

Article

The Digital Shareholder

Andrew A. Schwartz[†]

Introduction	610
I. Introduction to Crowdfunding	614
A. Crowdfunding Securities	615
B. The Vision of Crowdfunding	619
1. Startup Nation	619
2. Digital Shareholders	624
II. The Three Fundamental Problems of Entrepreneurial Finance	629
A. Uncertainty	629
B. Information Asymmetry	631
C. Agency Costs	632
III. Most Traditional Techniques Will Not Translate to Crowdfunding	635
A. Solutions from Venture Capital	636
1. Staged Financing	637
2. Preferred Stock	639
3. Control Rights	641
4. Equity-Based Compensation	642
5. Geographic Proximity	642
B. Solutions from Angel Investing	644

[†] Associate Professor of Law, University of Colorado Law School. For comments on prior drafts, I thank Brad Bernthal, Steve Bradford, David Burton, Kristen Carpenter, Steven Davidoff Solomon, Michael Dorff, George Geis, Erik Gerding, Thomas Lee Hazen, Peter Huang, Christine Hurt, Keith Hylton, Darian Ibrahim, Donald Langevoort, Mark Loewenstein, Therese Maynard, Geoffrey Miller, Seth Oranburg, Elizabeth Pollman, David Schizer, Allison Schwartz, Christina Skinner, Andrew Verstein, and those that participated in the Annual Meeting of the Section on Transactional Law and Skills of the Association of American Law Schools, the Federalist Society Annual Faculty Conference, the Federalist Society Junior Scholars Colloquium, a staff meeting at the Securities and Exchange Commission, and a law faculty workshop at the University of Colorado. For research assistance, I thank Erin Iyigun and Lisa Willcox, and for editorial assistance, I thank Charlie Bowers. Copyright © 2015 by Andrew A. Schwartz.

1. Technical Expertise	645
2. Active Participation	646
3. Geographic Proximity	647
C. Solutions from Public Companies	648
1. Mandatory Disclosure	649
2. Proxy Contests	650
3. Takeovers	651
4. Derivative Actions	652
5. Activist Shareholders	653
6. Equity-Based Compensation	654
7. Appraisal and <i>Weinberger</i>	655
IV. Digital Methods To Address the Three Problems in	
Crowdfunding	657
A. The Wisdom of the Crowd	658
B. Crowdsourced Investment Analysis	662
C. Online Reputation	669
1. Disaggregated Online Reputation	673
2. Reputation Feedback Systems	675
D. Securities-Based Compensation	678
E. Digital Monitoring	679
Conclusion	684

INTRODUCTION

Ready or not, securities crowdfunding is about to go live.¹ The Jumpstart Our Business Startups (JOBS) Act of 2012² amended federal securities law to allow entrepreneurs to sell up to \$1 million in unregistered securities to the public over the Internet.³ No longer will an entrepreneur be stymied by a lack

1. The federal statute authorizing crowdfunding was signed into law by President Obama in April 2012 and directed the Securities and Exchange Commission (SEC) to issue final regulations by the end of that year. Jumpstart Our Business Startups Act, Pub. L. No. 112-106, § 302(c), 126 Stat. 306, 320 (2012) (codified at 15 U.S.C. § 77d). The SEC adopted final rules on crowdfunding in October 2015. Press Release, U.S. Sec. & Exch. Comm'n, SEC Adopts Rules To Permit Crowdfunding (Oct. 30, 2015), <http://www.sec.gov/news/pressrelease/2015-249.html>. The new crowdfunding rules are set to become effective 180 days after publication in the Federal Register, so the first crowdfunding offerings will likely commence in 2016. JD Alois, *Final Crowdfunding Rules Under Title III of the JOBS Act of 2012*, CROWDFUND INSIDER (Oct. 31, 2015, 4:54 PM), <http://www.crowdfundinsider.com/2015/10/76637-final-crowdfunding-rules-under-title-iii-of-the-jobs-act-of-2012/>.

2. Jumpstart Our Business Startups Act, 126 Stat. at 306 (codified at 15 U.S.C. §§ 77a–77r, 78a–78o (2012)).

3. See Andrew A. Schwartz, *Crowdfunding Securities*, 88 NOTRE DAME L. REV. 1457, 1458 & n.2 (2013).

of personal wealth or connections (or proximity to Silicon Valley). Once crowdfunding⁴ begins, anybody with a startup⁵ will be able to go online and offer a piece of the action to the American people.⁶ And the community of investors—coined here as “digital shareholders”⁷—will be inclusive and diverse as well. Through crowdfunding, people of modest means will for the first time be legally authorized to invest in startups that are currently offered exclusively to wealthy “accredited” investors.⁸

This is a compelling vision, one endorsed by a bipartisan Congress and echoed by a diverse group of states as well as foreign countries.⁹ “For the first time,” said President Obama when he signed the JOBS Act, “ordinary Americans will be able to go online and invest in entrepreneurs that they believe in.”¹⁰ But can crowdfunding really live up to this sort of rhetoric?

4. The term “crowdfunding” has a variety of uses in the field of securities law. In this Article it is used to refer to financing a business, especially a startup, pursuant to Title III of the federal JOBS Act of 2012 or analogous legislation. *See id.* at 1458.

5. Crowdfunding is not legally limited to startup companies; other small businesses can avail themselves as well. *See* Andrew A. Schwartz, *Rural Crowdfunding*, 13 U.C. DAVIS BUS. L.J. 283, 293 (2013) (discussing crowdfunding as a way for farms to raise capital). The thrust of the legislation, however, is to assist startups, as is apparent from the fact that JOBS stands for “Jumpstart Our Business Startups.”

6. Press Release, White House, Remarks by the President at JOBS Act Bill Signing (Apr. 5, 2012), <https://www.whitehouse.gov/the-press-office/2012/04/05/remarks-president-jobs-act-bill-signing> (“Because of this bill, start-ups and small business will now have access to a big, new pool of potential investors—namely, the American people.”).

7. The term “digital shareholder” is new and meant to refer to any crowdfunding investor, not just those who are “shareholders” in the literal sense of holding common stock. A person who buys a bond or any other crowd-funded security is a digital shareholder as the term is coined here.

8. *See generally* Usha Rodrigues, *Securities Law’s Dirty Little Secret*, 81 FORDHAM L. REV. 3389 (2013) (explaining how the average investor is limited to buying public securities while the wealthy accredited investor also has access to private markets).

9. As of February 2015, thirteen states and thirty countries had enacted crowdfunding regimes. Steven Davidoff Solomon, *S.E.C.’s Delay on Rules for Crowdfunding May Just Save It*, N.Y. TIMES, Nov. 19, 2014, at B11; EUROPEAN CROWDFUNDING NETWORK, ECN REVIEW OF CROWDFUNDING REGULATION 2014 (Dec. 2014), <http://www.eurocrowd.org/2014/12/ecn-review-crowdfunding-regulation-2014>; *see also* Robert H. Steinhoff, *The Next British Invasion Is Securities Crowdfunding: How Issuing Non-Registered Securities Through the Crowd Can Succeed in the United States*, 86 U. COLO. L. REV. 661, 690–713 (2015) (describing crowdfunding in the United Kingdom).

10. Press Release, White House, *supra* note 6; *accord* 2015 Colo. Sess. Laws 279–80 (declaring that crowdfunding will “democratize venture capital formation”).

Many legal scholars think crowdfunding will fail and have made a sport of tallying reasons why: fraud,¹¹ costs,¹² dilution,¹³ adverse selection,¹⁴ opportunism,¹⁵ and more.¹⁶

This Article is different. Rather than hurling another stone, this Article charts a positive course for crowdfunding to succeed; a course based on first principles of entrepreneurial finance. As Professor Ronald Gilson and others have established, there are three fundamental problems that all systems of startup finance must confront and overcome: (1) Uncertainty: it is impossible to predict how a startup will perform; (2) Information asymmetry: entrepreneurs inevitably know much more than investors about their business; (3) Agency costs: entrepreneurs will be tempted to shirk and engage in self-dealing.¹⁷ This well-known “trio of problems” applies directly to crowdfunding, where they will present themselves in “extreme form” due to the very early stage of the startups involved.¹⁸

Thus the important question this Article addresses is

11. See, e.g., Joan MacLeod Heminway & Shelden Ryan Hoffman, *Proceed at Your Peril: Crowdfunding and the Securities Act of 1933*, 78 TENN. L. REV. 879, 935 (2011) (expressing concern over “the capacity for fraud in crowdfunding”); see also Thomas Lee Hazen, *Crowdfunding or Fraudfunding? Social Networks and the Securities Laws—Why the Specially Tailored Exemption Must Be Conditioned on Meaningful Disclosure*, 90 N.C. L. REV. 1735, 1769 (2012) (discussing crowdfunding and concluding “that social media technologies increase . . . the potential for fraud”).

12. See, e.g., Jason W. Parsont, *Crowdfunding: The Real and the Illusory Exemption*, 4 HARV. BUS. L. REV. 281, 284–85 (2014); Robert B. Thompson & Donald C. Langevoort, *Redrawing the Public-Private Boundaries in Entrepreneurial Capital Raising*, 98 CORNELL L. REV. 1573, 1605 (2013).

13. See, e.g., John S. (Jack) Wroldsen, *The Social Network and the Crowdfund Act: Zuckerberg, Saverin, and Venture Capitalists’ Dilution of the Crowd*, 15 VAND. J. ENT. & TECH. L. 583, 616 (2013).

14. See, e.g., Darian M. Ibrahim, *Equity Crowdfunding: A Market for Lemons?*, 100 MINN. L. REV. 561, 601–02 (2015); see also Michael B. Dorff, *The Siren Call of Equity Crowdfunding*, 39 J. CORP. L. 493, 513 (2014); Gmeleen Faye B. Tomboc, *The Lemons Problem in Crowdfunding*, 30 J. MARSHALL J. INFO. TECH. & PRIVACY L. 253, 266–69 (2013).

15. See, e.g., C. Steven Bradford, *Crowdfunding and the Federal Securities Laws*, 2012 COLUM. BUS. L. REV. 1, 106–07.

16. See, e.g., Christine Hurt, *Pricing Disintermediation: Crowdfunding and Online Auction IPOs*, 2015 U. ILL. L. REV. 217, 251–58 (claiming that “[e]quity [c]rowdfunding [i]s [d]oomed” for a half-dozen independent reasons).

17. Ronald J. Gilson, *Engineering a Venture Capital Market: Lessons from the American Experience*, 55 STAN. L. REV. 1067, 1076 (2003); see Robert P. Bartlett, III, *Venture Capital, Agency Costs, and the False Dichotomy of the Corporation*, 54 UCLA L. REV. 37, 41 n.9 (2006) (“This model . . . can be found in virtually any academic discussion . . .”).

18. Gilson, *supra* note 17; see Ibrahim, *supra* note 14, at 573–76 (applying Gilson’s framework to crowdfunding).

whether crowdfunding can respond to these three fundamental problems in an efficient way. Indeed, the various academic critiques can generally be categorized as claims that one or another of the trio of problems will prove intractable for crowdfunding. For example, those who predict adverse selection are worried about information asymmetry;¹⁹ those who predict fraud are concerned about agency costs.²⁰ Rather than taking them one at a time, this Article systematically examines the three fundamental challenges of entrepreneurial finance in the context of crowdfunding.

Part I provides a primer on crowdfunding, describing the authorizing legislation and its underlying policies. Part II then introduces the trio of problems, namely uncertainty, information asymmetry, and agency costs, and predicts how they will reveal themselves in crowdfunding, setting the stage for the heart of the Article in Parts III and IV.

Part III takes a close look at the way in which three traditional forms of entrepreneurial finance—venture capital (VC), angel investing, and public companies—have addressed the trio of problems. Can any of the tools honed and perfected over the years in these three contexts be applied to crowdfunding? Unfortunately, the mechanisms used in these traditional forms of entrepreneurial finance will not translate well to crowdfunding. While a handful appear to hold some relevance for crowdfunding, none of the strongest methods used by VCs, angels, or public shareholders to address the trio of problems hold much promise for crowdfunding. For example, VCs and angel investors participate actively in their portfolio companies, in part to monitor management, but this is not possible for the crowd. Similarly, public shareholders depend on mandatory disclosure, but the signature move of crowdfunding is to exempt these securities from the usual disclosure requirements. In short, merely emulating what has worked in the past will likely prove insufficient for crowdfunding to succeed. New ideas are needed.

The primary contribution of this Article thus comes in Part IV, which describes a set of five novel methods for addressing uncertainty, information asymmetry, and agency costs in the crowdfunding context. These novel mechanisms are not taken from traditional sources but rather are designed specifically for crowdfunding's distinctive digital context.

First, crowdfunding can use the *wisdom of the crowd* to

19. See Ibrahim, *supra* note 14 (discussing information asymmetry).

20. See *infra* Part II.C (discussing examples of fraud).

distinguish between promising and poor investments.²¹ Second, digital shareholders can work together to *crowdsource investment analysis* on the Internet.²² Third, the promoters and management of a crowdfunding company will have their *online reputation* at stake, giving them an incentive to act fairly and properly.²³ Fourth, crowdfunding companies can use *securities-based compensation*, whereby management would be paid in the security being offered to the crowd.²⁴ Fifth, *digital monitoring* mechanisms can effectively address agency costs in crowdfunding companies at low cost.²⁵ Collectively these solutions provide a sound foundation for crowdfunding to function and even thrive.

This Article makes at least three novel contributions to the literature: First, it systematically analyzes the three fundamental problems of finance in the context of crowdfunding.²⁶ Second, it examines the solutions employed in the analogous contexts of VC, angel investing, and public companies, and determines their relevance for crowdfunding.²⁷ Third, and most importantly, it introduces a novel set of “digital” methods to address the three challenges that are well-suited to crowdfunding’s institutional context.²⁸

I. INTRODUCTION TO CROWDFUNDING

The idea of allowing startups and small businesses to use the Internet to raise capital originated in the 1990s,²⁹ but it was not until the 2010s that securities crowdfunding was finally authorized by federal and state legislation.³⁰ This Part introduces the concept of securities crowdfunding and the recent legal reforms that brought it into being. It also describes the compelling inclusive vision that crowdfunding offers to both entrepreneurs and investors.

21. *Infra* Part IV.A.

22. *Infra* Part IV.B.

23. *Infra* Part IV.C.

24. *Infra* Part IV.D.

25. *Infra* Part IV.E.

26. *Infra* Part II.

27. *Infra* Part III.

28. *Infra* Part IV.

29. *E.g.*, Jill E. Fisch, *Can Internet Offerings Bridge the Small Business Capital Barrier?*, 2 J. SMALL & EMERGING BUS. L. 57 (1998).

30. *See* Ibrahim, *supra* note 14, at 587 (“Twelve states have evidently tired of waiting for the SEC to act on Title III and have implemented their own intrastate Title III-like exemptions.”).

A. CROWDFUNDING SECURITIES

Securities crowdfunding is a new idea that builds off of the earlier concept of crowdsourcing.³¹ Crowdsourcing is where the public—the “crowd”—is invited to contribute to an online project without compensation.³² Wikipedia is a famous example of an Internet-based encyclopedia, in which many workers, each adding just a bit, collectively created an amazing resource.³³ *Crowdfunding* differs from crowdsourcing in that the crowd is asked to contribute money rather than labor.³⁴ To date, most crowdfunding projects have been in the form of “reward” crowdfunding where, in return for capital, the funding participants receive the fruits of the project, such as a book, CD, or video game.³⁵ Websites such as Kickstarter have been doing reward crowdfunding for the past five years, during which time it has quickly grown into a \$2 billion market.³⁶

Securities crowdfunding also will take place on the Internet but will take the concept one step further. Funding participants will receive a security, such as a share of stock, a bond, or any other investment contract.³⁷ For example, in exchange for an investment of \$100, each investor might receive a share in a rock band’s profits from their upcoming tour, which is itself financed through these investments. Until the passage of recent federal legislation as discussed immediately below, however, crowdfunding securities in this way would violate the Securities Act of 1933 as an unregistered public offering.³⁸ The law allows a person to solicit investments from the public if all that is promised is a CD or concert tickets, as in the case of reward crowdfunding.³⁹ But in order to sell securities to the public, the

31. See generally DAREN C. BRABHAM, CROWDSOURCING 2–4 (2013) (offering a formal definition of crowdsourcing); Schwartz, *supra* note 3, at 1459–77 (defining securities crowdfunding and providing background information).

32. See *Crowdsourcing*, WIKIPEDIA, <http://en.wikipedia.org/wiki/Crowdsourcing> (last visited Nov. 2, 2015); *infra* Part IV.B. See generally BRABHAM, *supra* note 31, at 12–13 (describing the internet’s ability to foster dialogue).

33. See *Wikipedia*, WIKIPEDIA, <http://en.wikipedia.org/wiki/Wikipedia> (last visited Nov. 2, 2015).

34. Schwartz, *supra* note 3, at 1459.

35. See *id.* at 1459–60.

36. See *Stats*, KICKSTARTER, <https://www.kickstarter.com/help/stats> (last visited Nov. 2, 2015) (listing \$2 billion pledged on Kickstarter since inception).

37. Schwartz, *supra* note 3, at 1459–60.

38. See 15 U.S.C. § 77e (2012).

39. Purchasing a CD or concert tickets from a reward crowdfunding website would not qualify as a “security” under the Securities Act, and was al-

Securities Act generally mandates that you first register the securities with the Securities and Exchange Commission (SEC), otherwise the securities can be cancelled and the money returned.⁴⁰ That is, unless the offering is made under an “exemption” found in the Securities Act.

“Exempt” offerings are exactly what they sound like; offerings of securities without prior registration. Two important and long-standing exemptions are the private placement exemption, where one offers securities to an exclusive group of family and friends,⁴¹ and the accredited investor exemption, where one sells securities solely to wealthy people (“accredited” investors).⁴² Title III of the federal JOBS Act (also known as the CROWDFUND Act) added a new exemption for crowdfunded securities to this list,⁴³ pending the promulgation of regulations by the SEC.⁴⁴ In addition to that federal regime, a diverse group of states have recently used the existing intrastate exemption to create an in-state crowdfunding regime.⁴⁵

These new laws authorize the crowdfunding of any type of security, including common stock, preferred stock, bonds, or any sort of “investment contract.”⁴⁶ This author has opined that debt may be an attractive type of security to crowdfund,⁴⁷ but many others expect that equity will play the primary role, as it has in the traditional contexts of VCs, angels, and public companies.⁴⁸

lowed before the recent legislative changes. Edmund W. Kitch, *Crowdfunding and an Innovator's Access to Capital*, 21 GEO. MASON L. REV. 887, 890 (2014).

40. See 15 U.S.C. §§ 77e, 77t, 77h-1.

41. *Id.* § 77d(a)(2).

42. *Id.* § 77d(a)(5). To qualify as an accredited investor, one must generally possess a net worth that exceeds \$1,000,000 (excluding one's primary residence) or an annual income that exceeds \$200,000 individually or \$300,000 jointly for each of the past two years. 17 C.F.R. § 230.501(a)(5)–(6) (2015).

43. 15 U.S.C. § 77d(a)(6). The CROWDFUND Act is Title III of the broader “JOBS Act,” which entered into law in April 2012. Jumpstart Our Business Startups Act, Pub. L. No. 112-106, § 301, 126 Stat. 306, 315 (2012) (codified at 15 U.S.C. § 77a (2012)).

44. See *supra* note 1.

45. See *supra* note 30.

46. 15 U.S.C. § 77b(a)(1); see *S.E.C. v. W.J. Howey Co.*, 328 U.S. 293, 298–99 (1946) (defining “investment contract”).

47. Schwartz, *supra* note 3, at 1488–89.

48. See, e.g., Parsont, *supra* note 12, at 289–90 (predicting the growth of “equity-based sites”). This Article addresses itself to the crowdfunding of any and all types of securities. However, because of the overriding importance of equity (including securities convertible to equity) to the traditional modes of entrepreneurial finance—VCs, angels and public companies—this Article discusses, where appropriate, concepts that are relevant only to equity securities.

The federal CROWDFUND Act includes a number of limitations on the crowdfunding of securities,⁴⁹ including the following: Companies may not raise more than \$1 million annually via crowdfunding.⁵⁰ Investors may only invest a maximum of 5% of their annual income or net worth in all crowdfunded securities each year.⁵¹ Crowdfunding transactions must be conducted through an intermediary broker dealer or “funding portal.”⁵² Issuers may not advertise to the public directly.⁵³ Investors who have pledged to invest may cancel their commitment before the deal closes.⁵⁴

The emphasis of the statute (and this Article) is on startup companies, although this is not a strict requirement.⁵⁵ Almost any corporation or other business organized under state law will be authorized to issue securities through crowdfunding. The exceptions are publicly traded companies, investment companies, and foreign companies, all of which are prohibited from employing the crowdfunding exemption.⁵⁶

Crowdfunding issuers must provide some basic disclosures to the public, including (a) the name, address, and website of the company; (b) the names of directors, officers, and substantial investors; (c) a description of the business and the anticipated business plan; and (d) a description of the issuer’s financial condition.⁵⁷ Issuers must also provide a description of the purpose and intended use of the proceeds, the target offering

See, e.g., infra Part III.C.4 (discussing shareholder derivative actions); *infra* Part III.C.7 (discussing appraisal and *Weinberger*). A discussion specific to debt-based crowdfunding is beyond the scope of the present Article but would appear to be a worthy subject of future work.

49. For a more complete discussion, see Schwartz, *supra* note 3, at 1460–66.

50. 15 U.S.C. § 77d(a)(6)(A).

51. *Id.* § 77d(a)(6)(B)(i). Wealthy investors can invest up to 10%. *Id.* § 77d(a)(6)(B)(ii).

52. *Id.* § 77d(a)(6)(C).

53. *Id.* § 77d-1(b)(2).

54. *Id.* § 77d-1(a)(7).

55. *See supra* note 4.

56. 15 U.S.C. § 77d-1(f).

57. *Id.* § 77d-1(b)(1). The disclosure requirements concerning the financial condition of the issuer vary depending on the size of the offering. Offerings under \$100,000 must provide income tax returns for the last fiscal year and unaudited financial statements certified as accurate by the principle executive officer. For offerings over \$100,000 and up to \$500,000, financial statements reviewed by an independent public accountant are required. For offerings greater than \$500,000, audited financial statements are required. *Id.* § 77d-1(b)(1)(D)(i)–(iii).

amount, the price of the securities to be offered, and a description of the ownership and capital structure of the issuer.⁵⁸ Following a crowdfunding round, an issuer must annually file with the SEC, and make available to investors, financial statements and a report on the results of operations.⁵⁹

Issuers are prohibited from advertising the offering themselves, and any solicitation of the offering must go through the registered funding portal.⁶⁰ Crowdfunded securities cannot be transferred or sold by investors for one year after the date of purchase, unless being transferred to the issuer, as part of an offering registered by the SEC, or to an accredited investor or family member.⁶¹ The CROWDFUND Act authorizes civil actions for fraud against issuers, directors, and officers.⁶² Finally, the Act expressly prohibits the several states from adding additional reporting requirements for crowdfunded securities.⁶³

The SEC recently promulgated “Regulation Crowdfunding,” as commanded by the CROWDFUND Act.⁶⁴ Once the SEC’s final regulations go into effect in 2016, interstate crowdfunding will commence.⁶⁵

On the state level, more than a dozen have enacted legislation or administrative rules authorizing securities crowdfunding within their borders,⁶⁶ pursuant to the venerable intrastate exemption.⁶⁷ This is a diverse group of states, both geographically and politically, including Colorado,⁶⁸ Georgia,⁶⁹ Massachusetts,⁷⁰ Michigan,⁷¹ Tennessee⁷² and Texas.⁷³ All of these in-

58. Issuers must also announce the deadline to reach their target amounts and provide regular updates regarding their progress toward meeting their target amounts. *Id.* § 77d-1(b)(1)(E)–(H). If the issuer fails to reach the goal, the whole transaction is cancelled. *Id.* § 77d-1(a)(7).

59. *Id.* § 77d-1(b)(4).

60. *Id.* § 77d-1(b)(2).

61. *Id.* § 77d-1(e).

62. *Id.* § 77d-1(c)(1)–(3).

63. *Id.* § 77r(a)(1), (b)(4)(C).

64. *See supra* note 1.

65. *See* Press Release, Sec. & Exch. Comm’n, *supra* note 1.

66. Thirteen states had enacted intrastate crowdfunding rules as of November 2014. Davidoff Solomon, *supra* note 9.

67. 15 U.S.C. § 77c(a)(11).

68. COLO. REV. STAT. § 11-51-308.5 (2015).

69. GA. COMP. R. & REGS. 590-4-2-.08 (2012).

70. 950 MASS. CODE REGS. 14.402(B)(13)(o) (2015).

71. MICH. COMP. LAWS § 451.2102a (2015).

72. TENN. CODE ANN. § 48-1-103(a)(13)(A) (2014).

73. 7 TEX. ADMIN. CODE § 139.25 (2014).

trastate schemes bear a close resemblance to the federal CROWDFUND Act, albeit with small changes here and there. For instance, several states increased the maximum amount issuers can raise to \$2 million, rather than \$1 million as in the federal act.⁷⁴ These modest changes do not affect the basic character of crowdfunding securities, and they need not be elaborated further.

The important point for present purposes is that the rapid adoption of crowdfunding legislation across a wide variety of states indicates a high level of enthusiasm for this new method of financing startups. Indeed, many of these intrastate crowdfunding schemes were enacted as a direct result of frustration with the SEC's delay in implementing the CROWDFUND Act.⁷⁵ These various state legislatures want crowdfunding to begin as soon as possible for their constituencies, which is a strong vote of support for the vision of crowdfunding, the subject of the next Section.

B. THE VISION OF CROWDFUNDING

Crowdfunding offers a compelling and inclusive vision that promises benefits for investors, entrepreneurs, and the economy as a whole. This is why the federal JOBS Act passed with a large bipartisan majority and why so many states have enacted intrastate crowdfunding regimes of their own.

Crowdfunding has two primary goals, one relating to entrepreneurs and one relating to investors. First, crowdfunding can empower entrepreneurs from coast to coast to use social networks and the Internet to obtain business capital at a reasonable cost. Second, crowdfunding can democratize the market for financing speculative companies by inviting ordinary people—"digital shareholders"—to make investments that are currently offered solely to accredited (wealthy) investors.

1. Startup Nation⁷⁶

There is widespread agreement that entrepreneurship is vital to innovation, economic growth, and employment in the

74. *E.g.*, WIS. STAT. § 551.202(26)(c)(1)(b) (2014).

75. *See, e.g.*, Lee Schafer, *State Can't Wait for Feds on This Kind of Fund-raiser*, STAR TRIB. (Minneapolis), Nov. 12, 2014, at D1; Davidoff Solomon, *supra* note 9 ("While the Securities and Exchange Commission dawdles, states are rushing to adopt their own crowdfunding rules.")

76. *See generally* DAN SENOR & SAUL SINGER, START-UP NATION (2009) (describing Israel's startup culture).

contemporary United States.⁷⁷ Startups in their first year have reportedly been responsible for all net job creation in the United States since at least the 1970s, having added about three million jobs per year, even during recessions.⁷⁸ Startups are similarly important for innovation and general economic growth.⁷⁹ Although many of these start-ups eventually fold,⁸⁰ those that survive are often the type of companies that create satisfying employment opportunities and whose products or services improve our quality of life.⁸¹

Our leaders and policy makers have long understood the importance of entrepreneurship to a thriving economy and society. President Obama has said that “entrepreneurialism is the key to our continued global leadership and the success of our people.”⁸² In the same vein, Congress has twice declared that “it is the continuing policy and responsibility of the Federal Government to . . . provide an opportunity for entrepreneurship . . . and the creation and growth of small businesses.”⁸³ And this has not been empty rhetoric: A portion of all federal contract dollars are statutorily required to go to small businesses, and the Small Business Administration guarantees loans for small businesses and provides free counseling and training to entrepreneurs.⁸⁴ Similarly, state and local governments expend resources attracting entrepreneurs to their communities.⁸⁵ In short, entrepreneurship is in the public in-

77. *E.g.*, Barack Obama, *Toward a 21st-Century Regulatory System*, WALL ST. J., Jan. 18, 2011, at A17; Ruth Simon & Caelainn Barr, *Endangered Species: Young U.S. Entrepreneurs*, WALL ST. J., Jan. 3–4, 2015, at A1 (“It’s part of the vitality of this country to have people starting new businesses and trying new things.” (quoting Harvard Business School Professor John Davis)).

78. *See* TIM KANE, KAUFFMAN FOUND., *THE IMPORTANCE OF STARTUPS IN JOB CREATION AND JOB DESTRUCTION* 2–6 (2010).

79. *See, e.g.*, 15 U.S.C. § 631a(a) (2012) (declaring a congressional policy of fostering small business growth).

80. *See* Steve Lohr, *To Create Jobs, Nurture Start-Ups*, N.Y. TIMES, Sept. 12, 2010, at BU3.

81. *See id.* (“[Small businesses that survive] are prime candidates to . . . make an outsize contribution to innovation, productivity gains and job growth . . .”).

82. Obama, *supra* note 77; *accord* President Barack Obama, State of the Union Address (Jan. 27, 2010), *reprinted in* 156 CONG. REC. 790 (2010) (stating that “most new jobs” start in “companies that begin when an entrepreneur takes a chance on a dream or a worker decides it’s time she became her own boss”).

83. 15 U.S.C. § 631a(a); *accord id.* § 631(a).

84. *See What We Do*, U.S. SMALL BUS. ADMIN., <https://www.sba.gov/about-sba/what-we-do> (last visited Nov. 2, 2015).

85. *See, e.g.*, Patrick McGeehan, *Hoping To Lure Tech Jobs, City Seeks a*

terest and start-up companies are actively encouraged as a matter of public policy.

Yet even as we recognize that entrepreneurship is so important to a thriving economy and society, we must also acknowledge that startups commonly have great difficulty obtaining the financing they need.⁸⁶ This lack of access to financing disproportionately affects certain types of entrepreneurs, namely those that are “out-of-the-loop” for one reason or another and do not have connections with angel investors or other wealthy financiers.

The traditional first source for entrepreneurial financing is from the entrepreneur’s friends and family, as well as their own personal savings.⁸⁷ Most people, however, have negligible personal savings, and the same can be said of their friends, so it comes down to whether the entrepreneur has a wealthy relative. Moving beyond friends and family, a bank is another potential source of startup capital. In practice, however, banks are generally hesitant to extend credit to startup companies in their earliest stages, as the risk is simply too high.⁸⁸ Many entrepreneurs use credit cards for startup financing,⁸⁹ but the high interest rate and relatively low limits mean that other financing sources are needed.

Another option is to obtain capital from professional early-stage investors, such as angel investors or venture capital funds. But there is tremendous competition for such invest-

Partner To Open a Graduate School of Engineering, N.Y. TIMES, Dec. 17, 2010, at A34 (noting that a desire to spawn “technology-based start-up companies” in New York is behind the city’s willingness to “make a significant investment” in an engineering school).

86. Simon & Barr, *supra* note 77 (“Many banks that pulled back on small-business lending during the recession that stretched from December 2007 to June 2009 have continued to keep lending standards tight.”); see PERI PAKROO, THE WOMEN’S SMALL BUSINESS START-UP KIT 98–99 (2010) (noting banks’ reluctance to lend to first-time entrepreneurs).

87. PAKROO, *supra* note 86, at 104; see Angus Loten, *For Startups, Self-Reliance Comes at a Cost*, WALL ST. J., Feb. 5, 2015, at B5 (reporting on entrepreneurs’ increasing reliance on personal finances in recent years).

88. RHONDA ABRAMS, THE OWNER’S MANUAL FOR SMALL BUSINESS 215–16 (2005); PAKROO, *supra* note 86; Ruth Simon & Angus Loten, *Small-Business Lending Stuck in the Slow Lane*, WALL ST. J., Aug. 18, 2014, at A1 (“The number of loans for \$1 million or less held by banks is down about 14% to 23.5 million since 2008.”).

89. ROBERT D. MANNING, CREDIT CARD NATION 228 (2000) (“[C]redit cards have become the number one source of financing for small businesses—supplanting bank loans in the late 1990s.”); Andrew A. Schwartz, *Old Enough To Fight, Old Enough To Swipe: A Critique of the Infancy Rule in the Federal Credit CARD Act*, 2011 UTAH L. REV. 407, 428.

ments and such investors are interested in certain types of companies, often in limited geographic areas. Importantly, angels and VCs rely heavily on connections, making it difficult to get funded in the absence of pre-existing relationships with such investors or their acquaintances.⁹⁰

Furthermore, the investing approach and expectations of VCs can shape the types of companies that get funded. In particular, VCs tend to seek “scalable” businesses, not ordinary brick-and-mortar companies, even profitable ones.⁹¹ While this may make good sense as a business matter, the effect is that companies in certain lines of business generally cannot attract the attention of VCs.

Finally, an entrepreneur could attempt to obtain capital from the public through an initial public offering (IPO). An IPO, however, implicates the heart of the Securities Act’s registration provisions, as well as the many regulations promulgated thereunder. As a result, compliance costs for an IPO can easily run to several million dollars,⁹² making an IPO economically infeasible for nearly all early-stage startups.

To sum up, many entrepreneurs have great difficulty financing startup companies. Even worse, this problem appears to be exacerbated for women and racial minorities.⁹³ The literature in the area shows that most startups founded by African-Americans receive little or no outside financing from any source, indicating a severe lack of access to startup financing.⁹⁴ In a similar vein, only about 7% of venture capital funds go to

90. See Loten, *supra* note 87 (reporting on “the clubby venture-capital world,” the importance of connections and introductions, and the reality that finding VC funding is challenging for those who are “not very well connected”).

91. Abraham J.B. Cable, *Incubator Cities: Tomorrow’s Economy, Yesterday’s Start-Ups*, 2 MICH. J. PRIV. EQUITY & VENTURE CAP. L. 195, 229 (2013).

92. Carlos Berdejó, *Going Public After the JOBS Act*, 76 OHIO ST. L.J. 1, 49 (2015) (reporting that the average regulatory compliance costs total about \$3.5 million for small issuers going public in an IPO).

93. See, e.g., PAKROO, *supra* note 86, at 96–100 (describing special difficulties of female entrepreneurs); ALICIA ROBB, U.S. SMALL BUS. ADMIN., ACCESS TO CAPITAL AMONG YOUNG FIRMS, MINORITY-OWNED FIRMS, WOMEN-OWNED FIRMS, AND HIGH-TECH FIRMS 2–3 (Apr. 2013).

94. E.g., Paroma Sanyal & Catherine L. Mann, *The Financial Structure of Startup Firms: The Role of Assets, Information, and Entrepreneur Characteristics* 15–16 (Fed. Reserve Bank of Bos., Working Paper No. 10-17, Dec. 2010) (“[S]tartups owned by African-American entrepreneurs have a lower probability of having any type of external finance, especially external equity, and instead finance their firms through personal resources. Based on odds ratios, we find that such businesses are . . . 98 percent less likely to use external equity, compared to using internal equity.” (emphasis omitted)).

women-led businesses⁹⁵ and less than 1% go to businesses founded by African-Americans.⁹⁶

Geographical constraints similarly hinder some entrepreneurs, especially because angel investors and venture capitalists tend to stay close to home.⁹⁷ A startup based in San Francisco has a better chance of being funded than one based in Toledo simply because there is a much larger community of potential funders in the former. More generally, rural entrepreneurs are at a distinct disadvantage compared with their urban counterparts.⁹⁸

Youthful entrepreneurs likewise have exceptional difficulty finding financing.⁹⁹ This is especially unfortunate, as young people are known to challenge orthodox thinking and may be able to offer fresh, new solutions to vexing problems.¹⁰⁰

Crowdfunding offers a new and inclusive way to bring needed financing to startups all across America, from coast to coast, in rural areas and urban, to entrepreneurs rich and poor, young and old, men and women of every race, ethnicity, and religion. Because it is Internet-based and so much less costly

95. Hollie Slade, *Why Is It So Hard for Female Entrepreneurs To Get VC Funding? Could Crowdfunding Be the Answer?*, FORBES (Nov. 29, 2013, 10:00 AM), <http://www.forbes.com/sites/hollieslade/2013/11/29/why-is-it-so-hard-for-female-entrepreneurs-to-get-vc-funding-could-crowdfunding-be-the-answer>; see Richard T. Harrison & Colin M. Mason, *Does Gender Matter? Women Business Angels and the Supply of Entrepreneurial Finance*, 31 ENTREPRENEURSHIP THEORY & PRAC. 445, 449–50 (2007) (finding that women comprise a similarly small percentage of angel investors). *But cf.* Sanyal & Mann, *supra* note 94, at 16 (“In contrast to other research, women owners do not show a different financial structure from startups where the primary owner is male.” (emphasis omitted)).

96. *Venture Capital Demographics—87% of VC-Backed Founders Are White; All-Asian Teams Raise Largest Funding Rounds*, CB INSIGHTS (Aug. 3, 2010), <http://www.cbinsights.com/blog/venture-capital-demographics-87-percent-vc-backed-founders-white-asian-teams-raise-largest-funding>.

97. See RICHARD FLORIDA, *THE RISE OF THE CREATIVE CLASS . . . AND HOW IT'S TRANSFORMING WORK, LEISURE, COMMUNITY AND EVERYDAY LIFE* 50–51 (2002); Andrew Wong, *Angel Finance: The Other Venture Capital*, in *VENTURE CAPITAL* 71, 73 (Douglas Cumming ed., 2010) (explaining that angel investors tend to limit their investments to startups within a three-hour drive); Randall Stross, *It's Not Who You Know. It's Where You Are*, N.Y. TIMES, Oct. 22, 2006, at BU3 (reporting that some venture capital firms in Silicon Valley adhere to a “twenty minute rule,” which provides that “if a start-up company seeking venture capital is not within a 20-minute drive of the venture firm’s offices, it will not be funded”).

98. Schwartz, *supra* note 5, at 287.

99. Andrew A. Schwartz, *Teenage Crowdfunding*, 83 U. CIN. L. REV. 515, 521–23 (2014); Simon & Barr, *supra* note 77.

100. Schwartz, *supra* note 99, at 518.

than a traditional public offering, crowdfunding will provide an opportunity for anyone with an idea to go online and seek funding to make it a reality. Not just those in Silicon Valley; not just those with wealthy friends; not just those with connections. Crowdfunding will be open to anyone and can thereby create a startup nation where every state and locality, and every field of endeavor,¹⁰¹ is the subject of active entrepreneurship.

Is this inclusive vision realistic? Based on results in reward crowdfunding and related fields, there is good reason to expect it to come to fruition. Consider the issue of female and minority entrepreneurs, who have long had a more difficult time obtaining financing from traditional sources such as banks.¹⁰² In reward crowdfunding, by contrast, it turns out that female founders are “considerably more likely to successful [sic] raise capital than male founders,” all else being equal.¹⁰³ Similarly, in the related field of peer-to-peer lending, where consumers make online loans to one another, lenders are less influenced by racial and other stereotypes than are banks and other traditional financial institutions.¹⁰⁴ These bits of evidence buttress the expectation that crowdfunding will be more egalitarian and inclusive than traditional forms of business finance.

To summarize this Subsection: the first goal of crowdfunding is to create an inclusive culture of entrepreneurship open to all Americans and, considering the above discussion, crowdfunding is well positioned to meet this goal.

2. Digital Shareholders

The second goal of crowdfunding is to democratize the

101. Crowdfunding may not be appropriate for every type of business. For one important example, ventures that are heavily dependent on intellectual property, such as a new invention, may wish to avoid crowdfunding so as not to give away their valuable secrets. They may be better off looking for VC or angel funding and requiring that potential investors sign a non-disclosure agreement, an action that would be infeasible or ineffective in the crowdfunding context. Alternatively, such ventures may be able to avoid giving away secrets by providing the crowd with only vague information.

102. See *supra* text accompanying notes 93–96.

103. Jason Greenberg & Ethan Mollick, *Leaning in or Leaning on? Gender, Homophily, and Activism in Crowdfunding* (July 3, 2014) (unpublished manuscript) (emphasis omitted), <http://ssrn.com/abstract=2462254>; cf. Slade, *supra* note 95 (“Crowdfunding eliminates bias . . . allowing true market interest to decide which ideas live or die.”).

104. Michal Herzenstein et al., *The Democratization of Personal Consumer Loans? Determinants of Success in Online Peer-to-Peer Loan Auctions* 31 (Feb. 2008) (unpublished manuscript), <http://www.rice.edu/nationalmedia/multimedia/online>.

market for investing in startup companies. For decades, the chance to invest in private startups has been legally available only to wealthy investors and friends of the founders.¹⁰⁵ This differential treatment between the wealthy and the rest was an artifact of two exemptions embedded in federal securities law.

First, the law has always exempted private offerings from the registration requirement, that is, offerings made available to an exclusive group of known people, not the general public.¹⁰⁶ Second, there is a longstanding exemption for offerings made only to wealthy investors that are “accredited” by the SEC to make such investments.¹⁰⁷ This latter exemption dates back to an SEC regulation adopted in 1982, which clarified that wealthy people—those with a net worth of more than \$1 million—were deemed to be “accredited.”¹⁰⁸

The practical effect of these two exemptions is that entrepreneurs do everything they can to avoid making an offering to the public¹⁰⁹ and instead sell unregistered securities of their startup companies only to people that come within either the private offering exemption (family and friends) or the accredited investor exemption (the wealthy).¹¹⁰ Non-millionaires have been left out, effectively barred from investing in strangers’ startup companies, thanks to this regulatory apparatus.

Crowdfunding is designed to break down this barrier by empowering ordinary non-accredited investors—“digital shareholders”¹¹¹—to take a chance and invest in the same type of unregistered securities of a stranger’s startup.¹¹² Digital share-

105. See Rodrigues, *supra* note 8, at 3389 (“Securities law’s dirty little secret is that rich investors have access to special kinds of investments . . . that everyone else does not.”).

106. See 15 U.S.C. § 77d(a)(2) (2012) (exempting certain transactions from prohibitions relating to the sale of transactions).

107. 17 C.F.R. § 230.501(a) (2013); see 15 U.S.C. § 77d(a)(2).

108. See 17 C.F.R. §§ 230.501(a)(5), 230.215(e).

109. See, e.g., Donald C. Langevoort & Robert B. Thompson, “Publicness” in *Contemporary Securities Regulation After the JOBS Act*, 101 GEO. L.J. 337, 338 (2013) (recounting Facebook’s efforts to avoid an initial public offering).

110. Press Release, White House, *supra* note 6 (“Right now, you can only turn to a limited group of investors—including banks and wealthy individuals—to get funding. Laws that are nearly eight decades old make it impossible for others to invest.”).

111. The term “shareholder” is used loosely here to include investors holding any type of security, not just common stock. See *supra* note 7.

112. Crowdfunding, 78 Fed. Reg. 66,428, 66,429 n.12 (proposed Nov. 5, 2013) (notice of final rule released Oct. 30, 2015) (to be codified at 17 C.F.R. pts. 200, 227, 232, 239–240, 249) (“[C]rowdfunding is premised on permitting sales of securities to any interested person, not just to investors who meet spe-

holders will be skilled with the Internet and open to new things—after all, they tried crowdfunding.

Digital shareholders will likely be a diverse community,¹¹³ simply because it will be open to anyone and everyone.¹¹⁴ This prediction is buttressed by the current experience in reward crowdfunding, where the community of investors is diverse, at least in terms of demographics. Backers come from every income level, with half of backers making under \$50,000 per year.¹¹⁵ Women comprise almost half of the backers on Kickstarter.¹¹⁶ Kickstarter is accessible to people of every age, ethnicity, and political persuasion.¹¹⁷

Digital shareholders will be particularly diverse compared to the traditional sources of entrepreneurial financing, angel investors, venture capitalists and public shareholders.¹¹⁸ Angel groups and VC funds are made up exclusively of accredited investors.¹¹⁹ Crowdfunding will be open to everyone.¹²⁰ Angels

cific qualifications, such as accredited investors.”); Andrew A. Schwartz, *Inclusive Crowdfunding*, 2016 UTAH L. REV. (forthcoming 2016) (manuscript at 13) (“Inclusivity is part of the essential nature of securities crowdfunding; it is what makes crowdfunding different from other methods of selling securities.”).

113. This does not mean to assert that Americans will participate in line with overall demography, merely that the overall group of digital shareholders will likely be diverse in many ways.

114. JAMES SUROWIECKI, *THE WISDOM OF CROWDS: HOW THE MANY ARE SMARTER THAN THE FEW AND HOW COLLECTIVE WISDOM SHAPES BUSINESS, ECONOMIES, SOCIETIES AND NATIONS* 31 (2004) (“[T]he sheer size of most markets, coupled with the fact that anyone with money can enter them (you don’t need to be admitted or hired), means that a certain level of diversity is almost guaranteed.”).

115. Nick Littlefield, *Kickstats: 4 Things You Need To Know About the Demographics of Crowdfunding*, CROWDLIFTED (Nov. 20, 2013), <http://www.crowdlifted.com/news/2013/11/kickstats-4-things-you-need-to-know-about-the-demographics-of-crowdfunding#>.

116. Dan Marom, Alicia Robb & Orly Sade, *Gender Dynamics in Crowdfunding (Kickstarter): Evidence on Entrepreneurs, Investors, Deals and Taste Based Discrimination* 7 (Mar. 10, 2015) (unpublished manuscript), <http://ssrn.com/abstract=2442954>.

117. See Littlefield, *supra* note 115 (suggesting that people of diverse backgrounds participate in crowdfunding through Kickstarter).

118. Crowdfunding, 78 Fed. Reg. 66,428, 66,434 (proposed Nov. 5, 2013) (notice of final rule released Oct. 30, 2015) (to be codified at 17 C.F.R. pts. 200, 227, 232, 239–240, 249) (“Congress intended for investment opportunities through crowdfunding transactions . . . to be available to all types of investors . . .”); Wroldsen, *supra* note 13, at 611 (“Crowdfunding brings the masses of everyday retail investors into what historically has been the nearly exclusive domain of venture capitalists and other wealthy investors.”).

119. Rodrigues, *supra* note 8, at 3397–402 (describing the role of angel and VC investors in accredited investing).

120. See Crowdfunding, 78 Fed. Reg. at 66,431.

and VCs tend to invest in certain geographic areas, including Silicon Valley and New York.¹²¹ Crowdfunding will be a nationwide (or statewide) market available to anyone with an Internet connection.¹²² Digital shareholders will likely be even more diverse than shareholders of public companies. The shareholder base of large public companies these days is primarily made up of institutional entities.¹²³ Retail investors trading shares for their own account comprises a rather small share of the contemporary public market.¹²⁴ Crowdfunding will present the opposite situation, for the entire body of investors will be individual digital shareholders.¹²⁵

The inclusive vision of crowdfunding has been criticized by some as nothing more than a nefarious scheme to give “middle class families the same opportunities that millionaires have always had to lose their money.”¹²⁶ While it is true that many

121. Schwartz, *supra* note 5, at 283–84.

122. This represents just about everyone, as more than 98% of Americans can reportedly access the Internet by either wired or wireless connection. EXEC. OFFICE OF THE PRESIDENT, COMMUNITY-BASED BROADBAND SOLUTIONS 3 (2015), https://www.whitehouse.gov/sites/default/files/docs/community-based_broadband_report_by_executive_office_of_the_president.pdf; THOM FILE & CAMILLE RYAN, U.S. CENSUS BUREAU, COMPUTER AND INTERNET USE IN THE UNITED STATES: 2013 (2014), http://www.census.gov/history/pdf/2013computer_use.pdf (reporting that about three-quarters of American households have Internet access at home).

123. Institutional investors hold 70% of the shares of the largest public companies. Paul H. Edelman et al., *Shareholder Voting in an Age of Intermediary Capitalism*, 87 S. CAL. L. REV. 1359, 1361 n.9 (2014) (citing CONFERENCE BD., THE 2010 INSTITUTIONAL INVESTOR REPORT: TRENDS IN ASSET ALLOCATION AND PORTFOLIO COMPOSITION 22 tbl.10, 27 tbl.13 (2010)); see Ronald J. Gilson & Jeffrey N. Gordon, *The Agency Costs of Agency Capitalism: Activist Investors and the Reevaluation of Governance Rights*, 113 COLUM. L. REV. 863, 875 (2013) (“Put graphically but not metaphorically, representatives of institutions that collectively represent effective control of many large U.S. corporations could fit around a boardroom table.”).

124. See Edelman et al., *supra* note 123.

125. See Littlefield, *supra* note 115 (“Kickstarter’s core user is decidedly not from the same demographic profile as the standard equity investor.”). The originating statute does not appear to prohibit institutional investors or other legal persons from participating in crowdfunding, but the presumption is that the investors will be natural persons. See Jumpstart Our Business Startups Act, Pub. L. No. 112-116, 126 Stat. 316–18 (2012) (codified at 15 U.S.C. §§ 77a–77r, 78a–78o (2012)); Littlefield, *supra* note 115 (analyzing Kickstarter’s over 5.5 million individual contributors).

126. 157 CONG. REC. H7286 (Nov. 3, 2011) (statement by Rep. Polis). See generally Andrew A. Schwartz, *The Nonpecuniary Benefits of Crowdfunding*, 34 REV. BANKING & FIN. L. 565 (2015) (addressing critics’ concern that investors will yield negative returns through crowdfunding and enumerating the benefits of crowdfunding).

crowdfunded companies will surely fail, it seems only fair to give everyone, not just the wealthy and connected, the freedom to take their chances and invest a small amount in what they hope will be the next Uber.¹²⁷

Will non-accredited, retail investors take advantage of this opportunity to become digital shareholders? It seems likely they will. Consider the very existence of the securities laws. The underlying concern of the 1933 and 1934 Acts was that people will gladly hand their money over to entrepreneurs if allowed to do so.¹²⁸ Those laws, including the registration requirement, erected a barricade between untested startup companies and retail investors that has stood for almost a century.¹²⁹ The JOBS Act drills a hole in that wall.¹³⁰ There is every reason to expect that American investors will act just as they always have and buy into the prospect that this or that company is the next big thing. A hint of the enthusiasm that investors may show for crowdfunding securities has already been seen on reward crowdfunding websites.¹³¹ The immense and growing popularity of reward crowdfunding provides ground for optimism regarding the prospects that investors of

127. 157 CONG. REC. H7287 (Nov. 3, 2011) (statement by Rep. Polis) (“[M]ost of these companies aren’t going to work out. That’s the nature of capitalism. Most of them are going to go out of business. . . . But do you know what? Some of them are going to work out. We could see the next Google, the next Yahoo!, the next Microsoft. Many of these companies started as garage companies, funded by proverbial friends and family. The next great American success story can be funded by crowd[fund]ing. It can have thousands of investors from middle class families across the country, earning millions of dollars on their investments”). Uber, an app-based transportation company, was founded in 2009 and valued five years later at over \$40 billion. Douglas MacMillan et al., *Investors Push Uber’s Valuation Past \$40 Billion*, WALL ST. J., Dec. 5, 2014, at A1.

128. See Hazen, *supra* note 11, at 1741 (noting that the registration, disclosure, and reporting requirements of the 1933 and 1934 Act sought to protect consumers).

129. Schwartz, *supra* note 3, at 1460, 1468–70 (describing the complexities of the registration requirement under the 1933 Securities Act).

130. Lawrence A. Hamermesh & Peter I. Tsoflias, *An Introduction to the Federalist Society’s Panelist Discussion Titled “Deregulating the Markets: The Jobs Act,”* 38 DEL. J. CORP. L. 453, 488 (2013) (calling the JOBS Act “the biggest deregulatory statute in the history of American securities regulation” (quoting Professor Robert Thompson)).

131. As of July 2010, promoters on Kickstarter had raised a total of \$15 million for 1600 projects. Edan Burkett, *A Crowdfunding Exemption? Online Investment Crowdfunding and U.S. Securities Regulation*, 13 TRANSACTIONS: TENN. J. BUS. L. 63, 73 (2011). Five years later, the total is more than 100 times larger. *Stats, supra* note 36 (reporting that \$2 billion has been pledged for more than 94,000 projects).

all types will embrace the opportunity that the JOBS Act provides.¹³²

In short, crowdfunding is designed to, and likely will, give rise to the phenomenon of the digital shareholder, a new, inclusive and diverse class of investor that will democratize the market for entrepreneurial financing.

II. THE THREE FUNDAMENTAL PROBLEMS OF ENTREPRENEURIAL FINANCE

The vision of crowdfunding just described¹³³ is a compelling one, but the form faces significant obstacles. It is generally accepted in the literature that all methods of investing pose three fundamental problems that must be addressed in order for the form to function: uncertainty, information asymmetry, and agency costs.¹³⁴ This Part introduces this “trio of problems”¹³⁵ and explains why they will present themselves in “extreme form” in the context of crowdfunding.¹³⁶

A. UNCERTAINTY

Uncertainty is inherent in investing because the future is unpredictable.¹³⁷ There is no way to know in advance which companies will succeed and which will fail, yet the nature of investing is that one must hand over one’s money based on guesses about how the future will play out. Thus, the term uncertainty, as used here, refers to “contingencies that none of the parties can definitively predict (for example, the success of a

132. See *supra* note 131.

133. See *supra* Part I.B.

134. This tripartite analysis was first presented, at least in this crystallized form, in Gilson, *supra* note 17 (“Absent a workable response, the extremity of uncertainty, information asymmetry, and agency problems likely would raise the cost of external capital to a point of market failure.”). It has since been widely adopted by numerous other scholars. See, e.g., Bartlett, *supra* note 17, at 48 (“VC scholarship has [long] been concerned with primarily one question: How do VC investors respond to the extreme uncertainty, information asymmetry, and agency problems inherent in VC investment?” (citing Gilson, *supra* note 17)); Darian M. Ibrahim, *Debt As Venture Capital*, 2010 U. ILL. L. REV. 1169, 1190 (“One of the most-discussed topics in the venture capital literature is how VCs select and monitor start-ups in the face of extreme levels of uncertainty, information asymmetries, and agency costs.” (citing Gilson, *supra* note 17)); Joseph W. Yockey, *Does Social Enterprise Law Matter?*, 66 ALA. L. REV. 767, 792 (2015) (“[E]very business must address . . . uncertainty, information asymmetry, and agency costs.” (citing Gilson, *supra* note 17)).

135. Gilson, *supra* note 17.

136. See *id.*

137. *Id.* at 1076–77.

firm's research and commercialization efforts, the market's ultimate receptivity to a firm's product, the success of competing research efforts, and macroeconomic and industry conditions).¹³⁸

Crowdfunding is designed as a vehicle to fund startups at their infancy,¹³⁹ which necessarily present a much greater degree of uncertainty than do existing businesses.¹⁴⁰ An investment in a toll bridge must be made in part on the basis of the anticipated traffic volume, but that cannot be predicted with certainty, making the investment uncertain. Compare the toll bridge investment with an investment in a startup coordinating "rideshares" over that bridge through smartphones.¹⁴¹ The latter is clearly subject to many additional levels, layers and forms of uncertainty regarding technology, commuter acceptance, government regulation or prohibition, the outcome of strategic decisions, and myriad other considerations.¹⁴²

In short, uncertainty is at a height for the type of startups that will use crowdfunding, making potential investors reticent to invest. More formally, uncertainty raises the cost of capital and, at the extreme, could shut off a company from financing entirely.¹⁴³ It must be addressed for crowdfunding to function.

138. Ronald J. Gilson & David M. Schizer, *Understanding Venture Capital Structure: A Tax Explanation for Convertible Preferred Stock*, 116 HARV. L. REV. 874, 879 n.14 (2003).

139. Crowdfunding is generally available for any type of private company, but its core goal is to advance startup companies. See *supra* note 5. But cf. Seth C. Oranburg, *Bridgefunding Is Crowdfunding for Startups Across the Private Equity Gap*, 25 CORNELL J. L. & PUB. POL'Y (forthcoming 2016) (manuscript at 25) (suggesting that crowdfunding would be most useful for companies that have already attracted angel investors).

140. Abraham J.B. Cable, *Fending for Themselves: Why Securities Regulations Should Encourage Angel Groups*, 13 U. PA. J. BUS. L. 107, 121 (2010) ("Because startup companies are new ventures operating outside of established markets, investing in them involves substantial uncertainty, information asymmetry, and agency costs."); Ronald J. Gilson, *Locating Innovation: The Endogeneity of Technology, Organizational Structure, and Financial Contracting*, 110 COLUM. L. REV. 885, 901 (2010).

141. See, e.g., CARMA, <http://carmacarpool.com> (last visited Nov. 2, 2015) (offering a commission-based smartphone app that "enables you to find nearby people going your way so you can share your commute . . . [and] the cost of the journey").

142. See Cable, *supra* note 140 (explaining that uncertainty is inherent in startups because their innovative products and business design remain untested).

143. Gilson, *supra* note 17.

B. INFORMATION ASYMMETRY

The idea of information asymmetry is that there is certain information that is known to founders, promoters, managers or other insiders, but not investors.¹⁴⁴ Consider an investment in a farm. Plainly the farmer knows much more about the land and its operation—which fields have good drainage; whether the tractor is rusty; the planting habits of her neighbors—than do the investors. This sort of information asymmetry is exacerbated in the startup context, particularly if there is technology or science involved.¹⁴⁵ Computer code, for example, is not easy to read or review; the programmer herself will surely know her code better than anyone on the outside looking in.

Information asymmetry can lead to a market failure due to adverse selection, also known as the “lemons” problem, famously espoused through the example of used cars.¹⁴⁶ The lemons problem is this: Potential investors are aware that company insiders hold important information that they (the investors) can never truly know, and this makes it difficult to distinguish between good and bad investments. Investors can therefore be expected to discount all investments, including the good ones. Absent intervention, the expected effect is that all good investments will depart out of the market, leaving only bad ones.¹⁴⁷

Information asymmetry, and the lemons problem it can cause, applies forcefully to crowdfunding.¹⁴⁸ Crowdfunding entrepreneurs will know much better than digital shareholders how successful their venture is likely to be.¹⁴⁹ Consider the case of a downtown café. The founder knows how many other cafes already exist in the neighborhood, the going price for a cappuc-

144. Gilson & Schizer, *supra* note 138 (“[I]nformation asymmetry’ refers to circumstances in which one party knows more about a particular fact relevant to the business than the other party does (for example, an employee or manager knows more about how hard she works than the venture capitalist does).”).

145. Gilson, *supra* note 17.

146. George A. Akerlof, *The Market for “Lemons”: Quality Uncertainty and the Market Mechanism*, 84 Q.J. ECON. 488, 488–91 (1970).

147. Bernard S. Black, *The Legal and Institutional Preconditions for Strong Securities Markets*, 48 UCLA L. REV. 781, 784 (2001) (explaining that information asymmetry and adverse selection can combine to drive most of the honest share-issuers out of securities markets); Frank H. Easterbrook & Daniel R. Fischel, *Mandatory Disclosure and the Protection of Investors*, 70 VA. L. REV. 669, 673–76 (1984) (discussing the “lemons” problem in securities markets and proposing potential solutions).

148. Tomboc, *supra* note 14, at 266; *id.* at 267 (“[O]nline investors face greater uncertainty than investors in offline brick and mortar businesses.”).

149. *See id.* at 266.

cino, how hard she plans to work, and a thousand other things unknown to potential investors. All this represents information asymmetry.

Furthermore, because promising entrepreneurs can be expected to have alternative avenues for financing, some commentators predict that those with good prospects will prefer other financing sources (such as angel investors and VCs), leaving crowdfunding investors with the leftovers.¹⁵⁰ To some extent, this critique can be countered by the fact that an entrepreneur need not necessarily choose between crowdfunding and the alternatives.¹⁵¹ But this is not a complete answer, and the lemons problem is a real one for crowdfunding.¹⁵²

To summarize, crowdfunded startups present a great deal of information asymmetry. If this issue is not sufficiently addressed, digital shareholders will refuse to invest and the market will not function.

C. AGENCY COSTS

An “agency” relationship is one in which one party, the “principal,” hires another party, the “agent,” to perform some service for the benefit of the principal.¹⁵³ Agency relationships can be tremendously valuable, for instance when an agent has specialized knowledge and training.¹⁵⁴ All agency relationships,

150. *E.g.*, Dorff, *supra* note 14, at 497 (“[I]t seems unlikely that any business that could obtain angel investments would seek out crowdfunding instead. Crowdfunding is therefore likely to attract those businesses that are least likely to succeed.”); *id.* at 517 (“[E]quity crowdfunders will have available to them only those opportunities already rejected by more sophisticated investors.”).

151. This has already occurred in an analogous space: SCiO, a startup making a small and affordable molecular sensor, raised \$2.7 million through reward crowdfunding and millions more through accredited-only investing. Zack Miller, *Don't Believe These 4 Myths About Equity Crowdfunding*, OUR CROWD (Dec. 3, 2014), <http://blog.ourcrowd.com/index.php/2014/12/03/dont-believe-these-4-myths-about-equity-crowdfunding>; *SCiO: Your Sixth Sense: A Pocket Molecular Sensor for All!*, KICKSTARTER, <https://www.kickstarter.com/projects/903107259/scio-your-sixth-sense-a-pocket-molecular-sensor-fo> (last visited Nov. 2, 2015).

152. *See* Ibrahim, *supra* note 14, at 591–603 (identifying the potential for a “lemons” problem as a result of crowdfunding); Tomboc, *supra* note 14, at 266 (explaining the “lemons” problem in crowdfunding).

153. Michael C. Jensen & William H. Meckling, *Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure*, 3 J. FIN. ECON. 305, 308 (1976).

154. Consider the case of a surgeon who acts as the agent for the patient-principal, providing services the patient obviously could not perform on herself.

however, suffer from a fundamental downside, namely that the agent's position allows her to act in her own interest as opposed to that of the principal.¹⁵⁵ This divergence of interests is formally known as "agency costs."¹⁵⁶

Agency costs have been known since at least the age of Adam Smith¹⁵⁷ and are a "pervasive fact of economic life."¹⁵⁸ Consider the following examples of agent misbehavior familiar from lived experience: an employee spends her time surfing the Internet rather than advancing the company's interest;¹⁵⁹ a bartender provides drinks for cash and pockets the proceeds;¹⁶⁰ an investment bank's advice is tainted by personal interest.¹⁶¹

Most important for present purposes, agency cost theory has played a dominant role in understanding business organizations, including both public companies¹⁶² and private startups.¹⁶³ The investors, as the "owners" of the corporation, are seen as the principals. The top corporate managers are the agents of the investors, running the company for the latter's benefit.¹⁶⁴ This analogy is imperfect,¹⁶⁵ but it has served as a

155. Jensen & Meckling, *supra* note 153.

156. *Id.*

157. See ADAM SMITH, THE WEALTH OF NATIONS 700 (Edwin Cannan ed., Modern Library 1937) (1776) ("[M]anagers . . . of other people's money . . . cannot well be expected [to] watch over it with the same anxious vigilance with which . . . [people] watch over their own.")

158. Kenneth J. Arrow, *The Economics of Agency*, in PRINCIPALS AND AGENTS: THE STRUCTURE OF BUSINESS 37 (John W. Pratt & Richard J. Zeckhauser eds., 1985).

159. PETER T. LEESON, THE INVISIBLE HOOK 38 (2009).

160. *Don't Let Your Bartenders Rob You Blind!*, BOB JOHNSON'S SCHOOL OF BAR MGMT., <http://www.bobthebarguy.com/bmc.htm> (last visited Nov. 2, 2015).

161. *E.g.*, *In re El Paso Corp. S'holder Litig.*, 41 A.3d 432, 434, 440, 442 (Del. Ch. 2012) (finding that Goldman Sachs, serving as advisor (agent) to El Paso in its sale to Kinder Morgan, had a "bias toward a suboptimally priced deal with Kinder Morgan" because it owned "approximately 19%, or \$4 billion worth, of Kinder Morgan stock," and because "the lead Goldman banker working for El Paso . . . personally owned approximately \$340,000 of Kinder Morgan stock"); *cf. id.* at 434 ("Although Goldman's conflict was known, inadequate efforts to cabin its role were made . . .").

162. WILLIAM A. KLEIN ET AL., BUSINESS ORGANIZATION AND FINANCE: LEGAL AND ECONOMIC PRINCIPLES 178 (11th ed. 2010) (explaining the dynamic between shareholder-agents and corporate manager-principals); George S. Geis, *Business Outsourcing and the Agency Cost Problem*, 82 NOTRE DAME L. REV. 955, 976 (2007).

163. Bartlett, *supra* note 17, at 51 ("[T]he influence of agency cost theory is clearly evident in virtually any discussion of VC investment.")

164. Geis, *supra* note 162; Jensen & Meckling, *supra* note 153, at 309 ("[T]he relationship between the stockholders and manager of a corporation fit the definition of a pure agency relationship.")

useful model for almost a century, since the path-breaking work of Adolf A. Berle, Jr. and Gardiner C. Means.¹⁶⁶

Their 1932 book, *The Modern Corporation and Private Property*, argued that the dispersed nature of public shareholders “produces a condition where the interests of owner and of ultimate manager may, and often do, diverge.”¹⁶⁷ This “separation of ownership and control” identified by Berle and Means was formalized and rechristened in the 1970s as “agency costs” by Michael C. Jensen and William H. Meckling.¹⁶⁸ Golf courses,¹⁶⁹ sculpture gardens,¹⁷⁰ and corporate jets¹⁷¹ are seen by some as expressions of the agency costs present in the traditional public company. As for private companies funded by VCs, the agency costs look somewhat different on the surface, but the basic problem is the same.¹⁷² Management, being human, will be constantly tempted to put their own interests ahead of those of their investors.

Once crowdfunding goes live, and people across the country invest in companies via online portals, the management of these companies will assume the position of agents, and the digital shareholders will act as principals. This will surely lead to the same sort of agency costs we have long observed in other contexts. Moreover, each investor will likely have a small amount at stake, thanks to the annual cap, akin to the traditional Berle-Means public corporation with dispersed shareholders.¹⁷³

165. See, e.g., Elizabeth Pollman, *Reconceiving Corporate Personhood*, 2011 UTAH L. REV. 1629, 1672 (“[M]ost scholars would probably agree that shareholders are not really ‘owners’ in the traditional sense” (collecting authorities)); see also Robert C. Clark, *Agency Costs Versus Fiduciary Duties*, in PRINCIPALS AND AGENTS: THE STRUCTURE OF BUSINESS, *supra* note 158, at 56 (“To an experienced corporate lawyer . . . the assertion that corporate managers are agents of investors, whether debtholders or stockholders, will seem odd or loose.”).

166. ADOLF A. BERLE, JR. & GARDINER C. MEANS, *THE MODERN CORPORATION AND PRIVATE PROPERTY* (1932); see Bartlett, *supra* note 17, at 50 (stating that agency cost analysis is “the primary analytical framework used in contemporary corporate scholarship”).

167. BERLE & MEANS, *supra* note 166, at 6.

168. Jensen & Meckling, *supra* note 153, at 327.

169. See, e.g., Jacob Bunge, *DuPont Holds onto Rare Assets*, WALL ST. J., Sept. 23, 2014, at B10.

170. See, e.g., Rachel A. Antman, *Modern Sculptures, Outdoors and Free*, N.Y. TIMES, Sept. 29, 2006, at F7 (describing the Donald M. Kendall Sculpture Gardens at PepsiCo’s headquarters in Purchase, New York).

171. See, e.g., Joann S. Lublin, *The Annual CEO Pay Survey: Firms Still Pay for Personal Jet Use*, WALL ST. J., May 28, 2014, at B5.

172. Gilson, *supra* note 17, at 1077.

173. BERLE & MEANS, *supra* note 166, at 47–68.

Management will be in control of the company on a day-to-day basis,¹⁷⁴ and would seem to be just as prone to shirking, stealing, and generally acting against the investors' interest as any other agent would be.

In other words, crowdfunded company managers are in an analogous position to public company managers vis-à-vis their shareholders. They will be managing "other people's money,"¹⁷⁵ and the usual agency costs will be present in the crowdfunding context as well. For example, if a rock band were to crowdfund securities that promise investors a portion of the profits from an upcoming tour, the investors are analogous to principals and the band is analogous to their agent. It is easy to imagine the band taking limousines to their shows, enjoying lovely buffets backstage, and throwing great after-parties—even though these perks will cut into the investors' profit.

Dealing with agency costs like these in the crowdfunding context is in the interest of all parties. For investors, the reason is obvious: they want the founders, promoters, and managers to do a good and faithful job running the company. As for promoters, they realize that no one will invest in the company (or will only do so at a high cost of capital) unless they can assure potential investors that agency costs will be sufficiently cabined.¹⁷⁶ Agency costs must be addressed for crowdfunding to function.

This Part showed that erecting the legislative apparatus for crowdfunding is not enough to ensure that it will actually work. Crowdfunding must somehow solve the three fundamental problems of uncertainty, information asymmetry, and agency costs, or be doomed to failure.

The next two Parts take up this challenge. Part III will examine other related contexts where these three problems have been resolved, namely venture capital, angel investing, and public companies. The goal of Part III is to determine whether the techniques employed in those traditional forms of entrepreneurial finance for addressing the trio of problems would be appropriate for crowdfunding. Finally, Part IV will introduce a set of new and different responses specifically designed for crowdfunding.

III. MOST TRADITIONAL TECHNIQUES WILL NOT

174. See, e.g., DEL. CODE ANN. tit. 8, § 141(a) (2015).

175. SMITH, *supra* note 157.

176. See Jensen & Meckling, *supra* note 153, at 309.

TRANSLATE TO CROWDFUNDING

The three fundamental problems of entrepreneurial finance—uncertainty, information asymmetry, and agency costs—are not new to crowdfunding. To the contrary, they have long been known by the traditional sources of American entrepreneurial finance: venture capitalists, angel investors, and public shareholders. More importantly, each has responded to the trio of problems with methods that suit their particular institutional context.

Rather than reinventing the wheel, it makes sense to ask first whether any of these techniques are appropriate for use in crowdfunding. Unfortunately, as this Part will show, none of the important and effective methods for addressing the trio of problems that have been developed by VCs, angels, or public investors will be of much use for crowdfunding.

In a way, this should come as no surprise, as the economic circumstances are divergent. Public companies are raising hundreds of millions of dollars, VCs invest tens of millions of dollars, and even angel investments are generally over \$1 million. All crowdfunding rounds, by contrast, will be under \$1 million, per the statute.¹⁷⁷ The mechanisms that make sense for raising many millions of dollars will understandably differ from those that make sense in the \$100,000s.¹⁷⁸

This Part will review the key methods that VCs, angels, and public companies use to respond to the three problems of entrepreneurial finance and explain why those solutions will mostly not translate well to crowdfunding.

A. SOLUTIONS FROM VENTURE CAPITAL

Venture capitalists invest in high-risk, high-growth startup companies at an early stage of their development,¹⁷⁹ when the trio of problems present themselves in “extreme form.”¹⁸⁰ Uncertainty as to how the startup will perform is greatly magnified because it is in such an early stage. Many future decisions will have to be made by management, and the outcome of those decisions, and the effort expended, are highly

177. Indeed, they may be under \$500,000 to avoid the cost of audited financial statements. *See supra* note 57.

178. Part IV will introduce a set of new methods that are particularly suited to the crowdfunding context.

179. *See generally* PAUL GOMPERS & JOSH LERNER, *THE VENTURE CAPITAL CYCLE* (2d ed. 2004).

180. *See* Gilson, *supra* note 17.

uncertain.¹⁸¹ If the business has a technological component, this adds scientific uncertainty.¹⁸² Information asymmetries between VCs and founders are also a major problem because the entrepreneur's "intentions and abilities" are known to her but not the VC.¹⁸³ Finally, agency costs are potentially quite significant for VCs,¹⁸⁴ in part because the entrepreneur's interests can "sharply diverge from those of the venture capital investors, especially with respect to the risk level and duration of the investment."¹⁸⁵

The American VC market has succeeded in the face of all these obstacles, funding such notable successes as Google¹⁸⁶ and Facebook.¹⁸⁷ VCs have created and honed methods and techniques to address the trio of problems that make sense in this distinctive institutional context. The core of the VC solution is the syndicated and geographically concentrated use of comprehensive investment contracts that "allow venture capitalists to screen, monitor, and control their investments" through a combination of staged financing, convertible preferred shares, control rights, and equity-based compensation.¹⁸⁸

Can these mechanisms be borrowed by crowdfunding? As will appear, most of the key methods used by VCs are inappropriate for crowdfunding.

1. Staged Financing

Instead of conveying their entire investment to a startup all at once, VCs stage their financing by divvying the money up over time, and conditioning the payouts on achieving designat-

181. *See id.* at 1077.

182. *See id.*

183. *See id.*

184. *See* Bartlett, *supra* note 17, at 40.

185. Gilson, *supra* note 17, at 1077.

186. Bartlett, *supra* note 17, at 38 ("In 1999, two venture capital (VC) firms invested \$25 million in a newly formed Internet search firm called Google. Four years later, after Google's initial public offering (IPO), their investment was worth over \$4 billion.")

187. Ari Levy, *Accel Facebook Bet Poised To Become Biggest Venture Profit: Tech*, BLOOMBERG BUS. (Jan. 17, 2012, 11:01 PM), <http://www.bloomberg.com/news/articles/2012-01-18/accel-s-facebook-bet-poised-to-become-biggest-ever-venture-profit-tech> (reporting that venture capital fund Accel Partners made a \$12.2 million investment in Facebook in 2005 that had grown to be worth \$10 billion in 2012).

188. Darian M. Ibrahim, *The (Not So) Puzzling Behavior of Angel Investors*, 61 VAND. L. REV. 1405, 1407 (2008).

ed milestones projected by management.¹⁸⁹ Staged financing is a highly potent method of addressing the three problems of entrepreneurial finance.¹⁹⁰ It reduces information asymmetry by making entrepreneurs “less likely to exaggerate a company’s prospects in negotiating with a VC investor,”¹⁹¹ and it reduces agency costs by providing “a powerful incentive for managers to meet designated milestones in order to receive future financing.”¹⁹² Can staged financing be used in crowdfunding? As will appear, a form of staged financing may indeed be relevant to the crowdfunding context, but likely only rarely.

Formal staged financing will likely not play much of a role in crowdfunding. In theory, a crowdfunding intermediary could collect money from the crowd, and then dole it out to an issuer over time, contingent on hitting agreed-upon benchmarks. This idea has merit in the crowdfunding context, for all the same reasons it does in the VC world, but it is not clearly allowed under the JOBS Act. That statute directs crowdfunding intermediaries to convey the offering proceeds to the issuer once it reaches its goal.¹⁹³ The intermediary is not clearly authorized to hold back a portion of the funds.¹⁹⁴

An informal type of staged financing may nevertheless be used in the crowdfunding context, whereby crowdfunding companies return to the crowd for financing year after year. A company could, for instance, seek to crowdfund \$1 million per year for several years, and would promise the crowd that it would hit certain annual benchmarks. If it fails to meet the benchmarks in a given year, it will surely find it difficult to convince the crowd to fund it for the next year. This places pressure on the management to meet the benchmarks, thereby ameliorating the trio of problems.

The pressure on management will likely be much less intense than in the VC context because the consequences of missing a set of benchmarks is much lower for crowdfunding man-

189. D. Gordon Smith, *Team Production in Venture Capital Investing*, 24 J. CORP. L. 949, 952 (1999).

190. GOMPERS & LERNER, *supra* note 179, at 171 (“Staged capital infusions are the most potent control mechanism a venture capitalist can employ.”); Bartlett, *supra* note 17, at 54.

191. Bartlett, *supra* note 17, at 52.

192. *Id.*; see also Ibrahim, *supra* note 188, at 1413.

193. See 15 U.S.C. § 77d-1(a)(7) (2012) (stating that intermediaries must “ensure that all offering proceeds are only provided to the issuer” once it reaches its goal).

194. Nor is the intermediary clearly prohibited from doing so.

agers. In traditional VC staged financing, a legal promise of future funding is conditioned on meeting the benchmarks. In this type of informal staged financing for crowdfunding, by contrast, each year's fundraising would be legally independent from every other. Hitting the benchmarks in one year will merely raise the chances of successfully raising money next year; it does not oblige the crowd to continue financing the company. Thus the disciplining effect of staged financing, so powerful in the VC context, will be more moderate in the world of crowdfunding.

In addition, it is unclear how many companies will engage in crowdfunding year after year. On the one hand, if the company goes out of business—a likely outcome for many crowd-funded startups—then it will never return to the crowd. On the other hand, if the company succeeds, it may be able to meet its own financing needs from profits, or will have other sources of financing, such as bank loans. Only those companies that have neither crashed nor outgrown the crowd will return repeatedly. How many will fit that bill is hard to predict.

In conclusion, informal staged financing holds some promise for at least some crowdfunding companies.

2. Preferred Stock

Most VC investments are in preferred stock,¹⁹⁵ which is a security that gives the holder (the VC investor) various preferential economic rights, including most notably a “liquidation preference” that would come into play in the event of the company's liquidation or sale.¹⁹⁶ Preferred stock is generally convertible to common stock at the election of the holder, and if the preferred stock has “participation” rights, its holders may receive the preferred liquidation preference plus convert the preferred stock to common stock, thereby also “participating” in the residual profits of the liquidated firm.¹⁹⁷

VCs are understood to use preferred stock to reduce information asymmetry and agency costs. The *ex ante* liquidation preference of preferred stock serves a signaling function that

195. Gilson & Schizer, *supra* note 138, at 875.

196. Bartlett, *supra* note 17, at 54. Other common rights include preferential dividend rights, redemption rights and antidilution protection. *Id.*

197. *Id.* The total value of preferred stock is equal to the liquidation preference plus the expected value of any participation right. The liquidation preference is much more easily observable because it is declared in the company's charter and the VC's stock purchase agreement, whereas the expected liquidation value of common stock upon a trade sale is highly speculative.

helps investors identify promising entrepreneurs—information that is otherwise asymmetrically known. An entrepreneur who believes that the company will be worth more than the liquidation preference would be willing to grant such a preference to an investor; an entrepreneur without such confidence would not.¹⁹⁸ And as for the latter, the preferential rights held by the VC create an incentive for management to meet their financial projections.¹⁹⁹

Crowdfunding will not likely make much use of preferred stock because the cost of negotiating the liquidation preference, participation rights and dozens of other attributes is not feasible in this context. Preferred stock is a complex instrument with technical terms that are actively negotiated among VCs and entrepreneurs using expert counsel.²⁰⁰ But one of the foundational purposes of crowdfunding is to be a simple securities market that poses extremely low costs of raising capital and is therefore accessible to a wide swath of early-stage entrepreneurs.²⁰¹ Bespoke contract drafting by an attorney, especially an expert, will be far too costly for most crowdfunding ventures.²⁰² Even if it were affordable, there will be no one on the investor side to ask for convertible preferred stock or negotiate its provisions.

Second, preferred stock is generally convertible to common stock at the option of the holder, so the problems that go with equity would apply here too. As I have discussed elsewhere, there are good reasons for startups to avoid selling common stock through crowdfunding.²⁰³ The sale of equity exposes founders to personal liability for breach of fiduciary duty and empowers shareholders with the right to vote, demand books and records, and otherwise distracts management.²⁰⁴ For these reasons too, crowdfunding entrepreneurs are likely to sell some security other than convertible preferred stock.

In short, preferred stock, though quite useful in the VC context, is not appropriate for use in crowdfunding.

198. *Id.*

199. *Id.* at 55.

200. Wroldsen, *supra* note 13, at 633 n.239 (describing some of the key points of negotiation).

201. *See* Schwartz, *supra* note 3, at 1466–73; *supra* Part I.B.1.

202. *Cf.* Wroldsen, *supra* note 13, at 626.

203. *See* Schwartz, *supra* note 3, at 1483–87.

204. *See id.*

3. Control Rights

As a mechanism for addressing agency costs, VCs routinely demand that they be granted certain powers of control, including a seat on the board of directors and negative covenants giving the VC the power to veto important corporate actions.²⁰⁵ These methods will not translate to crowdfunding.

A seat on the board of directors must be occupied by a single natural person, not a crowd.²⁰⁶ A VC fund manager may take the position herself or can easily designate such a person, but the coordination costs of having a crowd of digital shareholders select a representative are likely too high to make it worthwhile. And even if the crowd were able to do so, entrepreneurs are unlikely to be interested. It is one thing to give a board seat to a VC fund manager whom the entrepreneur has come to know personally and gets along with. But it is quite another to simply take whomever the crowd selects. A VC's nominee is likely to have expertise and provide a benefit to the company, but this seems much less likely in the crowdfunding context.

As for negative covenants, most entrepreneurs will be unwilling to yield control to the crowd in this way for many of the same reasons that they will likely sell only a minority voting interest to the crowd.²⁰⁷ It may be reasonable to put the future of one's startup in the hands of an experienced VC fund manager in exchange for millions of dollars of financing. By contrast, it is hard to imagine an entrepreneur allowing the crowd to control the startup's destiny for sums under \$1 million.²⁰⁸

In summary, control rights of the sort used by VCs to address agency costs will play no role in crowdfunding.

205. See Bartlett, *supra* note 17, at 53.

206. *E.g.*, DEL. CODE ANN. tit. 8, § 141(b) (2015). *But cf.* Stephen M. Bainbridge & M. Todd Henderson, *Boards-R-Us: Reconceptualizing Corporate Boards*, 66 STAN. L. REV. 1051, 1056 (2014) (“posit[ing] a novel alternative” to the rule that directors must be natural persons, namely that “board services could be provided by other entities, be they partnerships, corporations, limited liability corporations, or any other type of business association”). Were Bainbridge and Henderson’s proposal to be adopted, crowdfunded companies could make good use of such “board service providers.” *Id.* At this time, however, this remains a theoretical idea that has not been approved by any legislature.

207. See Schwartz, *supra* note 3, at 1481–82.

208. One million dollars is the most a company is allowed to raise via crowdfunding in a year. See *supra* note 50.

4. Equity-Based Compensation

Corporate managers can be compensated in a manner that addresses the fundamental problem of agency costs. One important method used by VCs is to pay management primarily in company stock, thereby making them into shareholders themselves.²⁰⁹ Compensating managers with common stock, and requiring them to hold it for some time, aligns the interests of the management with those of the VC investors in order to ameliorate agency costs.²¹⁰

Equity-based compensation of this sort is among the weaker mechanisms used by VCs. Moreover, it will not be relevant for at least a large swath of crowdfunding companies. First, there is good reason to expect that most crowdfunding entrepreneurs will retain all or a majority of the equity in the company and sell debt or other securities to the crowd.²¹¹ Where a founder holds most of the equity, she is already incentivized to work hard for the company; lading on even more would not seem to be worth the candle.²¹² Second, the design of an equity-based compensation package is a complex and nuanced task. While it may make sense for sophisticated and experienced VCs to negotiate with an entrepreneur to develop a sensible equity-based compensation package, it is likely an inappropriate tool for digital shareholders to employ.

For these reasons, equity-based compensation will likely play a relatively small role in addressing agency costs at crowd-funded companies.

5. Geographic Proximity

A final way in which VC firms respond to uncertainty, information asymmetry, and agency costs is by keeping their investments close to home.²¹³ The industry is “remarkably local-

209. See Bartlett, *supra* note 17, at 53. See generally, e.g., LUCIAN BEBCHUK & JESSE FRIED, *PAY WITHOUT PERFORMANCE* (2004).

210. See Bartlett, *supra* note 17, at 53.

211. See Schwartz, *supra* note 3, at 1459–77 (predicting that most crowdfunding entrepreneurs will sell debt or other non-equity securities to the crowd); see also Joan MacLeod Heminway, *What Is a Security in the Crowdfunding Era?*, 7 OHIO ST. ENTREP. BUS. L.J. 335, 360–61 (2012) (suggesting the use of “unequity,” “a particular type of financial interest that provides for profit-sharing or revenue-sharing on a short-term basis, with no accompanying governance rights”).

212. The same is true if the entrepreneur holds a majority of the equity, though to a lesser extent.

213. See Gilson, *supra* note 17, at 1087.

ized,”²¹⁴ with Silicon Valley VCs investing in companies based in Northern California and New York VCs investing on the East Coast.²¹⁵ This geographic concentration by VCs²¹⁶ is an important method of addressing uncertainty and information asymmetry by enhancing the ability of the VC to conduct due diligence.²¹⁷ Information asymmetry is further reduced by the reputation market that works well in a local community.²¹⁸ Finally, geographic concentration enhances monitoring and thus helps address agency costs.²¹⁹

Geographic concentration will not be a terribly useful technique for crowdfunding to address the trio of problems.²²⁰ Preliminarily, digital shareholders will come from every part of the country and will be allowed to invest anywhere they wish.²²¹ Many will surely spread their investments from coast-to-coast, as they do in reward crowdfunding.²²² Be that as it may, at least some digital shareholders are likely to focus on companies local to their domicile. There may be such a group, as the vibrancy of the “eat local” movement demonstrates.²²³ Indeed, the SEC’s Regulation Crowdfunding specifically authorizes portals to focus on a certain geographic area.²²⁴

Yet even for these sorts of digital shareholders who focus on a certain city or region, the reasons why VC investors use this method do not apply to them: digital shareholders will not

214. *Id.*

215. Schwartz, *supra* note 5, at 286–87; see FLORIDA, *supra* note 97 (noting that VC investments are concentrated in particular regions).

216. And angel investors, as discussed *infra* Part III.B.3.

217. Darian M. Ibrahim, *Financing the Next Silicon Valley*, 87 WASH. U. L. REV. 717, 730 (2010).

218. Gilson, *supra* note 17, at 1087.

219. See Ibrahim, *supra* note 217.

220. See Schwartz, *supra* note 5. For intrastate crowdfunding, the design is for a state-wide market.

221. See *supra* Part I.B.2.

222. See Ajay K. Agrawal et al., *The Geography of Crowdfunding* 1 (Nat’l Bureau of Econ. Research, Working Paper No. 16820, 2011) (“The geographic dispersion of investment evident in our data implies that [reward] crowdfunding . . . largely overcomes the distance-related economic frictions usually associated with financing entrepreneurial ventures.”).

223. See, e.g., JEFF KAGAN & PAIGE DOUGHTY, *Eat Local, on 21ST CENTURY ENERGY SUPERHEROES* (2011), <https://www.youtube.com/watch?v=ihULllqnelE> (children’s song encouraging them to “eat local”).

224. A portal may limit listings to those from a certain geographic location. See Crowdfunding, 78 Fed. Reg. 66,428, 66,560 (proposed Nov. 5, 2013) (notice of final rule released Oct. 30, 2015) (to be codified at 17 C.F.R. § 227.402(b)(2)(ii)).

do much, if any, physical due diligence,²²⁵ will not sit on boards of directors, and generally will not be able to monitor the way that VCs do, even if they live close by.²²⁶ Even assuming that some local investors may be familiar with neighborhoods and local needs (e.g., they know that a certain block already has three coffee shops), this effect is quite modest compared with the benefits that VCs obtain from geographic proximity in terms of reducing uncertainty, information asymmetry and agency costs.²²⁷

In short, geographic concentration will not translate well from the VC to the crowdfunding context.

B. SOLUTIONS FROM ANGEL INVESTING

Angel investors are wealthy individuals who finance startups with their own funds at a very early stage of their development, even earlier than VCs.²²⁸ The nature of such investments is that they present extremely high levels of uncertainty, information asymmetry, and agency costs. These three problems present themselves in much the same way as in VC,²²⁹ but in an even more severe form because angels invest in startups at an earlier stage.²³⁰

One might expect angels to follow the lead of VCs and employ the various techniques just described to address uncertainty, information asymmetry, and agency costs.²³¹ It turns out, however, that angel investors utilize a different set of solutions that suit their distinctive institutional context.²³² Angels eschew the comprehensive, detailed, and powerful investment contracts used by VCs, instead opting for simple contracts with few formal investor protections.²³³ According to the literature, angels rely primarily on technical expertise, geographic proximity, and active participation to address uncertainty, information asymmetry, and agency costs.²³⁴ This Section examines these methods of responding to the trio of problems and their

225. *Cf. infra* text accompanying note 454 (indicating that Google Maps “Street View” can be used as a partial substitute for physical due diligence).

226. *See supra* note 97 and accompanying text.

227. *See infra* Part III.C.5.

228. *See Ibrahim, supra* note 188, at 1406.

229. *See supra* Part III.A.

230. *See Ibrahim, supra* note 188, at 1420.

231. *See id.*

232. *See id.* at 1422–24.

233. *See id.* at 1422.

234. For an example of such literature, see Ibrahim, *supra* note 188.

potential application to crowdfunding. Crowdfunding presents a completely different institutional context than that of traditional angel investing, and the techniques used by angels will not translate directly to crowdfunding.

1. Technical Expertise

Angel investors generally invest in areas in which they have technical expertise.²³⁵ Many angels are themselves entrepreneurs who focus their investments on the industry that they know and previously succeeded in.²³⁶ Technical expertise has proved to be a powerful method of addressing all three fundamental problems of investing. The angel's expertise "reduces uncertainty by allowing the angel to better gauge the start-up's chances for success" and it "reduces information asymmetry by minimizing the entrepreneur's advantage of private information."²³⁷ It also responds to agency costs by enhancing the ability of the angel to thoughtfully monitor management's technical progress.²³⁸

This method of addressing the trio of problems has little direct relevance for crowdfunding. Digital shareholders will be ordinary people from all walks of life.²³⁹ Compared to wealthy financiers and engineers from the likes of MIT and Stanford,²⁴⁰ lay people are much less able to employ expertise as a tool to respond to the trio of problems. This idea of technical expertise thus does not directly apply to crowdfunding. However, if we take the concept of expertise broadly, it may hold some promise.

As Nobel Prize winner Friedrich Hayek famously taught, everyone from every background does indeed have expertise—"expertise" in the sense of knowing something valuable that is not generally known.²⁴¹ Science is "not the sum of all knowledge," wrote Hayek.²⁴² Rather, there is another body of "very important but unorganized knowledge": the dispersed bits of information that each person happens to know because of

235. See Fisch, *supra* note 29, at 86; Ibrahim, *supra* note 188, at 1431–32.

236. See Ibrahim, *supra* note 188, at 1419.

237. *Id.* at 1431–32.

238. See *id.* at 1431 (discussing how the relationship between angels and entrepreneurs reduces agency costs).

239. See *supra* Part I.B.2.

240. See Ibrahim, *supra* note 217, at 729.

241. F. A. Hayek, *The Use of Knowledge in Society*, 35 AM. ECON. REV. 519 (1945).

242. *Id.* at 521.

their unique experience, skills, and perspective, what Hayek called “the knowledge of the particular circumstances of time and place.”²⁴³ Thanks to this sort of expertise, every individual “has some advantage over all others because he possesses unique information of which beneficial use might be made, but of which use can be made only if the decisions depending on it are left to him or are made with his active cooperation.”²⁴⁴

Hayek’s ideas describe crowdfunding well. Various digital shareholders will hold different bits of useful information relating to crowdfunding companies, and they can choose to make beneficial use of that information.²⁴⁵ For example, avid video gamers are familiar with what makes a good game and other aspects of the business in a way that few others could match.²⁴⁶ Thus a video game aficionado may focus all her crowdfunding investments on video games. She would reduce uncertainty and information asymmetry by sticking to her area of expertise (video games) and would be able to monitor the progress of the business in a thoughtful way. For example, she could volunteer to be an early beta-tester of the game and, after playing it for a few days, understand deeply how it stacks up against the competition on numerous dimensions.

Other examples can be given: fitness instructors can spot a promising exercise machine; home cooks know what small appliances might succeed. None of these types of knowledge can really be called technical expertise, but the point is that they can nevertheless be used by digital shareholders in a manner akin to the use of technical expertise by angel investors.²⁴⁷

To summarize, technical expertise as used by angel investors is not directly applicable to crowdfunding. Expertise broadly construed in the Hayekian sense, however, is indeed an appropriate method for digital shareholders to employ.

2. Active Participation

After angels make their investments, they “actively partic-

243. *Id.* at 521–22 (referring to the same idea as “knowledge of people, of local conditions, and of special circumstances”).

244. *Id.*

245. See Dorff, *supra* note 14 (stating that crowdfunders can use their relevant personal experiences to invest).

246. *Cf.* Ibrahim, *supra* note 14, at 597 (explaining why a group of video game players would be better able to predict a video game’s success than VC investors).

247. These forms of expertise can also be shared with the crowd through crowd-funded investment analysis. See *infra* Part IV.B.

ipate” in the business.²⁴⁸ They make “regular visits to the startup’s facilities,” and advise management.²⁴⁹ This sort of active participation in the day-to-day operation of the company is highly analogous to the VC practice of taking a seat on the board of directors, just less formal.²⁵⁰ It allows for close monitoring of management and is a key method of reducing agency costs for angel investors.²⁵¹ To put it simply: it’s hard to slack off when a large investor is present in the room.

Active participation in the business is clearly inappropriate for crowdfunding.²⁵² Digital shareholders will be passive investors—more like public shareholders than angels. Each will have a small stake,²⁵³ making it economically irrational for any one of them to put time and effort into helping run the business. More importantly, it is hard to imagine that entrepreneurs will even allow digital shareholders to physically come down to the office. Unlike an experienced angel investor,²⁵⁴ the crowd would not be helpful in close quarters.

In short, active participation will not translate to crowdfunding.

3. Geographic Proximity

Because of the active participation that angels practice, and because the opportunities they pursue are based on personal connections, angel investing is a highly localized endeavor, even more than VC.²⁵⁵ “Angel groups commonly have ‘local’ names, like the ‘Pasadena Angels’ or the ‘New York Angels,’ and they tend to invest” exclusively in local startups.²⁵⁶

But just as in the VC context,²⁵⁷ geographic proximity will likely not be a particularly important method for addressing the trio of problems as they will arise in crowdfunding. Digital shareholders will not find opportunities from personal connections; opportunities will be presented on Internet portals.²⁵⁸

248. Ibrahim, *supra* note 188, at 1433.

249. *Id.*

250. *See supra* Part III.A.3.

251. *See* Ibrahim, *supra* note 188, at 1433.

252. *See* Dorff, *supra* note 14, at 515.

253. *See id.*

254. *See* Cable, *supra* note 140, at 116.

255. *See id.*; Ibrahim, *supra* note 188, at 1432.

256. Schwartz, *supra* note 5, at 286–87.

257. *See supra* Part III.A.5.

258. Other types of investors benefit from “network[s] of trust.” Ibrahim, *supra* note 188, at 1432.

And digital shareholders will not actively participate in the business, as just discussed.²⁵⁹ There may be some role for local knowledge, as discussed in Part III.A.5 above, but for the most part, geographic proximity will not be appropriate for crowd-funding.

C. SOLUTIONS FROM PUBLIC COMPANIES

The most traditional form of entrepreneurial finance is when a company “goes public” in an initial public offering (IPO).²⁶⁰ Examples of recent IPO firms include camera-maker GoPro, video game producer King Digital Entertainment (best known for Candy Crush Saga), and restaurant chain Noodles & Company. Public companies are generally more mature than those funded by angels or VCs, but they typically are still in an early stage of their growth, with an average age of about five to ten years.²⁶¹ Thus just like in the VC and angel context, public companies have had to respond to the three fundamental problems of entrepreneurial finance: uncertainty, information asymmetry, and agency costs.

Agency costs are the primary problem for public companies to overcome.²⁶² Uncertainty and information asymmetry are somewhat less problematic because such companies generally have years of operating history for investors to review.²⁶³ Thus, most of the important techniques used by public companies are aimed specifically at addressing agency costs.

The solutions that have been adopted in the public company context differ radically from those used by VCs and angels.²⁶⁴ The key mechanisms, in roughly the order of importance, are mandatory disclosure, takeovers, derivative actions, activist shareholders, equity-based compensation, proxy contests, and appraisal. As in the previous two Sections,

259. See *supra* Part III.B.2.

260. See generally Andrew A. Schwartz, *Corporate Legacy*, 5 HARV. BUS. L. REV. 237, 245 (2015) (describing the IPO process).

261. See IPO TASK FORCE, U.S. DEP'T OF THE TREASURY, REBUILDING THE IPO ON-RAMP: PUTTING EMERGING COMPANIES AND THE JOB MARKET BACK ON THE ROAD TO GROWTH 6 (2011).

262. See generally Geis, *supra* note 162, at 973–82 (engaging in a comprehensive discussion of agency costs as a problem for public companies).

263. Uncertainty and information asymmetry are still quite significant in the context of public companies. See Black, *supra* note 147, at 786 (“[A] company’s shares, when the company first goes public, are like an unobservable car, produced by an unknown manufacturer, on which investors can obtain only dry, written information that they can’t directly verify.”).

264. See *supra* Parts III.A, III.B.

these methods generally hold very little relevance for crowdfunding.

1. Mandatory Disclosure

At the time of an IPO, the issuing company is legally required under the '33 Act to provide full and clear disclosure about the company and the potential risks and rewards of investing in the securities.²⁶⁵ Once the securities begin trading on a secondary market, the '34 Act requires the issuing company to provide the public with ongoing, regular, and event-based disclosures.²⁶⁶ Mandatory disclosure addresses both information asymmetry and agency costs in public companies. The insiders who know lots of information about the company must share that information with the public, thus reducing information asymmetry.²⁶⁷ And publishing important corporate information on the Internet (and before the Internet, on paper) lowers the cost of monitoring for all shareholders and empowers them to protect themselves against harmful agency costs.²⁶⁸

The signature move of the JOBS Act, however, is to exempt crowdfunded securities from that traditional system of mandatory disclosure (in order to lower transaction costs for issuers).²⁶⁹ Furthermore, traditional public companies must report to investors at least quarterly, while crowdfunding companies need only provide a single, simple annual report.²⁷⁰ Hence, the traditional method of addressing information asymmetry and agency costs through mandatory disclosure will not directly apply to crowdfunding.

Even so, there do remain some potentially significant disclosure obligations in the CROWDFUND Act.²⁷¹ The issuer must file with the SEC, and make available to the relevant funding portal and potential investors, a disclosure document

265. See 15 U.S.C. § 77aa (2012); *id.* § 77f. See generally THOMAS L. HAZEN, *THE LAW OF SECURITIES REGULATION* 110–59 (Thomson West 5th ed. 2006).

266. See Troy A. Paredes, *Blinded by the Light: Information Overload and Its Consequences for Securities Regulation*, 81 WASH. U. L.Q. 417, 418 (2003).

267. See *id.*; see also JOEL SELIGMAN, *THE TRANSFORMATION OF WALL STREET 70* (Northeastern Univ. Press rev. ed. 1995) (claiming the primary function of the Securities Act of 1933 is to address information asymmetry).

268. See Paredes, *supra* note 266.

269. For a more thorough discussion of the JOBS Act's effects on mandatory disclosure see Berdejó, *supra* note 92, at 22–32.

270. See 15 U.S.C. § 77d-1(b)(4).

271. Thompson & Langevoort, *supra* note 12 (describing the CROWDFUND Act as imposing “a quite heavy and costly set of responsibilities on both issuers and any intermediaries”).

consisting of information about the business, its financial situation, and the offering.²⁷² Beyond the initial sale of securities, the CROWDFUND Act creates a duty to provide investors and the SEC an annual report of a similar level as the original filing.²⁷³ It is hard to say in advance how lengthy and detailed the crowdfunding disclosures will be,²⁷⁴ but one thing is certain: they will be only a tiny fraction as lengthy or detailed as the disclosures found in the contemporary public company context.²⁷⁵ Crowdfunding disclosures will probably be short and non-specific, and the crowd is likely to find as much information among themselves,²⁷⁶ or through their collective research,²⁷⁷ as will be disclosed by the companies.

For these reasons, mandatory disclosure will not be highly relevant to addressing the trio of problems for crowdfunding.

2. Proxy Contests

Proxy contests address agency costs in public companies as the possibility of being voted out by the shareholders helps keep the board accountable in a manner akin to politicians. Such elections are often routine affairs, where the outgoing board nominates itself for another term and the shareholders approve, but sometimes an insurgent group challenges the incumbent board to a contested election (a proxy contest)²⁷⁸ where the shareholders ultimately decide by majority vote.²⁷⁹

272. 15 U.S.C. § 77d-1(b)(1).

273. *Id.* § 77d-1(b)(4).

274. *Cf.* Crowdfunding, 78 Fed. Reg. 66,428, 66,540 (proposed Nov. 5, 2013) (notice of final rule released Oct. 30, 2015) (to be codified at 17 C.F.R. pts. 200, 227, 232, 239–40, 249) (estimating that the “burden to prepare and file” a crowdfunding issuer disclosure form would be approximately 60 hours).

275. It is also an open question whether digital shareholders will read or understand these disclosures, in part because they will likely be investing only a small amount of money in each company, rendering it irrational to spend significant time and effort learning about each one. *See generally* OMRI BEN-SHAHAR & CARL E. SCHNEIDER, MORE THAN YOU WANTED TO KNOW: THE FAILURE OF MANDATED DISCLOSURE 6 (2014) (“Mandated disclosure is alluring, but it routinely fails to achieve its ambitious goals.”); Florencia Marotta-Wurgler, *Will Increased Disclosure Help? Evaluating the Recommendations of the ALI’s “Principles of the Law of Software Contracts,”* 78 U. CHI. L. REV. 165, 168 (2011) (reporting on empirical finding that less than 1% of users read end user license agreements, or EULAs, for software sold online).

276. *See infra* Part IV.A.

277. *See infra* Part IV.B.

278. Public shareholders generally vote via written proxy. *See* Schwartz, *supra* note 3, at 1477–79 (providing further background information on proxy contests).

279. *See, e.g.,* Julie Jargon et al., *New Board Will Set Darden’s Menu—*

Proxy contests require a majority voting stake dispersed among the public, yet very few crowdfunding entrepreneurs will sell a majority of the voting shares to the crowd.²⁸⁰ Much more commonly, the entrepreneur will maintain voting control herself, making a proxy contest a mathematical impossibility. Entrepreneurs will keep control to avoid the possibility of a proxy contest and also to smooth the road for potential future rounds of funding.²⁸¹ Indeed, this author has suggested that crowdfunding companies are likely to avoid selling any equity at all to the crowd, instead offering them debt or other securities.²⁸²

To summarize: proxy contests will not be a relevant method for addressing agency costs in crowdfunded companies because crowdfunded companies will rarely sell a majority of the voting shares to the crowd.²⁸³

3. Takeovers

The threat of a takeover bid is widely viewed as among the most important means of addressing agency costs in public companies.²⁸⁴ It is unlikely to have the same effect for crowdfunding companies, however.

When corporate voting power is widely dispersed among many shareholders, a third party can buy up 51% through a tender offer, putting herself in position to select the board and control the corporation. From the perspective of the incumbent management, who commonly lose their positions, all of this is generally seen as hostile, hence the term “hostile takeover.” But management can avoid being taken over and replaced by keeping the share price high and rising over the long run, the upshot being that the threat of a takeover bid disciplines managers to put forth great effort to raise the share price, an outcome welcomed by shareholders.²⁸⁵

Activist Starboard Wins a Unique Victory, Replacing Restaurant Company's Entire Set of 12 Directors, WALL ST. J., Oct. 11, 2014, at B3 (reporting on a successful proxy contest).

280. See Schwartz, *supra* note 3, at 1481–82.

281. See *id.* at 1481.

282. *Id.* at 1482–89.

283. In the (likely rare) case where a crowdfunding company does sell a majority of the voting power, perhaps by allowing cumulative voting, a proxy contest among the crowd may actually be more viable than in the public company context. *Id.* at 1477–79.

284. See generally Henry G. Manne, *Mergers and the Market for Corporate Control*, 73 J. POL. ECON. 110, 112–13 (1965).

285. See *id.* at 112; see also HENRY HANSMANN, *THE OWNERSHIP OF EN-*

The discipline of takeovers cannot be translated from traditional public companies to crowdfunded ones. As in the case of proxy contests,²⁸⁶ most crowdfunded companies will likely sell only a minority interest to the crowd, rendering a takeover impossible.²⁸⁷ In addition, there will likely be only a very limited and illiquid secondary market for crowdfunded securities.²⁸⁸

4. Derivative Actions

Shareholder derivative actions play a significant role in responding to agency costs for public companies, but they are unlikely to hold the same import for crowdfunding companies.

Corporate officials owe fiduciary duties of care and loyalty to their corporation, as elaborated in case law. These legal obligations should be, and generally are, taken seriously by such officials. But if a “corporate official violates any of the duties he or she owes to the corporation, and the board of directors fails to take appropriate action, American law recognizes the right of a shareholder to sue in the corporation’s behalf to redress the injury.”²⁸⁹ This type of lawsuit is called a “derivative” action because the shareholder’s capacity to sue the official derives from the corporation. Similarly, any recovery in a derivative action goes to the corporation. Shareholder-plaintiffs regularly file derivative actions against the directors and senior management of traditional public companies, especially in certain situations, such as mergers.²⁹⁰ Institutional shareholders may have

TERPRISE 58 (1996) (observing that threat of takeover helps keep corporate management faithful to the corporation).

286. See *supra* Part III.C.2.

287. Again, in the (likely rare) case where a crowdfunding company does sell a majority of the voting power, takeover bidders will apparently be free to engage in at least some coercive tactics that would be unlawful were they attempted with registered securities as they would be unfettered by the Williams Act, the federal law that governs tender offers for registered securities. See Schwartz, *supra* note 3, at 1480.

288. *Id.* at 1463 (“[A]s a practical matter there will be a very small secondary market for any given crowdfunded security. This is simply because the number of shares in the marketplace is likely to be orders of magnitude smaller for a crowdfunded issue than a registered one. Publicly traded companies issue millions or even billions of shares, making it easy to find someone who wants to buy or sell a few. Crowdfunded companies, by contrast, are likely to have only thousands of securities outstanding, making it difficult and expensive to transact in them. For this reason, no liquid secondary market is likely to develop in crowdfunded securities.”).

289. KLEIN ET AL., *supra* note 162, at 207.

290. See Jill E. Fisch et al., *Confronting the Peppercorn Settlement in Mer-*

enough money at stake to make a derivative action sensible, and plaintiff-side attorneys have strong incentives (i.e., fees paid by the corporation) to bring such actions. In the public company context, in short, derivative actions (including the threat of them) help discipline corporate management to act as faithful agents of the corporation.

In the crowdfunding context, shareholder derivative actions are likely to be of little use, simply because there will be so much less money at stake. The shareholders will likely be dispersed, each holding a few shares, making it economically unreasonable for any one of them to spend their own time and money bringing a derivative action that would benefit the corporation as a whole. And as for attorneys themselves, the fees in public company derivative litigation regularly amount to millions of dollars, so landing just a portion of such work can maintain a practice.²⁹¹ For crowdfunded companies, where the maximum total fundraising allowed is \$1 million, any attorneys' fees awarded in derivative litigation will surely amount to only a fraction of that available in the traditional public company litigation.

Hence derivative litigation is not likely to be a consequential method of addressing agency costs in crowdfunded companies.

5. Activist Shareholders

Traditionally, many public shareholders were widely dispersed, meaning that no single shareholder held enough of a stake to make careful monitoring worthwhile.²⁹² That may have been true in the 1930s, but it no longer describes the contemporary world, where a small group of institutional investors hold 70% of outstanding stock in our major corporations, generally on behalf of the ultimate beneficial owners.²⁹³ Most of these institutional investors are generally passive—but not all.

So-called “activist” investors find a promising target, buy up a large stake,²⁹⁴ and then present management with ideas

ger Litigation: An Empirical Analysis and a Proposal for Reform, 93 TEX. L. REV. 557, 557–59 (2015) (“Shareholder litigation challenging corporate mergers is ubiquitous, with the likelihood of a shareholder suit exceeding 90%.”).

291. See Adam B. Badawi & Daniel Chen, *The Shareholder Wealth Effects of Delaware Litigation* (Sept. 5, 2015) (unpublished manuscript), <http://users.nber.org/~dlchen/papers/Delaware.pdf>.

292. See BERLE & MEANS, *supra* note 166, at 47–65.

293. Gilson & Gordon, *supra* note 123.

294. *Id.* at 900 n.123 (“The activist shareholder’s predisclosure acquisition

to raise the value of their shares.²⁹⁵ By monitoring and advising management, activist investors can help reduce agency costs at public companies. And if their concerns are not met, activists can use hardball tactics, such as a proxy fight, to convince or force management to accept their intervention.²⁹⁶

Activist investing will not be appropriate for crowdfunding. First, there is not enough money involved. The model of activist investing is that they need a large initial investment to give them the economic motivation to engage a target and try to raise its value.²⁹⁷ Yet the amounts at stake in crowdfunded companies will likely be too small for activists to bother with. The maximum amount a crowdfunding company can issue is \$1 million, but the usual toeholds by public company activists are many times that total amount. Second, there is unlikely to be much of a secondary market for crowdfunded securities, and definitely not one as deep and liquid as for traditional public companies.²⁹⁸

In short, activist investing will not be a useful mechanism for addressing agency costs in crowdfunded companies.

6. Equity-Based Compensation

Public companies use equity-based compensation to address agency costs.²⁹⁹ Paying senior executives a significant portion of their compensation in stock or stock options is designed to align the executives' personal interest with that of the company as a whole.³⁰⁰ If the company becomes more valuable, the stock price rises, and the executive's pay increases; if the share price drops, her pay will decrease. The precise way in

of a significant toehold is critical to its business model.”).

295. *Id.* at 896 (explaining that activists aim to “identify strategic and governance shortfalls with significant valuation consequences, to acquire a position in a company with governance-related underperformance, and then to present reticent institutions with their value proposition: a specified change in the portfolio company’s strategy or structure”).

296. *See, e.g.,* Jargon et al., *supra* note 279.

297. *See* Gilson & Gordon, *supra* note 123, at 902–04 (describing the importance of a substantial “toehold” investment).

298. *See* Schwartz, *supra* note 3, at 1463 (“[T]here will be a very small secondary market for any given crowdfunded security.”); *see also* 15 U.S.C. § 77d-1(e) (2012) (restricting the secondary market for crowdfunded securities).

299. *See* Lucian Arye Bebchuk et al., *Managerial Power and Rent Extraction in the Design of Executive Compensation*, 69 U. CHI. L. REV. 751, 753–54 (2002).

300. This is very similar to the rationale for equity-based compensation in the VC context. *See supra* Part III.A.4.

which public companies use equity-based compensation varies and is the subject of significant scholarly attention.³⁰¹ How long should the executive have to hold on to the stock?³⁰² Should the strike price ever be reset?³⁰³ For present purposes it is sufficient to observe that equity-based compensation is a widely used technique among public companies to address agency costs, and that there is a deep and well-established literature on best practices in doing so.³⁰⁴

Even so, equity-based compensation will not translate well to the crowdfunding context for the same reasons discussed in Part III.A.4. Management will likely already hold most or all of the equity in the company, meaning that any additional incentive from equity-based compensation will be modest.

7. Appraisal and *Weinberger*

Finally, appraisal and so-called *Weinberger*³⁰⁵ actions are both important mechanisms for addressing agency costs in public companies. Indeed, “appraisal arbitrage” has lately become a darling among hedge funds, who buy up shares for the express purpose of pursuing appraisal.³⁰⁶ And *Weinberger* cases continue to make headlines.³⁰⁷

Appraisal and *Weinberger* are both used to contain a controlling shareholder who might otherwise act opportunistically toward the minority shareholders.³⁰⁸ For a variety of reasons,

301. See, e.g., BEBCHUK & FRIED, *supra* note 209; Sanjai Bhagat & Roberta Romano, *Reforming Executive Compensation: Focusing and Committing to the Long-Term*, 26 YALE J. ON REG. 359, 361 (2009).

302. E.g., Bhagat & Romano, *supra* note 301 (suggesting that executives be forced to hold company stock for two to four years after leaving the firm).

303. Google famously reset employees’ stock option strike price in 2009 after a 50% drop in the share price. See Martin Peers, *Google’s Optional Windfall*, WALL ST. J., Sept. 25, 2009, at C10.

304. See, e.g., David I. Walker, *Is Equity Compensation Tax Advantaged?*, 84 B.U. L. REV. 695, 697–708 (2004) (summarizing literature on equity-based compensation).

305. Named after *Weinberger v. UOP, Inc.*, 457 A.2d 701 (Del. 1983).

306. See Liz Hoffman, *Risky Legal Ploy Seeks to Milk Buyouts*, WALL ST. J., Apr. 14, 2014, at C1 (reporting on the “rise of ‘appraisal arbitrage,’ in which hedge funds buy shares of companies on the brink of a buyout and ask a judge to award them a higher price”).

307. E.g., Michael J. de la Merced, *Judge Finds Chief of Dole Fraudulently Drove Down Its Stock Price Before Buyout*, N.Y. TIMES, Aug. 28, 2015, at B6 (reporting on a high-profile *Weinberger* action involving Dole Food Co. that resulted in a \$148 million judgment against two individuals).

308. *Weinberger*, 457 A.2d at 705 (A “majority shareholder . . . owe[s] a fiduciary responsibility to . . . [the] minority.”).

controlling shareholders commonly seek to eject the minority shareholders without their consent through a so-called “cash-out merger,” the result of which is that the majority shareholder winds up with 100% of the shares, and the other shareholders end up with cash.³⁰⁹ A cash-out merger can be used equitably, but it can also be abused by a controlling shareholder that tries to cash out the minority for a pittance. The law allows a special remedy for shareholders who feel that the cash out price they were offered was unfairly low: appraisal.³¹⁰ An appraisal action is a trial-like proceeding in which the court takes evidence and ultimately awards the shareholder the “fair value” of her shares.³¹¹ And for those who prefer, they can bring a *Weinberger*³¹²-type action claiming that the majority violated its fiduciary duty by offering an unfair price or running an unfair process.

The mere presence of appraisal and *Weinberger* helps discourage majority shareholders from cashing people out at an unfairly low price in the first place. Can this translate from the public company context to the crowdfunding context? Perhaps. Digital shareholders clearly face a risk of being treated inequitably by a controlling shareholder, the situation to which appraisal and *Weinberger* relate.³¹³ Appraisal and *Weinberger* respond directly to these sorts of issues³¹⁴ and may prove useful for digital shareholders.³¹⁵ On the other hand, they may not be

309. KLEIN ET AL., *supra* note 162, at 215.

310. See DEL. CODE ANN. tit. 8, § 262 (2015).

311. This amount may be higher or lower than the original cash-out offer. *Id.*

312. *Weinberger*, 457 A.2d at 701.

313. See Wroldsen, *supra* note 13, at 612 (describing inter-shareholder conflict).

314. Another potentially relevant rule of corporate law is the line of doctrine holding that shareholders of closely held corporations owe each other fiduciary duties, whose seminal case is *Wilkes v. Springside Nursing Home*, 353 N.E.2d 657 (Mass. 1976).

315. One might reasonably ask why the problem of an insufficient pool for attorneys' fees will not pose a problem in the context of appraisal or *Weinberger* actions, when such a problem was previously discussed in connection with derivative actions. See *supra* Part III.C.4. One answer is that appraisal and *Weinberger* cases will generally arise among successful companies, including those that obtain venture capital or other sources of funding beyond the crowd, meaning more money will be at stake. Also, the issue will be the fair value of the shares, and that represents a unique opportunity for substantial awards that is not similarly present in ordinary derivative actions, which may relate to much smaller concerns with subsequently small damage awards.

cost-effective for small startups where there is a relatively small amount at stake.

In short, appraisal and *Weinberger* may be utilized by digital shareholders to address agency costs in crowdfunded companies, but these are relatively weak mechanisms.

This Part asked whether any of the traditional solutions used by VCs, angels, and public shareholders to address the three fundamental problems of entrepreneurial finance can be applied to crowdfunding. It showed that most of the traditional techniques, including the most powerful of them, hold little relevance for crowdfunding. As such, the next and final Part introduces a number of new and different methods—ones not currently in use by VCs, angels or public shareholders—that can effectively address the three problems in the distinctive digital context of crowdfunding.

IV. DIGITAL METHODS TO ADDRESS THE THREE PROBLEMS IN CROWDFUNDING

Crowdfunding will take place in a lightly regulated³¹⁶ digital space that is new and different from the familiar worlds of VC, angels, and public companies, and thus needs new and additional responses to the fundamental problems of uncertainty, information asymmetry, and agency costs. This Part proposes for crowdfunding a set of novel solutions to the trio of problems; novel in the sense that they are not currently employed in VC, angel investing, or public companies. These proposed solutions are all meant to suit the institutional context of crowdfunding, where digital shareholders will interact with companies via the Internet.³¹⁷

316. The regulatory burden is light compared to traditional public offerings. It may not be light in an absolute sense, and numerous commentators believe the regulatory obligations will be insurmountably high. *See, e.g.*, Joan MacLeod Heminway, *How Congress Killed Investment Crowdfunding: A Tale of Political Pressure, Hasty Decisions, and Inexpert Judgments that Begs for a Happy Ending*, 102 KY. L.J. 865, 867 (2013–2014) (“The provisions of the CROWDFUND Act . . . create a significant cost structure that is not likely to be outweighed by the benefits of a crowdfunded offering conducted under the Act”); Hurt, *supra* note 16, at 252–54 (“Equity Crowdfunding Is Doomed Because Section 4(6) Is Too Costly and Burdensome on Issuers and Portals”); Thompson & Langevoort, *supra* note 12, at 1605–06 (“[T]he regulatory costs are likely to take too much of the small amount of money that can be raised.”).

317. It must be acknowledged that “the Internet” as we now understand it could and probably will continue to change and evolve in unpredictable ways.

These five mechanisms are presented in the rough chronological order of when each would be called upon in the life of a crowdfunded company. The wisdom of the crowd (Part IV.A) and the crowdsourcing of information (Part IV.B) will be most relevant when a company launches a crowdfunding campaign and potential investors are deciding whether to invest. Online reputation (Part IV.C) and securities-based compensation (Part IV.D) come into play both during the campaign and after the company receives the money. Digital monitoring (Part IV.E) is mainly important after the company receives the funds.

A. THE WISDOM OF THE CROWD

Investing in startups with no track record through online crowdfunding presents tremendous uncertainty and information asymmetries for investors. How should a potential crowdfunding investor pick which company to invest in? She would like to invest in one that will succeed, yet she knows that she cannot accurately predict how a set of startup companies will turn out—and she is surely right on that score. But research has shown that large groups of people—crowds—can collectively do a pretty good job at forecasting the future, regardless of whether the crowd is rational or comprised of experts.³¹⁸ This “wisdom of the crowd” has a clear and important application to crowdfunding where it can be a powerful tool to address both uncertainty and information asymmetry.

A well-established body of scientific literature shows that groups are better at finding facts and making predictions than lone individuals, even experts.³¹⁹ Moreover, this phenomenon is

For example, there was a time when most people experienced the Internet through browsers and the worldwide web; these days, smartphones and apps have become the norm. Future changes to the Internet are likely and impossible to predict, so this Part does not intend to suggest an exhaustive list. Rather, other effective solutions, beyond those presented in this Part or presently conceivable to this author, will likely arise as a “[product] of human action, but not the result of human design.” FRIEDRICH A. HAYEK, *INDIVIDUALISM AND ECONOMIC ORDER* 7 (1948).

318. SUROWIECKI, *supra* note 114, at xiii–xiv, 29–32 (“Even if most of the people within a group are not especially well-informed or rational, it can still reach a collectively wise decision.”).

319. *See, e.g., id.* at 31–32 (“[A] large group of diverse individuals will come up with better and more robust forecasts and make more intelligent decisions than even the most skilled [individual acting alone].”); Karsten Hueffer et al., *The Wisdom of Crowds: Predicting a Weather and Climate-Related Event*, 8 *JUDGMENT & DECISION MAKING* 91, 91 (Mar. 2013). For crowdfunding, where investors will have to gauge the future performance of various startup companies, predictions will be more important than fact-finding.

enhanced when people have a financial stake in being right,³²⁰ as will be the case in crowdfunding. Because they will be risking their own money, potential investors will take the exercise seriously.³²¹

This wisdom of crowds can be seen in numerous fields.³²² For one example, the Iowa Electronic Markets—an online futures market where traders buy and sell contracts whose payoffs depend on the outcome of elections and other events—have been able to predict presidential and other elections more accurately than traditional polls.³²³ For another, consider the Nenana Ice Classic, an annual betting pool dating from 1917 where Alaskans try to predict the exact date and time when the ice covering the Tanana River will break up, marking the start of spring.³²⁴ It turns out that the average of all the participants' predictions is at least as accurate as any expert model in forecasting the ice break up.³²⁵ Many other examples of the wisdom of the crowd could be given.

The wisdom of the crowd is not due to some mystical phenomenon or mental convergence, but rather a simple mathematical consequence of averaging.³²⁶ If one person guesses too high and another too low, their average response is spot on.³²⁷ But the crowd is not necessarily wise; it depends on the crowd being sufficiently diverse in terms of their knowledge, skills and perspectives.³²⁸ A crowd of like-minded people will do no better than an individual because they “share the same expertise—and the same blindspots. . . . From a wisdom-of-crowds perspective, it is as if you do not have a crowd.”³²⁹

320. See MICHAEL ABRAMOWICZ, *PREDICTOCRACY: MARKET MECHANISMS FOR PUBLIC AND PRIVATE DECISION MAKING* ix–x (2007).

321. See *id.*

322. See generally SUROWIECKI, *supra* note 114.

323. *Id.* at 17–19.

324. Hueffer et al., *supra* note 319, at 92.

325. *Id.* at 93.

326. Richard P. Larrick et al., *The Social Psychology of the Wisdom of Crowds*, in *SOCIAL JUDGMENT AND DECISION MAKING* 227, 229 (Joachim I. Krueger ed., 2012) (“Combining judgments takes individual imperfection and smoothes the rough edges to isolate the collective’s view of the truth. Or, to put it more mathematically and mundanely, averaging cancels error.”).

327. See SUROWIECKI, *supra* note 114, at 5 (explaining that aggregating and averaging a group’s individual guesses is likely to produce good results).

328. See Hueffer et al., *supra* note 319 (“[G]roups can be more accurate than most individuals to the extent to which each group is diverse.”). The relevant type of diversity is cognitive, not sociological. See SUROWIECKI, *supra* note 114, at 183.

329. Larrick et al., *supra* note 326, at 231; see SUROWIECKI, *supra* note 114,

A diverse crowd, by contrast, is a potent force for discovering hidden truths and forecasting uncertain outcomes. This goes back to the reason why the wisdom of the crowd effect exists in the first place: averaging. Diverse people will make different mistakes, which in the aggregate will encircle the truth. A homogenous crowd will all make the same mistakes, so even their average answer will be off the mark. For instance, when forecasting a given outcome, a crowd made up of optimists will consistently overestimate it,³³⁰ but a group made up of optimists, pessimists, and realists will, on average, get close to the truth.

Crowdfunding is well positioned to capitalize on the wisdom of crowds.³³¹ Once it commences, crowdfunding will gather together a large group of investors on Internet portals to collectively judge the prospects of the various startups seeking funding. Importantly, this crowd will likely be a diverse one for all the reasons discussed above in Part I.B.2. It will include digital shareholders of every age, ethnicity, gender, geography, etc. Diversity of perspectives is the key to the success of the wisdom of the crowd,³³² and it should work well for crowdfunding.³³³

On crowdfunding portals, each investor will select the investments that seem most promising to her. Over time, as the crowd of investors weighs in, some companies will prove popular with the crowd, others not so. The net effect will be a collective prediction of which investments opportunities are the most attractive, like a stock exchange with no securities analysts, no CNBC, and no Wall Street Journal.³³⁴ One might expect chaos

at 36–39 (discussing “groupthink”).

330. As a possible example, the Federal Reserve’s forecast for economic growth was significantly higher than the growth that eventuated in each of the past five years. Dylan Matthews, *This Graph Shows How Bad the Fed Is at Predicting the Future*, WONKBLOG (June 19, 2013), <http://www.washingtonpost.com/blogs/wonkblog/wp/2013/06/19/this-graph-shows-how-bad-the-fed-is-at-predicting-the-future>.

331. See Thompson & Langevoort, *supra* note 12 (“Enthusiasts for crowdfunding stressed that Internet offerings would harness the ‘wisdom of the crowds’ to separate the good business plans from the deficient (or corrupt).”).

332. See SUROWIECKI, *supra* note 114, at 183 (“I mean not sociological diversity but rather cognitive diversity.”).

333. This is not a certainty. It is possible that the crowd that forms on crowdfunding portals will be single-minded and foolish, rather than diverse and wise, but the open nature of the form indicates that the latter is more likely.

334. Admittedly, this collective prediction will surely be imperfect and at least some poor prospects will receive funding. The idea is merely that, on average, there is wisdom in the crowd’s predictions.

and anarchy, but the “wisdom of the crowd” theory suggests that digital shareholders will do a relatively good job at picking winners.³³⁵

Few digital shareholders will be experts on any field in which they might invest, but all of them will be able to add something to the collective effort. Information, as Friedrich Hayek famously explained, is not concentrated in some central repository.³³⁶ Rather, the information needed to transact, build companies and generate economic growth is splintered among countless people, each of whom only holds a small piece of it.³³⁷ By coming together on crowdfunding portals, members of the crowd will each contribute the piece that they have.

Admittedly, predicting how startup companies will perform is more complex and open-ended than predicting who will win an election³³⁸ or when the ice will break up.³³⁹ But the wisdom of the crowd theory applies to complex questions too.³⁴⁰ A group of online gamers were able to solve a complex problem in AIDS research that had eluded scientists for years.³⁴¹ A group of professionals in many fields were able to find a submarine that had vanished without a trace.³⁴² The crowd drafted an encyclopedia that stacks up with the best in the world.³⁴³ Thus, “complexity is no bar” to the emergence of the wisdom of the crowd.³⁴⁴ Moreover, the ultimate question in crowdfunding in-

335. Some commentators expect that crowdfunding investors will have only poor investments to choose from because no high-quality companies will choose to employ crowdfunding. *E.g.*, Dorff, *supra* note 14, at 520. If these critics are correct, the only good decision for the crowd would be to abandon the market entirely, rather than try to pick among the offerings. Still, that would be a good decision and one that can be made with the help of the crowd.

336. *See, e.g.*, Hayek, *supra* note 241, at 524 (discussing the difficulty of concentrating statistical information in the hands of central planners).

337. *See id.* at 526 (describing how even diffuse information will eventually lead to the same outcome as if that information was held by one person).

338. *See supra* text accompanying note 323.

339. *See supra* text accompanying notes 324–25.

340. *See* SUROWIECKI, *supra* note 114, at xvii.

341. Firas Khatib et al., *Crystal Structure of a Monomeric Retroviral Protease Solved by Protein Folding Game Players*, 18 NATURE STRUCTURAL & MOLECULAR BIOLOGY 1175, 1177 (2011).

342. SUROWIECKI, *supra* note 114, at xx.

343. Aniket Kittur & Robert E. Kraut, *Harnessing the Wisdom of Crowds in Wikipedia: Quality Through Coordination*, in PROCEEDINGS OF THE 2008 ACM CONFERENCE ON COMPUTER SUPPORTED COOPERATIVE WORK 37, 45 (2008) (“Wikipedia is both an existence proof and a model for how complex cognitive tasks with high coordination requirements can be effectively achieved through distributed methods.”).

344. SUROWIECKI, *supra* note 114, at xvii.

vesting is binary—buy or pass—so while the considerations are complex, the ultimate answer is either zero or one.

Certain aspects of the CROWDFUND Act are specifically designed to enhance the wisdom of the crowd effect. First, the Act provides that only those offerings that meet a predetermined goal will actually get funded; for those that fall short, all the pledged investments will be nullified.³⁴⁵ Second, the Act gives investors the right to cancel a commitment to invest once made.³⁴⁶ The effect of both of these provisions will be that any individual investor who selects a “bad”—meaning unpopular—investment will be saved from her poor choice by the wisdom of the crowd. She will not walk off the cliff alone, but will be pulled back to safety by the crowd.

The wisdom of the crowd will benefit crowdfunding entrepreneurs as well as investors. A startup that may appear unpromising to venture capitalists, angel investors and other traditional sources of startup funding might catch the eye of a few members of the crowd. Due to the large size and heterogeneity of digital shareholders, “the chances that at least someone will take a gamble on a radical or unlikely idea obviously increases.”³⁴⁷ There may be lots of welfare-enhancing companies that can grow through crowdfunding whose promise would only be recognized by a relatively few people who happen to hold the relevant information, and the odds are much greater to find them among the crowd rather than accredited investors. For example, a company that wanted to sell specialized cleats for ultimate would need to find those pockets of players who recognize that this is an unmet consumer desire.³⁴⁸

In conclusion, the wisdom of the crowd can help address both uncertainty and information asymmetry in the crowdfunding context.

B. CROWDSOURCED INVESTMENT ANALYSIS

Beyond the tacit collaboration of the wisdom of the crowd, potential investors can share what they know on the Internet for others to see, add to and comment upon. Using online cha-

345. 15 U.S.C. § 77d-1(a)(7) (2012).

346. *Id.* This right is expressly implemented at 15 C.F.R. § 237.304(a) in the regulations. Crowdfunding, 78 Fed. Reg. 66,428, 66,558 (proposed Nov. 15, 2013) (notice of final rule released Oct. 30, 2015) (to be codified at 15 C.F.R. § 227.304(a)).

347. SUROWIECKI, *supra* note 114, at 29.

348. See generally *What is Ultimate?*, USA ULTIMATE, <http://www.usultimate.org/about> (last visited Nov. 2, 2015).

trooms, bulletin boards and the like, potential investors and others can directly communicate with one another and share material information about various crowdfunding investments.³⁴⁹ This type of crowdsourcing³⁵⁰ holds great promise as a response to uncertainty and information asymmetry in crowdfunding, and its use has been endorsed by the SEC.³⁵¹

Crowdsourcing is a voluntary online activity that “leverages the collective intelligence of online communities” to achieve a concrete result.³⁵² Wikipedia is a crowdsourced encyclopedia that has proven about as reliable as other leading encyclopedias.³⁵³ NASA uses crowdsourcing to sort through millions of photographs taken from space, on the theory that someone familiar with a given locale could easily identify it, whereas few others, nor computers, could readily do so.³⁵⁴ Other examples abound, including less formal structures like chat groups,³⁵⁵ email lists, blogs and other online communities where people gather and share information on a sports team, pet breed, or any other

349. See BRABHAM, *supra* note 31, at 12–13. This is analogous to the practice of syndication, or group investing, which allows VC investors to “obtain each other’s judgment with respect to particular investment opportunities.” Bartlett, *supra* note 17, at 56.

350. See generally BRABHAM, *supra* note 31; Jeff Howe, *The Rise of Crowdsourcing*, WIRED, June 2006, at 176 (origin of the term). The present Article uses “crowdsourcing” in a loose sense. See JEFF HOWE, CROWDSOURCING: WHY THE POWER OF THE CROWD IS DRIVING THE FUTURE OF BUSINESS 280 (2008) (loosely defining crowdsourcing as “an umbrella term for a highly varied group of approaches that share one obvious attribute in common: they all depend on some contribution from the crowd”); Lee Anne Fennell, *Crowdsourcing Land Use*, 78 BROOK. L. REV. 385, 385 n.2 (2013) (using the term in a “loose manner”). For instance, Yochai Benkler’s concept of “commons-based peer production” comes within this Article’s conception of crowdsourcing. Yochai Benkler, *Coase’s Penguin, or, Linux and the Nature of the Firm*, 112 YALE L.J. 369, 375 (2002). This is as opposed to the strict definitions suggested by some in the literature which would exclude Wikipedia and other projects that are popularly conceived as crowdsourced. *E.g.*, BRABHAM, *supra* note 31, at 2–3, 7–8 (expressly excluding Benkler’s idea from a formal definition of crowdsourcing).

351. See Crowdfunding, 78 Fed. Reg. at 66,430 (describing the sharing of information as one of the “central tenets” of crowdfunding).

352. BRABHAM, *supra* note 31, at xix.

353. See Jim Giles, *Internet Encyclopaedias Go Head to Head*, 438 NATURE 900, 901 (2005) (finding that Wikipedia is nearly as accurate as the Encyclopædia Britannica, at least with regard to scientific articles).

354. See Elliott C. McLaughlin, *Image Overload: Help Us Sort It All Out*, NASA Requests, CNN (Aug. 18, 2014, 8:55 AM), <http://www.cnn.com/2014/08/17/tech/nasa-earth-images-help-needed>.

355. By this I mean an online bulletin board where people can post messages and reply to those previously posted.

subject.³⁵⁶

These sorts of efforts translate well to crowdfunding. Just as thousands of people contribute to Wikipedia and perform other crowdsourced work for free, potential investors can investigate companies and share their findings with the crowd.³⁵⁷ Difficult implementation questions need to be worked out, such as whether participants would have to register with their real names, or if anonymous posting would be allowed.³⁵⁸

As for expertise, few potential investors will be experts in a formal sense,³⁵⁹ but some surely will. Among a large enough crowd, there is sure to be somebody with expertise in any given field, simply as a matter of numbers.³⁶⁰ Moreover, there are at least some companies that may seek to use crowdfunding that already have an online community of customers or users who are especially knowledgeable about that company.³⁶¹ If any of these types of experts share their knowledge on the bulletin board, then the whole crowd can become well informed.³⁶²

More important than formal expertise, however, is the idea that practically every member of the crowd knows something that others do not; something particular to their personal experience, skills, and perspective.³⁶³ Each of these distributed bits

356. See, e.g., THE BEST RAT TERRIER SITE ON THE WEB, <http://www.rat-terrier.com> (last visited Nov. 2, 2015).

357. This already happens in related spaces, such as peer-to-peer lending. See Andrew Verstein, *The Misregulation of Person-to-Person Lending*, 45 U.C. DAVIS L. REV. 445, 464–65 (2011).

358. Anonymity might enhance the accuracy of the discussion in some cases, but it may also diminish it in others. See BRABHAM, *supra* note 31, at 13 (“Anonymity is important for online collaboration, especially when people express ideas and opinions to a commons.”).

359. See *supra* Part I.B.2.

360. See Dorff, *supra* note 14 (“Some crowdfunders may have relevant experience . . .”).

361. Nut-butter company, Justin’s, for instance, has received over 120,000 likes on Facebook. *Justin’s*, FACEBOOK, <https://www.facebook.com/JustinsNutButter> (last visited Nov. 2, 2015). Presumably, many of these fans are intimately familiar with the company’s products. See also Leslie Josephs, *Nut-Butter Firm’s Founder Adjusts to Growth*, WALL ST. J., June 26, 2015, at B5 (reporting that early fundraisings for the company were on the order of \$25,000 to \$100,000, which would have been appropriate for securities crowdfunding, had it existed at the time).

362. There is reason to expect that they will do so. See *infra* text accompanying notes 364–88.

363. Hayek, *supra* note 241, at 519 (“[S]cientific knowledge is not the sum of all knowledge. . . . [T]here is beyond question [another] body of very important but unorganized knowledge[,] . . . the knowledge of the particular circumstances of time and place. It is with respect to this that practically every

of information standing alone may not be significant. But gathered together, they constitute a sort of collective wisdom on just about any subject that may arise.

Indeed, the SEC's Regulation Crowdfunding envisions crowdsourced investor research of this sort: "Individuals interested in the crowdfunding campaign—members of the 'crowd'—may share information about the project, cause, idea or business with each other and use the information to decide whether or not to fund the campaign based on the collective 'wisdom of the crowd.'"³⁶⁴ Moreover, the regulation specifically authorizes funding portals to "[p]rovide communication channels by which investors can communicate with one another and with representatives of the issuer through the funding portal's platform about offerings through the platform," subject to certain conditions, including public access.³⁶⁵

But is this realistic? Why would someone with good information about a given investment post it on a bulletin board and share it with other members of the crowd for free? Securities analysts and hedge funds, who play an analogous role for traditional public companies, tend keep their findings and opinions secret or share them only with a limited number of clients or other parties.³⁶⁶

Apart from altruism, a desire for fame, or other nonpecuniary reasons,³⁶⁷ is there an economic rationale for digital shareholders to share information with one another? Yes there is, one that comes directly from the interplay of two components of

individual has some advantage over all others in that he possesses unique information of which beneficial use might be made . . .").

364. Crowdfunding, 78 Fed. Reg. 66,428, 66,429 (proposed Nov. 5, 2013) (notice of final rule released Oct. 30, 2015) (to be codified at 17 C.F.R. pts. 200, 227, 232, 239–40, 249). This already happens with respect to publicly traded companies, as hedge funds and others use blogs, Twitter and other online forums to "talk their book." See, e.g., Steven Russolillo, *The iCahn Effect: Apple's Market Cap Jumps by \$17 Billion After Tweets*, WALL ST. J.: MONEYBEAT (Aug. 13, 2013, 4:59 PM), <http://blogs.wsj.com/moneybeat/2013/08/13/the-icahn-effect-apples-market-cap-jumps-by-17-billion-after-tweets> ("Activist investor Carl Icahn disclosed on Twitter Tuesday afternoon a 'large position' in Apple Inc., the tech giant which he deemed 'extremely undervalued.' . . . Apple shares jumped on the news, rising as much as 5.8%. . . . From the moment that Icahn tweeted through Tuesday's intraday high, Apple had gained \$17.1 billion in market value . . .").

365. Crowdfunding, 78 Fed. Reg. at 66,560.

366. See David Benoit, *Hedge Funds Learn Secrets Not So Safe*, WALL ST. J., Jan. 26, 2015, at C1 ("In the hedge-fund world, there is no more closely guarded secret than what stock a firm is preparing to target.").

367. See generally Schwartz, *supra* note 126 (describing the non-monetary rewards of participating in crowdfunding).

crowdfunding, at least as conceived by the federal JOBS Act.

First, each crowdfunding investor faces an annual cap of 5% of their income or net worth in all crowdfunded securities each year.³⁶⁸ For most Americans, this works out to be somewhere between \$2500 and \$5000 per year in all crowdfunded investments.³⁶⁹ Second, crowdfunding companies must announce their fundraising goal in advance and will only receive the money if they reach or exceed that goal.³⁷⁰

The combined effect of these two rules is that a potential investor who spots a great opportunity has a powerful economic incentive to share her views widely. The investment cap prevents a single investor from funding a company on her own.³⁷¹ If she keeps her information secret and the company does not catch the attention of other investors, it will not reach its goal and no securities will be sold. By contrast, if such an investor shares her information on the Internet, it is more likely that the issuer will reach its goal and she will get the securities she wants. In short, crowdfunding promotes cooperation. Those with valuable information about crowdfunding companies have a powerful incentive to give that information away, including on an Internet bulletin board.³⁷²

Furthermore, reputation feedback systems of the sort discussed in the next Section could enhance the efficacy of

368. 15 U.S.C. § 77d(a)(6)(B)(i) (2012). Wealthy investors can invest up to 10%. *Id.* § 77d(a)(6)(B)(ii).

369. See Schwartz, *supra* note 3, at 1461.

370. 15 U.S.C. § 77d-1(a)(7).

371. There are extreme circumstances where this might not hold and a single investor could fund an entire issuance. Because the CROWDFUND Act allows those with an income or net worth over \$100,000 to invest 10%, up to an absolute limit of \$100,000, there is the possibility that a single person could buy up a huge chunk, even 100%, of the crowdfunded securities from a given company. This appears to be an unlikely scenario.

372. A similar sort of platform, called SumZero, already exists for professional investment analysts to share their proprietary investment reports with one another in an online forum. See *About SumZero*, SUMZERO, <https://sumzero.com/about> (last visited Nov. 2, 2015) (claiming to have “more than 12,000 pre-screened professionals”); *Sum of Its Parts: Web Site Combines Idea Database, Networking*, FINALTERNATIVES (Mar. 24, 2009), <http://www.finalalternatives.com/node/7348> (“A new Web site is seeking to combine two of the more revolutionary and successful ideas in recent Internet history, Wikipedia and social networking, for the benefit of the buyside community.”). A key difference between SumZero and crowdsourced investment analysis is that the former is an exclusive network only open to professionals whose applications are accepted, whereas crowdsourced investment analysis for crowdfunding will be open to all.

crowdsourced investment analysis.³⁷³ Commenters could receive votes and build up reputations for the value of their comments, which would improve the system.³⁷⁴

One potential problem with crowdsourced investment information is that it might give rise to market manipulation. For instance, the issuer could ask a friend (or set of friends) to post false information in order to obtain the initial investment. Simple fraud like this is surely possible, but it seems unlikely to develop into a major problem because the gravity of the consequences and the chances of detection are both relatively high, while the potential returns are rather modest. The CROWDFUND Act has powerful anti-fraud provisions,³⁷⁵ and it also empowers state authorities as well as jilted investors³⁷⁶ to sue issuers and other parties who engage in wrongdoing such as this. Furthermore, everyone who posts information will be logged in, making it a cinch to track down who said what. Given all this, it seems that issuers with fraudulent intentions would have better luck elsewhere.

Manipulation by third parties in the secondary market will be even less of a concern. Consider the example of the pump-and-dump scheme where stockholders circulate market-moving but false information to drive up the price of their shares, and then sell and book profits before the truth comes out. Such manipulation requires a secondary market of substantial size to make it worthwhile, but that will not generally be the case for crowdfunded companies. For one thing, the JOBS Act expressly prohibits a secondary market for a year after issuance.³⁷⁷ Even after that, the number of shares available will generally be too small to make practical a secondary market.³⁷⁸

373. See *infra* Part IV.C.2.

374. SumZero explicitly incorporates the concept of reputation. See *About SumZero*, *supra* note 372 (“[T]he platform . . . enables members to build a track record . . .”).

375. The regulations contemplate incorporating already-existing anti-fraud measures and requires intermediaries to comply with specific, additional measures. See *Crowdfunding*, 78 Fed. Reg. 66,428, 66,556 (proposed Nov. 5, 2013) (notice of final rule released Oct. 30, 2015) (to be codified at 15 C.F.R. § 227.301).

376. State regulators can disqualify issuers for misconduct, *id.* at 66,562, and the statute includes a private right of action, 15 U.S.C. § 77d-1(c) (2012).

377. 15 U.S.C. § 77d-1(e).

378. See Schwartz, *supra* note 3, at 1463 (“[A]s a practical matter there will be a very small secondary market for any given crowdfunded security.”); *id.* (“[N]o liquid secondary market is likely to develop in crowdfunded securities.”).

Finally, putting intentional manipulation aside, there is also the possibility that, instead of being wise and thoughtful, the crowd could act with a mob or herd mentality of the sort that has led to asset bubbles from the Dutch Tulips of the seventeenth century to the housing bubble of our own. By communicating with one another on the Internet, the crowd could suffer from “groupthink” thanks to issues like anchoring³⁷⁹ or information cascades.³⁸⁰ Anyone who has ever chosen a restaurant simply because it is crowded understands the concept of an information cascade. The restaurant might be crowded because it is high quality; alternatively, it might be low-quality and the initial diners simply made a mistake that many others followed.³⁸¹

Anchoring and information cascades like this could undermine the effectiveness of crowdsourcing investor information. For instance, if enough people on an Internet chat board seem to think the investment is a good one, others might latch on to the popularity of that view and adopt it as their own, regardless of its underlying merit. This “lemming problem”³⁸² can already be observed in reward crowdfunding, where popular projects appear to take off once they hit a certain level of funding.³⁸³

Fortunately, there is good reason to think that anchoring and information cascades will not be fatal in the context of crowdfunding because investors are likely to feel and act independent from one another. Research shows that groups of people are “far more likely to come up with a good decision if the people in the group are independent of each other.”³⁸⁴ Independence is important because “it keeps the mistakes that peo-

379. “When people are asked to generate an estimate, they frequently anchor on an obvious or convenient number . . . and then adjust upward or downward . . . This procedure naturally leads to estimations which are skewed toward the initial value.” Jon D. Hanson & Douglas A. Kysar, *Taking Behavioralism Seriously: The Problem of Market Manipulation*, 74 N.Y.U. L. REV. 630, 667 (1999).

380. An information cascade is a herding-like effect where people disregard their own private information and adopt the popular view if they observe sufficiently many other people taking that view. See CASS SUNSTEIN, *INFOTOPIA* 88–91 (2006); SUROWIECKI, *supra* note 114, at 53–55.

381. See SUROWIECKI, *supra* note 114, at 54–55.

382. I credit Seth Oranburg with coining this term.

383. See Agrawal et al., *supra* note 222, at 13 (“[I]nvestors’ propensity to invest in a given week increases as the entrepreneur visibly accumulates capital on the site.”).

384. SUROWIECKI, *supra* note 114, at 41.

ple make from becoming correlated” and because “independent individuals are more likely to have new information.”³⁸⁵

On crowdfunding websites, there will be no institutional investors to set the tone with their gravitas, and while accredited investors will be invited, they will be on the same level as everyone else. Furthermore, people on the Internet tend to act individualistically and are willing to challenge one another.³⁸⁶ Finally, the lack of face-to-face contact in crowdfunding may reduce the likelihood of the sort of mimicry that is found among groups of animals and people.³⁸⁷ None of this ensures that members of the crowd will act independently from one another,³⁸⁸ but it does enhance that possibility.

In sum, crowdsourced investor information is a promising method for crowdfunding to address the fundamental problems of uncertainty and information asymmetry, yet anchoring and information cascades may hinder this mechanism.

C. ONLINE REPUTATION

The online reputation of founders, promoters, and managers of crowdfunded companies can be used to address both information asymmetry and agency costs in a manner well suited to crowdfunding’s institutional context. Insiders can signal to investors that they are committed to and believe in the company by putting their online reputation on the line by, for instance, linking to their Facebook or other social media page on their crowdfunding campaign.³⁸⁹ This reduces information asymmetry. Furthermore, by putting their online reputation in play, insiders can provide a bond—a credible promise—that agency costs will be modest (i.e., they will work diligently and faithfully for the investors’ benefit).

Reputation is a summary or representation of society’s opinion of an individual or organization.³⁹⁰ Once such infor-

385. *Id.*

386. *See id.* at 42.

387. *See id.* at 43 (describing a psychology experiment involving a group of people on a street corner looking up at nothing).

388. In particular, if certain members of the crowd are perceived as experts, *see supra* Part IV.B, others may follow their advice rather than rendering an independent analysis.

389. *Cf. Schwartz, supra* note 3, at 1472 (“There is every reason to believe that crowdfunding issuers and intermediaries can and will use Facebook or other types of social media to promote their offerings to a wide audience at low cost.”).

390. *See* LAWRENCE MCNAMARA, REPUTATION AND DEFAMATION 31 (2007);

mation is aggregated, reputations “can help other community members make decisions with respect to whether and how to relate to that individual,” such as whether to trust them.³⁹¹ In this way, reputations “create[] powerful incentives for good behavior.”³⁹² Furthermore, the Internet is well suited to keeping careful track of one’s reputation.³⁹³ The upshot is that online reputation represents a promising method for addressing information asymmetry and agency costs in the crowdfunding context.

Reputation is extremely useful in enabling successful interactions between transacting parties, such as buyers and sellers.³⁹⁴ The existence of a reputation “informs others about [a seller’s] abilities and dispositions,” and can be used to select trustworthy counterparties.³⁹⁵ Reputation can also be a powerful disincentive for bad behavior. Since a good reputation enables business transactions, it is implicit that a bad reputation would discourage business transactions.³⁹⁶ “By ensuring that people are accountable for their actions, reputation gives people a strong incentive to conform to social norms and to avoid breaching people’s trust.”³⁹⁷ This is why sellers care about having a good reputation. Thanks to reputational constraints, “both individuals and organizations feel a lot of pressure to follow the group norms.”³⁹⁸ In this way, reputation encourages good behavior.³⁹⁹

In the context of crowdfunding, where all transactions will take place on the Internet, online reputation will likely prove to be an important way to address information asymmetry and

Chris Stiff, *Are They Bothered? How the Opportunity To Damage a Partner’s Reputation Influences Giving Behavior in a Trust Game*, 148 J. SOC. PSYCHOL. 609, 610 (2008) (defining reputation as “an aggregation of socially shared information regarding a potential interaction partner”).

391. Chrysanthos Dellarocas, *Designing Reputation Systems for the Social Web*, in THE REPUTATION SOCIETY 4 (Hassan Masum & Mark Tovey eds., 2011); see DANIEL J. SOLOVE, THE FUTURE OF REPUTATION 31 (2007).

392. Gail L. Rein, *A Reference Model for Designing Effective Reputation Information Systems*, 31 J. INFO. SCI. 365, 365 (2005).

393. See *id.* at 375 (“*Time Stamp* records the precise time (year, month, day, minute, and second) of the reputation rating.”).

394. See *id.* at 365.

395. *Id.* at 365–66.

396. See SOLOVE, *supra* note 391.

397. *Id.* at 32; see *id.* at 31 (“In many circumstances, we look to people’s reputation to decide whether to trust them.”).

398. BRUCE SCHNEIER, LIARS AND OUTLIERS 9 (2012).

399. See JONATHAN R. MACEY, THE DEATH OF CORPORATE REPUTATION 8 (2013).

agency costs. Scholars of privacy law have shown that living in the Internet age makes it effectively impossible to remain anonymous, which is itself a key factor in allowing for misbehavior.⁴⁰⁰ For example, studies have shown that drivers engage in more misbehavior on the road when they feel anonymous⁴⁰¹: Drivers of convertibles drive less aggressively when they have the top down;⁴⁰² commercial drivers with “How’s My Driving?” stickers drive much more safely than those without.⁴⁰³

Internet-based securities crowdfunding will not be anonymous,⁴⁰⁴ making the institutional context of crowdfunding very different from the conditions that led the enactment of state Blue Sky Laws in the early 1900s and the federal securities laws in the 1930s, when aggressive salesmen and con artists roamed the land.⁴⁰⁵ These men used aliases and tended to “fly by night” from one town to the next, making reputation an ineffective means of constraining their behavior.⁴⁰⁶

With regard to securities crowdfunding, the social circumstances are very different. Entrepreneurs, investors, and management will all be identifiable, for it is the nature of the Internet that all parties must create a user name and password, link a bank account, etc., before transacting business online,⁴⁰⁷

400. See SOLOVE, *supra* note 391, at 33 (“No longer can people hide in obscurity and escape accountability for their actions.”); *id.* (“The Internet . . . makes gossip a permanent reputational stain, one that never fades. It is available around the world, and with Google it can be readily found in less than a second.”).

401. See Lior Jacob Strahilevitz, “How’s My Driving?” for Everyone (and Everything?), 81 N.Y.U. L. REV. 1699, 1705 (2006).

402. See *id.* at 1705–06 n.13.

403. See *id.* at 1711.

404. While some online marketplaces or activities may be anonymous, Internet-based securities crowdfunding will not be. Investors will be required to link banking and other financial information to their online account.

405. See generally DAVID W. MAURER, THE BIG CON: THE STORY OF THE CONFIDENCE MAN (1940) (documenting the practices of American con artists in the early 1900s); AMY READING, THE MARK INSIDE: A PERFECT SWINDLE, A CUNNING REVENGE, AND A SMALL HISTORY OF THE BIG CON (2012) (presenting a history of con artist crime in the early 1900s); THE SECURITY MARKETS: FINDINGS AND RECOMMENDATIONS OF A SPECIAL STAFF OF THE TWENTIETH CENTURY FUND 566–69 (Alfred L. Bernheim & Margaret Grant Schneider eds., 1935) (explaining how the problems posed by dishonest securities traders instigated securities laws in the early 1930s).

406. See SOLOVE, *supra* note 391, at 141 (“When people can avoid being identified, they can slip away from their bad reputations.”).

407. Cf. Crowdfunding, 78 Fed. Reg. 66,428, 66,560 (proposed Nov. 5, 2013) (notice of final rule released Oct. 30, 2015) (to be codified at 17 C.F.R. § 227.402(b)(4)(iii)) (requiring that participants in online chatrooms register with the hosting portal). In contrast, other online marketplaces, such as

thereby allowing every action and utterance to be monitored and tracked.⁴⁰⁸ Even sophisticated Internet users who take pains to anonymize and conceal their activity can generally be found by determined detectives.⁴⁰⁹ The indelible data trail tying a person to their online activity will give rise to an important method for ameliorating information asymmetry and agency costs by placing the online reputation of the promoters, directors and executives at stake.⁴¹⁰

Online reputation will act as a signal of good companies as well as a bonding mechanism to help ensure hard work and fidelity from the managers.⁴¹¹ With their personal reputation on the line, managers of crowdfunded companies will have a strong incentive to act in the shareholders' interest. This is analogous to the traditional requirement that the incorporators be listed on the certificate of incorporation,⁴¹² thus allowing potential investors to see who is behind the company (and whose reputation should suffer if the company squanders their investments). This may have made sense when investors and directors knew each other from face-to-face interaction, but in the modern world people earn and maintain their reputation through their online presence.

This can all be seen as one instance of a larger "reputation revolution" whereby "the anonymity and pseudonymity that once characterized our interactions with strangers is fading."⁴¹³ This revolution is playing out in many spheres, including con-

craigslist, may be more prone to fraud and other forms of misbehavior because they permit anonymous communications with no clear link to a real person, physical address, bank account, etc.

408. See AMITAI ETZIONI, *THE LIMITS OF PRIVACY* 131 (1999) (explaining that by "using credit cards and checks (as opposed to paying cash) and [by] ordering merchandise over the phone and the Internet (rather than shopping in person)," people "leave data trails that are difficult to erase or conceal").

409. See Matthew Dalton & Andrew Grossman, *Arrests Signal Breach in "Darknet,"* WALL ST. J., Nov. 8–9, 2014, at B1 (reporting that law enforcement authorities "shut dozens of illegal websites and arrested some operators" by "piercing the anonymity offered by Tor, a network that relies on encryption tools and 1,000s of servers to mask online activities").

410. *But see* Hurt, *supra* note 16, at 252 ("[L]eaving town' with fools' money is easier when there is no town.").

411. See generally Jensen & Meckling, *supra* note 153 (defining all efforts to address agency costs as either monitoring by principals or bonding by agents).

412. *E.g.*, DEL. CODE ANN. tit. 8, § 102(a)(5) (2015) (mandating that a certificate of incorporation must include the "name and mailing address of the incorporator or incorporators").

413. Lior Jacob Strahilevitz, *Reputation Nation: Law in an Era of Ubiquitous Personal Information*, 102 NW. U. L. REV. 1667, 1670–71 (2008).

sumer contracting,⁴¹⁴ and the ideas presented here are in accord with this larger phenomenon. One manifestation of this phenomenon is the suggestion that there be a “right to be forgotten” on the Internet, which has been recognized in Europe but pointedly denied in the United States.⁴¹⁵

On the whole, online reputation should work well to address information asymmetry and agency costs in the crowdfunding context. There are limits, however, including an inability of the crowd to detect shirking that does not lead to disastrous results. If the company does fine, but could have done great, the entrepreneur is unlikely to pay a reputational fine. As such, reputation may be more effective at addressing malfeasance than slacking.

Online reputation can be thought of in two senses, informal and formal. The former refers to the amalgamation of all Internet references to a person, including blog posts, social media, and everything else. The latter refers to reputation feedback systems, such as the “star” ratings used on Amazon and eBay. The role that each type of online reputation may play in reducing information asymmetry and agency costs in crowdfunding is considered in the following two subsections.

1. Disaggregated Online Reputation⁴¹⁶

The management of crowdfunded companies can be disciplined by the prospect that if they shirk, provide themselves with excessive compensation, or otherwise impose agency costs on their investors, they will be pilloried in the “blogosphere” and their online reputation will suffer.⁴¹⁷ The management of

414. See Scott R. Peppet, *Freedom of Contract in an Augmented Reality: The Case of Consumer Contracts*, 59 UCLA L. REV. 676, 702 (2012) (citing Strahilevitz, *supra* note 401, and Strahilevitz, *supra* note 413).

415. Compare Case C-131/12, *Google Spain SL v. Agencia Española de Protección de Datos*, 2014 EUR-Lex 62012CJ0131, at 88 (May 13, 2014) (Court of Justice of the European Union recognizing a “right to be forgotten”), with Michael L. Rustad & Sanna Kulevska, *Reconceptualizing the Right To Be Forgotten To Enable Transatlantic Data Flow*, 28 HARV. J.L. & TECH. 349, 355 (2015) (explaining that the European Union’s “right to be forgotten” has “failed to develop under United States law” because it is “antithetical to the First Amendment of the U.S. Constitution”).

416. See generally DANIEL J. SOLOVE, *THE DIGITAL PERSON: TECHNOLOGY AND PRIVACY IN THE INFORMATION AGE* (2004) (exploring and discussing the implications of emerging online technologies on privacy and public profile).

417. Cf. Hamermesh & Tsoflias, *supra* note 130, at 485 (“[I]f you commit fraud on [an online investment portal], your whole social network is going to know about it. Your future employers will know about it when they check your Facebook page. That cute girl you met in the bar is going to know about it

crowdfunding companies will be relatively easy to track down because all activity will take place on the Internet, where they will create a digital record and a trail to their door.⁴¹⁸ The prospect of a sullied online reputation can help reduce the agency costs of crowdfunding by disciplining management to act in the shareholders' interest. This sort of discipline already takes place in public markets, where activist shareholders employ social media to criticize and influence corporate management.⁴¹⁹

More relevant for present purposes, online reputation is widely used to discipline people who engage in reward crowdfunding.⁴²⁰ Kickstarter specifically warns users that “[l]aunching a Kickstarter is a very public act, and creators put their reputations at risk when they do.”⁴²¹ In one recent case, apparel company Radiate Athletics raised substantial funds on Kickstarter but then was overwhelmed by orders and fell badly behind schedule, leading many disappointed patrons to complain on the Internet.⁴²² “The problem mushroomed into a public relations fiasco after angry Kickstarter backers, [sic] posted complaints on Facebook, Twitter and other websites. In the past 30 days alone, nearly 250 messages about Radiate have been posted on Twitter, nearly all complaints”⁴²³

Moreover, it seems likely that some promoters of crowdfunding companies will provide hyperlinks in their offering to their Facebook, LinkedIn or other social media account as both a signal and a bonding mechanism. Such a hyperlink effectively says to investors, “You can trust and expect that I will act responsibly with your investment, because the good name of my digital persona hangs in the balance.” This method of linking to social media is already used in reward crowdfunding; on Indiegogo, for instance, people seeking funding can obtain a “Veri-

when you and she ‘friend’ each other on Facebook. Your entire life on Facebook, which occurs in public, is now linked to your securities offering.” (quoting Professor Robert Miller)).

418. *See id.*

419. *See* Kristyn Hyland, *Activist Investors Increasingly Use Social Media To Further Their Causes*, BLOOMBERG BNA NEWS (Oct. 31, 2014), <http://www.bna.com/activist-investors-increasingly-n17179910807>.

420. *See, e.g.*, Angus Loten, *Kickstarter Push Overwhelms Entrepreneur*, WALL ST. J., Sept. 11, 2014, at B5 (reporting about how an entrepreneur’s reputation suffered after he was unable to give promised rewards to his Kickstarter investors).

421. *Kickstarter Basics*, KICKSTARTER, <https://www.kickstarter.com/help/faq/kickstarter%20basics> (last visited Nov. 2, 2015).

422. Loten, *supra* note 420.

423. *Id.*

fied Facebook Badge” by linking their Facebook and Indiegogo account.⁴²⁴ The purpose, according to Indiegogo, is to reduce information asymmetry: “We think it’s useful to have information that you may find helpful as you decide who to interact with on Indiegogo. . . . These additional pieces of information can help inform contributors’ decisions about contributing to a campaign on Indiegogo.”⁴²⁵

It is certainly true, as some privacy scholars emphasize, that there are downsides to this method of addressing the three problems of investing.⁴²⁶ Their valid concerns over so-called “Internet shaming” include a lack of due process and the prospect of vigilantism.⁴²⁷ Yet even critics acknowledge that “Internet shaming has many benefits,” and are apparently most opposed to the practice when it is used for violations of norms.⁴²⁸ Yet in crowdfunding, legal obligations such as fiduciary duties and contractual covenants will be at stake.

2. Reputation Feedback Systems

Separate from the broad Internet-wide reputation of a person, digital shareholders may benefit from a crowdfunding-specific “reputation feedback system,” akin to the star system used on eBay or Amazon.⁴²⁹ A reputation feedback system is an online mechanism where “users of a network provide feedback about the performance of other network members” that is compiled and presented for the benefit of future users.⁴³⁰ Reputation feedback systems are crucial to the functioning of online marketplaces and may even be “among the most important forms of social production to emerge in the last decade.”⁴³¹

Most reputation feedback systems use what are called “Likert-type” scales.⁴³² Such scales allow respondents to rate

424. *About Verifications*, INDIEGOGO, <https://support.indiegogo.com/hc/en-us/articles/202179638-About-Verifications> (last visited Nov. 2, 2015).

425. *Id.*

426. *See generally* SOLOVE, *supra* note 391, at 94–102 (identifying some problems posed by Internet shaming).

427. *See id.* at 96–101.

428. *See id.* at 92.

429. *See, e.g., About Comments, Feedback, & Ratings*, AMAZON, <http://www.amazon.com/gp/help/customer/display.html?nodeId=537806> (last visited Nov. 2, 2015).

430. YOCHAI BENKLER, *THE WEALTH OF NETWORKS: HOW SOCIAL PRODUCTION TRANSFORMS MARKETS AND FREEDOM* 131 (2007).

431. Lior Jacob Strahilevitz, *Wealth Without Markets?*, 116 *YALE L.J.* 1472, 1506 (2007).

432. Dawn G. Gregg, *Outline Reputation Scores: How Well Are They Un-*

their experience on a discrete scale (e.g., rating a seller one, two, or three).⁴³³ Reputation feedback systems then aggregate these ratings in some way and publicize the result.⁴³⁴ Many reputation feedback systems display textual comments as well.⁴³⁵

Reputation feedback systems translate the benefits of reputation in traditional marketplaces to online marketplaces. Thus, they perform three main functions: they encourage consumers to partake in internet transactions despite risk and the possibility of fraud, they decrease the risk and likelihood of fraud associated with anonymous interactions, and they allow consumers to have trust not only in their specific business partner, but also in the marketplace as a whole. Since reputation feedback systems help consumers decide whom to trust in online market places, consumers would theoretically avoid those sellers which were more likely to put them at risk based on their past behavior. As a result, sellers would try to avoid having a bad reputation in these feedback systems so as to avoid not being able to do business.

The reputation feedback systems currently in use can be adapted for use in the crowdfunding arena.⁴³⁶ For instance, investors could be asked to rate their level of satisfaction with the investment with one to five “stars” at launch and, perhaps, annually thereafter. Over time, companies with low scores will find it hard to garner interest from the crowd for future rounds of fundraising. This all has the beneficial effect of encouraging good behavior by managers, and some level of monitoring by portals.⁴³⁷ Moreover, systems like these have extremely low costs—a key concern for crowdfunding—especially because they can be easily scaled. Finally, the SEC appears to have authority under the JOBS Act to require or recommend the use of reputation feedback systems as a way to protect investors.⁴³⁸

A linchpin of reputation feedback systems is having repeat players.⁴³⁹ They work well on eBay or Amazon, where sellers

derstood?, 50 J. COMPUTER INFO. SYS. 90, 91 (2009).

433. *See id.*

434. *See id.*

435. *See About Comments, Feedback, & Ratings, supra* note 429.

436. *See Tomboc, supra* note 14, at 270.

437. The system is not perfect, of course, as many crowdfunding companies will not have any future rounds of fundraising. In particular, the most problematic companies may never be heard from again.

438. *See* 15 U.S.C. § 77d-1(a) (2012).

439. *See generally* Gilson, *supra* note 17, at 1086 (stating that anticipating

make many sales and want to maintain a high reputation score to ensure future business. But many, perhaps most, crowdfunding companies will be one-time players, seeking funding just once and never returning to the crowdfunding market. For such companies, a reputation feedback system will likely not be of much use, at least not beyond the broad reputation effects discussed in the previous subsection.

There is, however, at least one repeat player in the crowdfunding marketplace: the funding portals and broker-dealers through which every transaction must be made. These intermediaries want investors to have a good experience so they will return to invest again on their website, making them sensitive to a reputation feedback system. A funding portal with lots of poorly rated companies will find it difficult to attract future users to its site. Importantly, this appears to be an effective constraint for existing reward crowdfunding sites, such as Indiegogo, which take care to avoid having their markets overrun by malfeasance.⁴⁴⁰ A reputation feedback system that allowed for comparison between platforms could play a useful role in addressing the agency costs of crowdfunding, but the simple flow of business may be sufficient even without such a system.

Finally, another set of repeat players is the entrepreneurs and promoters behind the startups seeking funding. An entrepreneur that successfully finances one startup through crowdfunding may well be back months or years later to seek funding for another startup. This phenomenon of serial entrepreneurship is common in the context of VC and angel investing,⁴⁴¹ and if it were to carry over to crowdfunding there would exist a set of people who are repeat players with a strong interest in maintaining a good online reputation.

To summarize this Section, the importance in the modern world of maintaining a good online reputation can be used to reduce both information asymmetry and agency costs in crowdfunding.

repeated future transactions is an attribute in the operation of reputation markets).

440. See *supra* text accompanying note 11.

441. See Douglas G. Baird & Edward R. Morrison, *Serial Entrepreneurs and Small Business Bankruptcies*, 105 COLUM. L. REV. 2310, 2312 (2005) (“The owner-operator’s human capital is not tied to any particular business enterprise; it can be redeployed when opportunities outside the existing enterprise are more attractive than those inside, which is precisely why most entrepreneurs are serial entrepreneurs.”).

D. SECURITIES-BASED COMPENSATION

Although it is sometimes called “equity crowdfunding,” startups will be allowed to sell any type of security they wish, not just equity or common stock.⁴⁴² Furthermore, there is good reason to expect that many crowdfunding companies will sell a variety of other types of securities, including unusual variants that will be unfamiliar to potential investors, such as “unequity”⁴⁴³ or “safe.”⁴⁴⁴

The use of strange securities will create information asymmetry because the entrepreneur will generally understand the security she is selling much better than will the digital shareholders considering buying it. This information asymmetry could be a significant hurdle for entrepreneurs to overcome, as the investors will be understandably skeptical of buying a security that is something other than common stock.

To overcome this information asymmetry, crowdfunding entrepreneurs can accept as managerial compensation the same security that is for sale to the crowd. By committing herself to being paid primarily with the precise security being offered, an entrepreneur can assure the crowd that the security is worth buying. A promise of this sort to “eat its own cooking” should help reduce information asymmetry and help crowdfunding function.⁴⁴⁵ It must be acknowledged, however, that the literature on executive compensation shows how challenging it is to design an effective system.⁴⁴⁶ Even so, this technique would appear to help crowdfunding address the fundamental problem of information asymmetry.

This idea of securities-based compensation is novel but closely related to the equity-based compensation used in VC companies. What is different here is that management is compensated using the very same security sold to investors. In VC, the investors buy convertible preferred stock and the entrepreneur is paid in straight common stock. Here, both the digital shareholders and the entrepreneur/manager will receive the same security, of whatever type.

442. Schwartz, *supra* note 3, at 1482.

443. Heminway, *supra* note 211.

444. Here, “safe” is an acronym for “simple agreement for future equity.” *Startup Documents*, YCOMBINATOR.COM (Mar. 2015), <https://www.ycombinator.com/documents>.

445. The potential tax implications for this form of compensation are beyond the scope of this Article.

446. See generally *supra* notes 301–04 and accompanying text.

E. DIGITAL MONITORING

It is well known that information asymmetry and agency costs can be reduced if the principal monitors the agent. Monitoring is used by angels (who actively participate in the business),⁴⁴⁷ VCs (who sit on the board),⁴⁴⁸ and public shareholders (who have access to voluminous disclosure)⁴⁴⁹ to address these problems, but these traditional methods of monitoring will not translate to crowdfunding.⁴⁵⁰ Even if they did, these techniques are far too costly for digital shareholders with only hundreds of dollars at stake to use. The Internet allows for extremely inexpensive monitoring, however, meaning that digital shareholders can employ high-tech but low-cost methods to monitor the management of the companies in which they invest.

In the analog world, most investor monitoring of management was expensive and time consuming. An investor that visited the company's office on a typical workday would surely learn valuable information, such as how many hours people spend at work, and the mere specter of such a visit would help reduce agency costs. But flying across the country to pay a personal visit is a very costly proposition. Similarly, many public shareholders would surely value attending a public company's annual meeting, but almost none actually show up because of the time and expense of doing so.⁴⁵¹

In the digital world, by contrast, investor monitoring can be accomplished at exceedingly low cost. Relevant business information, such as sales or customers, can be posted to a website in real time.⁴⁵² Managers can conduct regular telepresence meetings with investors using technologies such as Google Chat and Apple FaceTime that allow for real-time multi-point communication. Employees could electronically clock in and out

447. See *supra* Part III.B.2.

448. See *supra* Part III.A.3.

449. See *supra* Part III.C.1.

450. See *supra* Part III.

451. See Lisa M. Fairfax, *Mandating Board-Shareholder Engagement?*, 2013 U. ILL. L. REV. 821, 838–39 (2013).

452. This concept goes beyond crowdfunding and may be applied to ordinary public companies. See L. Gordon Crovitz, *Information Is Not a Crime*, WALL ST. J., Apr. 13, 2015, at A9 (“[T]his is the time to use technology to liberate information [regarding public company performance because] companies increasingly are able to track sales, expenses and other key drivers in real time.”); Andy Kessler, *Instead of Attacking Insider Trading, Make Everyone an Insider*, WALL ST. J., Apr. 7, 2015, at A13 (suggesting that the SEC force public companies to “post product sales information more often—every day or even in real time”).

when they arrive and depart from their workstations and this information could be continuously uploaded to a website available to investors or a webcam can be installed that live-streams a view of the office to the Internet.⁴⁵³ Investors can use tools like Google's "Street View" feature to take a look around the neighborhood, even from a thousand miles away.⁴⁵⁴ Many other examples could be given, and new ones will be developed that are not even conceivable at this time. The key point is that all of these digital monitoring techniques cost next to nothing to implement.⁴⁵⁵

The power of digital monitoring is analogous to urban bicycle-sharing programs.⁴⁵⁶ Bike sharing originated in European cities in the 1960s.⁴⁵⁷ These early systems were free and anonymous; there was no record of who checked out which bike, making it impossible to monitor their behavior.⁴⁵⁸ These early systems failed because the bicycles were promptly stolen or de-

453. For example, the design firm Sagmeister & Walsh presently has a live webcam filming the office at all times. *See* SAGMEISTER & WALSH, <http://www.sagmeisterwalsh.com> (last visited Nov. 2, 2015). Depending on the type of business, however, a webcam may give a distorted view of effort, for instance if employees spend productive hours off-site. Also, one might question whether digital shareholders with small investments will be willing to sit and watch hours of video streams. Experience shows, however, that people are willing to engage in such crowdsourced activities well beyond what a strict understanding of economic rationality might suggest. *See, e.g.*, GALAXY ZOO, <http://www.galaxyzoo.org/#/story> (last visited Nov. 2, 2015) (describing a crowdsourced astronomy project involving more than 150,000 volunteers who collectively contributed "more than 50 million classifications [of galaxies]").

454. For one thing, Street View makes it difficult to pass off a vacant lot as an operating business, as would have been possible in the pre-digital age. *See, e.g.*, *Sibley v. Southland Life Ins. Co.*, 36 S.W.2d 145, 145-46 (Tex. 1931) (finding fraud by a seller who claimed that a certain lot had a "brick dwelling house" upon it when in fact it was a vacant).

455. This refers to direct costs to implement. If, for example, competitors can use the monitoring system to wrest an advantage from the issuer, that would clearly count as a cost of the system. However, it seems that management would be cognizant of this possibility and arrange any monitoring system so that it provides no assistance to competitors. This may limit to some extent the utility of the monitoring system but such a trade-off must be made.

456. *Bike Sharing*, PEDESTRIAN & BICYCLE INFO. CTR., http://www.pedbikeinfo.org/programs/promote_bikeshare.cfm (last visited Nov. 2, 2015) ("Bike sharing is an innovative transportation program, ideal for short distance point-to-point trips providing users the ability to pick up a bicycle at any self-serve bike-station and return it to any other bike station located within the system's service area.").

457. *See* Susan A. Shaheen et al., *Bikesharing in Europe, the Americas, and Asia*, 2143 *TRANSP. RES. REC.* 159, 160 (2010).

458. *Id.*

stroyed,⁴⁵⁹ as might have been expected with no way to place responsibility for a given bike on a specific person. Even as late as the 1990s, free and anonymous bike sharing systems were launched in cities including Cambridge in the United Kingdom (1993) and Boulder, Colorado (1995). In each case the systems were cancelled due to bike theft.⁴⁶⁰

In the 2000s, however, bike-sharing has become a well-functioning phenomenon in many cities around the world, including Paris, New York, and Washington, D.C.⁴⁶¹ What changed from the 1990s to the 2000s? A revolution in information technology that allowed for effective and inexpensive monitoring of bike-sharers. Bike-share system designers learned from experience that “user anonymity created a system that was prone to bicycle theft,” and responded by introducing tech-based systems that require people to swipe their personal credit card (or electronic smartcard) to release a bike, thereby creating a digital tether between the renter and the bike.⁴⁶² This method “records user identification information as well as bike usage (e.g., time, duration, location, kilometers). This improvement solved previous issues of user anonymity and facilitated bicycle tracking, which reduced bicycle theft and vandalism.”⁴⁶³ Thanks to this digital tracking, few bikes are lost or damaged and the systems now work well.⁴⁶⁴ This applies directly to crowdfunding, where everything will take place on the Internet, thereby leaving a digital trail that can be easily monitored and significantly reducing agency costs.

Digital monitoring, although new and different, can be highly effective at addressing information asymmetry and agency costs, especially when combined with crowdsourcing.⁴⁶⁵ Consider plagiarism. In the paper era, it would be very difficult

459. *Id.* (recounting the history of bike sharing and describing the 1965 White Bike Plan in Amsterdam where the fifty white bikes “were often stolen or damaged,” leading the Plan to “fail[] soon after its launch”).

460. *Id.* at 160–61 (contrasting the failures of programs in Cambridge, U.K., and Boulder, Colorado, with the rare success of a free and anonymous system in La Rochelle, France).

461. Boulder has a well-functioning system today. See BOULDER B-CYCLE, <https://boulder.bcycle.com> (last visited Nov. 2, 2015).

462. Shaheen et al., *supra* note 457, at 165.

463. *Id.*

464. There is no indication that increased penalties or other variables deserve anywhere near as much credit as technological development. See *generally id.* at 165–66 (emphasizing the technological innovations that have furthered the next generation of bike-sharing systems).

465. See *supra* Part IV.B.

to determine whether a given book or article was plagiarized, as it required a careful comparison of the two hard copies. In the digital age, by contrast, plagiarism is exceedingly easy to detect thanks to the availability of electronic methods such as the “compare” function on Microsoft Word. This has led to many instances these days of high-profile authors being revealed as plagiarists, including Senator John Walsh,⁴⁶⁶ scientist Jane Goodall,⁴⁶⁷ German Defense Minister Karl-Theodor zu Guttenberg,⁴⁶⁸ and Harvard undergraduate Kaavya Viswanathan,⁴⁶⁹ just to name a few.

Consider the related issue of an author who tries to pass off a false memoir as a true account of her life. There was a time when it was difficult to know whether a memoir was true or false. In 1971, the book *Go Ask Alice* was presented as a real-life diary of a teenage girl who gets in trouble with drugs.⁴⁷⁰ Over the years, various people have questioned whether it was a real diary, but to this day no one seems to know for sure.⁴⁷¹ In the Internet age, things are very different. Contrast *Go Ask Alice* with the 2003 book, *A Million Little Pieces*, presented by author James Frey as a true account of his problems with alcohol and drugs.⁴⁷² The book was endorsed by Oprah Winfrey and became a best seller. Within weeks of hitting the top of the chart, it was debunked by online sleuths as a fabrication.⁴⁷³

466. See Jonathan Martin, *Senator’s Thesis Turns Out To Be Remix of Others’ Works, Uncited*, N.Y. TIMES, July 23, 2014, at A1.

467. See Steven Levingston, *Portions of Goodall’s “Seeds” Were Lifted from Other Works*, WASH. POST, Mar. 20, 2013, at C1.

468. See Tony Paterson, *German Defence Minister Quits over PhD Plagiarism Scandal*, INDEP. (Oct. 22, 2011), <http://www.independent.co.uk/news/world/europe/german-defence-minister-quits-over-phd-plagiarism-scandal-2229492.html>.

469. See David Zhou, *Student’s Novel Faces Plagiarism Controversy*, HARV. CRIMSON (Apr. 23, 2006), <https://www.thecrimson.com/article/2006/4/23/students-novel-faces-plagiarism-controversy-beditors>.

470. BEATRICE SPARKS, *GO ASK ALICE* (1971).

471. See *Context, Go Ask Alice*, SPARKNOTES, <https://www.sparknotes.com/lit/goaskalice/context.html> (last visited Nov. 2, 2015) (raising but not resolving the question of authorship).

472. JAMES FREY, *A MILLION LITTLE PIECES* (2003).

473. See *A Million Little Lies: Exposing James Frey’s Fiction Addiction*, SMOKING GUN (Jan. 8, 2006, 5:43 PM), <http://www.thesmokinggun.com/documents/celebrity/million-little-lies>. See generally Carol Memmott, *Author’s “Love and Consequences” Memoir Untrue*, USA TODAY, Mar. 5, 2008, at 2D; Neda Ulaby, *“Tea” Debacle Reflects the Murky Waters of Memoirs*, NPR (Apr. 19, 2011), <https://www.npr.org/2011/04/19/135541513/tea-debacle-reflects-the-murky-waters-of-memoirs> (“[T]he noble old world of publishing has not yet adapted to a digital age—where fact-checking is sport and results spread

Beyond memoirs, many other examples exist of lies being revealed as such in the Internet age. Reporter Jayson Blair faked a number of news stories writing for the New York Times.⁴⁷⁴ NBC News anchor Brian Williams claimed for a decade that he was in a helicopter that came under fire while on assignment in Iraq; that story was debunked as false in 2015 after military personnel who were there raised their doubts online.⁴⁷⁵

The point is that modern Internet sleuthing creates a very different atmosphere than in the past when secrets stood a much better chance of being kept quiet. Franklin D. Roosevelt famously went his entire presidency without the American people seeing him in a wheelchair.⁴⁷⁶ Had he lived in a digital age, this would have been impossible. His condition would have immediately become common knowledge simply because secrets and lies are very hard to maintain in a digital age.

Finally, one of the strengths of digital monitoring is that it can be amplified through crowdsourcing. Just as potential investors can crowdsource information before buying in,⁴⁷⁷ they can also crowdsource information after they have invested. Crowdsourced monitoring responds to the concern that each investor will lack the incentive to monitor because she has only a small amount at stake. By sharing the burden of monitoring among the entire crowd of digital shareholders, each person can contribute just a bit, but the collective effort can have a powerful effect.

Crowdsourced monitoring could take place through a chatroom or website established by the company or the portal, but that is not necessarily the case.⁴⁷⁸ Furthermore, all the same

smoking gun-style over the Internet.”). Other examples of memoirs revealed to be fiction in the digital era include MISHA DEFONSECA, *MISHA: A MEMOIR OF THE HOLOCAUST YEARS* (1997), MARGARET B. JONES, *LOVE AND CONSEQUENCES* (2008), NORMA KHOURI, *HONOR LOST: LOVE AND DEATH IN MODERN-DAY JORDAN* (2003), and DAVID OLIVER RELIN & GREG MORTENSON, *THREE CUPS OF TEA* (2006). Memmott, *supra*.

474. See *Times Reporter Who Resigned Leaves Long Trail of Deception*, N.Y. TIMES, May 11, 2003, at A1.

475. See Joe Flint, *NBC News Anchor Williams Draws Criticism for False Tale*, WALL ST. J., Feb. 5, 2015, at B2. Williams was subsequently suspended for six months. Joe Flint, *NBC Suspends “Nightly News” Anchor Brian Williams for Six Months*, WALL ST. J., Feb. 11, 2015, at A1.

476. See HUGH G. GALLAGHER, *FDR’S SPLENDID DECEPTION* 88–105, 207–16 (1985).

477. See *supra* Part IV.B.

478. See Crowdfunding, 78 Fed. Reg. 66,428, 66,530 (proposed Nov. 5, 2013) (notice of final rule released Oct. 30, 2015) (to be codified at 17 C.F.R.

arguments discussed in Part IV.B above apply here, but even more so because investors have rights to additional information. For example, shareholders have the authority to request books and records from the corporation for any proper purpose.⁴⁷⁹ Hence, even if a company would prefer not to share information with the crowdfund investors, it may be forced to do so by a books-and-records request.⁴⁸⁰ A group of people working together and sharing information via an online chat group, especially armed with the power to demand books and records, can be a powerful force to ameliorate information asymmetry and agency costs in the crowdfunding context.

In summary, digital monitoring will be a powerful means of addressing information asymmetry and especially agency costs in crowdfunding.

CONCLUSION

This Article claims that crowdfunding can overcome the three fundamental problems of entrepreneurial finance and succeed using digital methods that are different from those used by VCs, angel investors, or public companies. In doing so, it makes at least three novel contributions to the crowdfunding literature and corporate and securities law more generally. First, it describes the distinctive way in which the three fundamental problems of finance will express themselves in crowdfunding's unique context.⁴⁸¹ Second, it reviews the significant solutions to the trio of problems employed in the analogous contexts of VC, angel investing, and public companies, and determines their relevance for crowdfunding.⁴⁸² Third, it introduces a set of new and promising digital methods to address the trio of problems in crowdfunding.⁴⁸³ The next step is simply to wait

pts. 200, 227, 232, 239–240, 249) (recognizing that investors may participate in additional discussions on external websites).

479. See, e.g., DEL. CODE ANN. tit. 8, § 220(b)(1)–(2) (2011) (“Any stockholder, in person or by attorney or other agent, . . . shall . . . have the right . . . to inspect . . . the corporation’s stock ledger, a list of its stockholders, and its other books and records.”); JAMES D. COX & THOMAS LEE HAZEN, 2 TREATISE ON THE LAW OF CORPORATIONS § 13:3 (3d ed. 2011) (“A shareholder has a common law right to inspect corporate books and records, in person or by agent, for a proper purpose in order to protect the shareholder’s interest.”).

480. Cf. Schwartz, *supra* note 3, at 1484–86 (suggesting that the costs associated with the shareholder right to demand books and records is a reason for companies to refrain from selling common stock via crowdfunding).

481. See *supra* Part II.

482. See *supra* Part III.

483. See *supra* Part IV.

and see what happens once the SEC finishes its work and crowdfunding commences.