

CROWDFUNDING AND INTELLECTUAL PROPERTY

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This paper explores the critical role of intellectual property (“IP”) rights in crowdfunding, particularly how public disclosure at early entrepreneurial stages affects campaign success. We present novel data indicating a positive correlation between robust IP regimes and increased global crowdfunding activities (per capita), a link not extensively examined in existing literature. The study also compares IP challenges in crowdfunding with those in academic research, emphasizing the unique reliance on reputation and scholarly integrity in academia as opposed to formal legal protections in crowdfunding. This research fills a gap in the understanding of IP’s impact on crowdfunding, offering valuable insights for practitioners and policymakers in this evolving field.

INTRODUCTION	216
I. CROWDFUNDING AND THE IMPORTANCE OF INTELLECTUAL PROPERTY PROTECTION	219
II. INTELLECTUAL PROPERTY IN CROWDFUNDING RESEARCH..	228
CONCLUSIONS AND FUTURE RESEARCH	231

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“One of the most notable issues that can arise from using crowdfunding is the difficulty in protecting the inventor’s intellectual property during the process.”¹

INTRODUCTION

In the dynamic intersection of finance and innovation, the relationship between crowdfunding and intellectual property (“IP”) rights emerges as a crucial focus area. Crowdfunding, a modern method of raising capital, has revolutionized the way projects and startups secure funding, democratizing access to resources for innovators and entrepreneurs.² This paper explores how this novel fundraising method interacts with the multifaceted world of IP rights, a critical aspect of modern business strategy and legal practice.

Decentralized finance (“defi”) removes the middleman, so to speak. In entrepreneurial finance, the middleman is often a venture capital fund,³ a commercial bank, or an investment bank.⁴ Venture capital funds obtain their capital commitments from institutional investors and reinvest that capital into entrepreneurial firms; funds are limited partnerships that last for ten to thirteen years,⁵ with fixed fees to fund managers that are typically around 1 to 2 percent, and performance fees that are normally around 10 to 30 percent.⁶ Commercial banks obtain their capital from depositors, and make loans to entrepreneurs at a higher rate of interest, provided the entrepreneur has a quality credit rating and sufficient

1. Christopher Heer et al., *How to Crowdfund an Invention Without Losing Intellectual Property Rights*, HEER L. (Jan. 3, 2022), <https://www.heerlaw.com/crowdfunding-intellectual-property-rights> [<https://perma.cc/LG9L-6AD3>].

2. Alice Rossi et al., *Equity Crowdfunding: New Evidence from US and UK Markets*, 1 REV. CORP. FIN. 407, 409 (2021); see also ANDREW A. SCHWARTZ, INVESTMENT CROWDFUNDING 17 (Oxford University Press 2023).

3. PAUL GOMPERS & JOSH LERNER, THE VENTURE CAPITAL CYCLE 5 (MIT Press 1999); see also DOUGLAS J. CUMMING & SOFIA A. JOHAN, VENTURE CAPITAL AND PRIVATE EQUITY CONTRACTING: AN INTERNATIONAL PERSPECTIVE xix (2nd ed., Elsevier Science Academic Press 2013).

4. Andy Cosh et al., *Outside Entrepreneurial Capital*, 119 ECON. J. 1494, 1499 (2009); Alicia M. Robb & David T. Robinson, *The Capital Structure Decisions of New Firms*, 27 REV. FIN. STUD. 153, 153 (2014).

5. Douglas Cumming & Sofia Johan, *Is It the Law or the Lawyers? Investment Covenants Around the World*, 12 EUR. FIN. MGMT. 553, 554 (2006).

6. Paul Gompers & Josh Lerner, *An Analysis of Compensation in the U.S. Venture Capital Partnership*, 51 J. FIN. ECON. 3, 6 (1999); Douglas Cumming & Sofia Johan, *Legality and Venture Capital Fund Manager Compensation*, 11 VENTURE CAP. 23, 24 (2009); Sofia Johan & Dorra Najar, *The Role of Corruption, Culture, and Law in Investment Fund Manager Fees*, 95 J. BUS. ETHICS 147, 148 (2010).

collateral.⁷ Investment banks help private entrepreneurial firms obtain a listing on a stock exchange, where the fees charged for large initial public offerings (“IPOs”) are normally around 7 percent of capital raised,⁸ while smaller IPOs on junior exchanges can have fees as large as 50 percent.⁹ Angel investors (typically entrepreneurs that had a successful exit and then reinvest in new start-ups) do not have a middleman, but do require legal contracts that can be quite large and up to 50 percent of capital raises.¹⁰

In crowdfunding, by contrast, fees are typically less than 5 percent of the capital raised.¹¹ Crowdfunding typically uses an online platform. There are four main types of crowdfunding: (1) donations (such as GoFundMe), (2) rewards (such as Kickstarter and Indiegogo), (3) debt in the form of peer-to-peer (P2P or individual to individual) marketplace lending (individual to business) (such as LendingClub and Prosper), and (4) equity crowdfunding (such as StartEngine, WeFunder, Crowdcube, and OurCrowd). The platforms are expected to perform due diligence checks, albeit these checks are not as extensive as those provided by traditional intermediaries. Due diligence checks typically include background checks, site visits, credit checks, cross-checks, account monitoring, and third-party proof on funding projects.¹² With reduced due diligence, entrepreneurs can initiate a campaign rather quickly and possibly obtain funding quicker than that which would otherwise be possible through traditional forms of finance. Additionally, the costs are lower: a 5 percent fee, for example, is substantially lower than the 7 percent charged for large IPOs and the 50 percent charged for small IPOs.

There are other disclosure costs with crowdfunding. FinTech companies such as iDisclose¹³ have created faster and cheaper ways

7. Allen N. Berger et al., *Corporate Capital Structure and Firm Value: International Evidence on the Special Roles of Bank Debt*, 1 REV. CORP. FIN. 1, 2 (2020).

8. Hsuan-Chi Chen & Jay R. Ritter, *The Seven Percent Solution*, 55 J. FIN. 1105, 1105 (2000).

9. See generally CUMMING & JOHAN, *supra* note 3.

10. One entrepreneur at an angel financing summit in Montreal Canada just prior to the rise in the popularity of crowdfunding described her legal fees to the authors at \$70,000 on a \$150,000 capital raise. See also Douglas Cumming & Minjie Zhang, *Bankruptcy Law and Angel Investors Around the World*, 54 J. INT’L BUS. STUD. 1256, 1259 (2023); Douglas Cumming & Minjie Zhang, *Angel Investors Around the World*, 50 J. INT’L BUS. STUD. 692, 695 (2019).

11. DOUGLAS CUMMING & SOFIA JOHAN, CROWDFUNDING: FUNDAMENTAL CASES, FACTS, AND INSIGHTS 55 (2019).

12. Douglas Cumming et al., *The Role of Due Diligence in Crowdfunding Platforms*, 108 J. BANKING & FIN. 1, 2 (2019).

13. Marketwired, *iDisclose Rolls Out Comprehensive Tool to Cut Legal Costs for Entrepreneurs*, YAHOO!FINANCE (Sept. 30, 2015),

of ensuring full and proper disclosure at a lower cost, typically around \$5,000 instead of the otherwise normal legal expenditures of \$30,000 to \$100,000.¹⁴ It protects entrepreneurs from lawsuits, and/or scrutiny from the SEC, for improper disclosure. These other costs are not the focus of this article. Instead, our focus here is on the relevance of IP protection for crowdfunding.

The concept of IP, encompassing patents, trademarks, copyrights, and trade secrets, forms the backbone of innovation and creative endeavors. Patents protect unique inventions and processes, trademarks safeguard brand identities and logos, copyrights defend artistic and literary works, while trade secrets cover vital confidential business information. These IP rights are not just legal tools; they represent the embodiment of research and innovation, providing a safety net for investment in new ideas and creative work. IP protection is not needed for all or most crowdfunding campaigns. Nevertheless, for more innovative startups seeking equity crowdfunding, IP protection can easily run as much as 10 percent, or \$30,000 of a typical \$300,000 capital raise in an equity crowdfunding campaign.¹⁵

When considering the intricate relationship between crowdfunding and IP, it becomes apparent that the dynamics extend beyond platforms' functionalities or mere legal adherence. The interplay between robust IP protections at the country level and the flourishing of crowdfunding platforms illustrates a reciprocal relationship. Strong IP regimes enable entrepreneurs to confidently leverage crowdfunding mechanisms and foster the growth of these platforms. This growth, in turn, nurtures innovation and contributes significantly to economic development. This interdependent dynamic underscores the necessity for resilient and harmonized IP laws, laws that are capable of adapting

<https://www.yahoo.com/news/finance/news/ide disclose-rolls-comprehensive-tool-cut-171702021.html> [<https://perma.cc/X9NH-MEUK>].

14. Geri Stengel, *Entrepreneurs Disrupt Costly Legal Fees For Startups And Small Businesses*, FORBES (Nov. 4, 2015, 11:17 AM), <https://www.forbes.com/sites/geristengel/2015/11/04/entrepreneurs-disrupt-costly-legal-fees-for-startups-and-small-businesses/?sh=50354ed41ef0> [<https://perma.cc/N7A2-6HXG>].

15. Russ Wilcox, *How Much Should Startups Invest in Intellectual Property?*, PILLAR VC, <https://www.pillar.vc/playlist/article/how-much-should-startups-invest-in-intellectual-property/> [<https://perma.cc/6R44-NMSJ>]. "Crowdfunding on a blockchain may potentially reduce expected legal fees related to intellectual property protection because the risk of litigation is lower since the timing of inventions is more transparent and verifiable on a blockchain." See Andreas Gabl & Stephan Ulrich Krehl, *Application of Blockchain Technology and Crowdfunding to Solve Structural Inefficiencies in Digital Rights and Patents: A Comparative Analysis 36-37* (June 2017) (M.S. thesis, Massachusetts Institute of Technology) (<https://dspace.mit.edu/handle/1721.1/111452>) [<https://perma.cc/M3GH-ZZ29>].

to the evolving characteristics of crowdfunding, and its increasing significance in the global innovation economy.

To complement our analyses of crowdfunding and IP protection in legal and entrepreneurial practice, this article also discusses intellectual property of academic crowdfunding research. Recent years have witnessed a surge in scholarly papers on this subject. However, a concerning trend has emerged: not all of these academic works adequately acknowledge their intellectual origins. This phenomenon mirrors a similar issue in online crowdfunding campaigns, where ideas released into the public domain are often utilized without proper attribution.¹⁶ In academic circles, the enforcement of IP rights tends to be less rigorous compared to practical applications. Here, the mechanisms governing the use and acknowledgment of ideas largely hinge on scholarly reputation rather than legal enforcement. This contrasts sharply with the crowdfunding practice, where reputation plays a subordinate role, and the primary concerns revolve around the legal protection of IP rights and the associated costs of enforcement.

Thus, it becomes imperative to scrutinize the mechanisms underpinning both the academic and practical realms of crowdfunding. This analysis seeks to dissect the nuances of IP management within these spheres, emphasizing the vital role of legal frameworks in practice and the predominance of reputational considerations in academic discourse. By exploring these dimensions, this paper aims to shed light on the broader implications of IP in crowdfunding, elucidating how these factors collectively serve as catalysts for innovation and commercial success.

This paper proceeds as follows. The next section discusses why IP protection is important in crowdfunding. Also, we provide evidence from worldwide data that countries with stronger IP protection have larger crowdfunding markets per capita. Thereafter, we discuss academic work on crowdfunding and how enforcement of IP rights is scant and primarily based on reputational concerns. The final section offers concluding remarks, discusses limitations, and provides suggestions for future research.

I. CROWDFUNDING AND THE IMPORTANCE OF INTELLECTUAL PROPERTY PROTECTION

In the dynamic world of crowdfunding, the protection of IP rights holds a pivotal place, especially given the “first to file” rule

16. Of course, the issue of borrowing of ideas in academics is not unique to crowdfunding. We simply limit our discussion of academics here to crowdfunding for illustrative purposes only, as a broader discussion is beyond the scope of this paper.

prevalent in numerous jurisdictions, including the U.S. and Canada. Crowdfunders must diligently safeguard their patents, copyrights, and trademarks before they launch campaigns to the public. In the U.S., the mechanism to establish an early filing date is through provisional patent applications. These preliminary and incomplete applications allow the inventor to secure a priority date with a non-extendable pendency period of twelve months. The costs associated with provisional patents are relatively lower, and the United States Patent and Trademark Office (USPTO) offers a reduced fee for small entities—defined as organizations with fewer than 500 employees.¹⁷ This concession is particularly beneficial to crowdfunders, often operating with limited resources. Neglecting to file a patent can be costly; competitors may seize market opportunities or, more severely, obtain a patent for the same invention and initiate legal action against the original inventor. Moreover, if an inventor fails to file a patent application within one year of public disclosure through crowdfunding, they risk losing their IP rights due to the novelty-defeating nature of such disclosures.¹⁸

While consistent across some territories, this framework contrasts starkly with the variances in IP law internationally. European countries, for instance, offer different safeguards. The European Patent Convention (“EPC”) provides inventors a grace period to file after public disclosure—a policy not available in the “first to file” jurisdictions.¹⁹ The grace period provides a safety net, allowing inventors to retain their patent rights despite such premature disclosures.

Additionally, while countries like China and India are actively reforming their IP laws to foster a culture of innovation, they each pose distinct challenges for their domestic entities. In China, despite improvements, domestic innovators often grapple with an IP enforcement system that can be slow to act and sometimes unpredictable. This is due, in part, to the varying levels of enforcement rigor across different provinces and the relatively recent development of a comprehensive IP legal framework.²⁰ Chinese companies, especially smaller ones with limited resources,

17. 37 C.F.R. § 1.27(a); 13 C.F.R. §§ 121.801–121.805.

18. Justin D. Kloss, *Can Inventors Lose Their Patent Rights Via Crowdfunding Platforms?*, KLOSS STENGER & GORMLEY LLP, <https://klosslaw.com/can-inventors-lose-their-patent-rights-by-using-crowdfunding-platforms/> [https://perma.cc/ZH9U-LNMY] (last visited Apr. 16, 2024).

19. CATHERINE SEVILLE, *EU INTELLECTUAL PROPERTY LAW AND POLICY* 167 (Edward Elgar Publishing 2009).

20. Qing Cao, *Insight into Weak Enforcement of Intellectual Property Rights in China*, 38 *TECH. SOC’Y* 40, 42 (2014).

may find the enforcement of their IP rights to be a daunting and resource-intensive process, potentially discouraging them from engaging in crowdfunding ventures that rely on the perceived security of these rights.²¹

In India, domestic innovators face the challenge of navigating stringent patentability criteria that can impede the protection of incremental and grassroots innovations, which are often the lifeblood of local startups and entrepreneurs.²² Section 3(k) of the Indian Patents Act excludes mathematical methods, business methods, computer programs per se, and algorithms from patentability.²³ For a software-based invention to be patentable, it must be coupled with a novel hardware component or must demonstrate that it leads to a “technical contribution” or a “technical advancement.”²⁴ This provision, along with the rigorous application of the non-obviousness criterion, can discourage Indian innovators from pursuing patents and, by extension, from seeking crowdfunding, as the inability to secure patent protection may render their ventures less attractive to potential backers.

These challenges, faced by domestic innovators in China and India, can have a profound impact on the attractiveness of crowdfunding within these markets. Suppose local entrepreneurs anticipate difficulties in securing or enforcing their IP rights. In that case, they may be less likely to use crowdfunding platforms, which often serve as a showcase for innovation and rely heavily on the ability to protect and commercialize IP. Consequently, this could slow the growth of crowdfunding ecosystems in these countries despite their large and growing economies.

Crowdfunding platforms often have IP policies for the platform.²⁵ Hence, the choice of platform is very relevant for entrepreneurs and their investors as different platforms allot different protections to investors’ IP. For example, crowdfunding platforms enable folks from the crowd to comment on the campaign. Different platforms may have different policies about ownership of suggestions or comments on campaigns made through the platform.

21. Wenqi Luo & Yong Ma, *Impact of Environmental Policy on the Innovation of SMEs: Chinese Evidence*, 79 *ECON. ANALYSIS & POL’Y*, 917, 920 (2023).

22. JOHN BRAITHWAITE & PETER DRAHOS, *GLOBAL BUSINESS REGULATION* 375 (Cambridge Univ. Press 2000).

23. The Patents Act, 1970, §3(k) (India).

24. Manisha Singh & Swati Mittal, *Much-Needed Clarity on Software Patentability Boosts Protection and Enforcement in India*, *LEXORBITIS* (Oct. 19, 2023), <https://www.lex-orbis.com/wp-content/uploads/2023/10/IAM-Asia-Pacific-Patent-Litigation-Review-2024-%E2%80%93-Specialist-Topic-Much-Needed-Clarity-on-Software-Patentability-Boosts-Protection-and-Enforcement-in-India.pdf> [<https://perma.cc/4UBH-G4ZQ>].

25. Heer et al., *supra* note 1.

Some platform users forfeit their IP rights, while others allow the commentators to retain ownership of their suggestions. These claims of ownership may come many months after a campaign, particularly if the suggestion was helpful for the entrepreneur in obtaining significant profits. Platforms may remove campaigns with allegations of IP infringement, while others may have a more nuanced policy that requires more substantiation. Kickstarter, for example, will typically remove campaigns where there are allegations of infringement.²⁶

Addressing complex IP issues often entails costs that can surpass the financial benefits garnered from crowdfunding. Inventors must weigh these costs carefully; robust IP protection does not grant immunity against infringement. The expenses incurred while enforcing IP rights may dwarf the capital raised through crowdfunding campaigns. Therefore, the efficacy of a country's legal system in offering IP protections and in the economic enforcement of these rights becomes a pivotal consideration for crowdfunders and investors internationally.

The extant body of research draws connections between the business-friendliness of a legal environment and the volume of crowdfunding activity.²⁷ Yet, there remains a gap in understanding how the level of IP protection influences crowdfunding efficacy. Filling this research gap is vital, given that IP does not merely serve as a legal framework but also stimulates innovation and drives economic growth within the crowdfunding ecosystem. This necessitates an in-depth examination of IP's role in enhancing the viability and success of crowdfunding ventures.

In the realm of a free society, a robust system of property rights stands as a cornerstone, enabling owners to utilize natural resources and delineate their use by others, thereby fostering a climate conducive to the exercise of a multitude of rights.²⁸ Such a system is not only fundamental to personal freedom but also catalyzes a virtuous cycle where property rights and freedom mutually reinforce each other. The Property Rights Alliance established the International Property Rights Index ("IPRI") in 2007 to encapsulate and quantify the state of property rights

26. Zachary Strebeck, *What Happens When Your Kickstarter Is Suspended for Trademark Infringement?*, STREBECK L., <https://strebecklaw.com/what-happens-when-your-kickstarter-is-suspended-for-trademark-infringement/> [https://perma.cc/UTA7-T4Y3] (last visited Apr. 16, 2024).

27. Francesca Di Pietro & Vincenzo Butticiè, *Institutional Characteristics and the Development of Crowdfunding Across Countries*, 71 INT'L REV. FIN. ANALYSIS 1, 2 (2020).

28. Eric T. Freyfogle, *Property and Liberty*, 34 HARV. ENV'T. L. REV. 75, 75 (2010).

globally.²⁹ This comprehensive index breaks down into three pivotal components: Legal and Political Environment (“LP”), Physical Property Rights (“PPR”), and Intellectual Property Rights (“IPR”).³⁰

The LP component evaluates the robustness of a country’s institutions and the collective respect for the “rules of the game,” providing a broad measure of the country’s commitment to developing and protecting property rights.³¹ This component’s breadth is critical, as it reflects the myriad ways legal and political climates influence physical and IP rights. The remaining two components, PPR and IPR, capture the essence of property rights critical to a nation’s socio-economic advancement.³² These components detail the rights enshrined in law (*de jure*) and the opportunities for exercising these rights in practice (*de facto*).³³

Our dataset leverages the nuanced insights provided by the IPRI to investigate the influence of property rights on crowdfunding. Figure 1, derived from the latest IPRI data, depicts the protection of IP rights across the globe in 2020 through a spectrum of green shades—darker tones denote weaker protection, while lighter tones indicate stronger enforcement. This visual representation immediately highlights the disparity in IP rights protection in North America, Western Europe, and certain East Asian territories. Countries like the U.S., Canada, most of the European Union, Australia, Japan, and South Korea exhibit robust IP regimes. In stark contrast, the darker shades covering much of Africa, Central Asia, and parts of South America reveal the challenges faced in those regions regarding IP enforcement. Meanwhile, countries such as Russia, China, and India present a spectrum of moderate protection. As illustrated in the heat map, these variances are crucial for our analysis of how IP protection levels influence crowdfunding activities across different geopolitical landscapes.

29. SARY LEVY-CARCIENTE, INTERNATIONAL PROPERTY RIGHTS INDEX 2020 4 (Lorenzo Montanari ed., 2020), <https://atr-ipri2017.s3.amazonaws.com/uploads/IPRI+2020+Full+Report.pdf> [<https://perma.cc/K77G-S7QN>].

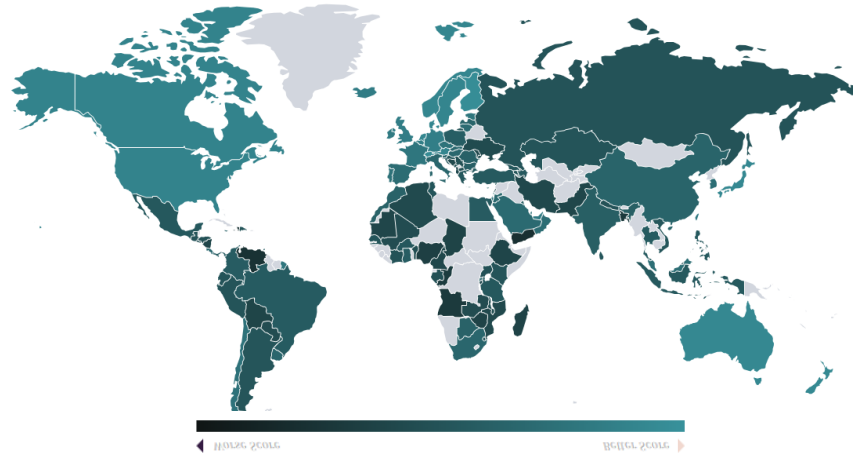
30. *Id.*

31. *Id.*

32. *Id.*

33. *Id.*

Figure 1. International Property Rights (IPR) Index 2020 by Country³⁴



Our analysis also leverages a dataset from the Cambridge Center for Alternative Finance, capturing crowdfunding activity worldwide.³⁵ Our combined dataset becomes the lens through which we discern how the strength of IP rights within different nations shapes the crowdfunding landscape.

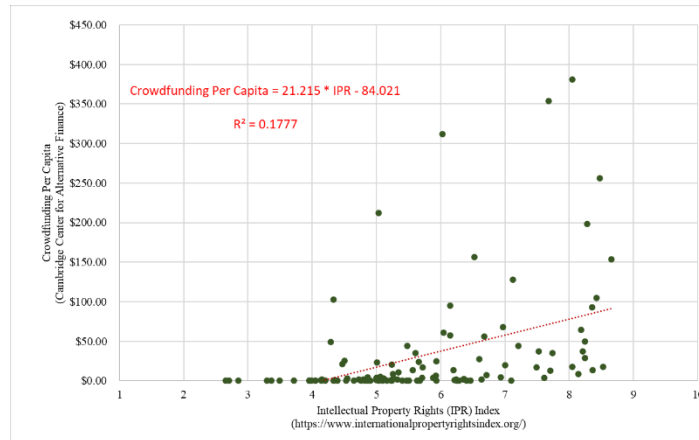
In Figure 2, we provide a simple regression analysis contrasting average crowdfunding levels per capita between 2019 and 2020 as a function of IP protection.³⁶ The regression shows a significant positive relation, with a goodness of fit (R^2) value of 17.77%. This analysis indicates that a one-standard deviation increase (1.449921) in IP protection gives rise to a \$30,760 increase in crowdfunding per capita across countries, which is 96.60% of the average crowdfunding per capita across each country. For instance, Sweden, with a higher IPRI score, shows a crowdfunding per capita of \$64.03, compared to Spain's \$27.24, which correlates with its lower IPRI score (8.187 for Sweden and 6.599 for Spain).

34. *International Property Rights Index 2023*, PROP. RTS. ALL., <https://www.internationalpropertyrightsindex.org/#world-map> [<https://perma.cc/T5U8-HSZ2>].

35. TANIA ZIEGLER ET AL., *THE 2ND GLOBAL ALTERNATIVE FINANCE MARKET BENCHMARKING REPORT 5* (Cambridge Centre for Alternative Finance 2021), <https://www.jbs.cam.ac.uk/wp-content/uploads/2021/06/ccaf-2021-06-report-2nd-global-alternative-finance-benchmarking-study-report.pdf> [<https://perma.cc/V8QT-V7FQ>].

36. *International Property Rights Index 2023*, *supra* note 34.

Figure 2. Intellectual Property Rights (IPR) Index on Average Crowdfunding Totals between 2019 and 2020



Our results highlight how a country's IPR regime significantly influences the conduciveness of crowdfunding. Differences in IP protection across countries create varied landscapes for crowdfunding. In regions where IP rights are robust and enforcement is stringent, crowdfunders operate with greater confidence, leading to higher engagement and increased volumes of crowdfunding activities. Entrepreneurs are more likely to seek funds publicly when they trust that their inventions and creations are safeguarded against infringement. This trust fosters an environment where crowdfunding platforms can emerge and flourish, meeting the demand for such funding mechanisms.

Conversely, in countries where IP rights are weak or poorly enforced, the fear of idea misappropriation may deter innovators from engaging in crowdfunding. The anticipation of insufficient protection can stifle the willingness of entrepreneurs to disclose their ideas to the public, leading to lower crowdfunding volumes. In such environments, the potential for crowdfunding platforms to develop and thrive is similarly diminished, as the risk of IP infringement curtails the demand for these services.

Of course, there are other factors that influence the size of crowdfunding markets around the world.³⁷ For example, Cumming,

37. See generally CUMMING & JOHAN, *supra* note 11 (providing evidence on the role of legal systems and cultural conditions influencing the size of crowdfunding markets around the world. Many studies that compare the size of crowdfunding markets around the world will look specifically at different sectors such as renewable energy, as there are very specific policies around the world that affect specific sectors); see, e.g., Douglas Cumming et al., *Crowdfunding Cleantech*, 65 ENERGY ECON. 292, 292 (2017); see also R.

Johan, and Reardon find that there is more crowdfunding in the U.S. as a result of a May 2021 legal change allowing the size of equity crowdfunding capital raises to increase to a cap of \$5 million compared to the prior cap of \$1 million.³⁸ Also, Cumming and Reardon find that different states in the U.S. have experienced differential rates of growth of crowdfunding in response to changes in economic conditions and housing prices.³⁹

However, this initial look at the data is consistent with the view that a legal system that enables reasonable enforcement at a reasonable cost is a credible signal that IP protection might be enforced in the event of infringement. Hence, it is more worthwhile for entrepreneurs and their crowdfunders to pursue crowdfunding in these jurisdictions.⁴⁰ These credible signals give rise to the prediction that we would expect more crowdfunding in jurisdictions with better IP laws, and this preliminary look at the data supports this view.

Consistent with this view, many academic⁴¹ and practitioner⁴² sources on the Internet agree that IP protection is essential prior to public disclosure of ideas through crowdfunding. A core insight from these sources is that IP protection does not mean there will be no problems of infringement and lawsuits. Rather, the benefit of IP protection is higher in countries with higher IP protection indices where IP rights can be enforced. Hence, IP protection better enables crowdfunding.

Bianchini & A. Croce, *The Role of Environmental Policies in Promoting Venture Capital Investments in Cleantech Companies*, 2 REV. CORP. FIN. 587, 587 (2022) (related work in venture capital); Burze Yasar, *The New Investment Landscape: Equity Crowdfunding*, 21 CENT. BANK REV. 1, 13 (2021).

38. Douglas J. Cumming et al., *Governance and Success in U.S. Securities-Based Crowdfunding* (Ctr. for Fin. Stud., Working Paper, Paper No. 668, 2021) <https://ssrn.com/abstract=3973145> [<https://perma.cc/39PD-3PS9>].

39. Douglas Cumming & Robert S. Reardon, *COVID-19 and Entrepreneurial Processes in U.S. Equity Crowdfunding*, 61 J. SMALL BUS. MGMT. 2326, 2326 (2023).

40. See, e.g., Ryan Safner, *Kickstart My Art: Are Crowdfunding and Intellectual Property Rights Complements or Substitutes?* (July 13, 2020) <https://gamef21.classes.ryansafner.com/readings/Safner-2021b.pdf> [<https://perma.cc/8VB9-2N6G>] (theoretical mathematical models are also consistent with this view).

41. See, e.g., Sean M. O'Connor, *Crowdfunding's Impact on Start-Up IP Strategy*, 21 GEO. MASON L. REV. 895, 900 (2014); see also Alexis Kanarek, *Protecting Your Intellectual Property While Crowdfunding*, U. MIAMI BUS. L. REV. (Mar. 13, 2015), <https://business-law-review.law.miami.edu/protecting-intellectual-property-crowdfunding/> [<https://perma.cc/SGT4-E929>].

42. See, e.g., David Postolski & Gearhart Law LLC, *Crowdfunding or Crowdfinancing and Its Intersection with IP*, FINANCIER WORLDWIDE (Feb. 2019), <https://www.financierworldwide.com/crowdfunding-or-crowdfinancing-and-its-intersection-with-ip> [<https://perma.cc/933P-8LHT>]; Chandler Stephens, *Crowdfunding Platforms and IP Enforcement*, NORTON ROSE FULBRIGHT (May 12, 2017), <https://www.socialmedialawbulletin.com/2017/05/crowdfunding-platforms-ip-enforcement/> [<https://perma.cc/5Z5R-PS4R>].

Litigation risks are sufficiently large that some commentators have suggested that patent litigation insurance may be required in the future for crowdfunding companies.⁴³ Doing so would be problematic, as it could cost at least \$13,000 per year (based on the dollar value in 2009).⁴⁴ To date, there appears to be no signs that litigation insurance will be imposed on platforms or crowdfunding companies. Nevertheless, crowdfunding companies have had legal disputes over patent and copyright infringement. For example, in 2016, there was a lawsuit against a crowdfunded company that raised \$1.4 million on Kickstarter for a Star Trek-related movie.⁴⁵ The court ruled that the defendants could not apply a fair use doctrine to protect against the unauthorized derivative work, that the crowdfunded company's new work was not transformative, and that it shared objective substantial similarity with the Paramount Pictures Corporation and CBS Studios Inc.'s works.⁴⁶ The matter was settled upon release of the court's ruling.⁴⁷ Other IP infringement cases in crowdfunding have similarly resulted in settlements.⁴⁸

Crowdfunding platforms have been sued for patent infringement, but none of these cases have succeeded.⁴⁹ In *Alice v. CLS Bank*,⁵⁰ the Supreme Court limited the scope of vague and broad software patents that were commonly held by patent trolls. The *Alice* decision has been upheld in the case of crowdfunding.⁵¹

43. Spencer S. Haley, *Insuring Failure: How Crowd-Sourcing Sites May be Forced into the Role of Patent Insurance*, 24 J. INTEL. PROP. L. 179, 189 (2016).

44. J. Rodrigo Fuentes, *Patent Insurance: Towards a More Affordable Mandatory Scheme?*, 10 COLUM. SCI. & TECH. L. REV. 267, 284 (2009).

45. *Paramount Pictures Corp. v. Axanar Prods., Inc.*, No. 2:15-CV-09938-RGK-E, 2017 WL 83506, at *1 (C.D. Cal. Jan. 3, 2017).

46. *Id.* at *9.

47. *Copyright Infringement Suit Against Producers of Unauthorized Star Trek Film*, LOEB & LOEB LLP, <https://www.loeb.com/en/experience/copyright-infringement-suit-against-producers-of-unauthorized-star-trek-film> [<https://perma.cc/U2XF-WJYA>] (last visited Apr. 16, 2024).

48. *See, e.g.*, Yixuan Long, *3D Systems and Formlabs Settled Two-Year Patent Dispute*, JOLT DIGEST (Dec. 21, 2014), <https://jolt.law.harvard.edu/digest/3d-systems-and-formlabs-settled-two-year-patent-dispute> [<https://perma.cc/U9AK-NLQU>].

49. *See, e.g.*, JD Alois, *Details Emerge on Patent Lawsuit Against Multiple Crowdfunding Platforms*, CROWDFUND INSIDER (Jan. 29, 2015, 9:33 AM), <https://www.crowdfundinsider.com/2015/01/61834-details-emerge-on-patent-lawsuit-against-multiple-crowdfunding-plaforms-revealed/> [<https://perma.cc/3NKN-VQB2>]; *see also* Joseph Flaherty, *Can You Really Sue Kickstarter for IP Infringement?*, WIRED (May 30, 2013, 12:14 PM), <https://www.wired.com/2013/05/formlabs-kickstarter-and-3d-systems-experts-weigh-in/> [<https://perma.cc/6UJR-3P82>].

50. *Alice Corp. Pty. Ltd. v. CLS Bank Int'l*, 573 U.S. 208 (2014).

51. *Gust, Inc. v. AlphaCap Ventures, LLC*, 905 F.3d 1321, 1326 (Fed. Cir. 2018); *see also* Mark Lemley et al., *Recent Developments in Patent Law (Fall 2018)*, (Sept. 20, 2018)

These decisions have been viewed favorably as saving crowdfunding from patent trolls.⁵² Kickstarter similarly prevailed in a lawsuit with ArtistShare, where the court ruled that ArtistShare's patent was invalid as it was overly broad.⁵³

Interestingly, one popular and growing form of crowdfunding is for legal expenses. There are even crowdfunding sites devoted specifically to legal expenses, such as CrowdJustice, which charges 3 percent of capital raises.⁵⁴ CrowdJustice even has a class of cases devoted to funding IP cases.⁵⁵ Crowdfunding legal expenses is not merely a U.S. phenomenon but also in other countries such as the U.K.⁵⁶

II. INTELLECTUAL PROPERTY IN CROWDFUNDING RESEARCH

As discussed above, the world of crowdfunding is particularly unique in entrepreneurial finance, with the public disclosure of novel ideas that can lead to intellectual property theft. But there is a parallel context that is worth discussing: academic research. With the resignation of Harvard's former President Claudine Gay, plagiarism has become a very popular topic in academics and media; there has even been a recent call from hedge fund billionaire Bill Ackman to investigate the MIT President and all of its faculty for plagiarism.⁵⁷ Academic research in law, finance, economics, entrepreneurship, and management is similar to crowdfunding insofar as ideas are disclosed publicly on webpages long before they come to fruition as an academic publication. One popular page is

https://www.law.berkeley.edu/wp-content/uploads/2018/12/PatentYearInReview_20181126-Marks-changes-2018-11-28.docx [https://perma.cc/4D82-44RD].

52. See, e.g., *Alice Decision Saves Crowdfunding from Patent Troll*, ELEC. FRONTIER FOUND., <https://www.eff.org/alice/alice-decision-saves-crowdfunding-patent-troll> [https://perma.cc/92AD-AZGK] (last visited Apr. 16, 2024).

53. *Kickstarter Prevails After Crowdfunding Patent Threat*, MANDOUR & ASSOCS., <https://www.mandourlaw.com/kickstarter-prevails-after-crowdfunding-patent-threat/> [https://perma.cc/K2ZR-7LQ5] (last visited Apr. 16, 2024).

54. *Legal Fees and Costs, Sorted*, CROWDJUSTICE, <https://www.crowdjustice.com/how-it-works/> [https://perma.cc/7FUT-Z28U] (last visited Apr. 16, 2024).

55. *Intellectual Property Cases*, CROWDJUSTICE, <https://www.crowdjustice.com/cases/?tag=Intellectual%20property> [https://perma.cc/8RPQ-8R7H] (last visited Apr. 16, 2024).

56. *Crowdfunding a Legal Case*, BRETT WILSON LLP, <https://www.brettwilson.co.uk/crowdfunding-a-legal-case#:~:text=Yes%2C%20crowdfunding%20can%20be%20a,payment%20processing%20fee%20of%203%25> [https://perma.cc/4VGN-RYYX] (last visited Apr. 16, 2024).

57. Meredith Wadman & Jocelyn Kaiser, *Billionaire Launches Plagiarism Detection Effort Against MIT President and All Its Faculty*, SCI. (Jan. 8, 2024, 7:15 PM), <https://www.science.org/content/article/billionaire-launches-plagiarism-detection-effort-against-mit-president-and-all-its> [https://perma.cc/QQW4-2CCC].

the Social Science Research Network.⁵⁸ Other popular pages include Researchgate,⁵⁹ Academia,⁶⁰ and RePEc.⁶¹ Academics that post their work risk others taking their ideas without proper attribution. Hence, at first glance, the issues with IP protection seem similar to those in crowdfunding.

However, there is a crucial difference in the enforcement of IP rights between these two realms. In academia, the reliance on the integrity of the scholarly community and the respect for the intellectual contributions of others often supersedes formal legal mechanisms. Academics typically rely on the posting date as a claim to originality, but this system is not foolproof. It is vulnerable to manipulations, such as backdating or denying access to prior work. Colleagues at universities where some of the authors have worked have complained about that happening. The costs of such IP conflicts in academia are often intangible, related to lost citations or publication opportunities, making formal legal action less appealing due to its high costs and limited tangible benefits.

The challenges in academic IP enforcement are further complicated in cases where infringement is not outright copying, but rather lies in a grey area of intellectual overlap. An infringing author can simply claim they did not see the competing work they have not adequately referenced, or merely inadvertently forgot to reference. An author might intentionally not thank select discussants on their work at conferences to hide the fact that they were told about overlapping work.

The enforcement of IP rights in such grey areas is fraught with difficulties. The benefits, often limited to increased citations and academic recognition, may not justify the substantial costs and effort involved in pursuing formal IP disputes. Consequently, reputation remains the primary, yet sometimes insufficient, check against such practices. However, as evidenced by discussions on

58. SSRN, <https://www.ssrn.com> [<https://perma.cc/TAG5-AV72>] (last visited Apr. 16, 2024) (SSRN was purchased by Elsevier in May 2016, which caused some academics to be concerned due to Elsevier's focus on protecting copyright and profit maximizing policies with high subscription fees and the like. Some have even described Elsevier as an "enemy of open knowledge." See David Nagel, *Elsevier Stirs Up Controversy with SSRN Acquisition*, CAMPUS TECH. (May 18, 2016), <https://campustechnology.com/articles/2016/05/18/elsevier-buys-up-ssrn-stirs-up-controversy.aspx> [<https://perma.cc/QC6G-X6TN>].).

59. RESEARCHGATE, <https://www.researchgate.net/> [<https://perma.cc/XQ9H-CRQC>] (last visited Apr. 16, 2024).

60. ACADEMIA, <https://www.academia.edu/> [<https://perma.cc/Z6UF-Y2PJ>] (last visited Apr. 16, 2024).

61. *Participating in RePEc*, IDEAS, <https://ideas.repec.org/participate.html> [<https://perma.cc/77Z5-TVUC>] (last visited Apr. 16, 2024).

platforms like Economics Job Market Rumors (“EJMR”),⁶² reliance on reputation alone does not always prevent these issues, pointing to a need for more robust mechanisms to address IP challenges in academic settings.

The pattern of non-citation across these works raises questions. Such instances may reflect broader trends in academic publishing where significant overlaps in research are not always adequately acknowledged, potentially obscuring the lineage and evolution of ideas within the field.

In academics, reputation is functionally the only mechanism used to discourage misconduct. However, problems not caught prior to publication typically go unresolved, as academic journals have a financial interest in not showing that there has been a problem, as it reflects a lack of due diligence prior to publication.

This discussion highlights the intricate challenges of IP enforcement in academia, underscoring the necessity for more explicit guidelines and robust systems to ensure intellectual integrity. The academic reliance on reputation and scholarly norms, however, contrasts sharply with the landscape in crowdfunding. Reputation often plays a less significant role in deterring misconduct or fraud in crowdfunding. It is observed that crowdfunders involved in dubious practices seldom disclose their identities fully, typically lacking a strong social media presence⁶³ and often exhibiting poor writing skills.⁶⁴ These factors make enforcing property rules more critical in crowdfunding than in academic contexts.

Consequently, while the risks of IP infringement in crowdfunding campaigns resemble those in academic research, the incentives and mechanisms for enforcement diverge considerably. In crowdfunding, the emphasis on legal mechanisms and formal IP protection is paramount, highlighting a distinct approach to safeguarding intellectual contributions compared to the more reputation-based system prevalent in academia. This disparity calls for tailored strategies in addressing IP challenges in each field,

62. See, e.g., *Economists Go Wild over Overlooked Citations in Preprint on Prenatal Stress*, RETRACTION WATCH, <https://retractionwatch.com/2016/05/26/economists-go-wild-over-overlooked-citations-in-preprint-on-prenatal-stress/> [<https://perma.cc/8A8K-6XY3>]. (last visited Apr. 16, 2024) (EJMR has been applauded for documenting cases of academic misconduct. It has also been heavily criticized for enabling defamatory comments that are untrue, and for toxic comments against women and other problems. See Justin Wolfers, *Evidence of a Toxic Environment for Women in Economics*, N.Y. TIMES (Aug. 18, 2017), <https://www.nytimes.com/2017/08/18/upshot/evidence-of-a-toxic-environment-for-women-in-economics.html> [<https://perma.cc/9GP2-8AWE>]).

63. Douglas Cumming et al., *Disentangling Crowdfunding from Fraudfunding*, 182 J. BUS. ETHICS 1103, 1106 (2023).

64. *Id.* at 1119.

recognizing the unique dynamics and enforcement needs of crowdfunding and academic research.

CONCLUSIONS AND FUTURE RESEARCH

Crowdfunding represents a novel paradigm in the early-stage financing of entrepreneurial ventures, offering access to capital that is typically more readily available and cost-effective than traditional avenues. However, a critical challenge in this landscape is the balance between the public disclosure inherent in crowdfunding and the safeguarding of IP. Entrepreneurs must carefully weigh the costs of IP protection—both in terms of initial filing before launching a crowdfunding campaign and subsequent enforcement expenses—against the potential risks of not securing their intellectual properties. This paper has shed light on these pivotal considerations and their implications.

From the evidence presented in this article, it is evident that IP rights significantly influence the efficacy of crowdfunding across different countries. This evidence complements other work on the importance of other legal mechanisms in crowdfunding, including Delaware incorporation,⁶⁵ minority shareholder protection in different countries,⁶⁶ bankruptcy legislation,⁶⁷ and other pertinent factors such as international differences in trust.⁶⁸ This insight is crucial for both practitioners and policymakers. For entrepreneurs, understanding the IP landscape is vital for strategizing their crowdfunding campaigns and protecting their innovations. Practitioners should also be aware of the varying costs and benefits of IP protection in different jurisdictions and consider this in their global expansion strategies.

For policymakers, this study underscores the importance of crafting IP regulations conducive to the flourishing of crowdfunding while ensuring adequate protection for inventors and investors. Such policies should strike a balance between accessibility to crowdfunding platforms and the robustness of IP enforcement mechanisms. Additionally, the regulatory framework should be

65. See Cumming et al., *supra* note 38, at 38–39.

66. See, e.g., Cumming et al., *supra* note 37, at 297.

67. See *Bankruptcy Law and Angel Investors Around the World*, *supra* note 10, at 1256; John Armour & Douglas Cumming, *Bankruptcy Law and Entrepreneurship*, 10 AM. L. & ECON. REV. 303, 304 (2008); John Armour & Douglas Cumming, *The Legislative Road to Silicon Valley*, 58 OXFORD ECON. PAPERS 596, 596 (2006); Wei Fan & Michelle J. White, *Personal Bankruptcy and the Level of Entrepreneurial Activity*, 46 J. L. & ECON. 543, 543 (2023).

68. Rotem Shneor et al., *The Role of Social Trust in Reward Crowdfunding Campaigns' Design and Success*, 32 ELEC. MKTS. 1103, 1103 (2022).

sensitive to the unique challenges posed by crowdfunding, such as the early-stage public disclosure of ideas.

A limitation of our analysis is its simplicity and the potential confounding factors not controlled for in our regression models. The influence of cultural, economic, and legal differences across countries might have impacted the observed relationship between IP regimes and crowdfunding activities. Future studies should aim to incorporate these variables to provide a more nuanced understanding.

In addition to the primary focus on crowdfunding and IP, this paper has drawn parallels between the practice of crowdfunding and the academic study of the phenomenon. In both domains, the early and open sharing of ideas is fundamental, yet it brings forth unique challenges in terms of IP protection. In the academic context, the enforcement of IP rights is often deemphasized, largely because the costs associated with such enforcement frequently outweigh the benefits. This situation has led to a reliance on the unspoken rules of reputation and scholarly integrity. Academics often depend on respect for these principles among their peers, rather than legal mechanisms to safeguard their ideas.

In contrast, legal mechanisms for IP protection in the realm of crowdfunding assume a more critical role. The nature of crowdfunding—being a more commercial and competitive environment—diminishes the efficacy of reputation as a sole protective measure. Here, the risks associated with public disclosure of ideas are higher, and the reliance on legal protections becomes paramount. Entrepreneurs must navigate these complex waters where reputation, while valuable, cannot fully mitigate the risks, and the legal avenues for IP protection become indispensable.

As the interplay between crowdfunding and IP continues to evolve, future research should pivot to new, unexplored areas beyond the realms of incorporation laws, minority shareholder protections, bankruptcy legislation, and other pertinent factors such as international differences in trust.⁶⁹ A pivotal area of investigation is the relationship between different IP protection strategies and crowdfunding success. This encompasses analyzing how various forms of IP rights, such as patents, trademarks, and copyrights, influence not only the funding outcomes but also investor confidence and the longevity of the ventures.

Equally important is the study of investor perceptions and behaviors on crowdfunding platforms. Research should focus on understanding how backers view IP protection and how this

69. See generally *id.*; Cumming et al., *supra* note 37; *Bankruptcy Law and Angel Investors Around the World*, *supra* note 10.

perception guides investment decisions across different crowdfunding models like equity, reward, and donation-based platforms. This line of inquiry will shed light on the nuanced ways in which IP considerations shape investor behavior in crowdfunding.

Blockchain technology presents a transformative opportunity at the intersection of crowdfunding and IP protection. Its inherent capacity for ensuring data integrity makes it an ideal tool for establishing and verifying ownership rights with greater efficiency and authenticity. In the context of trademark registration, particularly in jurisdictions requiring proof of usage, blockchain can document a trademark's use, frequency, and date, thereby streamlining the registration process and providing a verifiable record.⁷⁰ For copyright protection, as exemplified by countries like Turkey where registration is not mandatory, blockchain offers an indisputable timestamping mechanism, which is crucial in establishing creation time and ownership in legal disputes.⁷¹ Furthermore, blockchain's ability to provide a clear record of creation significantly aids in combating digital works' infringement, making it easier to enforce IPR and protect creators' interests. This integration of blockchain technology in crowdfunding can revolutionize the management and enforcement of IPR, enhancing security and transparency in entrepreneurial ventures.

Lastly, future research should compare how crowdfunding and IP protection interplay in diverse cultural and economic settings. This research should delve into the dynamics in various countries, contrasting the experiences in developed and emerging economies to draw a global picture of crowdfunding's effectiveness in different IP regimes.

70. See Andreaa Baker, *The Power of NFT Trademarks: How Blockchain Registration Outshines USPTO*, THE TRADEMARK CO. (June 20, 2023), <https://www.thetrademarkcompany.com/learning-center/the-power-of-nft-trademarks#:~:text=Once%20a%20trademark%20is%20registered,against%20fraudulent%20claims%20or%20disputes> [<https://perma.cc/U92R-DZKN>]; Julie Tolek, *The Use of Blockchain in Trademark and Brand Protection*, JD SUPRA (June 22, 2021), <https://www.jdsupra.com/legalnews/the-use-of-blockchain-in-trademark-and-1929008/> [<https://perma.cc/6CY6-U5CZ>].

71. Yasemin Kenaroglu & Gözde Özen, *No Registration or Proof of Use, No Problem: How the Turkish IP System Supports All Legitimate Rights Holders*, WORLD TRADEMARK REV. (Mar. 23, 2021), <https://www.worldtrademarkreview.com/article/no-registration-or-proof-of-use-no-problem-how-the-turkish-ip-system-supports-all-legitimate-rights-holders> [<https://perma.cc/G7GX-ZK5H>].