PROTECTING CONSUMER INVESTORS BY FACILITATING "IMPROVED PERFORMANCE" COMPETITION

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Many mutual fund shareholders invest in funds with supracompetitive fees that reduce their expected return even though lower cost alternatives are available. While financial arbitrage can correct pricing problems for other types of securities, conventional arbitrage is difficult to implement in the mutual fund market. As a result, concerns about excessive fund fees have attracted the attention of policy makers, including the SEC. This Article proposes legal reform to our system of mutual fund regulation that responds to the problem of high-cost funds by providing the investors who are making the most substantial mistakes with salient and transparent market information about the existence of superior investment alternatives. We first consider ways that regulation could be reformed to facilitate what we call "short redemption," the mutual fund analog to "short selling" of securities. A vibrant market for short redemptions would allow smart money to arbitrage fee differences by selling (redeeming) short high-fee funds while buying comparable low-fee funds. But because of predictable resistance from the shorted funds and the difficulty of obtaining shares to borrow, this Article concludes that short redemption is unlikely to provide sufficient arbitrage discipline of inefficient high-fee funds. Instead, this Article proposes regulatory reform that would encourage low-fee funds to offer "improved performance guarantees." An improved performance guarantee promises that the consumer will achieve a better net financial outcome if she switches from a current provider to a competitor product. The core notion is to guarantee to the consumer an improvement in relative *performance. The guarantee functions as an arbitrage of high-fee funds that would improve price competition in the mutual fund market. The Article's central claim is that lawmakers and regulators can enhance competi-*

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tion in mutual funds by enabling sophisticated investors to arbitrage supracompetitive fees.

TABLE OF CONTENTS

I. INTRODUCTION 2
II. BARRIERS TO MUTUAL FUND ARBITRAGE 9
III. THE SCOPE AND FEASIBILITY OF IMPROVED PERFORMANCE GUARANTEES REGARDING MUTUAL FUND PERFORMANCE 16
A. *Riskless Arbitrage of Expense Ratio Differences* 19
B. *An Analysis of Guarantee Risk and Reward: An Example* 20
C. *Guaranteeing a Diversified Portfolio of Actively Managed Funds* 24
D. *Guaranteeing 401(k) Plans and Hedge Funds* 26
IV. THE LEGAL AND POLICY CASE FOR IMPROVED PERFORMANCE GUARANTEES 27
V. CHALLENGES AND DETAILS OF IMPLEMENTATION 34
A. *Managing Risk* 34
B. *Fund and Investor Opportunism* 37
C. *12b-1 Fees for Class B and C Shareholders and Capital Gain Taxes* 40
D. *Collusion and Bonding Concerns* 44
E. *Some Alternative Structures* 45
VI. BEYOND MUTUAL FUNDS: LOWER ALL-IN COST GUARANTEES 46
A. *Three Informational Challenges* 47
B. *Applications to Financial, Travel, Rental, and Service Transactions* 52
VII. CONCLUSION 55

I. INTRODUCTION

Mutual fund investors pay fees for the stock-picking and administrative services provided by the mutual fund manager. Investors hope, of course, that superior returns will more than compensate for the price paid, but some differences in mutual fund prices cannot be attributed to differences in expected return. One stark example is the wide range of prices in index funds, which are designed to track a particular market index at low cost. For example, as of 2012, MainStay Investments' (MCSEX) expense ratio on its S&P 500 index fund was more than four and a half times larger than the expense ratios that Vanguard (VFINX) and Fidelity (FUSEX) charged on their S&P 500 indices (0.81%, 0.17%,

0.10%, respectively).[1] All three funds attempt to mimic the performance of the S&P 500, so investors in these funds are choosing between funds that are targeting the same pre-fee return, but doing so at very different prices.[2] This pricing disparity is just one example of a well-understood phenomenon in the mutual fund market: some mutual funds charge supracompetitive prices.[3]

Asset management fees are fundamentally important to mutual fund investors. Since fees are a constant drag on returns, their effect compounds over the course of a career and can lead to very different savings outcomes. For example, an individual saving $500 a month from the age of twenty-five to sixty-five could see their end-of-career savings diminished by nearly half as a result of a difference of two percent in fund fees.[4] Moreover, empirical studies have shown that few actively managed funds justify their fees; in fact high fees are associated with *worse* pre-fee returns.[5] Avoiding high costs is, therefore, essential to the retirement savings goals of millions of investors. As such, mutual fund fees have been a subject of long-standing concern. The Investment Company Act of 1940, for example, now includes a fiduciary duty regarding fees,[6] and the SEC has announced enforcement measures targeting costly funds.[7] Despite this attention, fees in many funds remain stubbornly high.

Rather than look to regulatory solutions, we begin by asking a more fundamental question: how is it that funds that target an identical index can charge different prices? Mutual fund shares are securities, and in securities markets for stocks and bonds, when the price of a security exceeds its fundamental value, sophisticated investors can profit by borrowing shares of that security and selling them short, repurchasing the shares after the price declines to pay back the loan.[8] This short selling puts downward pressure on the price of the security and drives it closer to its

1. FIDELITY INVESTMENTS, SPARTAN 500 INDEX FUND: SUMMARY PROSPECTUS 2 (Oct. 1, 2013), *available at* https://secure.ingham.com/prospectus/FUSVX.pdf (showing an expense ratio of 0.10%); MAINSTAY INVESTMENTS, PROSPECTUS FOR MAINSTAY EQUITY INDEX FUND 4 (Feb. 28, 2012), *available at* http://quote.morningstar.com/fund-filing/Prospectus/2012/2/28/t.aspx?t=MCSEX&ft=497&d=12353d7aae7998a95c85794d22c36cd1 (showing total annual fund operating expense ratio of 0.81); VANGUARD FUNDS, SUPPLEMENT TO THE PROSPECTUSES 1 (Apr. 28, 2014), *available at* http://www.vanguard.com/pub/Pdf/p040.pdf (showing an expense ratio of 0.17% for 2013).

2. *E.g.*, FIDELITY INVESTMENTS, *supra* note 1, at 3; MAINSTAY INVESTMENTS, *supra* note 1, at 5; VANGUARD FUNDS, *supra* note 1, at 2.

3. Javier Gil-Bazo & Pablo Ruiz-Verdú, *The Relation Between Price and Performance in the Mutual Fund Industry*, 64 J. FIN. 2153, 2179 (2009).

4. R. GLENN HUBBARD ET AL., THE MUTUAL FUND INDUSTRY: COMPETITION AND INVESTOR WELFARE 19 tbl.2.1 (2010).

5. Gil-Bazo & Ruiz-Verdú, *supra* note 3, at 2178.

6. 15 U.S.C. § 80a-35(b) (2012).

7. James G. Cavoli et al., *The SEC's Mutual Fund Fee Initiative: What to Expect*, 16 WESTLAW J. SEC. LITIG. & REG., Nov. 16, 2010, at 1,1.

8. Robert S. Bloink, *Does the Dodd-Frank Wall Street Reform Act Rein in Credit Default Swaps? An EU Comparative Analysis*, 89 NEB. L. REV. 587, 621–22 (2011); *see also* 17 C.F.R. § 242.200(a) (2014) (defining a short sale as "any sale of a security which the seller does not own or any sale which is consummated by the delivery of a security borrowed by, or for the account of, the seller").

fundamental value.[9] This mechanism of arbitrage is fundamental to price efficiency in capital markets.[10] When arbitrage is either prohibitively expensive or impossible, this corrective mechanism is absent. Because sophisticated investors cannot bet against predictably underperforming high-fee funds, they persist:

> [T]he only thing an informed investor can do in the market for index funds is to buy the good-performing funds—no arbitrage is possible. In such a market, all that is necessary for inferior funds to exist and grow is a set of uninformed investors and a set of distributors who have an economic incentive to sell inferior products. In a market where arbitrage is impossible, we may be disappointed, but we should not be surprised when inferior products exist and even prosper.[11]

The purpose of this Article is to examine the obstacles to arbitrage in the mutual fund market, examine the current regulatory environment, demonstrate the economic feasibility of mutual fund arbitrage, and suggest regulatory change that would enable effective arbitrage of high-fee funds. Such reform would enhance price competition in the mutual fund market to the benefit of individual investors who might otherwise purchase high-cost funds.

This Article begins with an explanation of how conventional arbitrage *could* work in the mutual fund market to enhance competition. If borrowing of mutual fund shares were possible at a low cost, sophisticated investors would be able to borrow shares of MainStay's high-fee mutual fund, promising to return sufficient cash in the future to make the lender of shares (more than) whole. The sophisticated borrower would redeem the shares from the fund and take the proceeds and reinvest them in the comparable low-fee Vanguard index. Such "short redemptions" would allow smart money to arbitrage fee differences by selling (redeeming) short high-fee funds while buying comparable low-fee funds. High-fee funds, like MainStay, would face increased incentives to reduce their fees or risk being figuratively driven from the market by waves of redemptions. We explain why conventional short selling—though legally permissible—is unlikely to solve the supracompetitive fee problem in the mutual fund market. The absence of a robust secondary market for mutual fund shares, combined with poor incentives for many brokers to lend, creates an obstacle to effective short redemption that interferes with arbitrage and protects funds with supracompetitive fees.

To address the difficulties of arbitrage through short redemptions, we argue for a new type of arbitrage, enacted through regulatory reform

9. EKKEHART BOEHMER & JULIE WU, EDHEC, SHORT SELLING AND THE PRICE DISCOVERY PROCESS 8 (2010), *available at* http://www.edhec-risk.com/edhec_publications/all_publications/RISK Review.2011-04-06.2018/attachments/EDHEC%20Working%20paper%20-%20Short%20selling%20and%20the%20price%20discovery%20process%20F.pdf.

10. *Id.* at 5, 15.

11. Edwin J. Elton et al., *Are Investors Rational? Choices Among Index Funds*, 59 J. FIN. 261, 286 (2004).

that would enable low-fee funds to offer "improved performance guarantees." An improved performance guarantee promises that the consumer will achieve a better net financial outcome if she switches from a current provider to a competitor product. The core notion is to guarantee to the consumer an improvement in *relative* performance.[12] Intuitively, if two funds track the same index, but vary widely in price, then the lower-priced fund will almost certainly deliver superior after-fee performance than the higher-priced fund. In our suggested implementation, low-cost funds could offer guarantees that effectively divide some of the benefit of improved performance between the low-cost fund and the consumer. Since the guarantee enables low-cost funds to profit from their systematically superior performance while encouraging redemptions from high-cost funds that serve as guarantee targets, performance guarantees are another form of arbitrage.

Our central claim is that lawmakers and regulators can enhance competition in mutual funds by enabling competitors or third-party intermediaries to arbitrage differences in expected mutual fund returns. Arbitrage can be directly facilitated by enabling investors to combine short redemptions of low-expected-return funds with long purchases of high-expected-return funds. But arbitrage can also be facilitated by enabling competitor funds or third parties to offer improved performance guarantees. For example, in the mutual fund industry, Vanguard might offer the following improved performance guarantee to any investor who is currently invested in the MainStay index:

> On any funds that you invest in the Vanguard index, we will guarantee that after a year you will have more money in your Vanguard account than if you left the money invested in the MainStay index. More specifically, we promise to reimburse you for one-hundred percent of any shortfall in relative performance if you will grant twenty percent of any upside in relative performance.[13]

Under this guarantee, Vanguard would not be promising that the S&P index would be increasing during the next year. It would only be promising that the Vanguard fund would produce a higher (net of expenses) return.

The improved performance guarantee can enhance *ex ante* price competition by credibly communicating to investors that the Vanguard index dominates the MainStay index, even if these investors do not accept the guarantee. Instead of the universal disclaimer that "evidence of past performance does not guarantee future performance," a competitor would provide a guarantee about *relative* future performance. Investors

12. The South African insurance and financial services company Discovery offers a product that awards bonuses to investors, if their fund is not in the top quartile of earners. Their "Quartile Performance Protector" product, for example, boost returns up to twenty percent if the fund is in the bottom quartile. DISCOVERY INVEST, RETIREMENT PLANS: SAVE OVER THE LONG TERM TO ENSURE FINANCIAL INDEPENDENCE 4 (2014), *available at* https://www.discovery.co.za/discovery_coza/web/linked_content/pdfs/invest/discovery_invest_retirement_fact_file.pdf.

13. This is an example of a fund's improved performance guarantee to investors of a competitor fund in order to facilitate arbitrage in expected returns.

who switch from the MainStay to Vanguard index without taking the guarantee would retain one-hundred percent of the enhanced relative return. In essence, these investors would be saying, "Thank you for speaking to me credibly about the superiority of your product. I will switch, but I do not want to trade the twenty percent of the upside to receive the one-hundred percent of downside protection." The mere fact that Vanguard is able to offer such a guarantee would give these customers sufficient information to choose the lower-priced product. For these investors, the guarantee offers Vanguard a new, cheap mechanism for acquiring new accounts.

Other investors, however, who—notwithstanding Vanguard putting its money where its mouth is—are still worried about whether the Vanguard index is really a better deal, can accept the guarantee and assure themselves of the best of both worlds. By shifting their money to Vanguard with the guarantee, they can assure themselves of every dollar of the MainStay return and still participate in eighty percent of excess Vanguard return.

The guarantee also can provide benefits to investors who have a variety of standard cognitive biases. For example, the guarantee provides a means of taking the low-cost fund's fee advantage, which tends to be low salience for some investors,[14] and converting it to an advantage in returns, a feature which tends to be high salience through the use of a guarantee,[15] which is likely to be *very* high salience. This means that less-sophisticated, fee-insensitive investors who respond more strongly to returns can be induced to make a better investment choice.

Second, the guarantee option will also likely be attractive to investors who are reluctant to shift from their status quo investments and suffer from the "status quo bias."[16] These investors can maintain a virtual attachment to the old, while creating an option for higher return. Because the guarantee account each month shows the investor what the value of the old account would have been and gives the investor the wherewithal to reverse course and reinvest in the status quo, the guarantee allows investors to frame the strategy as maintaining the old account but gaining an option to participate in potentially higher returns of another fund.

Finally, the guarantee may also prove attractive to investors who, in particular, wish to avoid picking the worst investments. Dan Ariely has shown in a variety of different contexts that decision makers in deciding between "A" and "B" will increase their likelihood of picking "A" if a

14. James J. Choi et al., *Why Does the Law of One Price Fail? An Experiment on Index Mutual Funds* 5 (Nat'l Bureau of Econ. Research, Working Paper No. 12261, 2006), *available at* http://www.nber.org/papers/w12261.

15. Andrea Frazzini & Owen A. Lamont, *Dumb Money: Mutual Fund Flows and the Cross-Section of Stock Returns*, 88 J. FIN. ECON. 299, 300 (2008).

16. Alexander Kempf & Stefan Ruenzi, *Status Quo Bias and the Number of Alternatives: An Empirical Illustration from the Mutual Fund Industry*, 7 J. BEHAV. FIN. 204, 211 (2006); William Samuelson & Richard Zeckhauser, *Status Quo Bias in Decision Making*, 1 J. RISK & UNCERTAINTY 7, 14 (1988).

third option, "A'," which is clearly dominated by "A," is added to the menu of possible choices.[17] Thus, for example, a photograph of Ayres is more likely to be chosen as more attractive than a photograph of Curtis if a third option with a distorted image of Ayres is added. Subjects who are anxious about making a clear error can at least be sure that undistorted Ayres is superior to distorted Ayres. Analogously, investors who are trying to choose among a range of disparate and difficult to compare mutual funds can take comfort in knowing that the guaranteed fund is at least better than the fund that it targets. More sophisticated, fee-sensitive investors who may balk at sacrificing twenty percent of the upside can use the availability of the guarantee as a proxy to identify a low-cost, high-quality investment option. Even if these investors opt not to accept the guarantee, their shopping costs are lowered because the guarantee represents a credible signal of quality. Low-cost fund providers also benefit, because they can use the guarantee to attract new customers who could not be lured by emphasizing only costs. Even investors who are unaware of the availability of a guarantee would benefit if the competitive pressure produced by guarantees induces high-cost funds to reduce their fees.

The mutual fund industry is heavily regulated and the question of whether mutual fund performance guarantees are permissible turns on close interpretive questions of securities regulation. This Article argues that a performance guarantee is consistent with the policy concerns that motivate the current regulatory environment. The most natural implementation of a performance guarantee would be as a class of mutual fund shares with a fee structure that adjusts the management fees to ensure that the terms of the guarantee are met. Mutual fund fees that adjust with performance are permissible only in limited circumstances, and the implementation suggested here is novel. Nevertheless, as a matter of statutory law, a performance guarantee is not barred, nor do current regulations explicitly prevent it.[18] Importantly, the rules that restrict performance-based fees are motivated by concerns about excessive costs and risks that tend to mitigate in favor of permitting performance guarantees.[19] Given the potential benefits of a performance guarantee, both directly to investors and indirectly through enhanced competition, the SEC should provide a framework for funds to create performance-guaranteed share classes.

The concept of a performance guarantee to alter the salience of prices has potential well beyond the market for mutual funds. An endemic challenge for consumer protection concerns the "problem of back-end prices."[20] At the time of contracting, consumers tend to focus on the

17. DAN ARIELY, PREDICTABLY IRRATIONAL: THE HIDDEN FORCES THAT SHAPE OUR DECISIONS, 10–14 (rev. & expanded ed. 2009).

18. 17 C.F.R. § 230.156 (2014).

19. Dean L. Bussey, *Securities Regulation—Performance Fees Under the Investment Advisers Act: The Inadequacy of Disclosure Provisions*, 11 J. CORP. L. 457, 472 (1986).

20. *See* Gil-Bazo & Ruiz-Verdú, *supra* note 3, at 2173.

front-end prices, which they pay at the time of contract, and are less likely to take into account various back-end contingent charges.[21] They pay attention to the teaser rates offered on credit cards and not to the late fees or even the rate to which the card will ultimately reset.[22] Car renters pay more attention to the front-end rental price and not to the back-end price to refill the car.[23] Cellphone users pay attention to the monthly rate and not to the overage fees.[24] Online comparison services such as Orbitz only compound the problem. These services tend to rank airlines and hotels based on their front-end prices without taking into account the back-end charges for services such as checking bags or Internet access.[25] Competitors who try to cut the back-end fees and compete with higher, all-inclusive front-end prices are at competitive disadvantage. Indeed, competitive pressure often leads sellers to cut front-end prices below costs and compensate the difference by increasing back-end prices.[26] Consequently, teaser pricing has become prevalent across a range of consumer markets.[27]

This competitive front-end pricing may alleviate anticompetitive concerns resulting from high back-end prices. If competitors continue to cut teaser prices (possibly even paying consumers upfront for the right to extort them on the back end) until they earn zero profits, then consumers would, in the aggregate, be paying competitive prices for their products. While there is strong evidence of teaser competition in some markets,[28] there is still the possibility that back-end pricing renders markets less competitive. First, there is a pricing distortion that induces allocative inefficiency when consumers face supracompetitive prices on contingent services. When consumers book hotels, they may underconsume Internet services offered by hotels (which are usually priced above cost) and overconsume the number of nights stayed at hotels (when set at teaser rates below cost).[29] Second, there are compelling reasons to support the claim that *ex ante* competition in many markets fails to reduce the combined front-end and back-end price to the competitive level. When prices are a complex combination of front- and back-end fees, consumer confusion may limit the potential for competition to reach a competitive equilibrium over total cost. Inefficient price variation in the mutual fund industry is an example of this effect.

21. Oren Bar-Gill, *The Behavioral Economics of Consumer Contracts*, 92 MINN. L. REV. 749, 769, 800 (2007); Julio J. Rotemberg, *Behavioral Aspects of Price Setting, and Their Policy Implications* 33 (Nat'l Bureau of Econ. Research, Working Paper No. 13754, 2008), *available at* http://www.nber.org/papers/w13754.

22. Oren Bar-Gill, *Seduction by Plastic*, 98 NW. U. L. REV. 1373, 1392–93 (2003).

23. Ian Ayres & Barry Nalebuff, *In Praise of Honest Pricing*, 45 MIT SLOAN MGMT. REV. 24, 25 (2003).

24. *Id.*

25. *Id.* at 28.

26. *Id.* at 26.

27. *Id.*

28. *Id.*

29. *See generally id.* at 24 (describing the harms of hidden pricing and consumers' inability to figure out the actual cost of an item or service).

With an emphasis on the application to mutual funds, this Article will explicate why the law should promote improved performance guarantees as a mechanism to enhance market competition. Part II discusses why conventional arbitrage, through shorting, is difficult to implement in mutual funds. Part III presents the theory and evidence on the feasibility of performance guarantees in mutual funds to overcome obstacles to arbitrage. Part IV explains the legal environment in which a guarantee would operate. Part V tackles a variety of policy concerns, including antitrust and consumer protection issues, created by the guarantees, and proposes that the SEC promulgate rules to facilitate the creation of a vibrant guarantee market. Finally, Part VI argues that guarantees can also be deployed to help mitigate the back-end pricing problem in a host of consumer markets and foster enhanced *ex ante* competition.

II. BARRIERS TO MUTUAL FUND ARBITRAGE

If mutual funds were widely traded in liquid secondary markets, sophisticated investors would quickly move to sell high-fee index funds short and use the proceeds to buy long comparable low-fee funds that have a higher expected return. But mutual fund regulation mandates that mutual fund shareholders have redemption rights at the net asset value ("NAV") of the underlying assets.[30] This means that mutual fund shareholders who wish to leave the fund and invest elsewhere need not find a buyer for the shares, but need only return the shares to the fund in exchange for their pro rata portion of the funds' assets. The NAV redemption rights preempt the operation of secondary-market pricing.[31] Shares of open-end mutual funds could never trade in a secondary market for less than their NAV because fund shareholders would sell at the higher NAV value.[32] Because of NAV redemption rights, mutual funds with substantially different expected returns can be traded—purchased and redeemed from their respective mutual funds—at the same NAV price.[33] One hundred dollars invested in the MainStay and Vanguard index funds would have substantially different expected returns, but the same current NAV.

NAV redemption rights thus seem to destroy the possibility of arbitraging differences in expected return by selling short the low-expected-return fund and buying long the high-expected-return fund. Absent a secondary market in which to sell shares, short *selling* is impossible. But

30. The ICA requires that shares be redeemed within seven days of tender, but most mutual fund redemptions occur within twenty-four hours. Investment Company Act, 15 U.S.C. § 80a-22(c); John Morley & Quinn Curtis, *Taking Exit Rights Seriously: Why Governance and Fee Litigation Don't Work in Mutual Funds*, 120 YALE L.J. 84, 102 (2010); *see also* 17 C.F.R. § 270.22c-1(a) (2014) ("No registered investment company issuing any redeemable security . . . shall sell, redeem, or repurchase any such security except at a price based on the current net asset value of such security . . . .").

31. Morely & Curtis, *supra* note 30, at 104–05.

32. Similarly, buyers of shares would never purchase at higher than NAV on a secondary market, when they could purchase new shares directly from the fund at NAV.

33. Morley & Curtis, *supra* note, 30 at 103.

arbitrage might still be possible even without a secondary market with prices that deviate from NAV. If investors could easily borrow mutual fund shares, then they need not sell the shares in the secondary market to profit from arbitrage. Instead, investors with margin accounts could place "short redemption" orders with brokers. The brokers would obtain mutual fund shares to borrow from (1) the brokerage firm's own inventory, (2) the account of one of the firm's clients who had granted the broker customer loan consent, (3) another brokerage firm, or (4) from institutional investors.[34] The broker executing a short-redemption would redeem the borrowed shares from the fund at NAV and reinvest the proceeds in an alternative investment (in the foregoing example, a comparable but low-fee mutual fund). The long shares purchased together with a required margin amount would serve as collateral to assure that the short redeemer would have sufficient funds to repay the share loan in the future—and as with traditional stock shorts, the loan would be callable, if value of the security fell, triggering a margin call.

The borrowed shares would be repaid (the short position covered) by the broker purchasing sufficient shares from the fund at the then NAV price to put the lending shareholder in the same position as she would have been in if she had continuously held the original shares. Just as short sellers of securities are required to make payments in lieu of dividends to the share lender if the borrowed shares pay dividends,[35] the short redeemer would be required to ultimately pay an amount that would place the mutual fund lender in the same position as if she had not lent her shares.[36]

Redeeming borrowed mutual fund shares is not a new concept. Fidelity and Jack White and Company both offered short-selling programs of open-ended mutual funds in the early 90s.[37] The programs offered by these brokers differed from the fee-based short redemption that we propose here. Fidelity's short-selling program was designed to enable inves-

34. Regulation SHO requires a broker-dealer to have reasonable grounds to believe that the security can be borrowed so that it can be delivered on the date delivery is due before effecting a short sale order in any equity security. This "locate" must be made and documented prior to effecting the short sale. *Division of Market Regulation: Key Points about Markey Regulation SHO*, U.S. SEC (Apr. 11, 2005), http://www.sec.gov/spotlight/keyregshoissues.htm.

35. *See Publication* 550, *Investment Income & Expenses: (Including Capital Gains & Losses)*, U.S. DEP'T OF THE TREASURY, INTERNAL REVENUE SERVICE 58, *available at* www.irs.gov/pub/irs-pdf/p550.pdf ("Payments in lieu of dividends. If you borrow stock to make a short sale, you may have to remit to the lender payments in lieu of the dividends distributed while you maintain your short position. ").

36. *Id.* at 21.

37. Carole Gould, *Mutual Funds; The Risky Business of Selling Short*, N.Y. TIMES, May 17, 1992, http://www.nytimes.com/1992/05/17/business/mutual-funds-the-risky-business-of-selling-short.html. Fidelity and Jack White were the only brokerages to offer such services. Jim Talley, *Selling Short Can Be Helpful in Long Run Interest in Funds on Rise as Market Climbs*, ORLANDO SUN-SENTINEL, May 18, 1992, http://articles.sun-sentinel.com/1992-05-18/business/9202090138_1_individual-stocks-fund-short-positions. Fidelity closed its short-selling program in the aftermath of the 1987 stock market crash, but re-opened it in 1992. *Id.* Fidelity's program was open only to its margin-account brokerage customers and was not marketed publicly. Jack White & Co. offered about one hundred different funds in its shorting program while Fidelity offered only about twenty funds, all offered by Fidelity. *Id.*

tors to bet against mutual funds that were designed to track the performance of certain sectors of the economy.[38] Thus, the bet made by the short seller was not based on the expenses of the fund, but on the belief that the sector in which the fund invested was likely to decline in value. The availability of the short-selling option demonstrates that mutual fund shares can be shorted as a practical and legal matter.

While these mutual fund shorting programs demonstrate the legality of redeeming borrowed mutual fund shares as a means of selling short,[39] they are also the exception that demonstrates the structural obstacles to short redemption. Both the Fidelity and Jack White and Company mutual fund short-selling programs have been discontinued.[40] Fidelity explicitly attributed the discontinuation of its short-selling programs to lack of demand for this type of sector-based short-selling speculation.[41] We are not aware of any current programs that permit the short sale of open-ended mutual fund shares (though exchange-traded funds are frequently sold short). The Fidelity program, in particular, illustrates the considerable obstacles to fee arbitrage through borrowing shares. To understand these obstacles, it is helpful to discuss how fee arbitrage would work and how it differs from the Fidelity program.

Fee arbitrage that may put pressure on high-cost funds is a distinct trading strategy from the shorting program offered through Fidelity. Fidelity was explicit that its shorting program was designed to allow investors to make bets about the underlying exposure of the funds' portfolios.[42] Fidelity also indicated that it would restrict shorting if the level of redemption became too high.[43] Thus, Fidelity was offering a limited opportunity to bet against certain sectors, rather than expose its funds to price competition through arbitrage.

38. *Fidelity Offers Mutual Fund Short Sales*, CHI. TRIB., Feb. 9, 1987, at C15.

39. The Securities Exchange Act gives the SEC authority to regulate short sales under section 10(a). Securities Exchange Act of 1934, 15 U.S.C. § 78j(a) (2012). Regulation of short-selling mutual fund shares would fall under the rules for general securities short sales in Regulation SHO at 17 C.F.R. § 242.200. In particular, § 242.200(a) covers the sale of all securities, including mutual funds shares that are not listed on national market systems. *Cf.* § 242.600(b)(47) (defining a NMS—national market system—stock).

40. *See* FIDELITY, https://www.fidelity.com (last visited Nov. 6, 2014) (providing a broad overview of Fidelity's offered services); TD WATERHOUSE, https://www.tdwaterhouse.ca/products-services/investing/index.jsp (last visited Nov. 6, 2014) (providing a broad overview of TD Waterhouse's offered services); *see also Company News; Toronto-Dominion in $100 Million Deal for Jack White*, N.Y. TIMES, Apr. 1, 1998, http://www.nytimes.com/1998/04/01/business/company-news-toronto-dominion-in-100-million-deal-for-jack-white.html.

41. Gould, *supra* note 37. One reason for low demand may be that the risk exposure that investors in these programs sought-to bet against a segment of the market-can now be obtained by investing in long-short funds that attempt to profit from the decline of overpriced stocks. *See, e.g.*, Nadia Papagiannis, *Protecting Your Portfolio from the Next Market Downturn*, MORNINGSTAR (Sept. 24, 2009), http://ibd.morningstar.com/article/article.asp?id=309304&CN=brf295. While not a perfect substitute for sector shorting, long-short funds have the advantage of not requiring investors to maintain a margin account in order to hold a position. Since these funds offer the same risk exposure with less complexity, demand for sector shorting may have subsided.

42. Gould, *supra* note 37.

43. *See id.*

By contrast, fee arbitrage through short redemption of high-fee funds targets not the funds' investments, but the funds' fee structure. The strategy is designed to succeed regardless of the performance of the underlying portfolio of the fund. Since a short redeemer promises the share lender to pay the return on the high-fee fund, but invests the redemption proceeds in a low-fee fund, this investment has a positive expected return and low risk. Imagine, for example, that an investor in 2012 undertook a short redemption of $100 of the earlier mentioned MainStay S&P index and used the proceeds to invest in the comparable Vanguard index. Regardless of whether or not the S&P index rose or fell, the investor should expect that the amount it owes on the short redemption to be sixty-four basis points less than the amount owned long (the difference between the two funds' expense ratios 0.81% and 0.17%, respectively). The high-fee fund will almost certainly underperform the low-fee fund, and the investor's obligation to pay the high-fee fund's return, will therefore be more than offset by the returns of the low-fee fund. The primary risk is that the funds fail to adequately track the index, but, as we show below, this risk is low for a large portion of the market.

Because it is an arbitrage opportunity, the possibility of short-redemptions would likely create redemption runs on the most inefficient funds as sophisticated investors would increasingly redeem borrowed shares to arbitrage the fee differential. These targeted funds would see their assets under management dwindle and would face increasing competitive pressure to reduce their fees, increase their net of fee returns, or be pushed by redemption from the marketplace.

If shorting shares of high-fee index funds is legal and profitable, then why has the market failed to implement this arbitrage? One important consideration is that mutual fund advisors have reason to prevent short redemption of their own funds to the extent possible. Since mutual fund companies charge customers for managing funds, redemption reduces their income. The fee arbitrage that is beneficial to sophisticated investors is costly to fund managers. Consider what would have happened if Fidelity had included the Magellan fund in its menu of shortable funds. For many years, Magellan closely tracked the S&P 500 stock index while charging substantial fees.[44] This led it to predictably underperform low cost index funds. If Magellan shares could be borrowed and redeemed, it is possible that investors could have short redeemed Magellan and invested the proceeds in a low-cost index fund.[45] Such trading activity would have been costly to Fidelity, since it would have reduced the assets under management in the Magellan fund, and therefore reduced the income to Fidelity from managing the fund. Note, though, that Fidelity was in a position to exclude the Magellan shares from its menu of shortable

44. Ross M. Miller, *Stansky's Monster: A Critical Examination of Fidelity Magellan's "Frankenfund,"* (Feb. 22, 2007) (unpublished manuscript), *available at* http://papers.ssrn.com/sol3/papers.cfm?abstract_id=964824.

45. In the next Part, we present data to demonstrate the feasibility of arbitrage of index and actively managed funds.

funds. While fund managers cannot prevent shareholders from redeeming shares, brokers affiliated with those managers are not under an obligation to lend out shares for short redemption. While Fidelity was willing to lend shares of sector funds to its own margin account holders to permit shorting, a high-fee index fund provider would likely be less willing to lend out shares for redemption if such redemption would put significant price pressure on fund fees.

Funds with supracompetitive fees might respond to the existential threat posed by short redemptions by adopting back-end loads, which cause investors to incur costs when they redeem shares. By making redemption expensive, funds could further inhibit arbitrage through short redemption. While some investors might avoid funds with back-end loads, the investors most vulnerable to high-cost funds are likely insensitive to back-end loads as well. As such, back-end loads might provide a mechanism by which high-cost funds could resist the market pressure of short redemption.

The potential for short redemption can also be impeded, if only a few shareholders make their shares available for potential loan. As noted above, brokerages that create and market the funds are unlikely to be willing participants in a short redemption trade. Alternative sources of share lending may be difficult to find: While institutional shareholders are common lenders of stocks to short traders, intuitional investors are unlikely to take large positions in high-fee funds. Shares of high-fee funds are mostly sold to investors via full-service brokers that, themselves, have an incentive to ensure that the funds are not competed out of existence. Thus, shares of high-fee funds are disproportionately likely to be held in widely dispersed accounts, many of which are maintained by brokers that have an incentive to protect the funds from competition. In such an environment, borrowing shares is difficult and expensive.

These barriers created by self-interested intermediaries may be so great that it may be infeasible for enlightened regulations to induce a sufficient supply of lendable shares to make shorting practicably feasible. But, the disciplinary benefits of encouraging redemption runs on funds with supracompetitive fees, we feel, might be worth attempting the following reforms to encourage an adequate supply of lendable shares. Below, we sketch out some potential reforms to increase shares available for borrowing, as well as the difficulties with the proposed reforms. While none of these reforms is likely to be a complete solution to achieving price efficiency, they may nevertheless create enough opportunity for arbitrage to leave investors better off. In the next Part, we discuss in extended detail an alternative proposal, improved performance guarantees, which may be more effective.

First, the SEC might promulgate rules that set lendability of shares as an opt-out default for mutual funds open to retail investors.[46] This would require mutual funds to either lend shares or disclose that they refused to lend shares. While some funds might have non-fee related reasons for opting out, such as illiquid positions, the public nature of the opt-out means that there would be at least some cost to opting out. One challenge is that the highest-fee funds likely face lower opt-out costs, as investors who are insensitive to fees are unlikely to be highly attuned to this more abstract measure of fee excessiveness. Nevertheless, ratings agencies like Morningstar might take a fund's decision to opt-out into account in computing ratings that are more consumable for investors.

A related option that would not require SEC action would be to leverage the fiduciary duties of mutual fund directors. Mutual fund directors are charged with negotiating management and fee arrangements with the fund advisors.[47] Thus, the directors of Fidelity's Magellan fund contract with Fidelity Management and Research, LLC to operate the fund for an agreed upon fee. The determination of the fee agreement is the primary responsibility of mutual fund directors.[48] Since short redemption provides a mechanism for a market check on the reasonableness of fees, directors might be encouraged to include, as part of the management agreement, that brokers affiliated with the investment advisor permit lending of the shares for short redemptions. Including the discussion of share lending as a part of the fee agreement negotiations would at least require investment advisors to state their rationale for not exposing their fee structure competition through redemption. Because such an agreement would be contractual, no regulatory reform would be needed to implement it, but mutual fund directors ought to be encouraged to include lendability of shares as one of the terms discussed when negotiating the fee agreement. Encouraging directors to negotiate for shares to be lent as an industry norm could enhance price discipline through arbitrage.

The difficulty with this proposal is that mutual fund directors do not have strong incentives to challenge fund advisors.[49] Directors are unlikely to face shareholder challenges, since shareholders who are both dissatisfied and sophisticated enough to participate in voting on directors will simply move to another fund.[50] As with the opt-out proposal, the highest-fee funds are those least likely to have directors that would aggressively negotiate for share lending. After all, if these directors were effective in protecting investors, the funds' fees would not be egregiously high in the first place.

46. The default might be usefully complimented with an "altering rule" that the SEC recommends that shareholders not opt out. *See* Ian Ayres, *Regulating Opt-Out: An Economic Theory of Altering Rules*, 121 YALE L.J. 2032, 2032 (2012).

47. Morley & Curtis, *supra* note 30, at 91.

48. *Id.* at 94–95.

49. *Id.* at 95, 135.

50. *Id.* at 107–08.

A third option is for the law to encourage fiduciaries, such as 401(k) plan administrators, to insist that their brokers offer their shares for the lending market. Such a reform could take the form of a safe harbor for share lending, limiting the liability for any losses incurred as the result of prudent lending, or affirmative guidance that lending is part of prudent plan administration. As long as the loans are sufficiently low-risk, offering plan shares would provide administrators with a strong market test of whether they should alter their plan menus. Such a proposal would have the dual benefit of increasing the number of shortable shares while also providing a direct signal to plan advisors that their funds may be poor choices. If arbitrageurs are aggressively seeking to short the funds held by a plan, the plan should probably find new funds in which to invest. As with directors, this proposal could leverage the fiduciary duties of plan administrators to encourage this sort of market check as part of the duty of care. One difficulty is that high-fee funds tend to be held by the smallest 401(k) plans,[51] so the number of shares available from any particular plan's decision to lend may be small.

These nudge-like interventions might not be sufficient to overcome the entrenched interests of high-fee funds and their intermediaries. But the feasibility of short sales in current ETF markets provides some support for the notion that some shareholders are currently willing to lend their shares.[52] A corollary to the insight of this paper is that if short selling of an ETF is reasonably cost-effective, it should limit the ability of the ETF to charge supracompetitive rates. For example, as of 2013, it was feasible for retail investors to short high-volume ETFs—such as SPY, an S&P 500 index ETF—for less than thirty-seven basis points.[53]

These thirty-seven basis points represent an approximate upper limit on the amount of supracompetitive rates that an ETF could charge, if it had a competitive supply of shares to short. The threat of short-selling would likely preclude high-fee funds from offering ETF versions of their mutual funds, at least not with shares held in sufficient quantities by shareholders willing to lend into the short market.[54] The experience from ETF shorting, in sum, is that there may be substantial benefits in man-

51. Ian Ayres & Quinn Curtis, *Beyond Diversification: The Pervasive Problem of Excessive Fees and 'Dominated Funds' in 401(k) Plans*, 124 YALE L.J. (*forthcoming 2014*), *available at* http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2399531.

52. One of the authors shorted an ETF through an Interactive Brokers account in January of 2012 to demonstrate that shorting ETFs continues to be possible.

53. Under the SEC's Regulation T, short-selling retail customers must, in addition to the cash collateral from the short sale, post fifty percent of the value of the short sale in additional collateral, although this additional collateral may be posted in Treasury Bills. On January 5, 2013, Interactive Brokers had 7.7 million shares of SPY for which it was willing to arrange short sales for a "rebate rate" of eight basis points (which is paid on all collateral values) and "fee rate" of twenty-five basis points (which is paid on the loan portion of collateral) implying a total cost of putting on the short of thirty-seven basis points (=1.5*8+25) less the return that one could earn by providing the margin equity in Treasury Bills.

54. There are a few high-fee ETFs, but they can only be shorted at unfeasibly high rates. For example, the Guggenheim 2x S&P 500 (RSU) has expenses of 0.71% and might be ripe for short redemption, but as of January 5, 2013, Interactive Brokers had just 35,000 shares to lend that it was willing to offer at an effective cost (calculated analogously to the last note) of 285 basis points.

agement expense discipline from facilitating the potential for effective shorting of the worst funds.

Stepping back, this Part has shown that a regime that enables short redemptions can comfortably sit on top of our current NAV redemption rules. Enlightened regulatory reform could (1) clarify that brokers can borrow mutual fund shares for purposes of producing a short redemption for their clients, (2) restrict the ability of issuers from contractually impeding such lending, and (3) create an opt-out system of presumed shareholder consent to lend. Just as presumed consent for cadaveric donations has produced a rich supply of kidneys and other needful organs,[55] presumed consent to lend (with appropriate minimum lender protection terms) might help assure an abundant potential supply of mutual fund shares for short redemption. Creating a credible threat of short redemptions is a worthy regulatory goal because it could provide powerful market indicators that are currently absent regarding which funds are in fact dominated. Moreover, short redemptions are likely to place substantial pressure on the worst funds to reform their ways or face extinction by redemption.

In the next Part, we propose an alternative to conventional mutual fund short selling to implement fee arbitrage. The mechanism we suggest, improved performance guarantees, addresses the structural and intermediary obstacles to the short redemptions discussed here, while also sharing the benefits of the arbitrage with purchasers of the high-fee funds, and it addresses the behavioral biases that induce investors to purchase high fee funds in the first place.

III. THE SCOPE AND FEASIBILITY OF IMPROVED PERFORMANCE GUARANTEES REGARDING MUTUAL FUND PERFORMANCE

The short redemptions discussed above enable arbitrage by allowing sophisticated investors to redeem borrowed shares and reinvest the proceeds in funds with higher expected returns. But if mutual fund shares cannot readily be borrowed, then short redemption may be too costly to be profitable. That the well-known dispersion in the fees of index funds has not been targeted by arbitrageurs is evidence that structural obstacles to arbitrage by short redemption are too costly to surmount.

In this Part, we discuss a new type of fund-fee arbitrage. Rather than borrow shares to redeem them, we suggest that low-cost fund managers can induce investors in high-cost funds to redeem their own shares by offering them guaranteed improved performance in a lower cost fund. The benefits of this switch can be divided by the guarantee mechanism between the fund manager and the investor, leaving both better off. The improved performance strategy facilitates arbitrage instead by inducing less sophisticated investors to redeem their inefficient shares and to reinvest the proceeds in a fund with a higher expected return. Both the short

55. *See* Eric Johnson & Daniel Goldstein, *Do Defaults Save Lives?*, 302 SCI. 1338 (2003).

redemptions and the improved performance guarantee use guarantees to motivate the existing (less sophisticated) shareholder to participate in arbitraging transaction. The short redemption transaction has the sophisticated borrowing shareholder guarantee to return future shares with make-whole NAV value to induce the (less sophisticated) shareholder to lend her shares in the targeted fund. The borrowing shareholder is willing to make this guarantee as a cost of gaining the chance to arbitrage the difference in expected return between the redeemed shares and the reinvested shares. The improved performance transaction similarly has the sophisticated party guarantee make-whole value to assure the unsophisticated shareholders that they will not lose value by redeeming the high-fee shares. The guarantor is willing to make this guarantee as a cost of gaining the chance to arbitrage the difference in the expected return–here by taking part of the upside in the expected difference in return between the targeted fund and the reinvested fund. The core motive behind both transactions is arbitrage, and the core inducement to the original (less sophisticated) shareholder is a species of make-whole guarantee. The advantage of a performance guarantee is that it avoids the need to borrow shares by targeting high-cost fund investors directly.

In this Part, we demonstrate how improved performance guarantees in the mutual fund space might be structured and provide evidence that the guarantees can be profitably offered to consumers. The basic idea is simple: mutual fund advisors with a cost-advantage, like Fidelity and Vanguard, should create funds that are guaranteed to outperform high-cost competitors. For example, a fund could offer to cover one-hundred percent of short-fall in downside relative performance for twenty percent of the relative performance upside. Such an arrangement would provide investors some security in switching funds. It would also allow low-fee mutual funds, like those offered by Fidelity and Vanguard, to capture a portion of the supracompetitive fees charged by their high-cost competitors.

Even though mutual funds' expense ratios are fully disclosed at the time of investment and are prominently reported in the funds' short form prospectuses and on websites such as Google Finance, it has proven extraordinarily difficult to induce consumers to eschew high-fee funds. In field experiments by Choi and Laibson, Harvard employees, who were given $10,000 to invest among different S&P index funds and armed with a wealth of different disclosures concerning performance and costs, consistently opted for funds with supracompetitive fees.[56] The continued existence of high-fee funds is strong prima facie evidence that fee competition has not been sufficient to drive out supracompetitive pricing.[57]

56. *See* Choi et al., *supra* note 14, at 2.

57. Fee litigation has also not been successful at targeting the funds with the highest fees. Quinn Curtis & John Morley, *An Empirical Study of Mutual Fund Excessive Fee Litigation: Do the Merits Matter?*, 30 J.L. ECON. & ORG. 275 (2014). This is not equivalent to claiming that mutual funds are wholly immune from price competition. John C. Coates IV & R. Glenn Hubbard, *Competition in the Mutual Fund Industry: Evidence and Implications for Policy*, 33 J. CORP. L. 151 (2007) (showing that

Consider the Vanguard and MainStay funds of our motivating example. Vanguard could offer a new class of shares of its S&P 500 index fund that would be guaranteed to at least match the after-fee performance of the MainStay fund on a rolling basis.[58] To investors in the MainStay fund, Vanguard offers the following deal: At the end of each month, the fees of the guarantee-class shares are calculated so that the returns over the preceding twelve-month period are equal to the returns on the nonguaranteed Vanguard share class, less twenty percent of any excess performance in the Vanguard fund over the previous twelve months. In the unlikely event that Vanguard is outperformed by the high-cost competitor, Vanguard's management fees would be refunded to make up the difference in performance. If the amount of the refund exceeds the management fees, then Vanguard must pay money into the fund.[59] An investor who buys the guarantee shares may, during the first month, for example, have a worse return than the benchmark fund, but if that investor holds the shares for a full year, then the performance is guaranteed to at least match the benchmark. If the investor keeps holding the shares, in every subsequent month, the guarantee will hold. Over any period longer than a year, investors who switch to the guarantee-class shares will do at least as well as if they had stayed in the target fund.

There is no need to restrict the guarantee to investors who actually switch from the high-cost fund to the guaranteed fund. All the guarantor requires is that the investor (1) invests funds in the guarantor's lower-cost fund and (2) agrees to trade one-hundred percent for any prospective shortfall in relative performance with a specified higher-cost fund in return for giving up twenty percent in any relative performance upside. The free-standing nature of the improved performance guarantee means that the strategy can be deployed not only as an account acquisition strategy, but also as an antiattrition strategy. Investors who are thinking about abandoning an existing low-cost index in favor of some higher-cost fund might be dissuaded if they can maintain their low-cost investment and still participate in any potential increased performance of the other fund. Indeed, the guarantee is even more powerful as an antiattrition incentive than as an acquisition incentive. To acquire a new account, the low-cost fund offers eighty percent of the upside; to deter attrition, the low-cost fund offers to compensate for one-hundred percent of any benefit the investor would have made from switching.

One of us has argued elsewhere that the strong exit rights created by the mandated NAV redemption of the ICA has rendered mutual fund

the mutual fund industry exhibits several indicia of competition). Nevertheless, there remain many funds with fees that are hard to justify within a framework of fully efficient price competition.

58. Mutual funds frequently offer different share classes that hold the same portfolio but have different fee structures. For example, a fund might offer higher-fee shares to small investors and lower-fee shares in the same portfolio to institutional investors. *See generally* Coates & Hubbard, *supra* note 57 (discussing competition in the mutual fund industry). In this case, the guarantee shares would have the same index fund portfolio but would offer a fee structure that would implement the guarantee.

59. *See supra* Part II for a more detailed discussion of this contractual arrangement.

shareholder control rights superfluous.[60] The powerful exit rights of NAV redemption enhances competition among mutual funds that have to continually meet the appetites of shareholders or face the risk that they will be redeemed out of existence.[61] But the exit rights of NAV redemption have not been sufficient to ensure perfect competition in the mutual fund industry.[62] The existence of high-fee funds with expected below-market returns is powerful evidence that procompetitive threats of redemption are not sufficient to eliminate the existence of all inefficient funds.

A. Riskless Arbitrage of Expense Ratio Differences

As the previous Part demonstrated, there are significant obstacles to selling mutual funds short in the current market, and, while modest regulatory reforms could improve the situation, borrowing shares of high-fee funds is likely to remain difficult; as a result, conventional arbitrage is unable to eliminate fee disparities in mutual funds. This is not to say that mutual fund prices are free from the pressures of the market. Mutual fund fees are at least partially constrained by conventional market pressures. But as the Choi and Laibson experiment, and a host of other research,[63] demonstrates, these competitive pressures are incomplete because not all investors respond rationally to information about fees.[64] Some funds with supracompetitive fees survive.[65]

Improved performance guarantees can be seen as a type of arbitrage trade implemented by the guarantor. While the shares of MainStay cannot be feasibly sold short, the bet that Vanguard will outperform MainStay takes a similar position; the worse MainStay does, the higher the value of the guarantee to Vanguard. Since, as we shall see, this will almost certainly happen, the trade is an attractive one for the guarantor. But what about the counterparty, the individual investor? If Vanguard is the winner, must the customer lose? If the trade took the form of a simple bet that Vanguard would outperform MainStay, then the answer would be yes, but the guarantee is more nuanced. Here, Vanguard asks for only twenty percent of the outperformance, leaving the rest for the investor. Vanguard is effectively splitting the winnings of the arbitrage trade with the investor counterparty. Whether giving up this twenty percent relative to the nonguaranteed shares is worth it depends on the investor, but there is clearly at least one group of investors who are unambiguously better off: holders of the MainStay index fund. They cannot be worse off and will almost certainly be better off if they make the switch.

60. *See generally,* Morley & Curtis, *supra* note 30.
61. *See id.* at 103–04.
62. *See id.* at 131.
63. Brad M. Barber et al., *Out of Sight, Out of Mind: The Effects of Expenses on Mutual Fund Flows*, 78 J. BUS. 2095, 2114–15 (2005); Choi et al., *supra* note 14, at 5; Wilfred L. Dellva & Gerard T. Olson, *The Relationship Between Mutual Fund Fees and Expenses and Their Effects on Performance*, 33 FIN. REV. 85, 100–01 (1998); Gil-Bazo & Ruiz-Verdú, *supra* note 3, at 2179.
64. *See* Barber et al., *supra* note 63, at 2114.
65. *See id.* at 2117.

The guarantee can be understood as an arbitrage trade in which the surplus of the trade is divided with the customer in such a way as to leave both the guarantor and investors better off.

There is some debate over whether index funds with different fees reflect a failure of price competition and the law of one price, or if they simply reflect that some mutual fund companies are more full-service than others.[66] Since ancillary services are hard to observe, this debate is difficult to settle empirically. But performance guarantees may provide a means of settling the question in the marketplace. If investors in the MainStay fund are happy to pay higher fees in exchange for purportedly better service, then the guarantee should attract few customers.

Making price more salient through a guarantee would not alter the decision for investors who are already responding rationally to price. But if these investors are making a mistake because price is insufficiently salient, then the guarantee should induce them to switch. The guarantee therefore provides a market-oriented alternative to fee litigation or fee regulation to disentangle high costs from ancillary services.

B. An Analysis of Guarantee Risk and Reward: An Example

We now turn to the empirical question of whether guarantees are financially viable. The cleanest application of improved performance guarantees concerns, as in our motivating example, a low-cost index guaranteeing improved performance in comparison to a high-cost fund tracking the same index. At least in theory, index-specific guarantees represent a mechanism to arbitrage the expense ratio differential without risk.[67] Each index fund should yield a return exactly equal to the difference between its return and that fund's expenses.[68] Consequently, the lower-cost index return would never be lower than that of the higher-cost index. The guarantee could be offered without risk, and the lower-cost fund would just earn a portion of each period's expense ratio differential, which would be identical to the return differential of the two funds.

In practice, however, index-specific guarantees are not riskless. Index funds that economize on transaction costs typically only strive to track an index by investing in a representative subset of the index stocks.[69] An index-specific guarantor, bearing the risk of error when tracking one or both funds, might drive the return of the higher-cost fund above that of the lower-cost fund. Vanguard claims that a well-run S&P

66. Sean Collins, *Are S&P 500 Index Funds Commodities?,* INVESTMENT COMPANY INST. PERSPECTIVE, Aug. 2005, at 1, 1.

67. Mamta Badkar, *Jack Bogle: An Elegantly Simple Formula Shows Why Passive Investing Will Earn Higher Returns than Active Investing*, BUS. INSIDER (Aug. 26, 2013, 9:49 PM), http://www.businessinsider.com/bogle-elegantly-simple-formula-for-passive-investing-2013-8.

68. *Index Fund Management*, ETF.COM (July 1, 2002), http://www.etf.com/publications/journalofindexes/joi-articles/1412.html?showall=&fullart=1&start=5.

69. *See* Mitch Tuchman, *What is an Index Fund? Investing Basics*, FORBES.COM (July 12, 2013, 3:08 PM), http://www.forbes.com/sites/mitchelltuchman/2013/07/12/what-is-an-index-fund-investing-basics/.

500 index fund should have a tracking error of five basis points or less,[70] but a Morningstar survey found an average annual tracking error of thirty-eight basis points across all index funds.[71] A competitor fund might also reduce its expenses or refund part of its management fees.[72] In addition, a guarantor would bear the risk that the competitor fund would, after the guarantee was in place, alter its investment strategy (notwithstanding being self-characterized as an index). Thus, index-specific guarantors would bear tracking-error risk, fee risk, and style-drift risk.[73]

Because of these risks, it is an empirical question whether an index-specific guarantee can be profitably offered. In this Section, we address this question. We begin our empirical analysis by returning to the foregoing example of Vanguard guaranteeing that its S&P 500 Index's performance is superior to that of the MainStay index over any one-year historical period. Utilizing historical data, we calculate the relative performance difference between the two funds for each year-long period beginning at the first of each month over ten years, ranging 2001–2011.[74] Figure 1 shows the histogram of the relative performance for these 120 investment periods.

70. Anne Tergesen & Lauren Young, *Index Funds Aren't All Equal*, BLOOMBERG BUSINESSWEEK (Apr. 18, 2004), http://www.businessweek.com/stories/2004-04-18/index-funds-arent-all-equal.

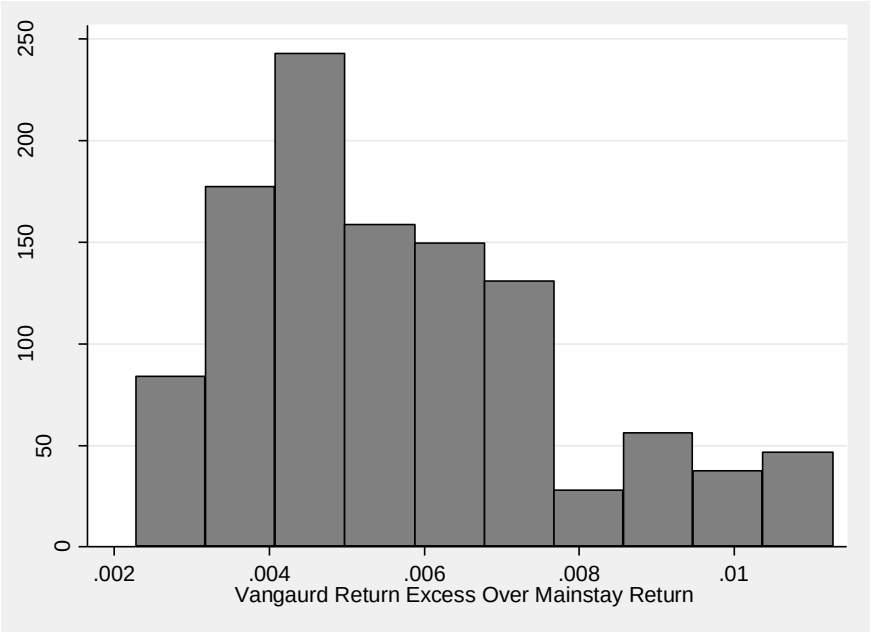
71. *Id.*

72. Susan E.K. Christoffersen, *Why Do Money Fund Managers Voluntarily Waive Their Fees?*, 56 J. FIN. 1117, 1118 (2001).

73. Guarantors might also bear the risk that the competitor fund would reduce its cost once the guarantee was in place. Below we will discuss ways that guarantors can limit their exposure to such risks. *See infra* Parts III.A, III.B (discussing early guarantor termination of guarantee).

74. Data for these and other calculations is taken from the CRSP Survivor-Bias Free Mutual Fund Database.

FIGURE 1: COMPARATIVE PERFORMANCE OF VANGUARD AND MAINSTAY S&P 500 INDEX FUNDS



One sees immediately that in none of the 120 year-long investment periods did the MainStay index produce a higher (net) return than the Vanguard index. Thus, during this historical period, Vanguard would never have had to pay off on an improved performance guarantee, if it had offered one against the MainStay fund. The worst that VFINX ever did during the sample period was still an outperformance of 0.24%. Figure 1, however, also shows variation in relative performance. The average excess performance was 0.57% (which unsurprisingly is close to Vanguard's expense advantage of 0.64% with a standard deviation of 0.21%. The variability of expected return suggests some risk that MainStay's return would exceed Vanguard's in a particular year. Conservatively assuming that the relative returns are normally distributed with the historical mean and standard deviation,[75] we estimate that the chance of ever having to pay out on the guarantee is incredibly small.[76] Based on

75. The normal distribution is conservative because Figure 1 shows that historical returns are right skewed suggesting that large negative relative returns are less likely than large positive relative returns.

76. A more formal way to analyze the expected cost and benefit of an improved performance guarantee would be to use the Fischer-Margrabe option pricing formula. A Margrabe option is the option to exchange one risky asset for another. Instead of having a fixed exercise price, the exercise price of a Margrabe option fluctuates across time. In the Appendix, we illustrate how applying the Margrabe formula to the foregoing Vanguard/Mainstay guarantee yields similar results. This modification of the Black-Scholes option pricing formula was independently developed in 1978 by Stanley Fischer and William Margrabe. *See* Fischer Black & Myron Scholes, *The Pricing of Options and Corporate Liabilities*, 81 J. POL. ECON. 637, 645–53 (1973); *see, e.g.*, Stanley Fischer, *Call Option Pricing*

the historical distribution of returns, the chance of a negative return in a given year is only 0.4%.

The estimated cost of the guarantee in instances where the guarantee must be paid is 0.03 basis points. In contrast, we estimate that the expected benefit to the guarantor of the improved performance guarantee when the guaranteed performance is delivered is 11 basis points, which is approximately equal to the mean excess performance multiplied by the upside percentage (0.56%*0.2%). These estimates suggest that a MainStay guarantee would be highly profitable for Vanguard. It would raise its effective compensation from 0.18% on its unguaranteed index investments to 0.29%, which is a 64% increase in Vanguard's expected expense ratio on guaranteed investments. The percentage impact on Vanguard's expected profit would be even more dramatic. For example, if Vanguard's profit margin on unguaranteed index investments is 2 basis points, the expected markup on guaranteed investments would be 450% larger.

The substantial profitability of the guarantee as a standalone contract—trading one-hundred percent of the downside in relative performance in exchange for twenty percent of the upside in relative performance—suggests that less favorable trades to the guarantor would remain profitable. For example, the probability of negative relative returns is so small that Vanguard (or any independent guarantor) could offer to pay two-hundred percent or three-hundred percent of any shortfall in returns without appreciably changing the expected profitability of the guarantee.[77] Alternatively, sticking with guaranteeing a one-hundred percent of downside risk, Vanguard can take just five percent or ten percent of the upside relative returns and still remain profitable.[78]

These numbers make a strong prima facie case for the feasibility of improved performance guarantees and illustrate how the guarantees enable a low-cost fund to arbitrage the fee differential and substantially increase its expected expense ratio compensation on the guaranteed fund. The MainStay index is an extreme example because (putting aside 12b-1 fees which we address below) it had one of the highest expense ratios of any S&P index fund during the time period we examined.[79] But a similar analysis of other S&P 500 index funds shows that guarantees could be profitably offered to a significant portion of the market segment.[80]

When the Exercise Price Is Uncertain, and the Valuation of Index Bonds, 33 J. FIN. 169, 173 n.8 (1978); William Margrabe, *The Value of an Option to Exchange One Asset for Another*, 33 J. FIN. 177, 180–86 (1978).

77. We estimate that guaranteeing three-hundred percent of downside risk instead of one-hundred percent would reduce expected profitability of the guarantee from 11.2 to 11.1 basis points.

78. Guaranteeing 100% of downside risk and taking 5% of upside would produce expected guarantor profits of 2.7 basis points.

79. Abby Rogers et al., *Exposed: 36 Popular Index Mutual Funds that Are More Expensive than Vanguard's*, BUSINESS INSIDER (May 15, 2012, 7:15 PM), http://www.businessinsider.com/35-index-mutual-funds-2012-5?op=1.

80. *See Equity Indexed Universal Life*, WEALTH PRESERVATION INST. (2006), *available at* http://www.thewpi.org/pdf/eiul.pdf (last visited Nov. 6, 2014).

Suppose that Vanguard were to implement a guarantee share class for every S&P 500 index fund with an expense ratio higher than the first decile. These funds comprise more than $170 billion of total assets as of the end of our sample period. Were Vanguard to extend such an offer, it would form a portfolio of guarantees as customers opted into the guarantee-class shares. The exact composition of this portfolio is difficult to predict, as it would depend on the actual customer response, but it is reasonable to assume that customers would opt-in to the guarantee shares in approximate proportion to the size of the funds targeted by guarantees.

The average payoff on this portfolio over the ten-year window from 2001 to 2011 is 0.064%, which is smaller than the MainStay guarantee, but still a substantial percentage of the Vanguard index fund's fees. The portfolio is also higher risk. While the MainStay fund never outperformed the Vanguard fund, there are five months during the ten-year period in which Vanguard would have lost money on the guarantee, with a mean payout of 0.018% in those months. The distribution of payouts has a negative skew, suggesting that large negative payouts (profits) are more likely than large positive payouts. The less favorable risk profile for this guarantee is, of course, a function of the large portion of the market to which the guarantee is extended. That eighty-five percent of S&P index fund assets, totaling more than $172 billion, can be profitably guaranteed leaves substantial room for more conservative guarantees that cover less of the market. Life-cycle target date funds which currently have invested more than $500 billion offer another opportunity for something close to riskless arbitrage.[81] These funds, which mechanistically shift from equity to stock, have an average expense ratio of sixty-four basis points while Vanguard charges seventeen basis points.

C. Guaranteeing a Diversified Portfolio of Actively Managed Funds

The foregoing analysis focuses on passively managed index funds, where the main source of risk is tracking error.[82] While index funds account for a growing portion of the mutual fund market, actively managed funds still account for nearly ninety percent of assets held in mutual funds.[83] A potentially much broader application of guarantees would be to target actively managed funds as well. Guaranteeing that an index would outperform an individual actively managed fund would be more risky than targeting an index fund, because, while index funds target a known basket of stocks, there is a chance that the actively managed fund would choose winners that year. Managerial skill or luck in stock selec-

81. *See* Josh Carlson et al., *Target-Date Series Research Paper: 2013 Survey*, MORNINGSTAR (2013) *available at* http://corporate.morningstar.com/US/documents/ResearchPapers/2013TargetDate.pdf.

82. *See* Brandon Thomas et al., *A Tracking Error Primer*, ENVESTNET PMC (Dec. 2013), *available* at http://www.envestnet.com/sites/default/files/documents/A%20Tracking%20Error%20Primer%20-%20White%20Paper.pdf.

83. *See* INV. CO. INST., 2012 ICI INVESTMENT COMPANY FACTBOOK 34, 73–74 (52nd ed. 2012), *available at* http://www.ici.org/pdf/2012_factbook.pdf.

tion is, therefore, an additional source of guarantee risk. But if that risk proves tolerable, guarantees with respect to actively managed funds may open a vast new area of the market to arbitrage via performance guarantees. Moreover, the ability to offer a portfolio of guarantees across a group of higher-cost mutual funds would allow a guarantor to diversify and reduce portfolio risk in much the same way as an insurer, by holding a portfolio of policies, diversifies the risk of loss.

Consider whether Vanguard could guarantee that its S&P 500 index fund would outperform an actively managed large-cap equity fund. Guaranteeing outperformance of a single actively managed fund would be quite risky, but the picture looks very different if Vanguard considers making guarantees on a group of high-cost funds. There is a wealth of information suggesting that index funds on average tend to beat actively managed funds.[84] While Vanguard might not want to guarantee that its index fund will outperform a single high-cost competitor, it becomes a safer bet that its index will outperform most of its high-cost, actively managed competitors. The key is to form a diversified portfolio of guarantees over appropriately selected actively managed funds.

Empirical research in mutual fund performance suggests several potential factors that could be used to predict poor performance relative to an index fund.[85] High-fee funds are likely to underperform,[86] and funds with poor performance in a given year are likely to have poor performance in subsequent years.[87] To demonstrate the empirical profitability of guarantee portfolios with respect to actively managed funds, we form a portfolio of guarantees for funds with high fees and persistent underperformance. Because of the high variance of actively managed returns, it would be difficult to extend a profitable guarantee by taking only twenty percent of the upside. For the actively managed segment of funds, we analyze a version of the guarantee in which Vanguard takes fifty percent of the upside. This higher take is necessary to compensate for the volatility of actively managed benchmarks. Of course, investors who elect the guaranteed funds are still better off than if they chose the fund that is a target of the guarantee, and the credible signal of the guarantee may induce investors to opt for the nonguaranteed share class to avoid paying fifty percent of the upside.

84. *See* Mark M. Carhart, *On Persistence in Mutual Fund Performance*, 52 J. FIN. 57 (1997); Mark Grinblatt & Sheridan Titman, *The Persistence of Mutual Fund Performance*, 47 J. FIN. 1977 (1992); Martin J. Gruber, *Another Puzzle: The Growth in Actively Managed Mutual Funds*, 51 J. FIN. 783 (1996); Burton G. Malkiel, *Returns from Investing in Equity Mutual Funds 1971 to 1991*, 50 J. FIN. 549 (1995).

85. Mandi Woodruff, *It's Getting Harder and Harder to Deny the Power of the Index Fund*, BUS. INSIDER (June 25, 2013, 10:25 AM), http://www.businessinsider.com/index-funds-beat-actively-managed-funds-2013-6.

86. Gil-Bazo & Ruiz-Verdú, *supra* note 3, at 2183.

87. Stephen J. Brown & William N. Goetzmann, *Performance Persistence*, 50 J. FIN. 679, 686 (1995); Carhart, *supra* note 84, at 58; Edwin J. Elton et al., *The Persistence of Risk-Adjusted Mutual Fund Performance* 11 (NYU Working Paper No. FIN-95-018, 1995), *available at* http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1298325.

To demonstrate the feasibility of forming a viable guarantee-portfolio for actively managed funds, we start by sorting funds by their expense ratio, limiting the guarantee to funds that are in the highest twenty percent by expense. Among these, we select funds that show particularly poor performance as measured by risk-adjusted returns computed through 2007. Risk-adjusted returns are a standard measure of performance in the mutual fund literature and capture the return a fund delivers to investors after normalizing for the fund's propensity to make risky bets.[88] The guarantee portfolio is limited to funds with risk-adjusted return in the bottom twenty percent of all funds. Since historical returns through 2007 are used in determining which funds ought to be part of the guarantee portfolio, the payoff on the portfolio is calculated using data after 2007. This ensures that the guarantee portfolio reflects the type of analysis that the guarantor might have undertaken with information available at the time the portfolio was formed.

The guarantee portfolio covers 9.1% of large-cap equity funds and 9.7% of assets held in large-cap equity funds as of the end of 2011. The total balance of guaranteed funds as of the end of the period is $37.9 billion. Such a guarantee would have been historically profitable. The payoff on the guarantee portfolio after 2008 averages 0.55% of total balance of guaranteed funds, but this high average payoff comes with substantial risk as the standard deviation of the payoff is 4%. More than a third of guarantee periods would have required a payout, with an average payout of 5.1%. This is substantially risker than the index guarantees discussed above, but the average payoff is nevertheless positive. The simple selection criteria and short sample period for the foregoing example mean that the results are not conclusive, but the foregoing suggests that, while challenging and risky, guarantees with respect to actively managed mutual funds are a plausible option.

It is notable that the total size of funds subject to guarantee for the index fund market segment is substantially larger than the total assets in actively managed large cap funds that could be guaranteed, even though large cap funds hold more total assets. This occurs because the relatively precise correlation of returns in index funds eliminates much of the variability between funds, making fees a more robust predictor of relative performance for index funds.

D. Guaranteeing 401(k) Plans and Hedge Funds

We have separately argued that a substantial number of 401(k) retirement plans have supracompetitive fees.[89] Besides guaranteeing improved performance of particular funds, it might be feasible for a 401(k)

88. *See Morningstar Investing Glossary: Risk-Adjusted Return*, MORNINGSTAR, http://www.morningstar.com/InvGlossary/risk-adjusted-return.aspx (last visited Nov. 6, 2014).

89. Quinn Curtis & Ian Ayres, *Measuring Fiduciary and Investor Losses in 401(k) Plans* 24 (7th Annual Conference on Empirical Legal Studies Paper, July 15, 2012), *available at* http://ssrn.com/abstract=2107796.

fund provider to guarantee improved relative performance at the 401(k) plan level if the plan administrator would agree to offer a substitute menu of funds. The guarantee might say that the net returns of a plan's participants as a whole will increase relative to what they would have earned if participants had continued to invest in incumbent menu funds with existing fund proportions. The risk that the individual participants would radically change their investment strategy at the moment of rollover might be mitigated by having the guarantor create default analogs to the type of funds that the participant had previously chosen. The guarantor might even guarantee improved relative return to individual participants as long as they make analogous menu investment choices. It would be difficult for a fiduciary to justify keeping a plan tied to a menu of options that was guaranteed to produce inferior returns.[90]

It might also be possible to use improved performance guarantees to provide better transparency about whether particular hedge funds are worth typical annual fees of two percent base fee plus twenty percent of any positive returns. There are over 10,000 hedge funds and it is difficult for investors (such as small college endowments) to identify those whose net risk-adjusted returns are likely to persistently meet or beat the market.[91] Giving other funds (including other hedge funds) the ability to guarantee improved returns might aid institutional investors in identifying poor quality funds, which are so unlikely to outperform the market that they fail the guarantee test.

IV. THE LEGAL AND POLICY CASE FOR IMPROVED PERFORMANCE GUARANTEES

The mutual fund industry is tightly regulated. This Part turns to the question of whether a performance guarantee can be implemented within the current regulatory framework, or whether statutory changes or changes to administrative rules would be required.

In its simplest expression, a performance guarantee is an adjustment to a fund's returns that ensures that the fund always returns more than the fund against which the guarantee is benchmarked. One way to implement the guarantee would be to create a specialized mutual fund share class that exhibited these performance characteristics. Mutual fund performance is a function of two variables: the return on the assets in the mutual fund's portfolio and the mutual fund's fees.[92] Since mutual fund

90. A fiduciary might respond that the advisor providing the existing menu provided other services—such as educating participants to enhance participation or make better investment decisions—that might justify the guaranteed lower returns. But in a separate paper, we have shown that plans with higher fees tend to produce lower participation rates, contributions, and more poorly allocated portfolios. Ayres & Curtis, *supra* note 51, at 18.

91. Press Release, Hedge Fund Research, Inc., Hedge Funds Extend Record Asset Total for Fourth Consecutive Quarter (July 18, 2013), *available at* https://www.hedgefundresearch.com/pdf/pr_20130718.pdf; *see also* Nicole M. Boyson, *Hedge Fund Performance Persistence: A New Approach*, 64 FIN. ANALYSTS J. 27 (2008).

92. *See, e.g.*, Morley & Curtis, *supra* note 30, at 103.

shares are issued and redeemed at the current NAV of the fund's portfolio,[93] direct manipulation of the portfolio return is not possible. The only means by which a mutual fund complex could adjust returns to implement the guarantee is through management fees. This Part shows how to implement the improved performance guarantee through a fund's fee structure and discusses the legality of doing so.

Consider the Vanguard S&P 500 index fund discussed earlier. Suppose that Vanguard were to offer a class of shares of the fund guaranteed to outperform the MainStay benchmark. They could be marketed as "Guarantee Class Shares (MainStay)," and these shares would include the following guarantee:

> Guarantee Class Shares are contractually committed to outperforming the MainStay S&P 500 index fund on an after-fee basis. Each month, we will compute the returns of the Vanguard S&P 500 index portfolio and the MainStay S&P 500 index fund over the previous twelve-month period, including the effect of the MainStay fund's fees and a base management fee of 0.18%[94] on the Vanguard shares. In months when the performance of the Vanguard fund, less the base fee, is higher over the preceding twelve-month period, you will be charged an additional twenty percent of the amount by which the Vanguard fund has outperformed the MainStay fund. In months when the performance of the Vanguard portfolio, less management fees, is lower than the MainStay fund, we will equalize the annual performance between the two funds. If the difference in returns is less than the base fee, then this adjustment will be achieved by reducing the base fee until returns are equalized. If the difference exceeds this amount, then Vanguard will reduce the management fee to zero and increase the balance of the portfolio by contributing Vanguard capital to the fund until returns are equalized.

Such a fee structure would ensure that any investor who bought and held shares of the fund for at least twelve months would do at least as well as if she had held MainStay S&P 500 index fund shares. The guaranteed performance comes at a cost of twenty percent of the upside. This fee structure, then, offers investors an improved performance guarantee.

Is it legal? Answering this question involves delving into the regulation of mutual funds. Legally, each mutual fund in a fund complex is a separate entity.[95] That is, every Fidelity fund has its own separate corporate existence and its own board.[96] But mutual funds are just pools of assets, lacking employees, office space, or any other operational capabilities. To operate, each Fidelity mutual fund, under the direction of its board, contracts with Fidelity for the service of managing its assets, and for this service it pays Fidelity a fee.[97] Speaking in the language of in-

93. *Id.* at 89.

94. Recall that this is the fee of the nonguaranteed VFINX shares of the Vanguard S&P 500 Index Fund. *See supra* Part III.B.

95. *See* Morley & Curtis, *supra* note 30, at 92.

96. *See id.*

97. *See id.*

vestment management regulation, each fund is an investment company[98] and Fidelity is the investment advisor.[99] Since mutual funds are just pools of assets, they take their identity in the consumer consciousness from their investment advisors.

The performance guarantee fee structure suggested above would therefore be a contract between the corporate entity of the Vanguard S&P 500 index fund and Vanguard, the investment advisor. The contract would adjust the fee based on the relative performance of the fund. Perhaps surprisingly, the law takes a skeptical view of performance-based compensation for investment advisors. Under the Investment Advisors Act of 1940 ("IAA"), investment advisors are barred, as a general matter, from contracting for performance-based compensation.[100] This bar is subject to an exception for so-called fulcrum fees.[101] Fulcrum fees are described in the IAA as:

> [C]ompensation based on the asset value of the company or fund under management averaged over a specified period and increasing and decreasing proportionately with the investment performance of the company or fund over a specified period in relation to the investment record of an appropriate index of securities prices or such other measure of investment performance as the Commission by rule, regulation, or order may specify[.][102]

A fulcrum fee consists of a base-level fee, which is the fee charged if the fund just matches the benchmark, with performance-based adjustments that are symmetric about the base fee as determined with reference to a benchmark index.[103] Thus, a fund might charge a one percent fee, plus (minus) ten percent of the amount by which it exceeds (falls short of) a benchmark index. The critical statutory requirements are that the fee increase or decrease proportionately, that is the manager has to have the same upside and downside, and that an "appropriate index" be used.[104] The typical hedge fund arrangement of two percent base fee plus twenty percent of any positive returns would not be permissible: it is not benchmarked to an index, and the fees are not reduced in the case of underperformance. In practice, fulcrum fees are rarely used.[105]

The fulcrum fee has significant similarity to the performance guarantee fee structure above. The guarantee features a base fee level of 0.18% and upward and downward performance-based adjustments of 20% and 100% respectively. But there are several differences as well. The performance guarantee is not symmetric, though the asymmetry runs in the shareholders' favor. The performance guarantee is not

98. *See id.*
99. *See id.*
100. Investment Advisers Act of 1940, 15 U.S.C. § 80-5 (2012).
101. *Id.* § 80b-5(b)(2).
102. *Id.*
103. Edwin J. Elton et al., *Incentive Fees and Mutual Funds*, 58 J. FIN. 779, 781 (2003).
104. 15 U.S.C. § 80b-5(b)(2).
105. Elton, *supra* note 103, at 780 ("Incentive fees are not widely used by the mutual fund industry.").

benchmarked by an index of securities; the benchmark is a specific mutual fund. The performance guarantee also differs from previously approved fulcrum fees in that adjustment for underperformance is one-hundred percent of the difference, and this adjustment could exceed the level of the base fee, meaning that the advisor may have to pay out its own capital to the fund. It is clear that the performance guarantee fee would be on new legal territory, but SEC no-action letters provide some guidance.

The first issue is the use of an asymmetric adjustment: twenty percent of upside and one-hundred percent of the downside. From investors' standpoint, such an arrangement is better than the usual symmetric adjustment, since they would receive more in the case of underperformance than they give up in the case of overperformance. The asymmetry itself seems not to be a problem. The SEC, in a no-action letter, has explicitly permitted a fee arrangement that was asymmetric.[106] In that case, the SEC issued a no-action letter with respect to a management fee that would decrease twice as fast as it increased relative to an S&P 500 benchmark.[107]

The fate of a performance guarantee fee structure is not so clear, though. The SEC has objected to a particular class of asymmetric performance-based fees taking the form of a fee refund. In a staff release, the SEC stated that it views fees contingent on exceeding a certain performance benchmark as violating the IAA proscription on performance fees.[108] The staff wrote that the IAA "generally prohibits an investment adviser from being a party to any advisory contract which provides that advisory fees will be waived or refunded, in whole or in part, if a client's account does not meet a specified level of performance . . . ."[109] The staff cited concerns about excessive risk-taking as a concern with such a practice.[110] If a fund's returns are below the threshold for which it is entitled to compensation, then the fund's advisor might choose a highly risk portfolio in an attempt to generate returns that would exceed the benchmark, knowing that if the bet did not payoff, it would receive no fees in any case.[111]

The performance guarantee fee structure has features of both an asymmetric fulcrum fee and a contingent fee. Like an SEC-dispreferred contingent fee, a performance guarantee fee will potentially result in no management fee being collected by the advisor.[112] This would occur if the guarantee shares underperformed the benchmark by more than the base fee. But the contingent fee arrangement described above is also similar

106. Royce Value Trust, Inc., SEC No-Action Letter, 1986 WL 67503 (Dec. 22, 1986).
107. *Id.*
108. Contingent Advisory Compensation Arrangements, Exchange Act Release No. 721, 1980 WL 19231 (May 16, 1980).
109. *Id.*
110. *Id.*
111. *Id.*
112. *See id.*

to the asymmetric fee that the SEC has approved.[113] The permissibility of a performance guarantee fee may turn on the policy motivations of the proscription of performance-based compensation further discussed below.

Three other aspects of the performance guarantee fee structure warrant discussion. First, even if the performance guarantee fee is a permissible fulcrum fee, can a single fund be used as a benchmark? This question is novel. The IAA requires that funds use an "appropriate index of securities prices or such other measure of investment performance as the Commission by rule, regulation, or order may specify."[114] SEC discussion of benchmarks has focused on the selection of an appropriate index, that is, one that closely benchmarks the fund's investing style.[115] For example, it would be impermissible for an equities fund to select the Consumer Price Index ("CPI") as a benchmark, since equities typically offer higher returns than the increase in the CPI.[116] The SEC has emphasized that the index ought to be similar in construction to the investing style of the fund in question.[117]

These restrictions reflect a policy concern that use of a benchmark index with lower expected returns than the fund's investing style would lead to a scenario in which investors would regularly pay more than the base fee due to the appropriate index.[118] This could potentially allow funds to effectively charge more than the stated base fee while concealing the additional expense as a performance incentive that the advisor was almost certain to earn.[119] While this is a sensible concern in general, the notion that the benchmark must approximate the expected return of the fund is problematic for the performance guarantee fee structure. It is precisely the fact that the Vanguard fund is overwhelmingly likely to outperform MainStay that makes a guarantee possible. The guarantee relies, in a sense, on an *inappropriate* benchmark.

A second novel feature of the performance guarantee is that the amount of the downward fee adjustment may exceed the base fee, meaning that the fund advisor may have to pay money into the fund. Whether such an arrangement is permissible has not been established. One SEC no-action letter suggested that such an arrangement is not allowed: "[F]ulcrum fee contracts do not subject advisers' capital to risk. It is only the advisers' fees that are subject to risk, and then only to the degree that

113. *See id.*

114. Investment Advisors Act of 1940, 15 U.S.C. § 80b-5(b)(2) (2012).

115. *See* Factors to be Considered in Connection with Investment Company Advisory Contracts Containing Incentive Arrangements, Release No. 315, 1972 WL 125497 (Apr. 6, 1972) [hereinafter *Factors to be Considered*].

116. James R. Waters, SEC No-Action Letter, 1995 WL 498690 (June 1, 1995).

117. *See Factors to be Considered*, *supra* note 115; *see also*, Mexico Fund, SEC No-Action Letter, 1975 WL 8955 (Feb 12, 1975) (declining to permit a fund of low-growth securities to track an index of high-growth securities).

118. *See* sources cited *supra* note 117.

119. *See Factors to be Considered*, *supra* note 115.

they are also subject to increase."[120] But in a speech to independent mutual fund directors, a member of the SEC staff suggested the opposite: "[I]t must be clear to you and the adviser what the fulcrum fee represents, including that the adviser, in addition to incurring a decline or elimination of its fee, may owe the fund money under certain conditions."[121] This suggests that fee arrangements in which the downward adjustment exceeds the base fee are, at least in the view of one staffer, potentially allowable, though the outcome of a no-action request is far from clear.[122]

Lastly, the possibility that the fund advisor (in making good on the guarantee) might have to pay money into particular guaranteed share classes might cause the arrangement to run afoul of section 18(f) of the IAA and the associated SEC Rule 18f-3.[123] Section 18(f) prohibits open-end investment companies from issuing "senior securities."[124] Rule 18f-3 provides a limited exemption to that provision that allows the issuance of multiple share classes that allows limited differences between share classes with regard to their fees and voting rights.[125] While differential fulcrum fees across share classes are unproblematic, Rule 18f-3 might prohibit the proceeds of the guarantee payment from being taken exclusively by the guarantee share class in scenarios where the payoff exceeds the base fee, since that would effectively give the guarantee share class priority in payment with respect to certain assets.[126] This would occur only in the very unusual circumstance that the guarantee paid off in excess of the base fee of the guaranteed fund, but it is a possibility. Guarantors could avoid the potential problem of 18f-3 by issuing the guarantee shares as separate funds and not merely as separate share classes—but doing so would necessitate a great deal of duplicative administrative and legal expense. Another alternative might be to cap the guarantee payout at the level of base expenses, which would reduce the value of the guarantee to investors by a small amount, but avoid the regulatory issue. Finally, seeking regulatory reform of this provision could, of course, eliminate the problem.

The foregoing discussion points to legal complexity of fitting the performance guarantee fee arrangement within the existing legal framework for fulcrum fees and the prohibition on issuance of senior securities. It is notable, though, that as a matter of policy, improved perfor-

120. First Horizons Unlimited Inc., SEC No-Action Letter, 1985 WL 51940 (Jan. 4, 1985).

121. Andrew J. Donohue, Dir., Div. of Inv. Mgmt., U.S. Sec. & Exch. Comm'n., Speech by SEC Staff: Keynote Address at the Independent Directors Council Investment Company Directors Conference (Nov. 12, 2009), *available at* http://www.sec.gov/news/speech/2009/spch111209ajd.htm.

122. *See id.*

123. Investment Company Act of 1940, 15 U.S.C. § 80a-18-18(f) (2012); 17 C.F.R. § 270.18f-3 (2014).

124. 15 U.S.C. § 20a-18(f)(1).

125. 17 C.F.R. § 270.18f-3.

126. 17 C.F.R. § 270.18f-3(c). Other readings of the rule, however, are possible. 17 C.F.R. § 270.18f-3(a)(1)(i) allows each class to "have a different arrangement for shareholder services or the distribution of securities" and 17 C.F.R. 270.18f-3(a)(1)(iii) allows each class to"pay a different advisory fee to the extent . . . [of] different investment performance of each class."

mance guarantees do not implicate the concerns that motivated the passage of section 18f. Congress was concerned that senior securities that created "a priority over any other class to a distribution of assets" could lead to "abuses . . . when funds [are] leveraged without any significant limitations."[127] But the potential "priority" of guaranteed shares to advisor funds need not expose the unguaranteed (junior) class shareholders to the kinds of risk that might arise in leveraged funds.[128]

The improved performance guarantee also does not implicate the concerns that motivated the adoption of fulcrum fee regulation in section 205 of the IAA.[129] The two primary worries of Congress were concerns of unfair excess compensation[130] and concerns about excessive risk taking.[131] Performance guarantee fees raise neither issue.

Because mutual fund fees are negotiated by boards of directors who often have close relationships with the advisors with whom they negotiate, Congress has periodically become concerned about the level of fees in mutual funds as a matter of consumer protection.[132] The restriction on performance-based fees is part of this pattern. As described earlier, a performance guarantee fee is possible precisely because some mutual funds have lower fees than other, similar mutual funds, and these fees ensure that the low-fee fund will regularly outperform.[133] The very fact that an advisor is willing to offer a performance guarantee fee arrangement is evidence that the fee is not only fair, but substantially better than at least one option in the market.

This argument has implications for the choice of benchmark as well. While the SEC usually frowns on a choice of benchmark that a fund is likely to beat,[134] this concern is more apposite than the typical case where the base fee is itself comparable to the market average. Here, the base is substantially better than other fees in the market, and it is this cost advantage that ensures that the guarantee is viable. While the Vanguard can be expected to regularly outperform the MainStay fund, and investors who elect the guarantee shares will usually pay more than the base fee, the guarantee ensures that the consumers will always do better, even after this deduction. Put simply, if the MainStay fee structure is not excessive or unfair, then what policy reason can there be for obstructing a fee structure that is *guaranteed* to leave investors better off?

127. Andrew J. Donohue, Dir., Div. of Inv. Mgmt., U.S. Sec. & Exch. Comm'n, Speech by SEC Staff: Investment Company Act of 1940: Regulatory Gap Between Paradigm and Reality? (April 17, 2009), *available at* http://www.sec.gov/news/speech/2009/spch041709ajd.htm.

128. In particular, if the guarantee advisor obligations were cleared on a daily basis, as described *infra* at text accompanying note 145, the unguaranteed shareholders would need not bear additional risk from the possibility of advisor payments or early redemption of the guaranteed shares.

129. *See Factors to be Considered*, *supra* note 115.

130. *Id.*

131. *See* Royce Value Trust, Inc., SEC No-Action Letter, *supra* note 106.

132. *See* Investment Company Act of 1940, 15 U.S.C. § 80a-35(b) (2012).

133. *See supra* Part III.D.

134. *See Factors to be Considered*, *supra* note 115.

In barring contingent fee arrangements, the SEC expressed concerns regarding excessive risk taking.[135] The particular concern of the SEC involves a fund that will earn no fees unless it beats the benchmark, but will not owe additional money, if it badly underperforms.[136] This gives managers an incentive to make risky bets, since they will earn fees, if the bets pay off, and investors will bear the losses, if they do not. This concern is, once again, absent in the case of a performance guarantee. In the case of a performance-guaranteed index fund, this concern is clearly misplaced. Since index funds are committed by their prospectus to attempt to match the index they track,[137] risk-taking is not an issue. An actively managed guaranteed fund counsels more caution, but the particular form of risk-taking that concerns the SEC is absent. Since a performance guarantee requires that fund managers make up investor losses relative to the benchmark dollar for dollar, there is no temptation to make risky bets. If anything, managers might be risk-averse, since they bear one-hundred percent of losses, and take only twenty percent of the upside.

While a performance guarantee is novel legal territory, it is closely related to permissible fulcrum fees. Many of the policy concerns that have motivated the careful regulation of fulcrum fees are absent in the case of performance guarantees: fees are likely to be lower, not higher, and managerial risk-taking will be, if anything, somewhat cautious. Particularly in the case of low-cost index funds, the case for permitting performance guaranteed share classes through a fulcrum-fee-style implementation seems strong from a policy standpoint. The SEC should encourage the use of this fee structure by issuing no-action letters and by issuing a staff release giving guidelines for the issuance of no-action letters. In addition, the SEC should explicitly create a section 6 exemption for funds that offer differential guarantees on its share classes so as to avoid conflicts with section 18f.[138]

V. CHALLENGES AND DETAILS OF IMPLEMENTATION

This Part considers additional concerns and implementation details that would affect performance guarantees.

A. Managing Risk

The recent economic crisis has underscored the possibility that guarantors will breach their promises to provide compensation when the

135. *See* Contingent Advisory Compensation Arrangements, *supra* note 108.

136. *See id.*

137. *See* Choi et al., *supra* note 14, at 5.

138. Investment Company Act of 1940, 15 U.S.C. § 80a-6(c) (The Commission by rules and regulations may exempt any class of transaction "from any provision or provisions of this subchapter or of any rule or regulation thereunder, if and to the extent that such exemption is necessary or appropriate in the public interest . . . .").

guarantee fails.[139] The financial crisis has also raised concerns about "Black Swan" risks that are not captured in the historical data.[140] Consumers and regulators (as well as readers) may be concerned that, despite the evidence we have presented that performance guarantees are viable, they may nevertheless pose risks to the financial stability of mutual fund advisors and therefore to the financial well-being of investors who rely on the guarantees.

While the experience of the financial crisis counsels caution, the risks of a guaranteed performance regime are likely to be manageable. First, the implementation we have described, in which fees are adjusted on a monthly basis to ensure that returns meet the guarantee requirement for the previous year, ensures that fund companies and investors bear only one month of guarantee risk at a time. A shareholder who has stayed in the fund for twelve months is guaranteed returns that at least match the benchmark, and that guarantee must be settled through adjustments made at the end of that month. Even if the thirteenth month produces a deficiency that forces the fund advisor into bankruptcy, the guarantee for the preceding twelve-month period is secure.

Regulators could go even further to secure the guarantee by requiring that the fund advisor hold sufficient funds to settle the guarantee in a separate account at the end of each business day. If, on any day, the fund was unable to post a sufficient balance, then the fund would be immediately shut down with the account balance distributed to investors. Mutual funds already compute net asset value on a daily basis,[141] so this type of settlement would fit well within the existing operational structure. Such a regime would ensure investors that only one-day's potential guarantee was ever at risk. Particularly in the case of low-risk guarantees on high-cost index funds, such a regime would hardly be onerous, since the guaranteed fund would almost never underperform, and therefore almost never have to post a balance.

Nor does the performance guarantee engender the type of systematic risks that surfaced during the financial crisis. Mutual fund assets are separate from their advisors' assets.[142] The assets of a fund could never be endangered by the financial distress of the parent caused by paying a guarantee on another fund. There is therefore no channel of contagion

139. For example, AIG wrote billions of dollars in credit default swaps that promised to pay in the event that underlying securities defaulted. When defaults became widespread, AIG was unable to pay its obligations and was eventually bailed out by the U.S. government. *See generally,* FIN. CRISIS INQUIRY COMM'N, THE FINANCIAL CRISIS INQUIRY REPORT: FINAL REPORT OF THE NATIONAL COMMISSION OF THE CAUSES OF THE FINANCIAL AND ECONOMIC CRISIS IN THE UNITED STATES 344–52 (2011) (discussing AIG's difficulties in meeting its investment guarantees without a government bailout).

140. *See generally* Anthony H. Catanach, Jr. & Julie Anne Ragatz, *2008 Market Crisis: Black Swan, Perfect Storm or Tipping Point?*, BANK ACCT. & FIN., Apr.–May 2010, at 20 (discussing use of the term "Black Swan" to describe the 2008 financial crisis).

141. *See Net Asset Value*, U.S. SEC, http://www.sec.gov/answers/nav.htm (last visited Nov. 6, 2014).

142. John Morley, *The Separation of Funds and Managers: A Theory of Investment Funds Structure and Regulation*, 123 YALE L.J. 1228, 1234 (2014).

by which a guarantee could endanger other funds.[143] Mutual fund advisors that are full-service financial companies may have other contractual commitments that could potentially be endangered by a large guarantee payoff, but this risk too is small. If only one month, or even one day, of guaranteed funds is ever at stake, then the financial stakes are relatively low. Contrast this with the situation of "haircuts" in the repo market in which huge loans would become unavailable if banks were unable to meet margin requirements that were a small percentage of the loan.[144] Here, the contract is settled in full monthly, or even daily. While not risk free, a performance guarantee is dissimilar to the types of bets that caused the financial crisis.

Guarantee contracts might also be structured to manage less predictable risks. For example, one of the primary risks in a performance guarantee would be that the benchmark fund might cut its fees or change its investing style. In a sense, the guarantee is to beat a particular fee structure and investment strategy; however, if the benchmark fund cuts its expense ratio in half, the guarantee might become unprofitably costly. To address this, guarantee contracts might make the guarantee contingent on the benchmark fund not making these changes. If the fund were to explicitly alter its investing style or substantially lower its fees, the guarantee shares could simply liquidate (after settling any current payoff on the guarantee) and return the capital to the investors, or even transfer investors to a position in the benchmark fund.[145] Alternatively, the guarantee could be tied to the benchmark fund's expense ratio at the beginning of each annual period. Under this alternative approach, the guarantee is improved performance over what the investor would have earned, if the benchmark fund continued to charge the same historical expenses, decreasing the benchmark fund's expense ratio. The guarantee liability is determined by taking the benchmark fund's reported returns and expenses and calculating what the benchmark returns would be, if it had incurred the historic expense ratio.

It is more difficult for a guarantor to make a guarantee contingent on the investment strategy. Actively managed funds may engage in substantial strategy drift without changing their stated strategies. Accordingly, it may be in the joint interest of guarantors and guaranteed fund shareholders to provide the guarantor a call option to buy back the guarantee asset from the fund shareholder at an exercise price that would allow the shareholder to reinvest in the benchmark fund. In other words, the guarantee contract might grant the guarantor the right to prematurely terminate the guarantee and pay what amounts to compensatory damages. For example, imagine that our investor in MainStay's fund accepts Vanguard's guarantee and transfers $25,000 from MainStay's index to

143. Financial contagion was a critical aspect of the financial crisis. *See generally* GARY B. GORTON, SLAPPED BY THE INVISIBLE HAND: THE PANIC OF 2007 (2010).

144. Gary B. Gorton & Andrew Metrick, *Haircuts* (Nat'l Bureau of Econ. Research, Working Paper No. 15273, 2009), *available at* http://www.nber.org/papers/w15273.pdf.

145. *See* discussion of the termination of guarantees *supra* Part III.B.

the Vanguard's. Moreover, imagine that three months later, the money invested in the Vanguard Index is now worth $26,000, but those same funds, if they had continued to be invested in the MainStay index, would have been worth $26,500. Vanguard might not know why MainStay's fund is beating its lower cost index, but regardless of the cause, Vanguard may choose to end the guarantee by adding $500 to the investor's account, which is just enough money for the investor to switch back to MainStay and reestablish her initial account.[146] The early termination option is an equitable way for guarantors to protect themselves from low-probability risks that may not be captured by historic analysis of the guarantor's expected costs.

The question of early termination points to a more general policy tradeoff in allowing guarantee carveouts. Carveouts may appropriately protect guarantors from bearing excessive risks, but, at the same time, anything that makes the guarantees more complex and contingent undermines their effectiveness at speaking clearly to unsophisticated investors.

B. Fund and Investor Opportunism

One concern is that, if guarantors have some latitude to terminate guarantees, they will insincerely guarantee improved performance—not because they actually expect the returns of the guaranteed fund to exceed the returns of the benchmark fund, but because it is a means of acquiring the investor's account. For instance, imagine that MainStay guaranteed that its higher-cost index would outperform Vanguard's lower-cost index for three months, with the guarantee then withdrawn. MainStay does not expect to make money from the guarantee. The guarantee is a loss leader dangled in hopes of acquiring funds for new accounts that would remain in MainStay's index fund or its other funds after the guarantee expires. Such "teaser" guarantees, which are akin to teaser interest rates on credit cards and mortgages,[147] are a serious policy concern—not only because they may aid cognitively constrained investors in mistaken investments, but also because they weaken the transparent quality signal of guarantees. An important function of the improved performance guarantee is that it can reduce the promotional noise in the mutual fund markets. In our initial conception, potential investors see three types of funds: superior funds that guarantee superior performance to the benchmarked inferior funds, inferior funds that guarantee inferior returns and are used as benchmarks by superior funds, and funds that neither make guarantees nor are used as benchmarks. In this conception,

146. The guarantee might or might not include an additional amount to compensate the investor for the hassle of having to switch back and for possible tax consequences of the switch. Index funds tend to be highly tax-efficient, but guarantee compensation would itself be taxable if it exceeds the waiver of management fees. Since the tax consequences to individual investors would vary, it may not be possible to fully compensate investors for the tax consequences of the guarantee.

147. *See supra* note 21 and accompanying text.

potential investors should steer clear of the inferior fund, possibly preferring the first group of funds over the third. Short-term teaser guarantees, however, threaten to muddy this signaling equilibrium by giving higher-cost funds a means of insincerely guaranteeing superior returns when they, in fact, expect to deliver.

One way to address this issue is through close regulation of the baseline fee for guarantee-class shares. Since fulcrum fees generally require SEC preapproval through a no-action letter,[148] the SEC is in a position to ensure that the fee charged in the absence of a guarantee is actually lower than the benchmark fund. If the fees of the guarantee class shares are in fact higher, this should raise serious concerns that the motivation for the guarantee is not in good faith, and the SEC is in a position to block such guarantees, and should. More generally, it would be reasonable to ask prospective guarantors to demonstrate a reasonable possibility of success in outperforming the benchmark before permitting the issuance of guarantee shares.

Bad faith guarantees are viable only if the guarantor can eventually terminate the guarantee. We have already identified cases in which terminating a guarantee would be legitimate, such as style drift and fee changes.[149] The termination of a guarantee obviously represents a substantial change in investment risk and should be handled carefully. There are two cases to distinguish. If at the time that a guarantee ends, the guarantee fund has failed to produce superior returns, regulation should require the guaranteeing fund to cash out the investor's shares and return the proceeds to the investor[150]—unless the investor affirmatively consents at that time to retain those funds in the failed investment. The divestment default would help produce a separating equilibrium that intentionally discriminates against insincere guarantees. Furthermore, MainStay could lawfully guarantee that its higher-cost index would outperform Vanguard's lower-cost index for some fixed duration of time. At the end of that guarantee term, however, MainStay would need to send the investor a check or enable the shareholder to reinvest in Vanguard's index, unless it could convince an adequately informed shareholder to continue in the underperforming fund on an unguaranteed basis. While leaving unaffected those guarantees that succeed in delivering superior performance, the prospect of losing most of the invested money at the end of the insincere guarantee will likely deter such teaser guarantees from being offered in the first place. The divestment default is likely to simultaneously support clarity in the guarantor's speech and further the investor's expectations. After all, individuals who invested and expected superior returns normally do not want to continue in an unguaranteed fund that is falling short of an achievable alternative.

148. *See supra* notes 108–31 and accompanying text.

149. *See supra* Part V.A.

150. Alternatively, it might be possible for investors at the time of initially investing in the guarantee fund to give the fund non-discretionary instructions to sell fund shares and reinvest proceeds in the benchmark fund, if the guarantee failed.

The second instance is when the guarantee is performed as promised, but is terminated for reasons unrelated to performance. If Vanguard guaranteed superior performance over MainStay's index and succeeded in delivering superior performance, but wished to terminate a guarantee share class because the target fund was liquidating, for example, the case for forcing Vanguard to divest shareholders at the end of the guarantee is weaker. Forcing Vanguard to return the funds to the investors would provide strong protection against opportunism, but if those investments sit as cash due to investor inattention, such a regime may leave both Vanguard and the investors worse off. In that case, simply moving shareholders to the non-guaranteed shares in the same fund might be reasonable, provided shareholders are given clear notice of the change.

Performance guarantee opportunism is not limited to investment advisors. Investors may behave opportunistically as well. In the guarantee implementation we have described, investors can buy the guarantee, at any time, with the promise that if they hold them for twelve months or longer, their performance will meet or exceed the benchmark fund. In shorter intervals, they may exceed or fall short of the benchmark. One particular concern is that the fund advisor may need to pay into the fund to satisfy the annual guarantee, if the high-performance month rolls out of the twelve-month window and the most recent month is relatively low-performance. The payment in such a case would exceed the shortfall in the most recent month, since it must make up for the poor performance over the entire year and the advisor will lose the offsetting effect of the thirteen-month old outperformance. An investor who buys guarantee shares during such a month would have a windfall if they are able to immediately leave. To make matters worse, this would be a relatively predictable event, since the high-performance month and subsequent poor performance would be public information, only the performance during the final month would be in question. Investors who buy in anticipation of a payout and then redeem immediately could threaten the feasibility of guaranteed shares.

Fortunately, this problem can be addressed through the use of redemption fees.[151] These "back-load" fees are costs incurred when investors redeem their shares.[152] They are frequently used by mutual funds to deter short-term investing which can be costly for the fund.[153] For example, a fund may charge a one percent fee to investors who fail to hold shares for a full year. Ideally, funds would impose redemption fees that just offset the unearned guarantee gains of investors who have invested for less than a year and have obtained a surplus payment as a result of

151. *See* 17 C.F.R. § 270.27c-2 (2014).

152. *See id.*; *Mutual Fund Fees and Expenses*, U.S. SEC, http://www.sec.gov/answers/mffees.htm#redemption (last visited Nov. 6, 2014); *Mutual Fund Redemption Fees*, AUTORITÉ DES MARCHÉS FINANCIERS, http://www.lautorite.qc.ca/en/redemption-fees-conso.html (last visited Nov. 6, 2014).

153. *Short-Term Redemption Fee Policy*, VALIC, http://www.valic.com/short-term-redemption-fee-policy_3240_423145.html (last visited Nov. 6, 2014).

poor performance before they entered the fund. More simply, the fee could be set so that an investor who leaves the fund would do as well as the better of either the benchmark fund or the nonguaranteed shares, but no better. This type of adjustment is not contemplated by Rule 22c-2,[154] and, even if permitted, would require carefully tracking individual investor's tenure in the fund to adjust the fee at the investor level. All that is important to deter opportunistic behavior is that the fee exceed any unearned payout. Rule 22c-2 caps the fee at two percent, which is likely to be more sufficient in the vast majority of cases.[155] After the consumer has spent a year in the fund, they have participated in all performance that is the basis for any fee adjustments and the redemption fee can and should be waived.

C. 12b-1 Fees for Class B and C Shareholders and Capital Gain Taxes

Another detail that must be considered is the impact of taxes and loads on investors departing from a benchmark fund in order to take advantage of the guarantee. If an investor switched to a guarantee fund, but incurred significant taxes or back-end loads in carrying out the transaction, she may end up worse off, even if her performance on the assets actually invested in the new fund was guaranteed. The tax consequences of a transaction depend on facts about the individual investor that the guarantee shares cannot account for. Similarly, the way mutual fund sales loads are often implemented means that some investors may owe contingent deferred sales charges when exiting a fund and the amount of these charges will depend on the length of time they had held the shares. If there are personal characteristics of investors that alter the consequences of leaving a fund, the guarantee might be misleading.

We begin with a consideration of sales loads. Our early focus on the no-load, but high-fee, MainStay index understates the arbitrage potential for improved performance guarantees in one important dimension. 12b-1 fees, which often add one-hundred basis points to the expense ratio, are deducted from fund assets that are usually paid to brokers.[156] This 12b-1 broker compensation is related to, and, in many ways, is a substitute for front-load fees.[157] While many load structures are in use, traditionally, many load funds issued two or three share classes.[158] Class A shares might

154. 17 C.F.R. § 270.22c-2 (2014).

155. For actively managed funds, guarantee payouts did exceed two percent on an annual basis, but recall that guarantee class shares would be required to adjust fees at the end of each month to account for the previous year's guarantee. Thus, it is not the full guarantee amount, but just the amount of difference that must be paid out in a given month.

156. FINRA rules permit a fund to pay 12b-1 fees up to 0.25% and still call itself "no-load." FINRA Conduct Rule 2830(d)(4) (2010), *available at* http://finra.complinet.com/en/display/display.html?rbid=2403&element_id=3691.

157. Richard J. Dowen & Thomas Mann, *Do Investors Benefit from 12b-1 Fees?*, 22 AM. J. BUS., (2007); Jason S. Scoffield et al., *SEC Proposes Changes to Rule 12b-1 Fees*, BINGHAM (July 27, 2010), http://www.bingham.com/Alerts/2010/07/SEC-Proposes-Changes-to-Rule-12b-1-Fees.

158. Vikram K. Nanda et al., *The ABCs of Mutual Funds: On the Introduction of Multiple Share Classes*, 18 J. FIN. INTERMEDIATION 329, 341 (2009).

traditionally charge a front-load fee of five percent. This front-load is not included in the expense ratio. Investing $100 in such Class A shares means that $5 would be immediately deducted by the fund and paid to the broker as a transaction commission, and the client account would begin with an initial balance (and initial liquidation value) of $95.

As an alternative to front-loads, many load funds would also offer Class B shares. Instead of charging a five percent front-load fee, Class B shares charge one percent 12b-1 fees for the first five years of investment and then automatically convert to Class A shares, without a front-load or any continuing 12b-1 fees. Class B shares often charge a "contingent deferred sales load" or back-end load, if investors sold the fund before the end of the five years.[159] These contingent back-end charges would typically decline over time to assure, either through 12b-1 or the back-end load fees, that the early exiting investor would pay a total of five percent in broker's commission.[160] For example, an investor who decided to exit, after two years of paying one percent 12b-1 fees, would typically need to pay a back-end load of three percent.[161]

Contingent back-load fees seem to substantially impede the ability of a low-cost fund to guarantee that an investor would have more money in his or her account. An investor who had just invested $100 in Class B shares would have an account balance of $100, but would only be able to transfer $95 to the guarantor fund with the five percent back-end load fee. Thus, after a year, low-cost funds would not be able to guarantee that they could exceed the returns of a high-fee competitor by more than five percent.

Nevertheless, a Fidelity or Vanguard fund could still guarantee an increase in liquidation value, if the Class B investor transferred funds. Holding Class B shares is economically equivalent to paying a five percent front-load fee—albeit with a no-interest loan of this load amount back to the investor.[162] The Class B investor pays back the loan through five one percent 12b-1 fees or the contingent back-end load fees. As a result, at the time of investing, the Class B investor has fundamentally committed to a five percent load payment. Although the Class B investor had an initial account balance of $100, her initial liquidation value was $95; the cost is sunk.

Some investor protection advocates may argue that low-cost funds like Fidelity or Vanguard offering guaranteed share classes are at risk of inducing an imprudent liquidation of Class B shares that would leave investors worse off after investor-specific loads are taken into account. This concern, however, misapprehends the unavoidability of these Class B five percent load fees. The Class B shareholder who waits five years before shifting to a lower-cost fund avoids the back-end load but is subject-

159. *Id.* at 334.
160. *Id.*
161. *Id.*
162. This implicit loan earns interest at the same rate as the appreciation in the fund value (as the 12b-1 fees and back-end fees are percentages of the future value of fund).

ed to five years of one percent fees. The key idea is that the lower-cost fund could profitably guarantee to improve the liquidation value of Class B shareholders at *any* point in the future. Far from a trick that lures uninformed shareholders into unnecessarily incurring otherwise avoidable back-end fees, the improved liquidation value guarantee helps neutralize likely cognitive biases that inefficiently lock shareholders into bad investments. For example, shareholders who hyperbolically discount will inordinately value deferred payment of the load compensation.

Capital gains taxes are also a concern. It is important to note that mutual funds distribute capital gains on transactions in the underlying portfolio to investors annually,[163] so investors generally do not have large capital gains associated with mutual fund shares.[164] Nevertheless, there is some residual concern that guarantees might induce investors in mutual funds to sell and mistakenly trigger the realization of capital gain. To the extent the capital gains tax obligation will eventually be realized, the argument is analogous to the case of loads. But, if both funds decline after the investor realizes the gain, then the investor making the switch might be worse off. Since this is an investor-specific tax issue, this could not be addressed through fund-level guarantees.

This potential under-compensation is notable, but not fatal to the guarantee concept. It is still the case that, with respect to the dollars actually invested in the guarantee shares, those dollars will enjoy a higher return than if they remained in the benchmark fund. The risk that capital gains will be realized unnecessarily applies to any decision to sell a security with a capital gain and is not unique to performance guarantees.[165] Though this problem should be small in most cases, in light of the regular distribution of capital gains, investors considering a switch to a guaranteed share class should be advised to exercise caution with respect to taxes. To the extent tax issues remain a concern, fund companies might offer guarantees in excess of one-hundred percent of the downside in exchange for a larger upside take, so that investors would have a better chance of being made whole even net of taxes.[166]

Finally, there are substantial profit opportunities for low-cost funds to offer improved performance guarantees to Class C shareholders. Typically Class C shareholders are charged what is called a "level load" of, say, one percent a year for as long as they hold the fund. These level loads can offer Class C shareholders flexibility relative to Class B shares—as Class C shareholders who sell after one or two years to avoid the back-end fees of Class B ownership and might end up paying less to-

163. Morley & Curtis, *supra* note 30, at 113.

164. *Cf.*, John C. Coates IV, *Reforming the Taxation and Regulation of Mutual Funds: A Comparative Legal and Economic Analysis,* 1 J. LEGAL ANALYSIS 591, 599 (2009) (discussing the problem of tax overhang).

165. Clark M. Blackman II & Thomas C. Myers, *Strategies to Consider for Securities with Large Capital Gains*, AM. ASS'N INDIVIDUAL INVESTORS J., Aug. 1997, at 24, *available at* http://www.aaii.com/journal/article/strategies-to-consider-for-securities-with-large-capital-gains.

166. *See supra* Part III.D for a discussion of this alternative implementation.

tal broker commission. On the other hand, Class B shareholders who buy and hold for more than five years can end up paying a much higher total broker commission.

From a profitability standpoint, Class C shareholders create the most lucrative opportunities for guarantors. Consider, for example, the Class C shares of Nationwide's S&P Index (GRMCX). Its Class C shareholders are charged annual 1% 12b-1 fees, which raises the fund's aggregate annual fees to 1.18%. Thus, Vanguard has a 101 basis point advantage over Nationwide's index.

From a policy perspective, however, improved performance guarantees with respect to load funds might represent an inefficient form of "free riding." Stock brokers can provide valuable services in advising retail investors on what types of investments are most suitable given the investors' investment goals and risk preferences. A broker who sinks the costs necessary to make these suitability determinations and directs the investor to an appropriate fund category runs the risk that an improved performance guarantee will prematurely end the broker's conversation. Similar to the lower-cost Internet seller who free rides on the brick-and-mortar stores that take the time to guide consumers to the most suitable product, the guarantor of the lower-cost fund free rides on the broker. Such free riding can drive out the provision of valuable broker services.[167]

Inefficient free riding is not a concern with regard to either Class A or B shareholders, because the brokers are guaranteed minimum compensation. It is a possibility, however, with regard to Class C shareholders. But even with respect to Class C shares, the net effect of guarantees would likely be welfare-enhancing, with the primary effect being to alter broker compensation arrangements. We prefer a world where brokers more directly charge clients for providing advice. We want to discourage them from directing their clients toward Class C shares on investments that have lower-cost alternatives.

By making certain types of commission compensation less attractive, performance guarantees may have a direct effect in improving the quality of investment advising. Investors commonly receive investment advice from two types of professionals: brokers and investment advisors.[168] Investment advisors are fiduciaries for their clients.[169] We believe that the availability of a fund that is *guaranteed* to outperform a particular investment option would bar a fiduciary from recommending the dominated option to their client. The guarantee would therefore leverage the fiduciary duties of investment advisors to direct investors away from poor funds. Brokers, who are held only to a duty of suitability,[170] fre-

167. *See, e.g.*, Stanley I. Ornstein, *Resale Price Maintenance and Cartels*, 30 ANTITRUST BULL. 401, 409 (1985).

168. ANGELA A. HUNG ET AL., INVESTOR AND INDUSTRY PERSPECTIVES ON INVESTMENT ADVISERS AND BROKER-DEALERS 7 (2008) *available at* http://www.rand.org/dam/rand/pubs/technical_reports/2008/RAND_TR556.pdf.

169. *Id.* at 13.

170. *Id.* at 9.

quently recommend funds that carry considerable loads, since these loads comprise compensation for the broker.[171] It is unclear that the existence of a guarantee to outperform a particular fund would bar a broker under a duty of suitability from recommending the dominated fund, but the existence of performance guarantees with respect to broker-sold funds may at least attract the attention of investors and lead them to question the quality of advice they are receiving.

D. Collusion and Bonding Concerns

Industrial organization economists are often on the lookout for "facilitating practices," which might superficially seem benign, but indirectly dampen incentives for firms to behave competitively.[172] For example, Steve Salop has shown that most favored nation ("MFN") guarantees—through which a seller guarantees that a particular consumer will receive the lowest price at which the seller sells—can reduce sellers' incentives to cut price generally.[173] Nevertheless, improved performance promises operate very differently. With MFN guarantees, a seller who cuts its price is forced to disgorge its own money; with improved performance guarantees, a benchmark fund who cuts its expenses forces its guaranteeing rivals to disgorge money. Improved performance guarantees are a potential mechanism to raise rivals' costs.[174] The opportunity to weaken your competitor would give benchmark mutual funds an additional reason to reduce their fees to a more competitive level. Even though improved performance guarantees increase multi-market contact,[175] it is unlikely that they would unwittingly retard firms' competitive impulses.[176] Fund complexes might collude to refrain from offering such guarantees because the firms fear the probable procompetitive effects of the aforementioned guarantees. In that case, however, the problem would be the collusion and not the guarantees themselves.

171. Xinge Zhao, The Role of Brokers and Financial Advisors Behind Investments into Load Funds 1–2 (Dec. 2005) (on file with China Europe International Business School), *available at* http://www.ceibs.edu/knowledge/papers/images/20060317/2845.pdf.

172. Steven C. Salop, *Practices that (Credibly) Facilitate Oligopoly Coordination, in* NEW DEVELOPMENTS IN THE ANALYSIS OF MARKET STRUCTURE 265, 272 (Joseph E. Stiglitz & G. Frank Matthewson, eds. 1986).

173. *Id.* at 273.

174. *See* Thomas G. Krattenmaker & Steven C. Salop, *Anticompetitive Exclusion: Raising Rivals' Costs to Achieve Power over Price*, 96 YALE L.J. 209, 223–24 (1986).

175. *See* B. Douglas Bernheim & Michael D. Whinston, *Multimarket Contact and Collusive Behavior*, 21 RAND J. ECON. 1, 1 (1990).

176. One also might worry that guarantees could be used as a collective punishment for a fund that was chiseling on some agreed minimum expense ratio. If all the other funds in an investment class agreed to guarantee superior performance to a particular benchmark fund, the targeted benchmark would have difficulty acquiring and retaining funds. Collective guarantee targeting would in some ways be analogous to the targeted base-point pricing punishments described by David Haddock. D. David Haddock, *Basing-Point Pricing: Competitive vs. Collusive Theories*, 72 AM. ECON. REV. 289, 289–306 (1982). Base-point pricing punishments, however, are more feasible because the punisher's cost is much more attenuated. *See* Ian Ayres, *How Cartels Punish: a Structural Theory of Self-Enforcing Collusion*, 87 COLUM. L. REV. 295, 295 (1987).

E. Some Alternative Structures

We have described a guarantee as being provided directly by the lower-cost fund in which the investor is making the investment in the form of a class of guaranteed shares. Because the fund would control the investor's assets, it could directly deduct its compensation from any excess relative return. Moreover, as mentioned above, a recipient fund's guarantees can be used as a powerful account acquisition device.[177] It would also be possible for intermediaries to offer guarantees and to contract with the investor, and the new fund that the investor must invest in as a condition of receiving the guarantee. Guarantee intermediaries might also serve as the investor's broker or financial advisor and retain sufficient control over the investor's funds in order to efficiently harvest compensation from excess returns. Guarantee intermediaries might specialize in making the kinds of calculations necessary to assess the feasibility of particular guarantees, and they might be able to operate profitably without having to contract with the new funds that receive the investor's investment.

To illustrate further, an intermediary might create a space where retail investors auction their current fund accounts to the competitor who makes the most lucrative guarantee offer. For example, a "Lending Tree"-like intermediary could provide investors in the MainStay Index fund with the opportunity to offer the balances in their fund to competitor complexes for potential guarantees. Vanguard might offer to guarantee improved performance in return for nineteen percent of any excess return, and Fidelity might "bid" for the investors by offering improved performance in return for only seventeen percent of the upside. Similar to the guarantee, a structured auction will likely allow the investor not only to realize that MainStay's fund is dominated, but also to know which competitor is offering the most attractive guarantee. Competitive pressure in the auction can attenuate some of the concerns raised above regarding the possibility of overcompensating guarantors for putting competitive pressure on high-fee funds. In other words, when guarantors compete for your investment, you win.[178]

While an intermediary-based approach to guarantees has some advantages, the legal obstacles to an intermediary-based guarantee scheme are higher than the share-class implementation. Current FINRA rules impose an absolute bar to performance-based compensation for financial advisors, including the types of fulcrum fees which we suggest could be used to implement a guarantee share class.[179] Even if these rules were al-

177. *See supra* Part III.

178. The reference is to the motto of lending tree, "When banks compete, you win." Stuart Elliott, *With Economy Volatile, Financial Firms Start to Stress Stability*, N.Y. TIMES, Sept. 19, 2007, http://www.nytimes.com/2007/09/19/business/media/19adco.html?_r=0.

179. FINRA Rule 2150(c) prohibits members from "shar[ing] directly or indirectly in the profits or losses in any account of a customer . . . ." FINRA Rule 2150(c) (2010), *available at* http://finra.complinet.com/en/display/display_main.html?rbid=2403&element_id=8692.

tered, guarantee contracts between investors and a third party where a financial payoff depended on the relative return would be a kind of financial derivative,[180] and might therefore fall under the scope of regulations of over-the-counter derivatives.[181] These legal hurdles lead us to focus on a share-class level guarantee.

While the foregoing examples follow a quid pro quo construction (i.e., the guarantor covering one-hundred percent of relative downside risk in return for twenty percent of the excess upside), a myriad of other forms of downside protection and upside compensation is possible. Besides changing the downside percentage of any shortfall in performance, including for guarantees of two-hundred percent or more, it is possible to pay the investor a fixed amount or a percentage of the initial investment when the guaranteed fund fails to outperform the benchmark fund. Similarly, if the guaranteed fund produced superior performance, the compensation could be structured as a fixed bonus to the guarantor. The guarantor can also charge a noncontingent lump sum or periodic fee for providing guarantee services. As discussed above,[182] the particular form of the downside protection and guarantor protection will likely be driven by legal constraints on the guarantor.

To summarize, we present an affirmative economic case to contend that improved performance guarantees can enhance mutual fund competition. Guarantees are not only feasible, but also likely to be profitable in the current environment. They offer cognitively limited investors with credible and highly salient information on the relative quality of different mutual funds. Not all mutual funds will offer guarantees or be the benchmark of other funds' guarantees, but the funds that are marked by credible guarantees as having inferior returns will face increased competitive pressure to lower their fees or improve their performance. Indeed, a guarantee system may also make the brokerage and financial advisory markets more competitive. A broker or financial advisor who advises a client to invest in the shares of a fund that is guaranteed to produce poorer performance than another fund's is demonstrably failing to provide reasonable advice. Thus, while today's guarantees could produce substantial profits for the guarantor, a guarantee market would become less profitable in the long run—both because multiple guarantors would bid down the compensation for offering the guarantees and because the worst benchmarks would clean up their acts or exit the market.

VI. BEYOND MUTUAL FUNDS: LOWER ALL-IN COST GUARANTEES

Until now, we have focused on the use of improved performance guarantees in the mutual fund space. Nevertheless, the guarantee concept has the promise of mitigating the back-end pricing problem that has

180. Specifically, they would be a type of exchange option.

181. *See* 17 C.F.R. § 240.15c1 (2014) (rules and regulations governing over-the-counter derivatives).

182. *See supra* Part II.

plagued a wide variety of consumer markets. As discussed above,[183] consumers have difficulty recognizing and correctly measuring front-end and back-end prices, the latter of which are contingent on their future behavior. Underestimating the probability that they will incur a back-end fee or the prospective disutility of bearing the fee (i.e., hyperbolic discounting) may lead consumers to mistakenly prefer retailers with low front-end prices but cognitively hidden back-end fees.[184]

Improved performance guarantees directly respond to this problem by giving sellers with higher front-end prices, but lower contingent back-end fees, a new mechanism to credibly convey to consumers at the time of contracting their overall price advantage. As with the mutual fund guarantees, the guarantor calculates what the front-end and back-end fees would have been, if the consumer had used another competitive supplier and automatically rebates any excess charges. For example, a Verizon cellphone guarantee that promises lower costs than a user's existing AT&T contract over the next year can analogously promise to rebate one-hundred percent of any overage charges at the end of the year in return for receiving twenty percent of any relative savings.

As when utilized by mutual funds, improved performance guarantees can reduce the anxiety of changing providers. Thus, improved performance guarantees are particularly well-tailored to respond to status quo bias by allowing the consumer to test the waters of a new supplier while guaranteed of retaining any pricing benefits of his or her former supplier. These guarantees thereby reduce the cognitive switching costs, which can impede market competition.[185] Furthermore, these guarantees are valuable to unbiased but uninformed consumers who are trying to efficiently identify the lowest overall cost provider.

This Part will analyze the ways in which improved performance guarantees can be applied to nearly a dozen different retail consumer markets. Implementing the guarantee idea in retail markets, however, raises three distinct information challenges that were largely absent from the mutual fund analog. Using cellphone and credit contracts as motivating examples, this Part highlights these potential implementation barriers, which we call the "performance measure," the "counterfactual," and the "consumer prediction" problems. It then steps back and sketches the potential for these guarantees in a variety of specific consumer contexts.

A. Three Informational Challenges

To offer a meaningful guarantee of improved performance, a guarantee must be able to contractually define verifiable measures of seller performance. In the mutual fund context, while the return on assets is a

183. *See supra* notes 20–29 and accompanying text.
184. Ayres & Nalebuff, *supra* note 23, at 25.
185. Paul Klemperer, *Markets with Consumer Switching Costs*, 102 Q. J. ECON. 375, 376 (1987).

natural measure of fund performance, it is not the only measure.[186] Mutual funds might provide different qualities of service on other dimensions such as redemption speed or the ergonomics of the web interface.[187] The "performance measure" problem occurs when the quality of seller performance is multifaceted, difficult to quantify, difficult to verify, or difficult to price.[188] The greater the complexities in establishing a meaningful performance measure, the less likely improved performance guarantees will create value. A Toyota Corolla could more feasibly promise lower all-in costs per mile driven than any Rolls-Royce model, but there are many other attributes besides cost that Rolls-Royce consumers care about. Improved performance guarantees in the consumer retail context will normally be "lower all-in cost" guarantees because the costs are a verifiable and easily priced aspect of the consumer experience. Lower cost guarantees are most likely to add value in markets where (1) at least some subset of sellers provides relatively homogeneous goods or services, and (2) there is potentially substantial variation in contingent back-end pricing. The first condition helps assure that nonprice competition is relatively muted, and the second condition creates the possibility that *ex ante* price competition may fail to capture the true, all-in cost of contracting.

The cellphone market represents such a context. The all-in cost of cellphone service is often difficult to assess *ex ante* given the cost of overages and unused minutes. Even though there are differences in cellphone service quality as providers compete on coverage, clarity and reliability, a substantial segment of consumers may respond to a seller who promised them a lower all-in price. To illustrate, a Sprint customer who is offered a guaranteed lower price over the course of the next year by AT&T will realize that there may be quality differences in the two services. The consumer armed with the guarantee, however, can more easily assess whether the quality difference is sufficient to warrant paying Sprint a higher fee. To the extent that the two services are comparable and that AT&T's service is superior, the guaranteed lower all-in costs should become dispositive.

Even when all-in costs are salient, a guarantor must also have sufficient information about the benchmark contract in order to calculate what a particular customer's all-in costs would have been with a competi-

186. *See, e.g.*, Martin Eling & Frank Schuhmacher, *Does the Choice of Performance Measure Influence the Evaluation of Hedge Funds?*, 31 J. BANKING & FIN. 2632, 2634–35 (2007) (detailing different performance measures for hedge funds and mutual funds).

187. *See* Patrick Gleeson, *What Is the Procedure for Redemption of Units in a Mutual Fund?*, THE NEST, http://budgeting.thenest.com/procedure-redemption-units-mutual-fund-32645.html (last visited Nov. 6, 2014) ("Often you return the shares or a redemption coupon to the fund, but the procedure varies with the fund. A phone call to the fund's help line or sales line generally clarifies any procedural or address issues and may speed up the process.").

188. Michael C. Jensen, *The Performance of Mutual Funds in the Period 1945–1964*, 23 J. FIN. 389, 390 (1968) ("[T]he lack of an absolute measure of performance, these past studies of portfolio performance have been plagued with problems associated with the definition of 'risk' and the need to adequately control for the varying degrees of riskiness among portfolios.").

tor.[189] This "counterfactual" problem is absent in the mutual fund application, because mutual funds are legally required to disclose their returns on a timely basis.[190] Thus, Vanguard can readily compute what an investor's account would have been worth if the investor had invested in a particular MainStay or Nationwide fund. In some consumer contexts, however, the counterfactual problem is more daunting, because information regarding competitor contracts is more difficult to collect. For example, credit card providers increasingly offer a proliferation of contractual terms that oftentimes vary by the individual consumer.[191]

Even without legally-required public disclosure, a guarantor may be able to gain accurate information about a competitor's fee schedule, including contingent back-end prices, by investigating the competitor's advertised terms and conditions of service. This kind of price auditing is already a routine part of many industries.[192] The lower-cost guarantee normally specifies the assumptions it is making about the benchmark pricing.[193] Indeed, one advantage of the all-in lower-cost guarantee over its mutual fund counterpart is that it is easier to hold constant the benchmark against which the guarantee is evaluated. In the mutual fund context, a guarantor bears the risk of the benchmark fund's strategy drift,[194] but in the retail consumer context, an all-in lower-price guarantee can be limited to what a competitor's fees were at the time of the guarantee. In essence, the guarantor is saying, "We guarantee that your combined charges over the course of the year will be lower with us, than if you had continued to be subjected to our competitor's contingent fees."

Basing the guarantee on contractual assumptions about the benchmark charges, however, creates opportunities for guarantor abuse. By overstating the competitor's front-end or back-end prices, the guarantor renders the guarantee less meaningful and induces consumers to switch allegiance on false pretenses. Accordingly, the law can require more rigorously that the guarantor's assumptions about the competitor's charges be made in good faith and might even require some degree of substantiation. When the benchmark provider offers a variety of contracts, which is customary in the credit card industry, the consumer at the time of accepting the guarantee may be asked to select his or her current type of benchmark contract. The collected information contributes to the assumptions needed to calculate whether the guarantee failed. In addition, the law can require guarantors to offer benchmark providers the opportunity to correct mistaken assumptions used in the guarantee. With sufficient procedural protection, guarantor assumptions can provide mean-

189. *See* Ayres & Nalebuff, *supra* note 23, at 28.

190. *See* 31 C.F.R. § 1024.300 (2014); *id.* at § 1010.430.

191. *See* IAN AYRES, SUPER CRUNCHERS: WHY THINKING-BY-NUMBERS IS THE NEW WAY TO BE SMART 14 (2007) (cardholder who threatens to discontinue card use may be offered individualized, lower interest rate to deter attrition).

192. *See* PETER J. MCGOLDRICK, RETAIL MARKETING 379–81 (2d ed. 2002).

193. *See id.* at 218 ("Most major retailers utilize benchmarking to compare their costs and productivity ratios with industry norms.").

194. *See* discussion *supra* Part V.A.

ingful protection. Furthermore, perpetual advances in the ability of firms to capture, store, and analyze digital information suggest that the counterfactual price requirement does not impede the ability of competitors to offer lower-cost guarantees.

Finally, in deciding whether to offer a guarantee for the all-in cost of service, which includes the cost of back-end fees contingent on consumer behavior, it is essential for the guarantor to form credible estimates of the likelihood of particular consumer-driven contingencies. This "consumer prediction" problem is completely absent from the mutual fund context, because mutual fund investors' behavior does not impact their return.[195] As long as a shareholder remains invested, they will receive the same return as each of their peers. In contrast, the prevalence of the back-end pricing problem in retail markets has increased, particularly when some consumers (and not others) incur late fees, when some consumers (and not others) incur charges for over or underutilizing the service, and when some consumers (and not others) incur charges for taking advantage of ancillary products or services.[196] To make credible projections of a lower-cost guarantee's costs and benefits, the guarantor must be able to estimate the probability that consumers will incur these back-end fees. Without these projections, the guarantor will not be able to assess whether the guarantee is profitable.

At a minimum, guarantors need historic information about consumers' back-end behavior. For example, a guarantor in the credit card context will want to know the probability that credit card users will incur late charges. In many contexts, guarantors will want to make individualized assessments about the likelihood of back-end charges and target segments of a competitor's demand that are especially likely to incur high-markup back-end fees. To illustrate, when American Express considers whether to guarantee that its Green Card costs less than a traditional credit card, it would need to predict whether particular consumers were likely to pay late. The Green Card currently charges an annual fee of $95 and late fees of "[u]p to $38" and if "you do not pay for two billing periods in a row, your fee will be $38 or 2.99% of the past due amount, whichever is greater."[197] In contrast, although traditional credit card issuers charge no annual fee, their interest rates currently average about fourteen percent and are sometimes more than twenty percent.[198] American Express could not profitably guarantee that its Green Card would

195. Joseph A. Franco, *A Consumer Protection Approach to Mutual Fund Disclosure and the Limits of Simplification*, 15 STAN. J.L. BUS. & FIN. 1, 47 (2009).

196. *See, e.g.*, Dan Berthiaume, *Ashley Furniture Upgrades Retail Management with Microsoft Dynamics*, CHAIN STORAGE AGE (Mar. 21, 2014), http://www.chainstoreage.com/article/ashley-furniture-upgrades-retail-management-microsoft-dynamics.

197. *Terms, Conditions, and Disclosures*, AM. EXPRESS, https://www304.americanexpress.com/personal-card-application/terms/preferred-rewards-green-charge-card/25330-10-0/?print#terms-details (last visited Nov. 6, 2014).

198. *Chase Slate: Learn More and Apply*, JPMORGAN CHASE, https://creditcards.chase.com/slate-credit-card/learnmore-apply?S81H=FH24R8 (last visited Nov. 6, 2014) ("A variable APR of 12.99%, 17.99%, or 22.99% after the introductory period ends.").

cost less than a traditional credit card for users who never incur late fees. An absentminded cardholder with monthly charges of $10,000, however, who forgets to pay bills twice a year would be better off paying lower all-in charges for using the Green Card ($95 + $70 = $165) than in using a traditional credit card with a twenty percent APR ($10,000*2*(.2/12) = $333). The more serious informational barrier for the guarantor is attaining sufficient individualized customer information. While a guarantor can easily obtain abundant information about the back-end behavior of its own customers, it is more difficult to access high-quality information about competitors' cardholders. Nevertheless, in this digital age with rapidly growing technologies, detailed credit information is made increasingly available by private-sector providers such as FairIssacs and Experion.[199]

Furthermore, even without individualized information, guarantees against competitors can be feasibly offered. The higher the markup on back-end services, the more room there is for an all-in cost guarantee. Alternatively, guarantors can guarantee that they will charge their *average* customer less than a benchmark competitor. These benchmarks could be supported with promises to pro rata rebate revenues if the guarantee of average all-in cost savings failed. Guarantors who cannot attain each consumer's back-end pricing risk at least know that their average consumer, or even a supermajority of their consumers, will have lower all-in costs. Such guarantees would be easier to implement in some cases, but might be less salient to individual consumers.

Structurally, this problem of consumer prediction leads to an adverse selection concern. Guarantees are a species of cost insurance. The guarantor, as the insurer, often wants to offer insurance to only certain consumer types, and this, in some cases, may make implementing consumer guarantees challenging in some market contexts where they would otherwise seem useful. Somewhat surprisingly, the other traditional insurance obstacle—moral hazard—often militates in favor of lower-cost guarantees.[200] The consumer who switches to a guaranteed service, which has lower back-end fees than the original benchmark service, is more likely to incur such charges because of the lower fees. Our absentminded credit card holder who was incurring credit charges of $167 for each late monthly payment is likely to defer payment, if she only has to pay a $38 fee. Even though the isolated impact of the guarantee is to make the consumer less likely to incur late fees, that effect is likely to be eclipsed by the impact of lower back-end contingent charges faced by the consumer. The guarantee takes the consumer's observed behavior as given and asks whether that behavior would have subjected the consumer to larger

199. *See* AYRES, *supra* note 191, at 144.

200. Adverse selection and moral hazard are often described as problems of hidden information. *See* ERIC RASMUSEN, GAMES AND INFORMATION: AN INTRODUCTION TO GAME THEORY 192–93 (3d. ed. 2001). These dual insurance concerns were not at issue with the improved mutual fund performance guarantees, because investor types and investor behavior do not influence that probability that the insurance will need to be paid.

charges. It does not evaluate what the consumer's total charges would have been, if he or she had actually been subject to higher back-end fees.[201]

Stepping back, we see that the improved performance guarantee as applied to back-end pricing will be more prevalent if:

1. non-price competition between the guarantor's products or services and those of the benchmark is muted;
2. back-end charges prevent consumers from identifying the lower all-in-price;
3. the guarantor can identify what the benchmark back-end charges would have been given a consumer's observed behavior; and
4. before making the guarantee, the guarantor can credibly predict the likelihood that a consumer will incur particular kinds of back-end fees.

Nonetheless, these conditions are not always satisfied. In our motivating example regarding credit card cost guarantees, the "consumer prediction" problem, which creates adverse selection concerns, remains a non-trivial obstacle to implementation. Our American Express example, however, also exemplifies the huge potential for lower-cost guarantees to improve competition. Credit card issuers like American Express face enormous difficulty in communicating the potential cost savings of their charge cards.[202] To illustrate, a consumer with biased preferences in favor of traditional credit cards is bound to ask, "Why should I pay a $95 annual fee when I can obtain a card that charges me nothing as long as I pay on time?" The answer to that question, as aforementioned, is that an *ex ante* guarantee simplifies consumers' choices, giving the consumer a credible signal that the charge card will have a lower all-in price notwithstanding it's higher up-front annual fee. The consumer no longer needs to assess the probability of missing a future payment and paying a substantial late fee penalty, because the guarantee, in a sense, outsources the computation.

B. Applications to Financial, Travel, Rental, and Service Transactions

Although we have used credit card and cellphone service contracts as our motivating examples, the potential beneficial use of lower-cost guarantees extends to a wide variety of relational contracts, in which

201. One might imagine guarantee contracts that leverage this moral hazard in ways that deceive consumers. For example, an unscrupulous issuer might offer a charge card to the absent-minded consumer with an annual fee of $1000 and a late fee of *minus* $10 for paying thirty-days late—guaranteeing the card to have lower costs than consumer's current twenty percent APR credit card. Because the guaranteed card perversely pays the consumer to be late, the guarantor might expect the consumer to be late almost every month—and this change in behavior would expose the consumer to very high interest charges, and hence make the guarantee worthless. The consumer is gulled into switching to the guaranteed, because one thinks they will have lower overall cost without taking into account the impact of their changed behavior.

202. *See* David S. Evans & Richard Schmalensee, *The Industrial Organization of Markets with Two-Sided Platforms* 3 COMPETITION POL'Y INT'L 151, 157 (2007).

consumers' cash flow of payments extend over time. Here, we briefly discuss four of these different classes of contracts—financial, transportation, rental, and service contracting—where the prevalence of contingent back-end charges creates the potential for beneficial use of the lower-cost guarantee.

Many different consumer credit transactions have cognitively hidden back-end charges, including late fees and interest rate penalties.[203] Auto loans, payday loans, student loans, first and second lien mortgages, lines of credit, and rent-to-own transactions all share the core characteristic of extended, contingent consumer payments over time.[204] Consumers also enter financial arrangements with implicit lending instead of borrowing that have analogous back-end fees. Thus, the size of ongoing management fees on whole-life insurance, annuities, and trust accounts can massively impact the relative performance of these financial products.[205]

Consumer travel represents an arena where back-end pricing problems have become particularly prevalent.[206] As mentioned above,[207] online comparison service providers such as Kayak and Expedia tend to focus narrowly on front-end prices when ranking products.[208] Even if its all-in price is lower, a competitor who lowers its back-end charges by

203. Paul Sisolak, *7 Secrets Credit Card Companies Don't Want You to Know*, U.S. NEWS & WORLD REP. (Aug. 14, 2014, 8:54 AM), http://money.usnews.com/money/blogs/my-money/2014/08/14/7-secrets-credit-card-companies-dont-want-you-to-know.

204. *See* Ben Apple, *Differences Between a Home Equity Line and a Second Mortgage*, REALTOR.COM, http://www.realtor.com/home-finance/homebuyer-information/differences-between-a-home-equity-line-and-a-second-mortgage.aspx?source=web (last visited Nov. 6, 2014) (describing how mortgage liens deserve careful consideration when assessing ability to repay the loan); Tony Guerra, *What Does Rent-to-Own Mean?*, HOME GUIDES, http://homeguides.sfgate.com/rent-to-own-mean-8462.html (last visited Nov. 6, 2014) (discussing the pros and cons of renting-to-own); *How Do I Pay Back My Personal Line of Credit?*, CONSUMER FIN. PROTECTION BUREAU, http://www.consumerfinance.gov/askcfpb/911/how-do-i-pay-back-my-personal-line-credit.html (last updated Sept. 4, 2012) (describing the best way to pay back personal lines of credit); *Payday Loans*, FED. TRADE COMM'N, http://www.consumer.ftc.gov/articles/0097-payday-loans (last visited Nov. 6, 2014) (detailing payday loan finance charges and annual percentage rates); *Repayment Plans*, FED. STUDENT AID, http://www.direct.ed.gov/RepayCalc/dlindex2.html (last updated Nov. 6, 2013) (detailing the different student loan payment plans); *Understanding Vehicle Financing*, FED. TRADE COMM'N, http://www.consumer.ftc.gov/articles/0056-understanding-vehicle-financing#terms (last visited Nov. 6, 2014) (describing the two financing options for auto-loans).

205. *See* Paul Sullivan, *Getting the Full Picture on Annuities and Insurance*, N.Y. TIMES, May 10, 2013, http://www.nytimes.com/2013/05/11/your-money/getting-the-full-picture-on-annuities-and-insurance.html?pagewanted=all&_r=0; *Revocable Trusts: Advantages, Disadvantages, and Myths*, FIDUCIARY TRUST INT'L (Mar. 2007), http://fiduciarytrust.com/news/trust-and-tax-perspectives/revocable-trusts.html.

206. Caroline Mayer, *8 Ways to Combat Outrageous Hidden Travel Fees*, NEXT AVENUE (June 13, 2014), http://www.nextavenue.org/blog/8-ways-combat-outrageous-hidden-travel-fees.

207. *See supra* notes 23–27 and accompanying text.

208. It would, of course, be possible to include such prices in the search results, so why not just build a better search engine that highlights back end prices? Stated more broadly, why can't enhanced disclosure resolve these issues? In one sense, guarantees play a disclosure-like role in increasing the salience of certain back end terms. But guarantees can also be effective when consumers systematically fail to anticipate their own future behavior: how often they will make late payments or decide to pack an extra bag, for example. In these instances guarantees may induce switching, even with respect to salient terms. Moreover, guarantees function through competition, while disclosure often requires mandates.

raising its front-end prices would be ranked lower and lose price-sensitive consumers.[209] This front-end price competition has induced airlines, for example, to exclude an increasing number of amenities from basic travel packages.[210] As a result, air travelers oftentimes encounter separate charges for meals,[211] checked baggage,[212] extra leg room,[213] headsets,[214] and cancellation insurance.[215] Similarly, hotels are gaining an increasing proportion of their revenues from ancillary back-end charges on every service, from Internet,[216] safe,[217] and gym access[218] to a growing array of in-room items for sale.[219] Likewise, car rental companies compete by offering lower front-end prices and then earning back the difference with back-end charges such as for gas (pre-paid or failing to refill tank)[220] and insurance (prepaid or failing to return without scratches).[221] In all these contexts, the lower-price guarantee potentially gives the competitor a mechanism to reduce the front-end pricing distortion and to communicate to consumers that they have a lower-cost service.

Hotels and car rental companies are also examples of how rental markets necessarily involve cash flows of periodic consumer payments that create the opportunity for back-end pricing distortions. While video rental stores are disappearing, they provide another illustration of the application of lower-price guarantees. At one point, Blockbuster received twenty-five percent of its revenues from late fees. Because of self-serving biases and related cognitive distortions, there is a strong possibility that consumers may have underestimated the likelihood of having to pay these late fees. Indeed, the competitive success of Netflix's pricing

209. *See supra* notes 23–27 and accompanying text.

210. *See, e.g.*, Megan McArdle, *Even Less to Like About Flying Coach*, WASH. MONTHLY (May 15, 2014, 9:43 AM), http://www.washingtonmonthly.com/ten-miles-square/2014/05/even_less_to_like_about_flying050356.php; Thom Patterson, *Airline Squeeze: It's Not You, 'It's the Seat,'* CNN (June 1, 2012, 9:35 AM), http://www.cnn.com/2012/05/30/travel/airline-seats/.

211. *See, e.g.*, *Airline Fees*, KAYAK.COM, http://kayak.com/airline-fees (last visited Nov. 6, 2014) (listing the fees that all major airlines charge separate from the ticket price).

212. *See, e.g.*, *id.*

213. *See, e.g.*, *id.*

214. *See, e.g.*, *List of Airline Charges for Domestic Flights*, OPEN TRAVEL INFO, http://www.opentravelinfo.com/area/uncategorized/complete-list-new-airline-charges-domestic-flights.html (last updated July 1, 2010) (listing the fees for all major domestic airlines).

215. *See, e.g.*, *Trip Insurance*, UNITED AIRLINES, http://www.united.com/CMS/en-US/products/travelproducts/Pages/TripInsurance.aspx (last visited Nov. 6, 2014) (describing United Airline's additional trip insurance option).

216. *See* Sarah Schlichter, INDEPENDENTTRAVELER.COM, http://www.independenttraveler.com/travel-tips/hotel-and-b-and-b/hidden-hotel-fees (last visited Nov. 6, 2014) (describing typical hidden back-end charges by many hotels and how to avoid incurring these charges).

217. *See id.*

218. *See id.*

219. *See id.*

220. *See Hidden Car Rental Costs*, INDEPENDENTTRAVELER.COM, http://www.independenttraveler.com/travel-tips/car-travel/car-rental-hidden-costs (last visited Nov. 6, 2014) (describing the additional costs of renting a car that are not listed in initial price of the rental vehicle); *see also* Geoff Williams, *The Hidden Costs of Rental Cars*, U.S. NEWS & WORLD REP. (Feb. 4, 2014, 4:03 PM), http://money.usnews.com/money/personal-finance/articles/2014/02/04/the-hidden-costs-of-rental-cars (discussing how the quoted price for a rental car is almost never what an individual will end up paying because of the hidden fees not contained in the initial quote).

221. *See Hidden Car Rental Costs*, *supra* note 220; *see* Williams, *supra* note 220.

model, which includes an all-in upfront price without late fees, implies the potential power of all-in cost guarantees in other rental contexts. Long-term car or home leases are additional examples. Furthermore, retirement and assisted living markets create an especially fruitful "rental" context where lower-cost guarantees can aid consumers in making more cost-effective choices. Such industries often offer either "life estates" with higher upfront charges and lower back-end charges or rental options with higher back-end charges.[222] Because seniors are often anxious about paying the higher front-end price, a "life estate" offer is more marketable, if it guarantees that the average consumer pays a lower all-in amount and promises prorated rebates, if the guarantee fails.

Finally, there are a host of consumer service transactions that combine a durable product with an extended service contract. Satellite dish and cable contracts garner substantial proportions of their revenue from back-end contingent pricing.[223] Electronic readers such as the Kindle or Nook charge a mixture of upfront and back-end prices.[224] Barnes and Noble can promise that the all-in cost of using the Nook is cheaper than using the Kindle, and then make a book-by-book calculation of what the cost would have been.[225] Assured a better overall deal, consumers are more likely to take the plunge and invest in the durable good. Another classic antitrust concern with durable goods is that the dominant manufacturer of, say, copiers will cut prices to sell their machines and then charge supracompetitive prices in the aftermarket for toners and paper.[226] One legal reaction has been to increase competition in the aftermarket sales by prohibiting tying of toner or paper sales.[227] The all-in lower price guarantee represents an alternative means to enhancing competition by giving competitors with tied back-end products the ability to credibly commit *ex ante* to more competitive pricing *ex post*.

VII. CONCLUSION

This Article has shown that improved performance guarantees have potential to enhance the competitive performance of a wide variety of markets. With particular emphasis on mutual funds, credit cards, and

222. *See, e.g.*, *About Continuing Care Retirement Communities*, AARP, http://www.aarp.org/relationships/caregiving-resource-center/info-09-2010/ho_continuing_care_retirement_communities.html (last visited Nov. 6, 2014); Reva Minkoff, *New Models for Assisted Living Provide More Affordable Care*, REVERSE MORTGAGE DAILY (Dec. 28, 2009), http://reversemortgagedaily.com/2009/12/28/new-models-for-assisted-living-provide-more-affordable-care/.

223. *See* Amadou Diallo, *Cable TV Model Not Just Unpopular but Unsustainable*, FORBES (Oct. 14, 2013, 9:05 AM), http://www.forbes.com/sites/amadoudiallo/2013/10/14/cable-tv-price-hikes-unsustainable/.

224. Geoffrey A. Fowler, *Price Cuts Electrify E-Reader Market*, WALL ST. J., June 21, 2010, http://online.wsj.com/news/articles/SB10001424052748704895204575320662842012510.

225. For books that are available on the Nook, but not the Kindle, the guarantee might specify some default benchmark price or a formula based on the average Kindle book price.

226. Severin Borenstein et al., *Antitrust Policy in Aftermarkets*, 63 ANTITRUST L.J. 455, 469–70 (1995).

227. Bruce H. Kobayashi, *Spilled Ink or Economic Progress: The Supreme Court's Decision in* Illinois Tool Works v. Independent Ink, 53 ANTITRUST BULL. 5, 23 (2008).

cellphone contracting, our analysis has focused on establishing that improved performance guarantees can meet the individual participation constraints of the guarantor on one hand and of the consumer on the other. We illustrate how improved performance guarantees can be profitably offered by a guarantor (and valued, notwithstanding the sharing of upside return, by the consumer or investor). We conclude that such guarantees are economically feasible because they can produce joint gains of trade.

But the law-reform impetus for facilitating such guarantees stems from their probable impact on market competition. Improved performance guarantees are likely to put enhanced, targeted pressure on the least competitive suppliers. High-fee mutual funds will be singled out by guarantees. Guarantees can improve market performance even for consumers and investors who do not avail themselves of the guarantee protection. For example, some mutual fund holders, hearing of the guarantee, will prefer to switch to the low-fee fund and capture one-hundred percent of the upside in relative return. Moreover, mutual fund or retail investors who have not heard of the investment might benefit from mutual fund guarantees, because the guarantees are likely to make the pricing behavior of benchmark funds more competitive. Indeed, even the threat of guarantees may be sufficient to deter some back-end pricing abuses.

If improved performance guarantees enhance the gains of trade of both buyers and sellers, why are they not already offered in competitive markets? We end with two alternative answers that concern technology and law. First, it is possible that technological barriers to automatically calculating and rebating guarantee amounts loom larger than expected. A cellphone company that wants to implement a lower all-in cost guarantee would have to expend a nontrivial amount for keeping track of its competitors' charges and applying the consumers' observed behavior to these hypothetical charges. To the extent that competitors' charges are contingent on aspects of consumer behavior not captured in the guarantor system, the guarantor would need to start monitoring and analyzing additional variables. Technological advances in capturing and automatically analyzing data, however, are likely to make improved performance guarantees more feasible from this transaction-cost perspective. Just as the real-time crunching of large datasets allows websites like Kayak to search and rank terabytes of data to produce rankings based on front-end prices,[228] the ability of guarantors to automate real-time crunching of back-end benchmark charges is likely to make the calculation of improved performance guarantees increasingly feasible. Technological barriers may provide one reason why improved performance guarantees have not existed in the past, but programming and computing innova-

228. *See generally* Michelle Higgins, *Sites that Do Your Fare Digging*, N.Y. TIMES, Feb. 16, 2010, http://www.nytimes.com/2010/02/21/travel/21Prac.html?_r=0 (comparing the pricing results and pricing adjustments of several meta-search sites).

tions may create an opportunity for them in the future.[229] The reduced transaction costs in offering improved performance might mean that lawmakers can sit back and wait for laissez-faire competition to beneficially disrupt these markets.

An alternative hypothesis is that the law is impeding improved performance guarantees from being offered. This is especially true with regard to guarantees offered by financial intermediaries. As discussed above in Part IV,[230] the IAA bars performance-based mutual fund fees in many circumstances, leaving fulcrum fees as the only exception. There is substantial uncertainty whether improved performance guarantees could fit within the fulcrum exception. The simplest legal reform might be a no-action letter from the SEC making clear the legality of issuing new classes of guaranteed funds. Law reforms that facilitate first-party and third-party implementation (via guaranteed funds and stand-alone guarantees) and that assure that the guarantees are credible could spark a new form of beneficial competition. It is an open secret among savvy financial intermediaries that certain mutual funds and retirement plans charge excessive fees. Facilitating "improved performance" competition would allow smart money to drive the worst actors from the marketplace.

229. AYRES, *supra* note 191, at 19 (describing how the reduced cost of capturing storing and manipulating digital data has spurred revolution in predictive analytics).

230. *See generally*, *supra* Part IV.