Give: Phrases that Predict Success on Kickstarter,”


127


Curriculum Vitae

Ryan Safner was born and raised in Connecticut and attended South Windsor High School, as well as the University of Connecticut, where he received a B.A. in economics. Following his passion of researching and teaching economics, he attended George Mason University in Virginia, earning his M.A. in economics in 2011 and his Ph.D in 2015, and was an H.B. Earhart Fellow.