

## EXTRINSIC VALUE

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## EXTRINSIC VALUE

*Caleb N. Griffin\**

*This Article explores the concept of “extrinsic value” for stocks. While classic finance theory holds that demand for a firm’s stock is perfectly elastic, this view of the stock market is increasingly false. The modern stock market is much more like other markets than purists might think, subject to the vagaries and whims of demand.*

*Under this Article’s proposed framework, extrinsic value—in essence, a demand premium—is a key component of a new “value triad.” In this triad, stock derives value from three distinct sources: extrinsic value (demand-driven factors), intrinsic value (firm fundamentals), and control. This Article provides an initial exploration of extrinsic value and its implications for stock market pricing.*

*Once extrinsic value is acknowledged, numerous puzzling market anomalies suddenly make sense. Meme stocks, multiplier effects, index premia, the emergence of ESG as a distinct asset class, and investor “perks” of trivial value all fit uneasily within the orthodox paradigm but are easily explained in a world of demand-driven prices.*

### INTRODUCTION

What determines stock prices? The orthodox answer is that sophisticated investors set prices based on fundamental financial characteristics. In this view, investors do not buy shares of stock simply because they *like* them. Instead, investors buy shares in an effort to assemble a diversified portfolio with a certain mix of risk and return characteristics. Given the many thousands of stocks available, there are near-infinite ways to construct such a portfolio, making it irrational for investors to single out any particular stock for special treatment. As legendary jurist Frank Easterbrook<sup>1</sup> put it:

[There is no] economic market in “Jefferson Savings stock” as there is in dill pickles or fluffy towels. . . . investors do not want Jefferson Savings stock (as if they sought to paper their walls with beautiful certificates); they want monetary

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<sup>1</sup> It is unsurprising that Easterbrook accepts the orthodox view, as it remains the dominant view among economists today. One recent survey of academic economists found that the median respondent believed demand for stocks to be perfectly elastic. Xavier Gabaix & Ralph S. J. Koijen, *In Search of the Origins of Financial Fluctuations: The Inelastic Markets Hypothesis* 1, 13 (Working Paper, 2022), [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3686935](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3686935) (summarizing their findings by stating “surveyed economists, logically enough, rely on the traditional asset pricing model in which prices are unperturbed by flows”).

returns (at given risk levels), returns that are available from many financial instruments. . . . There are so many substitutes for any one firm's stock that the effective demand curve is horizontal. It may shift up or down with new information but is not sloped like the demand curve for physical products.<sup>2</sup>

According to this classic view, there is no market for specific stocks.<sup>3</sup> Stocks are instead valued solely for their risk and return characteristics.<sup>4</sup> Further, the demand curve for all stocks is said to be horizontal, meaning that increased demand does not yield increased prices.<sup>5</sup> Finally, the orthodox view posits that sophisticated investors, rather than uninformed “noise” traders, determine stock prices based on fundamental financial data.<sup>6</sup>

This Article questions the classic framework. It analyzes a number of important contemporary trends, including environmental, social, and

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<sup>2</sup> *West v. Prudential Sec., Inc.*, 282 F.3d 935, 939 (7th Cir. 2002) (emphasis omitted).

<sup>3</sup> Richard A. Booth, *Discounts and Other Mysteries of Corporate Finance*, 79 CAL. L. REV. 1053, 1059 (1991) (“It is generally assumed within the academic community that a well-diversified investor who follows the dictates of the efficient market theory will be indifferent among various stocks.”); J. Gregory Sidak & Susan E. Woodward, *Takeover Premiums, Appraisal Rights and the Price Elasticity of A Firm's Publicly Traded Stock*, 25 GA. L. REV. 783, 791 (1991) (discussing the “vast number of financial substitutes” available to investors).

<sup>4</sup> Myron Scholes, *The Market for Securities: Substitution Versus Price Pressure and the Effects of Information on Share Prices*, 45 J. BUS. 179, 183 (1972) (arguing that share price is determined by risk and expected rates of return); Heung-Joo Cha & Bong-Soo Lee, *The Market Demand Curve for Common Stocks: Evidence from Equity Mutual Fund Flows*, 36.2 J. FIN & QUANTITATIVE ANALYSIS 195, 216 (Jun. 2001) (“equity prices should only be affected by fundamentals such as expected cash flows and discount rates”). In the context of a change of control, it is also acknowledged that there may be an applicable control premium. Henry G. Manne, *Mergers and the Market for Corporate Control*, 73 J. POL. ECON. 110, 117 (1965) (discussing circumstances in which “a premium for control may be paid.”).

<sup>5</sup> Jay B. Kesten, *Shareholder Political Primacy*, 10 VA. L. & BUS. REV. 161, 187 (2016) (“A central tenet of modern finance theory holds that demand curves for most public stocks are horizontal.”).

<sup>6</sup> Although the classic view accepts that irrational actors participate in the market, their irrationality is said to be arbitrated away by sophisticated investors. See Ronald J. Gilson & Reinier H. Kraakman, *The Mechanisms of Market Efficiency*, 70 VA. L. REV. 549, 571 (1984) (“In today's securities markets, the dominant minority of informed traders is the community of market professionals, such as arbitrageurs, researchers, brokers and portfolio managers, who devote their careers to acquiring information and honing evaluative skills. The trading volume in most securities that these professionals control, directly or indirectly, seems sufficient to assure the market's rapid assimilation into price of most routine information.”).

governance (ESG) investing,<sup>7</sup> indexation,<sup>8</sup> meme stocks,<sup>9</sup> share buybacks,<sup>10</sup> and investor inducements.<sup>11</sup> In each case, it finds both theoretical justifications and empirical evidence for surprisingly inelastic investor demand for stock.<sup>12</sup> While alone, these anomalies could perhaps be explained away within the confines of the existing framework, together they demonstrate the pervasive influence of nonfundamental demand on equity prices. Such findings undermine the orthodox view of stock market pricing and illustrate the need for a more comprehensive paradigm.

This Article sets forth a more comprehensive framework in which three overlapping, but distinct, components determine share value. In this framework, a share's value derives from intrinsic value (fundamentals), control rights (the control premium), and extrinsic value (effectively, a "demand premium"). Intrinsic value, or the value derived from a *pro rata* equitable claim on the firm's future cashflows, remains the primary determinant of share price in most, but

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<sup>7</sup> ESG investment funds have outperformed traditional investment funds over recent study periods. There is research to suggest that the outperformance of ESG is flow-driven. Philippe van der Beck, *Flow Driven ESG Returns* 1, 4 (Swiss Fin. Institute Research Paper Series N°21-71, Nov. 2022), [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3929359](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3929359) (finding that ESG funds would have underperformed the broader market if not for increased flows).

<sup>8</sup> In what is known as the "index premium," indexed assets experience a share price boost upon addition to a major index, such as the S&P 500. This is an unexpected result under the classic model, and its cause has been debated for decades. *See, e.g.,* Andrei Shleifer, *Do Demand Curves for Stocks Slope Down?*, 41 J. FIN. 579, 579 (July 1986) ("If the demand curve is horizontal, inclusion of a stock into the S&P 500 should not be accompanied by a share price increase. In contrast, if the demand curve slopes down, we should observe a share price increase at the announcement of the inclusion.").

<sup>9</sup> The ability of a small group of traders to substantially influence stock prices during the meme stock episode seemingly contradicts the orthodox view that demand does not influence asset prices. Philippe van der Beck & Coralie Jaunin, *The Equity Market Implications of the Retail Investment Boom*, 1,1 (Swiss Fin. Institute Research Paper Series N°21-12, April 2021) (referring to meme stock traders' "negligible market share" and discussing their surprising ability to impact market prices).

<sup>10</sup> In the classic framework, share buybacks should not meaningfully influence asset prices. However, recent research suggests that buybacks generate significant, flow-driven price effects. Gabaix & Koijen, *supra* note 1, at 4 ("For instance, stock buybacks can have a large aggregate effect. Suppose that the corporate sector buys back \$1 worth of equities rather than paying \$1 worth of dividends. In the traditional Modigliani-Miller world, the market value of equities does not change at all. In contrast, in an inelastic world, the value of equities goes up, by a tentative estimate of around \$2.").

<sup>11</sup> Increasingly, firms are offering certain perks, such as discounts on products, to investors rather than consumers. These perks, which should not significantly alter firm fundamentals, are associated with both short- and long-term price effects, further contradicting the classic model. Jonathan M. Karpoff, et al., *Shareholder Perks and Firm Value*, 34.12 REV. FIN. STUDIES 5676, 5715 (Dec. 2021) (finding evidence of short-term and long-term abnormal gains for Japanese firms offering investor inducements).

<sup>12</sup> *See infra* Part II, discussing a series of anomalies in modern financial markets and concluding that a revised theory is needed.

not all, circumstances.<sup>13</sup> The market for corporate control also influences share price, and in certain contexts, a control premium may represent a significant portion of a share's value.<sup>14</sup> Finally, this Article argues that extrinsic value also plays a vital, but largely unacknowledged, role in setting share prices. The term "extrinsic value" serves as an umbrella term for all demand-induced price effects, whatever their source. Under the classic view of stock prices, extrinsic value should not exist. However, it is real and substantial. The existence of extrinsic value upends classic assumptions about stock market behavior and transforms our understanding of modern markets.

This Article additionally explores the complex interactions among the various sources of value. Both extrinsic value and the control premium can generate high-magnitude deviations from the intrinsic value baseline. The control premium generally acts to increase stock price, adding potentially significant value in situations such as a takeover. Extrinsic value can be either positive (a demand premium) or negative (a demand discount).<sup>15</sup> However, primarily as a consequence of the market for corporate control, intrinsic value generally serves as a floor for stock prices—that is, the magnitude of negative extrinsic value is, in the long run, limited by the takeover market. In contrast, there is no comparable limit on the magnitude of positive extrinsic value. This Article therefore argues that the demand curve for stocks is asymmetric, which fundamentally reshapes our understanding of equity prices.

This Article further posits that all stocks exist on an elasticity spectrum. Firms with high-demand characteristics exhibit relatively inelastic demand and those lacking such characteristics conform more closely to the classic, perfectly elastic model. Exploring the characteristics that mediate elasticity allows us to situate a number of recent market phenomena in reference to their impact on the elasticity spectrum. For example, "meme stock" status increases the inelasticity of demand,<sup>16</sup> as does inclusion in an index such as the S&P 500.<sup>17</sup>

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<sup>13</sup> Meme stocks provide a particularly salient instance where extrinsic value may influence stock price to a greater degree than fundamental value. *See infra* Part II.C.

<sup>14</sup> Manne, *supra* note 4, at 117 (pioneering the notion of the "market for corporate control" wherein purchasers may pay a "control premium" in order to obtain a controlling interest in a firm).

<sup>15</sup> Gabaix & Koijen, *supra* note 1, at n.1 (noting that demand has a "symmetric and linear" impact on stock price).

<sup>16</sup> For example, one study estimated GameStop's multiplier as approximately 5.5, meaning that a \$1 stock purchase induced a price increase of \$5.50. Van der Beck & Jaunin, *supra* note 9, at 5.

<sup>17</sup> This "index premium" has been documented in numerous contexts. *See, e.g.*, Lawrence Harris & Eitan Gurel, *Price and Volume Effects Associated with Changes in the S&P 500 List: New Evidence for the Existence of Price Pressures*, 41 J. FIN. 815, 815 (Sept. 1986) (finding a 3% boost to stock prices following inclusion in the S&P 500 index); Messod D. Beneish & Robert E. Whaley, *An Anatomy of the "S&P Game:" The Effects of Changing the Rules*, 51 J. FIN. 1909, 1909 (Dec. 1996) (finding price increases following the announcement of inclusion in the S&P 500 index); Antti Petajisto, *The Index Premium and its Hidden Cost for Index Funds*, 18 J. EMPIRICAL FIN. 271, 271

Similarly, a firm's ESG characteristics may also increase the relative inelasticity of demand for its stock, since firms with a high ESG score will be more desirable to many socially conscious investors, while those with a low ESG score may be rejected by certain investors.<sup>18</sup>

The reality of extrinsic value has several important corporate governance implications. It explains why seemingly excessive ESG expenditures may in fact maximize shareholder wealth, provided they generate a sufficient demand premium. It also contextualizes the meme stock phenomenon, providing a theoretical framework for the ability of a small group of retail investors to dramatically shift asset prices. Additionally, it helps account for the magnitude and popularity of share buybacks. More broadly, it represents a novel avenue for management to influence share price. Successful managers can generate a demand premium through activities that make demand more inelastic, such as improving key ESG metrics or offering creative shareholder perks that blur the line between investment and consumption.

Extrinsic value also transforms our understanding of the role of corporate managers. While not every decision will be made with extrinsic value in mind, all decisions will be made in its shadow. Much like the market for corporate control, extrinsic value represents a constant background presence, a latent force shaping management incentives with the implicit threat of negative consequences for failing to maximize shareholder value—but now along the newly recognized dimension of extrinsic value.<sup>19</sup>

## I. TRADITIONAL ASSUMPTIONS

According to classical finance theory, the stock market operates differently

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(Mar. 2011) (finding that the average price impact for announcement of inclusion to the S&P 500 index was 8.8% from 1990-2005); Yen-Cheng Chang, et al., *Regression Discontinuity and the Price Effects of Stock Market Indexing*, 28.1 REV. FIN. STUDIES 212, 212 (2015) (finding that stock price increases on inclusion to the Russell 1000); Ernest Biktimirov & Yuanbin Xu, *Market Reactions to Changes in the Dow Jones Industrial Average Index*, 15 INT'L J. MANAGERIAL FIN. 792, (2019) (finding that additions to the Dow Jones Industrial Average index experience a "permanent" price increase).

<sup>18</sup> A demand-induced "ESG premium" is one possible explanation for the outperformance of ESG stocks relative to the broader market. See Van der Beek, *supra* note 7, at 4 (finding that ESG outperformance in 2016-2021 was due to inflows).

<sup>19</sup> Managers who fail to maximize demand may not only forego share price gains but may also subject their firms to share price reductions. See Simone M. Sepe & Saura Masconale, *Citizen Corp.*, 100 WASH. U. L. REV. 42 (forthcoming 2023) (discussing the asset price effects of investor demand for "moral portfolios" comprised of "activist assets" and stating that "more capital flowing to activist assets . . . can be expected to determine a corresponding reduction in the demand for the assets of non-activist corporations, with a consequential decline in the share price of these companies"); cf. Eric Belasco et al., *The Impact of Passive Investing on Corporate Valuations*, 38 MAN. FIN. 1067, 1067 (2012) (finding that index inclusion generates flow-driven price increases relative to non-indexed firms).

than markets for traditional goods and services. In particular, the stock market is characterized by a “horizontal demand curve.”<sup>20</sup> Unlike traditional markets, where consumers have a variable willingness to purchase the same item at given price points, the stock market is believed by many<sup>21</sup> to induce investors to buy at only the market price—any lower, and there would be near-infinite demand for the stock; any higher, and there would be no demand for the stock whatsoever.<sup>22</sup> This Part explores the key tenets of the traditional view of the stock market in greater detail, including the views that: (I.A) there is no market for specific stocks, (I.B) the demand curve for stocks is horizontal, (I.C) stocks uniformly exhibit horizontal demand curves, (I.D) stock prices depend exclusively on fundamentals and any applicable control premium, and (I.E) stock prices are determined by sophisticated investors.

#### *A. No Market for Specific Stocks*

One of the key assumptions of the classical view is that investors are not particularly interested in any given stock. Instead, investors are interested in achieving certain risk and return characteristics for their overall investment portfolio. Since there are several thousand stocks that can be combined in nearly infinite ways to provide an investor’s desired risk and return characteristics, no one stock is essential.<sup>23</sup> Under this view, therefore, stocks have very high levels of substitutability.<sup>24</sup> Individuals have no particular attachment to their individual stocks, and there are other stocks that would, in the right combination, provide their desired level of risk and return.<sup>25</sup>

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<sup>20</sup> Kesten, *supra* note 5, at 187 (contrasting traditional markets for goods and services with the stock market, where the demand curve is said to be horizontal).

<sup>21</sup> This “many” includes most academic economists. See *supra* note 1. Even amongst those that accept some degree of inelasticity, the median estimated inelasticity was about 500 times lower than observed inelasticity. Gabaix & Koijen, *supra* note 1, at 13.

<sup>22</sup> Lynn A. Stout, *The Mechanisms of Market Inefficiency: An Introduction to the New Finance*, 28 J. CORP. L. 635, 645 (2003) (“Raising the price above the level set by an efficient market would cause investors to refuse to purchase any shares at all, while lowering the price below market would create infinite demand.”).

<sup>23</sup> Scholars have argued that a portfolio containing twenty stocks can mitigate about 95% of firm-specific risk while one hundred stocks would cancel out about 99%. Michael S. Knoll, *Ethical Screening in Modern Financial Markets: The Conflicting Claims Underlying Socially Responsible Investing*, 57 BUS. LAW. 681, 696 (2002). Given that there are approximately 41,000 listed companies in the world, there are in theory nearly infinite ways to establish a sufficiently diverse portfolio. *Who are the owners of the world’s listed companies and why should we care?*, ORG. ECON. COOPERATION & DEV. (Oct. 17, 2019), <https://www.oecd.org/corporate/who-are-the-owners-of-the-worlds-listed-companies-and-why-should-we-care.htm>.

<sup>24</sup> Sidak & Woodward, *supra* note 3, at 791 (discussing the “vast number of financial substitutes” available to investors).

<sup>25</sup> Booth, *supra* note 3, at 1059 (“It is generally assumed within the academic community that a well-diversified investor who follows the dictates of the efficient market theory will be indifferent among various stocks.”).

Perhaps the best known case articulating this viewpoint is *West v. Prudential Securities, Inc.*<sup>26</sup> In this case, an employee of the defendant (Hofman) misled several individuals by telling them that a certain company, Jefferson Savings, would soon be acquired at a high price.<sup>27</sup> A lawsuit followed, and the district court certified a class that included all purchasers of Jefferson Savings stock at a price allegedly inflated by the misstatements about a pending acquisition.<sup>28</sup> On appeal, the key issue was whether the price had indeed been affected by Hofman's private lies.<sup>29</sup> Judge Easterbrook held that it was not, stating that only *public* information could move securities prices and explicitly rejecting "a model of demand-pull price increases" in which "all trades affect prices by raising demand."<sup>30</sup> In his view, if a stock price increases to a level that is not justified by public information, sophisticated traders will sell the stock and exchange it for another, an easy proposition given that "[t]here are so many substitutes for any one firm's stock."<sup>31</sup>

Easterbrook's rejection of the idea that there is a market for specific stocks and insistence on their easy substitution has a number of important implications. First, it implies that investors' nonfinancial values and preferences do not affect stock price. While acknowledging that such factors affect demand for consumer goods, Easterbrook dismisses out of hand the notion that such shallow, irrational concerns such as those commonly affecting consumers could possibly affect the price of equity assets.<sup>32</sup>

A second implication is that only trades that convey new information can move stock prices.<sup>33</sup> Under this view, even large purchases of stock will not by themselves increase a stock's price because sophisticated investors will quickly sell shares until the price returns to the prior equilibrium level.<sup>34</sup> Not only must a trade convey "new" information, the information conveyed must also be of a specific kind—i.e., related to risk and return characteristics.<sup>35</sup> Information about

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<sup>26</sup> *West v. Prudential Sec., Inc.*, 282 F.3d 935 (7th Cir. 2002).

<sup>27</sup> *Id.* at 936.

<sup>28</sup> *Id.* at 937.

<sup>29</sup> *Id.*

<sup>30</sup> *Id.* at 939.

<sup>31</sup> *Id.*

<sup>32</sup> *Id.* (contrasting investment assets with "dill pickles" and "fluffy towels" and criticizing the idea that investors would consider subjective or aesthetic factors, such as the appearance of the stock certificates, when purchasing investment assets). Interestingly, the market for non-fungible tokens (NFTs), and investment in the art market more broadly, suggest the distinction is not so clear.

<sup>33</sup> *Id.* ("That is why institutional purchases (which can be large in relation to normal trading volume) do not elevate prices, while relatively small trades by insiders can have substantial effects; the latter trades convey information, and the former do not.")

<sup>34</sup> Kesten, *supra* note 5, at 188 ("Accordingly, only sizeable, contemporaneous sell-offs, coupled with a strong informational signal, are likely to have any real impact on stock price.")

<sup>35</sup> Scholes, *supra* note 4, at 183 ("The market will price assets such that the expected rates of return on assets of similar risk are equal").



demand-related factors, such as a firm's inclusion in a major equity index, is held not to affect stock price.<sup>36</sup> Instead, sophisticated investors will step in to arbitrage away any discrepancy between the market price and the stock's fundamental value.<sup>37</sup>

Finally, and naturally following from the prior two points, management's only role is to improve fundamentals.<sup>38</sup> Under the classic view, market demand does not influence share price.<sup>39</sup> Appealing to investors' preferences or values—or, for that matter, interacting with them in any way beyond what is legally mandated—allegedly has no benefit.<sup>40</sup> Shareholders do not invest because they think fondly of a particular company, and even if they did, it would have no effect on stock prices under the classical model.<sup>41</sup> Ultimately, the traditional view holds that stocks are easily substitutable and that investors have no attachment to the equity of specific firms.

### *B. The Demand Curve for Stocks is Horizontal*

A second traditional assumption about the nature of stock markets is that the demand curve for stocks is horizontal, rather than downward-sloping. This stands in stark contrast to demand for most goods and services, where demand curves are downward-sloping.<sup>42</sup>

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<sup>36</sup> *See id.* (arguing that issuing new stock, which would affect price in a standard supply and demand model, should have “no effect on the market price of the firm's existing shares.”).

<sup>37</sup> *Id.* (“This would imply that profit opportunities exist in the market. But investors seeing these profit opportunities would soon arbitrage them away.”).

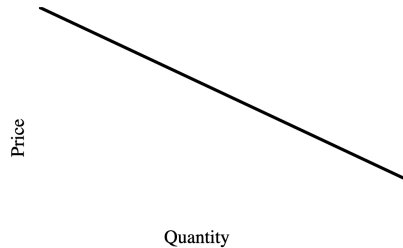
<sup>38</sup> Cha & Lee, *supra* note 4, at 216 (“equity prices should only be affected by fundamentals such as expected cash flows and discount rates”).

<sup>39</sup> Scholes, *supra* note 4, at 183 (arguing that share price is instead determined by risk and expected rates of return).

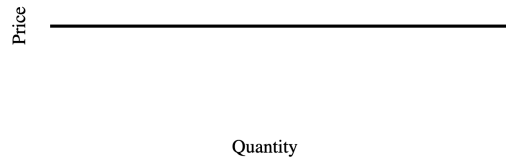
<sup>40</sup> *See* Charles R. Korsmo, *Market Efficiency and Fraud on the Market: The Danger of Halliburton*, 18 LEWIS & CLARK L. REV. 827, 868 (2014) (“Securities are typically not being purchased for any form of personal consumption, instead of or in addition to for investment and resale.”).

<sup>41</sup> *Id.*

<sup>42</sup> William F. Baxter, *Legal Restrictions on Exploitation of the Patent Monopoly: An Economic Analysis*, 76 YALE L.J. 267, 358 (1966) (“For any particular product, a schedule can be made showing the quantity that will be purchased in a unit of time if various prices per unit of product are charged. Such a schedule, when represented graphically, yields a demand curve for the product. Price per unit is measured on the vertical axis; units of product sold per unit of time are measured on the horizontal axis. Since more units of product can be sold in a unit of time at lower prices per unit of product than at higher prices, the demand curve will slope downward from left to right.”).

**Figure 1: Downward-Sloping Demand Curve**

Under a downward-sloping demand curve (See Figure 1 above), the quantity demanded decreases (but is not completely eliminated) as the price of a good or service increases.<sup>43</sup> For example, if the price of an article of clothing increases but its quality stays the same, some consumers will no longer find it to be worth buying.<sup>44</sup> Perhaps they will purchase a cheaper substitute, or perhaps they will forgo the purchase altogether.<sup>45</sup> Other consumers, however, will still find the price acceptable.<sup>46</sup>

**Figure 2: Horizontal Demand Curve**

In contrast, classical finance suggests that stocks have horizontal or “perfectly elastic” demand curves (See Figure 2 above).<sup>47</sup> This implies that, when the price of a stock increases without a corresponding increase in “quality” (i.e. factors that affect fundamental value), demand does not simply decrease, it drops to zero.<sup>48</sup> Classic finance principles hold that, in a world of easily

<sup>43</sup> Richard D. Friedman, *Untangling the Failing Company Doctrine*, 64 TEX. L. REV. 1375, 1385 (1986) (“[G]iven a normal downward-sloping demand curve, price must be lower to sell greater output.”).

<sup>44</sup> *Id.*

<sup>45</sup> *Id.*

<sup>46</sup> *Id.*

<sup>47</sup> Kesten, *supra* note 5, at 187 (“A central tenet of modern finance theory holds that demand curves for most public stocks are horizontal.”).

<sup>48</sup> Stout, *supra* note 22, at 645 (“If all stocks are perfect substitutes, the demand for a

substitutable stocks, there is never a reason for investors to pay more than fundamental valuation techniques can justify.<sup>49</sup> Other factors that may influence people in the consumption sphere (e.g., aesthetic factors, brand loyalty, social perceptions, ethical and moral values, etc.) are considered irrelevant when it comes to stock prices.<sup>50</sup>

### *C. All Stocks Have an Equally Horizontal Demand Curve*

Relatedly, orthodox finance theory holds that all stocks have an equivalently horizontal demand curve. It is not that stocks, *on average*, are characterized by a horizontal demand curve.<sup>51</sup> Rather, all stocks are considered to have an identical horizontal slope,<sup>52</sup> and no allowances are made for potential variation between stocks.<sup>53</sup> This means that, in theory, it does not matter whether a firm generates significant externalities unrelated to firm financials—including whether it is a major contributor to climate change, what its broader ESG attributes are, or whether it has a celebrity CEO who moves markets with each tweet—by definition, demand for all stocks is considered perfectly elastic.<sup>54</sup>

### *D. Stock Value Depends Exclusively on Fundamentals & Control*

Classical finance also holds that, excluding the value of control,<sup>55</sup> market

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particular stock should be perfectly elastic, and the demand curve for that stock correspondingly flat. Raising the price above the level set by an efficient market would cause investors to refuse to purchase any shares at all, while lowering the price below market would create infinite demand.”).

<sup>49</sup> *Id.*

<sup>50</sup> Scholes, *supra* note 4, at 179 (distinguishing the market for securities from other markets, such as the market for art: “The shares a firm sells are not unique works of art but abstract rights to an uncertain income stream for which close counterparts exist either directly or indirectly via combinations of assets of various kinds.”); Stout, *supra* note 22, at 645 (noting that standard finance theory predicts that “all stocks should be perfect substitutes.”). *But see* Sergio Alberto Gramitto Ricci & Christina M. Sautter, *Harnessing the Collective Power of Retail Investors*, IN A RESEARCH AGENDA FOR CORPORATE LAW (Christopher M. Bruner & Marc Moore, eds., Forthcoming 2023) (arguing that “as both shareholders and citizens, retail investors must contrast costs and benefits of their governance preferences taking into consideration the financial performance of their interests as shareholders as well as the environmental and social ramifications as citizens”).

<sup>51</sup> Cha & Lee, *supra* note 4, at 216 (finding support for uniformly horizontal demand curves for stocks based upon a horizontal aggregate demand curve).

<sup>52</sup> *Id.* at 197 (arguing that a horizontal aggregate demand curve does not permit individual variation because, “if some individual demand curves are downward sloping, the horizontal aggregate demand curve implies that some other individual demand curves have to be upward sloping, which is very unlikely”).

<sup>53</sup> Stout, *supra* note 22, at 645 (explaining that standard finance theory predicts that “all stocks should be perfect substitutes”).

<sup>54</sup> *Id.*

<sup>55</sup> Manne, *supra* note 4, at 117 (discussing circumstances in which “a premium for control

prices are driven solely by fundamental value.<sup>56</sup> Because the demand curve for each stock is horizontal and there is no market for specific stocks, there is no reason for investors to pay more than the fundamental value for any share, as determined by all available financially relevant information.<sup>57</sup> Moreover, because all public information is rapidly incorporated into stock prices in efficient markets, the market price of stocks is believed to accurately reflect their fundamental value (or, at least, “the best possible estimates, in light of all available information, of the actual economic values of securities in terms of their expected risks and returns”).<sup>58</sup>

Under the classic view, the only circumstances in which purchasers would willingly exceed fundamental value occur in the context of a change of control. In such circumstances, purchasers may pay a “control premium,” or an amount above the current share price of the firm in order to secure a controlling interest. This control premium, however, is not independent of fundamental value. Rather, it often arises due to the purchasers’ belief that a given firm has been mismanaged and that, through control, they may increase the fundamental value of the firm to a significant degree.<sup>59</sup> Alternatively or complementarily, a control premium may be justified when purchasers expect significant synergies that will enhance fundamental value.<sup>60</sup>

This exclusive focus on fundamentals (and, in certain cases, the control premium) implies that investors are uniform in their values, focusing on financial returns rather than non-financial considerations.<sup>61</sup> Although individuals have diverse preferences and values in other spheres, the traditional view of stock pricing holds that investors subordinate nonfinancial preferences and values to maximize financial returns at their desired level of risk.<sup>62</sup> Further, it is generally held that firms should focus exclusively on maximizing financial value, which the individual shareholders may then distribute in service of

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may be paid.”).

<sup>56</sup> Cha & Lee, *supra* note 4, at 216 (“equity prices should only be affected by fundamentals such as expected cash flows and discount rates”).

<sup>57</sup> *Id.* at 196 (stating that trades influence share prices only to the extent that they provide new fundamental information: “prices would fully adjust to the expected value of information in trades, and this adjustment would not imply an inducement in the form of subsequent abnormal profits for share purchasers”).

<sup>58</sup> Stout, *supra* note 22, at 640.

<sup>59</sup> Manne, *supra* note 4, at 113 (“The lower the stock price, relative to what it could be with more efficient management, the more attractive the take-over becomes to those who believe that they can manage the company more efficiently.”).

<sup>60</sup> Robert G. Eccles, et al., *Are You Paying Too Much for that Acquisition*, HARV. BUS. REV. (1999), <https://hbr.org/1999/07/are-you-paying-too-much-for-that-acquisition> (discussing the five types of synergies acquirers may consider to justify paying a premium in an acquisition).

<sup>61</sup> Stout, *supra* note 22, at 645 (discussing traditional finance’s “underlying assumption of investor homogeneity”).

<sup>62</sup> *Id.* at 641 (explaining the orthodox view that “investors value securities according to only two criteria: expected return, and expected nondiversifiable (or market) risk.”)

nonfinancial goals if they so choose.<sup>63</sup> Such nonfinancial preferences and values thus become a personal matter and can be safely ignored.<sup>64</sup>

Additionally, the classical view of stock pricing necessitates a stark dichotomy between consumption and investment activities. In the consumption sphere, individuals are understood to be motivated by a number of diverse factors.<sup>65</sup> Although financial considerations are certainly relevant, we readily accept that nonfinancial factors, such as aesthetic considerations, moral and ethical values, and idiosyncratic preferences play a significant role in consumption decisions.<sup>66</sup> However, the orthodox view holds that investment behavior is motivated exclusively by financial considerations.<sup>67</sup> Investors are believed to act in a rationally self-interested manner to further their financial returns, untroubled by other factors that would apparently burden them if they were purchasing consumer goods.<sup>68</sup> This sharp dichotomy implies that there is no consumption aspect to investing—that is, investors derive nothing from the ownership or non-ownership of equities beyond the risk and return characteristics they represent. Activities such as sacrificing returns for ethical considerations, or buying a meme stock because it is fun, are thus incompatible with the traditional view of investor motivation and rationality.

#### *E. Prices Are Determined by Sophisticated Investors*

Of course, classical finance is not so simplistic that it assumes no market participants ever act irrationally. Rather, it avoids the complications of irrationality by confining irrational action to small, unsophisticated investors who do not own enough stock to influence market prices.<sup>69</sup> Although some investors may trade based on “irrational” (i.e., nonfinancial) factors, these trades do not convey new information about fundamental value and thus are presumed not to affect the price.<sup>70</sup> Large, sophisticated investors will quickly arbitrage away

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<sup>63</sup> Oliver D. Hart & Luigi Zingales, *The New Corporate Governance*, NBER Working Paper No. 29975 1,7 (Apr. 2022) (characterizing the traditional view in the following manner: “Given that individual shareholders can do anything the firm can do, it still makes sense for the firm to maximize profit, and for individual shareholders to engage in public welfare activities themselves.”).

<sup>64</sup> *Id.*

<sup>65</sup> Eric Almquist, et al., *The Elements of Value*, HARV. BUS. REV. (Sept. 2016) (identifying 30 elements of value that consumers consider when buying goods and services, including factors related to function, emotional impact, life impact, and social impact).

<sup>66</sup> *Id.*

<sup>67</sup> Lawrence E. Mitchell, *The Human Corporation: Some Thoughts on Hume, Smith, and Buffett*, 19 CARDOZO L. REV. 341, 358 (1997) (indicating that “the current fictionalized model of the stockholder” presumes shareholders have “the single goal of maximizing profits”).

<sup>68</sup> See *West v. Prudential Sec., Inc.*, 282 F.3d 935, 939 (7th Cir. 2002).

<sup>69</sup> See, e.g., *Asher v. Baxter Int'l Inc.*, 377 F.3d 727, 733 (7th Cir. 2004), *as amended* (Sept. 3, 2004) (referring to “those professional investors whose trades determine the market price”).

<sup>70</sup> *Id.*

any price discrepancy between fundamental value and whatever value “irrational” investors are willing to pay.<sup>71</sup> This is possible because large, sophisticated investors control a sufficient amount of stock market capital to ensure that stock prices reflect fundamentals rather than idiosyncratic investor preferences.<sup>72</sup> These investors will either ignore those with idiosyncratic preferences or, particularly in the case of arbitrageurs, happily profit from the ignorance and idiosyncrasies of the less sophisticated.<sup>73</sup> Under this framework, then, the only players to influence market prices are sophisticated, often professional, market actors who embody the traditional archetype of an investor: an exclusive focus on fundamentals with no concern for nonfinancial values.

## II. EVIDENCE FOR EXTRINSIC VALUE

This Part identifies a series of “anomalies” where the orthodox view of stock market behavior described in Part I above appears to be violated. Part II.A explores the index premium, or the stock price boost that accompanies inclusion in a stock market index. Part II.B examines emerging finance research on the multiplier effects of stock purchases, which provide evidence that investment in the stock market is inelastic. Part II.C considers the “meme stock” phenomenon of the early 2020s and its implications for stock pricing models. Part II.D discusses the growth of ESG investing and its impact on stock pricing. Part II.E explores the proliferation of stock buybacks and considers whether demand inelasticity may contribute to the growth of these types of payouts. Part II.F considers the intersection of investment and consumption and what the growing overlap suggests about the nature of the stock market. Part II.G provides a conclusion for this Part.

### A. *The Index Premium*

One set of anomalous findings regarding stock pricing was first documented in the 1980s and has since come to be known as the “index premium.” Each year, a handful of companies drop out of the S&P 500 index.<sup>74</sup> When a company is removed from the index, a new firm is simultaneously added to maintain a

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<sup>71</sup> Gilson & Kraakman, *supra* note 6, at 571 (“[R]apid price equilibration does not require widespread dissemination of information, but only a minority of knowledgeable traders who control a critical volume of trading activity.”).

<sup>72</sup> *Id.* (“In today’s securities markets, the dominant minority of informed traders is the community of market professionals, such as arbitrageurs, researchers, brokers and portfolio managers, who devote their careers to acquiring information and honing evaluative skills. The trading volume in most securities that these professionals control, directly or indirectly, seems sufficient to assure the market’s rapid assimilation into price of most routine information.”).

<sup>73</sup> *Id.*

<sup>74</sup> Shleifer, *supra* note 8, at 579.

total of 500 companies within the index.<sup>75</sup> Numerous empirical studies have found that the announcement of a firm's *inclusion* of a stock in the S&P 500 index yields abnormal positive returns for shareholders,<sup>76</sup> while the announcement of a firm's *removal* from the index is accompanied by significantly reduced returns.<sup>77</sup> Similar findings have been observed for other indices, such as the Russell 1000,<sup>78</sup> Russell 2000,<sup>79</sup> and the Dow Jones Industrial Average index,<sup>80</sup> as well as for foreign indices, including those in Canada,<sup>81</sup> Japan,<sup>82</sup> and the United Kingdom.<sup>83</sup>

Under the orthodox view of horizontal demand curves for all stocks, the index premium is an unexpected outcome.<sup>84</sup> Since most financially relevant information leading to index inclusion or deletion is publicly available *before* the announcement of inclusion or deletion, index inclusion theoretically should not

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<sup>75</sup> *Id.*

<sup>76</sup> *Id.* at 583 (finding that inclusion in the S&P 500 index has yielded a 3% announcement date capital gain which persisted for at least 10-20 trading days); Lawrence Harris & Eitan Gurel, *Price and Volume Effects Associated with Changes in the S&P 500 List: New Evidence for the Existence of Price Pressures*, 41 J. FIN. 815, 815 (Sept. 1986) (finding a 3% boost to stock prices following inclusion in the S&P 500 index); Messod D. Beneish & Robert E. Whaley, *An Anatomy of the "S&P Game": The Effects of Changing the Rules*, 51 J. FIN. 1909, 1909 (Dec. 1996) (finding that price increases following the announcement of inclusion in the S&P 500 index persisted and even increased despite a change in the timing of the announcement); Petajisto, *supra* note 17, at 271 (finding that the average price impact for announcement of inclusion to the S&P 500 index was 8.8% from 1990-2005).

<sup>77</sup> See, e.g., Petajisto, *supra* note 17, at 271 (finding that the average price impact for announcement of removal to the S&P 500 index was -15.1% from 1990-2005).

<sup>78</sup> Yen-Cheng Chang, et al., *Regression Discontinuity and the Price Effects of Stock Market Indexing*, 28.1 REV. FIN. STUDIES 212, 212 (2015) (finding that stock price increases on inclusion in the Russell 1000).

<sup>79</sup> Petajisto, *supra* note 17, at 271 (finding that inclusion in the Russell 2000 index is associated with a price increase of 4.7%, while removal results in a price reduction of 4.6%).

<sup>80</sup> Ernest Biktimirov & Yuanbin Xu, *Market Reactions to Changes in the Dow Jones Industrial Average Index*, 15 INT'L J. MANAGERIAL FIN. 792, (2019) (finding that additions to the Dow Jones Industrial Average index experience a "permanent" price increase).

<sup>81</sup> Aditya Kaul, et al., *Demand Curves for Stocks Do Slope Down: New Evidence from an Index Weights Adjustment*, 55 J. FIN. 893 (Apr. 2002) (finding that inclusion in the Toronto Stock Exchange 300 index resulted in significant abnormal returns of 2.3% during the event week with no subsequent reduction in stock price).

<sup>82</sup> Shinhua Liu, *Changes in the Nikkei 500: New Evidence from Downward Sloping Demand Curves for Stocks*, 1 INT'L REV. FIN. 245, 247 (2000) (finding that additions to the Nikkei 500 induce significant price increases without post-event reversals).

<sup>83</sup> Eric J. Levin & Jonathan R. Wright, *Downward Sloping Demand Curves for Stock?*, 23.1 STUDIES IN ECON. & FIN. 51, 51 (2006) (finding evidence of anomalous price reductions for stocks removed from the Financial Times Stock Exchange 100 Index).

<sup>84</sup> Shleifer, *supra* note 8, at 579 ("If the demand curve is horizontal, inclusion of a stock into the S&P 500 should not be accompanied by a share price increase. In contrast, if the demand curve slopes down, we should observe a share price increase at the announcement of the inclusion.").

be accompanied by significant price effects.<sup>85</sup> However, inclusion or deletion does lead to increased *demand* for a given stock, because index funds that track a given index purchase or sell shares in response to a stock's addition or deletion.<sup>86</sup> Thus, for many scholars, the index premium is suggestive of downward-sloping (rather than horizontal) demand curves for stocks.<sup>87</sup>

However, other researchers argue that there are alternate explanations for the index premium. One such hypothesis argues that a given stock's inclusion in an index provides financially relevant information about the future prospects of the company, therefore justifying a price increase for the stock.<sup>88</sup> Empirical support for this hypothesis comes from observations of a comparable price impact for both the well-known S&P 500 and other supplementary indices,<sup>89</sup> evidence of improvements in realized earnings for companies added to the S&P 500,<sup>90</sup> and positive price performance for industry and size-matched firms to those added to the S&P 500.<sup>91</sup> A second hypothesis argues that stocks added to major indices experience increased liquidity, which itself justifies price increases.<sup>92</sup> A third hypothesis, the information cost hypothesis, argues that investors would willingly pay a premium for stocks with more available

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<sup>85</sup> Aditya Kaul, et al., *Demand Curves for Stocks Do Slope Down: New Evidence from an Index Weights Adjustment*, 55 J. FIN. 893, 893 (Apr. 2002) ("A different class of events—additions to widely followed stock market indexes—ostensibly provides a setting where information effects should not be present.").

<sup>86</sup> *Id.* (summarizing the argument that "if S&P index membership is associated with increased demand for the stock, the price increase is, *prima facie*, consistent with downward-sloping demand curves.").

<sup>87</sup> See, e.g., Shleifer, *supra* note 8, at 579 (stating that the index premium observed in the study is "consistent with the hypothesis that demand curves for stocks slope down"); Richard A. Booth, *The Efficient Market, Portfolio Theory, and the Downward Sloping Demand Hypothesis*, 68 N.Y.U. L. REV. 1187, 1188 (1993) ("Recently, however, scholars have begun to question the idea that investor demand for stock is horizontal, raising the prospect that demand may be downward sloping.").

<sup>88</sup> Prem C. Jain, *The Effect on Stock Price of Inclusion in or Exclusion from the S&P 500*, 43.1 FIN. ANAL. J. 58, 63 (1987) (arguing that experimental results "provide strong evidence that the S&P decisions have information content").

<sup>89</sup> *Id.*

<sup>90</sup> Diane K. Denis, et al., *S&P 500 Index Additions and Earnings Expectations*, 58.5 J. FIN. 1821, 1835 (2003) (finding that "companies that are added to the S&P 500 Index experience better operating performance (as measured by realized EPS) relative to expectations than do their peers.").

<sup>91</sup> Jie Cai, *What's in the news? Information content of S&P 500 additions*, 36 FIN. MGMT. 113, (2007) ("I find that the industry and size matching stocks of the added stocks also have significantly positive price reaction. However, the trading volume of these matching stocks does not increase. This evidence suggests that the S&P 500 index additions convey favorable information about the industry and size segment represented by the added stock, which explains at least part of the price effect of the added stock.").

<sup>92</sup> Avner Kalaya, et al., *Measuring Stock Illiquidity: An Investigation of the Demand and Supply Schedules at the TASE*, 74 J. FIN. ECON. 461, 463 (2004) (arguing that index inclusion "changes the stock's expected liquidity, thereby increasing its market value").



information, and that stocks which are part of an index typically have more available information.<sup>93</sup>

The forty-year-old debate about the cause of the index premium—and its implications for the nature of stock market pricing—is as yet unresolved.<sup>94</sup> Because of the ongoing uncertainty, the index premium has not been considered conclusive evidence of the inelasticity of the stock market. Still, the evidence that index inclusion or deletion is accompanied by anomalous price gains provides some reason to doubt the orthodox view of stock pricing.

### *B. Recent Research on Demand Effects*

In addition to the index premium, a number of recent academic studies have found further evidence consistent with downward-sloping demand for stocks. These studies are a part of a new and emerging consensus on the inelastic nature of the stock market.<sup>95</sup> Such research uses different events and phenomena to not only demonstrate downward-sloping demand in the abstract but also to calculate its price impact. Together, this series of anomalous findings casts further doubt on the traditional view of the stock market as indifferent to demand pressures.

One such study explores the price impact of each additional dollar invested in the stock market as a whole (i.e., “macro” demand). Under horizontal demand curve orthodoxy, equity flows that are unrelated to fundamentals should have no effect on stock prices.<sup>96</sup> In theory, only equity flows that convey new information (e.g., sales of stock by a company insider) should affect stock prices.<sup>97</sup> However, recent data suggests that, for every dollar added to the stock market, overall equity values rise by roughly five dollars.<sup>98</sup> That is, every dollar

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<sup>93</sup> William N. Goetzmann & Mark Garry, *Does Delisting from the S&P 500 Affect Stock Price?*, 42 FIN. ANALYSTS J. 64, 68 (1986) (arguing that delisting from the S&P 500 communicates meaningful information “regarding the amount and quality of future analysis and reportage”).

<sup>94</sup> Ernest Biktimirov & Yuanbin Xu, *Market Reactions to Changes in the Dow Jones Industrial Average Index*, 15 INT’L J. MANAGERIAL FIN. 792, 792 (2019) (noting that “researchers still disagree on the explanations for observed results and argue for different hypotheses.”).

<sup>95</sup> See Ralph S.J. Koijen, et al., *Which Investors Matter for Equity Valuations and Expected Returns?*, 1, 2 (Working Paper, July 2022), [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3378340](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3378340) (“In recent years, the availability of portfolio holdings data and progress on longstanding identification challenges have revealed an important fact: asset demand for financial assets is much less elastic than standard asset pricing models predict.”); Markus Brunnermeier, et al., *Review Article: Perspectives on the Future of Asset Pricing*, 34.4 REV. FIN. STUDIES 2126, 2144 (Apr. 2021) (stating that “the recent work on demand systems suggests that investors do not behave as our models suggest”); Van der Beck & Jaunin, *supra* note 9, at 5 (referring to “recent and growing literature on the inelastic nature of equity markets”).

<sup>96</sup> Cha & Lee, *supra* note 4, at 216–216 (“equity prices should only be affected by fundamentals such as expected cash flows and discount rates”).

<sup>97</sup> *Id.*

<sup>98</sup> Gabaix & Koijen, *supra* note 1, at 1.

of equity added to or removed from the stock market effectively has a 5X multiplier.<sup>99</sup> Importantly, the price effects from inflows are not a short-term phenomenon—they are durable over the long term.<sup>100</sup> This emerging research strongly suggests that demand for stocks (measured by new equity inflows) is a major but understudied determinant of equity prices.

A second group of recent studies examines “factor-level” or “style-level” multipliers. These studies focus on large groups of stocks sharing common characteristics rather than the market as a whole. One such study exploited a change in Morningstar’s mutual fund ratings methodology to estimate a multiplier of 5.3 for stocks impacted by the change.<sup>101</sup> Additional “factor-level” studies utilizing fund flow methodology found multipliers with a magnitude of 4.3 as evidenced by factor rebalancing<sup>102</sup> and 5.7 as evidenced by price fluctuations in the Fama-French size and value factors.<sup>103</sup> These studies collectively suggest that “a sizeable fraction of the common variation in stock returns can be empirically linked to nonfundamental correlated demand.”<sup>104</sup>

Other recent studies look at the price impact of investment in individual stocks (i.e., “micro” demand). These studies find strong evidence for the existence of multiplier effects, which imply downward-sloping demand curves, for investment in individual stocks. The estimates of the size of the multiplier effects vary, with one study utilizing a dividend payout methodology estimating a multiplier of .8<sup>105</sup> and others using a trade-level permanent price impact methodology estimating a multiplier as high as 15,<sup>106</sup> for an average micro level multiplier of approximately 1.<sup>107</sup> In other words, recent studies suggest that buying 1% of the outstanding shares of a given stock causes its price to increase approximately 1%, depending on the particular study and methodology. Under the orthodox understanding, the price increase should be

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<sup>99</sup> *Id.*

<sup>100</sup> *Id.* at 3 (“[T]he data are consistent with a quite long-lasting price impact of flows. Indeed, in the simplest version of the model, the price impact is perfectly long-lasting.”).

<sup>101</sup> Itzhak Ben-David, et al., *Non-Fundamental Demand and Style Returns* 1, 27 (NBER Working Paper 28103, 2020), [https://www.nber.org/system/files/working\\_papers/w28103/rev0.pdf](https://www.nber.org/system/files/working_papers/w28103/working_papers/w28103/rev0.pdf).

<sup>102</sup> Cameron Peng & Chen Wang, *Factor Demand and Factor Returns* 1, 4 (Working Paper, 2022), [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3327849](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3327849) (stating that their average estimate for elasticity is -.23, the inverse of which (i.e., the multiplier) is approximately -4.3).

<sup>103</sup> Jiacui Li, *What Drives the Size and Value Factors?*, 1, 26 (Working Paper, 2021), [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2909960](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2909960).

<sup>104</sup> Ben-David, *supra* note 101, at 6.

<sup>105</sup> Gabaix & Koijen, *supra* note 1, at 11 (citing Simon Schmickler, *Identifying the Price Impact of Fire Sales Using High-Frequency Surprise Mutual Fund Flows* (Working Paper, 2020), [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3488791](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3488791)).

<sup>106</sup> *Id.* (citing two studies with multiplier effects of 15 but noting that “the interpretation of this kind of microstructure estimates requires some caution”).

<sup>107</sup> *Id.* (“While there is a range of estimates, the order of magnitude of the multiplier is around 1.”)

0%.<sup>108</sup> This strain of recent research strongly suggests that the classic view of stock pricing is at best incomplete and, for certain stocks, strongly counter to mounting empirical data.

Overall, there is strong empirical evidence for the existence of a multiplier effect at the aggregate (stock market) level, the factor level, and the level of individual stocks. These studies challenge the classic understanding of perfectly elastic demand for stocks, and they suggest that there may be different multipliers for different stocks and/or for different categories of stocks.

### C. *Meme Stocks*

The “meme stock” phenomenon of the early 2020s provides further evidence that investor demand can shift stock prices, sometimes dramatically so. This phenomenon is perhaps best exemplified by GameStop. In late January 2021, shares of GameStop surged in price by a staggering 2,265%—a dramatic increase which cannot be explained by traditional fundamental analysis alone.<sup>109</sup> Other so-called meme stocks, including AMC Entertainment Holdings and Bed, Bath and Beyond, exhibited similarly sharp and seemingly unjustified price increases.<sup>110</sup> Some, but not all, of the meme stocks had a high short interest. For example, GameStop, which experienced the highest price increase, had a high short interest.<sup>111</sup> In contrast, Koss stock, which exhibited the second highest price increase, had a short interest of just 4%.<sup>112</sup> Thus, researchers believe that something beyond pure “short squeeze” pressure is responsible for the phenomenon.<sup>113</sup>

Most commentators attribute the dramatic price gains for meme stocks to the actions of small group of “Reddit traders”<sup>114</sup> (as they often communicate on the social media platform Reddit), also referred to as “Robinhood traders”<sup>115</sup>

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<sup>108</sup> Cha & Lee, *supra* note 4, at 216 (“equity prices should only be affected by fundamentals such as expected cash flows and discount rates”).

<sup>109</sup> *Are “meme stocks” harmless fun, or a threat to the financial old guard?*, THE ECONOMIST (July 6, 2021), <https://www.economist.com/the-economist-explains/2021/07/06/are-meme-stocks-harmless-fun-or-a-threat-to-the-financial-old-guard>.

<sup>110</sup> *Id.*

<sup>111</sup> Arash Aloosha, et al., *The Tail Wagging the Dog: How Do Meme Stocks Affect Market Efficiency?* 1, 16 (Working Paper, 2022), [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3839832](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3839832).

<sup>112</sup> *Id.*

<sup>113</sup> *Id.*

<sup>114</sup> Wayne Duggan, *8 Reddit Stocks Trending Now*, U.S. NEWS (July 18, 2022), <https://money.usnews.com/investing/stock-market-news/articles/top-reddit-stocks-gaining-buzz> (“Reddit traders rallied around GameStop in early 2021, sending its stock price soaring from under \$20 to as high as \$483 in a matter of weeks.”).

<sup>115</sup> Annie Massa, *Robinhood Gets Ready for the Meme Stock World It Created*, BLOOMBERG (July 14, 2021), <https://www.bloomberg.com/news/newsletters/2021-07-14/robinhood-gets-ready-for-the-meme-stock-world-it-created> (“During the pandemic, Robinhood traders congregated on Reddit message boards and drove wild swings in the price of companies like

(because many of them use the commission-free trading platform Robinhood). Under the orthodox view of stock pricing, the demand of a subset of investors, in particular a group like these Reddit traders who held a “negligible market share” of outstanding stock, should not have a significant influence on stock prices.<sup>116</sup> However, researchers have found that, during the meme stock episode, the “majority of return variation was driven by demand effects” rather than changes in fundamentals.<sup>117</sup>

The ability of a small subset of the investor population to shift prices can be understood in the context of inelasticity multiplier effects.<sup>118</sup> Individual meme stocks had very high multipliers; for example, GameStop’s inelasticity multiplier was 5.5 as of July 2020, well before it reached peak meme stock status.<sup>119</sup> Such a large multiplier means that purchasing 10% of GameStop’s stock would increase the stock’s price by 55%.<sup>120</sup> The dramatic multiplier effect for this particular stock helps explain how a small group of traders had such a large impact on the stock’s price.

Why did GameStop have such a high multiplier (i.e., exhibit such significant inelasticity)? Researchers believe that the high multiplier was the result of the balance among investors of various types, which determines the “elasticity of aggregate demand.”<sup>121</sup> In this case, some investors (the “Reddit investors”) can be considered “all-in” traders who leverage any new \$1 in wealth towards the purchase of additional shares.<sup>122</sup> In stark contrast, “value investors” are *deterred* from purchasing more shares by price increases.<sup>123</sup> In the case of extremely high prices, value investors “demand a negative quantity and are short the asset.”<sup>124</sup> When the positive elasticity of all-in investor demand outweighs the negative elasticity of value investor demand, price ratcheting occurs, as was observed for meme stocks in early 2021.<sup>125</sup> Importantly, researchers speculate that all-in investor demand for meme stocks may have been partly driven by non-financial factors, including nostalgia, irony, or an emotion-based opposition to hedge funds.<sup>126</sup> The notion that non-financial motivations significantly influence

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GameStop Corp. and AMC Entertainment Holdings Inc.”).

<sup>116</sup> See Van der Beck & Jaunin, *supra* note 9, at 1 (referring to meme stock traders’ “negligible market share”).

<sup>117</sup> *Id.* at 4, 18.

<sup>118</sup> *Id.* at 4-5.

<sup>119</sup> *Id.* at 5.

<sup>120</sup> *Id.*

<sup>121</sup> Edward Dickersin Van Wesp & Brian Waters, *The Sky’s the Limit: Bubbles and crashes when margin traders are all in* 1, 1 (Working Paper, 2021).

<sup>122</sup> *Id.* (noting that for all-in option investors, when a contract rises in price, “demand for contracts slopes upward, and the demand for shares that hedge these positions therefore slopes upward as well.”).

<sup>123</sup> *Id.*

<sup>124</sup> *Id.* at 14.

<sup>125</sup> *Id.* at 29-30.

<sup>126</sup> *Id.* at 16.

investor behavior is a further departure from traditional asset pricing models.

There are several key lessons to be taken from the meme stock phenomenon. First, this phenomenon provides further evidence that the demand for stock is not perfectly elastic. Second, it suggests that different stocks have different elasticities, with some stocks having far higher multipliers than others. Third, it suggests that demand may be influenced by social and emotional factors in addition to pure fundamentals.

#### *D. ESG Investing*

A fourth anomaly is the historical outperformance of ESG (environmental, social, and governance) stocks. In recent years, ESG investment vehicles have exploded in popularity, with growth expected to continue.<sup>127</sup> Broadly defined, total ESG assets are expected to reach a staggering \$50 trillion by 2025.<sup>128</sup>

Although results for individual studies are somewhat mixed, multiple meta-analyses of studies on ESG returns reveal that ESG-targeted investment strategies are generally associated with abnormal positive returns.<sup>129</sup> If we assume horizontal demand for all stocks, including ESG stocks, the primary explanation for outsized returns would be that there is new financial information conveyed by ESG designation, ESG score, or association with common ESG attributes.<sup>130</sup> For instance, some investors may view ESG attributes through the lens of risk mitigation.<sup>131</sup> However, most information about ESG factors is already publicly available.<sup>132</sup> A competing hypothesis is therefore that the price of ESG stocks reacts to capital inflows.<sup>133</sup>

Evidence suggests that, despite orthodox views on asset pricing, the incredible demand for ESG investment assets has indeed influenced asset

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<sup>127</sup> Saijel Kishan, *ESG by the Numbers: Sustainable Investing Set Records in 2021*, BLOOMBERG (Feb. 3, 2022), <https://www.bloomberg.com/news/articles/2022-02-03/esg-by-the-numbers-sustainable-investing-set-records-in-2021>.

<sup>128</sup> *Id.*

<sup>129</sup> See, e.g., Gunnar Friede, et al., *ESG and financial performance: aggregated evidence from more than 2000 empirical studies*, 5 J. SUSTAINABLE FIN. & INVESTMENT 210, 211 (2015) (assessing 2000 empirical studies and finding that ESG strategies are generally associated with positive returns); Tensie Whelan, et al., *Uncovering the Relationship by Aggregating Evidence from 1,000 Plus Studies Published between 2015 – 2020*, NYU STERN CTR. FOR SUSTAINABLE BUS. (2021), [https://www.stern.nyu.edu/sites/default/files/assets/documents/NYU-RAM\\_ESG-Paper\\_2021%20Rev\\_0.pdf](https://www.stern.nyu.edu/sites/default/files/assets/documents/NYU-RAM_ESG-Paper_2021%20Rev_0.pdf) (reviewing 1,000 studies and finding positive returns for ESG investing strategies).

<sup>130</sup> See Knoll, *supra* note 130, at 712.

<sup>131</sup> Patrick Bolton & Marcin Kacperczyk, *Do Investors Care about Carbon Risk?* 142 J. FIN. ECON. 517, 517 (2021) (“[O]ur results are consistent with an interpretation that investors are already demanding compensation for their exposure to carbon emission risk”). *But see* Van der Beck, *supra* note 7, at 5 (discussing the mixed results in the empirical literature and summarizing the various causal theories proposed).

<sup>132</sup> Knoll, *supra* note 130, at 712.

<sup>133</sup> See Van der Beck, *supra* note 7, at 4.

prices.<sup>134</sup> The multiplier for ESG stocks is estimated to be 1.17, meaning that each \$1 invested in ESG stocks yields a price increase of about \$1.17.<sup>135</sup> Similarly, to the extent that index-tracking mutual funds adhere to inclusions in the Vanguard 4Good index, those inclusions have an estimated multiplier of 1.69, meaning that each \$1 invested in these firms yields a price increase of \$1.69.<sup>136</sup> As a result of these multiplier effects, ESG stocks outperformed the market in realized returns from 2016-2021 but would have underperformed the broader market in the absence of inflows to ESG funds.<sup>137</sup>

The case of ESG investing thus provides further evidence that equity demand exhibits significant inelasticity and that stock prices react to flows.<sup>138</sup> Additionally, the observed outperformance of ESG investments suggests that fundamental analysis alone is insufficient to explain all pricing effects.

### *E. Stock Buybacks*

An additional anomaly is the impact of stock buybacks on share price. A stock buyback (also known as a share repurchase) refers to a corporation's reacquisition of its own shares from its shareholders.<sup>139</sup> According to standard finance principles, stock buybacks should not "have any tendency to raise the market price."<sup>140</sup> This is because, assuming perfectly horizontal demand for

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<sup>134</sup> *Id.*

<sup>135</sup> *Id.*

<sup>136</sup> *Id.* (finding that "the inclusions [in the Vanguard 4Good index] that are followed by index trackers are associated with significantly higher returns."). *But see* Jonathan Berk & Jules van Binsbergen, *The Impact of Impact Investing* 1, 4 (Working Paper, June 2022), [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3909166](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3909166) (finding an "extremely small estimated effect on the cost of capital" for inclusions in the Vanguard 4Good index). However, Berk & van Binsbergen did not limit their study to those inclusions actually followed by index trackers. *See* Van der Beck, *supra* note 7, at 7 ("Using index inclusion as in Berk and van Binsbergen (2022), I find that the stocks purchased by ESG index trackers have significantly higher contemporaneous returns.").

<sup>137</sup> Van der Beck, *supra* note 7, at 4.

<sup>138</sup> Stock prices react to both inflows and outflows, and stocks which realize greater price increases from inflows will also realize greater price declines from outflows (i.e., in general, the multiplier effect applies bidirectionally). This is perhaps particularly relevant given the disproportionate price declines of ESG stocks in 2022. *See* Gabaix & Koijen, *supra* note 1, at n.1 (discussing the "symmetric and linear" impact that demand has on stock price). However, fundamental value may act as a floor for stock prices, such that stock price is unlikely to remain below fundamental value for an extended period of time. *See infra* Part III.B (discussing demand curve asymmetry and its various causes).

<sup>139</sup> Ok-rial Song, *Hidden Social Costs of Open Market Share Repurchases*, 27 J. CORP. L. 425, 480 (2002).

<sup>140</sup> Booth, *supra* note 3, at 1087-88; *see also* Lynn A. Stout, *How Efficient Markets Undervalue Stocks: CAPM and ECMH Under Conditions of Uncertainty and Disagreement*, 19 CARDOZO L. REV. 475, 489 (1997) ("According to the Miller-Modigliani theorem—a close cousin of the ECMH/CAPM—a firm's decision to pay dividends or repurchase stock ought to have no effect, positive or negative, on share prices."); Song, *supra* note 139, at 432 ("Fundamentally, any payout

stock, the excess demand induced by the corporation's own stock purchases should be offset by the actions of other investors.<sup>141</sup>

However, finance research suggests that stock buybacks do, in fact, affect share prices.<sup>142</sup> On a macro level, researchers estimate that every \$1 spent on stock repurchases induces a \$2 increase in equity values.<sup>143</sup> On a micro level, former SEC commissioner Robert Jackson recently found that share buybacks generate post-announcement abnormal returns of more than 2.5%.<sup>144</sup> Other studies have found that share buybacks generate returns of 3.5% (for open market repurchases)<sup>145</sup> and 8% (for repurchase tender offers).<sup>146</sup> Although this arguably should not occur in an orthodox framework, particularly at the macro level,<sup>147</sup> the empirical evidence suggests that it does.<sup>148</sup>

Various explanations have been proposed as to why, in a world with perfectly elastic demand, conducting share buybacks might increase stock prices. One explanation is that share buybacks influence stock prices because they act

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policy, including no distribution at all, may be treated equally, because the total wealth of the shareholders is left unchanged.”).

<sup>141</sup> Booth, *supra* note 3, at 1087–88.

<sup>142</sup> Gabaix & Koijen, *supra* note 1, at 4 (“For instance, stock buybacks can have a large aggregate effect.”).

<sup>143</sup> *Id.*

<sup>144</sup> Robert J. Jackson, Jr., *Stock Buyouts and Corporate Cashouts*, HARV. L. SCH. F. ON CORP. GOVERNANCE (June 13, 2018), <https://corpgov.law.harvard.edu/2018/06/13/stockbuyouts-and-corporate-cashouts/>.

<sup>145</sup> Jesse M. Fried, *Insider Signaling and Insider Trading with Repurchase Tender Offers*, 67.2 U. CHI. L. REV. 421, 444 (2000).

<sup>146</sup> *Id.*

<sup>147</sup> Gabaix & Koijen, *supra* note 1, at 4 (“Suppose that the corporate sector buys back \$1 worth of equities rather than paying \$1 worth of dividends. In the traditional Modigliani-Miller world, the market value of equities does not change at all.”).

<sup>148</sup> A related phenomenon is observed in connection with the distribution of corporate profits to the firm's shareholders via dividend payouts. Under classical finance theory, dividend payouts should be “irrelevant;” that is, they should have no influence on stock prices or total returns to shareholders. If stock values “are determined solely by ‘real’ considerations—in this case the earning power of the firm's assets and its investment policy,” then values should not be influenced by “how the fruits of the earning power are ‘packaged’ for distribution.” Merton H. Miller & Franco Modigliani, *Dividend Policy, Growth and the Valuation of Shares*, 34 J. BUS. 411, 414 (1961) (“[W]e may conclude that given a firm's investment policy, the dividend payout policy it chooses to follow will affect neither the current price of its shares nor the total return to its shareholders.”). However, recent empirical research suggests that the issuance of dividends does indeed have a positive influence on “connected firms” (that is, firms commonly held in the same portfolio). An estimated 1% demand shock translates into a 0.8% return for connected firms. Simon N. M. Schmickler & Pedro Tremacoldi-Rossi, *Spillover Effects of Payouts on Asset Prices and Real Investment* 1, 3 (Working Paper, Apr. 2022), <http://papers.simon Schmickler.com/PIT.pdf>. In addition, dividend payouts also appear to lead to stock price growth at the macro-level. The estimated macro multiplier effect for dividend payouts was calculated as between 1.5 and 2.3. Samuel M. Hartzmark & David H. Solomon, *Predictable Price Pressure* 1, 4 (Working Paper, Feb. 2022), <https://www.fese.eu/app/uploads/2022/05/Predictable-Price-Pressure-Samuel-Hartzmark-and-David-Solomon.pdf>.

as signals for various factors affecting fundamental value.<sup>149</sup> Initiating share buybacks may signal that firm managers view the shares as undervalued, that a firm has excess cash, or, more negatively, that it lacks attractive options for future growth and investment.<sup>150</sup> Another explanation is that share buybacks may marginally lower a firm's cost of capital.<sup>151</sup> A further potential explanation is that share repurchases eliminate the possibility that the cash used for buybacks would be expended in less-than-optimal ways.<sup>152</sup> These are all, at least in certain contexts, plausible. However, none of the foregoing theories explain the price effects of buybacks observed on a macro (i.e., market-wide) level. For instance, whether a given firm optimally uses its cash should not affect the share prices of unrelated firms, nor should marginally lowering a given firm's cost of capital generate significant multiplier effects for unrelated equities.<sup>153</sup> And yet, we do observe share price effects for other equities, with research suggesting that every \$1 spent on buybacks has a roughly 2X multiplier at the macro level.<sup>154</sup> Thus, current attempts to explain the price effects of share buybacks within the confines of the orthodox framework offer, at best, a partial explanation.

One emerging explanation that addresses both the micro- and macro-level impacts is that stock prices react to flows.<sup>155</sup> Share buybacks, by mechanically generating flows, generate price increases.<sup>156</sup> This explanation would justify both the price impact of share buybacks for the issuing firm, as well as the price impacts observed for the market as a whole. The inelasticity of demand may thus provide an important piece of the puzzle for understanding the price effects of buybacks—increased demand, in an inelastic world, raises prices.

The positive share price effects of buybacks are likely an important factor in

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<sup>149</sup> Alon Brav et al., *Payout Policy in the 21st Century*, 77 J. FIN. ECON. 483, 492 (2005) (surveying CFOs and finding that the statement exhibiting the highest agreement with respect to share repurchases was “[r]epurchase decisions convey information about our company to investors.”).

<sup>150</sup> Richard Dobbs & Werner Rehm, *The Value of Share Buybacks*, MCKINSEY QUARTERLY, (Aug. 1, 2005); see also Alon Brav et al., *Payout Policy in the 21st Century*, 77 J. FIN. ECON. 483, 496 (2005).

<sup>151</sup> *Id.* (“When corporate taxes are part of the equation, the company's value does increase as a result of share buybacks—albeit by a small amount—because its cost of capital falls from having less cash or greater debt.”).

<sup>152</sup> Booth, *supra* note 3, at 1089 (1991) (noting, in the context of share buybacks, that shareholders may be “concerned that management will misinvest available cash”).

<sup>153</sup> It could perhaps be argued that a firm's decision to pursue buybacks conveys information about factors affecting the fundamental value not only of the subject firm but also of other firms as well. While this seems at least intuitively plausible for *closely related* firms (e.g., the fact that Ford's management views the firm as undervalued may convey meaningful information about General Motors), it seems less plausible that buybacks at a given firm might convey enough information about *unrelated* firms to generate the observed 2X multiplier effect.

<sup>154</sup> Gabaix & Koijen, *supra* note 1, at 4.

<sup>155</sup> *Id.* at 17 (“Share repurchases and issuances are just a type of flow.”).

<sup>156</sup> See generally *id.* (describing the price effects of flows in an inelastic market).



explaining their massive popularity in recent years.<sup>157</sup> Before the 1980s, firms very rarely repurchased any stock.<sup>158</sup> However, the 465 firms remaining in the S&P 500 index from 2009-2018 spent 52% of their net income (\$4.3 trillion) on buybacks over that period,<sup>159</sup> and the trend has only accelerated in recent years.<sup>160</sup> Stock repurchases reached record highs in 2021<sup>161</sup> and again in 2022.<sup>162</sup>

There are likely multiple factors behind the explosive growth of share buybacks.<sup>163</sup> However, the evidence suggesting that buybacks are able to mechanically generate positive abnormal returns due to market inelasticity informs our understanding of their meteoric growth.

Relatedly, the price effects of share repurchases may also influence executive motivations with respect to the desirability and magnitude of buybacks, both in fulfillment of fiduciary duties to shareholders and in pursuit of personal financial gain. From the fiduciary perspective, if demand pressure can increase stock prices, buybacks may present an effective channel for corporate actors to boost their firm's stock price and thereby benefit the firm's shareholders. From the perspective of management's self-interest, firm managers may personally benefit from the stock price effects of buybacks because stock-based compensation typically comprises a large portion of executive pay.<sup>164</sup> Ultimately, the significant price effects of buybacks are wholly unsurprising in a world of inelastic demand for equity assets, and they illustrate the potential for inelastic demand to significantly impact the behavior of important market actors.

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<sup>157</sup> Song, *supra* note 139, at 432 (discussing the ongoing debate over “[t]he reason firms pay out through open market stock repurchases”).

<sup>158</sup> Jerry Useem, *The Stock-Buyback Swindle*, THE ATLANTIC (Aug. 2019), <https://www.theatlantic.com/magazine/archive/2019/08/the-stock-buyback-swindle/592774/>.

<sup>159</sup> William Lazonick, et al., *Why Stock Buybacks Are Dangerous for the Economy*, HARV. BUS. L. REV. (Jan. 7, 2020), <https://hbr.org/2020/01/why-stock-buybacks-are-dangerous-for-the-economy?registration=success>.

<sup>160</sup> *S&P 500 Buybacks Set Quarterly and Annual Record*, S&P GLOBAL (Mar. 15, 2022), <https://press.spglobal.com/2022-03-15-S-P-500-Buybacks-Set-Quarterly-and-Annual-Record>.

<sup>161</sup> *Id.*

<sup>162</sup> Lu Wang, *US Corporations Are Still Lining Up to Buy Back Their Own Shares*, BLOOMBERG (Jan. 9, 2023), <https://www.bloomberg.com/news/articles/2023-01-09/corporate-america-is-still-lining-up-to-buy-back-its-own-stock-shares#xj4y7vzkg> (“American firms announced a record \$1.26 trillion of share buybacks in 2022, up 3% from a year ago.”).

<sup>163</sup> Song, *supra* note 139, at 432.

<sup>164</sup> Francine McKenna, *SEC's Jackson says research he's conducted shows corporate insiders are using buybacks to cash out*, MARKET WATCH (Mar. 6, 2019), <https://www.marketwatch.com/story/secs-jackson-says-research-hes-conducted-shows-corporate-insiders-are-using-buybacks-to-cash-out-2019-03-06> (discussing the potential interaction between share buybacks and executive compensation plans in which equity-based instruments comprise a large portion of executive pay); Nitzan Shilon, *Stock Buyback Ability to Enhance CEO Compensation: Theory, Evidence, and Policy Implications*, 25 LEWIS & CLARK L. REV. 303, 358 (2021) (concluding that stock buybacks “improve the performance measures that determine both annual bonuses and long-term incentive awards”).

### F. *Investor Inducements*

A sixth anomaly is the proliferation of “investor inducements,” or perks that a corporation offers only to stockholders. Dozens of companies now offer such inducements for investors. For instance, three cruise line companies—Carnival Corporation & PLC,<sup>165</sup> Royal Caribbean Cruises Ltd.,<sup>166</sup> and Norwegian Cruise Line Holdings Ltd.<sup>167</sup>—offer onboard credits to investors meeting minimum ownership thresholds.<sup>168</sup> Several hotel and travel companies offer booking discounts and other perks to investors, including InterContinental Hotels,<sup>169</sup> Irish Continental Group,<sup>170</sup> Accor,<sup>171</sup> and All Nippon Airways Co., Ltd.<sup>172</sup> Companies in other industries also give investors significant discounts: Ford Motor Co. gives investors access to special pricing rates on new vehicles,<sup>173</sup> Bloomsbury Publishing offers investors a 35% discount on all books published by the company,<sup>174</sup> and iRobot Corp. provides investors with a discount on its

<sup>165</sup> 2021 US Annual Report, CARNIVAL CORPORATION & PLC (2021), <https://www.carnivalcorp.com/static-files/50351a91-4dc0-4f6b-bfec-684647e6129f> (offering a \$50 to \$250 onboard credit, depending on cruise duration, for investors holding at least 100 shares in Carnival Corporation & PLC).

<sup>166</sup> *Shareholder Benefit*, ROYAL CARIBBEAN CRUISES LTD., [http://media.corporate-ir.net/media\\_files/nys/rcl/reports/Shareholder\\_Benefit2.pdf](http://media.corporate-ir.net/media_files/nys/rcl/reports/Shareholder_Benefit2.pdf) (offering a shareholder benefit in the form of an onboard credit to investors with at least 100 shares).

<sup>167</sup> *Shareholder Benefit Frequently Asked Questions*, NORWEGIAN CRUISE LINE HOLDINGS LTD., <https://d1io3yog0oux5.cloudfront.net/nclhld/files/documents/Shareholder+Benefit+FAQs.pdf> (providing details of the shareholder benefit program, which include onboard credits for shareholders).

<sup>168</sup> See, e.g., *id.* (providing that onboard credits are available only to shareholders holding at least 100 shares).

<sup>169</sup> *FAQs*, INTERCONTINENTAL HOTELS GROUP, <https://www.ihgplc.com/en/investors/shareholder-centre/faqs> (2022) (“IHG offers discounted hotel stays (subject to availability) for ordinary shareholders who hold their shares in certified form, in their sole name, with the Companies Registrar.”).

<sup>170</sup> *Shareholder Services*, IRISH CONTINENTAL GROUP, <https://icg.ie/investors/shareholder-services/> (detailing the travel discounts available to registered shareholders of 1,000 shares).

<sup>171</sup> *Terms and conditions of Accor Shareholders Club membership*, ACCOR, <https://group.accor.com/en/finance/individual-shareholders/terms-and-conditions-of-accor-shareholders-club-membership> (describing the benefits available to Accor shareholders including automatic access to the hotel’s loyalty program and the ability to tour hotels).

<sup>172</sup> *Shareholder Benefit Program*, ANA HOLDINGS INC., <https://www.ana.co.jp/group/en/investors/stock/benefit/> (describing a series of discounts available to stockholders, including “50% off discount coupons of the ANA FLEX fare of any ANA domestic flight.”).

<sup>173</sup> *Shareholder Relations*, FORD MOTOR COMPANY, [https://s23.q4cdn.com/799033206/files/doc\\_downloads/Shareholder-Relations-X-Plan-Request.pdf](https://s23.q4cdn.com/799033206/files/doc_downloads/Shareholder-Relations-X-Plan-Request.pdf) (describing a program designed to “put qualifying shareholders behind the wheel of a new Ford Motor Company vehicle at a predetermined price.”).

<sup>174</sup> *Shareholder benefits*, BLOOMSBURY PUBLISHING PLC, [https://www.bloomsbury-ir.co.uk/investor/i\\_benefits](https://www.bloomsbury-ir.co.uk/investor/i_benefits) (“For investors with 1 or more Bloomsbury shares (including if

floor-cleaning robots.<sup>175</sup> Some firms provide special gifts to reward investors: Lindt provides investors with a free box of chocolates<sup>176</sup> and AMC Theater Company rewards investors with free popcorn.<sup>177</sup> Finally, the Walt Disney Company sells “richly illustrated” collectible shareholder certificates to “honor the passion that so many shareholders have for Disney”<sup>178</sup> at the price of \$50 a piece, which can only be purchased by Disney shareholders.<sup>179</sup>

The existence of investor inducements seemingly contradicts Frank Easterbrook’s famous characterization of investors as focused purely on the financial value of their shares.<sup>180</sup> Although he derides the notion that investors might wish to “paper their walls with beautiful certificates” of a certain corporation, apparently some investors are willing to spend money on “richly illustrated” but functionally useless stock certificates.<sup>181</sup> If demand does not influence stock pricing, as traditional finance theory holds, then why would corporate managers offer inducements to investors who should be focused purely on the risk and reward of their overall stock portfolio?

Research suggests that, in fact, investor inducements are associated with an increase in retail shareholdings as well as an increase in firm value over both short- and long-term time horizons.<sup>182</sup> Conversely, the suspension of an existing investor inducement program is associated with a significant reduction in firm

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held directly or via a nominee), we offer a special discount of 35% (off RRP) on all books published (print only) by Bloomsbury.”).

<sup>175</sup> *Shareholder Rewards*, IROBOT CORPORATION, <https://investor.irobot.com/shareholder-services/shareholder-rewards> (“iRobot Corporation is excited to provide shareholders who meet our eligibility requirements with special offers that include discounts when you purchase a new floor cleaning robot from iRobot or a free gift when you buy a new Roomba.”).

<sup>176</sup> *Lindt & Sprungli – An Exclusive “Club” with a Six Digit Joining Fee*, UNDERVALUED SHARES, <https://www.undervalued-shares.com/weekly-dispatches/lindt-sprungli-an-exclusive-club-with-a-six-digit-joining-fee/> (noting that Lindt investors are rewarded with a gift box that includes chocolates).

<sup>177</sup> *AMC Theatres’ Existing and New Participants in AMC Investor Connect, Designed for AMC Shareholders, Receiving Another Free Large Popcorn*, AMC ENTERTAINMENT HOLDINGS, INC. (Nov. 1, 2021), <https://investor.amctheatres.com/newsroom/news-details/2021/AMC-Theatres-Existing-and-New-Participants-in-AMC-Investor-Connect-Designed-for-AMC-Shareholders-Receiving-Another-Free-Large-Popcorn/default.aspx> (“[E]xisting AMC Investor Connect members and new participants who self-identify as an AMC shareholder and who join AMC Investor Connect through December 31, 2021, will receive one free large popcorn.”).

<sup>178</sup> *New Disney Shareholder Certificate Celebrates Nine Decades of The Walt Disney Company*, THE WALT DISNEY CO., <https://thewaltdisneycompany.com/new-disney-shareholder-certificate-celebrates-nine-decades-of-the-walt-disney-company/> (Dec. 4, 2014).

<sup>179</sup> *The Walt Disney Collectible Shareholder Certificate*, GIVE A SHARE, <https://www.giveashare.com/disney-collectible-shareholder-certificate.shtml> (noting that the purchase price for the Disney Collectible Shareholder Certificate is \$50).

<sup>180</sup> *West v. Prudential Sec., Inc.*, 282 F.3d 935, 939 (7th Cir. 2002).

<sup>181</sup> *The Walt Disney Collectible Shareholder Certificate*, *supra* note 175.

<sup>182</sup> Karpoff, et al., *supra* note 11, at 5715 (finding evidence of short-term and long-term abnormal gains for Japanese firms offering investor inducements).

value.<sup>183</sup>

The existence (and durability) of these share price effects is anomalous within the orthodox model, particularly since the sophisticated investors who are said to determine share prices should be unmoved by things like product discounts, popcorn, or chocolates. One plausible explanation for the positive share price impact of investor inducements is that such inducements increase demand for a firm's stock, which in turn increases the share price. Such an explanation would explain the existence of such inducements, as well as their stock price effects.

### *G. Conclusion*

This Part has detailed a series of individual cases where stock pricing does not behave as traditional finance theory might predict. The existence of a persistent index premium suggests that an increase in exogenous demand (i.e., demand not driven by fundamental factors) can lead to a boost in stock prices. Moreover, emerging research demonstrates the existence of multiplier effects at the micro, factor, and market levels. Additional empirical research suggests that the pricing behavior of meme stocks is driven in large part by inelastic demand and the resultant multiplier effects. Research on ESG funds reveals that the large and growing demand for prosocial investment funds may generate stock price gains for the assets held in such investment vehicles. Data on stock buybacks suggests that the mere act of purchasing additional stock, even in the absence of any meaningful information effects, can increase stock price both for the individual stock and for the market as a whole. Finally, investor inducements yield an increase in retail shareholders and generate short- and long-term stock price gains, suggesting that a "naive" consumption-type demand for stocks may influence stock prices. Although each single case might individually be dismissed as an error or idiosyncrasy, when considered in combination, this series of anomalies begins to paint a far different picture of the impact of demand in stock markets than orthodox finance theory would suggest. As such, Part III which follows sets forth a modified theory of stock pricing, wherein investor demand meaningfully influences stock prices.

## III. THE SHARE VALUE TRIAD

The series of recent empirical findings reviewed in Part II suggests that the orthodox view of stock pricing is incorrect, or at least incomplete. This Part sets forth an improved theoretical framework, which will be referred to herein as the *share value triad*. The underlying insight this framework encapsulates is that stock prices are the result of the interaction among three distinct sources of

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<sup>183</sup> *Id.*

value—intrinsic value (firm fundamentals), extrinsic value (demand-driven factors), and control. Each of the seemingly disconnected “anomalies” discussed in Part II above—including the index premium, multiplier effects in various settings, meme stocks, ESG investing, and the increasingly blurred lines between investment and consumption—is driven by a single, shared factor: the influence of demand on equity prices. The financial value of demand-driven factors is referred to as “extrinsic value.”

The text which follows sets forth the key elements of this framework. Part III.A argues that demand for stock is meaningfully inelastic, compelling the conclusion that demand impacts stock prices. Part III.B contends that stock exhibits an asymmetric demand curve. Part III.C asserts that individual investors exhibit varying elasticities of demand. Part III.D argues that individual stocks exhibit varying elasticities, yielding an elasticity spectrum. Part III.E posits that there is a market for individual stocks. Part III.F explores how nonfinancial and nonfundamental factors can impact stock prices. Part III.G examines the impact unsophisticated investors can have on stock prices. Part III.H summarizes the foregoing and argues for the existence of a “value triad” comprised of intrinsic value, extrinsic value, and the control premium.

#### *A. Demand for Stock is Inelastic*

In contrast to the orthodox view of the stock market, which holds that demand for stock is perfectly elastic,<sup>184</sup> this Article contends that demand for stock is often meaningfully *inelastic*. Stock market inelasticity means that if the price of stocks increases in the absence of new information (i.e., an “unjustified” price increase), demand for those stocks does not drop to zero or near zero, as classic theory predicts, but merely reduces some fractional amount. This proposition, although formerly heretical, now has substantial empirical support: research suggests that in terms of the equity market as a whole, an unjustified price increase of 5% produces a demand reduction of only 1%.<sup>185</sup> A similar effect is observed for factor-level demand: several studies suggest that an unjustified price increase of 5% for a specific factor (such as size or value) yields a demand reduction on the order of just 1%.<sup>186</sup> Individual stocks typically exhibit a higher price-elasticity of demand: if an individual stock experiences an unjustified price increase of 1%, then demand (which classically would be predicted to fall to zero) falls by approximately 1%.<sup>187</sup> Each of these three categories of findings

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<sup>184</sup> See *supra* Part I.B.

<sup>185</sup> Gabaix & Koijen, *supra* note 1, at 2 (“ [I]f the price of the equity market portfolio goes up by 5%, demand falls by only 1%, so that the price elasticity is 0.2. In contrast, most rational or behavioral models would predict a very small impact, about 100 times smaller, and a price elasticity about 100 times larger.”).

<sup>186</sup> *Id.* at 11.

<sup>187</sup> *Id.*

drastically contradicts the traditional view, wherein a price increase of any amount that is not justified by new information should virtually eliminate all demand.<sup>188</sup> The fact that unjustified stock price increases merely reduce rather than eliminate demand in such a broad spectrum of circumstances, from individual stocks to the stock market as a whole, compels the conclusion that demand for stocks is meaningfully inelastic.

A corollary to the inelasticity of the stock market is the fact that demand itself induces price increases. Under the orthodox view, exogenous demand should have no impact on equity prices.<sup>189</sup> Only new information related to fundamentals should have any ability to impact stock pricing.<sup>190</sup> However, as discussed above, mounting empirical evidence has recently emerged that directly contradicts the orthodox view at the macro-, factor-, and micro-levels.<sup>191</sup> These findings imply that investor demand has a pronounced ability to influence asset prices, making the stock market a “very reactive economic machine.”<sup>192</sup>

Importantly, the price effects of inelasticity are related to capital flow directionality. For stocks with inelastic demand, inflows produce a positive price effect, while outflows produce a negative price effect.<sup>193</sup> This is why, for example, index inclusion yields a share price boost while index delisting results in a share price drop—the directionality of the price effect depends on the directionality of flows.<sup>194</sup> However, as discussed in Part III.B which follows, there is effectively a limit on negative extrinsic value, resulting in a notably asymmetric demand curve.

### B. *The Demand Curve for Stock is Asymmetric*

In contrast to the classic view,<sup>195</sup> this Article posits that the demand curve for stocks is asymmetric; that is, a single demand curve may exhibit *both* downward sloping and horizontal characteristics. Under this framework, the precise point where a stock exists on its particular demand curve is mediated by the relationship between its market price and its fundamental value. Although demand influences equity prices bidirectionally (i.e., both positively and negatively), in most cases intrinsic value will serve as the lowest possible long-term value for a firm. In the short term, it is possible for a stock to drop below

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<sup>188</sup> *Id.*

<sup>189</sup> *See supra* Part I.B.

<sup>190</sup> *Id.*

<sup>191</sup> Gabaix & Koijen, *supra* note 1, at 2.

<sup>192</sup> *Id.* at 2.

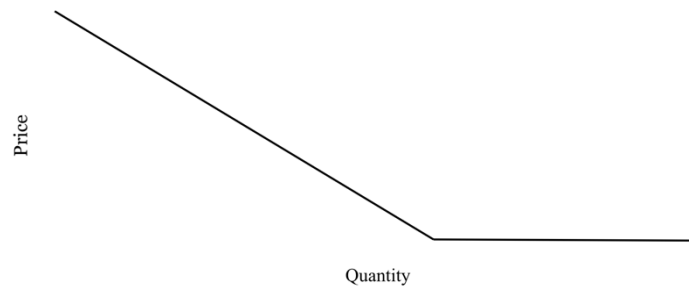
<sup>193</sup> *Going with the flow: Assessing the impact of market fluctuations*, BLOOMBERG (Nov. 17, 2021) (noting that “this multiplier effect is symmetric between buying and selling activity.”); *see also* Gabaix & Koijen, *supra* note 1, at n.1 (discussing the “symmetric and linear” impact that demand has on stock price).

<sup>194</sup> *Id.*

<sup>195</sup> *See supra* Part I.B.

its intrinsic value due to negative demand pressures. However, a combination of factors orthogonal to demand elasticity, including the market for corporate control, fiduciary duties, regulatory factors, and behavioral factors, mean that any valuations below intrinsic value will likely be temporary. As a result, there is effectively a cap on the magnitude of negative extrinsic value with no corresponding cap on the magnitude of positive extrinsic value. Figure 4 provides a visual representation of the resultant asymmetry.

**Figure 3: Asymmetric Demand Curve**



The first and most important factor contributing to asymmetry in demand-induced price effects is the market for corporate control. When a stock is overvalued (relative to fundamental value), investors (at least those with elastic demand) may sell or short the stock, but they cannot compel a return to fundamental value. In contrast, if a stock is sufficiently *undervalued*, there will be a strong financial incentive for a buyer to step in and acquire such a firm.<sup>196</sup> This means that potential acquirers can effectively force the price of an undervalued firm to increase.<sup>197</sup> In this way, the market for corporate control allows a “forced correction” of an undervalued stock in a manner that is not feasible for an overvalued stock—by buying the firm.<sup>198</sup> Thus, the market for corporate control

<sup>196</sup> See Manne, *supra* note 4, at 113 (explaining that share price “also measures the potential capital gain inherent in corporate stock” and that stocks with reduced prices are thus more attractive for takeovers).

<sup>197</sup> Although, given protections against coercive tender offers and the availability of judicial appraisal remedies, selling shareholders may not be truly “forced” to sell, their rational self-interest and probable inability to influence the outcome of any control contest will mean that most investors (even “socially responsible” investors) will simply accept a sufficiently high merger premium. See Eleonora Broaccardo, et al., *Exit Versus Voice* 1, 30-31 (Working Paper, Dec. 2020), [https://scholar.harvard.edu/files/hart/files/exit\\_vs\\_voice\\_1230.pdf](https://scholar.harvard.edu/files/hart/files/exit_vs_voice_1230.pdf) (noting that in a takeover context “[e]ven a socially responsible investor will tender. The reason is that given that she has a very small shareholding the chance that her tender decision will be pivotal is negligible. . . This is true even if a majority of the investors are socially responsible and would have voted against the bid if given the chance.”).

<sup>198</sup> Moreover, given the numerous financial buyers whose express business purpose is acquiring companies at attractive prices, such a correction is not only relatively likely, but it may also be anticipated by the market. This may asymmetrically limit downside price movement even

acts as a limit on the magnitude of negative extrinsic value, while there is no comparable limit on the magnitude of positive extrinsic value.

Relatedly, fiduciary duties may create exceptions to otherwise inelastic investor demand. By definition, an inelastic investor does not buy or sell in response to over- or undervaluation. For instance, index funds—the largest contingent of inelastic investors—dutifully buy the equities in their respective indexes regardless of any perceptions about over- or undervaluation. Whether the share price of a firm in the index reflects fundamental value is simply irrelevant to such investors. However, in the context of a potential merger or tender offer, the adequacy of the offered price is specifically at issue, and fiduciary duties may force otherwise inelastic investors to act more in line with the classic, elastic model of investor behavior. Many inelastic investors, such as index funds, have a duty to consider the “best interests” of their investors when making voting decisions.<sup>199</sup> In the context of a merger, the best interest of investors is clearly and directly tied to the adequacy of the price offered for their shares. In this way, funds’ fiduciary obligations force them, in the limited circumstances of a potential acquisition, to exhibit elastic demand (i.e., to decide whether to sell the subject stock on the basis of its value). Because there is no inverse fiduciary duty (e.g., a duty for an index fund to contemplate selling stock when it is overvalued), this dynamic has asymmetric effects on equity demand.

Next, although transactions by “long” and “short” investors should theoretically have a symmetrical but opposite ability to generate demand-induced price effects, financial market regulations asymmetrically impact short sellers. Federal Reserve Board and FINRA regulations related to the mechanics of short selling mean that a short position is often more difficult to both initiate and sustain relative to a long position.<sup>200</sup> The initial margin requirement for taking a short interest is 150% of the market value of the security.<sup>201</sup> In contrast, the initial margin requirement for taking a long interest is only 50% of the market value of the security.<sup>202</sup> This disparity means that taking a short interest requires additional capital relative to a long interest; tying up additional capital in this manner reduces the capital available for shorting and raises the return that investors will require for a given level of risk.<sup>203</sup>

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without the occurrence of an actual acquisition but merely in the shadow of an anticipated acquisition (i.e., “forced correction”) via the market for corporate control.

<sup>199</sup> *Disclosure of Proxy Voting Policies and Proxy Voting Records by Registered Management Investment Companies*, 68 Fed. Reg. 6564, 6565 (Feb. 7, 2003) (codified at 17 C.F.R. §§ 239, 249, 270, 274) (“An investment adviser voting proxies on behalf of a fund . . . must do so in a manner consistent with the best interests of the fund and its shareholders.”).

<sup>200</sup> CFR § 220.12(c)(1) (specifying a heightened margin requirement for short sales of certain nonexempt securities).

<sup>201</sup> *Id.*

<sup>202</sup> *Id.*

<sup>203</sup> Ongoing or “maintenance” margin requirements may also asymmetrically impact short investors, although less dramatically. *See* FIN. INDUSTRY REG. AUTHORITY Rule 4210(c).



Finally, asymmetry is driven by the asymmetric behavior of different groups of investors. Multiplier effects are bidirectional—adding \$1 increases the price by 1X, where X is the multiplier, and removing \$1 decreases the price by a proportionate amount. However, this symmetry ends when a stock price declines to its intrinsic value. Specifically, when the price of a stock declines, whether elastic investors will purchase shares (and thus support the price of the stock) depends on the relationship between the firm’s market price and its intrinsic value. This relationship is largely mediated by extrinsic value (“ $e$ ”). If a stock’s market price dips below intrinsic value (where  $e < 0$ ), then elastic investors will, as the orthodox theory predicts, rapidly bid the price back up to intrinsic value. However, if, despite modest declines, the market price remains above intrinsic value (where  $e > 0$ ), elastic investors will *not* rapidly bid the price back up. Indeed, they will not buy at all because, in accord with the orthodox model, such investors will not purchase stock at a price exceeding fundamental value. The differing responses of investors with elastic demand represent an important cause of asymmetry by generating a long-term “floor” for the price of firm equity.

### *C. Individual Investors Exhibit Varying Elasticities*

This brings us to the third point: individual investors exhibit varying elasticities. Some investors, such as “value investors” have highly elastic demand for stock. These types of investors exhibit the characteristics of the archetypal investor: high sensitivity to a stock’s fundamental value and an unwillingness to pay more for a stock than fundamentals justify.<sup>204</sup> Likewise, arbitrageurs are highly focused on fundamentals and often use fundamental analysis to seek out any deviations from fundamental value in order to profit from the discrepancy.<sup>205</sup> In contrast, there are also “values investors,” or those investors who are motivated by non-financial values, such as the potential moral utility derived from ESG investments or the expressive and emotional value derived from meme stock affiliation.<sup>206</sup> These investors are less motivated by fundamentals, and their demand is relatively more inelastic compared to value investors and arbitrageurs.<sup>207</sup> Finally, there are also passive investors, such as index funds.<sup>208</sup> Currently, 39% of all invested wealth is held by passive institutional investors that are “fully inelastic,” meaning that their demand for stock is unrelated to perceptions of over- or undervaluation.<sup>209</sup> An additional

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<sup>204</sup> See Gilson & Kraakman, *supra* note 6, at 571 (discussing the investment behavior of informed traders and arbitrageurs as highly responsive to fundamental analysis).

<sup>205</sup> See *id.*

<sup>206</sup> See *supra* Part II.C-D.

<sup>207</sup> See *id.*

<sup>208</sup> Van der Beck & Jaunin, *supra* note 9, at 3.

<sup>209</sup> *Id.*

26% of invested wealth is held by other institutional investors who also exhibit extremely low price elasticity.<sup>210</sup> The overall elasticity of a given stock is the size-weighted elasticity of a firm's various investors.<sup>211</sup> In most cases, a firm's investors will include a variety of each type, making for a diverse pool of investor elasticities.

Although index funds are in some ways the archetypal inelastic investor, they may in fact exhibit “anti-elastic” demand in certain circumstances. For instance, if an overvalued firm enters a new index, an index fund may be required by its mandate to actively purchase the shares of this overvalued firm while eschewing its peers. Further, any time a stock within an index becomes overvalued, market-weighted funds with positive inflows (a very common situation in recent years, given the explosive growth of index funds<sup>212</sup>) will be required to purchase *more* of the overvalued stock relative to neutral or undervalued peer stocks. Conversely, when a stock within an index becomes undervalued relative to its peers, funds with positive inflows will purchase *less* of the undervalued stock relative to its neutral or overvalued peers. In this way, index funds are not merely indifferent to valuations, but, in certain circumstances, they act in the exact opposite way that the orthodox view predicts.<sup>213</sup> Given that index funds make up nearly 40% of the stock market, this is not insignificant.<sup>214</sup> There may be important consequences for stock market efficiency from such a large bloc being not merely inefficient, but actively anti-efficient.<sup>215</sup>

#### D. Individual Stocks Exhibit Varying Elasticities

The fourth component of the extrinsic value hypothesis is that individual stocks exhibit varying elasticities. Rather than all stocks exhibiting uniformly horizontal demand curves,<sup>216</sup> in reality, there is considerable variation.<sup>217</sup> This

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<sup>210</sup> *Id.*

<sup>211</sup> *Cf.* Gabaix & Koijen, *supra* note 1, at 2 (discussing a similar principle in the context of the total market elasticity: “[i]f different investors have different elasticities, the total market elasticity is the size-weighted elasticity of market participants.”).

<sup>212</sup> *See* Adam Sabban, *U.S. Fund Flows Smashed Records in 2021*, MORNINGSTAR (Jan. 19, 2022), <https://www.morningstar.com/articles/1075161/us-fund-flows-smashed-records-in-2021> (“Passive funds represented all U.S. equity inflows during the year. They collected \$346 billion, while active funds shed \$195 billion.”).

<sup>213</sup> *Cf.* Van Wesp & Waters, *supra* note 121, at 1 (describing “all-in” investors who exhibit “upward-sloping demand: as prices rise, they buy more.”).

<sup>214</sup> Van der Beck & Jaunin, *supra* note 9, at 3.

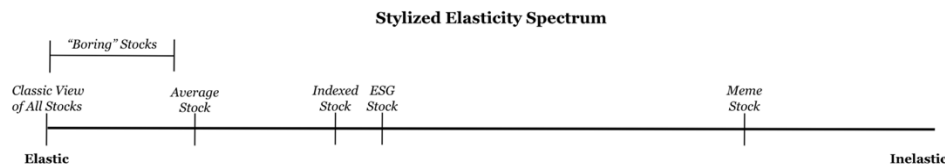
<sup>215</sup> These themes will be explored further in a future article, *The Anti-Efficient Index Fund*.

<sup>216</sup> *See supra* Part I.C.

<sup>217</sup> Jean-Philippe Bouchaud, *The Inelastic Market Hypothesis: A Microstructural Interpretation* 1, 7 (Working Paper, Aug. 2021), [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3896981](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3896981) (noting that “large capitalisation stocks, for which volatility is smaller and the fraction of market caps exchanged daily is larger, have a relatively smaller multiplier – i.e., in the language of GK, larger capitalisation stocks are less ‘inelastic’”).

implies that stocks exist along an elasticity “spectrum,” with high-demand stocks (e.g., meme stocks) at one end and low-demand stocks at the other. As a result, certain stocks and categories of stocks exhibit a higher demand premium than others.<sup>218</sup> Importantly, a stock’s position on the elasticity spectrum is not fixed. Rather, the elasticity of demand for a specific stock may vary considerably over time based on a multitude of factors, such as index inclusion/exclusion, a change in ESG score or attributes, the “perks” it offers to investors, or its salience as a meme stock.

**Figure 4: Stylized Elasticity Spectrum**



The above image provides a stylized visual representation of the elasticity spectrum. Under the classic view, demand for stock should be perfectly elastic, and, therefore, all stocks should have a multiplier of zero. However, as discussed above, there are observable multipliers for a range of stocks, including ESG-affiliated stocks,<sup>219</sup> meme stocks,<sup>220</sup> and even the “average” stock, which has a multiplier of approximately one.<sup>221</sup>

#### *E. There Is a Market for Specific Stocks*

The orthodox view of stock pricing holds that stocks have very high levels of substitutability, and investors do not have a particular attachment to any given stock or category of stock.<sup>222</sup> However, as discussed in Part III.D above, stocks exist at various points on a broad spectrum of demand elasticity, meaning that certain stocks and categories of stocks experience an outsized demand premium. Investors exhibit greater demand for certain stocks relative to others, and, accordingly, investors do in fact experience a particular attachment to certain stocks.

Further, not all investors are looking to simply create a portfolio with the appropriate balance of risk and return characteristics: some are also looking to

<sup>218</sup> For instance, there is a considerable degree of variability within ESG stocks, and those stocks that are more affected by ESG demand have higher multipliers and a higher price impact. Van der Beck, *supra* note 7, at 4.

<sup>219</sup> *Id.* (estimating the multiplier for ESG stocks at 1.17).

<sup>220</sup> Van der Beck & Jaunin, *supra* note 9, at 5 (discussing the multiplier for GameStop stock).

<sup>221</sup> See *supra* note 108 and accompanying text.

<sup>222</sup> See *supra* Part I.A.

express their moral values, some are attempting to make a social or environmental difference by supporting ethical companies or opposing what they view as unethical practices, and some are participating in a broader social movement.<sup>223</sup> Even institutional investors may feel constrained by their investment mandates<sup>224</sup> or the socio-political preferences of their existing or prospective clients.<sup>225</sup> As a result of these factors, there *is* a market for specific stocks.

#### *F. Nonfinancial & Nonfundamental Factors Influence Stock Prices*

The extrinsic value hypothesis further posits that factors beyond the traditional determinants of fundamental value, including entirely nonfinancial factors, can meaningfully influence stock prices. Because investors possess diverse values and motivations, demand can arise from many sources. First, nonfundamental financial factors, such as share buybacks or index inclusion, can influence demand and thereby affect stock prices. Classically, actions such as these that do not affect firm fundamentals (e.g., being added to a list of large-cap stocks or purchasing a modest portion of a firm's shares at market price) should not influence stock prices,<sup>226</sup> but the emerging empirical consensus is that they do.<sup>227</sup> Second, entirely nonfinancial factors can also influence investor demand and thereby affect stock prices.<sup>228</sup> Factors such as moral values, emotions, nostalgia, irony, and other expressive or ethical motivations may influence investment decisions and generate demand premia.<sup>229</sup> Although such motivations may appear "irrational"—i.e., not aimed at wealth maximization—it has become increasingly difficult to deny both that they exist and that they can generate meaningful price effects.

Whatever its source, the demand premium increases the price of the relevant

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<sup>223</sup> See *supra* Part II.C-D.

<sup>224</sup> See K.J. Martijn Cremers & Quinn Curtis, *Do Mutual Fund Investors Get What They Pay for? Securities Law and Closet Index Funds*, 11 VA. L. & BUS. REV. 31, 45 (2016) (noting that "One obvious way to avoid underperformance relative to the benchmark is to reduce risk by putting much of the fund's assets in the benchmark."); Zhiguo He & Wei Xiong, *Delegated asset management, investment mandates, and capital immobility*, 107 J. FIN. ECON. 239, 239 (2017) (studying performance mandates and finding effects that "motivate narrow mandates and tight tracking error constraints to most fund managers").

<sup>225</sup> See, e.g., Michal Barzuza, et. al., *Shareholder Value(s): Index Fund ESG Activism and the New Millennial Corporate Governance*, 93 S. CAL. L. REV. 1243, 1320 (2020) (noting that "index funds face immense pressure from the next generation of investors to demonstrate commitment to the social values that millennials have already shown are important to them").

<sup>226</sup> See *supra* Part I.D.

<sup>227</sup> See *supra* Part II.

<sup>228</sup> *Id.*

<sup>229</sup> *Id.*

stock. In recent years, for example, meme stocks,<sup>230</sup> ESG stocks,<sup>231</sup> and shares of firms completing stock buybacks<sup>232</sup> have each exhibited a demand premium, meaning that these stocks have higher valuations than their peers. Thus, market prices are not determined by fundamentals alone.

### *G. Prices Can Be Influenced by Unsophisticated Investors*

Relatedly, unsophisticated investors are able to have a meaningful impact on stock market prices. Under the orthodox view, prices are determined by sophisticated players such as institutional investors, arbitrageurs, and professional traders who are unmoved by nonfinancial concerns.<sup>233</sup> However, recent events highlight the ability of unsophisticated traders to significantly influence stock prices.<sup>234</sup>

In a market that exhibits significant inelasticity, relatively small groups of unsophisticated investors can have outsized price impacts.<sup>235</sup> Multiplier effects for individual stocks (e.g., meme stocks)<sup>236</sup> and baskets of stocks with certain characteristics (e.g., firms with high ESG scores)<sup>237</sup> magnify the impact of each dollar invested, regardless of whether that dollar comes from sophisticated or unsophisticated traders. In the case of meme stocks, it appears that retail investors with “negligible market share” were able to move prices substantially due to significant multiplier effects.<sup>238</sup> Moreover, seemingly trivial investor inducements (such as a box of chocolates,<sup>239</sup> product discounts,<sup>240</sup> or free popcorn<sup>241</sup>) appear to increase firm value over both the short- and long-term.<sup>242</sup> Because it is unlikely that sophisticated institutional investors are swayed by such minor factors, the existence of price effects for shareholder inducements suggests that unsophisticated investors, the intended target of such inducements, can generate meaningful price effects.

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<sup>230</sup> See *supra* Part II.C.

<sup>231</sup> See *supra* Part II.D.

<sup>232</sup> See *supra* Part II.E.

<sup>233</sup> See *supra* Part I.E.

<sup>234</sup> See, e.g., *supra* Part II.C.

<sup>235</sup> Van der Beck & Jaunin, *supra* note 9, at 5.

<sup>236</sup> *Id.*

<sup>237</sup> See Van der Beck, *supra* note 7, at 4.

<sup>238</sup> Van der Beck & Jaunin, *supra* note 9, at 1.

<sup>239</sup> *Lindt & Sprungli – An Exclusive “Club” with a Six Digit Joining Fee*, *supra* note 172 (noting that Lindt investors are rewarded with a gift box that includes chocolates).

<sup>240</sup> *Shareholder Rewards, iROBOT*, *supra* note 171 (offering discounts to shareholders).

<sup>241</sup> *AMC Theatres’ Existing and New Participants*, *supra* note 173 (offering free popcorn to certain shareholders).

<sup>242</sup> Karpoff, et al., *supra* note 11, at 5715 (finding evidence of short-term and long-term abnormal gains for Japanese firms offering investor inducements).

*H. The Value Triad Determines Share Prices*

The influence of demand on stock prices necessitates a basic reconceptualization of what gives a share of stock its value. Under this framework, stock has three potential sources of value—intrinsic (fundamental) value, extrinsic (non-fundamental) value, and control. An overlapping, but distinct, market exists for each.

Extrinsic value is an umbrella term which refers to all value that does not derive from firm fundamentals or control rights. Consequently, it derives from a diverse group of sources. For instance, positive extrinsic value (a “demand premium”) may derive from the premium investors are willing to pay for ESG assets. A demand premium may also arise due to index inclusion, consumption elements paired with equity ownership (i.e., investor inducements), “meme stock” status, or any expressive value associated with share ownership.<sup>243</sup> Conversely, negative extrinsic value (a “demand discount”) is also possible, at least in the short term.<sup>244</sup> It may derive from factors such as negative ESG attributes (real or perceived) or index delisting.

The existence of extrinsic value does not negate the importance of firm fundamentals or the value of control. It supplements, but does not supplant, these foundational concepts. Indeed, the ratio of extrinsic value to the other sources of value will usually be small. However, extrinsic value represents a distinct and important third source of value that exists largely independent from the other two. The “largely” qualifier is necessary because extrinsic value can and does affect the other members of the share value triad. For instance, the control premium required to acquire GameStop during the height of its extrinsic value-driven surge (and the potential value to be derived from such control) would have been far larger, in absolute terms, than if the stock had zero extrinsic value. Controlling a more valuable company is, all else being equal, more valuable, meaning that extrinsic value may influence the magnitude of a firm’s control premium. Additionally, control premia for firms with less dramatic extrinsic value ratios, such as firms included in major indices or those possessing positive ESG characteristics, may be determined by reference to the existing market price (which includes extrinsic value)<sup>245</sup> or the market prices of comparable companies (which may also include extrinsic value).<sup>246</sup>

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<sup>243</sup> See *supra* Part II (providing evidence for the existence of a demand premium in various contexts).

<sup>244</sup> However, negative extrinsic value is unlikely to push stock prices below intrinsic value for any sustained period. See *supra* Part III.B.

<sup>245</sup> See Zohar Goshen & Assaf Hamdani, *Corporate Control, Dual Class, and the Limits of Judicial Review*, 120 COLUM. L. REV. 941, 970–72 (2020) (discussing the lack of an objective method for determining the control premium).

<sup>246</sup> John D. Finnerty & Douglas R. Emery, *The Value of Corporate Control and the Comparable Company Method of Valuation*, 33 FIN. MGMT. 91, 97 (2004) (discussing the use of the comparable company method which bases firm valuations in part on the value of comparable companies).

Extrinsic value can also impact a firm's fundamental value. More precisely, firms may leverage extrinsic value to generate value through more traditional means. For instance, "meme stock" companies have capitalized on investor enthusiasm by issuing additional stock.<sup>247</sup> As discussed above, the price that investors pay for meme stocks—the market price—incorporates significant extrinsic value. Selling stock in an at-the-market offering effectively transforms a portion of such extrinsic value into "real" (i.e., fundamental) value.<sup>248</sup> Additionally, a higher market value may allow firms to take on additional debt. When the value of a firm's equity increases, a firm may "re-leverage," or engage in additional borrowing.<sup>249</sup> Firms may use their additional cash, whether derived from issuing new equity or debt, to purchase fundamentally valuable assets. For instance, AMC utilized some of the proceeds from its meme stock days to purchase a substantial interest in a gold mining company.<sup>250</sup> Although AMC's stock price has since declined,<sup>251</sup> reflecting a loss of much of its extrinsic value, the fundamental value of the assets it acquired by *leveraging* such extrinsic value remains.

In conclusion, under the orthodox framework, share price is determined primarily by intrinsic value with some deviation in change of control contexts. However, this Article argues that this view ignores a key determinant of share price: extrinsic value. Under this more comprehensive paradigm, extrinsic value is a key member of the value triad, wherein stock value is derived from three distinct sources—intrinsic value (firm fundamentals), extrinsic value (demand-driven factors), and control. Extrinsic value not only exists independently from control and intrinsic value, but it can impact the other two members of the share value triad in important ways.

#### IV. IMPLICATIONS

The notion that investor demand for stocks can influence asset prices at

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<sup>247</sup> For example, AMC issued an entirely new class of shares, AMC Preferred Equity or "APE." *Top Meme Stocks and Meme Stock Rallies*, FORBES (Sept. 2022), <https://www.forbes.com/sites/qai/2022/09/02/top-meme-stocks-and-meme-stock-rallies/?sh=65f959f11b24>.

<sup>248</sup> Sabrina Escobar, *GameStop Capitalized on Its Meme Stock Status. Bed Bath & Beyond Might Find It Harder*, BARRON'S (Aug. 23, 2022) ("[M]eme stocks' including GME and AMC have used their prior boosts to raise capital through an at-the-market (ATM) offering.").

<sup>249</sup> Schmickler & Tremacoldi-Rossi, *supra* note 146, at 3 ("Using dividend-induced trading as a natural experiment for stock returns, we estimate an asset demand elasticity of 1.25 and document a releveraging market feedback effect on investment, where firms respond to an exogenous stock price increase by issuing debt and use the funds to invest.").

<sup>250</sup> Matt Levine, *AMC Bought a Gold Mine*, BLOOMBERG (Mar. 15, 2022), <https://www.bloomberg.com/opinion/articles/2022-03-15/amc-bought-a-gold-mine#xj4y7vzkg>.

<sup>251</sup> Sarah Whitten, *AMC Entertainment struggles with falling stock, high debt load and light blockbuster schedule*, CNBC (Oct. 12, 2022) (describing how AMC stock hit a 52-week low).

once appears intuitive to a finance novice who likely understands that demand for traditional goods influences price and “illiterate” to a finance expert who would expect stock price to be entirely unaffected by exogenous demand.<sup>252</sup> It also has a number of important implications for the behavior of stock market participants and for the market as a whole. This Part explores some of those implications in detail.

### A. ESG — Theory & Performance

Environmental, social, and governance (ESG) issues have become key considerations in modern corporate governance. The proportion of ESG issues on corporate ballots has increased significantly,<sup>253</sup> and the explosive growth in sustainable investing is expected to propel ESG assets to roughly \$50 trillion by 2025.<sup>254</sup> Demand for ESG investments is so substantial that ESG-mandated assets “are on track to represent half of all professionally managed assets globally by 2024.”<sup>255</sup>

When understood in the context of extrinsic value, this extraordinary level of demand has consequences. As discussed in Part II, demand for ESG assets exhibits significant inelasticity.<sup>256</sup> The multiplier for ESG stocks is roughly 1.17, meaning that every dollar invested in ESG stocks yields a price increase of about \$1.17.<sup>257</sup> The combination of massive inflows and inelastic demand has generated periods of market-beating share price appreciation at firms with positive ESG characteristics.<sup>258</sup>

What does this mean for managers? Investing in ESG has recently become “mainstream” in corporate governance circles, driven by the convergence of ESG issues and the goal of shareholder wealth maximization.<sup>259</sup> These “win-

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<sup>252</sup> Gabaix & Koijen, *supra* note 1, at 4.

<sup>253</sup> Jonathan M. Gilligan, *Carrots and Sticks in Private Climate Governance*, 6 TEX. A&M L. REV. 179, 191 (2018) (“The last few decades have seen especially rapid growth in the use of shareholder resolutions on ESG issues, which represent 40% of all shareholder proposals.”).

<sup>254</sup> Saijel Kishan, *ESG by the Numbers: Sustainable Investing Set Records in 2021*, BLOOMBERG (Feb. 3, 2022), <https://www.bloomberg.com/news/articles/2022-02-03/esg-by-the-numbers-sustainable-investing-set-records-in-2021>.

<sup>255</sup> Tania Lynn Taylor & Sean Collins, *Ingraining sustainability in the next era of ESG investing*, DELOITTE INSIGHTS (Apr. 5, 2022), <https://www2.deloitte.com/us/en/insights/industry/financial-services/esg-investing-and-sustainability.html>.

<sup>256</sup> See *supra* Part II.D (discussing evidence for the inelasticity of demand for ESG assets).

<sup>257</sup> See Van der Beck, *supra* note 7, at 4.

<sup>258</sup> *Id.* at 22.

<sup>259</sup> Witold Henisz, et al., *Five ways that ESG creates value*, MCKINSEY QUARTERLY (Nov. 2019), <https://www.mckinsey.com/~media/McKinsey/Business%20Functions/Strategy%20and%20Corporate%20Finance/Our%20Insights/Five%20ways%20that%20ESG%20creates%20value/Five-ways-that-ESG-creates-value.ashx>.



win” scenarios, where pursuing environmental or social good fortuitously overlaps with enriching shareholders, represent a victory for a broad group of corporate constituencies. However, these win-win scenarios have allowed us to defer more difficult questions. It stands to reason that companies are prioritizing low-hanging fruit in their ESG expenditures, i.e., those that generate the greatest return for the lowest cost. Additionally, some shareholder-stakeholder conflicts may in fact be zero-sum, presenting no opportunities for easy win-win ESG strategies. What happens when companies have already exploited the most profitable ESG investments, and accounting returns to ESG expenditures decline or disappear altogether? May firm managers continue to expend resources on ESG issues that generate no fundamental value for the firm?

The traditional answer to that question is a resounding “no”—directors cannot sacrifice shareholder wealth at the altar of social good, however noble it may be.<sup>260</sup> However, extrinsic value implies a different answer. Because stock price is a function not just of firm fundamentals, but also of investor demand, the question of whether ESG expenditures maximize shareholder wealth is more complex. For instance, an expenditure that decreases firm fundamentals may increase investor demand to a degree that more than offsets the expenditure. Extrinsic value potentially transforms a hard “no” into a cost-benefit analysis. Ultimately, ESG expenditures that increase investor demand may be wealth-maximizing for shareholders in a greater number of circumstances than previously theorized.

Interestingly, this may already be occurring. Although ESG assets

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<sup>260</sup> See, e.g., *eBay Domestic Holdings, Inc. v. Newmark*, 16 A.3d 1, 34 (Del. Ch. 2010) (“The corporate form in which craigslist operates, however, is not an appropriate vehicle for purely philanthropic ends, at least not when there are other stockholders interested in realizing a return on their investment.”); *Dodge v. Ford Motor Co.*, 204 Mich. 459, 507, 170 N.W. 668, 684 (1919) (“A business corporation is organized and carried on primarily for the profit of the stockholders. The powers of the directors are to be employed for that end. The discretion of directors is to be exercised in the choice of means to attain that end, and does not extend to a change in the end itself, to the reduction of profits, or to the nondistribution of profits among stockholders in order to devote them to other purposes.”); Stephen M. Bainbridge, *Executive Compensation: Who Decides?*, 83 TEX. L. REV 1615, 1616 (2005) (“The discretionary powers thus conferred on directors and officers, however, are to be directed towards a single end; namely, the maximization of shareholder wealth.”); David G. Yosifon, *The Law of Corporate Purpose*, 10 BERKELEY BUS. L. J. 181 (2014) (arguing that Delaware law unambiguously obligates directors to maximize wealth for shareholders). *But see* Lyman Johnson, *Why Corporate Purpose Will Always Matter*, 17 U. ST. THOMAS L.J. 862, 869–72 (2022) (discussing the ongoing debate over corporate purpose); Lynn A. Stout, *Why We Should Stop Teaching Dodge v. Ford*, 3 VA. L. & BUS. REV. 163, 176 (2008) (“Corporations seek profits for shareholders, but they seek other things, as well, including specific investment, stakeholder benefits, and their own continued existence.”); Lyman Johnson & David Millon, *Corporate Law After Hobby Lobby*, 70 BUS. LAW. 1, 31 (2014) (“All business corporations (and non-profits too, for that matter) must generate profit in order to survive. That is simply a fact of life. But corporate law confers on them broad discretion to determine the extent to which they choose to temper the pursuit of profit by regard for other values.”).

outperformed the market from 2016-2021, they would have strongly underperformed the broader market in the absence of massive inflows to ESG funds.<sup>261</sup> Thus, demand-induced stock price gains already appear to be a key driver in the profitability of ESG investments. This may explain the otherwise rather surprising degree of overlap in shareholder and stakeholder interests, which were classically viewed to be antagonistic.<sup>262</sup> The convergence of ESG and wealth maximization may thus be self-fulfilling—positive ESG characteristics are perceived as driving share price growth, which increases demand for firms with positive ESG characteristics, which increases share price.

### B. ESG — Standardization & Regulation

Extrinsic value also serves as an additional justification for regulating and standardizing ESG disclosures. As explored above, the growth of ESG investing has generated substantial demand for assets with positive ESG characteristics, resulting in multiplier effects and market-beating returns.<sup>263</sup> This ESG “demand premium” means that there are strong incentives for *claiming* enhanced sustainability or other positive ESG characteristics, whether or not such claims are in fact true. The result is “greenwashing,” wherein companies publicize positive ESG criteria that are exaggerated or misleading.<sup>264</sup> The existence of extrinsic value suggests that the incentives to engage in greenwashing are much stronger than previously recognized. If a company can convince investors that its stock represents an “ESG investment,” then that may mean the difference between market-beating stock price appreciation and significant underperformance.<sup>265</sup>

Recently, the SEC has made a rapid series of moves with respect to ESG regulation. Specifically, the Commission has taken important actions with respect to (1) enhanced disclosures about ESG practices, (2) the “names rule,” and (3) firm-level climate disclosures. First, the SEC recently proposed requiring enhanced disclosures of ESG practices by certain investment companies and investment advisors.<sup>266</sup> Under this proposal, funds would be placed in an ESG “category” based on different types of ESG strategies, with differing

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<sup>261</sup> See Van der Beck, *supra* note 7, at 3.

<sup>262</sup> *Id.*

<sup>263</sup> See *supra* Part IV.A. (exploring the impact of demand for ESG assets in light of extrinsic value).

<sup>264</sup> Jonathan M. Gilligan, *Carrots and Sticks in Private Climate Governance*, 6 TEX. A&M L. REV. 179, 196 (2018) (“Greenwashing occurs when a company exaggerates its accomplishments and misleads investors and consumers to believe that its environmental impact is smaller than it really is.”).

<sup>265</sup> See *supra* Part II.D. (discussing the stock price boost that accompanies ESG affiliation).

<sup>266</sup> SEC Proposes to Enhance Disclosures by Certain Investment Advisers and Investment Companies about ESG Investment Practices, S.E.C. (May 25, 2022), <https://www.sec.gov/news/press-release/2022-92>.

requirements for each.<sup>267</sup> For instance, funds with an “environmental” focus “would be required to disclose the greenhouse gas emissions associated with their portfolio investments.”<sup>268</sup> More broadly, any funds “claiming . . . a specific ESG impact would be required to describe the specific impact(s) they seek to achieve and summarize their progress on achieving those impacts.”<sup>269</sup> These proposed requirements differ substantially from the status quo, where use of the “ESG” label is largely unregulated.<sup>270</sup>

A second important example is the Commission’s proposed updates to the so-called “names rule.”<sup>271</sup> In the words of SEC Chairman Gary Gensler, “A fund’s name is often one of the most important pieces of information that investors use in selecting a fund.”<sup>272</sup> The proposed enhancements to the names rule impose substantive requirements on “registered investment companies whose names suggest a focus in a particular type of investment” or contain “terms suggesting that the fund focuses in investments that have (or whose issuers have) particular characteristics.”<sup>273</sup> Essentially, if a fund’s name indicates a focus on a certain type of investment or includes “terms indicating that the fund’s investment decisions incorporate one or more environmental, social, or governance factors,” then it must “adopt a policy to invest at least 80 percent of the value of [its] assets in those investments.”<sup>274</sup> The goal of such a change would be to ensure that ESG labeling is used consistently and accurately. Many investors likely have only a limited ability to evaluate a fund’s claim to possess ESG characteristics. Investors may not have access to all of the relevant information, since disclosure of certain ESG-relevant data has not been historically required.<sup>275</sup> Or they may possess the information, but it may be in a

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<sup>267</sup> *Id.*

<sup>268</sup> *Id.*

<sup>269</sup> *Id.*

<sup>270</sup> Dana Brakman Reiser & Anne Tucker, *Buyer Beware: Variation and Opacity in ESG and ESG Index Funds*, 41 CARDOZO L. REV. 1921, 1926 (2020) (studying the “top” funds with ESG designations from 2018-2019 and finding that “not all ESG funds are distinguishable from non-ESG funds” and further finding that the “ESG implementation continuum is not facially evident to investing consumers and it is hard to unearth”).

<sup>271</sup> *SEC Proposes Rule Changes to Prevent Misleading or Deceptive Fund Names*, S.E.C. (May 25, 2022), <https://www.sec.gov/news/press-release/2022-91>.

<sup>272</sup> Gary Gensler, *Statement on Proposed Updates to Names Rule*, S.E.C. (May 25, 2022), <https://www.sec.gov/news/statement/gensler-statement-proposed-updates-names-rule-052522>.

<sup>273</sup> *SEC Proposes Rule Changes to Prevent Misleading or Deceptive Fund Names*, S.E.C. (May 25, 2022), <https://www.sec.gov/news/press-release/2022-91>.

<sup>274</sup> *Id.*

<sup>275</sup> Although some firms have recently opted to make ESG disclosures, they have principally done so on a voluntary basis outside of SEC filings. Brian Breheny, et al., *The 2023 Reporting Season: Recent SEC Guidance*, HARV. L. SCH. F. ON CORP. GOVERNANCE (Mar. 3, 2023), <https://corpgov.law.harvard.edu/2023/03/03/the-2023-reporting-season-recent-sec-guidance/> (“In recent years, companies have expanded their disclosure about ESG matters largely on a voluntary basis outside of SEC filings in stand-alone ESG, sustainability, corporate

form that does not facilitate comparison to other potential investments.<sup>276</sup> Finally, investors may simply lack the time, expertise, or desire to engage in the considerable due diligence necessary to verify that investment funds claiming ESG characteristics in fact live up to such claims. Thus, many investors may simply rely on a fund's name.<sup>277</sup>

A third proposal by the SEC focuses on rules to “enhance and standardize climate-related disclosures” at the individual firm level.<sup>278</sup> These rules “would require registrants to include certain climate-related disclosures in their registration statements and periodic reports, including information about climate-related risks that are reasonably likely to have a material impact on their business, results of operations, or financial condition, and certain climate-related financial statement metrics in a note to their audited financial statements.”<sup>279</sup> In addition, such rules would require “a registrant to disclose information about its direct greenhouse gas (GHG) emissions (Scope 1) and indirect emissions from purchased electricity or other forms of energy (Scope 2)” as well as “GHG emissions from upstream and downstream activities in its value chain (Scope 3), if material or if the registrant has set a GHG emissions target or goal that includes Scope 3 emissions.”<sup>280</sup> The stated goal of these climate-related disclosures is to provide consistent, clear, and comparable information about climate issues, thus enabling investors to make informed choices with their investments.<sup>281</sup>

Although these three proposals vary in their substance, they share a common goal: increasing transparency related to the ESG practices of funds or firms. There has been mixed support for these proposals, with some commentators voicing strong approval<sup>282</sup> and others pronounced opposition.<sup>283</sup>

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responsibility or similar reports.”).

<sup>276</sup> See *SEC Proposes to Enhance Disclosures by Certain Investment Advisers and Investment Companies About ESG Investment Practices*, S.E.C., May 25, 2022, <https://www.sec.gov/news/press-release/2022-92> (noting the goal of providing “consistent” and “comparable” information to investors).

<sup>277</sup> Gary Gensler, *Statement on Proposed Updates to Names Rule*, S.E.C., May 25, 2022, <https://www.sec.gov/news/statement/gensler-statement-proposed-updates-names-rule-052522>.

<sup>278</sup> *SEC Proposes Rules to Enhance and Standardize Climate-Related Disclosures for Investors*, S.E.C. (Mar. 21, 2022), <https://www.sec.gov/news/press-release/2022-46>.

<sup>279</sup> *Id.*

<sup>280</sup> *Id.*

<sup>281</sup> *SEC Proposes Rules to Enhance and Standardize Climate-Related Disclosures for Investors*, S.E.C. (March 21, 2022), <https://www.sec.gov/news/press-release/2022-46>.

<sup>282</sup> See, e.g., Alicia Seiger, et al., *Re: File Number S7-10-22 The Enhancement and Standardization of Climate-Related Disclosures for Investors*, S.E.C. COMMENT LETTER, <https://www.sec.gov/comments/s7-10-22/s71022.htm> (voicing the support of the Stanford Sustainable Finance Initiative for “the Commission requiring disclosures for climate-related information”).

<sup>283</sup> See, e.g., Commissioner Hester Peirce, *We are Not the Securities and Environment Commission - At Least Not Yet*, S.E.C. STATEMENT (Mar. 21, 2022)

Key areas of concern over ESG regulations include (1) the degree to which such regulations may result in increased costs for firms or funds, which may be passed on to investors,<sup>284</sup> and (2) whether the SEC has sufficient authority to promulgate rules in this area.<sup>285</sup>

This Article suggests that the existence of a demand premium for ESG assets represents an important consideration when analyzing such arguments and, more generally, when weighing the costs and benefits of regulatory action. Extrinsic value implies a clear and, importantly, *financial* justification for SEC regulation of ESG labeling. As discussed above, ESG stocks have generated market-beating returns in recent years but would have underperformed the market in the absence of massive ESG-driven fund flows.<sup>286</sup> Given the evidence that demand for ESG assets is causally responsible for their outsized returns,<sup>287</sup> the claims that funds or firms make about their ESG characteristics have significant financial implications for investors. To the extent that a fund misleads investors by using the ESG label without providing significant ESG benefits, the fund is able to reap financial benefits from the demand premium for ESG stocks without delivering on its commitments. Thus, any financial costs associated with ESG disclosures should be considered in light of the potential share price effects arising as a consequence of the “ESG” designation.

Extrinsic value also informs the broader discussion surrounding the SEC’s role in regulating ESG funds. Some commentators have argued that the SEC’s authority to issue ESG-focused regulations is questionable, since “investor protection” must serve investors as a class, rather than furthering potentially

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<https://www.sec.gov/news/statement/peirce-climate-disclosure-20220321> (arguing that climate disclosures “will undermine the existing regulatory framework that for many decades has undergirded consistent, comparable, and reliable company disclosures” and will harm “investors, the economy, and this agency”); Aaron Brown, *SEC Proposals for ESG Ignore 80 Years of Financial Science*, BLOOMBERG (May 31, 2022), <https://www.bloomberg.com/opinion/articles/2022-05-31/sec-proposals-for-esg-ignore-80-years-of-financial-science#xj4y7vzkg> (critiquing the SEC’s ESG proposals).

<sup>284</sup> See, e.g., Matthew Winden, *The Unconsidered Costs of the SEC’s Climate Disclosure Rule*, S.E.C. COMMENT LETTER (July 2022), <https://www.sec.gov/comments/s7-10-22/s71022-20132304-302836.pdf> (arguing that the SEC’s climate disclosure rule “will likely create substantial economic costs that exceed the benefits to investors of improved climate-risk comparability across companies”).

<sup>285</sup> Compare Jill E. Fisch, et al., *Comment Letter of Securities Law Scholars on the SEC’s Authority to Pursue Climate-Related Disclosures*, S.E.C. COMMENTER LETTER 1, 1 (June 6, 2022) <https://www.sec.gov/comments/s7-10-22/s71022-20130354-297375.pdf> (stating that 30 securities law professors unanimously agree that “the Commission has ample, longstanding, and clear authority to promulgate disclosure rules” in the area of climate impacts) with Sean Griffith, *What’s “Controversial” About ESG? A Theory of Compelled Commercial Speech under the First Amendment* 1,72 (Working Paper, 2022), [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=4118755](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4118755) (arguing that “[t]he SEC’s recently proposed climate disclosure rules fail to satisfy” legal requirements under the compelled commercial speech paradigm).

<sup>286</sup> See Van der Beck, *supra* note 7, at 3.

<sup>287</sup> *Id.* at 22.

controversial political or social goals.<sup>288</sup> However, when framed in light of extrinsic value, there is a clearer case that misuse of ESG labels harms investors' collective interests. Although only a subset of investors may seek out ESG funds, a broad group of investors stands to be harmed when funds or firms make misleading or inaccurate disclosures. Because the use (and misuse) of ESG labels significantly influences asset prices,<sup>289</sup> it has the potential to generate significant financial harm to investors. Thus, extrinsic value provides an important reason that ESG-focused regulation has implications beyond discrete political or social goals.

Updates to the "names rule" should also be considered in light of extrinsic value. Although seemingly unsophisticated, name-driven fund flows may be a significant component of the demand premium for ESG investments. Empirical studies examining ESG fund flows find significant demand-driven stock price increases when measuring whether a fund is an "ESG fund" merely by the terms in its name (e.g., "green," "sustainable," "social," "responsible").<sup>290</sup> More broadly, empirical work suggests that investors' perceptions of an investment's sustainability are the primary driver of the ESG demand premium, rather than the investment's actual sustainability characteristics.<sup>291</sup> Thus, "regardless of their *true* sustainability," funds with sustainable-sounding names likely benefit from the demand premium for ESG.<sup>292</sup> Although it is unlikely to stop all greenwashing, the provisions in the enhanced names rule may help channel assets to a narrower subset of funds with stronger ESG characteristics. This could potentially increase the demand premium for the remaining assets, rewarding firms with more positive ESG characteristics and punishing those (through the removal of the demand premium) that are "green" in name only.

Overall, viewing the SEC's recent actions through the lens of demand-driven price effects informs the discussion surrounding the SEC's proposals to regulate nominally ESG-focused funds. Given heightened incentives to falsely

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<sup>288</sup> Griffith, *supra* note 284, at 72 ("Because the climate rules appear to be motivated either to impose a political viewpoint or to serve the interests of institutional asset managers, they cannot be said to proceed uncontroversially from the investor protection rationale. The creation of controversy triggers heightened judicial review which the proposed climate rules and, most likely, the bulk of the ESG agenda cannot survive.").

<sup>289</sup> See Van der Beck, *supra* note 7, at 3.

<sup>290</sup> See, e.g., *Id.* at 7-8 ("[A] mutual fund is labeled *ESG fund* if its name contains at least one (or an abbreviation) of the following key words : 'GREEN', 'SUSTAINABLE', 'SOCIAL', 'RESPONSIBLE', 'SRI', 'ESG', 'ENVIRONMENT', 'CLIMATE', 'CLEAN', 'GOVERNANCE', 'CARBON', 'IMPACT', 'FAIR', 'GENDER', 'SOLAR', 'EARTH', 'RENEWABLE', 'SCREEN', 'ETHICAL', 'CONSCIOUS', 'CSR', 'THEMATIC'") (emphasis in original).

<sup>291</sup> See Van der Beck, *supra* note 7, at 3 ("Note, that the weights in the representative ESG portfolio can be interpreted as a measure of investors' perception of sustainability. Thus, regardless of their *true* sustainability, the stocks that investors deemed more sustainable tended to have higher returns than others.") (emphasis in original).

<sup>292</sup> *Id.*

claim ESG characteristics, the existence of the ESG demand premium represents an important justification for regulations specifically targeting ESG disclosure and standardization. The existence of substantial and growing demand for ESG investment products will likely continue to enhance returns for funds and firms with ESG characteristics—nominal or otherwise. These demand-driven share price effects represent an important consideration in the context of the SEC’s efforts to limit greenwashing and standardize ESG disclosures. If successful, the SEC’s proposed regulations could reduce the degree to which firms and investment companies are able to freeload on the relatively inelastic demand for ESG investments without actually embodying the characteristics they claim.

### *C. Stock Buybacks*

Stock buybacks have long been a politically controversial use of corporate funds.<sup>293</sup> Supporters contend that they improve overall capital allocation and that most funds from share buybacks are reinvested via other firms,<sup>294</sup> while detractors would prefer corporate funds be allocated to research and development or other forms of re-investment in the company.<sup>295</sup> This controversy has taken on particular salience in recent years due to the incredible scale at which modern firms engage in buybacks. On average, S&P 500 firms spend more than half of their net income on stock buybacks.<sup>296</sup> According to Goldman Sachs, share buybacks represent the single largest source of demand for U.S. stocks.<sup>297</sup> On January 1 of 2023, a new 1% tax on stock buybacks took effect, but it has so far done little to curb executives’ appetite for buybacks, with stock buybacks by companies in the S&P 500 poised to top \$1 trillion for the

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<sup>293</sup> See, e.g., F. H. Buckley, *When the Medium Is the Message: Corporate Buybacks as Signals*, 65 IND. L.J. 493, 497–98 (1990) (discussing criticism of buybacks).

<sup>294</sup> Allison Nathan, *Buyback Realities*, GOLDMAN SACHS (Apr. 11, 2019) <https://www.goldmansachs.com/insights/pages/top-of-mind/buyback-realities/report.pdf> (“[S]hareholders typically use their returns to invest elsewhere in the market. So it’s not that companies are investing less; it’s that different companies are investing. And so the question is not whether you want companies to invest or to buy back shares, but rather which companies you want investing: the aging companies of the last century, or the newer companies that have better investment opportunities today? Choosing the latter should redirect cash from bad businesses to good businesses, boosting the economy in the long run.”).

<sup>295</sup> Schmickler & Tremacoldi-Rossi, *supra* note 146, at 3 (“The typical reasoning is that firms should invest instead of returning capital to shareholders.”).

<sup>296</sup> Lazonick, et al., *supra* note 156.

<sup>297</sup> Laura Davison, et al., *Stock Buyback Tax Revival in Senate Bill Leaves Wall Street Unfazed*, BLOOMBERG, August 5, 2022 (“Buybacks remain the largest source of demand for U.S. equities, according to a Goldman Sachs Group Inc. report from earlier this year, which also predicted that S&P share repurchases would increase 12% in 2022 to reach \$1 trillion.”). This has been the case since 2010. Allison Nathan, *Buyback Realities*, GOLDMAN SACHS 11 (April 11, 2019), <https://www.goldmansachs.com/insights/pages/top-of-mind/buyback-realities/report.pdf> (“Buybacks have been the single largest source of US equity demand each year since 2010.”).

first time in 2023.<sup>298</sup>

Such a large increase in demand should, in an inelastic market, increase stock prices.<sup>299</sup> This theoretical intuition is born out empirically, both at the micro and macro levels. For instance, former SEC commissioner Robert Jackson recently found that share buybacks generate post-announcement abnormal returns of more than 2.5%.<sup>300</sup> Other studies have found that share buybacks generate returns of 3.5% (for open market repurchases)<sup>301</sup> and 8% (for repurchase tender offers).<sup>302</sup> On the macro level, every \$1 spent on stock repurchases induces a roughly \$2 increase in overall equity values.<sup>303</sup>

Situating share buybacks within the elasticity continuum provides a number of benefits. First, it contextualizes the share buyback phenomenon. Rather than looking at share buybacks as *sui generis*, the extrinsic value framework suggests that buybacks are simply one of many forms of demand-induced price increases. Buybacks may influence prices through other channels as well (e.g., when they convey information about firm fundamentals or management expectations), but the extrinsic value hypothesis suggests a buyback's inherent increase in demand represents an important and fully distinct channel through which price effects are mediated. That is, although buyback-induced price increases may have multiple causal mechanisms, the increase in demand generated by share buybacks is not dependent on any others and may itself be sufficient to influence share price. Thus, extrinsic value enhances our theoretical understanding of the observed price effects following share repurchases.

However, extrinsic value also has important implications for the ongoing normative debate. If buybacks mechanically increase demand (and thereby price) regardless of informational content, this allows for significant managerial opportunism. Put simply, it allows executives to quickly sell large amounts of stock at inflated prices, regardless of whether the buyback was done for the "right reasons."<sup>304</sup> Indeed, studies show that executives cash out roughly twice

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<sup>298</sup> Jennifer Williams-Alvarez, *The 1% Stock-Buyback Tax Hasn't Slowed Repurchases. A Proposed 4% Tax Might*, WALL ST. J. (Mar. 2, 2023), <https://www.wsj.com/articles/the-1-stock-buyback-tax-hasnt-slowed-repurchases-a-proposed-4-tax-might-f87044eb> ("Executives largely shrugged off a new 1% tax on stock buybacks as the cost of doing business."). Already, there is political interest in quadrupling the new tax. Richard Rubin, *Biden to Urge Quadrupling New 1% Tax on Stock Buybacks*, WALL ST. J. (Feb. 6, 2023), [https://www.wsj.com/articles/biden-to-urge-quadrupling-new-1-tax-on-stock-buybacks-11675723035?mod=article\\_inline](https://www.wsj.com/articles/biden-to-urge-quadrupling-new-1-tax-on-stock-buybacks-11675723035?mod=article_inline) (discussing President Biden's proposal to quadruple the recently enacted 1% tax on share buybacks).

<sup>299</sup> See *supra* Part II.E. (discussing buybacks through the lens of extrinsic value).

<sup>300</sup> Robert J. Jackson, Jr., *Stock Buyouts and Corporate Cashouts*, HARV. L. SCH. F. ON CORP. GOVERNANCE (June 13, 2018), <https://corpgov.law.harvard.edu/2018/06/13/stockbuyouts-and-corporate-cashouts/>.

<sup>301</sup> Jesse M. Fried, *Insider Signaling and Insider Trading with Repurchase Tender Offers*, 67.2 U. CHI. L. REV. 421, 444 (2000).

<sup>302</sup> *Id.*

<sup>303</sup> Gabaix & Koijen, *supra* note 1, at 4.

<sup>304</sup> *Cf.*, Allison Nathan, *Buyback Realities*, GOLDMAN SACHS 7 (Apr. 11, 2019),



as often in the days after a buyback announcement relative to an average day.<sup>305</sup> Moreover, these post-buyback trades are much larger, representing a fivefold increase relative to the pre-buyback period.<sup>306</sup>

When viewed in the context of extrinsic value, stock buybacks may represent a misalignment between private and public utility. While privately, managers and shareholders may benefit from increased share prices induced by buybacks, the rest of the world may be worse off to the extent that such price increases are not the result of value creation but instead merely exploit inelastic demand for the firm's stock. This insight should inform the ongoing policy debate surrounding buybacks and whether and to what extent corporate insiders should be restricted from executing personal trades for a certain period of time following buybacks.

#### D. Demand as a Novel Avenue for Generating Shareholder Wealth

Extrinsic value also has important implications for how directors manage corporations. The vital role of demand in shaping asset prices means that non-financial considerations, such as moral desirability, emotional appeal, or perks offered to investors, can have very real stock price implications. This may shift the role of a director: instead of an exclusive focus on fundamentals, firm managers have an incentive (and perhaps a duty) to consider the impact that

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<https://www.goldmansachs.com/insights/pages/top-of-mind/buyback-realities/report.pdf> (“Executives want the stock price to rise just as much as any shareholder, and doing buybacks in and of itself doesn’t achieve that; doing buybacks for the right reasons does—and all stockholders will share in those benefits.”). In what might be taken as a recognition of the potential for self-interested action on the part of corporate insiders, the SEC has recently adopted rule amendments that significantly expand the disclosure requirements for stock repurchases. *Share Repurchase Disclosure Modernization*, 17 CFR § 229, 232, 240, 249, & 274 (2023), <https://www.sec.gov/rules/final/2023/34-97424.pdf>. Notably, these amendments require companies to disclose whether any officer or director traded during the four business days before or after the company announced a repurchase program, and they also require narrative disclosures about any policies and procedures relating to purchases and sales by a company's officers and directors during a repurchase program. Additionally, the SEC is considering whether to adopt a cooling-off period for issuers' share repurchase plans, which would delay the first trades after a plan is adopted or amended for a specified period of time. *Insider Trading Arrangements and Related Disclosures*, S.E.C., <https://www.sec.gov/rules/final/2022/33-11138.pdf> (2023) (“We are continuing to consider whether regulatory action is needed to mitigate any risk of investor harm from the misuse of Rule 10b5-1 plans by the issuer, such as in the share repurchase context.”).

<sup>305</sup> Jackson, *supra* note 300 (“In fact, twice as many companies have insiders selling in the eight days after a buyback announcement as sell on an ordinary day. So right after the company tells the market that the stock is cheap, executives overwhelmingly decide to sell.”).

<sup>306</sup> *Id.* (“On average, in the days before a buyback announcement, executives trade in relatively small amounts—less than \$100,000 worth. But during the eight days following a buyback announcement, executives on average sell more than \$500,000 worth of stock each day—a fivefold increase.”).

corporate actions have on demand for their company's stock.

Corporations have traditionally focused on promoting their brand in the eyes of customers. However, the growing evidence that demand influences stock prices suggests a very real financial benefit to finding favor with *investors* as well. For instance, the demand premium confers a significant financial benefit upon firms that investors perceive as affiliated with ESG.<sup>307</sup> Directors may thus drive additional share price growth in their corporation's stock if they are able to affiliate themselves with ESG funds or other forms of ESG marketing. Likewise, minor investor inducements, such as discounts for shareholders or special perks available only to shareholders, are associated with stock price gains.<sup>308</sup> Directors may be able to improve their firms' stock performance simply by offering such inducements to investors and increasing demand for their company's stock in this manner. There is even the argument that a robust social media presence may attract investment in a firm and thereby increase stock price.<sup>309</sup>

Given that executives' personal compensation is frequently tied to stock performance,<sup>310</sup> directors have a clear financial incentive to boost stock price through any (legal) means. Further, if directors believe that increasing demand will maximize shareholder wealth, they arguably have a duty to do so.<sup>311</sup> Given the existence and potentially significant magnitude of extrinsic value, both directors' self-interest and their duty may involve generating and/or sustaining demand for the firms' stock, whether through ESG alignment, investor inducements, share buybacks, social media campaigns focused on promoting the firm to shareholders, or other such efforts.<sup>312</sup> Directors may ultimately decide that the firm's efforts are better spent elsewhere, but directors should, in relevant contexts, carefully consider the impact of demand on share price. In this way, extrinsic value expands the role of directors beyond a focus on company fundamentals and towards a broader vision of enhancing shareholder wealth.

At the same time, it is unclear whether society truly benefits from all efforts to boost stock price through increased demand. For example, stock buybacks may increase stock price without any significant improvement in the firm's

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<sup>307</sup> See *supra* Part II.D.

<sup>308</sup> See *supra* Part II.F.

<sup>309</sup> See, e.g., Russ Mitchell, *Twitter bots helped build the cult of Elon Musk and Tesla. But who's creating them?*, L.A. TIMES (Apr. 12, 2022), <https://www.latimes.com/business/story/2022-04-12/musk-is-off-the-twitter-board-of-directors-the-tesla-twitter-bot-army-marches-on> (arguing that Elon Musk and Tesla's robust Twitter presence may explain Tesla's extreme stock price gains that do not appear to be tied to operational results).

<sup>310</sup> Nitzan Shilon, *Replacing Executive Equity Compensation: The Case for Cash for Long-Term Performance*, 43 DEL. J. CORP. L. 1, 4 (2018) ("For the past three decades, long-term compensation plans have paid executives in equity (stocks and stock options).").

<sup>311</sup> See, e.g., Stephen M. Bainbridge, *In Defense of the Shareholder Wealth Maximization Norm: A Reply to Professor Green*, 50 WASH. & LEE L. REV. 1423 (1993) (arguing that "the mainstream of corporate law remains committed" to the shareholder wealth maximization norm).

<sup>312</sup> See *supra* Part II.

operations.<sup>313</sup> Likewise, greenwashing may boost stock prices without generating any tangible benefit for investors or society at large.<sup>314</sup> Similarly, although investors may enjoy the “perks” of investor inducements, it is not clear that such activities are truly worth their potential cost, either to investors themselves, if they effectively consume a portion of their “investment” capital in the form of the perks they receive, or to society at large, in the form of potentially less efficient allocation of capital.

#### E. Extrinsic Value & Management Discretion

Despite evergreen debate, shareholder primacy has largely retained its dominant position in the corporate pantheon. Shareholder primacy generally holds that directors ought to be accountable to shareholder interests alone, as opposed to the interests of a broader group of stakeholders.<sup>315</sup> One of the key benefits of shareholder primacy, relative to stakeholder theories, is its clarity and simplicity. Relative to multiple, more nebulous purposes that may lack clear metrics for measuring success or failure, the singular focus on shareholders is said to provide clarity of purpose and to thereby enhance the accountability of directors and managers to shareholder interests.<sup>316</sup>

The existence of extrinsic value may reduce this clarity. If directors can maximize shareholder value along the dual dimensions of demand and fundamental value, directors failing in one dimension might argue that their efforts in the other more than offset any perceived “failing.” For example, fundamental analysis alone might suggest that the costs of a firm’s ESG efforts outweigh the benefits. Traditionally, directors would be obligated to avoid such a course of action on the grounds that it would not maximize shareholder value. However, if this apparent “overinvestment” actually increased demand from ESG investors to a degree that more than offset the loss (or if directors reasonably thought it might, after informing themselves of the relevant information), there would be no violation. Indeed, their actions would comply with the shareholder wealth maximization norm. In this way, the existence of extrinsic value may turn what would otherwise be a clear violation of fiduciary

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<sup>313</sup> See *supra* Part IV.C.

<sup>314</sup> See *supra* Part IV.B.

<sup>315</sup> Henry Hansman & Reinier Kraakman, *The End of History for Corporate Law*, 89 GEO. L.J. 439, 441 (2001) (“[T]here is convergence on a consensus that the best means to this end (that is, the pursuit of aggregate social welfare) is to make corporate managers strongly accountable to shareholder interests and, at least in direct terms, only to those interests.”). *But see* Johnson, *supra* note 260, at 869 (“The corporation itself must be the focal point of productive discussions about *corporate* purpose”).

<sup>316</sup> See, e.g., Michal Barzuza, Quinn Curtis, & David H. Webber, *The Millennial Corporation* (Working Paper) (2021), [https://scholarship.law.bu.edu/faculty\\_scholarship/1172/](https://scholarship.law.bu.edu/faculty_scholarship/1172/) at 69. (“According to the managerialists, stakeholderism empowers managers under the theory that the CEO who has many bosses has no bosses.”).

duty into a cost-benefit analysis. As a result, extrinsic value complicates analysis of fiduciary duty violations and assessments of management performance more broadly. In a world with extrinsic value, it may be more difficult to judge the propriety of management behavior.

#### F. Market Efficiency & Extrinsic Value

Market efficiency is a foundational concept in securities law.<sup>317</sup> Broadly speaking, a market is said to be efficient when “security prices at any time ‘fully reflect’ all available information.”<sup>318</sup> In such a market, profitable arbitrage is impossible using publicly available information, since such information is rapidly and efficiently “priced in” by sophisticated market actors.<sup>319</sup> The result is that, in efficient markets, “market prices mirror the best possible estimates, in light of all available information, of the actual economic values of securities in terms of their expected risks and returns.”<sup>320</sup>

It has long been acknowledged that the market cannot be perfectly efficient.<sup>321</sup> There must be at least “an efficient amount of inefficiency;” that is, there must be enough inefficiency to ensure that arbitrageurs are incentivized to

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<sup>317</sup> Stout, *supra* note 22, at 636 (“By the mid-1980s, ‘market efficiency’ had become a mantra not only of finance economists, but also of securities scholars, regulators, and even judges and practicing lawyers.”); Gilson & Kraakman, *supra* note 6, at 549–50 (“Of all recent developments in financial economics, the efficient capital market hypothesis (‘ECMH’) has achieved the widest acceptance by the legal culture. It now commonly informs the academic literature on a variety of topics; it is addressed by major law school casebooks and textbooks on business law; it structures debate over the future of securities regulation both within and without the Securities and Exchange Commission; it has served as the intellectual premise for a major revision of the disclosure system administered by the Commission; and it has even begun to influence judicial decisions and the actual practice of law. In short, the ECMH is now *the* context in which serious discussion of the regulation of financial markets takes place.”).

<sup>318</sup> Eugene F. Fama, *Efficient Capital Markets: A Review of Theory and Empirical Work*, 25 J. FIN. 383, 383 (1970).

<sup>319</sup> Gilson & Kraakman, *supra* note 6, at 549–50 (characterizing Eugene Fama’s seminal definition of market efficiency as “a shorthand for the empirical claim that ‘available information’ does not support profitable trading strategies or arbitrage opportunities”); *see also*, Sanford J. Grossman & Joseph E. Stiglitz, *On the Impossibility of Informationally Efficient Markets*, 70 AM. ECON. REV. 393, 395 (1980) (describing perfect informational efficiency as the hypothetical condition where “prices are such that all arbitrage profits are eliminated”); Michael C. Jensen, *Some Anomalous Evidence Regarding Market Efficiency*, 6 J. FIN. ECON. 95, 96 (1978) (defining market efficiency in terms of whether economic profits are possible by trading on the basis of a given information set).

<sup>320</sup> Stout, *supra* note 22, at 639–40.

<sup>321</sup> *See, e.g.*, Gilson & Kraakman, *supra* note 6, at 571 (“Of course, the relative efficiency of the assimilation is never perfect. Since informed trading is costly, market professionals must enjoy some informational advantage that permits them to earn a commensurate return.”); Grossman & Stiglitz, *supra* note 319, at 395 (“We have argued that because information is costly, prices cannot perfectly reflect the information which is available, since if it did, those who spent resources to obtain it would receive no compensation.”).

monitor the market.<sup>322</sup> Still, it is commonly thought that the necessary degree of inefficiency is small given the highly competitive nature of the stock market, such that market efficiency is a useful approximation.<sup>323</sup>

The emergence of extrinsic value, however, undermines some of the traditional tenets of market efficiency. First, and most centrally, extrinsic value undermines the notion that a security's price is equal to the fundamental value of the stock. Second, extrinsic value undermines our collective faith in arbitrageurs' ability to discipline the market because arbitrageurs appear unable to arbitrage away all extrinsic value, at least under present market conditions. This Part explores each of these implications in greater detail.

### 1. *A Challenge to the Equivalence of Stock Price & Fundamental Value*

The emergence of extrinsic value inherently undermines the notion that market prices accurately reflect fundamental value. By definition, extrinsic value is financial value derived from demand-driven (and therefore non-fundamental) factors. In many cases, such as the ESG premium<sup>324</sup> and meme stocks,<sup>325</sup> extrinsic value may represent a meaningful portion of a stock's overall price, such that the deviation from the intrinsic value baseline is far from trivial. In an efficient market or even an approximately efficient market, extrinsic value should not exist to any significant degree, and the fact that it does challenges the presumption that stock price equates neatly with fundamental value.<sup>326</sup>

However, there is some evidence to suggest that the stock market is quite responsive to certain types of information, but not to others, meaning that the intrinsic value of the stock remains influential without always being

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<sup>322</sup> Stout, *supra* note 22, at 669 (noting that “arbitrage trading cannot be expected to produce perfectly informed prices. Some degree of mispricing must persist in the market, or arbitrageurs would have no incentive to incur the costs associated with identifying and trading mispriced securities.”).

<sup>323</sup> Fama, *supra* note 318, at 383 (“For the purposes of most investors the efficient markets model seems a good first (and second) approximation to reality.”); Gilson & Kraakman, *supra* note 6, at 571-72 (“But given competitive arbitrage and the market for analyst services, we would not expect the long-run returns of individual professionals to exceed the market average by very much, especially in exchange markets where professionals dominate trading.”); Robert J. Shiller, *Speculative Asset Prices*, 104 AM. ECON. REV. 1486, 1501 (2014) (acknowledging “the efficient markets model as a useful approximation for the reality of individual firms.”); Mark Klock, *Are Wastefulness and Flamboyance Really Virtues? Use and Abuse of Economic Analysis*, 71 U. CIN. L. REV. 181, 217 (2002) (“Market efficiency is only a first approximation to the description of markets, but it is an extremely accurate approximation.”).

<sup>324</sup> See *supra* Part II.D (arguing that ESG stocks would have underperformed the broader market over the relevant time period but for the extrinsic value derived from high demand for ESG assets).

<sup>325</sup> See *supra* Part II.C (explaining that meme stocks experienced a high multiplier, such that each additional dollar spent invested in meme stocks increased prices by 5 dollars or perhaps more).

<sup>326</sup> See *supra* Part II (examining the evidence for the existence of extrinsic value).

determinative.<sup>327</sup> For example, the market is “impressively efficient” in the short-run, with the market’s current reaction to certain changes (e.g., forthcoming dividends) equal to an estimated 99.8% of the eventual present value.<sup>328</sup> Likewise, the market appears able to effectively process the *relative* values of different stocks, such that stocks with more intrinsic value generally have a higher stock price than those with less intrinsic value.<sup>329</sup> In contrast, however, the stock market is far less able to price persistent shocks, such as those related to mutual fund flows or to the outsized demand for ESG assets.<sup>330</sup> This could explain why the index premium has not been arbitrated away despite being well-documented,<sup>331</sup> and why there exists a significant wedge between expected and realized returns for ESG stocks.<sup>332</sup>

It is likely that different information is absorbed in different ways and thus that the price for certain stocks better approximates fundamental value than it does for others, consistent with the “elasticity spectrum” discussed in Part III.B above. For example, by most accounts, the valuation of meme stocks represented a dramatic departure from fundamentals.<sup>333</sup> Indeed, it is difficult to argue that the wild swings of the various meme stocks over a very short period of time were driven primarily by changes in their intrinsic value.<sup>334</sup> In contrast, the “boring stocks” introduced above, which experience relatively limited demand and thus have little, if any, extrinsic value, are far more likely to be priced at a point approximately equal to intrinsic value.

On the whole, the emergence of extrinsic value necessarily implies that the stock market is not perfectly “fundamental value efficient.” However, this does not mean that fundamental value has been completely erased, or that stock prices are set at random. Instead, stock price typically retains a meaningful connection to the stock’s fundamental value, with extrinsic value serving a more

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<sup>327</sup> See Stout, *supra* note 22, at 656 (“Information that is easy to understand and that is trumpeted in the business media—for example, merger announcements or news of a stock split—may be incorporated into market prices almost instantaneously. But information that is ‘public’ but difficult to get hold of, or information that is complex or requires a specialist’s knowledge to comprehend, may take weeks or months to be fully incorporated into prices. Indeed it may never be fully incorporated at all.”).

<sup>328</sup> Gabaix & Koijen, *supra* note 1, at 45.

<sup>329</sup> *Id.*

<sup>330</sup> *Id.*

<sup>331</sup> See *supra* Part II.A (examining the evidence for the existence of extrinsic value).

<sup>332</sup> See Van der Beck, *supra* note 7, at 6 (arguing that “unexpected shifts in the aggregate demand for green assets may drive a wedge between expected and realized returns.”).

<sup>333</sup> See, e.g., Jill E. Fisch, *GameStop and the Reemergence of the Retail Investor*, 102 B.U. L. REV. 1799, 1819 (2022) (“To many critics, purchases of meme stocks appear irrational and untethered to fundamentals.”); Dennis M. Kelleher, et al., *Securities-Democratizing Equity Markets with and Without Exploitation: Robinhood, Gamestop, Hedge Funds, Gamification, High Frequency Trading, and More*, 44 W. NEW ENG. L. REV. 51, 61 (2022) (describing meme stocks as “largely divorced from business fundamentals or material market information”).

<sup>334</sup> See Jill E. Fisch, *supra* note 333, at 1822 (discussing the extreme volatility of meme stocks such as GameStop).

or less prominent role for a given stock depending upon its particular characteristics.

## 2. *The Limits of Arbitrage in the Modern Stock Market*

Sophisticated investors cannot arbitrage away all extrinsic value, at least given current market conditions. This is because arbitrage is based, somewhat counterintuitively, on consensus. If a lone trader attempts to arbitrage away a perceived mispricing, and this would-be arbitrageur is the only market actor who views the asset as mispriced, the attempted arbitrage will fail.<sup>335</sup> Arbitrage instead requires a degree of agreement—one actor is the first to identify a mispriced asset and a sufficient amount of other market actors subsequently agree that it is mispriced. This agreement must be more than theoretical; for arbitrage to succeed, a sufficient number of market actors must both *trade* as if that asset as mispriced and, even more fundamentally, they must *care* that an asset is “mispriced,” i.e., they must possess sufficiently elastic demand. An asset will reach an equilibrium at the new price and the arbitrage will be considered successful only if the foregoing conditions are fulfilled. Successful arbitrage is thus dependent on what might be termed *numerosity of consensus*. That is, a sufficient number of market actors must possess sufficiently similar utility functions, elasticities of demand, and valuation methodologies—in essence, enough participants must “play by the same rules.” Relatedly, the number of market participants actively undermining those “rules” must be sufficiently small.

Stated another way, the success of arbitrage may be viewed as a function of both (1) consensus and (2) anti-consensus. In the sense used here, anti-consensus goes beyond apathy, which itself is neither pro- nor anti-consensus, and also beyond random “noise” trading, which, if truly random, effectively cancels itself out. Instead, anti-consensus involves actively seeking out (i.e., purchasing on the basis of) a given extrinsic factor rather than attempting to arbitrage it away. Anti-consensus may arise for a variety of reasons. For instance, investors may place a bet *for* the index premium (i.e., assuming it will continue or even increase). Disagreement or “anti-consensus” may also arise from inelastic demand more directly when investors have constraints that make their demand relatively inelastic.

An illustration may explicate this theory. Suppose a trader wanted to arbitrage away the “index premium.”<sup>336</sup> Such a trader would need both a sufficiently high number of people who agreed with her that indexed assets were

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<sup>335</sup> See Stout, *supra* note 22, at 639 (recognizing that the success of would-be arbitrageurs acting upon some new information depends upon other market actors eventually appreciating “the significance of the new information”).

<sup>336</sup> The index premium refers to the stock price boost that typically accompanies inclusion in a market index, such as S&P 500. See *supra* Part II.A.

overpriced (promoting consensus) and a sufficiently low number of people who “disagreed” with her (promoting anti-consensus).<sup>337</sup> With respect to the index premium, the most important “anti-consensus” investors are the index funds themselves, who will continue buying the companies in their respective indexes in an almost fully inelastic manner, and who, together with their “closet” index fund brethren, own roughly two-thirds<sup>338</sup> of the equity market.<sup>339</sup> In this illustration, the attempt at arbitrage will succeed if the numerosity of consensus favors the arbitrageurs.

Although it is impossible to predict the future, we can observe that those who have attempted to arbitrage away the index premium in the nearly four decades since it was first identified have evidently failed.<sup>340</sup> This result is consistent with the theory that, over this time period, anti-consensus demand (primarily in the form of the staggering inflows to passive funds) outpaced the classic, “consensus” forces of the would-be arbitrageurs.<sup>341</sup> Relatedly, efforts to arbitrage away the “ESG premium” may face similar “anti-consensus” headwinds, given the structural shifts in the preferences of many pension funds, sovereign wealth funds, and other large asset managers. More broadly, we can say that the greater the inelasticity of demand, the stronger the anti-consensus forces and the more difficult “mispricing” is to arbitrage away. In the modern stock market, which exhibits significantly inelastic demand, it is perhaps unsurprising that arbitrageurs are unable to arbitrage away all extrinsic value.<sup>342</sup>

### G. Insider Trading, Securities Fraud, & Extrinsic Value

Insider trading, in its basic form, involves trading on material nonpublic information in violation of a duty.<sup>343</sup> An important limitation on liability is the materiality requirement, which restricts liability to trades made on the basis of

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<sup>337</sup> Of course, this is more precisely about the *magnitude* of the purchases and sales rather than the number of traders. For instance, under this theory, one individual buying \$100X of a given stock would have an equivalent impact to 100 individuals buying \$X. The analysis in the text is simplified for illustrative purposes.

<sup>338</sup> Van der Beck & Jaunin, *supra* note 9, at 3.

<sup>339</sup> In contrast, the most important “consensus” investors would perhaps be hedge funds, often considered important arbitrageurs; however, hedge funds hold only about 4% of the overall market and sell only 0.1% of the market each quarter. Gabaix & Koijen, *supra* note 1, at 9.

<sup>340</sup> Indeed, the index premium has been observed for decades, for numerous different indices, in many different countries. See *supra* Part II.A.

<sup>341</sup> But see *supra* Part II.A. (discussing alternate explanations for the index premium).

<sup>342</sup> See *supra* Part II.B. (summarizing empirical evidence demonstrating substantial inelasticity of demand in modern markets).

<sup>343</sup> *Chiarella v. United States*, 445 U.S. 222, 230, 100 S. Ct. 1108, 1115–16, 63 L. Ed. 2d 348 (1980) (“Application of a duty to disclose prior to trading guarantees that corporate insiders, who have an obligation to place the shareholder’s welfare before their own, will not benefit personally through fraudulent use of material, nonpublic information.”).



information that “would have been viewed by the reasonable investor as having significantly altered the ‘total mix’ of information made available.”<sup>344</sup> To determine if a particular piece of information is material, courts “must engage in a fact-specific inquiry and examine enough contextual factors to determine if the insider information would have affected a ‘reasonable investor’s’ view of a particular investment decision.”<sup>345</sup>

Under the classic view of the stock market, demand should have no appreciable impact on stock prices, rendering demand-related activities immaterial for purposes of insider trading liability. However, the modern stock market exhibits significant inelasticity, and nonfundamental factors may therefore impact stock prices.<sup>346</sup> Thus, while materiality traditionally encompassed only information related to intrinsic value or control, it now potentially encompasses information related to demand as well.<sup>347</sup> In this way, the emergence of extrinsic value significantly expands the universe of potentially material information.<sup>348</sup>

Materiality is also important for the broader universe of securities fraud cases under Rule 10b-5. Here again, the legal standard for materiality focuses on a piece of information’s importance to a reasonable investor and its impact on the “total mix” of publicly available information.<sup>349</sup> As is the case for insider trading, the emergence of extrinsic value implies that information relevant to demand may be material for securities fraud purposes, significantly expanding potential liability in this context as well.

#### H. Judicial Valuation, Event Studies, & Extrinsic Value

Relatedly, extrinsic value may influence judicial valuations. In the landmark Supreme Court case of *Basic v. Levinson*,<sup>350</sup> the Court held that, for stocks

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<sup>344</sup> *Basic Inc. v. Levinson*, 485 U.S. 224, 231–32, 108 S. Ct. 978, 983, 99 L. Ed. 2d 194 (1988).

<sup>345</sup> *Sec. & Exch. Comm’n v. Bonan Huang*, 684 F. App’x 167, 172 (3d Cir. 2017).

<sup>346</sup> See Joan MacLeod Heminway, *Just Do It! Specific Rulemaking on Materiality Guidance in Insider Trading*, 72 LA. L. REV. 999, 1008 (2012) (explaining that “under Rule 10b-5 (both within and outside of the insider trading context), a fact is material when there is a substantial likelihood that (a) a reasonable investor would find the fact important in making an investment decision or (b) disclosure of the fact would significantly alter the “total mix” of publicly available information”).

<sup>347</sup> See *supra* Part II (providing evidence for the existence of extrinsic value).

<sup>348</sup> Relatedly, extrinsic value is also potentially relevant in the context of Regulation FD, which requires that “[w]henver an issuer or any person acting on its behalf, discloses any material nonpublic information regarding that issuer or its securities to any person . . . the issuer shall make public disclosure of that information.” 17 C.F.R. § 243.100(a). In this context too, information related to demand may qualify as “material,” thereby expanding the scope of issuer’s duty to disclose selectively shared information.

<sup>349</sup> Heminway, *supra* note 345, at 1008 (explaining that the legal standard for materiality under Rule 10b-5 is comparable “both within and outside of the insider trading context”).

<sup>350</sup> *Basic Inc. v. Levinson*, 485 U.S. 224, 108 S. Ct. 978 (1988).

traded in efficient markets, there was a presumption of reliance on public misstatements in securities fraud cases. This is known as the “fraud-on-the-market” doctrine, which the court described as follows:

The fraud on the market theory is based on the hypothesis that, in an open and developed securities market, the price of a company's stock is determined by the available material information regarding the company and its business.... Misleading statements will therefore defraud purchasers of stock even if the purchasers do not directly rely on the misstatements.... The causal connection between the defendants' fraud and the plaintiffs' purchase of stock in such a case is no less significant than in a case of direct reliance on misrepresentations.<sup>351</sup>

This decision empowered investors to bring private securities fraud claims as class actions, provided plaintiffs were able to establish that the fraudulent disclosures actually impacted stock price.<sup>352</sup> In a subsequent decision, *Dura Pharmaceuticals, Inc. v. Broudo*, the Supreme Court further held that plaintiffs must also prove “loss causation,” or a clear causal link between the fraudulent activities and economic harm.<sup>353</sup> In order to satisfy the requirements set forth in *Basic* and *Dura*, litigants in securities fraud disputes typically provide “event studies,”<sup>354</sup> which “use[] mathematics to effectively isolate the dissemination of misinformation from other surrounding factors.”<sup>355</sup> Such event studies have thus become a vital component of securities fraud litigation.<sup>356</sup> Some courts consider the use of an event study to be “preferred or even required to establish one or more of the necessary elements of the plaintiffs' case.”<sup>357</sup>

Problematically, however, traditional asset pricing models used in event studies may fail to fully reflect extrinsic value and the impact of inelastic

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<sup>351</sup> *Id.* at 989 (quoting *Peil v. Speiser*, 806 F.2d 1154, 1160–1161 (CA3 1986)).

<sup>352</sup> Jill E. Fisch & Jonah B. Gelbach, *Power and Statistical Significance in Securities Fraud Litigation*, 11 HARV. BUS. L. REV. 55, 60 (2021).

<sup>353</sup> *Dura Pharms., Inc. v. Broudo*, 544 U.S. 336, 336, 125 S. Ct. 1627, 1628, 161 L. Ed. 2d 577 (2005) (“An inflated purchase price will not by itself constitute or proximately cause the relevant economic loss needed to allege and prove ‘loss causation.’ The basic elements of a private securities fraud action—which resembles a common-law tort action for deceit and misrepresentation—include, as relevant here, economic loss and ‘loss causation.’”).

<sup>354</sup> Fisch & Gelbach, *supra* note 352, at 60.

<sup>355</sup> Frederick Sprunger, *Resolving the Split: Manipulation in the Age of Musk and the Loss Causation Model*, 54 IND. L. REV. 501, 512 (2021).

<sup>356</sup> Andrew C. Baker, *Single-Firm Event Studies, Securities Fraud, and Financial Crisis: Problems of Inference*, 68 STAN. L. REV. 1207 (2016) (“Lawsuits brought pursuant to section 10(b) of the Securities and Exchange Act depend on the reliability of a statistical tool called an event study to adjudicate issues of reliance, materiality, loss causation, and damages.”); *see also*, *Bricklayers & Trowel Trades Int'l Pension Fund v. Credit Suisse First Bos.*, No. 02-12146-NMG, 2012 U.S. Dist. LEXIS 4566, at \*4 (D. Mass. Jan. 13, 2012) (“An event study is an accepted method of measuring the impact of alleged securities fraud on a stock price . . .”).

<sup>357</sup> Jill E. Fisch et. al., *The Logic and Limits of Event Studies in Securities Fraud Litigation*, 96 TEX. L. REV. 553, 556 (2018).

demand.<sup>358</sup> For instance, an event study may reveal a price impact if a downward-sloping demand curve is assumed, but not if a horizontal demand curve is assumed.<sup>359</sup> Relatedly, multiplier effects may mean that the price impact from a given event will be, in some sense, overstated by event studies (e.g., some portion of the price effect will be attributable to inelastic demand rather than to the event itself), unless the event study explicitly controls for multiplier effects. Courts must consider whether to differentiate between the price effects “directly” generated by fraudulent behavior and “second order” price impacts resulting from multiplier effects. In these ways, extrinsic value has real consequences for the outcomes of securities fraud litigation cases. In order to obtain accurate results from event studies—and therefore accurate outcomes in securities fraud litigation cases—courts must contend with the background assumptions about the elasticity of demand.

### I. Controlling for Extrinsic Value in Academic Research

More broadly, academic research has come to rely heavily on event studies to quantify the impact of a wide variety of both firm-specific and market-wide events, including the impact of regulatory changes, mergers and acquisitions, issuance of new debt or equity, and macroeconomic variables.<sup>360</sup> Three decades ago, Eugene Fama quipped that “[once] there was little evidence on the central issues of corporate finance. Now we are overwhelmed with results, mostly from event studies”<sup>361</sup>—a statement that remains true today.<sup>362</sup> However, as with judicial valuation, academic event studies may fail to adequately account for extrinsic value.

For instance, under the classic view of stock pricing, there is no need to account for the magnitude and direction of flows during an event study, as such forces would be considered irrelevant to stock price.<sup>363</sup> However, recent

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<sup>358</sup> See Antti Petajisto, *Why Do Demand Curves for Stocks Slope Down?*, 44 J. FIN. & QUANTITATIVE ANALYSIS 1013, 1015 (Oct. 2009) (showing that “existing equilibrium models underestimate the actual slopes of demand curves for stocks by several orders of magnitude” and illustrating “the failure of traditional pricing models”).

<sup>359</sup> See Refet S. Gurkaynak & Jonathan H. Wrightz, *Identification and Inference Using Event Studies*, 2013 MANCHESTER SCHOOL 48, 58 (2013) (“With downward-sloping bond demand there would be a price impact, but with a horizontal demand curve (as would be the case under conventional asset pricing models) there would be no impact.”).

<sup>359</sup> *Id.*

<sup>360</sup> Mark L. Mitchell & Jeffrey M. Netter, *The Role of Financial Economics in Securities Fraud Cases: Applications at the Securities and Exchange Commission*, 49 BUS. LAW. 545, 557-58 (1994).

<sup>361</sup> Eugene F. Fama, *Efficient Capital Markets: II*, 46 J. FIN. 1575, 1600 (1991).

<sup>362</sup> See, e.g., Amirhossein Zohrehvand, et al., *Generalizing Event Studies Using Synthetic Controls: An Application to the Dollar Tree–Family Dollar Acquisition*, (Working Paper, Sept. 12, 2022), [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3856879](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3856879) (referring to event studies as a “popular method” that “has spawned a large literature”).

<sup>363</sup> See *supra* Part I. (discussing the classic view of asset pricing, which holds that flows are

research suggests that ignoring flows and other determinants of extrinsic value can introduce potentially significant error.<sup>364</sup> Events such as the sale or purchase of a substantial volume of stock by a large blockholder, index additions and deletions (or merely the acceleration of index fund growth during the sample period), the adoption of more desirable ESG attributes, or stock buybacks might generate price effects that amplify or diminish the observed price effects but may be unrelated to the variable under consideration.<sup>365</sup> Additionally, the existence of multiplier effects implies that a given event may produce both first-order price effects directly attributable to the subject of the analysis as well as second-order price effects attributable to multiplier effects and the influence of demand inelasticity.<sup>366</sup> Without attention to flows, multiplier effects, and extrinsic value more broadly, academic research may draw unwarranted conclusions about the impact of a given factor or event on stock prices. Ultimately, researchers employing event studies must account for extrinsic value generally as well as variable levels of inelasticity for different stocks in order to obtain truly accurate results for event studies.

### *J. Theoretical Considerations*

More broadly, the existence of extrinsic value should prompt us to reexamine the relationship between share price gains and social and economic utility. Extrinsic value by definition refers to value derived from non-fundamental factors. As such, traditional assumptions about what share price gains signify (e.g., more valuable goods and services, productivity improvements) may no longer be accurate in all circumstances.

In particular, extrinsic value implies that share price gains are no longer as explicitly tied to the generation of fundamental economic value. Classically, a stock price increase meant that the market expected more economic value (goods and services) from a given firm. In a world with inelastic demand, an increased stock price could instead reflect non-fundamental (i.e., extrinsic) value. In such a world, demand may shift a firm's stock price for many non-fundamental reasons—perhaps investors are trying to make a statement, or to generate losses for a hedge fund they dislike. Perhaps investors are motivated by nostalgia, or perhaps they desire some consumption-focused perks offered to a firm's shareholders. Perhaps investors derive private moral utility from certain investments, or perhaps management has mechanically increased demand via buybacks.

In this way, extrinsic value could help incorporate morals into markets and partially solve incommensurability problems. Under the classic model, investors

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irrelevant to stock prices).

<sup>364</sup> See *supra* Part III.

<sup>365</sup> See *supra* Part II.

<sup>366</sup> See *supra* Part II.B. (discussing multiplier effects).

have no direct way to communicate their desire for prosocial ends to management—they perhaps could exit a firm or raise their concerns with politicians, but the dominance of fundamentals implies no ability to shift share prices on the basis of non-financial factors. Given extrinsic value, however, prosocial investors have a mechanism to express moral, emotional, and ethical considerations in *financial* terms. By influencing the share price of firms engaged in socially beneficial or socially harmful practices, investors, essentially, can begin to put a price on externalities. Further, by communicating non-financial considerations in financial terms, extrinsic value could serve as a bridge, helping society balance wealth creation against other non-financial considerations.

Ultimately, the existence of extrinsic value should cause us to question our underlying assumptions about the relationship between share prices and the broader economy. In particular, activities designed to generate demand-induced stock price gains may merit special attention and careful future study—are such activities a productive way to incorporate important non-financial concerns into modern markets, or are they merely manipulating demand to extract rents for a subset of investors? Extrinsic value fundamentally alters our conceptions of what it is, exactly, that the stock market is pricing. Exploring the social, political, and economic implications of this foundational change will be a fruitful avenue for future research.

#### *K. Regulatory Policy*

Importantly, regulators and policymakers can influence the degree to which modern markets are inelastic. This is because the degree of inelasticity in modern markets is not fixed; it is the direct consequence of the degree to which *investors* are inelastic.<sup>367</sup> The most inelastic of all investors are passive funds, which are defined by their passivity. By their very nature, passive funds do not sell in response to overvaluation<sup>368</sup>—in fact, in the event that overvaluation leads to a firm’s inclusion in a new index or benchmark, passive funds may be required to *buy* overvalued funds.<sup>369</sup> More broadly, any time shares in an index become overvalued, market-weighted index funds with positive inflows must purchase *more* of each overvalued stock, relative to those stocks which remain neutral or undervalued. This means that, in certain circumstances, index funds may exhibit precisely the opposite behavior predicted by classical models. This makes index funds not efficiency-neutral, but actively anti-efficient. If regulators and policymakers, after considering the theoretical issues described in Part III.J above, desire to reduce the inelasticity of modern markets, arguably the best way

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<sup>367</sup> See *supra* Part III.C.

<sup>368</sup> See Denis K. Berman & Jamie Heller, *Wall Street’s “Do-Nothing” Investing Revolution*, WALL ST. J. (Oct. 17, 2016), <https://graphics.wsj.com/passivists/> (describing passive investing as “do-nothing” investing).

<sup>369</sup> *Id.*

to do so would be to enact regulations targeting passive funds.

However, passive funds, on average, outperform their active peers.<sup>370</sup> They also generally have very low fees since there is no need to pay an analyst to diligently select and monitor stocks.<sup>371</sup> Passive funds also trade less frequently than active funds, which means investors have to pay less in taxes and fees.<sup>372</sup> The combination of these factors makes passive funds a very desirable investment vehicle, particularly for ordinary investors saving for retirement or other large expenses.

Is it possible to reduce inelasticity while preserving the benefits of passive funds? One option would be to target passive funds that charge investors *as if* they were active funds. Some funds that appear to be active funds are known as “closet index funds” because they do not deviate far from indexes and other benchmarks.<sup>373</sup> Despite charging high fees, such funds do little more than track an index.<sup>374</sup> This phenomenon is quite common: one study classifies 20% of mutual fund assets worldwide as closet index funds.<sup>375</sup> Further, only about 30% of U.S. mutual fund assets are in funds with an active share of 80% or more, while only about 10% of fund assets are in funds with an active share of 90% or more.<sup>376</sup> It is quite likely that unsophisticated investors may be misled by the ostensibly active nature of a closet index fund.

Closet index funds would serve as an ideal point of focus for regulatory action seeking to increase the elasticity of the modern investor pool. In particular, the market effects of inelastic investing strategies may serve as an added justification for regulators to consider some of the proposals suggested by Cremers and Curtis, such as regulations that require “Active Share” disclosures to give more information to investors about the performance of their allegedly active investment funds.<sup>377</sup> Such disclosures might pressure fund

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<sup>370</sup> Bob Pisani, *In one of the most volatile markets in decades, active fund managers underperformed again*, CNBC (Nov. 1, 2021), <https://www.morningstar.com/lp/active-passive-barometer> (reporting that over a 10 year period, just one-quarter of actively managed funds outperformed their passive peers).

<sup>371</sup> *Mutual Fund Fees: Passive v. Active*, NASDAQ, <https://www.nasdaq.com/education/passive-active-all-about-fee> (“All mutual funds charge fees for their services. The lowest-cost funds are passively managed, which means they track an index and don't require experts to intervene and make decisions.”).

<sup>372</sup> See Laura Sanders, *How Passive Funds Trim Your Tax Bill*, WALL ST. J. (Oct. 21, 2016), <https://www.wsj.com/articles/how-passive-funds-trim-your-tax-bill-1476968401> (“Here's a plus for passive investing over active: lower taxes.”).

<sup>373</sup> See Evie Liu, *A U.S. Fund Is Hit With a Closet Indexing Charge. How Close Is Too Close to a Benchmark?*, BARRON'S (NOV. 12, 2021), <https://www.barrons.com/articles/american-century-investments-lawsuit-51636672247>.

<sup>374</sup> *Id.*

<sup>375</sup> Martijn Cremers, et al., *Indexing and active fund management: International evidence*, 120 J. FIN. ECON. 539, 540 (2016).

<sup>376</sup> Tom Anderson, *'Closet indexing' can hurt investors, expert says*, CNBC (June 13, 2017), <https://www.cnbc.com/2017/06/13/is-your-fund-manager-actually-a-closet-indexer.html>.

<sup>377</sup> K.J. Martijn Cremers & Quinn Curtis, *Do Mutual Fund Investors Get What They Pay for?*

managers to pursue more active strategies. Alternatively, regulators may wish to go further and require that funds charging fees above a certain level<sup>378</sup> engage in active rather than passive investing strategies. Perhaps regulators might require high-fee funds to deviate from common benchmarks by a certain percentage, or perhaps regulators might mandate that nominally active funds turn over a certain volume of stocks each year. These strategies might incentivize fund managers to pursue more active strategies in order to justify their high fees, potentially decreasing the inelasticity of the overall market. At a minimum, such strategies would protect unsophisticated investors from wasting money on unnecessarily high fees.

### CONCLUSION

Occasionally, new data requires new theories. An emerging empirical consensus suggests that demand affects stock prices to a far greater degree than orthodox finance theories predict.<sup>379</sup> The value triad, in which stock prices are determined by fundamental, control-related, and demand-driven factors, more accurately describes the behavior of asset prices in modern financial markets. In light of the value triad, Judge Frank Easterbrook's famous pronouncement<sup>380</sup> might be updated as follows:

There is a distinct economic market in "GameStop stock," much as there is in dill pickles or fluffy towels. Moreover, given the heterogeneity of investor utility functions, some investors do want Disney stock precisely to paper their walls with beautiful certificates. Many investors, particularly ESG investors, want more than just monetary returns at given risk levels. Investor preferences and values, as well as the investment mandates of institutional investors, may constrain their investment choices to a smaller subset of financial instruments. As a result, for many investors, there may not be fully adequate substitutes for any one firm's stock. The effective demand curve for stock, at the firm-, factor-, and market-level, is asymmetric, exhibiting both downward-sloping and horizontal characteristics.

This depiction is clearly a dramatic departure from prior understandings of how stock prices respond to investor demand. It echoes the key tenets of the extrinsic value hypothesis: (1) demand for stock is meaningfully inelastic, (2) the demand curve for stock is asymmetric, (3) individual investors exhibit varying

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*Securities Law and Closet Index Funds*, 11 VA. L. & BUS. REV. 31, 82 (2016).

<sup>378</sup> The asset-weighted average fee for actively managed mutual funds is .60 while the asset-weighted average fee for passively managed funds is .12. Regulators might wish to target nominally "active" funds by focusing on those with expense ratios exceeding the asset-weighted average. Bryan Armour, *Fund Fees' Continued Decline Is a Win for Investors*, MORNINGSTAR (July 12, 2022), <https://www.morningstar.com/articles/1055229/fund-fees-continued-decline-is-a-win-for-investors>.

<sup>379</sup> See *supra* Part II.

<sup>380</sup> *West v. Prudential Sec., Inc.*, 282 F.3d 935, 939 (7th Cir. 2002).

elasticities, (4) individual stocks exhibit varying elasticities, (5) there is a market for individual stocks, (6) nonfinancial and nonfundamental factors can influence stock prices, (7) unsophisticated investors can influence stock prices, and (8) stock prices result from the interaction of three sources of value—intrinsic value, extrinsic value, and control. The extrinsic value hypothesis offers improved explanatory power compared to the orthodox view, and it outlines the key conceptual changes needed in order to conform theory to reality.