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Valuing Young Startups is Unavoidably Difficult: Using (and Misusing) Deferred-Equity Instruments for Seed Investing

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VALUING YOUNG STARTUPS IS UNAVOIDABLY DIFFICULT: USING (AND MISUSING) DEFERRED-EQUITY INSTRUMENTS FOR SEED INVESTING

John L. Orcutt*

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There is no getting around it: valuing young startups is unavoidably difficult.¹ Unicorns² and other high-flying startups get the press, but every startup must first launch and grow. The US startup market cannot flourish unless young startups survive and develop into highly successful companies. Most young startups need outside capital to get through their early stages (commonly referred to as “seed investing” or “seed financing”) but finding willing investors can be challenging.³ Young startups’ valuation difficulties are a major factor because reasonable investors are less likely to invest when they cannot confidently value an opportunity.⁴

Partly in response to the valuation challenge, specialized startup investors—such as venture capital firms, angels, and accelerators⁵ (collectively, “Specialized Startup Investors”)—evolved how they contract for seed investments.⁶ Historically, they invested in young-startups by buying stock.⁷ However, in the mid-2000s, Specialized Startup Investors started using deferred-equity investment contracts (or deferred-equity instruments) as an alternative to stock. It began with convertible notes around 2005,⁸

1. See, e.g., ASWATH DAMODARAN, *THE DARK SIDE OF VALUATION: VALUING YOUNG, DISTRESSED, AND COMPLEX BUSINESSES* 11 (3d ed. 2018) [hereinafter *DARK SIDE OF VALUATION*].

2. “A unicorn is a term used in the venture capital industry to describe a privately held startup company with a value of over \$1 billion.” James Chen, *Unicorns*, *INVESTOPEDIA* (Oct. 15, 2019), <https://www.investopedia.com/terms/u/unicorn.asp>.

3. Jeffrey Sohl, *The Changing Nature of the Angel Market*, in 2 *HANDBOOK OF RESEARCH ON VENTURE CAPITAL: A GLOBALIZING INDUSTRY* 17, 21–22 (Hans Landström & Colin Mason eds., 2012).

4. See ASWATH DAMODARAN, *DAMODARAN ON VALUATION: SECURITY ANALYSIS FOR INVESTMENT AND CORPORATE FINANCE* 1 (2d ed. 2006) [hereinafter *DAMODARAN ON VALUATION*] (“Knowing what an asset is worth and what determines that value is a prerequisite for intelligent decision making—in choosing investments for a portfolio, in deciding on the appropriate price to pay or receive in a takeover, and in making investment, financing, and dividend choices when running a business A postulate of sound investing is that an investor does not pay more for an asset than it is worth.”).

5. Venture capital firms, angels, and accelerators are defined in *infra* Part I.

6. See John F. Coyle & Joseph M. Green, *Contractual Innovation in Venture Capital*, 66 *HASTINGS L.J.* 133, 133–34, 160–62 (2014) [hereinafter *Coyle & Green* (2014)].

7. *Id.* at 146–51, 154; John F. Coyle & Joseph M. Green, *The SAFE, the KISS, and the Note: A Survey of Startup Seed Financing Contracts*, 103 *MINN. L. REV.* 42, 43–44 (2018) [hereinafter *Coyle & Green* (2018)].

8. Coyle & Green (2014), *supra* note 6, at 136; J. Brad Bernthal, *The Evolution of Entrepreneurial Finance: A New Typology*, 2018 *B.Y.U. L. REV.* 773, 804 (2018).

followed by the simple agreement for future equity (the “safe”)⁹ in 2013,¹⁰ and the Keep It Simple Security (the “KISS”) in 2014.¹¹ Each of these instruments allows investors to thoughtfully invest in young startups without valuing them at the time of the seed investment. They allow future funding rounds to determine value when the startup is more mature and has an operating history that lends itself to valuation analysis. Over the last fifteen years, deferred-equity instruments have become important financing tools for young startups.

Deferred-equity instruments were designed for a particular setting. They were designed for Specialized Startup Investors to use when investing in young startups with a reasonable chance of doing a future, traditional venture capital round. However, like many innovations, deferred-equity instruments’ usage expanded beyond its original purpose. Once Regulation Crowdfunding (Regulation CF) came into effect on May 16, 2016,¹² issuers started using deferred-equity instruments to raise capital from public investors through funding portals. Is that good or bad? Does valuation deferral, which is beneficial for Specialized Startup Investors, also benefit public investors in Regulation CF offerings? Or, do these instruments create problems that make them generally unsuitable for Regulation CF offerings? The suitability of deferred-equity instruments for Regulation CF offerings drew the attention of a few scholars in 2016¹³ and the United States Securities and Exchange Commission (the “SEC”) in 2017,¹⁴ but the issue has since largely faded into the background. Meanwhile, deferred-equity instruments have become a prominent financing choice for Regulation CF issuers.

Despite its indispensable role in startup investing, valuation receives little attention from legal academics and policymakers. This article explicitly considers valuation in its analysis of deferred-equity instruments. Financial investors make investments to generate future cash flows. The fundamental value of any financial investment is the present value

9. Safe is an acronym for “simple agreement for future equity.” While each letter in an acronym is often capitalized (e.g., AIDS or NASA), Y Combinator decided to write the word in lower case. Paul Graham, *Announcing the Safe, a Replacement for Convertible Notes*, Y COMBINATOR (Dec. 6, 2013), <https://blog.ycombinator.com/announcing-the-safe-a-replacement-for-convertible-notes/> [hereinafter Graham (2013)] (“‘Safe’ comes from ‘Simple agreement for future equity.’ Although the name is an acronym, we got tired of typing ‘SAFE’ all the time when talking about it, and we’ve already switched to lowercase.”). Since the first safe was invented by Carolyn Levy, a Y Combinator partner, this article adopts Y Combinator’s lowercase “safe” spelling.

10. *Id.* (“YC partner (and lawyer) Carolyn Levy has created a new alternative to convertible notes, called a safe, that has the advantages of convertible debt without some of the disadvantages.”).

11. Gregory Raiten, *500 Startups Announces ‘KISS’*, 500 STARTUPS BLOG (July 3, 2014), <https://500.co/kiss/> (“We’re thrilled to announce a totally unsexy, yet super useful, set of legal documents for founders and investors affectionately called the **KISS** (*Keep It Simple Security*).”).

12. The Jumpstart Our Business Startups Act (the “JOBS Act”) was signed into law on April 5, 2012. Pub. L. 112-106, 126 Stat. 306 (2012). Title III of the JOBS Act established the foundation for a retail securities crowdfunding exemption (the “Title III exemption”) that is codified in sections 4(a)(6) and 4A of the Securities Act of 1933. 15 U.S.C. §§ 77d(a)(6), 77d-1. To implement the Title III exemption, the SEC promulgated a set of rules referred to as “Regulation Crowdfunding” or “Regulation CF.” 17 C.F.R. §§ 227.100 *et seq.* The SEC adopted the final rules on October 30, 2015, which mostly took effect on May 16, 2016. *See* Crowdfunding, Securities Act Release No. 33-9974 (Oct. 30, 2015).

13. Joseph M. Green & John F. Coyle, *Crowdfunding and the Not-So-SAFE SAFE*, 102 VA. L. REV. ONLINE 168 (2016) [hereinafter Green & Coyle (2016)].

14. *See, e.g., Investor Bulletin: Be Cautious of SAFEs in Crowdfunding*, U.S. SEC. & EXCH. COMM’N (May 9, 2017), https://www.sec.gov/oiea/investor-alerts-and-bulletins/ib_safes [hereinafter SEC Investor Bulletin].

of those projected future cash flows.¹⁵ Equity investors have a residual claim to the corporation's assets (its excess cash after creditors have been paid, or what this article refers to as the "residual"), which they generally collect through dividends and liquidation distributions. The value of a share of stock, therefore, should reflect the present value of the future dividends and liquidation distributions that share projects to generate for a stockholder.¹⁶ Predicting those future payments fundamentally requires forecasting the company's future profits or cash flows and assessing the risk associated with this future performance.¹⁷ While these tasks are always challenging, even for mature, publicly traded companies, they are unavoidably difficult for young startups for two principle reasons.¹⁸ First, projecting future profits/cash flows for a new venture without any meaningful operating history is very difficult and is often little better than guesswork. Second, the projections are usually subject to extreme uncertainty.

Conventional stock deals are commonly referred to as "priced rounds" or "priced equity."¹⁹ When investors buy stock, they purchase an ownership percentage in the company. To price that percentage, the company and the investors must agree on a company valuation. If the parties cannot agree, the company cannot be priced, and no investment takes place. With deferred-equity instruments, investors still purchase a percentage of the company. However, the percentage amount is not determined until a later date, typically when a future stock offering occurs. Pricing is thus deferred to the subsequent offering. Deferred-equity instruments change the investment analysis from forecasting a young startup's future profits/cash flows and accounting for their uncertainty (which is unavoidably difficult) to predicting whether it will conduct a future, high-quality stock offering (which is a manageable task for Specialized Startup Investors).

Finding seed funding solutions for young startups is critical. Young startups need capital to launch and grow. Without this capital, fewer startups are formed and more fail. Deferred-equity instruments offer a partial solution by helping issuers and investors avoid the typical young-startup valuation challenge. Over roughly the last ten years, US seed financing has exploded for the traditional startup market²⁰—which consists of Silicon Valley-style startups that raise capital from Specialized Startup Investors—and deferred-equity instruments have helped. This article examines how valuation deferral works and explains why these instruments make a positive contribution to the traditional startup market. They allow expert investors to make thoughtful investments in an inherently uncertain environment.

However, the spread of deferred-equity instruments to the Regulation CF market is a different matter. This article examined the Regulation CF offerings on three popular

15. JANET KIHOLM SMITH, RICHARD L. SMITH & RICHARD T. BLISS, *ENTREPRENEURIAL FINANCE: STRATEGY, VALUATION & DEAL STRUCTURE* 342 (2011).

16. See discussion *infra* Part II.B.1.

17. DARK SIDE OF VALUATION, *supra* note 1, at 29.

18. See generally SMITH, SMITH & BLISS, *supra* note 15, at 342.

19. *Priced Round*, FUNDERSCLUB: EDUC. CTR., <https://fundersclub.com/learn/glossary/q/priced-round/> (last visited Feb. 20, 2020). The FundersClub glossary uses the term "priced round." However, the terms "priced equity" and "priced-equity round" are used interchangeably.

20. Coyle & Green (2018), *supra* note 7, at 42. ("Over the past decade, there has been an explosion in seed financing for early-stage technology startups.")

funding portals²¹—Republic²²; StartEngine²³; and Wefunder²⁴—to get an informed picture of Regulation CF deferred-equity offerings. The examination consisted of all the Regulation CF deals funded through those three portals during 2019 (the “Study”). The Study captured 205 funded deals, of which seventy-one were safe offerings and twenty-two were convertible note offerings. It examined the deferred-equity issuers and the terms of their instruments. Based on that review, this author concludes that most of the deferred-equity offerings in the Study are very risky investments that do not appear to offer investors enough upside potential to offset the risk. More specifically, this author concludes:

- Most of the issuers appear unlikely ever to raise money from venture capital firms.
- The instruments’ terms are very issuer friendly. The instruments are far more favorable to issuers than one would expect for such high-risk investments.
- The issuer-friendly terms raise concerns that Regulation CF investors lack the sophistication to understand and internalize the risks and terms of their investments.

While deferred-equity instruments have been a positive innovation for the traditional startup market (facilitating informed capital raising for young startups), they are not performing a similar role in the Regulation CF market. In the Regulation CF market, these instruments allow issuers to transfer very high-risk investments to public investors while generally limiting the investors’ upside potential. Although a few deals may turn out to be successful, this arrangement is unlikely to produce a sustainable source of capital for young startups, but it is likely to harm public investors. To address the problem, this article recommends that the SEC or FINRA²⁵ impose a suitability duty on funding portals that host Regulation CF deferred-equity offerings.

This article proceeds as follows: Part I explains a typical startup’s life and funding cycle. Part II presents a valuation overview for startups. The overview highlights the unavoidable valuation challenges that young startups and their investors face. Part III examines Specialized Startup Investors’ use of deferred-equity instruments in the traditional startup market and explains how they help these investors overcome the valuation challenges so they can make thoughtful seed investments. Part IV examines the use of deferred-equity instruments in Regulation CF offerings and explains their shortcomings. Part IV also explains how a suitability duty should be imposed on funding portals to protect public investors. Finally, Part V offers a conclusion.

21. Sherwood Neiss, *Today’s Best Crowdfunding Platforms—By the Numbers*, VENTUREBEAT (June 9, 2018), <https://venturebeat.com/2018/06/09/todays-best-crowdfunding-platforms-by-the-numbers/>.

22. REPUBLIC, <https://republic.co/> (last visited Feb. 20, 2020).

23. STARTENGINE, <https://www.startengine.com/> (last visited Feb. 20, 2020).

24. WEFUNDER, <https://wefunder.com/> (last visited Feb. 20, 2020).

25. Financial Industry Regulatory Authority. “FINRA is authorized by Congress to protect America’s investors by making sure the broker-dealer industry operates fairly and honestly. [FINRA oversees] more than 634,000 brokers across the country—and analyze[s] billions of daily market events.” *About FINRA*, FINRA, <http://www.finra.org/about> (last visited Feb. 20, 2020).

Defining “startups” upfront is useful. Startups are recently formed companies that start small but are built to grow rapidly and have the potential to become the large, dominant companies of the future. The high-technology companies congregating in Silicon Valley epitomize the US startup. They differ from most small businesses—such as local restaurants, owner-operated convenience stores, hair salons, and local construction companies—that are built to provide an income for the founders (“livelihood businesses”).²⁶ Unlike startups, livelihood businesses are low-growth ventures with no realistic hope of ever becoming large, dominant companies.

Like all businesses, startups must progress through a life cycle. While there is no single formulation for the startup life cycle,²⁷ this article divides it into four stages.

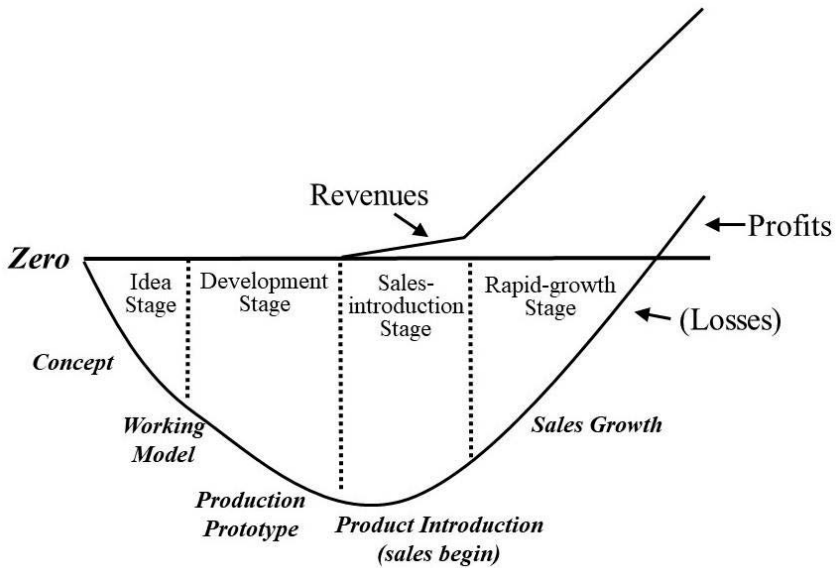
- (1) **Idea stage.** The startup is just beginning and must determine whether the business venture is worth pursuing. For example, the founders have an idea for a new product, but have yet to develop a proven prototype.
- (2) **Development stage.** The startup’s concept shows promise. For example, the technology has been shown to work (e.g., a prototype has been built and tested), supply chains and production lines have been developed, and the company is prepared to commercially introduce its product. However, sales have not yet begun.
- (3) **Sales-introduction stage.** The startup has started production and has some sales. For example, the technology is being sold and showing some commercial viability. The rapid sales expansion that characterizes startups, however, has not yet taken place.
- (4) **Rapid-growth stage.** The startup is relatively mature and has shown success at scaling up its business. This is the rapid-growth phase for the startup.

Because startups are built for growth, they generally must sacrifice near-term profitability and endure years of losses. Losses are often moderate during the idea stage but accelerate during the development stage as the startup undertakes the expense of product development and building a functioning commercial enterprise. Sales begin in the sales-introduction stage. As sales increase, losses should eventually start to slow. Sales grow rapidly in the rapid-growth stage. If the startup is to become a successful, sustainable company, this is when it becomes profitable. Figure 1 shows a startup’s life cycle along with a possible revenue and loss/profit performance through the four stages.

26. By some estimates, livelihood businesses account for more than ninety percent of US small businesses. DANIEL SANDLER, *VENTURE CAPITAL AND TAX INCENTIVES: A COMPARATIVE STUDY OF CANADA AND THE UNITED STATES* 2 (2004).

27. For example, Janet Kiholm Smith, Richard L. Smith, and Richard T. Bliss divide new venture development into six stages: (1) Opportunity; (2) Research and Development; (3) Start-up; (4) Early-growth; (5) Rapid-growth; and (6) Exit. SMITH, SMITH & BLISS, *supra* note 15, at 15–17. Luisa Alemany and Job J. Andreoli divide new venture development into four stages: (1) Seed; (2) Startup; (3) Growth; and (4) Maturity. Luisa Alemany & Job J. Andreoli, *Introduction to Entrepreneurial Finance*, in *ENTREPRENEURIAL FINANCE: THE ART AND SCIENCE OF GROWING VENTURES* 2, 13–19 (Luisa Alemany & Job J. Andreoli eds., 2018).

Figure 1
Startup Life Cycle²⁸



Startups need funding to advance through their life cycles. Few founders have enough resources to self-finance their startups through profitability. Founders usually provide the initial funding, then look to external funding sources. Some of the more important external investors are: (1) friends and family; (2) accelerators; (3) angels; and (4) venture capital firms.

- (1) **Friends and family** are, as the description suggests, the founders’ friends and family members who are willing to provide funding.²⁹
- (2) **Accelerators** are highly selective programs that help speed up the business development process for young startups. Accelerators bring in cohorts of startups for an intense, immersive experience. Most programs have a fixed term (often three months) during which time the startups work with a group of mentors to jumpstart their businesses.³⁰ An accelerator makes money by investing small amounts in its startups.³¹
- (3) **Angels** are wealthy individuals who invest their own capital directly in startups. Beginning in 1996 with Band of Angels, many angels do their investing through

28. This diagram was motivated by a diagram produced by Aswath Damodaran in *DARK SIDE OF VALUATION*, *supra* note 1, at 260.

29. Because friends and family often invest for altruistic reasons, rather than purely profit-driven ones, they can provide some of the fastest and most favorable capital. It also helps explain why friends and family investors are often pejoratively referred to as “friends, family, and fools.”

30. Susan G. Cohen & Yael V. Hochberg, *Accelerating Startups: The Seed Accelerator Phenomenon*, 9–12 (Mar. 30, 2014), http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2418000; C. Scott Dempwolf, Jennifer Auer, Michelle D’Ippolito, *Innovation Accelerators: Defining Characteristics Among Startup Assistance Programs*, SMALL BUS. ADMIN., OFF. OF ADVOC. 3–5 (Oct. 2014), <https://www.sba.gov/sites/default/files/rs425-Innovation-Accelerators-Research-Summary-FINAL.pdf>.

31. Cohen & Hochberg, *supra* note 30, at 11; Dempwolf, Auer & D’Ippolito, *supra* note 30, at 1.

formal angel groups.³² The groups' formalities vary considerably. Some are formal with full-time management and standardized investment practices, while some are quite informal.³³

- (4) **Venture capital firms** come in several forms, but most are professionally managed funds. Outside investors—such as pension funds, insurance companies, university endowments, and extremely wealthy individuals—commit money to a fund that is managed by professionals who are charged with “investment selection, working with entrepreneurs, and harvesting the investments.”³⁴

The different investor types tend to focus on different stages in a startup's life cycle. Friends and family are often the earliest external investors while venture capital firms are often the latest. Table 1 shows the stages in which the different funding sources tend to operate.

Table 1
Four Stages of a Typical Startup Funding Sequence

Life-Cycle Stage	Potential Investors
Idea Stage	<ul style="list-style-type: none">• Founders• Friends and family• Accelerators
Development Stage	<ul style="list-style-type: none">• Accelerators• Angels• Early-stage venture capital firms
Sales-introduction Stage	<ul style="list-style-type: none">• Angels• Intermediate-stage venture capital firms
Rapid-growth Stage	<ul style="list-style-type: none">• Late-stage venture capital firms• Angels

Seed financing—which is often used to fund research, product development, and the rollout of the company's product or service—comes before the traditional venture capital financing rounds that are commonly labeled Series A rounds, Series B rounds, and onwards.³⁵ The Series A, Series B, and onward rounds are when the startup sells convertible preferred stock to investors. When venture capital firms (or angels) are willing to conduct Series A rounds changes over time. Sometimes venture capital firms are willing to invest earlier in the life cycle, sometimes later. However, what is generally constant is a desire to see meaningful sales and business traction. As a result, the seed stage typically begins during a startup's idea or development stage and runs into its sales-introduction stage.

32. Sohl, *supra* note 3, at 29.

33. *Id.* at 29–35.

34. SMITH, SMITH & BLISS, *supra* note 15, at 41.

35. The “Series A,” “Series B,” and onward labels come from the fact that venture capital firms typically receive convertible preferred stock when they invest. Because each round of convertible preferred stock has its own specific terms, each requires a unique label. The first round is commonly labeled Series A, the second round Series B, and onward.

Valuation is a prerequisite to thoughtful investing. Putting aside for a moment what “value” means, reasonable investors seek investments offering the best value. If an investor is considering whether to make an investment, it wants to determine the investment’s value and compare it with the acquisition cost. If an investor is choosing between different investments, it wants to choose the most valuable one. Investors cannot make these determinations unless they can value their investment opportunities, which leads to the fundamental proposition: Thoughtful investors should not invest in young startups unless they can value the opportunity. This Part looks at the challenges analysts face when valuing young startups. Understanding these challenges helps lawyers, academics, lawmakers, and regulators better understand deferred-equity instruments. An understanding of valuation is necessary to provide guidance on how to use the instruments, when to use them, and when to avoid them.

A. Financial Instruments

Financial investments involve buying and selling rights to future cash flows.

- **Issuers** sell rights to future cash flows in order to receive immediate cash.
- **Investors** pay immediate cash to buy the issuers’ rights to future cash flows.

For example, assume TechCo, a startup, issues \$10 million of common stock to a group of investors. TechCo receives \$10 million of immediate cash to grow the company. However, it gives up a portion of its future cash flow rights to the investors. The investors part with \$10 million of cash, but they receive a pro rata right to TechCo’s accumulated future cash flows, or its residual. TechCo does the deal because it believes the immediate cash is worth more than the future cash rights it is selling. The investors do the deal because they believe their right to TechCo’s future residual is worth more than the immediate cash they are giving up.

Financial instruments are investment contracts that allow investors to buy, and issuers to sell, future cash flow rights. There are many types of financial instruments.³⁶ One way to organize the concept is to classify financial instruments as loan-based (debt instruments) or ownership-based (equity instruments).³⁷

- **Debt instruments.** The issuer borrows money from investors in exchange for a repayment promise. The issuer promises to repay the amount borrowed (the principal) as well as pay interest to compensate investors for lending the money. The investors’ future cash rights are the principal and interest payments.
- **Equity instruments.** The issuer sells investors an ownership stake in the company. Because so many startups are corporations, this article focuses on corporate equity instruments, or stock. Stockholders receive rights to the corporation’s residual, which they generally collect through dividends and liquidation distributions.

36. For an accessible introduction to financial instruments, see FRANK J. FABOZZI, FRANCO MODIGLIANI & FRANK J. JONES, FOUNDATIONS OF FINANCIAL MARKETS AND INSTITUTIONS (4th ed. 2010).

37. *Id.* at 3.

Not all instruments fit neatly into one category or the other. The features of convertible notes, safes, and the KISS are discussed in detail below in Parts III and IV. However, to help readers understand how these instruments fit on the loan-based versus ownership-based spectrum and why they are classified as *deferred*-equity instruments, here is a cursory summary.

- **Convertible notes** are short-term loans that convert to equity if the startup completes a qualified future equity financing. They are debt instruments, meaning the startup must repay the principal and pay interest. However, unlike traditional debt, convertible note investors do not look to be repaid with cash. Instead, they hope to be repaid with shares from the qualified future equity financing.
- **Safes** are a contractual right to receive a startup's stock if it completes a qualified future equity financing. Unlike convertible notes, safes do not require repayment. Investors purchase the safes and receive stock in the qualified future equity financing if it occurs.
- **The KISS** comes in two versions. There is a debt version that is comparable to a convertible note and an equity version that is comparable to a safe. Any references in this section to convertible notes can be read to include the debt version of the KISS. And any references to safes can be read to include the equity version of the KISS.

Convertible notes fall into both the debt and equity categories. They are debt instruments for state lending law³⁸ and Internal Revenue Service tax purposes.³⁹ They also require principal repayment and earn interest. However, they derive most of their economic value from the equity securities into which they convert. Safes, on the other hand, do not fit neatly in either category. They do not require principal repayment or earn interest, so they are clearly not debt. Moreover, they do not entitle holders to an immediate ownership stake in the company. However, as with convertible notes, they grant investors a future right to equity securities.

From an investor's perspective, convertible notes and safes are best described as deferred-equity instruments. Investors buy them to obtain future ownership rather than immediate ownership. The cash flows investors buy are largely equity cash flows; namely, a right to the startup's residual. Those cash flows are simply deferred.

B. What Is Value?

A valuation analysis seeks to determine something's value. Most people intuitively appreciate what "value" means: it refers to the benefits that something produces.⁴⁰ For a

38. For example, California's usury law limits interest rates on non-consumer loans to the higher of (a) ten percent or (b) five percent over the rate charged for advances to member banks by the Federal Reserve Bank of San Francisco on the twenty-fifth day of the month prior to the loan's origination. CAL. CONST. art. XV, § 1.

39. Interest rates must not fall below Internal Revenue Service minimum interest rates, or they could trigger "original issue discount" consequences. I.R.C. § 1272(a).

40. There are many "value" definitions. For example, acquisition value, book value, enterprise value, fair value, fair market value, going-concern value, intrinsic value, investment value, liquidation value, and transaction value are all common value definitions. Each definition measures value differently and is used in a different context. Despite the varying definitions, the *intrinsic* or *fundamental* value for any asset or service (including a

financial investor, the benefit is the future cash flows that come from the financial instrument. Thus, the value of a financial investment is the present value of its future cash flows.

1. Stock and Its Future Cash Payments

Over the last twenty years, several new financial instruments have emerged for funding startups,⁴¹ including tokens,⁴² venture debt,⁴³ and revenue-based loans.⁴⁴ While these new instruments expand startup funding options in some settings, the primary external capital sources for young startups are equity and deferred-equity instruments.⁴⁵ Therefore, this article focuses its valuation discussion on stock and the future cash flows it generates for investors.

Corporate stock comes in two basic flavors: common and preferred. Common stock is the classic equity instrument. It provides stockholders with rights to the corporation's residual (see Figure 2). A corporation's residual is its net assets after accounting for liabilities owed. Assuming a typical form of common stock, stockholders generally receive two economic rights from their stock, both of which relate to the corporation's residual.

- **Dividends.** If the corporation has a positive residual, it may distribute a portion of the residual to stockholders through dividends.⁴⁶
- **Liquidation distribution.** If the corporation is liquidated, its stockholders share equally in the corporation's final residual after all its liabilities have been satisfied.⁴⁷

The value of a share of common stock, therefore, should reflect the present value of the corporation's future dividends plus its liquidation distribution.

financial investment) is the present value of the future benefits (such as cash flows or profits) that come from the asset or service. *See* DARK SIDE OF VALUATION, *supra* note 1, at 29. *See also* FABOZZI, MODIGLIANI & JONES, *supra* note 36, at 3.

41. J. Brad Bernthal catalogued the new financial instruments in Bernthal, *supra* note 8, at 789–814.

42. Companies using blockchain technology may use tokens to raise capital. There are different types of tokens. Some blockchains require tokens to operate, with these tokens referred to as *intrinsic*, or *native*, tokens. Other tokens are not essential to the blockchain architecture, and instead represent a claim on an underlying asset. These other tokens are referred to as *asset-backed tokens*. Some blockchains, such as the Bitcoin blockchain, require intrinsic tokens to operate, while others do not. However, all blockchains can use asset-backed tokens. Blockchain companies can raise capital by selling asset-backed tokens to purchasers.

43. *See infra* note 135.

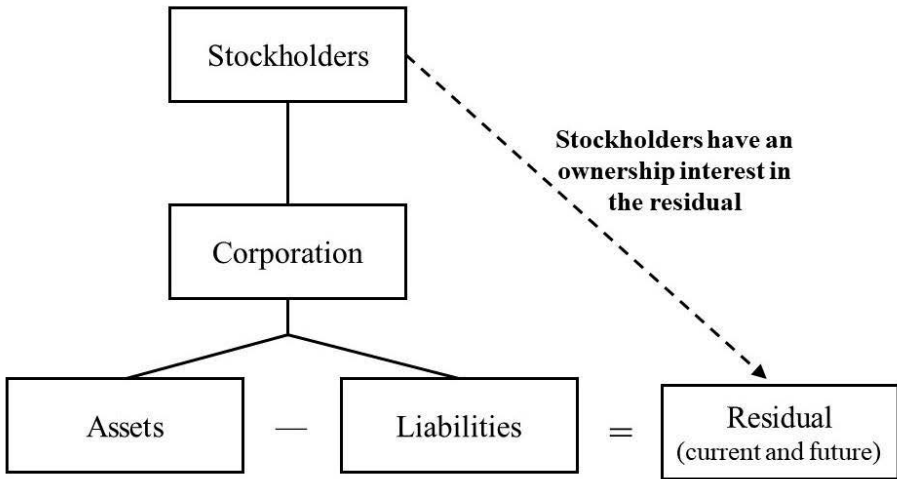
44. *See id.*

45. *Startup Equity Investments: Introduction to Equity Investing in Early-Stage Startups*, FUNDERSCLUB: EDUC. CTR., <https://fundersclub.com/learn/guides/understanding-startup-investments/startup-equity-investments/> (last visited Feb. 20, 2020).

46. *See, e.g.*, DEL. CODE ANN. tit. 8, § 170.

47. *See, e.g.*, DEL. CODE ANN. tit. 8, § 281(a)–(b).

Figure 2
A Corporation's Residual



What about investors who sell their shares before the corporation liquidates? While they do not receive all the dividends or the liquidation distribution, they are not left empty-handed.⁴⁸ They receive a lump-sum payment when they sell their shares that should approximate the value of the post-sale dividends and liquidation distribution.⁴⁹ Thus, even when an investor intends to resell her common stock before liquidation, the stock's value should reflect the present value of all the future dividends plus the liquidation distribution associated with the shares.

If the corporation has multiple classes of stock (e.g., common and preferred stock), the stockholders' residual rights can be more complex. Priorities and mandatory payments must be accounted for. However, the fundamental concept remains the same. The stockholders have rights to the corporation's residual, which they collect through dividends and a final distribution.

2. Profits, Free Cash Flows, and the Residual

Where does the residual come from? The residual is the company's excess cash—after creditors have been paid and reinvestment needs have been met—that shareholders can receive. This excess cash comes from running a profitable business. Profits are a company's revenues minus its expenses. Companies report profits in several different ways (e.g., gross profits, operating profits, pre-tax profits, and net income) based on which expenses are being deducted.⁵⁰ In each case, the profit measurement provides useful information, but is an accounting number subject to various accounting rules. As a result,

48. SMITH, SMITH & BLISS, *supra* note 15, at 353.

49. *See id.*

50. "Gross profit" measures a firm's revenues minus its production costs. "Operating profit" measures a firm's revenues minus its production costs and operating costs. "Pre-tax profits" measures a firm's revenues minus its production costs, operating costs, interest expenses, and amortization/depreciation charges. It also includes any extraordinary income or expenses, but it does not deduct the firm's income taxes. "Net income" is the firm's bottom-line profit. It accounts for all the firm's revenues and expenses, including income taxes.

while profits are where the residual originates from, none of the profit measurements explicitly track the excess cash available to stockholders.

Free cash flow is the more accurate source for the residual. Free cash flow is the extra cash produced by a company's operations that stockholders could receive via dividends or the liquidation distribution. This article is not a valuation primer, so it will not dwell on the distinctions between free cash flow and profits. Instead, readers should know that free cash flow forecasts are derived from a company's profit projections. There are a few ways to calculate free cash flows,⁵¹ but each approach begins with profit projections that are then adjusted to arrive at free cash flows.⁵² Readers can think of free cash flow forecasts as more refined profit forecasts. If profits cannot be estimated confidently, neither can free cash flows.

C. Startup Valuation Methods

There are many methods for valuing young startups, each with its own nuances. The underlying concept, however, is constant: An investment's value is equal to the present value of the future cash flows it projects to generate. Some methods explicitly discount the present value of the future cash flows, while others try to indirectly infer that value.⁵³ This article considers four of the more popular methods:⁵⁴

- (1) Discounted cash flow (DCF).
- (2) Relative value.
- (3) The venture capital method.
- (4) The First Chicago method.

There is no single approach that is definitively the best method for all situations, and there are plusses and minuses to each method. However, it is important to note that each of the four methods described in this article—as well as most credible methods—require forecasting the startup's profits or cash flows. If reasonable profit/cash flow forecasts cannot be generated, which is often the case for young startups, each of these methods struggle to generate a useful valuation result.

1. Discounted Cash Flow

A DCF analysis is arguably the most fundamental method for valuing financial investments,⁵⁵ including startup equity investments. A DCF analysis seeks to determine a financial investment's intrinsic value, as it directly measures the present value of the cash

51. See, e.g., DAMODARAN ON VALUATION, *supra* note 4, at 79–80.

52. *Id.* at 80.

53. SMITH, SMITH & BLISS, *supra* note 15, at 347–48.

54. See generally *id.* at 349; see also DARK SIDE OF VALUATION, *supra* note 1, at 317–20.

55. See ASWATH DAMODARAN, INVESTMENT VALUATION: TOOLS AND TECHNIQUES FOR DETERMINING THE VALUE OF ANY ASSET 11 (U. ed., 3d ed. 2012) [hereinafter INVESTMENT VALUATION] (“While discounted cash flow valuation is only one of the three ways of approaching valuation and most valuations done in the real world are relative valuations, it is the foundation on which all other valuation approaches are built. To do relative valuation correctly, we need to understand the fundamentals of discounted cash flow valuation. To apply option pricing models to value assets, we often have to begin with a discounted cash flow valuation. . . . Anyone who understands [the fundamentals of a discounted cash flow analysis] will be able to analyze and use the other approaches.”).

flows the investment expects to produce.⁵⁶

a. The Basic Formula

The basic DCF formula is⁵⁷:

$$\text{Value} = \frac{CF_1}{1+r} + \frac{CF_2}{(1+r)^2} + \frac{CF_3}{(1+r)^3} + \dots + \frac{CF_n}{(1+r)^n}$$

where

CF = cash flow

$CF_{1,2,3, \text{etc.}}$ = the subscript refers to the period when the future cash flows are generated

n = last period cash flows are to be received

r = discount rate

There are many variations of the DCF model.⁵⁸ However, the basic approach is consistent between all of them: project the investment's cash flows by period and apply a discount rate to determine its present value.

Example: Mary has an opportunity to buy a financial instrument from TechCo for \$75,000. The instrument will pay Mary \$10,000 for each of the next five years. At the end of five years, TechCo will repurchase the financial instrument from Mary for \$50,000. Assume that five percent is a reasonable discount rate for Mary to apply. The financial instrument's present value is \$82,471, making it a good buy.

$$\begin{aligned} PV &= \frac{\$10,000}{(1 + .05)^1} + \frac{\$10,000}{(1 + .05)^2} + \frac{\$10,000}{(1 + .05)^3} + \frac{\$10,000}{(1 + .05)^4} + \frac{\$60,000}{(1 + .05)^5} \\ &= \frac{\$10,000}{1.05} + \frac{\$10,000}{1.1025} + \frac{\$10,000}{1.1576} + \frac{\$10,000}{1.2155} + \frac{\$110,000}{1.2763} \\ &= \$9,524 + \$9,070 + \$8,638 + \$8,227 + 47,012 \\ &= \$82,471 \end{aligned}$$

b. Information Inputs When Running a DCF for a Startup

Determining a startup's equity value with a DCF calculation requires three sets of information inputs. An analyst must (1) project the future cash flows that are expected to come from owning the stock, (2) estimate a terminal value, and (3) estimate a discount rate.

56. DAMODARAN ON VALUATION, *supra* note 4, at 10; DARK SIDE OF VALUATION, *supra* note 1, at 29.

57. See INVESTMENT VALUATION, *supra* note 55, at 12; DARK SIDE OF VALUATION, *supra* note 1, at 2–3.

58. Damodaran explains: "There are literally thousands of discounted cash flow models in existence. Investment banks or consulting firms often claim that their valuation models are better or more sophisticated than those used by their contemporaries. Ultimately, however, discounted cash flow models can vary only a couple of dimensions." INVESTMENT VALUATION, *supra* note 55, at 12.

i. Free Cash Flows

For public companies that pay dividends, some analysts ignore the liquidation distribution and focus on dividends as the sole source of investor cash flows. If the company continues in perpetuity, “the only cash flow you receive when you buy shares in a publicly traded firm is a dividend.”⁵⁹ These analysts use the DCF analysis to value stock as the present value of its projected future dividends, which is referred to as the dividend discount model (DDM).⁶⁰ The DDM approach is often used for determining whether publicly traded stocks are overpriced or a bargain. If the present value of the projected dividends is lower than the stock price, the stock is overpriced. And if the present value of the projected dividends is higher than the stock price, the stock is a bargain. The DDM approach can only be used for mature companies that already pay dividends,⁶¹ so it does not work for most startups and definitely does not work for young startups. Young startups lack the excess cash needed to pay dividends, and even when they become profitable, they usually choose to retain their earnings to fund more growth.⁶²

With the DDM approach eliminated, analysts commonly use the startup’s free cash flows to approximate the stockholders’ future investment cash flows.⁶³ As noted above, free cash flow is the extra cash produced by a company’s operations that stockholders could receive via dividends or the liquidation distribution. The DCF measures the present value of the startup’s projected free cash flows, or residual. The analyst must then determine the portion of the residual represented by each share of stock.

ii. Terminal Value

Companies can potentially last forever, so valuing a startup with a DCF analysis requires forecasting its free cash flows in perpetuity. However, projecting free cash flows beyond a few years is often impractical. It becomes more of a guessing game than thoughtful analysis. When a company produces free cash flows beyond the analyst’s ability to generate thoughtful estimates (the “projection period”), a “terminal value” calculation is used to capture the post-projection-period cash flows.⁶⁴ The analyst projects free cash flows for as many years as she feels confident in her projections, then concludes the DCF calculation with a terminal value that approximates the value of the future free cash flows from the end of the projection period until the end of time. The DCF formula

59. *Id.* at 323.

60. *Id.*

61. Luisa Alemany, *Valuation of New Ventures*, in *ENTREPRENEURIAL FINANCE: ART AND SCIENCE OF GROWING VENTURES* 214, 218 (Luisa Alemany & Job J. Andreoli eds., 2018).

62. *See, e.g., Can Dividends Be Paid in Excess of Retained Earnings?*, MOTLEY FOOL (Nov. 27, 2016), <https://www.fool.com/knowledge-center/can-dividends-be-paid-in-excess-of-retained-earnin.aspx> (“Retained earnings represent the accumulated earnings from a company since its formation. Most companies lose money when they first start up, and so for a time, their retained earnings will be negative. That’s one reason why most start-ups don’t pay dividends, in addition to the fact that new companies generally need to hold onto any cash they have to grow their business.”).

63. *See* Alemany, *supra* note 61, at 217; *see also* SMITH, SMITH & BLISS, *supra* note 15, at 352–53.

64. INVESTMENT VALUATION, *supra* note 55, at 304; SMITH, SMITH & BLISS, *supra* note 15, at 388 (Smith et al. refer to terminal value as “continuing value”).

with a terminal value is⁶⁵:

$$Value = \frac{CF_1}{1+r} + \frac{CF_2}{(1+r)^2} + \frac{CF_3}{(1+r)^3} + \dots + \frac{CF_n}{(1+r)^n} + \frac{\text{terminal value}}{(1+r)^n}$$

When a valued item is expected to generate cash flows in perpetuity, analysts often calculate terminal value with the stable growth method.⁶⁶ The stable growth method assumes the valued item will settle into a constant growth rate.⁶⁷ It takes the projected cash flows from the final projection period and assumes they will grow at a constant rate in perpetuity. The formula for the stable growth method is⁶⁸:

$$\text{Terminal value} = \frac{CF_f \times (1+g)}{r-g}$$

where

CF_f	= free cash flow from the final period of the projection period
g	= the constant growth rate in perpetuity
r	= discount rate

iii. Discount Rate

Why do the projected cash flows need to be present valued? The reason: the promise of receiving money in the future is worth less than an immediate payment of an identical sum. Discounting the future cash receipts is meant to approximate the rate of return an investor requires to buy the future cash flows. The discount rate has two components: (1) the return rate for investing in a risk-free asset; and (2) a risk premium.⁶⁹

(a) Risk-Free Rate

The time value of money recognizes the value of having money in hand. Money-in-hand can be invested in profitable projects (e.g., it can be deposited in the bank and earn interest), while future payments cannot. When a party defers receipt, she sacrifices these investment opportunities. Additionally, inflation eats away at the value of future payments. Assuming a three percent inflation rate, receiving \$1,000 in one year is worth only \$971 today (or $\$1,000/1.03$). Assuming a constant three percent inflation rate for ten years, \$1,000 received at the end of the ten-year period is worth only \$744 today (or $\$1,000/1.03^{10}$). Collectively, the lost-investment-opportunities rate plus the inflation rate represent a party's "risk-free rate."⁷⁰ This is the return rate a party foregoes when it defers payments, but without considering any risk associated with those payments.

65. INVESTMENT VALUATION, *supra* note 55, at 304.

66. See DARK SIDE OF VALUATION, *supra* note 1, at 266–67.

67. INVESTMENT VALUATION, *supra* note 55, at 306.

68. *Id.*; SMITH, SMITH & BLISS, *supra* note 15, at 391.

69. SMITH, SMITH & BLISS, *supra* note 15, at 354; SHANNON P. PRATT & ALINA V. NICULITA, VALUING A BUSINESS: THE ANALYSIS AND APPRAISAL OF CLOSELY HELD COMPANIES 183 (5th ed. 2008); *see also* WILLIAM J. MURPHY, JOHN L. ORCUTT & PAUL C. REMUS, PATENT VALUATION: IMPROVING DECISION MAKING THROUGH ANALYSIS 151–54 (2012).

70. See PRATT & NICULITA, *supra* note 69, at 183.

(b) Risk Premium

Parties could choose to commit all their funds to largely risk-free investments like United States Treasury bonds. To induce parties to pursue riskier projects, there must be a return above the risk-free rate that justifies the greater risk.⁷¹ This additional return is the risk premium. It addresses the risk, or uncertainty, surrounding the valued asset's future performance. Projected payments are simply that; they are just projections. The risk premium tries to account for the risk that the amount and timing of the forecasted payments are wrong. The forecasted payments may be less than forecasted or take longer to generate than expected. The greater the risk, the higher the discount rate; and the higher the discount rate, the lower the present value of the projected free cash flows.

c. Simplified DCF Example

The following simplified example demonstrates how a DCF can work to determine a company's equity value.⁷²

Example: An investor is considering investing \$2 million in TechCo for a one-third ownership interest in the company. Assuming the \$2 million cash infusion, the investor developed free cash flow projections for TechCo. The investor projected TechCo's free cash flows for the next seven years, at which point it believes TechCo will reach a stable growth rate of three percent.

	Future Year						
	1	2	3	4	5	6	7
Free cash flows	\$500,000	\$2,000,000	\$3,000,000	\$4,000,000	\$4,500,000	\$4,800,000	\$5,000,000

Finally, the investor calculated its risk-free rate + risk premium for investing in TechCo as thirty percent. With this information in hand, the investor estimated a terminal value for TechCo of \$19,074,074.

$$\text{Terminal value} = \frac{\$5,000,000 \times (1+.03)}{.30-.03} = \$19,074,074$$

Here is the DCF for TechCo's free cash flow projections + terminal value using a thirty percent discount rate. The present value of TechCo's projected free cash flows + terminal value is \$10,377,080.

	Future Year						
	1	2	3	4	5	6	7
Free cash flows	\$500,000	\$2,000,000	\$3,000,000	\$4,000,000	\$4,500,000	\$4,800,000	\$5,000,000
Terminal value							\$19,074,074
Present value at 30% discount rate	\$384,615	\$1,183,432	\$1,365,498	\$1,400,511	\$1,211,981	\$994,446	\$3,836,597
	<hr/> Total present value at 30% discount rate \$10,377,080 <hr/>						

71. *Id.* at 184.

72. The example is greatly simplified. Its only purpose is to show readers the basic steps and math behind a DCF calculation.

The present value of the projected free cash flows + terminal value justifies the investment, since 33.3 percent of \$10,377,080 is greater than \$2 million.

d. DCF Challenges for Young-Startup Valuations

When measuring a young startup's equity value with a DCF analysis, the information inputs are free cash flow projections, a discount rate, and a terminal value. If an analyst has perfect information inputs, the DCF analysis is a trivial exercise. The analyst can take her perfect information inputs, plug them into the DCF formula, and generate an accurate result that would lead to a perfect answer. However, these information inputs are subject to substantial uncertainty. Multiple futures with varying associated probabilities await any company. With young startups, the distribution of potential outcomes is usually very broad. In fact, the distribution of outcomes can be so broad for young startups that it jeopardizes the usefulness of the DCF value result.

i. Projecting Free Cash Flows

Projecting a startup's free cash flows is inherently difficult. It typically includes analyzing, among other things:

- The current and future target market for the company's products or services;
- The company's business plan for pursuing the market opportunities;
- The company's management team and its ability to successfully run the company;
- The quality of the company's products or services, including the company's ability to improve their quality over time;
- The strength of the company's intellectual property rights;
- The company's investment plan and access to financing;
- The competitive landscape for the company's market opportunities; and
- The company's historical track record.

With this type of information, one can begin to build a profit model for the startup's future performance, which can then be adjusted to project free cash flows. For young startups—which lack meaningful operating histories and suffer from high failure rates—generating such projections is often little better than guesswork.

(a) No Meaningful Operating History

Building a profit model requires forecasting the company's revenues and costs. A common method is to forecast revenues, then estimate the costs for that level of revenue production to arrive at the profit estimates.⁷³ Free cash flow estimates can be generated from the profit forecasts. Generating revenue and cost projections for young startups is particularly difficult due to extreme uncertainty about their future performance. Because young startups often introduce new technologies, pursue new markets, and are led by unproven managers, their futures are particularly uncertain. Will the new technology function effectively? Will customers embrace the technology? Will the technology be commercially scalable? Are the intellectual property rights strong enough to prevent

73. MURPHY, ORCUTT & REMUS, *supra* note 69, at 136.

competitors, particularly larger ones, from taking away the opportunity? How sound is the startup's strategy for pursuing the opportunity? Will the startup have enough financial resources to pursue the opportunity? How will the startup's management team perform?

Forecasts are easiest to generate when there is a performance track record. It is easier to project future iPhone sales and costs than it is to project a startup's brand-new disruptive technology. One of the most commonly used techniques for developing projections is to extrapolate future performance from a historical track record,⁷⁴ and this technique is simply not available for young startups. Young-startup forecasts must be generated from scratch. While not impossible,⁷⁵ it requires more investigation and, as noted above, involves much greater uncertainty. Practically speaking, when a startup lacks a meaningful operating history, analysts often become more reliant on the startup's estimates and their accompanying biases,⁷⁶ including the startup's incentive to exaggerate its future results.

(b) High Failure Rate

Underlying any attempt to forecast a young startup's profits/cash flows is the fact that most startups disappoint or fail. According to the Small Business Administration, only about half of small businesses survive the first five years of operation.⁷⁷ The more specific statistics for startups are just as bleak. Citing research statistics from Harvard Business School senior lecturer Shikhar Ghosh, a 2011 article in Harvard Business School Working Knowledge offered the following sobering estimates.

- Thirty to forty percent of startups will end up liquidating their assets with investors losing all (or most) of their investment.
- Seventy to eighty percent of startups will fail to generate investors' projected return on investment.
- Ninety to ninety-five percent of startups will fail to generate the profit projections provided at the time of the investment.⁷⁸

Because every young startup seeking capital claims it will be successful, investors are left with the difficult task of picking the winners from the losers. Investors must determine which young startups will achieve their profit projections and reach stable growth, knowing full well that most will not. Making this determination is more challenging when companies lack actual performance results to evaluate.

ii. Choosing a Discount Rate

The discount rate's risk-free component is usually easy to estimate. Analysts use the rate available on "instruments that are considered to have virtually no possibility of default,

74. SMITH, SMITH & BLISS, *supra* note 15, at 208–11.

75. *Id.* at 212–22, for example, details several techniques; *see also* DARK SIDE OF VALUATION, *supra* note 1, at 276–90.

76. DARK SIDE OF VALUATION, *supra* note 1, at 265.

77. *Frequently Asked Questions About Small Business*, U.S. SMALL BUS. ADMIN., OFF. OF ADVOC. (Sept. 2019), <https://advocacy.sba.gov/2019/09/24/frequently-asked-questions-about-small-business/>.

78. Carmen Noble, *Why Companies Fail—and How Their Founders Can Bounce Back*, HARVARD BUS. SCH. WORKING KNOWLEDGE (Mar. 7, 2011), <https://hbswk.hbs.edu/item/why-companies-failand-how-their-founders-can-bounce-back> (citing statistics from research by Shikhar Ghosh, a senior lecturer at Harvard Business School).

such as United States Treasury obligations.”⁷⁹ When valuing cash flows that extend far into the future, such as when valuing a company, most analysts use the rate from a long-term Treasury bond (e.g., the ten-year or twenty-year United States Treasury bond).⁸⁰

The challenging part of estimating a discount rate for a young startup is the risk premium. With a traditional DCF analysis, the risk premium tries to capture all the young startup’s uncertainty. A single number seeks to account for all the ways the forecasted free cash flows could turn out different than the analyst’s singular projected future. This is a blunt technique for addressing the distribution of potential outcomes. Standard approaches for estimating the risk premium (or at least a portion of the risk premium) are not well suited for young startups.⁸¹ The Capital Asset Pricing Model (CAPM), for example, measures a stock’s risk by examining its price fluctuations in comparison to the overall market.⁸² Since young startups’ stocks are not publicly traded, there are no price fluctuations to compare to the overall market. Proxies can be used for the price of the young startup’s stock, but those proxies are often complicated⁸³ and present their own challenges. Moreover, CAPM does not capture the startup’s failure risk,⁸⁴ which must be separately estimated.

Recognizing the challenges in developing the risk premium, some analysts try to account for risk directly in their free cash flow forecasts. For example, rather than forecast a single, possible set of free cash flows, an analyst may forecast multiple free cash flow scenarios and assign probabilities to each scenario.⁸⁵ The benefit of the multiple-scenario approach is it reduces the risk premium, making the discount rate easier to calculate. The downside, however, is the challenge of generating multiple scenarios and coming up with thoughtful probabilities.

iii. Terminal Value Problems

Using a terminal value to complete a young startup’s DCF analysis presents serious problems. As noted above, the stable growth method is commonly used to calculate terminal value when valuing a company. However, it is not well suited for young startups. A young startup may not become a stable growth firm for a long time (e.g., ten years, twenty years, or more). This means the analyst may need to project free cash flows far into the future—beyond her ability to generate thoughtful estimates. The late-year free cash flow projections may be pure conjecture, rather than thoughtful analysis, and the same holds true for the discount rate. Compounding matters, terminal value often accounts for a large portion of a young startup’s overall value. Professor Damodaran notes that it is “not unusual for the terminal value to account for 90%, 100%, or even more than 100% of

79. PRATT & NICULITA, *supra* note 69, at 183; *see also* DAMODARAN ON VALUATION, *supra* note 4, at 35–36.

80. PRATT & NICULITA, *supra* note 69, at 184 (referencing the twenty-year Treasury bond); DAMODARAN ON VALUATION, *supra* note 4, at 35–36 (referencing the ten-year Treasury bond).

81. *See* DARK SIDE OF VALUATION, *supra* note 1, at 265.

82. INVESTMENT VALUATION, *supra* note 55, at 183.

83. *See* DARK SIDE OF VALUATION, *supra* note 1, at 290–96.

84. *See id.* at 266.

85. *See* SMITH, SMITH & BLISS, *supra* note 15, at 361–63; *see also* DARK SIDE OF VALUATION, *supra* note 1, at 75–104.

the current value of a young [startup].”⁸⁶ This means the valuation analysis is driven by a calculation that comes from numbers that may be little more than guesswork.

iv. Summary of the DCF Challenges

Valuing young startups with DCF models is unavoidably difficult for investors. They must project very uncertain free cash flows, usually before the startup has made its first sale. They must come up with an appropriate discount rate that accounts for this extreme uncertainty. And finally, they must estimate a terminal value that is itself dependent on free cash flow projections and the discount rate, and that will likely account for a substantial portion of the startup’s overall value.

2. Relative Value

Relative valuation (also referred to as “comparable valuation”)⁸⁷ takes a different approach than a DCF analysis. Rather than directly estimate an asset’s intrinsic value, the relative valuation method measures value by looking at how others have priced the same or similar assets. It uses the wisdom and experience of self-interested buyers and sellers to estimate value.⁸⁸ If the comparable transactions took place in a competitive market, it is reasonable to assume that past buyers and sellers, in the aggregate, agreed to an appropriate price. Typical characteristics for a competitive market are: (a) numerous buyers and sellers; (b) each of the buyers and sellers is well informed about the merits of the transaction; (c) the traded items are homogeneous (or fungible); (d) the buyers and sellers are independent, profit-maximizers; and (e) the transaction costs for making an exchange are low.⁸⁹

Apple’s common stock, which trades on NASDAQ, provides a good competitive market example.

- **Numerous buyers and sellers:** The average trading volume for Apple’s common stock is over twenty-five million shares.⁹⁰
- **Well-informed buyers and sellers:** The buyers and sellers benefit from an extensive mandatory disclosure system for publicly traded stocks, as well as an array of market intermediaries (such as research analysts, credit rating agencies, and the financial press) that also inform transactions. Additionally, information about stock quotes and transaction prices is freely available.
- **Homogenous items:** Each share of Apple common stock is identical.
- **Buyers and sellers are independent, profit-maximizers:** Most investors are independent, profit-maximizers. They act in their own best interests to generate investment returns.
- **Low transaction costs:** The cost to make a trade is very low—usually just a

86. DARK SIDE OF VALUATION, *supra* note 1, at 266.

87. *See, e.g.*, SMITH, SMITH & BLISS, *supra* note 15, at 349.

88. MURPHY, ORCUTT & REMUS, *supra* note 69, at 189.

89. *See id.* at 191.

90. *Apple Inc. (AAPL): Summary*, YAHOO! FINANCE, <https://finance.yahoo.com/quote/AAPL?p=AAPL&.tsrc=fin-srch> (last visited Jan. 2, 2020).

small sales commission.⁹¹

Because Apple's common stock involves identical items trading on a highly competitive market, its announced stock price provides a reasonable estimate of its value. Similar analyses can be done for barrels of crude oil, bushels of soybeans, or any other identical items trading on competitive markets.

a. Standardizing Values with a Ratio Analysis

What if an analyst wants to use past sales of a comparable item to value something that is not identical? Assume a homebuyer wants to compare home prices in a neighborhood. Some homes are bigger than others and sell for higher prices, and most of the recent sales were for big homes. Can the homebuyer use the big-home sales to price a small-home sale? Yes. She could use a ratio analysis.⁹² A ratio analysis allows for apples-to-apples comparisons between comparable, but different assets. It evaluates relationships between the sales price of similar assets and one or more relevant variables.⁹³ The similar assets' sales price is divided by the variable.

$$\text{Valuation ratio} = \frac{\text{Sales price of similar asset}}{\text{Variable that correlates with price}}$$

Ratios allow analysts to standardize values by correlating asset prices to the common variable. The price-per-square-foot ratio used in the real estate industry offers one of the clearest examples. If homes in a neighborhood are selling for \$200 to \$250 per square foot, a buyer looking for a 2,000 square foot home knows to be prepared for prices in the \$400,000 to \$500,000 range,⁹⁴ while a buyer looking for a 3,000 square foot home knows to be prepared for prices in the \$600,000 to \$750,000 range.⁹⁵

Any variable that correlates with price can be used in a ratio analysis. In the above real estate example, square-footage is the variable. The underlying assumption is that the ratio between the variable and price can then be applied to a comparable situation where only the variable is known. This relationship can be expressed with the following equation:

$$\frac{EV_1}{P_1} = \frac{EV_2}{P_2}$$

Where

EV_1 = Economic variable for item 1

P_1 = Observed price for item 1

EV_2 = Economic variable for item 2

P_2 = Expected price for item 2

91. The Apple example largely came from MURPHY, ORCUTT & REMUS, *supra* note 69, at 191.

92. *Id.* at 205.

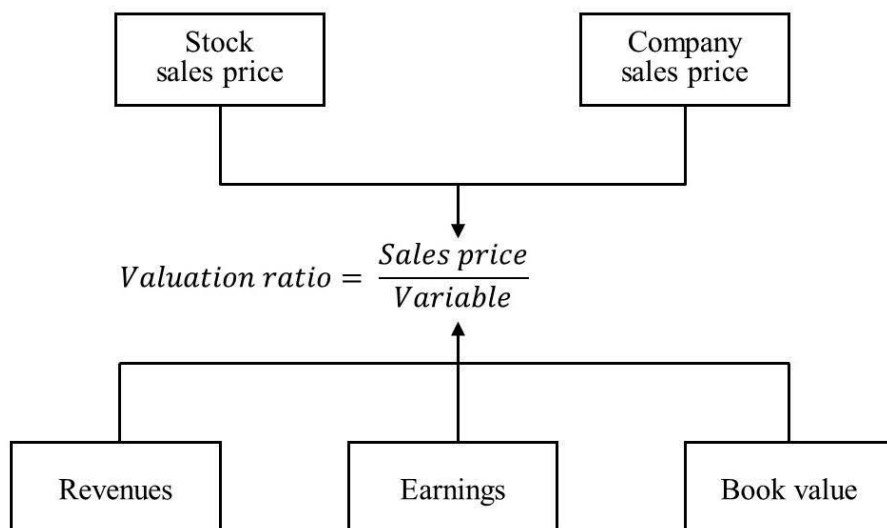
93. *Id.*

94. \$200 per square foot x 2,000 square feet = \$400,000; and \$250 per square foot x 2,000 square feet = \$500,000.

95. \$200 per square foot x 3,000 square feet = \$600,000; and \$250 per square foot x 3,000 square feet = \$750,000.

Ratios, also referred to as multiples, are commonly used to value public companies and their financial instruments. In fact, ratios are probably the dominant public company valuation method.⁹⁶ One reason ratio analysis is so popular for public companies is that the ratios are easy to calculate, and the relevant data is plentiful (see Figure 3). There are publicly reported prices for stock sales as well as for sales of entire companies. And many possible variables—such as earnings, revenues, and book value—are also publicly reported.

Figure 3
Ratios for valuing companies



Ratios can be used to generate valuation ratios for shares of stock or entire companies.

$$\text{Stock valuation ratio} = \frac{\text{Share price}}{\text{Variable per share}}$$

Example: Alpha's stock trades on NASDAQ for \$30.00 per share. Alpha projects it will generate \$2.00 of earnings-per-share next year. Alpha's stock is trading at a price-to-earnings ratio of fifteen-times next year's earnings-per-share.

$$\text{Company valuation ratio} = \frac{\text{Company sales price}}{\text{Variable}}$$

Example: Alpha recently acquired Beta in an M&A transaction for \$100 million. At the time of the transaction, Alpha projected that Beta would generate \$5 million of net income next year. Alpha purchased Beta at a price-to-earnings ratio of twenty-times next year's net income.

96. DARK SIDE OF VALUATION, *supra* note 1, at 107.

Ratios can be generated using variables generated (a) in the past (“trailing ratios”), (b) in the current year (“current ratios”), or (c) in the next few years (“forward ratios”). Because stock/company valuations should be based on future performance (and the future residual), current and forward ratios are usually the more appropriate valuation tool.⁹⁷

i. Earnings Ratios

Earnings ratios are widely used for valuing public stocks and companies.⁹⁸ This makes sense because the benefit stocks and companies generate for investors are future cash flows that come from the issuer’s profits. Price-to-earnings (PE) ratios use the company’s net income or net income-per-share, which is the bottom-line profit number. Earnings other than net income are also used for ratio analyses. For example, EBITDA (earnings before interest, tax, depreciation, and amortization) and EBIT (earnings before interest and tax) ratios are commonly employed.

ii. Non-Earnings Ratios

While earnings ratios make the most intuitive sense, since they clearly correlate with investor cash flows, any variable that correlates with price can be used. Price-to-revenue and price-to-book value⁹⁹ ratios are examples of non-earnings ratios.

iii. How a Ratio Analysis Works

Using a ratio to value a company normally involves a three-step process.¹⁰⁰

- **Step 1**—Identify comparable stocks or companies with identifiable prices and profit forecasts.
- **Step 2**—Calculate earnings ratios for the comparable stocks or companies.
- **Step 3**—Adjust and apply the ratios to the company being valued.

The following example uses forward PE ratios from recent comparable-company sales to value a target company in an M&A transaction.

Example: Alpha is considering buying another company, Beta. Before commencing serious negotiations, Alpha conducted a PE ratio analysis to get a feel for Beta’s potential value range.

- **Step 1—Identify comparables with known valuations and profit forecasts.** Alpha identified four similar companies that were sold within the last few years—let us call them Companies A, B, C, and D. These companies involved similar product profiles, market sizes, and results.

97. Despite the greater valuation relevance of current and forward PE ratios, most financial websites and newspaper stock tables report trailing PE ratios. This likely stems from the ease of finding and using historical results. Current and forward PE ratios require projecting future results, which is a more challenging exercise.

98. DARK SIDE OF VALUATION, *supra* note 1, at 110.

99. For purposes of book value ratios, “book value” represents the net value of the company’s assets as reported on its balance sheet.

100. MURPHY, ORCUTT & REMUS, *supra* note 69, at 206.

Acquisition Price	
Company A	\$1,000 million
Company B	\$1,680 million
Company C	\$300 million
Company D	\$540 million

In addition to knowing the companies' acquisition prices, Alpha also knows their projected next-year net income at the time of the sale.

Projected Next-Year Net Income at the Time of the Sale	
Company A	\$50 million
Company B	\$70 million
Company C	\$20 million
Company D	\$30 million

- **Step 2—Calculate valuation ratios for the comparables.** With this information, Alpha generated valuation ratios for the comparable companies.

	Comparable Company PE Ratios			
	A	B	C	D
Acquisition price	\$1,000 million	\$1,680 million	\$300 million	\$540 million
Next-year's net income	\$50 million	\$70 million	\$20 million	\$30 million
Acquisition price as a multiple of next-year's net income	20x	24x	15x	18x

- **Step 3—Adjust and apply the comparable valuation ratios to the asset being valued.** The comparable companies sold for between fifteen-times and twenty-four-times next-year's net income. Alpha examined the comparable companies more carefully and believes that Beta is better than Company C, but not as good as Company B. Alpha may therefore want to use a valuation ratio of eighteen-times to twenty-times next-year's net income. Alpha forecasts Beta's net income for next year will be \$4 million. As a result, a possible valuation range for Beta could be \$72 million to \$80 million.

e. Challenges in Using Relative Valuations for Young Startups

Despite near ubiquitous use in the public markets, relative valuation is not well suited for young startups. One entrepreneurial finance textbook goes so far as to say, "It is almost impossible to use the comparable method to estimate the value of a startup."¹⁰¹ While that statement may be a bit strong, it is undeniable that using relative valuations is challenging for startups in general and extremely challenging for young startups.

Relative valuations present several problems for young-startup valuations,¹⁰² but

101. See Alemany, *supra* note 61, at 219.

102. See DARK SIDE OF VALUATION, *supra* note 1, at 311–16, for a thoughtful discussion of the many

two problems particularly stand out. The first is a lack of appropriate comparable companies. The comparables for young startups should be other private startups. However, since such comparables are not publicly traded, pricing data and profit projections are hard (or, often, impossible) to obtain. Without comparable prices and variables, ratio analyses cannot be done. Some analysts may try to use publicly traded companies for their ratio analyses. However, this is only appropriate for mature startups that are far enough along in their development cycle that comparing them to public companies is reasonable—which excludes young startups. Second, young startups lack the variables normally used in a ratio analysis. They do not themselves have meaningful revenues and their earnings are almost certainly negative.¹⁰³

3. Venture Capital Method

Due to the challenges presented by DCF and relative valuation analyses, some investors use an alternative approach—the venture capital method—for valuing startups.¹⁰⁴ The venture capital method measures the present value of the startup’s estimated exit value. The formula for the venture capital method is¹⁰⁵:

$$\text{Company value} = \frac{\text{Estimated exit value}}{(1 + r)^n}$$

where

- r = target rate of return (or discount rate)
- n = period when the exit takes place

Investors buy startup stock to make money, and the most common way to make that money is to sell the stock and collect capital gains. The venture capital method seeks to calculate the present value of the investors’ cash receipt when they exit their investment. There are two common exit strategies for startup investments.

- (1) **IPO exits.** The startup conducts an IPO and creates a public secondary market for its stock on a liquid stock exchange. Pre-IPO investors can sell their startup stock on the newly established secondary market.
- (2) **Acquisition exits.** The startup sells itself to another company. The acquirer purchases all, or substantially all, of the startup in exchange for cash or publicly traded stock.

a. How It Works

Valuing a startup with the venture capital method generally involves four steps¹⁰⁶:

problems.

103. Some analysts overcome the lack of current profits and revenues by forecasting “the firm’s operating results later in the life cycle . . . and use these forward revenues and earnings as the basis for valuation. In effect, we will estimate the value of the business in five years, using revenues or earnings from that point in time.” DARK SIDE OF VALUATION, *supra* note 1, at 315. The future valuation would then need to be discounted back to present value. Forecasting a young startup’s future results and using them for the ratio analysis can work, but it suffers from the same forecasting and uncertainty problems discussed earlier for DCFs.

104. *Id.* at 270; SMITH, SMITH & BLISS, *supra* note 15, at 367; Alemany, *supra* note 61, at 223–24.

105. DARK SIDE OF VALUATION, *supra* note 1, at 270.

106. *See id.* at 270–71; *see also* SMITH, SMITH & BLISS, *supra* note 15, at 367–68.

- **Step 1**—Estimate how much funding the startup needs to reach an exit event.
- **Step 2**—Estimate when the exit will occur.
- **Step 3**—Estimate the startup’s exit value, frequently using a PE ratio.
- **Step 4**—Discount the exit value back to present value using a target rate of return.

The following example provides a simplified look at valuing a startup with the venture capital method.

Example: A venture capital firm (VC) is considering whether to invest in TechCo. Following a detailed analysis of the market for TechCo’s product and TechCo’s ability to pursue the opportunity, VC made the following determinations:

- **Step 1—Estimate how much funding TechCo needs to reach an exit event.** VC estimates that TechCo needs \$10 million of funding to reach an exit event. VC believes the exit event will be an acquisition exit.
- **Step 2—Estimate when the exit will occur.** VC believes that TechCo will be ready for the acquisition exit in three years.
- **Step 3—Estimate TechCo’s exit value.** Three comparable companies experienced acquisition exits within the last year. Those companies sold at PE multiples ranging from twenty-times to twenty-four-times forward one-year net income. VC projects that TechCo’s forward one-year net income will be \$9 million at the time of exit. Therefore, TechCo’s future exit value projects to range from \$180 million to \$216 million.
- **Step 4—Discount the exit value back to present value.** Since the exit is not expected to occur for three years, the exit value must be discounted back to present value. Venture capital firms commonly develop rate-of-return tables based on the startup’s stage of development.¹⁰⁷ VC judged TechCo to be a later stage company and determined thirty-five percent to be the appropriate discount rate.

$$\begin{aligned} \text{Present value} &= \frac{EV}{(1+r)^n} = \frac{\$180 \text{ million to } \$216 \text{ million}}{1.35^3} \\ &= \$73.2 \text{ million to } \$87.8 \text{ million} \end{aligned}$$

where

- EV* = exit value
- r* = discount rate
- n* = the period when the exit value occurs

If VC decides to make the \$10 million investment, it will want to receive an ownership stake in TechCo in the range of at least eleven percent (\$10 million/\$87.8 million) to fourteen percent (\$10 million/\$73.2 million).

The above example assumes that VC’s \$10 million investment is enough to fund the startup through its exit. If additional funding is necessary to achieve the exit event, the calculations get more complicated because they must account for the ownership dilution that VC would experience.

b. Venture Capital Method Challenges for Valuing Young Startups

The venture capital method provides an advantage over a DCF analysis by reducing

107. DARK SIDE OF VALUATION, *supra* note 1, at 270.

the profit projection period. With a DCF analysis, the analyst must project the company's free cash flows in perpetuity. When using the venture capital method, the analyst need only project profits (assuming an earnings ratio) for the anticipated exit year (which is often three to seven years in the future). While the projection period is shorter, the analyst must still build a profit model. For young startups, that means the analyst still has the challenge of building a profit model when future profits are likely to be highly uncertain. Developing profit projections for companies without reliable sales, which defines young startups, is an inherently difficult task even when the projection period is shortened.

The venture capital method also presents an optimism bias challenge.¹⁰⁸ The model projects a single, positive future event—the startup achieving an exit event—even though that event may not occur. Recall that most young startups fail and never achieve a successful exit. The discount rate (or target rate of return) is the primary tool for counteracting the optimism bias.¹⁰⁹ The more confidence the analyst has in the startup reaching its exit event, the lower the discount rate. The less confidence the analyst has, the higher the discount rate. However, despite the discount rate's critical importance to the valuation analysis, there is often little more than “intuition and experience” to guide the analyst's discount-rate decision.¹¹⁰ Stated more frankly, the chosen discount rate may be little more than guesswork.

4. First Chicago Method

a. Variation of the Venture Capital Method

The First Chicago method is a variation of the venture capital method that seeks to reduce the optimism bias. Rather than forecast one possible outcome, the venture capital method forecasts multiple scenarios. A common iteration forecasts three scenarios: success, failure, and sideways.¹¹¹

- The **success scenario** is usually the same as the venture capital method's exit event.¹¹²
- The **failure scenario** usually assumes a worst-case scenario. Not only does the startup fail to achieve an exit event, investors receive no return and lose their invested capital.¹¹³
- The **sideways scenario** usually assumes a moderate performance level. There is no successful exit event, but the startup does not completely fail.¹¹⁴ For example, investors might recoup some or all their invested capital and possibly even receive a modest additional return.¹¹⁵

The First Chicago method accounts for each scenario by assigning it a probability weight. The investor must conduct a valuation for each scenario and assign a probability

108. SMITH, SMITH & BLISS, *supra* note 15, at 368.

109. *Id.*

110. *Id.*

111. *Id.* at 369.

112. *See id.*

113. SMITH, SMITH & BLISS, *supra* note 15, at 369.

114. *Id.*

115. *Id.*

to its occurrence. The venture capital method can be used to determine the success scenario. If the investor anticipates the failure scenario involves a total loss of investment, then it can be valued at \$0. Finally, the sideways scenario can be valued several different ways, including with a DCF analysis, a relative valuation, or the venture capital method, but assuming less-optimistic model inputs. The following example shows how the probability weighting works.

Example: VC is once again considering whether to invest in TechCo. VC estimates that TechCo will need \$10 million of funding to reach an exit event, which will take place in three years. Following a detailed analysis of the market for TechCo’s product and TechCo’s ability to pursue the opportunity, VC valued three scenarios (each three years in the future) and assigned them probabilities.

	Expected Value	Probability	Weighted Value
Success scenario	\$180 million to \$216 million	30%	\$54 million to \$64.8 million
Failure scenario	\$0	20%	\$0
Sideways scenario	\$10 million to \$20 million	50%	\$5 million to \$10 million
	Total weighted value		\$59 million to \$74.8 million

$$\begin{aligned}
 \text{Present value} &= \frac{WV}{(1+r)^n} = \frac{\$59 \text{ million to } \$74.8 \text{ million}}{1.17^3} \\
 &= \$36.8 \text{ million to } \$46.7 \text{ million}
 \end{aligned}$$

where

- WV* = weighted value
- r* = discount rate
- n* = the period when the scenarios are valued

If VC decides to make the \$10 million investment, it will want to receive an ownership stake in TechCo in the range of at least twenty-one percent (\$10 million/\$46.7 million) to twenty-seven percent (\$10 million/\$36.8 million).

As noted earlier, a major drawback of the venture capital method is its focus on a single, uncertain event. The analyst must then use a discount rate that is often quite high to account for the uncertainty. The discount rate then aggregates useful information about the potential future outcomes and hides it in a single number, which can fall prey to various biases and problems.¹¹⁶ The First Chicago method forces the analyst to break the valuation problem into its individual parts and expressly analyze each factor. This method accounts for more uncertainty than if the analyst forecasts only a single possible outcome. As a result, analysts should use a lower discount rate when employing the First Chicago method, compared to the venture capital method, since the risk component should be smaller.

116. See MURPHY, ORCUTT & REMUS, *supra* note 69, at 67–87.

The First Chicago method requires building a similar profit model to the venture capital method. The venture capital method forecasting challenges apply equally to the First Chicago method. The First Chicago method does allow analysts to account for more uncertainty, which can make the model-building exercise easier. However, if the most important data remains largely guesswork, the analysis still struggles to generate a useful result.

D. Valuation Challenges Discourage Investment

Left unaddressed, the young-startup valuation challenge discourages investment. If rational investors cannot confidently value a company, they are less likely to invest. Because few entrepreneurs have enough resources to self-finance their startups through profitability, less investment capital leads to fewer startup formations, less young-startup growth, and more young-startup failures.

No matter what method is used, the foundation of every valuation analysis is a three-step process:

- (1) Collect information;
- (2) Run the information through an economically valid model; and
- (3) Interpret the results.¹¹⁷

A valuation model's accuracy depends on the quality of its data. If the collected information is guesswork, then so too is the valuation result. In the case of young startups, their lack of operating history means they lack the data necessary to run robust valuation analyses. When coupled with their extreme uncertainty, valuing young startups will always be unavoidably difficult.

- **A DCF analysis** requires building the young startup's profit model in perpetuity (or until the stable growth period is reached, which may be ten, twenty, or more years into the future). Without a track record to start from, the forecasts may be little more than guesswork. A DCF analysis also requires estimating the risk premium, but without the data that normally guides such analysis for public companies.
- **A relative valuation** requires comparing the young startup's performance to comparable companies or comparable transactions. The young startup's lack of operating performance means there are few, if any, meaningful comparables. Moreover, the young startup lacks the performance data needed to run the ratio analysis.
- **A venture capital method analysis** requires building a young startup's profit model at the time of its exit for determining its exit value. This requires a shorter profit model than for a DCF analysis, but still requires building a profit model and coming up with a discount rate.
- **A First Chicago method analysis** requires building a similar profit model as for the venture capital method but allows the analyst to account for more potential outcomes. It suffers from the same forecasting problems as the

117. *Id.* at 8.

venture capital method.

The young-startup valuation challenge is not a mere nuisance. It is a much more serious and fundamental challenge that does not lend itself to easy fixes. This article spent time explaining fundamental valuation analysis for startups to demonstrate this problem. Yes, models can be built for young startups that look impressive. However, if they are built on fanciful data, they are not very useful for guiding investment decisions. Using highly-speculative valuation analyses to make investment decisions creates several investing scenarios—none of which is optimal.

- **Scenario 1—Throw caution to the wind.** Investors can make their investment decisions based on highly speculative analysis. Such an approach creates a high likelihood of investors overpaying for their investments.
- **Scenario 2—Only invest at bargain-basement prices.** Investors can demand bargain-basement prices when investing. Investors demand such low prices that their portfolio companies do not need to perform all that well to justify the investment. Entrepreneurs are likely to resist this approach, since they could view it as giving away the company.
- **Scenario 3—Avoid investing in young startups.** Investors can simply choose not to invest in young startups.

Until the mid-2000s, scenario 3 was frequently the choice for Specialized Startup Investors. Through much of the 1980s, venture capital firms actively invested in young startups.¹¹⁸ Beginning in the late 1980s, they largely abandoned early investing and shifted to later stages.¹¹⁹ The shift was not a temporary trend, but instead reflected a systematic change in the way venture capital firms operated.¹²⁰ As venture capital firms exited the seed investing market, angels filled the role. During the 1990s, angels and venture capital firms operated in a complimentary relationship, where the angels provided “a kind of ‘farm system of venture portfolios.’”¹²¹ Angels enabled startups to grow to a point where they could attract venture capital interest. However, angel investors also began migrating from earlier financing rounds to later rounds during the early 2000s.¹²² Why were Specialized Startup Investors leaving the young-startup investment market? An inability to confidently value the investment opportunities was likely a significant factor. If these investors could accurately price deals, there would have been no reason for the mass migration.

III. OVERCOMING THE YOUNG-STARTUP VALUATION CHALLENGE WITH DEFERRED-EQUITY INSTRUMENTS

Priced equity transactions dominated the startup funding model until the mid-2000s. Entrepreneurs, friends and family, angels, and venture capital firms have traditionally

118. SANDLER, *supra* note 26, at 8.

119. *Id.*; MARK VAN OSNABRUGGE & ROBERT J. ROBINSON, ANGEL INVESTING: MATCHING START-UP FUNDS WITH START-UP COMPANIES—THE GUIDE FOR ENTREPRENEURS, INDIVIDUAL INVESTORS, AND VENTURE CAPITALISTS 49–52 (2000).

120. Jeffrey E. Sohl, *The U.S. Angel and Venture Capital Market: Recent Trends and Developments*, 6 J. PRIV. EQUITY 7, 13 (2003).

121. Jeffrey A. Timmons & Harry J. Sapienza, *Venture Capital: The Decade Ahead*, in THE STATE OF THE ART OF ENTREPRENEURSHIP 402, 421 (Donald L. Sexton & John D. Kasarda eds., 1992).

122. Sohl, *supra* note 3, at 23.

financed startups by buying stock. When investors purchase stock, they buy a percentage of the startup, which first requires agreeing on a pre-money valuation for the company.¹²³ If an investor wants to buy ten percent of a startup for \$1 million, it must first determine the startup is worth \$9 million. Priced equity rounds are susceptible to the young-startup valuation challenge because investments should not take place if the parties cannot agree on the valuation. In the mid-2000s, Specialized Startup Investors began using deferred-equity instruments to overcome this problem.

Even under the traditional funding model, many startup investors have learned to tailor their investment contracts to address various startup investing challenges. Venture capital firms and their use of convertible preferred stock offers the classic example. Investing in startups—whether young or mature—is difficult. Startup investments are plagued by uncertainty, information asymmetry, and agency problems¹²⁴ that limit investors’ willingness to commit funds.¹²⁵ All companies present investors with these problems, but startups are an extreme case. Venture capital firms mitigate the problems by employing a contract strategy that relies heavily on receiving convertible preferred stock.¹²⁶ This strategy allows venture capital firms to stage their investments,¹²⁷ control their portfolio companies,¹²⁸ receive liquidation preferences and other downside economic protections,¹²⁹ and incentivize the startup managers to run their companies successfully.¹³⁰

123. Readers should understand the difference between a “pre-money” and a “post-money” value. Both measure a company’s value, but they do so at different times. Pre-money valuation is a company’s valuation before an investment round, while post-money valuation is company’s valuation after the investment. Assume an investor buys stock representing twenty-five percent ownership in a company for \$5 million. The company’s “post-money valuation” is \$20 million (or \$5 million/twenty-five percent). However, its pre-money valuation is \$15 million, which is calculated as the post-money valuation minus the investment.

124. Darian M. Ibrahim, *The (Not So) Puzzling Behavior of Angel Investors*, 61 VAND. L. REV. 1405, 1407 (2008) [hereinafter Ibrahim (2008)] (“Start-up investments are rife with uncertainty, information asymmetry, and potential agency costs in the form of potential opportunism by entrepreneurs.”).

125. PAUL A. GOMPERS & JOSH LERNER, *MONEY OF INVENTION: HOW VENTURE CAPITAL CREATES NEW WEALTH* 23 (2001).

126. Ibrahim (2008), *supra* note 124, at 1407, 1411–16; GOMPERS & LERNER, *supra* note 125, at 41–59.

127. Venture capital firms usually stage their investments. Rather than fully fund the startup up front, they provide partial funding over multiple rounds. Each financing round is meant to finance the startup to a milestone. If the startup achieves the milestone, it receives more funding. If it fails to meet the milestone, the venture capital firm can abandon the investment. Staging helps reduce the uncertainty and information asymmetry problems, while also creating an incentive for management to do good work.

- **Reduces uncertainty.** Staging allows venture capital firms to replace projections about the startup with facts.
- **Reduces information asymmetries.** Staging provides venture capital firms with improved access to the startup’s most confidential information, particularly since the venture capital firm will likely receive board representation.
- **Creates incentives.** If the startup’s managers want more money for their company, they better work hard and meet the targeted milestones.

128. Venture capital firms obtain substantial control over their portfolio companies. This control generally stems from receiving board seats and special voting rights (e.g., class voting rights).

129. Preferred stock has a liquidation preference over common stock.

130. For example, the liquidation preference sets a tangible bar that management must reach before having any right to the startup’s future profits. The startup’s managers typically own common stock, which provides them a junior right to the residual. Because preferred stockholders collect their share of the residual first, management must generate excess profits that exceed the liquidation preference before having any right to the residual.

Venture capital firms' convertible preferred stock contract strategy has been incredibly successful. It allows venture capital firms and other professional startup investors (such as angel syndicates) to thoughtfully invest tens of billions of dollars each year.¹³¹ The US startup market would not be what it is today without the convertible-preferred-stock strategy. However, for all the problems it mitigates, convertible preferred stock does not address the young-startup valuation challenge, as priced rounds require valuing the startup.

Deferred-equity instruments do address the young-startup valuation challenge. Convertible notes, safes and the KISS allow investors to thoughtfully invest in young startups without valuing them at the time of investment. Future funding rounds determine value when the startup is more mature and has an operating history. At that point, investors can better estimate the startup's future performance and risk premium.

Convertible notes, safes, and the KISS are all contractual instruments. This means that issuers and investors can modify them, and potentially substantially. Part III provides a general description of the different instruments as they are used in the traditional startup market and explains why these "classic versions" are a positive contribution to the traditional startup market. However, with the promulgation of Regulation CF in 2016, crowdfunding issuers also began using deferred-equity instruments to raise capital from the general public. The "crowdfunding version" of deferred-equity interests often differs from the classic version, and those differences are discussed in Part IV.

A. Convertible Notes

Traditional debt instruments, such as standard bank loans, are a primary funding tool for livelihood businesses.¹³² Young startups, however, are not built for such traditional debt¹³³ and are largely excluded from the small-business-lending market.¹³⁴ Nevertheless, there are a few debt instruments that startups can use to fund their growth.¹³⁵ Convertible

131. NIZAR TARHUNI ET AL., 2Q 2019 PITCHBOOK-NVCA VENTURE MONITOR, PITCHBOOK 10 (July 10, 2019), <https://pitchbook.com/news/reports/2q-2019-pitchbook-nvca-venture-monitor>. Late-stage venture capital investments totaled \$84.5 billion in 2018, \$46.5 billion in 2017, \$46.2 billion in 2016, \$48.0 billion in 2015, and \$44.6 billion in 2014. *Id.*

132. 2018 FDIC SMALL BUSINESS LENDING SURVEY, FED. DEPOSIT INS. CORP. 1 (Dec. 2018), <https://www.fdic.gov/bank/historical/sbls/full-survey.pdf> ("The survival and growth of small businesses depends on access to credit, and banks are the most common source of external credit for small firms.").

133. They lack the excess cash flow needed for principal and interest payments and they also generally lack meaningful securable assets.

134. *See generally* SMITH, SMITH & BLISS, *supra* note 15, at 52.

135. In addition to convertible notes, other startup debt instruments include venture debt and revenue-based loans.

- **Venture debt.** Select lenders, such as specialty banks and venture debt firms, Bernthal, *supra* note 8, at 798, provide traditional loans to startups that have obtained venture capital funding. Darian M. Ibrahim, *Debt as Venture Capital*, 2010 U. ILL. L. REV. 1169, 1173 (2010). Ibrahim explains:
Venture debt does not mean debt from angel investors or VCs that is commonly converted to equity; nor does venture debt mean loans to start-ups that have developed to the point of attractiveness to traditional lenders. Instead, venture debt as defined here is loans to early stage, rapid-growth start-ups that have no traditional means of paying it back." *Id.* at 1171 (footnote omitted).
- **Revenue-based loans.** Revenue-based loans (also referred to as "royalty financing") are a form of debt. In exchange for a loan, the startup promises to pay the lender a percentage of defined, future revenues. In other words, the startup commits to paying a royalty until the loan is repaid. *See* Victoria

notes are one such debt option, and the only meaningful debt option for young startups.¹³⁶ Convertible notes started becoming a popular option for seed investors around 2005,¹³⁷ and have since become a staple for seed financing.¹³⁸ Young startups commonly use them to raise modest sums (e.g., \$500,000 to \$1.25 million¹³⁹), and it is often their first external funding round.¹⁴⁰ Convertible notes are used when a young startup is close to ready for a meaningful venture-capital equity round.

1. Automatic Conversion if a Qualified Equity Financing Occurs

Convertible notes are short-term loans (e.g., one to three years) that convert to equity in a few scenarios. The standard scenario calls for automatic conversion if the startup conducts a qualified equity financing before the notes mature.¹⁴¹ A qualified equity financing is often defined as a priced round of preferred stock that meets a certain size threshold (such as \$1 million of new cash raised).¹⁴² Convertible notes are debt instruments, meaning the startup must repay the principal and pay interest. However, unlike traditional debt, convertible note investors do not look to be repaid with cash—in fact, the notes should prohibit prepayments.¹⁴³ Instead, they hope to be repaid with shares

Silchenko, *There's a New-Old Sheriff in Town: Royalty Financing for Young Ventures*, HUFFPOST (Feb. 22, 2017), https://www.huffpost.com/entry/theres-a-newold-sheriff-i_b_9295908; Scott Austin, *An Alternative Financing Option for Start-ups—Entrepreneurs Going the Royalty Route Use a Share of Revenue to Pay Back Loans*, WALL ST. J. (Dec. 2, 2010), <https://www.wsj.com/articles/SB10001424052748704679204575646940403312602>; Cliff Ennico, *Royalty Financing: The New Thing in Venture Capital*, CREATORS (Nov. 21, 2017), <https://www.creators.com/read/succeeding-in-your-business/11/17/royalty-financing-the-new-thing-in-venture-capital>.

136. Young startups are generally not eligible for venture debt or revenue-based loans. They are not eligible for venture debt because they are not yet mature enough to have pre-existing venture capital investors. And they are not eligible for revenue-based loans because they are largely pre-revenue companies.

137. Convertible notes existed prior to 2005. Coyle & Green (2014), *supra* note 6, at 161. However, the earlier versions were for classic bridge financings and were not specifically tailored for young-startup financings. *Id.* It was around 2005 that convertible notes were modified to resemble their current form and began to be used for standalone financings. *Id.* at 161–62; *see also* Bernthal, *supra* note 8, at 804.

138. Peter Werner, *Primer on Convertible Debt*, COOLEYGO, <https://www.cooleygo.com/convertible-debt/> (last visited Feb. 22, 2020) [hereinafter Werner—Primer] (“Many early stage companies use convertible debt for their initial fundraising.”); 4 *Benefits of Raising Funding via Convertible Notes*, LEAPFUNDER (Aug. 5, 2015), <https://www.leapfunder.com/blog/article/benefits-of-convertible-notes> (“Convertible notes are financial products which have been at the heart of the start-up scene for years.”).

139. Peter Werner, *Frequently Asked Questions: Convertible Debt*, COOLEYGO <https://www.cooleygo.com/frequently-asked-questions-convertible-debt/> (last visited Feb. 22, 2020) [hereinafter Werner—FAQs].

140. Werner—Primer, *supra* note 138.

141. *Id.*

142. Here is the automatic conversion provision from a form term sheet posted by Fenwick & West LLP:

Conversion in Next Financing. Upon the Company’s next sale of its preferred stock in a single transaction or in a series of related transactions, in each case occurring on or before the Maturity Date, for an aggregate gross purchase price paid to the Company of no less than [One Million Dollars (\$1,000,000)] (excluding the principal amount of and accrued interest or any other amounts owing on all Notes converted in such sale) (the “**Next Financing**”), the entire balance then outstanding under each Note shall automatically be cancelled and converted into shares of the Company’s capital stock.

Kristine M. Di Bacco & Doug Sharp, *Convertible Note Financing Term Sheet (Seed-Stage Start-Up)*, LEXISNEXIS 4 (2018), <https://www.fenwick.com/FenwickDocuments/Convertible-Note-Financing-Term-Sheet-Seed-Stage-Startup.pdf> [hereinafter Sample Convertible Note Term Sheet].

143. *Id.* at 3 (“[I]nvestors in convertible note financings generally will not permit prepayment, since a

from a high-quality future stock offering.¹⁴⁴ A simple example is helpful for illustrating the automatic conversion.

Example: TechCo issued convertible notes to a group of angels. Here are the key terms:

- **Principal amount:** \$500,000.
- **Maturity:** The notes mature in eighteen months (the “Maturity Date”) unless repaid or converted earlier.
- **Interest rate:** The notes carry an interest rate of five percent per year. Unpaid interest is added to the principal.
- **Automatic conversion:** If, prior to the Maturity Date, TechCo consummates a convertible preferred stock financing of at least \$1 million, then the principal plus unpaid interest automatically converts into shares of the convertible preferred stock.

Assume TechCo needs the money to cover manufacturing costs for its newly developed product. Without the \$500,000, TechCo could not produce and sell its product, and would soon have to shut down. Obtaining the money provides TechCo with additional time and resources to prove it can be a successful venture. Convertible notes give young startups more runway to achieve important milestones, such as meaningful sales, that make priced equity rounds more feasible and attractive.¹⁴⁵ To complete the example, assume TechCo conducted a qualified equity financing after twelve months. TechCo raised \$3 million in a Series A round at a \$10 million pre-money valuation that translated into a \$1 price per share. After one year, the outstanding principal plus interest for the notes would be \$525,000. Because TechCo consummated a qualified equity financing, the \$525,000 automatically converts into Series A convertible preferred stock. Note holders will receive 525,000 shares (or \$525,000/\$1).

2. Change of Control

Another common scenario is for the startup to be bought before a qualified equity financing occurs. The notes should include a provision allowing for the note holders to benefit from a change of control transaction. For example, holders may have the option of (a) demanding immediate repayment plus a premium (e.g., 100 percent of the original principal balance) or (b) converting their notes to common stock at a pre-set conversion rate just before the change of control transaction is consummated.¹⁴⁶

3. Notes Reach Maturity

What if the notes mature without a conversion having occurred? Notes can address

prepayment could prevent them from converting the note in a financing, merger or asset sale.”)

144. Aaron Kellner, *Convertible Note—Examples and How It Works*, SEEDINVEST BLOG (Oct. 27, 2017), <https://www.seedinvest.com/blog/startup-investing/how-convertible-notes-work>; Meredith Turits, *What Is a Convertible Note and Should Your Startup Issue Them for Financing?*, FUNDERA (Oct. 3, 2018), <https://www.fundera.com/blog/what-is-a-convertible-note>; Scott Edward Walker, *Everything You Ever Wanted to Know About Convertible Note Seed Financings (But Were Afraid to Ask)*, TECHCRUNCH (Apr. 7, 2012), <https://techcrunch.com/2012/04/07/convertible-note-seed-financings/>; see also Werner—Primer, *supra* note 138.

145. See Coyle & Green (2014), *supra* note 6, at 158–61.

146. See *Convertible Notes—Convertible Notes Primer*, FUNDERSCLUB: EDUC. CTR., <https://fundersclub.com/learn/convertible-notes/convertible-notes-overview/convertible-note-acquisition-merger/> (last visited Feb. 22, 2020).

this scenario in a few ways. Some notes may call for the issuer to repay immediately the principal and interest on the notes, while others give the note holders the option of demanding immediate repayment or converting the notes into equity at a pre-set conversion rate.¹⁴⁷ Because few startups have the cash to repay the notes, and calling the notes could force the startup into bankruptcy and possible dissolution, noteholders commonly agree to extend the maturity date and give the startup more time to find equity investors.¹⁴⁸ However, the threat of dissolution hangs over any convertible note deal.

4. Discounts and Valuation Caps

The above discussion left out two of the most hotly negotiated issues in most convertible note deals: the discount and the valuation cap. Note holders invest before the preferred stockholders, so they assume more risk. If the notes convert to preferred stock without any adjustment (as in the above TechCo example), they are not compensated for the additional risk.¹⁴⁹ Note holders receive interest from the notes, but the interest rates are usually too low to compensate for the additional risk.¹⁵⁰ Therefore, note holders usually insist on including a discount and a valuation cap in their notes.

- **Discount.** The discount grants note holders a price reduction when converting their debt to equity in the qualified equity financing.¹⁵¹ If the notes include a twenty percent discount and the qualified equity financing is priced at \$1.00 per share, the note holders convert their notes to stock at \$0.80 per share. Discounts are commonly in the fifteen to twenty-five percent range.¹⁵²
- **Valuation cap.** The valuation cap limits the price at which the notes convert into equity. It sets a maximum value at which the convertible notes would convert, “regardless of the actual value agreed to by the issuer and the new equity investors.”¹⁵³ If the valuation cap is \$5 million, but the valuation from the qualified equity financing is higher than \$5 million, the notes convert at the \$5 million valuation.

Issuers prefer convertible notes without a discount or valuation cap, but investors

147. Werner—FAQs, *supra* note 139. Receiving the option is the superior alternative for investors because it prevents the startup from strategically delaying a financing or change of control transaction until after the maturity date.

148. *Id.*

149. Werner—Primer, *supra* note 138.

150. See Hannah Bloomfield, *The Basics of Convertible Notes: Convertible Note Terms*, CAPSHARE BLOG (July 13, 2018), <https://www.capshare.com/blog/the-basics-of-convertible-notes-part-1-convertible-note-terms/> (“Convertible notes are a debt instrument and are legally required to carry interest. However, most of the time the interest will be set to zero or the lowest interest rate legally required. Convertible notes can carry higher interest rates, but it’s not the rule.”); see also Barry J. Kramer & Steven S. Levine, *Seed Financing Survey 2012: Internet/Digital Media and Software Industries*, FENWICK & WEST LLP (Mar. 25, 2013), <https://www.fenwick.com/publications/Pages/Seed-Finance-Survey-2012.aspx> [hereinafter *2012 Seed Financing Survey*], which found median interest rates on convertible notes of 6.0 percent, 5.5 percent, and 5.5 percent in 2010, 2011, and 2012, respectively.

151. Werner—Primer, *supra* note 138.

152. *Id.* This range assumes the notes also include a valuation cap. Discount rates are likely to be higher in cases where there is no valuation cap.

153. *Id.*

normally receive both protections.¹⁵⁴ Usually, the discount or the valuation cap applies when converting the notes to equity, but not both.¹⁵⁵ The note holders convert using whichever method proves more favorable.

Example: Consider the above TechCo example, and assume the following additional facts:

- **Discount:** The notes will convert at a twenty percent discount to the pre-money valuation realized in the qualified equity financing.
- **Valuation cap:** The notes have a pre-money valuation cap of \$6 million.

Recall that TechCo conducted a qualified equity financing after twelve months, raising \$3 million in a Series A preferred stock round at a \$10 million pre-money valuation that translated into a \$1 price per share. The outstanding principal plus interest for the notes was \$525,000.

Discount calculation: The conversion formula calls for the notes to convert at a twenty percent discount.

- The \$1 price per share must be reduced by the twenty percent discount (twenty percent of \$1 is \$0.20), or $\$1 - \$0.20 = \$0.80$. The note holders' price per share is \$0.80.
- The note holders will receive 656,250 shares (or $\$525,000/\0.80).

Valuation cap calculation: The valuation cap (\$6 million) is lower than the actual valuation (\$10 million), so the note holders' price per share must be adjusted.

- **Step 1:** Divide the valuation cap (\$6 million) by the actual valuation (\$10 million), which equals sixty percent.
- **Step 2:** Multiply the preferred stock price (\$1) by the Step 1 percentage (sixty percent), which results in an adjusted price per share of \$0.60.
- The note holders will receive 875,000 shares (or $\$525,000/\0.60).

In this case, the valuation cap calculation is more favorable for the note holders, so the notes would convert using the valuation cap.

While convertible notes generally defer the need for a valuation analysis, discounts and valuation caps partially reintroduce it. As noted above, these provisions try to account for the note holders' early-investment risk. Early forms of convertible notes mostly relied on discounts. However, the note holders were often disappointed with the discount rate when the startup proved very successful.¹⁵⁶ Assume convertible note holders invested \$1 million in a young startup. The notes carried a five percent interest rate and included a twenty-five percent discount. But for the \$1 million investment, the young startup would not have been able to complete its product development and would have been forced to shut down. One year later, the startup conducted a Series A preferred stock round.

- It raised \$25 million from a venture capital syndicate at a \$50 million pre-money valuation and a \$5 price per share. The venture capital syndicate owns

154. *Id.*; see also 2012 Seed Financing Survey, *supra* note 150, which found the following for 2010–12.

	2010	2011	2012
Percentage of deals that convert at a discount to the next equity round valuation	67%	83%	90%
Percentage of deals in which valuation on conversion is capped	83%	82%	90%

155. Werner—Primer, *supra* note 138; Kellner, *supra* note 144.

156. See Coyle & Green (2014), *supra* note 6, at 164; see also Werner—Primer, *supra* note 138.

5 million shares of Series A preferred stock, representing roughly 33.3 percent of the company.

- The startup did not make any principal or interest payments, so the outstanding principal plus interest for the notes was \$1,050,000.
- The note holders receive 280,000 shares of Series A preferred stock (or \$1,050,000/\$3.75), which represents less than two percent of the company.

The note holders are undoubtedly happy the startup succeeded, and their investment was positive. At the same time, they are probably disappointed that they own less than two percent of the startup despite their investment being a condition precedent to its success. This type of outcome led to valuation caps becoming a common feature for convertible debt.¹⁵⁷ Consider the outcome if the note holders had obtained a pre-money valuation cap of \$10 million.

- The notes' conversion price would be \$1 per share. This comes from dividing the valuation cap by the actual valuation (\$10 million/\$50 million or twenty percent) and multiplying the preferred stock share price (\$5) by that percentage.
- The note holders would receive 1,050,000 shares of Series A preferred stock, which represents almost 7 percent of the company.

The valuation cap involves a value judgment. The issuer wants to set the valuation cap at a high amount, while investors want a low amount. However, it does not appear that issuers or investors use formal valuation analyses (such as a DCF or a First Chicago method analysis) to inform this decision.¹⁵⁸ Instead, the parties are more likely to use informal methods. The issuer wants to avoid the cap being so low that it deters future investors from buying into a qualified equity financing (because they feel the note holders are receiving too much).¹⁵⁹ And the note holders want to protect themselves from receiving too little of the company if the qualified equity financing generates a favorable valuation.¹⁶⁰ One solution is to run a number of scenarios that allow the issuer and the investors to see the potential outcomes as they try to reach an agreement (see Table 2).

157. Coyle & Green (2014), *supra* note 6, at 164.

158. *See, e.g.*, Tom Wilson, *Valuation Caps*, MEDIUM (Jan. 18, 2018), <https://medium.com/@taw/valuation-caps-ec7918aa6d13>.

159. *Id.*

160. *Id.*

Table 2**Simplified Sample Valuation Cap Scenario Analysis****Assumption:**

- Note holders purchased \$1 million of convertible notes that do not accrue interest.

Valuation Cap	Qualified Equity Financing Assumptions		Note Holders' % Ownership after the Qualified Equity Financing		Founders' % Ownership after the Qualified Equity Financing	
	Pre-Money Valuation	Amount Invested	Without the Valuation Cap	With the Valuation Cap	Without the Valuation Cap	With the Valuation Cap
\$8 million	\$10 million	\$5 million	6.3%	7.7%	62.5%	61.5%
\$8 million	\$10 million	\$10 million	4.8%	5.9%	47.6%	47.1%
\$8 million	\$20 million	\$5 million	3.8%	9.1%	76.9%	72.7%
\$8 million	\$20 million	\$10 million	3.2%	7.7%	64.5%	61.5%
\$8 million	\$30 million	\$5 million	2.8%	9.7%	83.3%	77.4%
\$8 million	\$30 million	\$10 million	2.4%	8.6%	73.2%	68.6%
\$10 million	\$10 million	\$5 million	6.3%	6.3%	62.5%	62.5%
\$10 million	\$10 million	\$10 million	4.8%	4.8%	47.6%	47.6%
\$10 million	\$20 million	\$5 million	3.8%	7.4%	76.9%	74.1%
\$10 million	\$20 million	\$10 million	3.2%	6.3%	64.5%	62.5%
\$10 million	\$30 million	\$5 million	2.8%	7.9%	83.3%	78.9%
\$10 million	\$30 million	\$10 million	2.4%	7.0%	73.2%	69.8%
\$12 million	\$10 million	\$5 million	6.3%	6.3%	62.5%	62.5%
\$12 million	\$10 million	\$10 million	4.8%	4.8%	47.6%	47.6%
\$12 million	\$20 million	\$5 million	3.8%	6.3%	76.9%	75.0%
\$12 million	\$20 million	\$10 million	3.2%	5.3%	64.5%	63.2%
\$12 million	\$30 million	\$5 million	2.8%	6.7%	83.3%	80.0%
\$12 million	\$30 million	\$10 million	2.4%	5.9%	73.2%	70.6%

For investors, the valuation cap analysis is much simpler than what is required for a priced equity transaction and can be accomplished without performance projections. Rather than determine the investment's intrinsic value, investors can reasonably limit their analysis to determining how much they are willing to leave on the table if the investment proves to be very successful, which can be accomplished with tools like Table 2.

5. Control Rights

As noted earlier, venture capital firms use a sophisticated contract strategy involving convertible preferred stock to reduce uncertainty, information asymmetry, and agency

problems that plague startups.¹⁶¹ Receiving control rights is a focal point of that strategy. Venture capital firms commonly obtain substantial control over the startup by demanding board seats and special voting rights as part of their investment. Convertible notes generally do not provide their holders with such control rights. Board seats and class voting rights are not typically part of a convertible note deal.¹⁶² Moreover, note holders are not shareholders until the notes convert. Therefore, they do not receive fiduciary duty or other state shareholder protections until their notes convert.¹⁶³

Convertible notes take a different approach to the control issue. Rather than directly grant their holders control rights, convertible notes push the startup to conduct a qualified equity financing with sophisticated investors. The note holders then piggyback on the rights given to the sophisticated investors. The notes' maturity date establishes a firm date by which the startup must conduct a qualified equity financing, or risk possible bankruptcy, and the notes' qualified equity financing definition ensures the subsequent investors are appropriately sophisticated and will insist on a proper level of controls and protections.

B. Alternatives to Convertible Notes

By 2010, convertible notes had become a crucial financial instrument for funding young-startups.¹⁶⁴ However, the notes' debt features were not viewed favorably by everyone.¹⁶⁵ The maturity date is often the biggest problem. Convertible notes should only be used when the young startup and the potential note investors can confidently project conducting a Series A round soon. For young startups that need significant development before they are ready for a Series A round, convertible notes may not give them enough time. While maturity dates can be extended,¹⁶⁶ the negotiations can take time and energy and generate significant legal fees.¹⁶⁷ Keeping track of accrued interest payments can also be a nuisance¹⁶⁸ and increase legal costs. Finally, convertible notes can trigger state lending regulations that limit flexibility¹⁶⁹ and, once again, increase legal fees. To address these concerns, investors and their attorneys developed alternatives to convertible notes.

161. See *supra* notes 127–30 and accompanying text.

162. Walker, *supra* note 144; see 2012 *Seed Financing Survey*, *supra* note 150. The survey found:

- Board seats were granted in 72.5 percent, 70 percent, and 73 percent of preferred stock seed financings in 2010, 2011, and 2012, respectively.
- Board seats granted in 8.3 percent, 4 percent, and 0 percent of convertible note seed financings in 2010, 2011, and 2012, respectively. *Id.*

163. Bernthal, *supra* note 8, at 806.

164. Paul Graham, the founder of Y Combinator announced in a 2010 tweet, “Convertible notes have won. Every investment so far in this YC batch (and there have been a lot) has been done on a convertible note.” Paul Graham (@paulg), TWITTER (Aug. 27, 2010, 7:29 PM), <https://twitter.com/paulg/status/22319113993>. While Y Combinator subsequently switched to safes as its investment instrument of choice, see *infra* Part III.B, many early investors have continued to use convertible notes and made them a mainstream funding instrument for young startups.

165. Coyle & Green (2014), *supra* note 6, at 165.

166. Werner—FAQs, *supra* note 139.

167. See Y COMBINATOR, SAFE USER GUIDE 4 (Sept. 2018), [https://www.ycombinator.com/documents/\[hereinafter SAFE USER GUIDE\]](https://www.ycombinator.com/documents/[hereinafter SAFE USER GUIDE]) (scroll down the page and select the Safe User Guide link).

168. Coyle & Green (2014), *supra* note 6, at 166.

169. See, e.g., *supra* note 38.

The developers' goal was to preserve the note's deferred-equity features while eliminating its repayment obligations. Safes and the KISS are two popular alternatives.¹⁷⁰

1. Safes

Carolyn Levy, a Y Combinator partner (and lawyer), is credited with inventing the first safe in 2013.¹⁷¹ Y Combinator launched the first accelerator program in Cambridge, Massachusetts during 2005¹⁷² and continues to be one of the most prestigious accelerators and seed investors.

A safe is an investment contract that converts to stock if a triggering event, such as a qualified equity financing, occurs.¹⁷³ Like convertible notes, safes allow investors to acquire stock in a future priced equity round while deferring valuation to that future round. And like convertible notes, safes routinely contain discounts and valuation caps.¹⁷⁴ However, unlike convertible notes, safes are not debt and do not require repayment. Since there is no repayment obligation, safes generally give startups unlimited time before needing to accomplish a qualified equity financing.¹⁷⁵ Thus, in addition to eliminating the administrative requirements that come with a debt instrument, safes do not put young startups on the clock for conducting a qualified equity financing. This expands the number of young startups that can use the instrument.

a. Conversions

Safes have comparable conversion mechanisms to those found in convertible notes with a qualified equity financing remaining the baseline conversion scenario. If the startup raises capital by selling preferred stock in a priced round, the safes automatically convert into preferred stock. However, safes generally do not include a minimum size threshold when defining a qualified equity financing.¹⁷⁶ Any priced preferred stock round triggers an automatic conversion.

Safes also typically include a liquidity event provision if the issuer is sold or conducts an IPO before a qualified equity financing occurs. The liquidity event provisions grant the safe holders the right to stock or cash in those circumstances.¹⁷⁷ Finally, if the company liquidates before a conversion event, safe holders are given a claim on the

170. See generally Coyle & Green (2018), *supra* note 7, at 45–48; Bernthal, *supra* note 8, at 806–09.

171. See *supra* note 10.

172. Ian Hathaway, *What Startup Accelerators Really Do*, HARV. BUS. REV. (Mar. 1, 2016), <https://hbr.org/2016/03/what-startup-accelerators-really-do>.

173. See SAFE USER GUIDE, *supra* note 167, 8–13. Y Combinator's safe forms are available at <https://www.ycombinator.com/documents/> [hereinafter Y Combinator's Safe Forms]; see also SEC Investor Bulletin, *supra* note 14.

174. Coyle & Green (2018), *supra* note 7, at 46.

175. SAFE USER GUIDE, *supra* note 167, at 4. *But see* Coyle & Green (2018), *supra* note 7, which conducted a survey of startup lawyers in the United States and Canada regarding the types of investment contracts they see in the early-stage startup finance space. The survey found that some startup lawyers “like to add a maturity date to the SAFE.” *Id.* at 58.

176. For example, Y Combinator's version of the safe does not include a minimum size threshold when defining an “Equity Financing,” which is its version of a qualified equity financing. Y Combinator's Safe Forms, *supra* note 173.

177. *Id.*

startup's residual up to the amount they invested.¹⁷⁸

b. Discounts, Valuation Caps, and the Post-Money Safe

Safes routinely include a discount and valuation cap. The argument for including discounts and valuation caps is even stronger for safes than for convertible notes since safe holders do not have the protection of a debt claim against the startup and may have to wait longer for a qualified equity financing. The valuation analysis for determining a safe's discount and/or valuation cap should be comparable to that for a convertible note. Although if the safe carries more risk, a higher discount and/or lower valuation cap is justified.

In 2018, Y Combinator introduced a *post-money* safe that alters investors' valuation cap analysis somewhat.¹⁷⁹ The original safes were *pre-money* safes.¹⁸⁰ The valuation cap for pre-money safes, as well as most convertible notes, is based on the qualified equity financing's pre-money valuation. Pre-money valuation is a company's agreed valuation before an investment. Assume an investor buys stock representing twenty-five percent ownership in a company for \$5 million. The company's *post-money* valuation is \$20 million (or \$5 million/twenty-five percent). However, its *pre-money* valuation is \$15 million, which is calculated as the post-money valuation minus the investment.

A post-money valuation cap gives safe investors more certainty about their future ownership percentage and insulates them from dilution risk from future safe rounds and the size of the qualified equity financing.¹⁸¹ While the post-money versus pre-money safe

178. *Id.*

179. See Carolyn Levy, *Safe Financing Documents*, Y COMBINATOR (Sept. 2018), <https://www.ycombinator.com/documents/>.

180. *Id.*

181. *Example*: TechCo issued an original round of safes to an accelerator (the "Safe Investor"). The Safe Investor purchased \$250,000 of safes that included a \$5 million pre-money valuation cap. TechCo did not issue any further safe rounds and eventually conducted a qualified equity financing at a \$10 million pre-money valuation. The Safe Investor's ownership percentage in TechCo will be a function of how much money is raised in the qualified equity financing (see Table A).

Table A

Pre-money valuation	Amount invested in qualified equity financing	Post-money valuation	New investor shares (assumes \$1 per share)	Implied founder shares	Safe conversion rate (cap/pre-money valuation)	Shares issued to Safe Investor	Safe Investor % ownership
\$10 million	\$5 million	\$15 million	5 million	10 million	0.5	500,000	3.2%
\$10 million	\$7.5 million	\$17.5 million	7.5 million	10 million	0.5	500,000	2.8%
\$10 million	\$10 million	\$20 million	10 million	10 million	0.5	500,000	2.4%

If, however, the valuation cap is a post-money cap, the Safe Investor's ownership percentage in TechCo will not change so long as the post-money valuation exceeds the cap. Assume the same facts as above except the safes included a \$10 million post-money valuation cap (see Table B).

distinction is important for issuers and investors,¹⁸² it does not change a safe's fundamental features. Both safe versions are deferred-equity instruments that derive their value from future stock issuances. Valuing the underlying preferred stock requires projecting the startup's future operating performance and assessing the risk associated with that performance, and both safe forms allow the startup and its safe investors to defer that valuation to a future qualified equity financing. Finally, the analysis required to determine the valuation cap is comparable for the pre-money and post-money versions.

What may be most important about the post-money safe is what it demonstrates about Specialized Startup Investors' strength and sophistication. The post-money valuation feature is very pro-investor. It protects the safe investors from subsequent dilution and causes the founders (and other common stock holders) to absorb any dilution the Specialized Startup Investors avoid.¹⁸³ Some Specialized Startup Investors felt they were not getting a good enough deal from their safe investments, so they modified the standard form to improve their deal at the expense of the issuers' founders.

c. Less Protections

Safes generally offer holders less protections than convertible notes. Safes are not current equity shares, so the default rule is that they do not provide holders with voting rights. The parties can contractually grant the safe investors special control rights, such as board seats or class voting rights, but that does not appear to be the norm.¹⁸⁴ Moreover, because safes are not debt and do not require repayment, they lack the inherent control associated with convertible notes. There is no maturity date to push the startup to conduct a qualified equity financing, nor is there the cudgel of potentially calling the notes to encourage the startup's management team to take advice. This reduced control, when coupled with the fact young startups sell safes earlier in their life cycle than convertible notes, often justifies a higher discount and/or lower valuation cap.

Table B

Pre-money valuation	Amount invested in qualified equity financing	Post-money valuation	New investor shares (assumes \$1 per share)	Implied founder shares	Safe conversion rate (cap/post-money valuation)	Shares issued to Safe Investor	Safe Investor % ownership
\$10 million	\$5 million	\$15 million	5 million	10 million	0.667	375,000	2.4%
\$10 million	\$7.5 million	\$17.5 million	7.5 million	10 million	0.571	437,000	2.4%
\$10 million	\$10 million	\$20 million	10 million	10 million	0.5	500,000	2.4%

182. See, e.g., SAFE USER GUIDE, *supra* note 167, at 1–6 for a discussion of the advantages of the post-money safe; José Ancer, *Why Startups Shouldn't Use YC's Post-Money SAFE*, SILICON HILLS LAW. (May 1, 2019), <https://siliconhillslawyer.com/2019/05/01/startups-shouldnt-use-yc-post-money-safe/>, for an explanation of disadvantages the post-money safe presents to issuers.

183. SAFE USER GUIDE, *supra* note 167, at 1–6; Ancer, *supra* note 182.

184. See, e.g., José Ancer, *Pre-Series A Startup Boards*, MEDIUM (May 17, 2017), <https://austinstartups.com/pre-series-a-startup-boards-a309f1dd533f> (“The majority of companies we see have Founders *only* on the Board before closing their Series A.”).

2. The KISS

500 Startups, another prestigious startup accelerator, decided to establish its own deferred-equity instruments in 2014 to compete with convertible notes and safes. 500 Startups' instruments are called the KISS (the Keep It Simple Security). There are two versions of the KISS. There is a debt version, which includes a maturity date and interest rate,¹⁸⁵ that is comparable to a convertible note.¹⁸⁶ And there is an equity version¹⁸⁷ that is like a safe.¹⁸⁸ The two KISS versions raise the same valuation issues as convertible notes and safes. This article treats the debt version of the KISS as though it is functionally identical to a convertible note and the equity version of the KISS as though it is functionally identical to a safe.

C. Valuation Deferral and Investor Cash Flows

Deferred-equity instruments provide young startups and their investors with an important advantage. At a time when a reasonable valuation determination may not be possible, deferred equity allows the parties to defer valuation to a future funding round when the startup is more mature and easier to value. The ultimate investment goal remains the same: purchase future cash flows with a present value greater than the investment's purchase price. However, the process for identifying and measuring the future cash flows changes. Instead of projecting the startup's future operating performance to run a DCF or other valuation analysis, investors focus on whether the startup will conduct a qualified equity financing. The cash flow and valuation progression can be broken down as follows:

- **Qualified equity financing triggers an automatic conversion.** If the qualified equity financing (or Series A round) occurs, the notes/safes convert to equity based on the Series A round valuation (as adjusted by the discount or valuation cap). The conversion does not generate immediate cash flows for the investor, but receiving the preferred stock makes future cash flows more probable.
- **Future cash flows come from a future exit event.** The future cash flows come from the startup achieving an IPO exit or acquisition exit, at which point the former note/safe holders (now preferred stockholders) can cash out their stock.
- **Preferred stockholders value the future cash flows.** When the prospective preferred stockholders value the startup for the Series A round, they value the future cash flows available to preferred stockholders at this later date when there is more information. The startup should have operating results by this point and there should be less uncertainty about its future. The stock price in the qualified equity financing should reflect the present value of the cash flows those shares project to receive. The note holders take the price set by the Series A round investors (as adjusted by the discount or valuation cap).

185. Raiten, *supra* note 11.

186. Giorgia Coltella, *SAFE v. KISS, the Evolution of the Convertible Note*, MEDIUM (Sept. 19, 2017), <https://medium.com/centrally/safe-vs-kiss-the-evolution-of-the-convertible-note-4859d42a867d>; Coyle & Green (2018), *supra* note 7, at 47.

187. Raiten, *supra* note 11.

188. Coltella, *supra* note 186; Coyle & Green (2018), *supra* note 7, at 48.

Projecting whether a young startup will successfully conduct a qualified equity financing should be manageable for Specialized Startup Investors. It does not require generating detailed performance projections. It should only require identifying whether a young startup has the characteristics of successful startups that tend to attract venture capital investors in priced rounds and is only missing proven sales. This is not to suggest that predicting whether a young startup will conduct a future qualified equity financing is a trivial matter. However, it is a determination that Specialized Startup Investors should be able to make and is easier than developing highly uncertain valuation models for companies with no operating history.

Deferred equity works in the traditional startup market because of the type of issuers and investors that populate the market. The instruments are designed to pay off if the startup raises institutional venture capital, so having a pool of venture-capital eligible issuers is a condition precedent to these instruments serving their function. Having high-quality investors, such as venture capital firms, for the Series A is also a condition precedent. The note holders entrust the valuation function to those subsequent investors, so there must be a pool of investors who can thoughtfully value the startup once it reaches the Series A round. If the subsequent investors are not competent valuers, the model completely breaks down. Because the traditional startup market has both conditions precedent—venture-capital eligible issuers and high-quality Series A investors—the deferred-equity instruments allow risky, young startups to raise much needed capital without transferring an improper level of that risk to investors.

IV. ARE DEFERRED-EQUITY INSTRUMENTS RIGHT FOR EVERYONE? CROWDFUNDING AND DEFERRED-EQUITY

Improving capital access for young startups is a critical matter for policymakers, and deferred-equity instruments have been a positive addition to the classic seed investing market. But are they right for everyone?

So far, this article has discussed deferred-equity instruments as financial instruments and contracts. However, they also qualify as securities.¹⁸⁹ As a result, when issuers offer and sell deferred-equity instruments to investors, they must comply with federal and state securities laws. Historically, companies have had two paths for selling their securities.

- **Path 1—heavily regulated public offering.** Companies can sell securities to the public (accessing its immense capital resources) but must first register the

189. It is reasonable to assume that all (or essentially all) safes and convertible notes qualify as securities under federal and state law. Safes should qualify as “investment contracts,” which are defined as securities under federal and state law. 15 U.S.C. § 77b(a)(1) (federal definition); and see section 401(m) of the Uniform Securities Act of 1956 for an example of the state definition. An instrument is an investment contract where there is an (1) investment of money; (2) in a common enterprise; (3) with an expectation of profits; and (4) those profits are to come solely from the efforts of others. *SEC v. W.J. Howey Co.*, 328 U.S. 293, 298–99 (1946). Convertible notes should also qualify as investment contracts. Moreover, the convertible notes are “notes,” which are defined as securities under federal and state law. 15 U.S.C. § 77b(a)(1) (federal definition); and see section 401(m) of the Uniform Securities Act of 1956 for an example of the state definition. UNIF. SECURITIES ACT § 401(m) (1956). There are several categories of notes that are not securities, *Reves v. Ernst & Young*, 494 U.S. 56, 64–68 (1990), but convertible notes do not fit within any of those categories nor do they have a resemblance to any of the non-security categories of notes.

transaction¹⁹⁰ and submit to substantial SEC oversight. While costly, heavy regulation helps reduce the public's exposure to fraud and improper risk.

- **Path 2—lightly regulated private offering.** Companies can sell securities in cheaper private offerings. Since the public faces less exposure, less regulation is needed. However, the companies' access to capital is limited. The most common limitation is to restrict companies to selling to sophisticated investors who do not need the protections afforded by registration.¹⁹¹ When Specialized Startup Investors purchase classic deferred-equity instruments, those are Path 2 transactions.

Regulation CF provides issuers with an additional option. Issuers can raise up to \$1,070,000 from the public in a twelve-month period¹⁹² in a transaction that is regulated less heavily than a registered offering, but more heavily than a private offering. A Regulation CF transaction must be conducted exclusively through a broker or registered funding portal,¹⁹³ and the amount sold to any individual investor is subject to purchase limitations of \$2,200 to \$107,000 based on the investor's annual income and net worth.¹⁹⁴ Issuers and funding portals (or brokers) must satisfy several investor safeguards, such as providing investors, and potential investors, with detailed disclosure at the time of the offering and on an annual basis thereafter.¹⁹⁵

It was not long after Regulation CF took effect that crowdfunding issuers began using deferred-equity instruments to raise capital from public investors.¹⁹⁶ In fact, Republic and Wefunder both have their own safe templates.¹⁹⁷ Joseph Green and John Coyle investigated the practice of crowdfunded safes and wrote a December 2016 essay, *Crowdfunding and the Not-so-SAFE SAFE*.¹⁹⁸ The authors had two main concerns. First, safes are designed for issuers that are expected to conduct priced venture capital rounds in the near future. However, the authors believed "exceedingly few of the crowdfunding companies would actually be able to do so."¹⁹⁹ This skepticism came from two factors. Venture capital firms favor technology companies with high-growth trajectories.²⁰⁰ Many of the crowdfunding issuers were "[n]on-tech startups with business models that are less

190. 15 U.S.C. § 77e. To register a transaction, the issuer must file a registration statement with the SEC. Registration statements provide detailed information about the issuer and the offering.

191. See, e.g., Securities Act section 4(a)(2), 15 U.S.C. § 77d(a)(2), and Rule 506(b) and (c) of Regulation D, 17 C.F.R. § 230.506(b) and (c).

192. 17 C.F.R. § 227.100(a)(1).

193. Historically, securities intermediaries must generally register as brokers. 15 U.S.C. § 78c(a)(4). The JOBS Act, through Securities Act section 4(a)(6)(C), introduced a new category of registered securities intermediary, a "funding portal," for section 4(a)(6) crowdfunding transactions. 15 U.S.C. § 77d(a)(6)(C). Regulation CF Rule 100(a)(3) implements section 4(a)(6)(C)'s funding portal provision. 17 C.F.R. § 227.100(a)(3).

194. 17 C.F.R. § 227.100(a)(2).

195. 17 C.F.R. §§ 227.201–03.

196. Green & Coyle (2016), *supra* note 13, at 169, 177–80; SEC Investor Bulletin, *supra* note 14.

197. *The Crowd SAFE*, REPUBLIC, <https://republic.co/crowdsafe> (last visited Mar. 8, 2020); *Simple Agreement for Future Equity (SAFE)*, WEFUNDER, <https://wefunder.com/faq/securities#SAFE> (last visited Mar. 8, 2020).

198. See Green & Coyle (2016), *supra* note 13.

199. Joe Green, *Commentary: SEC Rightly Concerned about 'So-called SAFE' Securities in Crowdfunding*, REUTERS (June 1, 2017), <https://www.reuters.com/article/bc-finreg-crowdfunding-safe-idUSKBN18S63M>.

200. Green & Coyle (2016), *supra* note 13, at 174.

likely to attract VC investment.”²⁰¹ For the issuers that were technology startups and had “business models which, at first blush, would appear attractive to VC investors,”²⁰² the authors believed they suffered from an adverse selection problem. Due to the higher costs and additional disclosure requirements for Regulation CF offerings, high-growth technology startups should prefer raising capital from Specialized Startup Investors in the traditional startup market. These issuers only turn to Regulation CF offerings “because they have no other options, and they may still struggle to raise traditional venture financing down the road.”²⁰³ In addition to their issuer concerns, Green and Coyle were also concerned that the safes contained “terms that are likely to frustrate the ability of investors to share in the upside of successful crowdfunding companies.”²⁰⁴ A few months after the Green and Coyle essay, the SEC issued an investor bulletin urging issuers to be “[c]autious of SAFES in [c]rowdfunding.”²⁰⁵

Despite these concerns, crowdfunding issuers have continued to issue deferred-equity instruments unabated. Is that good or bad? On one hand, valuation deferral could benefit any young startup and its investors regardless of the forum used to raise the capital. On the other hand, using deferred-equity instruments in the crowdfunding setting may be improper due to the types of issuers conducting crowdfunding offerings and the investors’ sophistication level. Regulation CF deferred-equity offerings could expose unsophisticated investors to an inappropriate level of risk. To get a clearer picture of the issue, this author examined all the Regulation CF deals funded through the Republic, StartEngine, and Wefunder portals during 2019. These three funding portals were chosen because they are three of the most popular portals and because Republic and Wefunder have developed their own forms of deferred-equity interests and are therefore closely associated with deferred-equity.

The Study captured 205 funded deals, of which seventy-one were safe offerings and twenty-two were convertible note offerings (see Table 5). The ninety-three deferred-equity deals totaled \$30.6 million, with an average deal size of \$331,891 and a median deal size of \$200,240.²⁰⁶

201. *Id.*

202. *Id.* at 175.

203. *Id.*

204. *Id.* at 169.

205. SEC Investor Bulletin, *supra* note 14.

206. One caveat about the data collection: The funding amounts for some of the Wefunder deals may be exaggerated. Each of the portals provides a list of funded companies, how much each issuer raised, and how many investors it attracted. However, when Wefunder lists this information, it appears to aggregate all the deals the issuer has ever done on Wefunder. As a result, some of the 2019 Wefunder deals in the Study may have exaggerated dollar amounts. This author tried to clear up the problem by reviewing each issuer’s Form C-U. Per Regulation CF Rule 203(a)(3), 17 C.F.R. § 227.203(a)(3), each issuer must file a Form C-U disclosing the total amount of securities sold in the offering within five business days after the offering deadline. However, few of the Wefunder issuers that completed a Regulation CF offering during the Study filed their Form C-U. This author believes the exaggerated numbers only affected a small number of the Wefunder deals and does not materially affect the overall numbers. For a few of the Wefunder deals, the reported funding amount exceeded the maximum offering size stated on the issuer’s Form C. In those cases, the Study replaced the reported funding amount with the maximum offering size listed on the Form C.

Table 5
Summary of Deals Funded During 2019

	Republic	StartEngine	Wefunder
Safes			
Number of deals	36	—	35
Total funding amount	\$13,227,829	—	\$11,911,098
Average	\$367,440	—	\$340,317
Median	\$171,742	—	\$229,573
Convertible notes			
Number of deals	—	7	15
Total funding amount	—	\$510,730	\$4,982,722
Average	—	\$72,961	\$332,181
Median	—	\$74,980	\$288,547
Equity (common or preferred)			
Number of deals	—	68	23
Total funding amount	—	\$19,562,265	\$10,065,548
Average	—	\$287,680	\$437,633
Median	—	\$59,399	\$279,787
Other			
Number of deals	4	6	11
Total funding amount	\$496,740	\$1,098,465	\$2,326,872
Average	\$124,185	\$183,078	\$211,534
Median	\$147,124	\$103,369	\$170,726

The Study examined the deferred-equity issuers and the terms of their instruments. Based on that review, this author concludes that most of the deferred-equity offerings in the Study are very risky investments that do not appear to offer investors enough upside potential to offset the risk. More specifically, this author concludes:

- Most of the issuers appear unlikely ever to raise money from venture capital firms.
- The instruments' terms are very issuer friendly. The instruments are far more favorable to issuers than one would expect for such high-risk investments.
- The issuer-friendly terms raise concerns that Regulation CF investors lack the sophistication to understand and internalize the risks and terms of their investments.

A. The Issuers

The Study lends support to Green's and Coyle's concern about crowdfunding issuers' ability to conduct future, priced venture capital rounds. Venture capital firms generally invest in technology startups with business models that address large market opportunities and suggest a rapid-growth future.²⁰⁷ First, many of the ninety-three

207. Venture capital firms want companies with a potential to be worth hundreds of millions of dollars, or better yet billions of dollars. This requires large markets that present many years of large profit/free cash flow

deferred-equity issuers were not technology companies. Roughly one-quarter of the issuers were in the food industry (including healthy cookie companies, specialty beer or spirit producers, catering companies, and grocery delivery companies), apparel and beauty industry, or other similar nontechnology sectors. Green and Coyle explained that nontechnology companies “are less likely to be candidates for VC investment and more likely to evolve into either lifestyle businesses for the founders . . . or companies that rely on debt financing (such as bank loans) and reinvested profits to support additional growth.”²⁰⁸ Even among the technology issuers, many appear to lack venture capital-style business plans or growth potential. For example, there are issuers providing outsourced 3D printing services, foreign-language teaching services, and several niche eCommerce websites and phone apps. Predicting whether venture capital firms will invest in a particular issuer is an admittedly subjective call. However, many of the issuers simply do not appear to be venture capital-style companies.

Green and Coyle were concerned that even those issuers that arguably have business models and growth trajectories that may interest venture capital firms will suffer from an adverse selection problem if they conduct a Regulation CF deferred-equity offering.²⁰⁹ Regulation CF is a funding option of last resort for such technology companies, meaning the offering signals to future venture capital investors that these issuers are not strong companies worthy of investment.²¹⁰ A recent study focused on the German venture capital market explains, “there is strong indication that venture investors perceive crowd money as a negative signal for a start-up’s overall quality and therefore have a lower preference for selecting such-funded firms for further due diligence.”²¹¹ Raising a Regulation CF round could discourage venture capital firms from even considering such issuers for future funding rounds.

The Study could not directly measure the presence of an adverse selection problem, but it could consider the issuers’ financial results to see if they shed some light on whether the companies are likely to be attractive venture capital candidates in the future. Of the ninety-three deferred-equity issuers, most lacked substantial revenues and were unprofitable (see Tables 6 and 7). The lack of revenues and profits should not be surprising. Deferred-equity instruments are intended for young startups that, by definition, lack meaningful operating histories. What is somewhat surprising is the number of issuers with revenue above \$500,000 (or even \$1 million), as well as the number of issuers that generated profits in their most recent fiscal years. There were eighteen different issuers that either generated more than \$500,000 of revenues or \$50,000 of net income during their most recently completed fiscal year. While having a meaningful operating history is normally a positive factor, it may not be in the deferred-equity setting. Deferred equity allows issuers and their investors to defer valuation because such companies lack the meaningful operating histories required for traditional valuation analysis. Once a company

opportunities for the startup.

208. Green & Coyle (2016), *supra* note 13, at 175–76.

209. *Id.* at 175.

210. See generally Michael Maximilian Mödl, *Is Wisdom of the Crowd a Positive Signal? Effects of Crowdfunding on Subsequent Venture Capital Selection*, MAX PLANCK INSTIT. FOR INNOVATION & COMPETITION 10–12, 25–29 (Aug. 1, 2018), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3222461.

211. *Id.* at 26–27.

has a meaningful operating history, a traditional valuation analysis should generally be possible, thus raising questions about why some of these issuers chose to use deferred-equity interests for their funding event.

Table 6

Revenues for deferred-equity issuers in most recent fiscal year before offering

	Number of Issuers	Average Revenues	Median Revenues
All issuers	93	\$407,648	\$30,940
Issuer with no revenues	32	\$0	\$0
Issuers with revenues above \$0 and up to \$250,000	38	\$79,599	\$51,186
Issuers with revenues above \$250,000 and up to \$500,000	8	\$379,625	\$374,540
Issuers with revenues above \$500,000 and up to \$1 million	4	\$690,850	\$688,841
Issuers with revenues above \$1 million	11	\$2,638,011	\$1,920,425

Table 7

Profits (losses) for deferred-equity issuers in most recent fiscal year before offering

	Number of Issuers	Average Profits (Losses)	Median Profits (Losses)
All issuers	93	(\$367,286)	(\$76,232)
Issuers without net income	81	(\$444,518)	(\$143,501)
Issuers with net income	12	\$89,511	\$15,205

The most surprising financial data was the issuers' debt levels. Startups seeking to raise their first formal venture capital round are normally not burdened by significant debt.²¹² This makes intuitive sense because the venture capital firms want their investment dollars to fund growth, not repay creditors. The issuers in the Study, however, exhibited significant debt levels (see Table 8). Twenty-six of the issuers, or thirty percent, had combined short-term and long-term debt exceeding \$500,000 in their most recent fiscal year. Having substantial debt would not be troubling if the issuer also had substantial assets to offset the debt. This was generally not the case for the issuers in the Study. Over sixty percent of the issuers with debt above \$500,000 had debt obligations that were at least twice the amount of their total assets, and seven of those issuers had debt obligations that were at least ten-times the amount of their total assets. It is difficult to imagine venture capital firms investing in companies with that type of debt profile.

212. Tony Lettich, *Why Startup Investors Hate Debt*, LAUNCHOPEDIA BY FUNDINGSAGE (July 8, 2019), <https://fundingsage.com/why-startup-investors-hate-debt/>.

Table 8**Short-term + long-term debt for deferred-equity issuers in most recent fiscal year before offering**

	Number of Issuers	Average Debt	Median Debt	Number of Issuers with Debt at least 2x their Total Assets	Number of Issuers with Debt at least 10x their Total Assets
All issuers	93	\$565,782	\$165,000	30	11
Issuers with no short-term or long-term debt	19	\$0	\$0	0	0
Issuers with short-term + long-term debt from \$0 to \$250,000	35	\$85,198	\$66,246	10	3
Issuers with short-term + long-term debt from \$250,001 to \$500,000	13	\$369,489	\$371,847	4	1
Issuers with short-term + long-term debt from \$500,001 to \$1 million	12	\$747,065	\$750,811	7	3
Issuers with short-term + long-term debt above \$1 million	14	\$2,561,977	\$1,787,197	9	4

Another indication that many of the issuers will likely struggle to conduct a future venture round is their prior capital raising history. Two-thirds of the issuers in the Study had raised at least one convertible note and/or safe round in the three years preceding their Regulation CF offering (see Table 9). And many of those prior rounds were significant. The bigger the prior offerings, the more claims on the startup's equity if a future venture capital round occurs. These additional claims can discourage venture capital investment

because they mean the venture capital firm has to share the company's future cash flows with more parties. Prior convertible offerings also create more complex ownership structures for a venture capital firm to sift through, which is not an attractive feature. Finally, most of the prior convertible offerings were for larger sums than the 2019 Regulation CF offering. This does not paint a picture of thriving companies that are ascending the capital-raising food chain to attract more money from deeper pockets. Rather, it paints a picture of issuers that are becoming less popular and having to settle for capital wherever they can find it, which does not bode well for future venture capital rounds.

Table 9

Deferred-equity issuers with prior convertible note or safe offerings in the three years before the Regulation CF offering

	Number of Issuers	Average Amount Raised	Median Amount Raised	Number of Issuers raising less from current Reg CF offering than in their prior deferred-equity offerings
All issuers that conducted a prior deferred-equity offering	61	\$843,585	\$360,000	31
Issuers that raised up to \$500,000 in prior deferred-equity offerings	35	\$180,272	\$175,000	10
Issuers that raised above \$500,000 and up to \$1 million in prior deferred-equity offerings	9	\$715,974	\$684,000	5
Issuers that raised above \$1 million in prior deferred-equity offerings	17	\$2,276,787	\$1,699,029	16

B. The Instruments' Terms

The Study also examined the terms of the deferred-equity instruments issued in the ninety-three Regulation CF offerings.

1. Safes

The seventy-one safe deals were split roughly evenly between the Wefunder and Republic portals. Each funding portal provides issuers with its own template for a safe.

Wefunder has the “Wefunder SAFE” and Republic has the “Crowd SAFE.” Both templates are based on the Y Combinator safe. A standard Y Combinator safe converts in two main instances:

- (1) **Equity financing.** If the issuer raises capital by selling preferred stock in a priced round (with no minimum size threshold), the safe automatically converts to a shadow stock that is identical to the issued preferred stock with a few exceptions (such as the liquidation preference).²¹³
- (2) **Liquidity event.** If the issuer sells itself or conducts an IPO (a “liquidity event”) before a preferred stock round occurs, the safe holders automatically receive the greater of (a) the purchase price originally paid for the safes or (b) a cash amount based on converting the safes into common stock immediately before the liquidity event at the defined conversion ratio. The safe holders may also have the choice to receive their consideration in stock.

The Y Combinator safe does have a loophole that issuers could exploit, which this article refers to as the “Common Stock Loophole.” The equity financing conversion is only triggered by a future preferred stock round, not by a common stock round. Issuers could theoretically use the Common Stock Loophole to avoid conversion until a liquidity event by only doing common stock rounds. However, such an outcome is unlikely in the traditional startup market because priced venture capital rounds almost always involve preferred stock. Exploiting the loophole would require finding venture capital investors willing to take common stock, which is doubtful. Moreover, exploiting the loophole violates the spirit of the safe agreement, which would hurt the issuer’s (and its managers’) reputation. Traditional startups operate in a “clubby” world²¹⁴ where reputations are important to obtaining funding. Young startups that raise capital from Specialized Startup Investors are the types of companies that can also tap the formal venture capital market for their Series A round. Such issuers are unlikely to risk their reputation, and foreclose their venture capital access, to exploit the Common Stock Loophole.

The Wefunder SAFE and the Crowd SAFE mostly copy the Y Combinator safe’s

213. If the valuation cap is significantly below the subsequent equity financing’s valuation, the safe holders would receive a liquidation preference that far exceeds what they invested in the company.

Example: Assume TechCo sold \$200,000 of safes to an accelerator (the “Safe Investor”). The safes include a \$5 million post-money valuation cap. TechCo subsequently sells preferred stock in a qualified equity financing. The qualified equity financing has a \$10 million post-money valuation that translates into a \$1 price per share. This means the Safe Investor’s safes will convert into 400,000 shares of preferred stock.

- The safes’ conversion price is \$0.50 per share, which comes from dividing the valuation cap by the actual valuation (\$5 million/\$10 million) and multiplying the preferred stock price (\$1) by that percentage.
- The Safe Investor’s \$200,000 investment multiplied by \$0.50 per share equates to 400,000 shares.

The preferred stock from the qualified equity financing includes a liquidation preference. Each share of preferred stock has a \$1 liquidation preference. If TechCo liquidates, the preferred stockholders get their investment back before common stockholders receive anything. If the Safe Investor receives 400,000 shares of preferred stock, it receives a \$400,000 liquidation preference despite investing only \$200,000.

This excess liquidation preference would be a windfall for the safe holders, so the shadow stock often limits the liquidation preference to the safe holders’ investment amount.

214. Green & Coyle (2016), *supra* note 13, at 174.

conversion approach. Each has conversion provisions for equity financings and liquidity events that are similar to the Y Combinator safe. However, the Wefunder SAFE and the Crowd SAFE do have some features that warrant discussion.

a. Wefunder SAFE

i. Basic Conversion Feature

With a few exceptions, the Wefunder SAFEs in the Study had identical conversion features. Because the Wefunder SAFE is modeled after the Y Combinator safe, it converts upon the occurrence of an “Equity Financing” or a “Liquidity Event.” An “Equity Financing” means a bona fide transaction or series of transactions with the principal purpose of raising capital, pursuant to which the Company issues and sells Preferred Stock at a fixed pre-money valuation.”²¹⁵ Like the Y Combinator safe, the Wefunder SAFE includes the Common Stock Loophole. While traditional startups are unlikely to exploit the loophole, the same may not be true for Regulation CF issuers. It is unclear who Regulation CF issuers will turn to for their future equity financing rounds. As explained earlier, venture capital firms may not be interested in these issuers. If Regulation CF issuers continue to seek capital through Regulation CF offerings, such investors may be comfortable taking common stock over preferred stock.

If the issuer does sell preferred stock in a priced round, Wefunder SAFEs automatically convert, although Wefunder SAFEs convert into nonvoting preferred stock. Like a Y Combinator safe, there is no minimum size threshold for the preferred stock offering to trigger conversion.

ii. Exceptions

A few issuers modified the Wefunder SAFE’s basic conversion feature. Three issuers’ safes called for an automatic conversion if an Equity Financing occurs. However, these issuers eliminated the definition for an Equity Financing, making it unclear exactly what triggers the Equity Financing conversion.²¹⁶ It is not clear whether eliminating the “Equity Financing” definition was a conscious decision by the issuer or a mere editing error.

Additionally, one issuer completely eliminated the Equity Conversion feature, meaning its safes only convert for a Liquidity Event.²¹⁷ A “Liquidity Event” is defined as

215. WEFUNDER, WEFUNDER SAFE FOR CORPORATIONS – VALUATION CAP & DISCOUNT⁴, <https://wefunder.com/faq/legal-primer> (last visited Feb. 22, 2020) [hereinafter WEFUNDER SAMPLE SAFE] (scroll down the *Legal Primer for Founders* page to the *Wefunder SAFE: Simple Agreement for Future Equity* section and select the *Wefunder SAFE for Corporations - Valuation Cap & Discount* document under the *Sample Agreements* subheading).

216. See APP APP, INC., OFFERING STATEMENT (FORM C) (May 13, 2019), https://www.sec.gov/Archives/edgar/data/1776303/000167025419000344/documents_list.htm; DOWNTODASH, INC., OFFERING STATEMENT (FORM C) (July 16, 2019), https://www.sec.gov/Archives/edgar/data/1781213/000167025419000406/documents_list.htm; STEALTH MACHINE CO., OFFERING STATEMENT (FORM C) (May 28, 2019), https://www.sec.gov/Archives/edgar/data/1777610/000167025419000363/documents_list.htm.

217. See CARIBU INC., OFFERING STATEMENT (FORM C) (June 14, 2019), https://www.sec.gov/Archives/edgar/data/1777899/000167025419000395/documents_list.htm.

a change of control transaction or an IPO.²¹⁸ This is a significant change from the standard template and the issuer did not explain the reasoning behind it.

iii. Repurchase Provision to Prevent Section 12(g) Registration

The default Wefunder SAFE does have a unique feature not present in the Y Combinator safe.²¹⁹ The Wefunder SAFE gives the issuer a right to repurchase the safe to prevent registration under section 12(g) of the Securities Exchange Act of 1934 (the “Exchange Act”).²²⁰ If the issuer determines, in its sole discretion, that its securities are likely to be held by enough record holders to require registration under section 12(g), the issuer can repurchase a safe for the greater of (a) the purchase price or (b) the fair market value of the safe as determined by an independent appraiser chosen by the issuer. However, if an equity financing occurs within three months after a safe repurchase and the equity financing would have generated a better price for the safe holder, the issuer must pay the difference to the former safe holder.

Exchange Act section 12(g)(1)²²¹ requires issuers with a class of equity securities to register them under the Exchange Act and become a reporting company if two conditions are met:

- (1) The issuer has more than \$10 million in total assets; and
- (2) The issuer has a class of equity securities with either (a) more than 2,000 shareholders of record²²² or (b) 500 or more shareholders of record who are not accredited investors.

Becoming a reporting company is extremely expensive, and few companies want to do so until conducting their IPO. The JOBS Act made it easier to avoid section 12(g) registration by adding a new paragraph (6) to section 12(g)²²³ that instructs the SEC to exempt section 4(a)(6) securities from section 12(g)’s provisions. The SEC implemented its section 12(g)(6) mandate with Exchange Act Rule 12g-6,²²⁴ which provides that securities issued in a section 4(a)(6) offering are not included in the section 12(g)(1) record

218. WEFUNDER SAMPLE SAFE, *supra* note 215, at 4.

219. *Id.*

220. 15 U.S.C. § 78l(g).

221. 15 U.S.C. § 78l(g)(1).

222. Section 12(g)(1) focuses on “shareholders of record” rather than “beneficial owners.” The beneficial owner is the investor who purchased the security, and the person one typically thinks of as the *real* owner of the security. The shareholder of record, in contrast, is the party in whose name the securities are held on the books of the issuer or its transfer agent. For example, when an investor buys securities through a brokerage firm, most brokerage firms will hold those securities in *street name*. *Holding Your Securities: Get the Facts*, SEC (Mar. 3, 2003), <http://sec.gov/investor/pubs/holdsec.htm>. This means the brokerage firm will hold the securities in its name, and not in the name of the investor. *Id.* Thus, the investor is the beneficial owner of the securities, and the brokerage firm is the shareholder of record.

223. *See* 15 U.S.C. § 78l(g)(6) (internal citations omitted).

Sec. 12. Registration Requirements for Securities.

(g) . . .

(6)*Exclusion for persons holding certain securities.*—The Commission shall, by rule, exempt, conditionally or unconditionally, securities acquired pursuant to an offering made under section 4[(a)](6) of the Securities Act of 1933 from the provisions of this subsection.

224. 17 C.F.R. § 240.12g-6.

holder count if the issuer: (1) is current in filing its Regulation CF annual reports,²²⁵ (2) has total assets not exceeding \$25 million; and (3) has engaged an SEC-registered transfer agent. The rule also includes a two-year transition period for issuers that subsequently exceed the \$25 million total asset threshold.

Because of Rule 12g-6, it is not clear that Regulation CF issuers truly need the repurchase provision. Since issuers have sole discretion to decide when the provision is triggered, there is potential for abusing the right. The same holds true for the issuer's right to choose the appraiser and only giving safe holders a three-month price guarantee.

b. Crowd SAFE

i. Basic Conversion Feature

Each of the Crowd SAFEs in the Study had identical conversion features with two exceptions that are mentioned below. Like Wefunder SAFEs, Crowdfunder SAFEs convert into nonvoting stock if an “Equity Financing” or “Liquidity Event” occurs. However, unlike Wefunder SAFEs or Y Combinator safes, Crowd SAFEs include a \$1 million minimum size threshold to trigger an equity financing conversion.²²⁶ Considering the average size of the 2019 Republic safe offerings was only \$367,447 and only eight of the thirty-six Crowd SAFE issuers raised more than \$500,000 in their offerings, the \$1 million threshold could be a significant barrier to conversion. Moreover, one of the issuers increased the threshold to \$3 million²²⁷ and another issuer increased the threshold to \$15 million.²²⁸

The Crowd SAFE appears to eliminate the Common Stock Loophole, but the instrument's language does leave some ambiguity. An equity financing conversion is triggered if the issuer conducts an “Equity Securities” sale that raises at least \$1 million. Equity Securities are defined as common or preferred stock, which would appear to eliminate the loophole. However, when a Crowd SAFE does convert, it converts into “CF Shadow Series” shares. CF Shadow Series shares are defined as “Preferred Stock that is identical in all respects to the shares of Preferred Stock issued in the relevant Equity Financing.” The CF Shadow Series definition suggests that only a preferred stock deal would trigger the safe, since safes appear to only convert into preferred stock.

The most distinct Crowd SAFE feature is its “roll-over” feature. If a Crowd SAFE issuer conducts a qualifying equity financing, it has the option, at its sole discretion, to immediately convert the safes into stock or postpone the conversion to a later equity financing (where conversion can be postponed again) or a liquidity event. If a liquidity event occurs, the safes must be converted. Subsequent conversions are done based on the stock price from the first equity financing. Republic explains that the purpose of the roll-

225. An issuer that has sold securities in a Regulation CF offering must file an annual report on Form C-AR no later than 120 days after the end of the fiscal year covered by the report. 17 C.F.R. § 227.203(b).

226. See *The Crowd Safe*, REPUBLIC, <https://republic.co/crowdsafe> (last visited Feb. 6, 2020) (scroll down the page for the links to the Crowd SAFE example templates).

227. TWO SPIRIT LLC, OFFERING STATEMENT (FORM C/A) (Dec. 3, 2018), https://www.sec.gov/Archives/edgar/data/1754776/000175477618000004/thepluidproject_formca.pdf.

228. BLUE WORLD VOYAGES, LLC, OFFERING STATEMENT (FORM C) (Aug. 16, 2019), https://www.sec.gov/Archives/edgar/data/1741141/000114420419040347/tv527723_ex99.pdf.

over provision is to allow issuers a clean cap table.

The Crowd SAFE allows all investors in your Republic campaign to be represented as one line item on your cap table. It helps startups fundraising under Reg CF avoid “messy cap table” concerns, save legal fees, and reduce the time spent structuring the terms of their financing.

With the Crowd SAFE, investors only convert at a liquidity event—an acquisition, IPO, or change of control. Unlike a traditional SAFE, they don’t automatically convert at subsequent equity financing. This ensures investors are never on the cap table as individuals. (That is, unless you’d like them to be—we can make that work, too.)²²⁹

c. Problems with Conversion Avoidance

The Wefunder SAFE (due to the Common Stock Loophole) and the Crowd SAFE (due to the minimum-size threshold, the roll-over feature, and possibly the Common Stock Loophole) allow issuers to avoid conversion. Is that a problem? At first glance, the answer may seem to be no. In the traditional startup market, few startups pay dividends. That means investors only receive cash flows when the startup achieves a liquidity event (sale of the company or IPO), at which point the investors can sell their stock for cash. Since conversion avoidance is not possible when a liquidity event occurs, investors do not appear to be harmed.

However, in their 2016 essay, Green and Coyle envision a scenario where safe investors could be harmed by conversion avoidance.

Imagine a . . . company that raises capital in a crowdfunding offering using a SAFE. The company uses that capital to launch a product or service, which starts generating significant cash flow before the company needs additional capital. The company is able to use that cash flow to obtain bank financing and may even have profits to reinvest in growing the business. At some point, that company may also have sufficiently healthy profits to start distributing those profits to its owners (the founders). This business, following a path that is extremely common—perhaps the norm—for non-tech startups and small businesses, could continue in this fashion in perpetuity without ever needing additional equity capital or needing to sell. If that were to happen, the SAFE holders would continue to hold their securities, earning no interest, receiving no dividends and never seeing any return of their original investment. We call this the “dividend problem.”²³⁰

This article posits another harmful dividend scenario. The issuer could avoid conversion until reaching a liquidity event—most likely a sale of the company. Shortly before the sale is consummated and conversion takes place, the issuer could declare a dividend and distribute a portion of its residual to its existing shareholder base.²³¹ The safe investors would not be entitled to that dividend, since they are not shareholders. Moreover, the issuer board’s ability to declare the dividend would not be blocked by fiduciary duty concerns since, once again, the safe holders are not shareholders. A pre-sale dividend could possibly violate the issuer’s implied covenant of good faith and fair dealing.²³² However,

229. *The Crowd Safe: Clean Cap Table*, REPUBLIC, <https://republic.co/crowdsafe> (last visited Feb. 22, 2020).

230. Green & Coyle (2016), *supra* note 13, at 177–78.

231. The dividend would make the issuer a less attractive acquisition candidate, since it would have fewer assets, but that could be addressed by lowering the acquisition price to match the dividend payment.

232. “Every contract imposes upon each party a duty of good faith and fair dealing in its performance and its

the duty of good faith and fair dealing is not well defined and would require a court to analyze the specific facts and circumstances of the dividend. Clearly prohibiting pre-sale dividends would be a better approach for safe investors.

d. Discounts and Valuation Caps

The Study also raised concerns about the discounts and valuation caps employed by issuers. Wefunder SAFEs and Crowd SAFEs generally included both features, with investors using whichever is more favorable for them.²³³ Recall that discounts and valuation caps are meant to compensate investors for the additional risk they incur by investing before the priced round. The discount and/or valuation cap is the risk premium the issuer must pay to raise earlier-stage dollars. Riskier issuers—which includes issuers that are less likely to conduct a future qualified offering—should pay higher discounts and have lower valuation caps. However, the Study found that the discounts on the safe deals were generally low to nonexistent while the valuation caps were frequently very high (see Table 10). Discounts ranged from zero percent (in nineteen of the seventy-one deals) to thirty percent (in one deal) with an average discount rate of 13.1 percent. Regarding the valuation caps, fourteen of the deals had either no cap or a cap of \$20 million or more. The highest valuation cap was \$70 million, and the average cap was \$11.6 million.

Table 10
Discounts and valuation caps for the safe issuers²³⁴

Discount Rate	Number of Issuers	Valuation Caps	Number of Issuers
No discount	19	No valuation cap	4
10%	10	\$40 million and above	3
12%	1	\$20 million to below \$40 million	7
15%	4	\$10 million to below \$20 million	15
20%	32	\$5 million to below \$10 million	35
22%	1	Below \$5 million	7
25%	2	Average valuation cap was \$11.6 million	
30%	1		
Average discount was 13.1 percent			

2. Convertible Notes

There were twenty-two convertible note deals in the Study, fifteen of which were conducted through Wefunder and seven through StartEngine. There was less uniformity among the convertible note deals than the safe deals.

enforcement.” RESTATEMENT (SECOND) OF CONTRACTS § 205 (AM. LAW INST. 1981). Comment d to section 205 explains that “evasion of the spirit of the bargain” is bad faith behavior that violates the duty. *Id.*

233. A few deals allowed early-bird investors to benefit from both the discount and the valuation cap.

234. Some of the issuers offered more favorable discount rates or valuation caps to early-bird investors. Table 10 does not account for any early-bird incentives.

Like classic convertible notes, the convertible notes in the Study generally convert to preferred stock (or a shadow stock that resembles the issued securities but with modifications such as no voting rights) if the issuer (a) conducts a qualified equity financing (referred to as a “Qualified Financing” in the notes) or (b) experiences a change of control. However, two of the notes did not include Qualified Financing conversion provisions and only convert if a change of control occurs.

Of the twenty notes with a Qualified Financing conversion provision, they generally defined a Qualified Financing as a transaction, or series of transactions, in which the issuer raises a stated cash threshold from a sale of the issuer’s capital stock. This means there are two key variables to define: (a) the size threshold; and (b) what qualifies as capital stock. One of the twenty notes did not include a size threshold. The other nineteen notes included size thresholds ranging from \$250,000 to \$7 million, with six of the notes including size thresholds above \$1 million (see Table 11). Higher size thresholds make it easier for issuers to avoid conversion.

Table 11

Size thresholds for the convertible notes

Size threshold to be a Qualified Financing	Number of Issuers
No size threshold	1
Up to \$500,000	2
Above \$500,000 and up to \$1 million	11
Above \$1 million and up to \$2 million	3
Above \$2 million and up to \$3 million	2
Above \$3 million	1

The convertible notes could define the issuer’s subsequent capital stock offering as including any equity securities (common or preferred), preferred stock only, or common stock only. If the option is limited, the issuer has the ability to avoid conversion by issuing a form of stock that does not trigger the Qualified Financing definition. Of the twenty notes with a Qualified Financing conversion provision, ten defined a Qualified Financing as including any equity securities. However, several of those notes went on to state the notes convert into the preferred stock issued in the triggering financing, creating ambiguity as to whether a Qualified Financing is actually limited solely to preferred stock.

As with safes, conversion avoidance is problematic for convertible notes, but the problem is different. The main problem for convertible notes stems from what happens if the notes reach maturity without converting. Because the interest rate on a convertible note is typically low (see Table 12), issuers may wish to avoid conversion and simply pay off the loan when it matures. Considering that convertible notes are unsecured, low-interest loans, repaying the loan could be the most profitable strategy for many Regulation CF issuers.

Table 12
Interest rates for the convertible notes

Interest Rate	Number of Issuers
2%	2
3%	2
4%	2
5%	4
6%	9
8%	2
12%	1

In the traditional startup market, issuers generally do not have an incentive to reach maturity without converting. These issuers want to cooperate with the venture capital community, raise a priced venture capital round, and reap the benefits of being a venture capital-backed company. If these issuers reach maturity without converting, it is because things have gone wrong. Just as safe issuers in the traditional startup market are unlikely to risk their reputation to avoid safe conversions, it is unlikely that note issuers in the traditional startup market would risk their reputation in the venture capital community to get a low interest loan. Moreover, convertible notes in the traditional setting often give note holders the option upon reaching maturity of (a) demanding immediate repayment or (b) converting the note into equity at a pre-set conversion rate that is likely to be beneficial to the note holders. If an issuer strategically sought to avoid conversion and repay the notes at maturity, the note holders could refuse payment and convert their notes to stock at the favorable pre-set rate.

In the Regulation CF market, the incentives for issuers to avoid conversion and treat the convertible notes as low interest loans are less clear. First, reputation is unlikely to play the same enforcement role in the Regulation CF market. Most Regulation CF issuers are likely to be outsiders to the venture capital market, which is why they are raising Regulation CF capital in the first place, so they may be more willing to risk their reputation for a low interest loan. Second, most of the notes in the Study make it easy for issuers to treat the instruments as low interest loans. Six of the notes simply require the issuer to pay the principal and interest if the note reaches maturity.²³⁵ The other notes either automatically convert to stock at maturity or give note holders the option to convert. The conversion rate is typically based on the note’s valuation cap or discount rate. Because the valuation caps in the Study were generally high and the discount rates low (discussed

235. See ELEMENT FARMS, INC., OFFERING STATEMENT (FORM C) (Nov. 30, 2018), https://www.sec.gov/Archives/edgar/data/1759704/000167025418000574/documents_list.htm; HOMEFREE, LLC, OFFERING STATEMENT (FORM C/A) (Apr. 18, 2019), https://www.sec.gov/Archives/edgar/data/1755119/000167025419000226/documents_list.htm; PHENOMIX SCIS, LLC, OFFERING STATEMENT (FORM C) (Nov. 9, 2018), https://www.sec.gov/Archives/edgar/data/1757804/000167025418000530/documents_list.htm; SFO84, INC. (MISTERB&B), OFFERING STATEMENT (FORM C/A) (Apr. 19, 2019), https://www.sec.gov/Archives/edgar/data/1759313/000167025419000243/documents_list.htm; COOKIE DEP’T, INC., OFFERING STATEMENT (FORM C/A) (Dec. 19, 2018), https://www.sec.gov/Archives/edgar/data/1748804/000167025418000603/documents_list.htm; WISE POWER INC., OFFERING STATEMENT (FORM C/A) (Aug. 30, 2018), https://www.sec.gov/Archives/edgar/data/1741500/000166516018000869/wise_offeringscreen.pdf.

below), the conversion option can provide note holders little solace.

b. Prepayments

As a general rule, convertible notes should prohibit issuers from prepaying the loan. It is the same issue as the conversion avoidance problem. If prepayments are allowed, issuers can strategically repay the notes before an attractive conversion event occurs. Rather than share the company's free cash flows with more shareholders, the issuer can simply prepay the low interest loan. Five of the notes in the Study give issuers the right to prepay the notes at any time,²³⁶ while four of the notes give issuers the right to prepay the notes in advance of a change of control transaction.²³⁷ This author was very surprised to see broad prepayment rights in any of the notes, let alone forty percent of them!

One of the notes prohibited prepayment and two of the notes were silent regarding prepayment, which probably means those issuers lack a prepayment right.²³⁸ The remaining ten notes only allow prepayment if the holders consent.

c. Discounts and Valuation Caps

Finally, the same concerns about low discounts and high valuation caps that applied to the Regulation CF safes apply equally to the convertible notes in the Study (see Table 13). The convertible note discounts ranged from zero percent to twenty percent with an average discount of 15.2 percent, while valuation caps ranged from \$1.9 million to \$40 million with an average valuation cap of \$9.7 million.

236. See BOON, INC., OFFERING STATEMENT (FORM C) (June 3, 2019), https://www.sec.gov/Archives/edgar/data/1774003/000167025419000368/documents_list.htm; HAWAIIAN OLA BREWING CORP., OFFERING STATEMENT (FORM C) (Nov. 19, 2018), https://www.sec.gov/Archives/edgar/data/1674519/000167025418000555/documents_list.htm; SFO84, INC. (MISTERB&B), OFFERING STATEMENT (FORM C/A), *supra* note 235; SMARTGURLZ US INC, OFFERING STATEMENT (FORM C) (May 6, 2019), https://www.sec.gov/Archives/edgar/data/1737125/000167025419000326/documents_list.htm; VERIGLIF INC., OFFERING STATEMENT (FORM C) (May 13, 2019), https://www.sec.gov/Archives/edgar/data/1774921/000167025419000339/documents_list.htm.

237. DUN RITE GAMES, INC, OFFERING STATEMENT (FORM C) (Aug. 16, 2018), https://www.sec.gov/Archives/edgar/data/1748769/000167025418000377/documents_list.htm; ELEMENT FARMS, INC., OFFERING STATEMENT (FORM C), *supra* note 235; HOMEFREE, LLC, OFFERING STATEMENT (FORM C/A), *supra* note 235; PHENOMIX SCIS. LLC, OFFERING STATEMENT (FORM C), *supra* note 235.

238. John N. Oest, *Negotiating the Loan Commitment: The Borrower's Perspective*, ABA: BUS. L. TODAY (Jan. 20, 2010), https://www.americanbar.org/groups/business_law/publications/blt/2010/01/09_oest/.

Table 13**Discounts and valuation caps for the convertible note issuers**

Discount Rates	Number of Issuers	Valuation Caps	Number of Issuers
No discount rate	1	\$30 million and above	2
5%	1	\$20 million to below \$30 million	0
7.5%	1	\$10 million to below \$20 million	5
10%	3	\$5 million to below \$10 million	9
15%	5	Below \$5 million	6
17.5%	1		
20%	10		
Average discount was 15.2 percent		Average valuation cap was \$9.7 million	

C. Next Steps?

What should be done about the Regulation CF deferred-equity market? As explained earlier, valuation deferral does not change investors' ultimate goal of purchasing valuable future cash flows. It just changes the process for identifying and measuring the future cash flows, which ideally looks like this:

- A priced equity round triggers an automatic conversion;
- The deferred-equity investors' future cash flows come from an exit event—most likely a sale of the company—that takes place after the priced equity round; and
- High-quality investors in the priced equity round value the future cash flows from a projected exit event, with the deferred-equity investors taking that price (adjusted by a discount or valuation cap that compensates them for their additional risk).

Valuation deferral works in the traditional startup market because the investors in the priced equity round tend to be venture capital firms that can thoughtfully value the future cash flows for the more-mature startup. Additionally, the classic deferred-equity instruments are generally pro-investor contracts that thoughtfully account for the risk that comes with these investments.

The Study raises substantial concerns about the process for identifying/measuring future cash flows for deferred-equity instruments in the Regulation CF market. The issuers appear unlikely to ever raise capital from venture capital firms, which eliminates (a) the baseline conversion event and (b) the sophisticated investors who can be counted on to thoughtfully value the issuer's future cash flows. That problem alone makes the Regulation CF deferred-equity market highly questionable. It lowers the probability of the instruments ever producing cash flows for investors. And if a conversion does occur, it lowers the probability of the subsequent investors accurately measuring the future cash flows. Assuming some thoughtful investors can get over this major problem, they should receive very investor-friendly instruments to account for this additional risk by providing investors with more upside potential and more downside protection. Despite the instruments' abundant risk, the Study shows that Regulation CF issuers consistently obtain investment terms from investors that are extremely issuer-friendly and that increase the investors' risk

exposure.

To address the problem, this article recommends that the SEC or FINRA impose a suitability duty on funding portals that host Regulation CF deferred-equity offerings.²³⁹ This suitability duty could be similar to the one that brokers typically owe customers but adapted to the Regulation CF setting. The standard broker suitability duty is captured in FINRA²⁴⁰ Rule 2111.²⁴¹ FINRA offers the following description:

FINRA Rule 2111 requires that a firm or associated person have a reasonable basis to believe a recommended transaction or investment strategy involving a security or securities is suitable for the customer. This is based on the information obtained through reasonable diligence of the firm or associated person to ascertain the customer's investment profile. . . .

Brokers must have a firm understanding of both the product and the customer, according to Rule 2111. The lack of such an understanding itself violates the suitability rule.²⁴²

The duty is intended to prevent broker's from pushing inappropriate investments on vulnerable investors. The broker must (a) know the customer ("customer-specific suitability") and (b) know the investment so the broker can have a reasonable basis for believing it is suitable for that customer (the "reasonable basis" obligation).²⁴³ Both tasks require the broker use reasonable diligence. For example, it would be unsuitable for a broker to recommend a speculative investment with a substantial risk of principal erosion to an eighty-five-year-old widow(er) with limited funds for retirement. It would also be unsuitable for a broker to recommend to anyone investments that are designed to fail.²⁴⁴

The suitability duty would require some adaption for funding portals. Funding portals are a new form of securities intermediary introduced by the JOBS Act and Regulation CF to facilitate Regulation CF transactions. Regulation CF transactions must be conducted through either a broker or a funding portal.²⁴⁵ Republic,²⁴⁶ StartEngine, and

239. In their 2016 essay, Green and Coyle considered the idea of a suitability duty for funding portals when offering safes. Green & Coyle (2016), *supra* note 13, at 180–81 n.36.

240. FINRA is not a governmental organization. It is a national securities association that is registered with the SEC per Exchange Act section 15A. 15 U.S.C. § 78o-3. However, brokers fall under the jurisdiction of FINRA because Exchange Act section 15(b)(8), 15 U.S.C. § 78o(b)(8), mandates that registered brokers become members of FINRA, subject to limited exemptions set forth in Exchange Act Rule 15b9-1. 17 C.F.R. § 240.15b9-1.

241. *Rule 2111*, FINRA, <https://www.finra.org/rules-guidance/rulebooks/finra-rules/2111> (last visited Feb. 22, 2020).

242. *Suitability*, FINRA, <https://www.finra.org/industry/suitability> (last visited Feb. 22, 2020).

243. FINRA describes the suitability duty as having three components: (a) reasonable basis suitability; (b) customer-specific suitability; and (3) quantitative suitability. *Id.* "Quantitative suitability requires a broker with actual or de facto control over a customer's account to have a reasonable basis for believing that a series of recommended transactions, even if suitable when viewed in isolation, is not excessive and unsuitable for the customer when taken together in light of the customer's investment profile." *Id.*

244. *Rule 2111*, *supra* note 241, at *Supplementary Material .05(a)*.

245. 15 U.S.C. § 77d(a)(6)(C). Brokers are the standard intermediary for securities transactions. Exchange Act section 3(a)(4), 15 U.S.C. § 78c(a)(4), defines a broker as any person (including legal entities), other than a bank, that is "engaged in the business of effecting transactions in securities for the account of others." Brokers are heavily regulated entities that must register with the SEC, 15 U.S.C. § 78o(a)(1), and become members of FINRA, 15 U.S.C. § 78o(b)(8). Due to concerns about brokers' heavy regulatory burden, funding portals were introduced as an additional securities intermediary. Funding portals may not engage in all the activities a broker may engage in, but they are also less-heavily regulated.

246. Its legal name is OpenDeal Portal LLC.

Wefunder are all funding portals.²⁴⁷

FINRA's Rule 2111 does not apply to funding portals. It only applies to brokers and dealers.²⁴⁸ Despite performing some broker-like functions, funding portals are not brokers. Moreover, Exchange Act section 3(a)(80)²⁴⁹ and Regulation CF Rule 402(a)²⁵⁰ prohibit funding portals from offering investment advice or recommendations, which are the triggers for the Rule 2111 suitability duty. While prohibited from advising or recommending, Regulation CF Rule 402(b) contains a safe harbor permitting funding portals to engage in certain similar activities.²⁵¹ Most importantly for this article's recommendation, Rule 402(b)(1) allows funding portals to "[d]etermine whether and under what terms to allow an issuer to offer and sell securities in reliance on section 4(a)(6) of the Securities Act . . . through its platform"²⁵² The SEC could expand Rule 402(b) to make pre-clearing deferred-equity issuers mandatory, rather than permissible. FINRA could then impose a suitability duty on funding portals²⁵³ relating to this mandatory preclearance obligation. Like brokers, funding portals are FINRA members and subject to its rule-making authority.

FINRA has experience tailoring suitability obligations to specific investment types, so this should not be a burdensome task for FINRA. FINRA Rule 2111 sets forth the general suitability duty. However, for certain more complex instruments, such as direct participation programs, options, and futures, FINRA has developed additional suitability requirements that brokers must satisfy.²⁵⁴ For Regulation CF deferred-equity instruments, this author suggests the suitability duty focus primarily on the reasonable basis obligation, rather than the customer-specific suitability component. The problem is not that funding portals are hosting high-risk investments that some of its customers may not understand. The problem is that many of the Regulation CF deferred-equity instruments are poorly designed and offer no investor, regardless of sophistication, much chance for success.

- The instruments are designed to generate positive results from a subsequent equity financing led by sophisticated investors who can properly value the issuer. The entire valuation deferral mechanism depends on that subsequent equity financing priced by sophisticated investors. Yet, most of the issuers

247. *Funding Portals We Regulate*, FINRA, <https://www.finra.org/about/funding-portals-we-regulate> (last visited Feb. 22, 2020). The FINRA list includes OpenDeal Portal LLC (which operates under the name "Republic"), StartEngine Capital LLC, and Wefunder Portal LLC.

248. Dealers are defined in Exchange Act section 3(a)(5), 15 U.S.C. § 78c(a)(5), generally as any person, other than a bank, who is in the business of buying and selling securities for her own account as part of a regular business.

249. 15 U.S.C. § 78c(a)(80). Due to a typographical error, there are two Exchange Act sections 3(a)(80). One defines "emerging growth companies" and one defines "funding portals."

250. 17 C.F.R. § 227.402(a).

251. 17 C.F.R. § 227.402(b).

252. 17 C.F.R. § 227.402(b)(1).

253. If brokers established Regulation CF platforms, the same duty would apply to them.

254. See, e.g., *Rule 2310(b)(2)*, FINRA, http://finra.complinet.com/en/display/display_main.html?rbid=2403&element_id=8469 (last visited Feb. 22, 2020) (establishing additional suitability standards for direct participation programs); *Rule 2360(b)(19)*, FINRA, http://finra.complinet.com/en/display/display_main.html?rbid=2403&element_id=6306 (last visited Feb. 22, 2020) (establishing additional suitability standards for options); *Rule 2370(b)(19)*, FINRA, http://finra.complinet.com/en/display/display_main.html?rbid=2403&element_id=6309 (last visited Feb. 22, 2020) (establishing additional suitability standards for security futures).

appear unlikely to ever accomplish such an offering.

- Most of the instruments allow issuers an unacceptably broad ability to avoid conversion, which can be exploited by issuers.
- Some of the convertible notes are essentially high-risk, low-reward instruments. They are low-reward instruments due to conversion avoidance features and/or prepayment rights that may limit their reward to that of a low-interest, unsecured loan, but with far more risk.

To allow issuers to sell deferred-equity instruments through their platforms, funding portals would need to have a reasonable basis to believe, based on reasonable diligence, that such instruments are suitable for at least some investors. Reasonable diligence would need to provide the funding portals with an understanding of the potential risks and rewards of the instruments.²⁵⁵ It is not clear that all of the current batch of Regulation CF deferred-equity instruments would pass that standard.

A suitability duty would also help to correct a conflict of interest that currently plagues the Regulation CF market. Because issuers are the ones paying the funding portals, the portals' first loyalty is likely to their issuers. It should come as no surprise that Republic and Wefunder, whose businesses depend substantially on deferred-equity issuers,²⁵⁶ have developed very issuer-friendly deferred-equity instruments that they actively market to issuers and investors. In addition to forcing funding portals to eliminate the worst-designed instruments, a suitability duty would reduce the conflict of interest by requiring funding portals to give due consideration to investors' interests before allowing deferred-equity instruments to sell through their platforms.

V. CONCLUSION

In a well-functioning market, reasonable investors are less likely to invest in companies when they cannot confidently value the opportunity, which reduces vital fundraising for young startups. Deferred-equity instruments offer a partial solution by allowing Specialized Startup Investors to thoughtfully invest in venture capital-eligible young startups without valuing them at the time of investment. They provide a contractual solution to an otherwise intractable problem. Rather than directly value the expected cash flows that come from investing in a young startup, deferred-equity instruments allow a future equity financing—that is priced by highly sophisticated investors, such as venture

255. This suggestion is based on Supplemental Material .05(a) to Rule 2111, which explains:

The reasonable-basis obligation requires a member or associated person to have a reasonable basis to believe, based on reasonable diligence, that the recommendation is suitable for at least *some* investors. In general, what constitutes reasonable diligence will vary depending on, among other things, the complexity of and risks associated with the security or investment strategy and the member's or associated person's familiarity with the security or investment strategy. A member's or associated person's reasonable diligence must provide the member or associated person with an understanding of the potential risks and rewards associated with the recommended security or strategy. The lack of such an understanding when recommending a security or strategy violates the suitability rule.

Rule 2111, supra note 241, at *Supplementary Material .05(a)*.

256. During the Study's time period:

- Thirty-six of the forty deals (or ninety percent) funded through Republic were safes.
- Fifty of the eighty-four deals (or sixty percent) funded through Wefunder were safes or convertible notes.

capital firms—value the cash flows. The deferred-equity investors then take the price set by the sophisticated investors (adjusted for any discount or valuation cap). The investment decision for deferred-equity investors is thus changed from projecting the young startup's future profits/cash flows and accounting for their uncertainty (which are unavoidably difficult tasks when the young startup has no meaningful operating history) to predicting whether the startup will conduct a future, high-quality stock offering (which should be manageable for Specialized Startup Investors). Deferred-equity instruments have become an important financing tool for the traditional startup market and have positively contributed to the United States' seed financing explosion over the last decade.

If the story ended there, deferred-equity instruments would be a resounding success. However, their spread to the Regulation CF market does not appear to be positive. This article's examination of the deferred-equity deals funded through the Republic, StartEngine, and Wefunder portals during 2019 paints a picture of improper risk transfers to unsophisticated public investors. To address the problem, this article recommends that the SEC or FINRA impose a suitability duty on funding portals that host Regulation CF deferred-equity offerings. It is important to note that crowdfunding remains a relatively new phenomenon. Regulation CF issuers and offerings may look very different in a few years. For example, Regulation CF issuers could develop a more integrated relationship with the venture capital community. This article's strong criticism of the current Regulation CF deferred-equity market could look outdated in a few years. An advantage of the proposed suitability solution is its adaptability. If future Regulation CF offerings involve issuers with meaningful opportunities to raise venture capital and more investor-friendly terms, a suitability duty would not be an obstacle.

Finally, this article closes with a message to policymakers outside the United States. Finding seed funding solutions for young startups is a critical matter for policymakers around the world, not just the United States. The lessons from this article apply to any country with a meaningful startup market. Deferred-equity instruments are an important financing tool when used by Specialized Startup Investors to invest in young startups that are eligible for future equity financings involving highly sophisticated investors. However, they are also a dangerous tool when used by young startups to raise capital from the general public. Deferred equity's positive role in a traditional startup market should not lead to lenient regulation in a crowdfunding setting. And their negative role in a crowdfunding setting should not lead to greater regulation in a traditional startup market.