RISKY BUSINESS: PORTFOLIO RISK, INSTITUTIONAL INVESTING, AND THE SECURITIES ACT

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The Securities Act of 1933 is tied to transactions in securities, rather than the risk of those securities, an approach that reflects the risk management of the times. Managing risk through diversification did not occur until twenty years later, and a further twenty years passed before new instruments were created to facilitate the transfer of discrete portions of financial risk. For much of the capital markets, this shift resulted in a separation between the risk associated with individual securities and the securities themselves. The idiosyncratic risk of individual securities now matters less than its impact on a portfolio's total risk.

In response, SEC disclosure requirements increasingly have facilitated cross-company comparisons and portfolio-level investment decisions. Nevertheless, the growing separation between risk and the instruments evidencing that risk, and the ability today to manage and transfer risk by itself, prompts a question: Should we begin reconsidering the Securities Act's approach to regulation, moving from requirements tied to transactions in securities towards requirements that reflect the management and transfer of risk?

There is certainly merit to doing so, but we may be limited by the practical difficulty of tracing risk in today's capital markets. For now, regulation's practical reach may fall short of contemporary investment and risk management strategies. While regulatory responses are possible, there is likely to

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continue to be a tension between the requirements of the Securities Act and the risk-based approach to investing taken by institutions whose investments comprise most of the transactions subject to the Securities Act.

I. INTRODUCTION

Is the Securities Act of 1933 (Securities Act) focused principally on regulating transactions in securities or transactions in the risk associated with securities?[1] Until recently, that question would have posed a distinction with no significant difference. Historically, the risk of buying and selling securities has run with the securities themselves. Securities holders have been both risk takers and suppliers of capital precisely because the instruments evidencing their investment have included the risk of that investment.[2] Consequently, by mandating basic levels of disclosure

[1] Risk, in this context, refers both to uncertainties that can harm value, as well as to uncertainties that can be profitable. *See* René M. Stulz, *Risk Management, Governance, Culture, and Risk Taking in Banks*, FRBNY ECON. POL'Y REV., Aug. 2016, at 43, 43 (noting that "any firm" must consider both "danger" and "ex ante profitable" risks).

[2] *See* ADOLF A. BERLE & GARDINER C. MEANS, THE MODERN CORPORATION AND PRIVATE PROPERTY 300–01 (Routledge 2017) (1932) ("[T]he security holders and in particular the stockholders, performs the function of risk takers and suppliers of capital[.]").

regarding an issuer and its securities, a principal effect of the Securities Act was to lower the specific (or "idiosyncratic") risk associated with investing in those securities.[3] The greater information required by the Securities Act did not significantly increase the average returns earned by new-issue investors, but it did substantially lower the dispersion of excess returns.[4]

That approach reflected the risk management of the times. The standard method of valuing stocks (and stock portfolios) was based on the expected present value of a share's future dividends.[5] Greater disclosure regarding an issuer and its securities could help in that calculation; it did not, however, account for the risk of the investment and the benefits of diversification.[6] The shift toward managing risk across a diversified portfolio of securities—the benefits of which were certainly known, if only intuitively, before 1933[7]—did not occur until almost twenty years later when Harry Markowitz's seminal article was published in 1952.[8] More recently, mainly in response to changes in how businesses manage risk, an array of new derivatives and other capital markets instruments were created to facilitate the transfer of financial risk from the holders of that risk to those who, through

3 *See* Carol J. Simon, *The Effect of the 1933 Securities Act on Investor Information and the Performance of New Issues*, 79 AM. ECON. REV. 295, 313 (1989) (finding the "dispersion of abnormal returns . . . [was] significantly lower following the Securities Act. . . . [and] [r]eductions in investor error may be linked to post-Act improvements in the quantity and quality of available financial information").

4 *Id.*

5 *See* Harry M. Markowitz, *The Early History of Portfolio Theory: 1600–1960*, FIN. ANALYSTS J., July–Aug. 1999, at 5, 8.

6 *See id.*

7 For example, as early as in the 16th century, Antonio happily declared in Shakespeare's The Merchant of Venice, "My ventures are not in one bottom trusted, / Nor to one place; nor is my whole estate / Upon the fortune of this present year; / Therefore my merchandise makes me not sad." WILLIAM SHAKESPEARE, THE MERCHANT OF VENICE, act 1, sc.1, ll. 43–46, at 8 (The Floating Press 2008) (1600).

8 *See infra* notes 35–41 and accompanying text.

diversification or otherwise, could better manage it.[9] The result, in both cases, was a separation between the risk associated with individual securities and the securities themselves—through a growing reliance on portfolio-level risk management, which emphasizes total portfolio risk rather than the risk of individual securities,[10] as well as the rise of new instruments that facilitate the ability to transfer risk to someone else.[11]

This growing separation was recently highlighted by special purpose acquisition company (SPAC) transactions. In a statement regarding potential liabilities in SPAC and de-SPAC transactions,[12] John Coates, Acting Director of the

[9] *See* Ronald J. Gilson & Charles K. Whitehead, *Deconstructing Equity: Public Ownership, Agency Costs, and Complete Capital Markets*, 108 COLUM. L. REV. 231, 245–47 (2008).

[10] For discussion, *see infra* Section II.A.

[11] Take, for example, total return swaps (TRS). In basic terms, a TRS is a financial contract in which one counterparty pays the other an amount equal to, in the case of a TRS on equities, the total return of a share or basket of shares, including any dividends and capital appreciation. The other counterparty pays an amount equal to any capital depreciation on the share or basket, plus a fixed or floating rate payment. The TRS can be settled upon termination of the contract or periodically over its life. The TRS buyer is subject to substantially the same economic risks as if it owned the referenced equity or basket, but without actually owning those instruments. The TRS seller has transferred the economic risks of the equity or basket to the TRS buyer. If the TRS seller owns the equity or basket, it will have reduced or eliminated the risk it bears without selling the corresponding instruments. In effect, a TRS "splits the atom," with the economic risk being transferred to the TRS buyer, while the shares (and related voting rights) remain with the TRS seller. *See Total Return Swap*, CORP. FIN. INST., https://corporatefinanceinstitute.com/resources/knowledge/finance/total-return-swap-trs/ [https://perma.cc/J9VE-W9GK] (last visited Nov. 28, 2021); *see also* Henry T.C. Hu & Bernard Black, *The New Vote Buying: Empty Voting and Hidden (Morphable) Ownership*, 79 S. CAL. L. REV. 811, 816 (2006) (describing an equity swap).

[12] John Coates, *SPACs, IPOS and Liability Risk under the Securities Laws*, SEC. & EXCH. COMM'N (Apr. 8, 2021), https://www.sec.gov/news/public-statement/spacs-ipos-liability-risk-under-securities-laws [https://perma.cc/E8N7-LEZ5]. A SPAC is formed to raise capital in an initial public offering (IPO) with the purpose of acquiring one or more unspecified private companies with which it merges and brings public. SPACs raise capital, identify a merger target, and through the

Securities and Exchange Commission (SEC), Division of Corporation Finance, addressed the question of whether an initial public offering (IPO) occurs at the time a SPAC publicly issues shares or later when the SPAC merges with a private operating company to become a public operating company. Director Coates noted:

> To be sure, an 'IPO' is generally understood to be the *initial* offering of a company's securities to the public, and the SPAC shell company *initially* offers redeemable equity securities to the public when it first registers to raise funds in order to look for and later acquire a target. However, it is also commonly understood that it is the de-SPAC—and not the initial offering by the SPAC—that is the transaction in which a private operating company itself 'goes public,' i.e., engages in its initial public offering. Economically, and practically, the private target of a SPAC is a different organization than the SPAC itself.[13]

Director Coates' point was that IPOs should be understood in their economic sense, based on changes in the economic risk borne by investors, not simply tied to the SPAC's issuance of shares. Even if a SPAC raised capital in an IPO, Director Coates contended, the de-SPAC transaction, rather than the SPAC's prior public offering of shares, should be treated in substance as the IPO, since that is when investors first became exposed to the economic risk of an operating company.[14]

This Article argues that Director Coates' focus on the transfer of economic risk, rather than instruments that

merger facilitate the target's access to the public capital markets. A "SPAC transaction" is when the SPAC initially raises capital through an IPO, and a "de-SPAC transaction" is when the SPAC later merges with a target company. For a more detailed description of SPAC and de-SPAC transactions, *see* Michael Klausner, Michael Ohlrogge & Emily Raun, *A Sober Look at SPACs* 6–11 (Eur. Corp. Governance Inst., Working Paper Fin. No. 746/2021, Apr. 2021), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3720919 (on file with the Columbia Business Law Review).

13 Coates, *supra* note 12 (emphasis omitted).

14 *Id.*

historically evidenced that risk, reflects a division between "risk" and "instruments" that springs from a sea change in how risk is managed and transferred in the capital markets. Part II explains how advances in technology have changed how risk is managed and how investment decisions are made. The approach taken at the time the Securities Act was adopted no longer resembles most of the investment processes today. Part III illustrates some problems that can result—in particular, the ability to transfer the risk of a security without the benefit of the Securities Act's protections. Part IV then considers whether and how the SEC should respond to those changes. Here, an adequate response may be limited by the practical difficulty of tracing risk in today's capital markets. For the time being, regulation's reach may fall short of current trading and risk management strategies. While regulatory responses are possible, and some proposals are recommended, the result is likely to be a continued tension between the requirements of the Securities Act and the risk-based approach to investing taken by institutions that enter into a majority of the transactions that benefit from the Securities Act's protections.

II. THE NEW RISK MANAGEMENT

A principal goal of the Securities Act is minimizing investment risk through accurate and meaningful disclosure.[15] When introduced in 1933, mandatory disclosure requirements increased share price accuracy, lowering the

[15] *See* Securities Act of 1933, Pub. L. No. 73-22, pmbl., 48 Stat. 74, 74 (codified as amended at 15 U.S.C. §§ 77a–77aa) (describing the Securities Act as an act "To provide full and fair disclosure of the character of securities sold in interstate and foreign commerce and through the mails, and to prevent frauds in the sale thereof, and for other purposes."); Herman & MacLean v. Huddleston, 459 U.S. 375, 383 (1983) (stating one of the basic purposes of the Securities Act is "to provide greater protection to purchasers of registered securities"); JOHN C. COFFEE, JR., HILLARY A. SALE & CHARLES K. WHITEHEAD, SECURITIES REGULATION: CASES AND MATERIALS 93 (14th ed. 2021) (stating that the basic objectives of the Securities Act are "to provide investors with material financial and other information concerning new issues of securities offered for sale to the public and [] to prohibit fraudulent sales of securities.").

dispersion of market-adjusted returns on publicly-traded securities,[16] perhaps due to the increase in valuable information that became available to investors.[17] Likewise, following adoption of the Securities Act, the risk that issuers would default declined across the entire spectrum of publicly-issued bonds.[18] Although the value of mandatory disclosure has been debated,[19] it is generally agreed that the original effect of the Securities Act was issue-specific, tied to individual securities and issuers.[20]

My purpose is not to revisit the question of mandatory disclosure.[21] Rather, it is to highlight the changes, between

16 *See* Simon, *supra* note 3, at 308–10 (noting that, following the adoption of the Securities Act, "investors enjoyed significantly less exposure to issue-specific risk"); Gregg George J. Stigler, *Public Regulation of the Securities Markets*, 37 J. BUS. 117, 122 (1964) (finding the variance of price ratios to be much larger in the 1920s than the 1950s).

17 *See* Simon, *supra* note 3, at 313 ("Reductions in investor error may be linked to post-[Securities] Act improvements in the quantity and quality of available information."). *But see* Stigler, *supra* note 16, at 122 (attributing the decline in variance of price ratios between the 1920s and the 1950s to the "exclu[sion of] new companies").

18 *See* Gregg A. Jarrell, *The Economic Effects of Federal Regulation of the Market for New Security Issues*, 24 J. L. & ECON. 613, 658 (1981) (finding that "bonds issued after 1934 and registered with the SEC had lower default rates and lower default-risk premia than their pre-SEC counterparts, after accounting for . . . market variance.").

19 *See, e.g.*, Merritt B. Fox, *Retaining Mandatory Securities Disclosure: Why Issuer Choice is Not Investor Empowerment*, 85 VA. L. REV. 1335, 1418 (1999) (arguing that a mandatory disclosure regime is "the best approach for getting issuers to disclose at the socially optimal level"); Roberta Romano, *Empowering Investors: A Market Approach to Securities Regulation*, 107 YALE L.J. 2359, 2401 (1998) (promoting a market approach to securities regulation); John C. Coffee, Jr., *Market Failure and the Economic Case for a Mandatory Disclosure System*, 70 VA. L. REV. 717, 721 (1984) (justifying a mandatory disclosure regime).

20 *See* Simon, *supra* note 3 at 310–11; *see also* Romano, *supra* note 19, at 2377; Fox, *supra* note 19, at 1379 n.108 (quoting Romano, *supra* note 19, at 2377).

21 Although this Article argues that the Securities Act increasingly has been eclipsed by a sea change in investment decision making since the 1930s, it does not necessarily follow that mandatory disclosure does not have real social benefits. *See* Fox, *supra* note 19, at 1356–68; Coffee, *supra* note 19, at 722–23. The question is whether the calculus around those

1933 and today, in how the vast majority of investment decisions are made and the effect of those changes on the reach of the Securities Act. Since the 1930s, the U.S. securities markets have shifted from retail to institutional.[22] Notwithstanding efforts to democratize retail investing,[23] institutional investors now account for approximately seventy percent of total trading in today's U.S. stock market.[24] Over the same period, a similar shift toward institutions has

benefits, in light of the costs of complying with the securities laws, has shifted as a result of change in the capital markets. *See* Coffee*, supra* note 19*,* at 720 n.12 (noting "the probability that the securities markets have changed dramatically since the 1950's so as to call into question the relevance of any prior conclusions about the impact of the [Securities Exchange Act of 1934]."). That calculus should also take into account the value of disclosure in calculating a portfolio's risk-adjusted performance. *See infra* notes 155–157 and accompanying text.

[22] *See* COFFEE, SALE & WHITEHEAD, *supra* note 15, at 33 (documenting the rise of institutional investors).

[23] *See* Charlotte Gifford, *Democratising Finance*, WORLD FIN. (Jan. 25, 2021), https://www.worldfinance.com/special-reports/take-from-the-rich-give-to-the-poor [https://perma.cc/2X2G-W5A4] (describing the Robinhood platform and other efforts to "democratize" access to the capital markets); *see also* Mary O'Sullivan, *The Expansion of the U.S. Stock Market, 1885-1930: Historical Facts and Theoretical Fashions*, 8 ENTER. & SOC. 489, 532–34 (2007) (describing the growth of retail investment into stocks in the 1920s).

[24] *See* COFFEE, SALE & WHITEHEAD, *supra* note 15, at 33; FINRA Staff, *Institutional Investors: Get Smart About the "Smart Money"*, FIN. INDUS. REGUL. AUTH. (Dec. 2, 2015), http://www.finra.org/investors/institutional-investors-get-smart-about-smart-money [https://perma.cc/UP2Z-5HHH].

occurred in the bond market,[25] notwithstanding periodic attempts to increase retail activity.[26]

As a result, institutional investors execute the vast majority of today's securities transactions. Mom and Pop participate less directly than they did fifty or more years ago. Moreover, institutions' techniques for investing in securities today did not exist when the Securities Act was adopted. First, the management of portfolio risk (rather than the individual risk of a security) developed in the 1950s and 1960s.[27] Second, significant growth in instruments that permit the buying and selling of risk arose in the 1970s.[28] And, third, the most common method of measuring risk, known as Value-at-Risk (VaR), became popular only in the 1990s.[29] Consequently, an

[25] *See* Hendrick Bessembinder, Chester Spatt & Kumar Venkataraman, *A Survey of the Microstructure of Fixed-Income Markets*, 55 J. FIN. & QUANT. ANAL. 1, 15 (2020) ("Institutional-sized trades (greater than $1 million) account for most of the dollar volume of trades, in particular, 88% of customer trading volume between 2014 and 2016" and "[r]etail-size trades (less than $100,000) account for between 60% and 70% of reported customer transactions, but only 2% of customer trading volume during the same period"); Bruno Biais & Richard Green, *The Microstructure of the Bond Market in the 20th Century,* REV. ECON. DYNAMICS, July 2019, at 250, 260–61, 263–64 (detailing the shift in bond trading toward institutional investors, beginning in the 1920s).

[26] *See, e.g.*, O'Sullivan, *supra* note 23, at 533 (describing U.S. government bond drives during World War I).

[27] *See* Betty Simkins & Steven A. Ramirez, *Enterprise-Wide Risk Management and Corporate Governance*, 39 LOY. U. CHI. L.J. 571, 579 (2008).

[28] *Id.* at 580.

[29] *See* JAMES LAM, ENTERPRISE RISK MANAGEMENT: FROM INCENTIVES TO CONTROLS 127 (2d ed. 2014); Although it is the most common, VaR is not the only risk measure that institutional investors use. *See* Charles K. Whitehead, *Destructive Coordination*, 96 CORNELL L. REV. 323, 345 (2011) (noting that "[f]irms . . . supplement VaR with simulations ('stress tests') that, in theory, reflect a portfolio's individual risks."); Arwin G. Zeissler & Andrew Metrick, *JPMorgan Chase London Whale C: Risk Limits, Metrics, and Models*, 1 J. FIN. CRISES, iss. 2, 2019, at 75, 84–87 (describing other risk measures adopted by JPMorgan Chase). More recently, alternative forms of VaR have been developed to address perceived shortcomings with VaR, such as conditional Value-at-Risk (CVaR). *See* R. Tyrell Rockafellar & Stanislav Uryasev, *Optimization of Conditional Value-at-Risk*, J. RISK, Spring, 2020,

institutional investor today is less focused on the value of individual securities and more focused on the effect of a purchase or sale on the aggregate risk and returns of its investment portfolio. As far as investment decisions go, managing and transferring risk—as distinguished from transferring a security—have become a critical part of what investors do.

A. Portfolio Risk and Diversification

Institutional investing is often categorized by the types of instruments that are traded, such as equities (for stocks), fixed income (for bonds), and derivatives (for financial products whose value is based on the value of an underlying asset).[30] Within each category, financial firms are likely to have numerous "trading desks" that buy and sell a single or multiple related types of securities, or adopt particular investment strategies.[31] Typically, one or more trading desks comprise a trading unit (such as Equities or Fixed Income), which forms part of the firm's overall investment business.[32]

A common misconception is that institutions buy and sell securities based on assessing the quality of each security and

at 21, 21. As witnessed in 2008, VaR can be misleading if it has a fat tail in the distribution of expected losses—that is, if the largest losses are much larger than what a normal distribution would predict. *See* Tobias Adrian & Markus K. Brunnermeier, *CoVaR*, 106 AM. ECON. REV. 1705, 1705 (2016). To mitigate that problem, other risk measures, such as Conditional-Value-at-Risk (CoVaR), were created to focus on tail risk. *See* Anna Chernobai, Svetlozar T. Rachev & Frank J. Fabozzi in *Composite Goodness-of-Fit Tests for Left-Truncated Loss Samples*, *in* HANDBOOK OF FINANCIAL ECONOMETRICS AND STATISTICS 576 (Cheng-Few Lee & John C. Lee eds., 2015). The analyses in this Article related to VaR also apply to CVaR, CoVaR, and other variations of VaR that are used to optimize investment portfolios.

30 *See* TERRI DUHON, HOW THE TRADING FLOOR REALLY WORKS 66 (2012).

31 DAVIS W. EDWARDS, RISK MANAGEMENT IN TRADING: TECHNIQUES TO DRIVE PROFITABILITY OF HEDGE FUNDS AND TRADING DESKS 2 (2014).

32 *See* Prohibitions and Restrictions on Proprietary Trading and Certain Interests in, and Relationships With, Hedge Funds and Private Equity Funds, 79 Fed. Reg. 5536, 5590 (Jan. 14, 2014) (to be codified at 12 C.F.R. pts. 44, 248, 251, 351 and 17 C.F.R. pt. 255).

issuer.[33] Within that framing, an investor may decide that Company A's stock is undervalued, so she buys more of it, or she may decide that Company B's shares are overpriced, so she sells her holdings. Yet, without more, that framing is deceptive. It is accurate for Mom and Pop investors, and it describes investing in the 1930s, but it oversimplifies what institutions do today. Instead, financial firms are more likely to manage (and restrict) trading activity based on the aggregate risk of a portfolio, trading desk, or trading unit, as well as at the firm level.[34]

The theoretical basis for this approach originated with Harry Markowitz, who received the Nobel Prize in Economics in 1990 for demonstrating that the idiosyncratic risk of a portfolio of securities can be mitigated if the portfolio's holdings are diversified across securities whose correlations are low.[35] In that case, individual variations in returns from one security will, as likely as not, be canceled by variations in the returns of other securities.[36]

The benefits of diversification are the crux of modern portfolio theory. Markowitz's breakthrough laid the groundwork for fellow Nobel Prize winner William Sharpe, who is widely known for the Capital Asset Pricing Model (CAPM) of financial asset price formation.[37] In application, the CAPM assists investors in calculating portfolio risk and

[33] *See* PAUL MLADJENOVIC, STOCK INVESTING FOR DUMMIES 95 (5th ed. 2016).

[34] *See* LAM, *supra* note 29, at 51. Managing trading activity reflects the agency problems that financial firms often face from traders (and their managers) who have personal incentives to maximize risk and realize inflated short-term gains potentially at the cost of long-term losses incurred by the firm. *See* Simone M. Sepe & Charles K. Whitehead, *Paying for Risk: Bankers, Compensation, and Competition*, 100 CORNELL L. REV. 655, 659–60 (2015).

[35] *See* Myles E. Mangram, *A Simplified Perspective of the Markowitz Portfolio Theory*, 7 GLOB. J. BUS. RSCH., no. 1, 2013, at 59, 59–60.

[36] *See* Harry Markowitz, *Portfolio Selection*, 7 J. FIN. 77, 89 (1952).

[37] Eugene F. Fama & Kenneth R. French, *The Capital Asset Pricing Model: Theory and Evidence*, J. ECON. PERSPECTIVES, Summer, 2004, at 25, 26 (2004).

the investment returns they should expect.[38] Under the CAPM, idiosyncratic risk is eliminated through diversification,[39] so it is of minimal concern to investors whose portfolios are diversified and who are thus not compensated for bearing such risk. Rather, a portfolio's return is calculated based on the remaining systematic risk ("market risk" or "beta") that diversification cannot mitigate.[40] An investor who invests in only one stock is still exposed to systematic and idiosyncratic risk. Yet, her expected return reflects only the systematic risk she bears. Consequently, an institution's investment decision typically rests on the systematic (or "non-diversifiable") risk to which its portfolio is exposed.[41]

Beta reflects the effect on the value of a diversified portfolio of market-wide events, including changes in interest or foreign exchange rates, political news, natural disasters, and events of national importance.[42] A beta of 1 means that the value of a portfolio is expected to change in perfect correlation with changes in overall market value.[43] A portfolio with a beta

[38] *See* William F. Sharpe, *Capital Asset Prices: A Theory of Market Equilibrium Under Conditions of Risk*, 19 J. FIN. 425, 441–42 (1964); RICHARD A. BREALEY, STEWART C. MYERS & FRANKLIN ALLEN, PRINCIPLES OF CORPORATE FINANCE 205–06 (13th ed. 2020).

[39] *See* BREALEY ET AL., *supra* note 38, at 178–79, 181.

[40] *See, e.g.*, Markowitz, *supra* note 36, at 89; CHRISTIAN SZYLAR, HANDBOOK OF MARKET RISK 110 (2013); BREALEY ET AL., *supra* note 38, at 181 (describing "market risk"). Notwithstanding questions that have been raised about the reliability of the CAPM, *see, e.g.*, Halliburton v. Erica P. John Fund, Inc., 573 U.S. 258, 288–92 (2014) (Thomas, J., concurring), and significant variations in how beta is calculated, *see, e.g.*, Paul Draper & Krishna Paudyal, *Empirical Irregularities in the Estimation of Beta: The Impact of Alternative Estimation Assumptions and Procedures*, 22 J. BUS. FIN. & ACCT. 157, 157–58, 175 (1995); Diana R. Harrington, *Whose Beta is Best?*, 39 FIN. ANALYSTS J., July–August 1983, at 67, 67–68, beta remains the standard that investors use to calculate market risk. *See* Eugene F. Fama, *Efficient Capital Markets: II*, 46 J. FIN. 1575, 1593 (1991) (noting that "market professionals (and academics) still think about risk in terms of market β.").

[41] *See* SZYLAR, *supra* note 40, at 111–12 (describing why there is "reward for bearing market risk but not for taking additional unique risk").

[42] *Id.* at xxv–xxvi, 110.

[43] *Id.* at 110.

greater than 1 is more volatile than the market, and a portfolio with a beta less than 1 is less volatile.[44] According to the CAPM, in an efficient capital market, the risk premium and the expected return on a portfolio will vary in proportion to its beta value. The relations are generated by equilibrium price formation within an efficient capital market.[45]

Institutional investors, however, seek to maximize their portfolio's returns relative to the risks they bear. A common measure is the Sharpe ratio.[46] That measure enables a comparison of returns across portfolios relative to different levels of systematic risk.[47] The Sharpe ratio helps assess whether a portfolio's returns are due to investment decisions or result from exposure to excessive risk.[48] It can be used to evaluate past performance based on actual returns, or it can act as a measure of future performance based on projected returns.[49] The greater an investment's Sharpe ratio, the better its risk-adjusted performance.[50] Thus, because greater diversification decreases portfolio risk without sacrificing returns, it is likely to increase a portfolio's Sharpe ratio.[51]

Consequently, rather than investing based on the value of an individual security, institutional investors often buy and

44 *Id.*

45 *See* Sharpe, *supra* note 38, at 441–42.

46 Developed by William Sharpe, the Sharpe ratio measures risk-adjusted performance by subtracting the risk-free rate of return (typically, U.S. Treasuries) from the rate of return for an investment and dividing the result by the standard deviation of the investment's return. *See* SZYLAR, *supra* note 40, at 275; William F. Sharpe, *The Sharpe Ratio*, J. PORTFOLIO MGMT., Fall, 1994, at 49, 50. A similar measure of risk-adjusted returns, known as the Treynor ratio, had been developed the prior year by Jack Treynor. It uses a portfolio's beta to measure risk. *See, e.g.*, Saeid Tajdini, Mohsen Mehrara & Reza Tehrani, *Hybrid Balanced Justified Treynor Ratio*, 47 MANAGERIAL FIN. 86, 87–88 (2020); Jack L. Treynor, *How to Rate Management of Investment Funds*, 43 HARV. BUS. REV. 63 (1965).

47 SZYLAR, *supra* note 40, at 275.

48 *Id.*

49 *See, e.g.*, Sharpe, *supra note* 46.

50 SZYLAR, *supra* note 40, at 275.

51 Risk-adjusted performance may also be assessed using a portfolio's Value-at-Risk measure. *See infra* notes 67–70 and accompanying text.

sell securities based on their marginal contribution to the risk and return *of the portfolio*.[52] Of course, institutions—similar to Mom and Pop—may trade based on individual, expected returns, and some institutional traders (such as event arbitrageurs) may buy and sell securities based on a particular company's circumstances.[53] We can characterize this as a "bottom-up" approach to investing, where the risk and return of each investment are considered separately on their own merits, totaling an aggregate portfolio of securities.[54] But for most institutions, the greater focus is on portfolio risk—managing the aggregate risk and return of a portfolio of securities, rather than focusing on individual investments. Firms segment risk by portfolio and trading division, with a hierarchy of risk limits extending from the entire firm to each trading unit, trading desk, and trader.[55] Compliance with those limits rests with a risk management function, often an entire department that monitors aggregate risk across the firm. This is a "top-down" approach to investing, where a portfolio's aggregate risk and return

[52] *See* FRANCISCO JAVIER POBLACIÓN GARCÍA, FINANCIAL RISK MANAGEMENT 69 (2017); Frank J. Fabozzi, Francis Gupta & Harry M. Markowitz, *The Legacy of Modern Portfolio Theory*, J. INVESTING, Fall, 2002, at 7, 7.

[53] An "event arbitrageur" profits from specific events—such as merger & acquisition (M&A) deals or natural disasters—that can create a profitable arbitrage in the market. For example, merger arbitrage is driven by the event risk that a merger may not be completed successfully. *See* THOMAS KIRCHNER, MERGER ARBITRAGE: HOW TO PROFIT FROM GLOBAL EVENT-DRIVEN ARBITRAGE 10 (2d ed. 2016).

[54] *See A Top Down Investment Approach*, FISHER INVS., https://www.fisherinvestments.com/en-us/services/investment-approach/top-down [https://perma.cc/PH3X-TKUK] (last visited Nov. 28, 2021).

[55] *See* GLYN A. HOLTON, VALUE-AT-RISK: THEORY AND PRACTICE §1.5 (2d ed. 2014) (ebook); *see also* Robert Litterman, *Hot Spots™ and Hedges*, 23 J. PORTFOLIO MGMT. 1996, at 52, 65 ("[W]e find it useful to decompose the firmwide risk of Goldman Sachs into that contributed by the divisions, the divisional risk into that contributed by business units, and so on.").

characteristics affect the particular securities an investor will buy and sell.[56]

For example, to Mom and Pop, "equity risk" relates to the uncertainty around a particular stock's returns due to potential changes in share price and dividends on the shares they buy and sell.[57] The bottom-up approach explains that they may *choose to diversify* as part of their trading strategy to reap the benefits of diversification.[58] By contrast, top-down investors are *required to diversify* as a result of enterprise-level decisions and limits.[59] Not doing so means the investor will fail to maximize her profits at a given level of risk. In other words, diversification's ability to lower risk is so significant[60] that an investor who chooses not to diversify is unlikely to invest in a portfolio that will yield an optimal return.[61]

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[56] *See A Top Down Investment Approach*, FISHER INVS., *supra* note 54; *see also* John C. Coffee, Jr., *The Future of Disclosure: ESG, Common Ownership, and Systematic Risk*, 2021 COLUM. BUS. L. REV. 602, 615–30 (2021) 10–26 (Eur. Corp. Governance Inst., Working Paper No. 541/2020, 2021) (describing a similar divergence between institutional and retail investors).

[57] *See* GARCÍA, *supra* note 52, at 41–42.

[58] *See, e.g.*, Peter V. Letsou, *Implications of Shareholder Diversification on Corporate Law and Organization: The Case of the Business Judgment Rule*, 77 CHI.-KENT L. REV. 179, 186 (2001) ("[D]iversification allows the investor to eliminate risk without sacrificing financial return. . . . And indeed, diversification appears to be the strategy that most investors follow, as illustrated by the present-day popularity of mutual funds."); Herbert A. Whitehouse, *Diversification into the Entire Economy: The Moral Imperative of the Super Efficient Portfolio on the Efficient Frontier*, 22 ANN. REV. BANKING & FIN. L. 443, 453 (2003) (fiduciaries may "decide to diversify" for various reasons).

[59] *See* Whitehead, *supra* note 29, at 342 (2011) ("Financial firms regularly impose VaR limits on managers and portfolios. Before exceeding a limit, the manager must obtain approval or reduce the portfolio's exposure, typically by diversifying its holdings or reducing their size.").

[60] *See* André F. Perold, *Capital Allocation in Financial Firms*, 17 J. APPLIED CORP. FIN., Spring, 2005, at 110, 113.

[61] In one instance, a New York-based dealer's failure to take account of diversification resulted in its failure as a firm to utilize more than seventy percent of its total risk capital. *See* Tanja Dresel, Robert Härtl & Lutz Johanning, Risk Capital Allocation Using Value at Risk Limits:

B. Value-at-Risk

Since the early 1990s, most institutions have relied on a volatility-based risk measure, known as Value-at-Risk (VaR), to manage risk.[62] VaR was widely adopted due to its ability to sum up risk correlations across different asset classes (including equity and fixed income assets) and integrate different market risk types into a single snapshot view of a portfolio's (or firm's) aggregate risk exposure.[63] VaR measures

Incorporating Unpredictable Correlations Between Traders' Exposures 2 (2003) (unpublished manuscript), https://www.cofar.uni-mainz.de/dgf2003/paper/paper143.pdf [https://perma.cc/3SRW-DE7N].

Managing a fixed income portfolio is more complex. Among the additional risks, fixed income investors are subject to the risk that a borrower's credit quality will decline. For corporate bonds, this is referred to as "credit spread risk." The "credit spread" is reflected in the difference between the interest rate of a corporate bond and a government bond with the same maturity. It evidences the market's perception of the likelihood the corporate issuer will default. A corporate bond, therefore, declines in value as its credit spread widens. Thus, credit spread risk is the risk a corporate bond portfolio will decline in value due to widening credit spreads. *See* SZYLAR, *supra* note 41, at xxv. Like with stocks, however, investors can rely on diversification as one means to manage the credit spread risk of the bonds they hold. *See* Charles K. Whitehead, *The Evolution of Debt: Covenants, the Credit Market, and Corporate Governance*, 34 J. CORP. L. 641, 655–56 (2009). Fixed income portfolios are also subject to interest rate risk, namely, the uncertainty around future changes in interest rates that may raise or lower the value of an instrument. *See* DONALD R. VAN DEVENTER, KENJI IMAI & MARK MESLER, ADVANCED FINANCIAL RISK MANAGEMENT 27 (2d ed. 2013). Duration is the most common measure of interest rate risk. *See* LELAND E. CRABBE & FRANK J. FABOZZI, MANAGING A CORPORATE BOND PORTFOLIO 79 (2002). It incorporates an asset's yield, interest rate, and maturity into a single number that indicates how sensitive its value is to changes in interest rates. *Id.*at 79–82. The higher the duration, the more responsive the value is to interest rate movements. *See* ESMÉ FAERBER, ALL ABOUT BONDS AND BOND MUTUAL FUNDS 39–40 (2d ed. 2000). In that light, duration is similar to beta—it reflects changes in the market that affect a fixed income asset's value, rather than individual changes in the assets or borrowers themselves.

62 *See supra* note 29 and accompanying text.

63 *See* Whitehead, *supra* note 59, at 341. In addition, institutional investors must calculate and report VaR in response to regulatory requirements. VaR is a cornerstone of financial regulation due to its endorsement by regulators. *Id.* at 342.

the maximum expected loss of a portfolio of assets at a specified probability during a defined period of time.[64] For example, suppose a firm's one-day 95% VaR is $10 million. This means, at the time VaR was calculated, the firm could expect to lose a maximum of $10 million in one day 95% of the time.[65] If VaR is too high, a firm can adjust what it buys and sells to lower its risk.[66]

The ability to aggregate and disaggregate VaR is an essential risk management tool. At the aggregate level, VaR permits a firm to allocate risk to different investment activities. Financial firms impose VaR limits at the trading desk, trading unit, and firm levels as one means to manage aggregate risk exposure.[67] One limit (a "soft" limit) indicates the target size of an investment portfolio; another limit (a

64 *See* SZYLAR, *supra* note 41, at 169.

65 *See* SIMON HUBBERT, ESSENTIAL MATHEMATICS FOR MARKET RISK MANAGEMENT 4 (2012).

66 *See* Charles K. Whitehead, *Size Matters: Commercial Banks and the Capital Markets*, 76 OHIO ST. L.J. 765, 786–87 (2015).

67 *See* Whitehead, *supra* note 59, at 341–42. Banks set VaR limits to comply with Basel Accord standards. Portfolio managers must not exceed these limits. *See* BASEL CMT. ON BANKING SUPERVISION, REVISIONS TO THE MINIMUM CAPITAL REQUIREMENTS FOR MARKET RISK 1 (2019), https://www.bis.org/bcbs/publ/d457.pdf [https://perma.cc/9N7W-TDV9]; *see also* Charles K. Whitehead, *What's Your Sign?—International Norms, Signals, and Compliance*, 27 MICH. J. INT'L L. 695, 709–10, 722–724 (2006) (explaining that, even though Basel Accord standards do not legally bind governments outside local legislation, a number of factors, including peer pressure and threat of reputational loss, cause banks and regulators to comply with those standards). Pension plans and mutual funds may use VaR measures somewhat differently. Investment managers are concerned they will underperform the benchmark against which their returns are measured. At the same time, they may decide to invest in a portfolio whose composition differs from the benchmark as one means to outperform the benchmark. Since performance is tied to the benchmark, investment managers may also measure a portfolio's risk against the risk represented by the benchmark. *See* Katerina Simons*, The Use of Value at Risk by Institutional Investors*, NEW ENG. ECON. REV., Nov.–Dec. 2020, at 21, 22; Katerina Simons, *Risk-Adjusted Performance of Mutual Funds*, NEW ENG. ECON. REV., Sept.–Oct. 1998, at 33, 37. Using VaR to assess the risk-adjusted returns on multiple portfolios is consistent with the use of the Sharpe ratio. *See supra* notes 46–51 and accompanying text.

"hard" limit) indicates the maximum VaR the portfolio can contain.[68] Disaggregation permits a firm to understand the main sources of risk and the marginal increases in risk that may arise from different investment activities.[69] Doing so also permits investors (and risk managers) to understand the risks to which the firm is exposed, the risks that should be managed (for example, by transferring them to a third party), and the incremental change in potential losses from adding or removing a particular investment.[70]

VaR also takes account of the diversification benefits of multiple assets and portfolios. An individual investment may have a high VaR, but if its VaR is negatively correlated with the portfolio, it may contribute a much lower level of risk than it would if measured by itself.[71] Assume, for example, a hypothetical portfolio with only two investments. Each of potential investments A, B, and C has a VaR of $500, and each has an expected return of 20% on the principal of $1,000 (equal to $200 over the year). If the portfolio's manager selects any two of them, the total annual return will be $400, and the aggregate of the VaRs, $1,000, will reflect the portfolio's aggregate risk but without taking account of any benefit from diversification. Depending on the correlation among A, B, and C—that is, how much each of A, B, and C changes in value relative to changes in the other two investments—the total VaR, for example, of A and B together may be $750 while that of B and C may be only $650. The decline in aggregate VaR below $1,000 reflects the benefits of diversification.[72] All else

68 *See* DAVIS W. EDWARDS, RISK MANAGEMENT IN TRADING: TECHNIQUES TO DRIVE PROFITABILITY OF HEDGE FUNDS AND TRADING DESKS 141 (2014).

69 *See* RISKMETRICS GROUP, RISK MANAGEMENT: A PRACTICAL GUIDE 6, https://www.msci.com/documents/10199/3c2dcea9-97be-4fb4-befe-a03b75c885aa [https://perma.cc/H6WL-VL2Q].

70 *See id*.

71 *See id.* at 14.

72 *See* Perold, *supra* note 60, at 112–13. Aggregate VaR usually is less than the sum of VaR due to the benefits of diversification. *See* LINDA ALLEN, JACOB BOUDOUKH & ANTHONY SAUNDERS., UNDERSTANDING MARKET, CREDIT, AND OPERATIONAL RISK: THE VALUE AT RISK APPROACH 13–16 (2004); Litterman, *supra* note 55, at 61–62 (describing how the addition of a noncorrelated investment to a portfolio tends to reduce portfolio risk).

being equal, the manager will favor a portfolio of B and C due to the lower incremental increase in VaR. Critical, however, is that, even though risk has declined, the total expected return of B and C, which is $400, remains unchanged.[73] This is consistent with the earlier-described approaches taken by Markowitz and Sharpe[74]—namely, that optimal portfolio selection is based on the portfolio's overall risk-reward characteristics, rather than simply aggregating the individual characteristics of different securities.[75] For an institutional investor, what matters more is how much assets within a portfolio move in relation to each other, not how much each individual asset fluctuates on its own.[76]

In that light, suppose a portfolio manager wishes to invest in equities to generate a higher return. Typically, to increase returns, the manager must assume greater risk.[77] The identity of the particular stocks will be important, but the aggregate risk of the portfolio and the marginal effect on that risk of buying or selling shares will be critical.[78] Depending on investments made by other managers in the firm, the decision to buy or sell a particular stock may cause a spike in total VaR

73 *See* Mangram, *supra* note 35, at 66 ("risk reduction can be achieved without compromising returns.").

74 *See supra* text accompanying notes 35–51; *see also* Fabozzi et al., *supra* note 52, at 19 ("The now widely used value-at-risk framework (VaR) for the measurement and management of market risk for financial markets is based on the concepts first formalized in [modern portfolio theory].").

75 *See* Markowitz, *supra* note 36, at 89. "Hence, the essential aspect pertaining to the risk of an asset is not the risk of each asset in isolation, but the contribution of each asset to the risk of the aggregate portfolio." Press Release, Royal Swedish Academy of Sciences, The 1990 Alfred Nobel Memorial Prize in Economic Sciences (Oct. 16, 1990), https://www.nobelprize.org/prizes/economic-sciences/1990/press-release/ [https://perma.cc/K9XK-N8MJ].

76 *See* Mangram, *supra* note 35, at 64–65.

77 *See* Eric Ghysels, Pedro Santa-Clara & Rossen Valkanov, *There is a Risk-Return Trade-off After All*, 76 J. FIN. ECON. 509, 511 (2005) (finding a "positive and statistically significant relation between risk and return.").

78 *See* Litterman, *supra* note 55, at 59 ("[T]he total risk of the portfolio is not the sum of the risk of individual positions[;] it is in fact the sum of the marginal impacts on portfolio risk from small percentage increases in each of the portfolio positions.").

of which the manager is not immediately aware.[79] Consequently, aggregate firm risk—beyond an individual manager's assessment of the quality of a particular security or issuer—may affect the decision to buy or sell a security.[80] That decision may be tied less to the manager's view of the value of a security and more to the risk correlation between that security and her other investments or other investments made within the firm. The higher the correlation between the VaRs of two portfolios (such as between two trading desks), the more likely a transaction will affect the firm's overall VaR due to the lower diversification benefits.[81] Conversely, the lower the correlation between the two VaRs, the more likely the transaction will lower the firm's aggregate VaR.[82] In short, the standalone characteristics of a security often matter less than the effect of buying or selling that security on a portfolio's or firm's risks. The manager is likely to be as concerned with a stock's impact on VaR as she is with whether the particular stock is IBM or Microsoft and the number of shares she buys.[83]

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79 *See* Philippe Jorion, *In Defense of VaR*, DERIVATIVES STRATEGY (1997), https://merage.uci.edu/~jorion/oc/ntalib2.html [https://perma.cc/Q43L-2GE6] ("Suppose a portfolio VAR suddenly increases by 50%. This could be due to a variety of factors. Market volatility could have increased overnight. Or, a trader could be taking inordinate risks. Or, a number of desks could be positioned on the same side of a looming news announcement. . . . Any of these factors should be cause for further investigation, which can be performed by reverse engineering the final VAR number.").

80 For a model of how VaR limits are budgeted and aggregated across thirty independent traders, *see* Robert Härtl & Lutz Johanning, *Risk Budgeting with Value at Risk Limits*, *in* RISK MANAGEMENT: CHALLENGE AND OPPORTUNITY 143, 150–53 (Michael Frenkel, Ulrich Hommel & Markus Rudolph eds., 2d ed. 2005).

81 *See* RISKMETRICS GROUP, *supra* note 69, at 14.

82 *See id.*

83 *Cf.* EDWARDS, *supra* note 68, at 142–148 ("On a trading desk, a common use for VAR is to describe the size of investments. . . . VAR has largely replaced position limits and capital requirements based on the concept of number of shares, number of contracts, and other measures of size.").

C. New Risk Instruments

Beginning in the 1970s, capital markets participants (including banks, broker-dealers, and insurance companies) saw an opportunity to promote new financial instruments in response to a growing demand for tools to assist businesses in managing and sharing risk.[84] Over time, instruments covering new types of financial risk were developed and marketed as one way to manage risks that could not be addressed through diversification.[85] The result was a menu of new instruments to transfer beta risk, including swaps, options, financial futures, and securitized assets,[86] later extended to other types of risk, including weather and natural disaster risk.[87]

84 *See* Gilson & Whitehead, *supra* note 9, at 245–46; Kevin Buehler, Andrew Freeman & Ron Hulme, *The Risk Revolution* 6 (McKinsey, Working Paper on Risk No. 1, 2008), https://www.mckinsey.com/~/media/mckinsey/dotcom/client_service/risk/working%20papers/1_the_risk_revolution.pdf [https://perma.cc/Z22N-JMUX]. The growth in new financial instruments partly reflected managers' interests in transferring risks they could not manage directly. Among other reasons, firms were concerned about costs arising from bankruptcy risk. By transferring financial risk to others who were better able to manage it, a firm was less likely to fall into financial distress. *See* Gilson & Whitehead, *supra* note 9, at 250; Franklin Allen & Anthony M. Santomero, *The Theory of Financial Intermediation*, 21 J. BANKING & FIN. 1461, 1475–76, 1479 (1998). In addition, new financial instruments lowered earnings volatility, which permitted firms to rely on internally generated funds rather than more costly external funding. *See* Gilson & Whitehead, *supra* note 9, at 249–50; Allen & Santomero, *supra*, at 1476–77; Kenneth A. Froot, David S. Scharfstein & Jeremy C. Stein., *Risk Management: Coordinating Corporate Investment and Financing Policies*, 48 J. FIN. 1629, 1630–31 (1993).

85 *See* Gilson & Whitehead, *supra* note 9, at 245–46; *see also* Franklin Allen & Anthony M. Santomero, *What Do Financial Intermediaries Do?*, 25 J. BANKING & FIN. 271, 286 (2001).

86 *See* Allen & Santomero, *supra* note 84, at 1467, 1471; Buehler et al., *supra* note 84, at 7.

87 *See* Gilson & Whitehead, *supra* note 9, at 246–47.

Financial institutions drew on their risk management skills to support this new business,[88] trading risk to facilitate their clients' risk management efforts.[89] The financial markets had always provided a means to transfer risk, such as the credit risk of a stock or bond, but new instruments enabled the transfer of discrete risks, separate from the securities to which they traditionally were tied. In the case of common stock, for example:

> [A] company's equity is a basket option in which its various risks are pooled: Each shareholder is exposed to a tiny fraction of the risk to which the company is subject. A simple, but useful way to think about a company's balance sheet, therefore, is to see its equity as a cushion against the risk of performing badly. The risk that its market value will go down is borne by the shareholders. . . . Managers can therefore add value by separately and more cheaply hedging some of the risks ordinarily managed by the equity cushion. . . . [S]ome companies are better than others at managing particular risks. If risks can be priced and traded it makes sense for companies to try to lay off the categories of risk in which they have no comparative advantage. This approach allows them to reserve their (expensive) equity capital for risks that would cost more to transfer than to manage directly.[90]

As a result, the financial markets evolved into a risk clearinghouse,[91] enabling business originators to transfer risk to holders who could manage that risk at lower cost.[92] New risk transfer instruments assisted in unbundling a portfolio's

88 *See* Buehler et al., *supra* note 84, at 8–9 ("Many of the more sophisticated [financial] players (generally securities houses and investment banks) realized that their ability to describe and manage risk was a core competence[.]").

89 Allen & Santomero, *supra* note 84, at 1470.

90 Kevin Buehler, Andrew Freeman & Ron Hulme, *The New Arsenal of Risk Management*, HARV. BUS. REV., Sept. 2008, at 93, 96; *see also* Gilson & Whitehead, *supra* note 9, at 247–51.

91 Buehler et al., *supra* note 84, at 8–9.

92 *See* Gilson & Whitehead, *supra* note 9, at 245.

risk profile,[93] with the ability to lower its systematic risk[94] and its risk as measured by VaR.[95] Institutions could target different risk levels with derivatives, often at a lower cost than buying and selling the underlying securities themselves.[96] For example, the manager of a fixed income portfolio could decide what amount of credit risk to retain and what amount to transfer using credit default swaps (CDS)[97] as one means to

[93] *See, e.g.*, Daniel N. Deli & Raj Varma, *Contracting in the Investment Management Industry: Evidence from Mutual Funds*, 63 J. FIN. ECON. 79, 80 (2002) (concluding that funds that use derivatives "do so to reduce the cost of maintaining a certain risk exposure"); Joseph F. Sinkey, Jr. & David A. Carter, *Evidence on the Financial Characteristics of Banks that Do and Do Not Use Derivatives*, 40 Q. REV. ECON. & FIN. 431, 446 (2000) (finding that "banks with a higher probability of financial distress are using derivatives to hedge risk.").

[94] *See, e.g.*, Yong Chen, *Derivatives Use and Risk Taking: Evidence from the Hedge Fund Industry*, 46 J. FIN. & QUANTITATIVE ANALYSIS 1073, 1075 (2011) (noting for hedge funds that "fund risks between derivative users and nonusers is more substantial for market-related systematic risk than for idiosyncratic risk"); Buehler et al., *supra* note 84, at 11 ("The growth in credit derivatives, greater depth and liquidity in the secondary market for corporate loans, and securitization have transformed the management of credit risk by hugely expanding the scope for risk transfer."); Mukesh K. Chaudhry et al., *The Risk of Foreign Currency Contingent Claims at US Commercial Banks*, 24 J. BANKING & FIN. 1399, 1415 (2000) (finding that banks use currency swaps as a tool to hedge against foreign exchange fluctuations).

[95] *See, e.g.*, Dong-Hyun Ahn et al., *Optimal Risk Management Using Options*, 54 J. FIN. 359, 374 (1999) (demonstrating a put option strategy that reduces VaR).

[96] Jennifer Lynch Koski & Jeffrey Pontiff, *How Are Derivatives Used? Evidence from the Mutual Fund Industry*, 54 J. FIN. 791, 805 (1999) (arguing that the use of derivatives permits a fund manager to implement trades at lower cost).

[97] A CDS enables a bondholder to hedge its exposure to the issuer. By entering into a swap contract, and paying a premium for credit default protection to the swap counterparty, the swap counterparty becomes obligated to pay the bondholder the value of the bond in the event of a credit event (typically, the issuer's bankruptcy or a default on the bond). Depending on the CDS's terms, the CDS counterparty will pay the bondholder an amount equal to the decline in value of the bond or it will buy the bond at full value from the bondholder. *See Credit Default Swap*, CORP. FIN. INST.,

manage portfolio exposures.[98] By separating a bond's funding obligation from its credit risk, a CDS could permit the transfer of all, or only a part, of a bond's credit risk without transferring the bond itself.[99] The greater ability to transfer risk meant investors could more easily diversify the risks to which their portfolios were exposed.[100] Similarly, portfolio managers began to use interest rate derivatives to manage their exposure to interest rate fluctuations as one means to lower systematic risk.[101]

* * *

A principal goal of the Securities Act has been to assist investors in managing the idiosyncratic risk of the individual securities they purchase. Managing risk through a diversified portfolio did not occur until almost twenty years after the Securities Act was passed.[102] It took another twenty years until new capital markets instruments were introduced to facilitate the management and transfer of discrete portions of financial risk. This shift in risk management resulted in a separation between the risk associated with an individual security and the security itself. The idiosyncratic risk of

https://corporatefinanceinstitute.com/resources/knowledge/finance/credit-default-swap-cds/ [https://perma.cc/EDS2-L9C2] (last visited Nov. 29, 2021).

98 *See* Buehler et al., *supra* note 84, at 11.

99 Whitehead, *supra* note 34, at 657; *see also In re* WorldCom, Inc. Sec. Litig., 346 F. Supp. 2d 628, 651 (S.D.N.Y. 2004) (noting that the defendant underwriters had tried to reduce their exposure to risk from holding WorldCom debt "by engaging in hedging strategies, such as credit default swaps").

100 *See Credit Risk Transfer Instruments: Their Use by German Banks and Aspects of Financial Stability*, DEUTSCHE BUNDESBANK MONTHLY REPORT, Apr. 2004, at 27, 36, https://www.bundesbank.de/resource/blob/706424/b8fdca684d6b47db536944204a7ca8be/mL/2004-04-credit-risk-transfer-data.pdf [https://perma.cc/WY3P-7SHN] ("Separating credit risk off from loans makes diversification much easier.").

101 *See* Elijah Brewer III, Bernadette A. Minton & James T. Moser, *Interest-Rate Derivatives and Bank Lending*, 24 J. BANKING & FIN. 353, 354 (2000). For an example of a fixed-for-floating interest rate swap, *see* COFFEE, SALE & WHITEHEAD, *supra* note 15, at 353–54.

102 *See* Markowitz, *supra* note 5, at 5.

individual instruments began to be less relevant for investors than their contribution to a portfolio's overall risk. Likewise, the growth of new instruments to transfer risk reflected a growing interest in buying and selling specific types of risk, rather than transacting in a security as a whole.

Consequently, the traditional approach to regulating transactions in securities may matter less today than regulating the risk associated with those securities. The "top-down" process of managing and transferring risk means that the decision to buy or sell a security is typically tied less to an investor's view of the merits of an individual security and more to the risk correlation between that security and other investments in a portfolio. No doubt, this shift in trading activity has made its way into the public disclosures published under the Securities Act. Increasingly, SEC disclosure requirements are tied to cross-company comparisons, perhaps as one way to assist in assessing the risk of an individual investment within a portfolio of investments.[103] However, this shift in risk management, for a majority of trading in the capital markets, still raises a basic question: Should regulators begin to reconsider the focus of the Securities Act, moving from requirements tied to transactions in individual securities towards requirements addressing the transfer of risk relating to those securities?

III. RISK TRADING

A. Ships and Planks

Some readers may recall the story of Theseus, the mythical king of Athens.[104] For many, Theseus is best known for slaying the Minotaur, a half-man, half-bull who devoured children sent to Crete in tribute to King Minos.[105] According to the historian Plutarch, Theseus's ship remained in Athens

103 *See* discussion *infra* Section IV.A.

104 *See Plutarch, Life of Theseus in* 1 PLUTARCH'S LIVES (Bernadotte Perrin trans., William Heinemann 1914).

105 *Id.* at 37.

harbor as a memorial to his bravery for centuries after his return.[106] To preserve the ship, caretakers replaced old planks, sails, and ropes with new ones when the originals rotted or wore away.[107] Little by little, new materials were substituted for old. Over the years, it became unclear how many of the ship's original components remained, prompting Plutarch to ask, was the ship in Athens's harbor still Theseus's ship?[108] Writing centuries later, the philosopher Thomas Hobbes added a further wrinkle to the question. He asked what would happen if the original materials were stored as they were replaced and then, years later, used to build a second ship.[109] In that case, which ship—the first or the second—would be Theseus's?[110]

Theseus's story helps frame the change in today's capital markets. Recall that the Securities Act was drafted when investing typically involved an assessment of each security and issuer,[111] and measuring and managing risk through diversification was in its infancy.[112] Investing, however, has evolved since the 1930s.[113] Institutions now manage investment activity based on aggregate risks and returns.[114] To increase returns, an investor is more likely to manage the risk of her entire portfolio, not just the returns on an individual stock or bond. She can adjust portfolio risk and return by buying and selling securities or, more recently, by trading more-targeted instruments that permit her to transfer some or all of the discrete risks that comprise a security without transferring the security itself.[115] Stated

106 *Id.* at 49.

107 *Id.*

108 *Id.*

109 ROBERT M. CHISHOLM, PERSON AND OBJECT: A METAPHYSICAL STUDY 89–90 (Routledge, 2013) (quoting THOMAS HOBBES, ELEMENTS OF PHILOSOPHY, THE FIRST SECTION, CONCERNING BODY 100 (1656)).

110 *Id.*

111 *See supra* note 20 and accompanying text.

112 *See supra* notes 7–8 and accompanying text.

113 *See supra* Part II.

114 *See* supra note 34 and accompanying text.

115 *See supra* Part II.

differently, an investor today is less concerned with the merits of an individual security—the "ship" in Plutarch's story—and more concerned with managing the risks comprising that security—the "planks." The question is whether (if at all) to address that change in the Securities Act.

B. Distributing Risk

The tension between "ships" and "planks" was highlighted in a series of SEC actions brought against short sellers in 2008. In general, under the Securities Act, every sale of a security in the United States must be registered with the SEC or exempt from registration.[116] The Securities Act does not provide a transactional exemption for the offer or sale of a security by an "underwriter."[117] Therefore, whether or not a transaction is by an underwriter is critical in determining whether SEC registration is required. The term "underwriter" includes "any person who has purchased [securities] from an issuer with a view to . . . the distribution of" those securities.[118] "Distribution," however, is not defined in the Securities Act,[119] although it is understood to be analogous to

116 COFFEE, SALE & WHITEHEAD, *supra* note 15, at 93–94. The sale must be by "means or instruments of transportation or communication in interstate commerce or of the mails." Securities Act of 1933 § 5(a)(1), 15 U.S.C. § 77e(a)(1) (2018).

117 *See* Securities Act of 1933 § 4(a)(1), 15 U.S.C. § 77d(a)(1).

118 Securities Act of 1933 § 2(a)(11), 15 U.S.C. § 77b(a)(11). An "underwriter" is also defined as "any person who . . . offers or sells for an issuer in connection with [a] distribution . . . or participates or has a direct or indirect participation in any [distribution];" or "any person who . . . participates or has a participation in the direct or indirect underwriting of any [distribution]." *Id.*

119 *See* Securities Act of 1933 § 2, 15 U.S.C. § 77b.

"public offering,"[120] as that term is interpreted in the Securities Act's private placement exemption.[121]

The SEC has struggled to apply these underwriter requirements to funds that transact in the risk associated with securities, rather than the securities themselves. Consider a series of SEC actions in which a short sale of publicly-traded shares took place contemporaneously with the short seller purchasing an equal number of restricted shares in a private placement by the issuer.[122] A simplified version of these facts appears in Figure 1 below. "*Issuer*" is a public company whose outstanding shares trade freely on the Stock Exchange, and "*Fund*" is a hedge fund that invests in common stock.[123]

In (1), *Issuer* privately issues restricted shares to *Fund*. *Fund* cannot resell the restricted shares on the Stock Exchange unless an exemption from SEC registration is

120 *See* Rutherford B. Campbell, Jr., *Resales of Securities Under the Securities Act of 1933*, 52 WASH. & LEE L. REV. 1333, 1338 (1995); Carl W. Schneider, *Section 4(1-1/2)—Private Resales of Restricted on Control Securities*, 49 OHIO ST. L.J. 501, 503–04 (1988). Certain transactions, however, are not considered to be a distribution. *See, e.g.*, SEC Rules 133, 144, 17 C.F.R. §§ 230.133, 230.144 (2021).

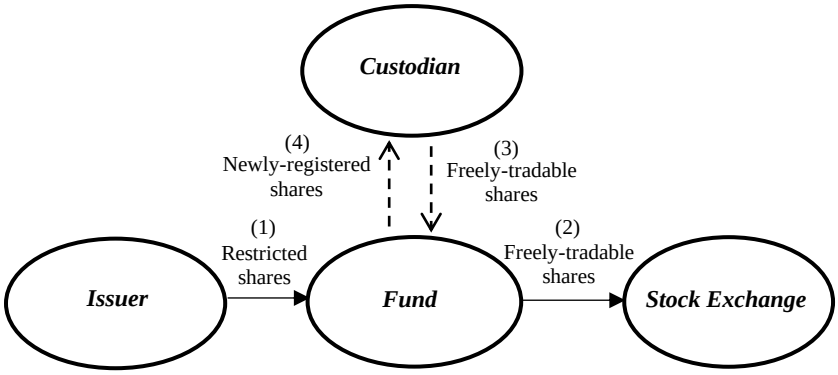
121 Securities Act of 1933 § 4(a)(2), 15 U.S.C. § 77d(a)(2). For a discussion of related concepts that have grown out of the private placement jurisprudence, *see* COFFEE, SALE & WHITEHEAD, *supra* note 15, at 377–78, 383–86.

122 "Restricted securities" are securities acquired in an unregistered, private sale from the issuer or an affiliate of the issuer. The securities may not be resold in the public markets unless they are registered with the SEC or exempt from registration. *See Rule 144: Selling Restricted and Control Securities*, U.S. SEC. & EXCH. COMM'N (Jan. 16, 2013), https://www.sec.gov/reportspubs/investor-publications/investorpubsrule144htm.html [https://perma.cc/KYX6-DL6A]; *see also* SEC Rule 144, 17 C.F.R. § 230.144(a)(3).

123 This summary is derived from several U.S. district court cases. *See* SEC v. Berlacher, No. 07 Civ. 3800, 2010 WL 3566790 (E.D. Pa. Sep. 13, 2010); SEC v. Lyon, 529 F. Supp. 2d 444 (S.D.N.Y. 2008); SEC v. Mangan, No. 3:06-CV-531 2007 WL 4102743 (W.D.N.C. Oct. 24, 2007). In each case, the court granted the defendants' motion to dismiss SEC claims that section 5 of the Securities Act had been violated. *But see* Zacharias v. SEC, 569 F.3d 458, 463–68 (D.C. Cir. 2009) (per curiam), whose facts are described *infra* note 129.

available or *Issuer* files a registration statement with the SEC that is declared effective.

Figure 1: Purchase of Restricted Shares and Contemporaneous Sale of Freely-Tradable Shares



Due to their limited liquidity, *Fund* buys the restricted shares at a discount below the price at which the freely-tradable shares trade on the Stock Exchange.[124] If *Fund* had contemporaneously resold the restricted shares on the Stock Exchange, it would have engaged in a "distribution" of shares as an "underwriter" in violation of the Securities Act.

In (2), *Fund* short sells freely-tradable shares on the Stock Exchange, and then in (3), it borrows freely-tradable shares from *Custodian* to settle its short sales. *Custodian* held those shares for third-party clients and, as part of its stock lending business, was authorized to loan shares to others against the deposit of collateral.[125] Matching the sale of the freely-tradable shares with the restricted shares permits *Fund* to minimize the portfolio risk of holding the restricted shares and lock-in a profit—the difference between the Stock

[124] For an explanation of the discount in PIPE transactions, *see* Richard E. Gormley, *Overview: An Emerging Market*, *in* PIPES REVISED AND UPDATED EDITION: A GUIDE TO PRIVATE INVESTMENTS IN PUBLIC EQUITY 22 (Steven Dresner & E. Kurt Kim eds., 2d ed. 2006).

[125] A description of the mechanics of securities lending appears in MARK C. FAULKNER, AN INTRODUCTION OF SECURITIES LENDING 13–18 (4th ed. 2007).

Exchange price and the restricted share price. Absent an effective registration statement, *Fund* still cannot sell the restricted shares on the Stock Exchange or use those shares to settle its short sales.

In (4), *Issuer* files a registration statement with the SEC, and the SEC declares the registration statement effective. Since the shares that *Fund* bought from *Issuer* are now covered by an effective registration statement, *Fund* can return freely-tradable shares to *Custodian* and terminate the lending relationship.

Focusing on the substance of the transactions, the SEC argued that a distribution of the *restricted* shares began with the *Fund*'s short sale of *publicly-traded* shares and, therefore, the restricted shares should have been registered.[126] According to the SEC, *Issuer*'s sale to *Fund* was no longer "private" but rather was the first step in a public distribution, causing *Fund* to be engaged in an underwriting that required an effective registration statement.[127] In effect, the SEC attempted to expand the concept of "underwriter" on the basis that *Fund* had begun to participate in a distribution of shares[128]—shares that, at the time of the *Fund*'s short sales,

[126] *See* Complaint at 15–16, SEC v. Mangan, 598 F.Supp 2d. 731 (W.D.N.C. 2008).

[127] *See id.*; Anna T. Pinedo & James R. Tanenbaum, *Over the Worst of It*, INT'L. FIN. L. REV., June 2008, at 2, 4.

[128] In that respect, the courts have construed what constitutes an "underwriter" in broad terms. In SEC v. Chinese Consol. Benevolent Ass'n, 120 F.2d 738 (2d Cir. 1941), for example, the defendant violated the Securities Act simply by soliciting offers to buy securities. Even though the defendant did not own the securities and was not compensated for its solicitation, the court held that whether the "issuer authorized the solicitation, or merely availed itself of gratuitous and even unknown acts on the part of the defendant" was irrelevant to the Securities Act analysis. *Id.* at 740. "In either case," the court concluded, "the solicitation was equally for the benefit of the [issuer] and broadly speaking was for the issuer in connection with the distribution of the [securities]." *Id.* The defendant, therefore, was an underwriter. *Id.* at 741. Nevertheless, even under this broad reading, it would be difficult to find that *Fund*'s return of borrowed shares to *Custodian* was a distribution of those shares and, therefore, that *Fund* was an underwriter. *But see Zacharias*, 569 F.3d at 458, described *infra* note 129.

were restricted even though they were fully-registered when *Fund* later returned shares to *Custodian*.

The district courts disagreed.[129] They concluded that the restricted shares were different instruments from the shares that *Fund* short-sold on the Stock Exchange, and this difference should be reflected in their regulatory treatment.[130] In other words, what triggered the Securities Act was the

[129] Contrast *Zacharias*, where the D.C. Circuit affirmed an SEC order that found two officers and directors (Zacharias and Carley) of Starnet Communications, and a group of unaffiliated third parties (the "Peeper Entities"), to be engaged in a scheme to sell unregistered Starnet shares in violation of the Securities Act. *Zacharias,* 569 F.3d at 462. Zacharias and Carley held options to purchase Starnet stock. *Id.* at 463. The options were registered with the SEC, but not the underlying shares. *Id.* As a result, the court noted, resales by Zacharias or Carley "would have been illegal" without a separate, effective registration statement covering those resales. *Id.* The Peeper Entities, however, owned millions of Starnet shares that "they could lawfully resell to the public" without a registration statement. *Id.* at 462–63. They also held warrants to purchase several more millions of shares. *Id.* In the first step, the Peeper Entities sold their Starnet shares to the public (including shares received upon exercise of the warrants). *Id.* at 462. The court concluded that, absent any other facts, the sales by the Peeper Entities would have been legal. *Id.* As part of the second step, Zacharias and Carley exercised their options and privately sold shares to the Peeper Entities shortly after the first step was completed. *Id.* at 463. The shares that Zacharias and Carley sold to the Peeper Entities equaled the number of shares the Peeper Entities sold publicly. *Id.* The court concluded that, by itself, the second step was also legal. *Id.* The purpose of the two transactions was to enable Zacharias and Carley to sell their shares without an effective registration statement, but at little or no liquidity discount. *Id.* at 462–63. In the original proceeding, the SEC concluded that the two transactions should be collapsed into one. As a result, Zacharias, Carley, and the Peeper Entities were found to be underwriters that had engaged in a distribution of Starnet shares without an effective registration statement in violation of the Securities Act. *Id.* The court agreed with the SEC that a person does "not have to be involved in the final step of the distribution to have participated in it," but rather that a person who is a "necessary participant" or "substantial factor" in a distribution is an underwriter. *Id.* at 464. Praising the SEC's decision as "a triumph of substance over form," the court affirmed the SEC order that found the two steps of the transaction—even though they would have been legal if considered by themselves—to have violated the Securities Act. *Id.* at 463, 469.

[130] *See supra* note 123.

transfer of shares, not the transfer of their risk. No interest in the restricted shares was transferred when *Fund* short sold shares, and how *Fund* chose to cover its short sales did not alter the nature of the short sales themselves.[131]

Yet, what was fundamentally troubling about *Fund*'s short sales was that they were intended to transfer the economic risk of the restricted shares to the general public. The sale of restricted shares to *Fund* would not have occurred unless *Fund* could short sell the publicly-traded shares on the Stock Exchange; both were integral to the total transaction. *Fund* was interested in enhancing its returns on the restricted shares while minimizing the risk of holding them. Combining the two permitted *Fund* to transfer its economic risk—the "planks"—to the general public, while continuing to own the restricted instruments—the "ships." From an aggregate risk perspective—which is likely how *Fund* assessed the transaction[132]—*Fund*'s short sales on the Stock Exchange were economically the same as if the restricted shares were sold directly to the public.

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131 *See, e.g.*, SEC v. Lyon, 529 F. Supp. 2d 444, 455 (S.D.N.Y. 2008) ("Consider an investor who shorts the common stock of a company and then covers his short position by converting convertible bonds into the common stock owed. . . . [F]rom the Court's perspective, a short sale of a security constitutes a sale of that security. How an investor subsequently chooses to satisfy the corresponding deficit in his trading account does not alter the nature of that sale."). The SEC also argued that *Fund* materially misrepresented to *Issuer* that it intended to hold the shares and engaged in insider trading by short selling shares before *Issuer*'s private placement was publicly announced, in each case in violation of Section 10(b) of, and Rule 10b-5 under, the Securities Exchange Act of 1934. *Id.* at 448. The SEC's alternative theories had limited success. *See, e.g.*, SEC v. Berlacher, Civ. No. 07-3800, 2010 WL 3566790, at *16 (E.D. Pa. Sept. 13, 2010) (finding that the SEC, in some transactions but not in others, established that the defendants made material misrepresentations amounting to fraud); *Lyon*, 529 F. Supp. 2d at 453 (denying defendants' motion to dismiss insider trading claims); *see also* Jeffrey T. Hartlin, *Despite Recent Setbacks in the Courts, the SEC Remains Focused on Short Sales in PIPE Transactions*, 37 SEC. REGUL. L.J. 162, 169–72 (2009) (describing the SEC's limited success in challenging these transactions).

132 *See supra* notes 59–61 and accompanying text.

The courts' decisions raise a basic concern. If a primary purpose of the Securities Act is to ensure proper disclosure to investors,[133] what should trigger that obligation—the transfer of an instrument (such as a share of stock) or the transfer of the economic risk of that instrument? Clearly, the short-sold freely-tradable shares were different instruments from the restricted shares *Fund* had purchased. Permitting *Fund*, however, to transfer the economic risk of the restricted shares to the public before a registration statement was effective arguably robbed the later disclosure of its value.[134] After the registration statement became effective, some months after the short sale of the shares, the now-registered instruments were simply returned to *Custodian*.[135]

IV. THE SEC'S RESPONSE TO RISK TRADING

A. Disclosure and Portfolio Risk

The "top-down" process of managing and transferring risk suggests that the idiosyncratic risk of an individual instrument now matters less than its contribution to a

133 *See* COFFEE, SALE & WHITEHEAD, *supra* note 15 and accompanying text.

134 This concern is analogous to what Director Coates highlighted in connection with SPAC and de-SPAC transactions. *See supra* notes 12–14 and accompanying text.

135 One could argue that the result is a distinction without a difference. Since *Issuer* was already a public company, information about *Issuer* was publicly available, and the purchasers of the publicly-tradable shares had access to that information. That critique, while not without merit, is more properly aimed at the registration process in general, not this particular situation. The same point would apply, as well, to a regular registered distribution of the securities of a public company. *See generally* Robert B. Thompson & Donald C. Langevoort, *Redrawing the Public-Private Boundaries in Entrepreneurial Capital-Raising*, 98 CORNELL L. REV. 1573, 1585–86 (2013) (critiquing the gaps and pitfalls in the registration process under the Securities Act). So long as the current process remains, the distribution of securities—of a newly public or currently public company—triggers the SEC registration requirements. *See* Securities Act of 1933 §5(a), 15 U.S.C. § 77e (2018). This includes liability for material misstatements or omissions. *See* Securities Act of 1933 § 11, 15 U.S.C. § 77k (2018).

portfolio's overall risk. From that perspective, the decision to buy or sell a security is tied less to the unique merits of that security and more to its correlation with other investments in the portfolio. Institutional investors applying this portfolio-level approach must assess issuers and securities against each other. Perhaps for that reason, the SEC has increasingly encouraged disclosures that permit cross-company comparisons, facilitating a portfolio-level assessment of risk across issuers and industries.[136] Providing greater and more consistent financial information, and enhancing comparability, limits the risk to which investors would otherwise be exposed if information were limited or more costly to obtain or process. The risks arising from less-complete disclosure cannot be diversified by a portfolio of securities that raise the same informational barriers.[137] In fact, the quality of a firm's disclosures affects how the market assesses its future cash flows relative to those of other firms.[138] If disclosure is incomplete, the risks borne by less-informed investors, who may not properly assess the value of one security against another, become non-diversifiable.[139]

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[136] *See*, *e.g.*, SEC, *Business and Financial Disclosure Required by Regulation S-K* 327-30, Securities Act Release No. 10,064, Exchange Act Release No. 77,599, 81 Fed. Reg. 23,916, 24,006 (Apr. 26, 2016) ("By requiring structured data, the Commission has sought to make disclosure easier for investors to access, analyze and compare across reporting periods, registrants, and industries." (footnote omitted)); *see also* Amir Amel-Zadeh & George Serafeim, *Why and How Investors Use ESG Information: Evidence from a Global Survey*, FIN. ANALYSTS J., Dec., 2018, at 87, 92–93 ("The reliability and lack of audit of ESG data also concern large investors significantly more than small investors (47% versus 16%, p-value < 0.01), and consistent with this finding, so does the lack of reporting standards (52% versus 39%, p-value < 0.05).").

[137] *See* Gus de Franco, S.P. Kothari & Rodrigo S. Verdi, *The Benefits of Financial Statement Comparability*, 49 J. ACCT. RSCH. 895, 897 (2011).

[138] Richard Lambert, Christian Leuz & Robert E. Verrecchia, *Accounting Information, Disclosure and the Cost of Capital*, 45 J. ACCT. RSCH. 385, 410 (2007).

[139] *See id.* at 410–11; David Easley & Maureen O'Hara, *Information and the Cost of Capital*, 59 J. FIN. 1553, 1554 (2004) ("This higher return reflects the fact that private information increases the risk to uninformed

Institutional investors also regularly rebalance their portfolios. Doing so, within VaR limits, requires an ability to estimate the effect of a purchase or sale on portfolio value relative to future changes in total market value.[140] Moreover, because investors are focused on risk-adjusted returns,[141] financial and business information is relevant to the investor's decision to buy or sell a security.[142] For that reason, as additional firm-specific information becomes available at lower cost, investors can use that information to more precisely manage portfolio risk through diversification,[143] which, in turn, translates into a drop in the cost of equity[144] and the pricing of credit risk.[145]

The SEC's focus on comparability is perhaps best evidenced by its April 2009 requirement that public

investors of holding the stock because informed investors are better able to shift their portfolio weights to incorporate new information.").

140 *See* Section II.B; *see also* Coffee, *supra* note 19, at 750 ("[I]nvestors are constantly confronted with the need to revise their portfolios. . . . [and] they must estimate the impact of a new individual security upon the overall beta of their portfolio.").

141 *See supra* notes 46–51 and accompanying text.

142 *See, e.g.*, Khrystyna Bochkay & Carolyn B. Levine, *Using MD&A to Improve Earnings Forecasts*, 34 J. ACCT. 458, 460 (2019) (finding that disclosure in the MD&A portion of a registration statement improves the accuracy of earnings forecasts beyond traditional financial variables); Cathy J. Cole & Christopher L. Jones, *The Usefulness of MD&A Disclosures in the Retail Industry*, 19 J. ACCT., AUDITING & FIN. 361, 363 (2004) (finding that MD&A disclosure is significantly and positively associated with future revenue and earnings growth and contemporaneous stock returns).

143 *See* Yi Dong et al., *Does Information-Processing Cost Affect Firm-Specific Information Acquisition? Evidence from XBRL Adoption*, 51 J. FIN. & QUANTITATIVE. ANALYSIS 435, 441 (2016) ("Given the potential that XBRL adoption reduces information-processing cost . . . and thereby enhances the incorporation of firm-specific information into stock prices . . . an important implication is that XBRL adoption facilitates firm-specific information production and thus reduces stock return synchronicity.").

144 *See* Oliver Zhen Li, Yupeng Lin & Chenkai Ni, Does XBRL Adoption Reduce the Cost of Equity Capital? 29–30 (Aug. 17 2012) (unpublished manuscript), https://ssrn.com/abstract=2131001 (on file with the Columbia Business Law Review).

145 *See* Seil Kim, Pepa Kraft & Stephen G. Ryan, *Financial Statement Comparability and Credit Risk*, 18 REV. ACCT. STUD. 783, 785–86 (2013).

companies report their financial statement data using eXtensible Business Reporting Language (XBRL).[146] The final rules were the culmination of a multi-year evaluative process to promote the use of interactive data, in line with other U.S. and foreign regulators.[147] Interactive data files are included as exhibits that supplement, but do not replace, the financial statements required to be filed with the SEC.[148] In that format, financial statement information can be downloaded directly into spreadsheets, analyzed using commercial off-the-shelf software, and used within investment models in other software formats.[149]

A stated purpose of XBRL is to reduce the informational divide between smaller and larger investors "with greater financial resources."[150] Institutional investors, however, also benefit from the reduced cost of collecting data.[151] One concern with XBRL has been in the comparability of "tags" used by issuers to identify similar types of financial information and the ability to customize tags (referred to as "extensions") to meet the needs of particular issuers.[152] Inconsistent tagging may result in a decline in comparability.

146 Interactive Data to Improve Financial Reporting, Securities Act Release No. 9002, Exchange Act Release No. 59,324, Investment Company Act Release No. 28,609, 74 Fed. Reg. 6776 (Feb. 10, 2009) (to be codified in 17 C.F.R. pts. 229, 230, 232, 239, 240, 249).

147 *Id.* at 6779–80.

148 *Id.* at 6777

149 *Id.* at 6778–79.

150 *Id*. at 6803.

151 *See* Elizabeth Blankespoor, Brian P. Miller & Hal D. White, *Initial Evidence on the Market Impact of the XBRL Mandate*, 19 REV. ACCT. STUD. 1468, 1470, 1497 (2014) ("Although the SEC argues that XBRL provides more benefits to small investors than it does to large investors, the potential for large traders to use their superior processing capabilities to leverage the new technology for informational gains may actually disadvantage small investors.").

152 *See, e.g.*, CLEARY GOTTLIEB, SEC ADOPTS RULES REQUIRING FILING OF FINANCIAL STATEMENTS IN INTERACTIVE XBRL FORMAT 2–3 (2009), https://www.clearygottlieb.com/-/media/organize-archive/cgsh/files/publication-pdfs/sec-adopts-rules-requiring-filing-of-financial-statements-in-interactive-xbrl-format.pdf [https://perma.cc/PQ5A-TKNM].

To date, the SEC has not required a formal audit or review of an issuer's interactive data file, raising the possibility of inconsistency across issuers.[153] Nevertheless, the adoption of XBRL has enabled investors to acquire and compare more data, including risk-related information, at lower cost.[154]

153 *See* Interactive Data to Improve Financial Reporting, 74 Fed. Reg. at 6796.

154 *See* Vicky Arnold et al., *The Impact of Tagging Qualitative Financial Information on Investor Decision Making: Implications for XBRL*, 13 INT'L J. ACCT. INFO. SYS. 2, 17–19 (2012). More recently, the SEC has increased attention on climate-related disclosure, with a view to providing new guidance as part of a growing focus on environmental, social, and governance (ESG) metrics. *See* Allison Herren Lee, *Statement on the Review of Climate-Related Disclosure*, SEC. & EXCH. COMM'N (Feb. 24, 2021), https://www.sec.gov/news/public-statement/lee-statement-review-climate-related-disclosure [https://perma.cc/KQZ2-JMUY]. These calls for greater ESG disclosure reflect concerns that the existing guidance is too general and does not permit a level of comparability across disclosures that investors require. *See* SEC. & EXCH. COMM'N, Commission Guidance Regarding Disclosure Related to Climate Change, Securities Act Release No. 9106, Exchange Act Release No. 61,469, 75 Fed. Reg. 6290 (Feb. 8, 2010) (to be codified at 17 C.F.R. pts. 211, 231, 241); SEC. & EXCH. COMM'N, INV. ADVISORY COMM., RECOMMENDATION FROM THE INVESTOR-AS-OWNER SUBCOMMITTEE OF THE SEC INVESTOR ADVISORY COMMITTEE RELATING TO ESG DISCLOSURE (2020), https://www.sec.gov/spotlight/investor-advisory-committee-2012/recommendation-of-the-investor-as-owner-subcommittee-on-esg-disclosure.pdf [https://perma.cc/F959-DDLY] (recommending that the SEC require "material, comparable, consistent" ESG disclosure). There have also been proposals to tag new ESG disclosures using XBRL technology. *See, e.g.,* Allison Herren Lee, Remarks at the XBRL US Investor Forum: The Promise of Structured Data: True Modernization of Disclosure Effectiveness, SEC. & EXCH. COMM'N (Nov. 17, 2020), https://www.sec.gov/news/speech/lee-structured-data-2020-11-17 [https://perma.cc/NU6M-GDQ4]. From a portfolio perspective, this makes sense. Some financial risks arising from climate change are broadly systematic and will affect the undiversifiable risk an investor must manage or transfer from her portfolio. *See* Allison Herren Lee, *Regulation S-K and ESG Disclosures: An Unsustainable Silence*, SEC. & EXCH. COMM'N (Aug. 26, 2020), https://www.sec.gov/news/public-statement/lee-regulation-s-k-2020-08-26 [https://perma.cc/N244-TUW5] (stating that "[c]limate risk, writ large, cannot be diversified away[.]"). Others are idiosyncratic risks, tied to an individual firm's profitability and credit risk, that an investor must consider when deciding a portfolio's optimal risk-and-return tradeoff. *See, e.g., Larry Fink, Larry Fink's 2021 Letter to CEOs*, BLACKROCK (Jan. 30,

B. Risk vs. Instruments?

Greater comparability supports portfolio-level risk management, but it does not address the more fundamental question of what should *trigger* Securities Act disclosure. Adopting an analysis that looks through the instruments to the economic risks of the transaction would be consistent with the approach reflected in the vast majority of investment activity today.[155] It would also be consistent with a core purpose of the Securities Act—to require disclosure as one means for investors to assess and manage the risk of their investments.[156] This remains true even in light of the benefits of portfolio-level diversification.[157] On that basis, tying Securities Act disclosure to transfers of risk—rather than transfers of instruments—may more accurately reflect how most investors rely on Securities Act disclosures today.

As appealing as this sounds, tying the Securities Act to transfers of risk raises practical concerns. The transactions in Figure 1 were fairly straightforward. *Fund* transferred the economic risk of restricted shares to the general public. It would not have purchased the restricted shares unless it could short sell the freely-tradable shares on the Stock Exchange. Both were integral to the total transaction, and their combination replicated the substance of a public distribution of securities that would have required SEC registration.

But what if we changed the facts? For example, assume that *Fund* had short sold publicly-tradable shares equal to 110% of the restricted stock it purchased. Would it make sense to treat an amount equal to 100% of the restricted stock as part of a distribution (requiring SEC registration) and the remaining 10% as secondary trading (exempt from registration), and if so, which shares should receive which treatment?

2021), https://www.blackrock.com/us/individual/2021-larry-fink-ceo-letter [https://perma.cc/8D8W-QFA3] (stating that "climate risk is investment risk" and that the market will price climate risk into securities values).

155 *See supra* notes 23–29, 77–83 and accompanying text

156 *See supra* notes 15–20 and accompanying text.

157 *See supra* notes 137–145 and accompanying text.

Alternatively, what if *Fund* had purchased restricted high-yield bonds from *Issuer*, but (as in Figure 1) contemporaneously short sold freely-tradable *Issuer* shares on the Stock Exchange? In general, the prices of high-yield instruments move in tandem with the share prices of the same issuer.[158] As before, *Fund*'s motivation to short sell *Issuer* shares would be to transfer the economic risk of the restricted high-yield bonds to the general public before a registration statement was effective. Considering the economic substance of the transaction, should *Fund*'s short sale of publicly-traded shares be treated as part of a plan to distribute the restricted high-yield bonds? Should it matter (as was the SEC's position in Figure 1) that, instead of covering the short with registered *Issuer* shares, the proceeds from selling the *Issuer* high-yield bonds, after the bonds are registered, are used to buy freely-tradable *Issuer* shares to cover the short?

Finally, how would a risk-based approach to regulation address a traditional "pairs trade"? At its basic, a pairs trade involves two stocks whose prices are historically correlated.[159] When the difference in prices widens, an investor will short the stock whose price has gone up and buy the stock whose price has dropped.[160] Over time, the prices of the two stocks are expected to converge, and in that case, the investor will earn a profit.[161] Such a strategy, based on price dynamics and simple contrarian principles, has been a standard of large Wall Street investors for some time.[162] Note that, in a pairs trade, the identity of the two stocks is largely irrelevant; only their relative value is important to an investor. If *Fund* buys GM and shorts Ford (or buys Netflix and shorts Amazon),[163]

158 *See* David V. Ceryak, *Using Risk Analysis to Classify Junk Bonds as Equity for Federal Income Tax Purposes*, 66 IND. L.J. 273, 287 (1990).

159 Evan Gatev, William N. Goetzmann & K. Geert Rouwenhorst, *Pairs Trading: Performance of a Relative-Value Arbitrage Rule*, 19 REV. FIN. STUD. 797, 797 (2006).

160 *Id.*

161 *Id.*

162 *Id.* at 797, 799.

163 *See* George Pipis, *Example of Pairs Trading*, PREDICTIVE HACKS (Jan 30, 2021), https://predictivehacks.com/example-of-pairs-trading /

much of the idiosyncratic risk will be eliminated (since the two stocks historically trade in tandem), with *Fund* managing a portion of the GM risk to which it is exposed through its short sale of Ford. Clearly, the transaction was entered into solely for *Fund* to take advantage of differences in the GM and Ford share prices. Should the Securities Act integrate the purchase of GM stock with the transfer of GM risk through the short sale of Ford stock?

Here, we may be reaching the practical limitations of a risk-based approach to the Securities Act. With Theseus, we could trace each plank to the original ship.[164] In today's capital markets, the problem is that tracing planks—tying a transfer of risk to a decision to assume risk—may not always be possible. And, since risk taking is often managed at the portfolio level, it may be difficult to tie any one transfer of risk to a particular instrument. So, for the time being, regulation's reach may fall short of today's trading and risk management strategies. In other words, although most trading is tied to portfolio risk, for the moment, the Securities Act's architecture must remain tied to individual securities, and its application must be triggered by the transfer of instruments rather than their risk. The result is likely to be a continued tension between the requirements of the Securities Act and the risk-based approach to investing taken by the majority of those who benefit from the Securities Act's protections.[165]

V. CONCLUSION

Director Coates' analysis of SPACs and de-SPACs reflects a basic tension within the federal securities laws. Before widespread adoption of portfolio risk management, investors principally focused on the individual instruments they bought and sold. That is no longer true today for much of the capital markets. Consequently, like in Director Coates' analysis, it

[https://perma.cc/G9YF-T9LJ] (using Netflix and Amazon in an example of pairs trading).

164 *See supra* Section III.A.

165 *See* Coffee, *supra* note 56, at 41 (noting the divergent interests of institutional and retail investors regarding Securities Act disclosures).

may make increasing sense for the protections of the Securities Act to be tied to the economic risk of a transaction rather than to the instruments. [166]

For now, as a first step, and in light of the practical limitations of risk-based regulation, the SEC should adopt a concept release that begins to analyze and take account of changes in how risk is managed and their impact on securities regulation. As this Article has illustrated, some aspects of a regulatory approach based on economic substance may be easier to justify than others, at least based on existing limitations on the ability to trace risk. At the very least, such a release would help support an analysis based on the economic substance of the transaction, as Director Coates urged. It would also provide support for enforcement against clear abuses, as in the short-sale cases, where the transaction was able to arbitrage differences between how the Securities Act was drafted and how investors manage and transfer risk today.

Over the longer term, the shift in risk management may argue in favor of a more fundamental change in the Securities Act's approach to regulation. Writing over fifty years ago, Milton Cohen, in *"Truth in Securities" Revisited*,[167] an article that set the path for modern disclosure requirements, noted that if the Securities Act had been adopted at the same time as or before the Securities Exchange Act of 1934, which regulates the disclosure obligations of public companies, then

[166] New technology may offer one solution. As the individual risks that comprise a security are identified and transferred, blockchain may provide one means to track and record that transfer. A blockchain is a system for validating, clearing, settling, tracking, and recording the ownership of assets as they are traded in each block. *See* William Mougayar, *The Blockchain is the New Google*, TECHCRUNCH (May 11, 2016), https://techcrunch.com/2016/05/11/the-blockchain-is-the-new-google/ [https://perma.cc/6Z2V-2A9Q]; Craig A. de Ridder, James M. Grosser & Marco A. Santori, *Blockchain Basics: A Primer,* PILLSBURY WINTHROP SHAW PITTMAN LLP (May 2, 2016), http://www.pillsburylaw.com/publications/blockchain-basics-a-primer [https://perma.cc/H7CM-EKMB].

[167] Milton H. Cohen, *"Truth in Securities" Revisited*, 79 HARV. L. REV. 1340, 1340 (1966).

public-offering disclosures under the Securities Act would be based on the periodic disclosures mandated for public companies.[168] Perhaps, in light of changes in risk management, it is time to pick up where Mr. Cohen left off and offer one more reason to revisit the creation of a reporting system whose obligations are not triggered by transactions in securities, but instead is based on company registration and periodic disclosures (except an issuer's initial offering into the public capital markets).[169] Doing so would sidestep the "instrument versus risk" tension that this Article illustrates, although other issues that have traditionally accompanied the capital-raising process would remain unresolved.[170]

[168] *Id*. at 1341–42.

[169] *See* John C. Coffee, Jr., *Re-Engineering Corporate Disclosure: The Coming Debate Over Company Registration*, 52 WASH. & LEE L. REV. 1143, 1155–58 (1995).

[170] *Id.* at 1156–57; *see also* Thompson & Langevoort, *supra* note 135, at 1580, 1585.