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Beyond Diversification: The Pervasive Problem of Excessive Fees and "Dominated Funds" in 401(k) Plans

ABSTRACT. Notwithstanding ERISA's fiduciary requirements, a significant portion of 401(k) plans establish investment menus that predictably lead investors to hold high-cost portfolios. Using data from more than 3,500 401(k) plans with more than $120 billion in assets, we provide evidence that fees and menu restrictions in an average plan lead to a cost of seventy-eight basis points in excess of index funds. We also document a wide array of "dominated" menu options, which we define as funds that make no substantial contribution to menu diversity but charge fees significantly higher than those of comparable funds in the marketplace. We argue that courts should read existing fiduciary-duty law to challenge plans that imprudently include high-cost or dominated options, even if other options are available in the plan menu. But because heightened fiduciary duties are unlikely by themselves to solve the problem of excess fees and dominated funds, we also propose three additional structural reforms. We argue that low-cost default options be made universally available, that investors be permitted to roll assets out of designated high-cost plans, and that participants be required to demonstrate financial sophistication before investing in higher-cost funds.

ARTICLE CONTENTS

INTRODUCTION

Participant-directed defined-contribution retirement plans are now the primary private savings vehicle for most Americans' retirement.[1] Defined contribution plans hold more than $4.4 trillion of workers' retirement savings.[2] The bulk of assets in these accounts is invested in professionally managed financial products – mutual funds and similar structures – in which investors pool funds and pay a percentage of invested assets for professional portfolio management services. For many plan participants, welfare in retirement – and even the ability to retire – hinges on the performance of the mutual funds in their retirement portfolios. With the first wave of workers of the 401(k) era now retiring, the success of private retirement plans presents a policy question of enormous economic significance.

These 401(k) plans have been the subject of heavy criticism on a number of fronts. Some critics have argued that professional pension fund managers have substantial advantages over individual employees in managing investment accounts.[3] Others have pointed to the advantage of the compulsory savings aspect of defined-benefit plans in ensuring that participants save enough to retire.[4] Still others have pointed to the tendency of employees to concentrate holdings in their own company's stock, despite the risk of under-diversification.[5] And 401(k) plans have been criticized for exposing participants to the vicissitudes of the market,[6] especially in the aftermath of the financial crisis.

The early evidence suggests that some of these criticisms have merit. It appears that most workers have insufficient savings for retirement.[7] An extensive

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1. *See infra* Part I.A.

2. *BrightScope/ICI Defined Contribution Plan Profile*, INV. CO. INST. & BRIGHTSCOPE (Dec. 2014), http://www.ici.org/pressroom/news/ret_10_q4 [http://perma.cc/9UQG-Q32S].

3. Richard L. Kaplan, *Enron, Pension Policy, and Social Security Privatization*, 46 ARIZ. L. REV. 53, 83 (2004) ("[M]ost employees have neither the training, the interest, nor the desire to become competent money managers . . . . It is hardly surprising, therefore, that individually managed retirement accounts perform more poorly than professionally managed accounts, often by significant margins.").

4. *See, e.g.*, Edward A. Zelinsky, *The Defined Contribution Paradigm*, 114 YALE L.J. 451, 460-62 (2004).

5. *See, e.g.*, Shlomo Benartzi, *Excessive Extrapolation and the Allocation of 401(k) Accounts to Company Stock*, 56 J. FIN. 1747 (2001).

6. *See, e.g.*, Henry H. Drummonds, *The Aging of the Boomers and the Coming Crisis in America's Changing Retirement and Elder Care Systems*, 11 LEWIS & CLARK L. REV. 267, 270-71 (2007).

7. E.S. Browning, *Retiring Boomers Find 401(k) Plans Fall Short*, WALL ST. J., Feb. 19, 2011, http://online.wsj.com/news/articles/SB20001424052748703959604576152792748707356

economic literature has revealed that employees make predictable mistakes in allocating retirement portfolios, suggesting that putting untrained workers in charge of managing their retirement portfolios comes at a significant cost.[8] Individual instances of retirement plan disasters, such as the collapse of Enron and the resulting devastation of many employees' 401(k) portfolios, vividly illustrate the risks of employee-directed retirement accounts.[9] Another line of criticism has focused on the costs to employees of managing their 401(k) plans.[10] Critics have noted that many 401(k) plans include mutual funds with relatively high fees.[11] Since investors in retirement plans are limited to choosing from the menu offered by their employers, high-cost funds in the menu can greatly affect the performance of a retirement account. The stakes are high: reforms that reduce fees incurred by investors by only ten basis points on average would save more than $4.4 billion annually, and these savings compound over the course of investors' careers.[12]

The complex web of statutes and regulations that govern 401(k) plans, however, does afford employees some protection from these risks. The employer sponsors of plans are held to a fiduciary duty to serve the interests of employees, and suits alleging breaches of this duty are not uncommon.[13] For better or worse, these suits are the primary means by which plan participants can protect themselves against inadequate plan menu offerings by their employers. But this regime of fiduciary duties runs up against an important limit: employers whose menus meet certain requirements have a safe harbor against fiduciary claims when losses result from decisions made by plan participants.[14] Some courts have interpreted this safe harbor broadly, sharply limiting the viability of fiduciary claims against employers who sponsor poor 401(k) menus.[15]

[http://perma.cc/4VCF-XQ5N] (reporting that only 8% of households headed by an individual aged sixty to sixty-two had sufficient 401(k) assets to fund retirement).

8. See infra Part II.B.

9. See James M. Poterba, Employer Stock and 401(k) Plans, 93 AM. ECON. REV. 398 (2003) (discussing the impact of the Enron collapse and proposing policy solutions directed at reducing employee risk).

10. See infra Part I.A.2.

11. See, e.g., James Kwak, Improving Retirement Savings Options for Employees, 15 U. PA. J. BUS. L. 483, 483 (2013).

12. According to Investment Company Institute (ICI), 401(k) plans currently hold $4.4 trillion in assets. Frequently Asked Questions About 401(k) Plans, INV. CO. INST., http://www.ici.org /policy/retirement/plan/401k /faqs_401k [http://perma.cc/DR5Z-2LTL]. A reduction in expenses of ten basis points (0.1%) would reduce total expenses by $4.4 billion.

13. See infra Part I.B.

14. See infra Part I.B.

15. See infra Part I.C.

As a result, employers are often immunized from liability for investor choices that lead to predictable, adverse investment consequences, notwithstanding the substantive shortcomings of menu construction described in this Article.

This Article makes four contributions. First, drawing on our proprietary dataset on 401(k) plan menus from the 2010 plan year and mutual fund data from 2003 through 2013, we present empirical findings with implications for the policy debate over 401(k) plans.[16] We show that the primary problem for investors in 401(k) plans is not loss due to lack of diversification, but loss due to excessive fees. On average, 401(k) menus in our sample provide investors sufficient options to diversify, but investors in many plans bear costs well in excess of retail index funds – and these costs are unlikely to be fully mitigated by returns. In addition to the excess fees imposed on investors by high-cost menu options, many investors incur costs by making cost-inefficient choices from the available menu. Overall, we find that investors in an average plan suffer a cost that is seventy-eight basis points higher than the costs associated with retail index funds. We also estimate that fees are so high in 16% of analyzed plans that they consume the tax benefits of investing in a 401(k) for a young employee. Importantly, the observed costs do not appear to be due to economies of scale; we find substantial variation in total costs over plans of similar size. These results put the policy spotlight squarely on the problem of fees in reducing investor returns.

Second, we show that many plans effectively create traps that set up investors to fail. In particular, we show that many menus include *dominated funds*. We define dominated funds as choices in the plan menu that have an optimal portfolio weight of less than 1% and that are more than fifty basis points more expensive than either (i) funds in the same style[17] offered in the menu or (ii) an average of similarly styled funds in the marketplace.[18] These funds are unusually expensive, even compared to funds that offer similar investment exposure. The requirement that the funds have low portfolio weight suggests that these costs are not offset by additional diversification, and we demonstrate that dominated funds have substantially underperformed between 2010, the date on which we measure dominance, and 2013. We find that more than half of the plans we studied offer at least one dominated fund. It is well established that some investors naïvely diversify by spreading their plan investments across all fund offerings.[19] As a result of the naïve diversification strategy, unsophisticated investors often invest in dominated funds when they are offered.

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16. *See infra* Part II.A.

17. We classify funds based on the Morningstar style categories.

18. *See infra* Part II.B.1.

19. *See infra* Part II.B.2.

Third, our empirical insights suggest an important deficiency in the current judicial approach to 401(k) plans. Courts have been reluctant to analyze the substantive reasonableness of fees or menu offerings, focusing instead on whether plan sponsors follow certain procedural requirements, such as periodically considering alternative investment advisors or other service providers. Courts' review of the substance of menu offerings is normally limited to evaluating whether the menu contains diverse offerings. So long as a plan provides *some* attractive options for investors, courts will generally not find the sponsor in breach of fiduciary duties. While this approach to adjudicating menus, known as the "large menu defense," has some statutory support, we argue that it is profoundly flawed as a normative matter. Courts reasonably eschew basing liability on after-the-fact outcomes. But by focusing on process over the substantive reasonableness of the plan's fees or of individual high-cost funds, courts have unwittingly allowed self-interested service providers to construct plan menus with dominated, high-fee options. These options predictably lead to investor decisions that benefit fund managers at investors' expense.

We suggest adjustments to the jurisprudence of 401(k) fiduciary duties to help address the issue of high costs in plans. Even if the standard for liability were refined as we suggest, however, it is unlikely that fiduciary duties alone could address the problems with 401(k) plans. Enforcement of these fiduciary duties relies on plaintiffs' attorneys, but only the largest and most egregious plans present profitable litigation opportunities (even if the standard were adjusted as we suggest). Nor is public enforcement of fiduciary duties likely to be sufficient to address a problem that is a matter of widespread overcharging, rather than a result of a small number of highly abusive plans. While public and private enforcement can address particularly egregious fiduciary breaches, private litigators lack the incentives, and public enforcers lack the resources, to police widespread practices.

Fourth, we develop three policy proposals that would supplement fiduciary duty litigation in creating an incentive for plan administrators to offer high-quality menus to plan participants. Consistent with our empirical findings, the proposals are designed to put fee reduction at the center of 401(k) regulation. There has been a gradual decline in 401(k) plan fees from very high levels, likely due to increased attention to fees among plan providers and competition among service providers, particularly for the business of large plans.[20] An improved regulatory framework, however, could put additional downward pressure on fees—pressure that will influence small plans as well as large ones.

First, we suggest that the current Qualified Default Investment Alternative (QDIA) regulations, which permit plans to default investors into diversified

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20. *See infra* notes 101-105 and accompanying text.

funds, should be modified in two ways. These regulations ought to be adjusted to ensure that the default funds are low cost, and, further, that at least one low-cost default fund is made a universal feature of plans. Under our proposal, default investments would be held to strict standards to ensure they are low-cost (in addition to the standards of the current regulations, which focus on non-cost aspects of the qualified default). Promoting low-cost default options is critical because many investors never opt out of the default.

Second, we do not believe that investors in high-cost plans should incur tax penalties, which under current law are substantial, for early withdrawal to roll over to a lower cost individual retirement account (IRA). We propose that plans be officially designated as "high-cost plans" if participants incur fees that exceed a regulatory threshold. All investors in high-cost plans should be able to roll over their investments on an ongoing basis into an IRA. Simply labeling certain plans "high-cost" is likely to influence fiduciaries' and advisors' behavior by signaling to plan sponsors that their plan is not serving participants well. And the rollover option would provide employees trapped in high-cost plans with an opportunity to invest in an array of low-cost IRA accounts.

Third, and most unconventionally, we propose creating surmountable barriers for investors who wish to opt out of funds that meet the low-cost default standard. Investors who wish to allocate more than a specified percentage of their portfolio away from the default fund will need either to act under the advice of a financial professional or demonstrate financial competence by passing a financial literacy test. This test will be designed to assure that the investor has some familiarity with the primary concerns of retirement investing. This proposal, based on recent work on altering rules,[21] will provide flexibility to sophisticated investors, while protecting unsophisticated investors with a vetted, low-cost default option.[22] While imposing obstacles to reallocation may strike some as paternalistic, our barriers actually reduce the probability of mistaken allocative choices and therefore foster informed autonomy. Moreover, our educated-choice proposal is far less paternalistic than the traditional defined-benefit pension, which prohibits any alternative investment choices.

In short, we argue strongly against the current fixation on robust choices as a cure for the problems of 401(k) plans by shifting the focus of 401(k) regulation to fees and deemphasizing fiduciary standards in favor of a regulatory scheme that acknowledges the real incentives and limitations of plan sponsors,

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21. Ian Ayres, *Regulating Opt-Out: An Economic Theory of Altering Rules*, 121 YALE L.J. 2032 (2012).

22. *See* Ryan Bubb & Richard H. Pildes, *How Behavioral Economics Trims Its Sails and Why*, 127 HARV. L. REV. 1593, 1598-99 (2014) (emphasizing the importance of well-vetted defaults and the problems of no-cost opt outs).

investors, and service providers. It is inconsistent with the legal status of plan sponsors as fiduciaries to argue that a plan menu that predictably induces participants to make choices that are bad for their retirement future, but good for mutual fund managers, is defensible simply because the menu also includes better options. While we are skeptical of the capacity of fiduciary duties alone to resolve the problems in 401(k) plans, our policy proposals are nevertheless grounded in sponsors' fiduciary obligations.

The remainder of this Article proceeds as follows. Part I provides background on 401(k) plans, the current regulatory regime, and critiques of participant-directed, defined-contribution accounts. Part II presents our empirical findings regarding the welfare of participants in 401(k) plans and presents our argument that fees are the central regulatory issue in improving retirement outcomes. Part III critiques the current regulatory regime as ill-suited to combatting the problems we identify because it focuses on diverse menus and processes; instead, we argue that the primary problem facing 401(k) plans is excess fees. Part IV presents our proposed reforms.

I. DEFINED-CONTRIBUTION RETIREMENT PLANS, THEIR REGULATION, AND CRITIQUES OF THE SYSTEM

A. Background

1. An Overview of 401(k) Plans

The last three decades have seen a marked shift from pension plans, which guarantee a defined retirement benefit for life, to defined-contribution plans, in which employees save for retirement through contributions to tax-advantaged retirement accounts.[23] In defined-contribution plans, such as 401(k) plans, the payout at retirement is not fixed; it depends on the amount of employee and employer contributions and the return the employee is able to obtain on invested funds. In a typical employee-directed, defined-contribution 401(k) plan, an employee will elect to deduct a portion of his income on a pre-tax basis to be deposited into an account maintained by a trustee on behalf of

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23. *See* Richard A. Ippolito, *Toward Explaining the Growth of Defined Contribution Plans*, 34 IN-DUST. REL. 1 (1995) (calculating that defined-contribution plans were the primary type of plan in 17% of the market in 1979 and in 34% of the market by 1988); DEFINED CONTRIBU-TION PLAN DISTRIBUTION CHOICES AT RETIREMENT: A SURVEY OF EMPLOYEES RETIRING BE-TWEEN 2002 AND 2007, INV. CO. INST. 3 (2008), http://www.ici.org/pdf/rpt_08_dcdd.pdf [http://perma.cc/65JV-WWUE] (citing a nearly fourfold increase in defined-contribution plan participation versus a 10% increase in defined-benefit plan participation between 1980 and 2005).

the employer.[24] Contributions to the account are tax free below a specified lim-it, as are employer matching contributions. The employee then invests the de-posited funds in a portfolio chosen from a menu of funds selected by the em-ployer, which grows tax free.

The most common type of investment options in 401(k) plans are mutual funds or similar investment vehicles that pool funds managed by a professional fund manager.[25] The menu of mutual funds from which employees choose is ultimately constructed by the employer, though the actual assembly of the menu is often done in consultation with plan service providers.[26] There is a siz-able industry that provides employers guidance on structuring their 401(k) plans and maintaining records on the plans. Employers aim to provide a range of investment options that meet the needs of employees with distinct risk toler-ances or time horizons. A nearly retired employee needs more conservative in-vestment options than an employee just starting a career, for example. Provid-ing varied options enables reasonably sophisticated investors to adjust their risk exposure.

A typical 401(k) menu provides around fourteen investment options.[27] In addition, many plans also provide access to a broad universe of mutual funds and even individual securities through a brokerage window.[28] Brokerage win-dows allow investors to allocate a portion of the retirement portfolio into a sep-arate account within the 401(k), which then has access to thousands of mutual funds offered through a fund "supermarket." For this privilege, the investor is usually charged an additional fee on money allocated to the brokerage window.

Administration of retirement plan assets is a costly activity. Plans must make annual filings, which may include audited financial information.[29] Main-taining plan records and handling contributions to the plan also generate ex-penses. Companies typically outsource these tasks to one or more service pro-

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24. KEITH CLARK, THE DEFINED CONTRIBUTION HANDBOOK: AN INSIDE GUIDE TO SERVICE PRO-VIDERS & ADVISORS (2003).

25. Sarah Holden et al., *401(k) Plan Asset Allocation, Account Balances, and Loan Activity in 2012*, 19 ICI RES. PERSP., Dec. 2013, at 1, 21, http://www.ici.org/pdf/per19-12.pdf [http://perma .cc/3NA7-2UX8].

26. These professionals are often collectively referred to as plan service providers. *See* CLARK, *supra* note 24.

27. Ning Tang et al., *The Efficiency of Pension Plan Menus and Individual Pension Investment Port-folios*, 94 J. PUB. ECON. 1073, 1074 (2010).

28. Nine and a half percent of the plans in our sample include brokerage windows. *See infra* Ta-ble 2.

29. *See Instructions for Form 5500*, DEP'T LAB., DEP'T TREAS. & PENSION BENEFIT GUAR. CORP. (2013), http://www.dol.gov/ebsa/pdf/2013-5500inst.pdf [http://perma.cc/NQY4-UQU5].

viders.[30] There are also expenses associated with the management of the investment funds in which plan assets are invested.

Administrative costs for plans can be recouped in several ways. Some employers pay the costs directly as part of the employees' benefits package. Other employers, as permitted by ERISA,[31] charge reasonable fees against the assets of the plan, effectively having employees bear the costs. Other plans receive administrative services without direct charges either to employers or to employees, with the costs being recouped out of the fees for the investment products offered in the plan in a practice known as revenue sharing.[32]

In addition to administrative costs at the plan level, the pooled investment accounts and mutual funds offered in 401(k) plans carry other fees. These fees are charged as a percentage of the total assets invested in the particular investment option, so that a participant choosing a certain set of investments will bear the costs associated with each option in proportion to the participant's chosen investment in that option. An employee who elects to invest in low-cost index funds, for example, will pay lower fees than an employee who invests in actively managed international funds. Employees must therefore navigate not only the appropriate portfolio for their retirement goals, but also the differential costs of options in the menu. The total cost of investing in a 401(k) plan is the total of administrative expenses charged at the plan level—a sum that may be zero in a plan that relies entirely on revenue sharing—and the costs of the options in the chosen investment menu.

2. The Controversy over Fees

An increasing number of voices have pointed out the problem of 401(k) fees and called for greater regulation.[33] James Kwak, for example, has concluded that 401(k) plans are excessively "invested in actively managed mutual funds that siphon off tens of billions of dollars in fees every year yet deliver returns

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30. Jill E. Fisch, *Rethinking the Regulation of Securities Intermediaries*, 158 U. PA. L. REV. 1961, 1984 (2010).

31. Employee Retirement Income Security Act of 1974, 29 U.S.C. § 1108(c)(2) (2012).

32. *See* U.S. GOV'T ACCOUNTABILITY OFFICE, GAO-12-325, 401(K) PLANS: INCREASED EDUCATIONAL OUTREACH AND BROADER OVERSIGHT MAY HELP REDUCE PLAN FEES 24 (2012), http://www.gao.gov/assets/600/590359.pdf [http://perma.cc/NP9A-HEWS] (describing revenue sharing).

33. John Bogle, the founder of the Vanguard Group, for years has assailed the mutual fund industry for excessive fees. *See* JOHN C. BOGLE, DON'T COUNT ON IT!: REFLECTIONS ON INVESTMENT ILLUSIONS, CAPITALISM, "MUTUAL" FUNDS, INDEXING, ENTREPRENEURSHIP, IDEALISM, AND HEROES 313-14 (2010).

that trail the overall market."[34] Scholars have described the way that cognitive biases of plan participants—including the impulse toward "naïve diversification"—might cause participants to invest some of their retirement savings in high-cost funds included in the menu.[35] Commentators have also criticized "revenue sharing" schemes, in which plan service providers offer certain administrative services, such as recordkeeping, without direct cost, but the plan includes funds in the menu that kick back part of the fees to the service provider.[36]

Scholars have offered proposals to solve the problem of excessive fees, and the federal government has begun to implement some of these proposals. For example, the Department of Labor in 2012 enhanced its 401(k) fee reporting requirements.[37] Despite this, a 2013 study found that 22% of 401(k) participants mistakenly believed that they paid no fees, and half of participants reported that they did not know how much they were paying in fees.[38] Several different groups have called for enhanced standardized disclosure of 401(k) fees. For example, the Center for American Progress has called for a "Retirement Fund Label" that would show fees "as a multiple of a benchmark of known low-fee funds."[39] Of particular importance are calls for disclosures, which would pro-

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34. Kwak, *supra* note 11, at 483.

35. Jill E. Fisch & Tess Wilkinson-Ryan, *Why Do Retail Investors Make Costly Mistakes? An Experiment on Mutual Fund Choice*, 162 U. PA. L. REV. 605, 636-38 (2014).

36. *See, e.g.*, U.S. GOV'T ACCOUNTABILITY OFFICE, GAO-11-119, 401(K) PLANS: IMPROVED REGULATION COULD BETTER PROTECT PARTICIPANTS FROM CONFLICTS OF INTEREST 1 (2011) ("[P]roviders who help sponsors to establish and maintain their plans may receive third-party payments from investment fund companies. The payments, sometimes called revenue sharing, create a conflict of interest because the provider may receive greater compensation from certain funds."). In *Tussey v. ABB, Inc.*, No. 06-04305-CV-NKL, 2007 WL 4289694 (W.D. Mo. Dec. 3, 2007), the court certified a class alleging that revenue sharing led to plan fiduciaries' ignoring the true cost of recordkeeping imposed on their employees because the cost was neither billed to the company nor evident to employees in plan financial documents.

37. For a description of the changes in the press release for the proposed regulation, see Emp. Benefits Sec. Admin., *Fact Sheet: Proposed Regulation Improving Fiduciary Disclosures to Workers in Participant-Directed Individual Account Plans*, U.S. DEP'T LAB. (July 2008), http://www.dol.gov/ebsa/newsroom/fsfeedisclosures.html [http://perma.cc/Q7Z9-FPRJ].

38. *LIMRA: Mandated Defined Contribution Fee Disclosure Does Little To Improve Participants' Knowledge*, LIMRA (Mar. 4, 2013), http://www.limra.com/Posts/PR /News_Releases/LIMRA__Mandated_Defined_Contribution_Fee_Disclosure_Does_Little _to_Improve_Participants__Knowledge.aspx [http://perma.cc/8DYS-XM9L].

39. Jennifer Erickson & David Madland, *Fixing the Drain on Retirement Savings: How Retirement Fees Are Straining the Middle Class and What We Can Do About Them*, CENTER FOR AM. PROGRESS (Apr. 11, 2014), http://www.americanprogress.org/issues/economy/report/2014/04/11 /87503/fixing-the-drain-on-retirement-savings [http://perma.cc/587S-WATW].

vide total or "all-in" descriptions of plan fees in a standardized form to permit easy cross-plan comparisons (a reform that we wholeheartedly support).[40] At the moment, plan fiduciaries are not required to disclose all-in fee information as a single standardized number, either to their participants or to the Department of Labor.[41] Beyond enhanced disclosure, commentators have called for expanding fiduciaries' substantive duties to offer lower-cost funds. For example, Kwak has recently argued that ERISA "should be reinterpreted . . . to strongly encourage employers to offer low-cost index funds in their pension plans."[42]

The issue of fees is important because a substantial body of academic and industry research suggests that high-cost funds are poor investment options. Of particular importance is work by Javier Gil-Bazo and Pablo Ruiz-Verdu showing that, among actively managed equity funds, those with high fees have worse *pre-fee* performance, meaning that high costs generally don't ensure better returns.[43] Some investors opt for costly funds in hopes of beating the market, but the number of funds that statistically outperform the market is small.[44] Moreover, performance persistence is low; a recent study found that, of the top half of funds in 2010, only 4.47% were able to stay in the top half for five years, and only 0.28% stayed in the top quarter.[45]

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40. *See, e.g.*, John A. Turner & Hazel A. Witte, *Fee Disclosure to Pension Participants: Establishing Minimum Requirements*, INT'L CENTER FOR PENSION MGMT. (Nov. 2008), http://www.rijpm .com/admin/article_files/John_Turner_Pension_Fee_Disclosure_November_2008_REVISE D_FINAL.pdf [http://perma.cc/3ZXF-YWD4]; *see also All-in Fee Report: A Sample of What Sponsors May See*, VANGUARD GRP. (Oct. 28, 2013), https://institutional.vanguard.com /VGApp/iip/site/institutional/researchcommentary/article/InvComAllInFeeReport [http:// perma.cc/X3AT-EJ76]. This proposal is well supported by the work of Fisch and Wilkinson-Ryan. *See supra* note 35 (showing that investors who receive simplified consumable fee disclosures are more likely to use information about fees in allocating their portfolios).

41. For the existing fee regulations, see 29 C.F.R. § 2550.404a–5 (2013), and Emp. Benefits Sec. Admin., *Form 5500 Series*, U.S. DEP'T LAB., http://www.dol.gov/ebsa/5500main.html [http://perma.cc/S7UY-HDDS].

42. Kwak, *supra* note 11, at 483.

43. Javier Gil-Bazo & Pablo Ruiz-Verdú, *The Relation Between Price and Performance in the Mutual Fund Industry*, 64 J. FIN. 2153 (2009); *see also* Javier Gil-Bazo & Pablo Ruiz-Verdú, *When Cheaper Is Better: Fee Determination in the Market for Equity Mutual Funds*, 67 J. ECON. BEHAV. & ORG. 871 (2008) (offering a theoretical explanation for this result).

44. *See* Laurent Barras et al., *False Discoveries in Mutual Fund Performance: Measuring Luck in Estimated Alphas*, 65 J. FIN. 179, 181 (2010) (finding that only 0.6% of funds exhibit positive alpha with a p value of less than 0.05); Mark M. Carhart, *On Persistence in Mutual Fund Performance*, 52 J. FIN. 57 (1997).

45. Aye M. Soe, *Does Past Performance Matter? The Persistence Scorecard*, S&P DOW JONES INDICES 3, Exhibit 2 (June 2014), http://www.spindices.com/documents/spiva/persistence -scorecard-june-2014.pdf [http://perma.cc/T3M7-MXST]. A recent working paper provides

While persistent over-performance is rare and difficult to predict, fees are relatively transparent and tend to persist.[46] This state of affairs has led many to recommend that investors opt for only low-cost index funds in their portfolio. If investors were to do so, they would forgo the market-beating potential of active management in exchange for low-cost exposure to market risk.[47] Within the mutual fund industry, the debate over the merits of active management remains an active one.[48] Without settling this debate, it is sufficient for our purposes to point out that holding funds with very high fees tends to have a significant, persistent, and negative impact on investor returns. This premise motivates the policy proposals detailed in Part IV, which would give investors options to avoid high costs and would nudge investors toward low-cost funds. These reforms, however, would not bar actively managed funds and would even permit low-cost active funds as default options.[49]

B. *Plan Sponsor Fiduciary Duties and the 404(c) Safe Harbor*

The 401(k) and similar retirement plans are regulated by the Department of Labor under the Employee Retirement Income Security Act of 1974 (ERISA).[50] Under ERISA, plan sponsors who manage the plan or exercise discretionary authority over the plan's assets are fiduciaries and are required to exercise control solely in the interest of plan participants.[51] The standard of review for fiduciary decisions is drawn from trust law and requires that fiduciaries act with

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a more comprehensive review of this extensive literature. Jason P. Berkowitz et al., *Characteristics of Persistence in Mutual Fund Performance* (2013), http://belkcollegeofbusiness.uncc .edu/dashapir/HotHandFinal.pdf [http://perma.cc/9S7Q-QVCH].

46. *See, e.g.*, Kwak, *supra* note 11, at 495 (making a similar point).

47. *See, e.g.*, JOHN C. BOGLE, THE LITTLE BOOK OF COMMON SENSE INVESTING: THE ONLY WAY TO GUARANTEE YOUR FAIR SHARE OF STOCK MARKET RETURNS (2007); Burton G. Malkiel, *You're Paying Too Much for Investment Help*, WALL ST. J. (May 28, 2013), http://online .wsj.com/articles/SB10001424127887323475304578502973521526236 [http://perma.cc/46NQ -BM2W]; Jia Lynn Yang, *Warren Buffett Reveals the One Stock Fund You Need To Invest In*, WASH. POST: WONKBLOG (Feb. 24, 2014), http://www.washingtonpost.com/blogs /wonkblog/wp/2014/02/24/warren-buffett-reveals-the-one-stock-fund-you-need-to-invest -in [http://perma.cc/QV3Z-D74C].

48. *See, e.g.*, Abram Brown, *Active Versus Passive Investing Debate Goes a Step Further*, FORBES (June 13, 2013), http://www.forbes.com/sites/abrambrown/2013/06/13/taking-the-active -versus-passive-investing-debate-a-step-further [http://perma.cc/5HLS-95AM] (describing discussions at a Morningstar conference).

49. *See infra* Parts IV.A, IV.C.

50. Employee Retirement Income Security Act of 1974, Pub. L. No. 93-406, 88 Stat. 829 (codified at 29 U.S.C. §§ 1001-1191c, 1201-1242, 1301-1461 (2012)).

51. 29 U.S.C. § 1002(21)(A)(i) (2012); 29 U.S.C. § 1104(a)(1) (2012).

the same degree of care and diligence that a prudent expert would demonstrate under similar circumstances.[52] Breaches of this duty can give rise to liability for the fiduciary, and damages can be pursued by plan participants as individuals or as a class.

By default, ERISA fiduciaries are responsible for how plan assets are managed, but the statute includes a safe harbor, section 404(c), which protects plan sponsors from fiduciary liability if employees who allocate their own portfolios experience losses because of their choices.[53] More specifically, the statutory provision applies to plans that "permit[] a participant or beneficiary to exercise control over the assets in his account" and holds that "no person who is otherwise a fiduciary shall be liable under this part for any loss, or by reason of any breach, which results from such participant's or beneficiary's exercise of control."[54] The intention of the provision is to relieve participant-directed plans from liability for participant decisions. For example, a plan sponsor would be insulated from fiduciary liability under 404(c) if an employee, despite being presented with a well-diversified menu, experienced severe financial losses because she decided to hold all of her portfolio in company stock.

The primary regulation implementing section 404(c) establishes a series of conditions that plans must meet to avail themselves of the safe harbor.[55] One court summarized the requirements as follows:

> First, the participant must have the right to exercise independent control over assets in his or her account and must in fact exercise such control. Next, the participant must be able to choose from a broad range of investment alternatives, which requires at least three investment options and the plan must permit the participant to give instructions to the plan with respect to those options once every three months. Third, the participant must be given or have the opportunity to obtain sufficient information to make informed decisions with regard to investment alternatives available under the plan.[56]

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52. 29 U.S.C. § 1104(a)(1) (2012).

53. 29 U.S.C. § 1104 (2012).

54. *Id.* The meaning of "exercise control" is left to the Department of Labor to define through its regulations.

55. *See* 29 C.F.R. § 2550.404c-1 (2013).

56. Tibble v. Edison Int'l, 639 F. Supp. 2d 1074, 1120 (C.D. Cal. 2009) (internal citations omitted).

In short, plans that meet the safe harbor requirements can invoke the safe harbor provision as an affirmative defense so long as any losses resulted from the participants' exercise of control.[57]

The limits of the safe harbor are not clear from the text of the statute. A recurring issue relates to the construction of the menu: if the employer breaches her fiduciary duty in constructing the plan menu, but the menu nevertheless meets the requirement of the safe harbor, should the fiduciary escape liability if she can point to plan participants' choices as the proximate cause of the participants' losses? If a plan sponsor includes in its menu a subset of funds that a reasonable advisor would have excluded, should employees lose a suit for breach of fiduciary duty if the sponsor can assert the safe harbor? The Department of Labor has argued that the employer in such a case should still be liable,[58] but courts have generally rejected the Department's position.

C. Judicial Approaches to Reviewing Plan Menus Under Section 404(c)

The Fifth Circuit has rejected the Department of Labor's regulatory interpretation of section 404(c) as inconsistent with the statute's language.[59] In *Langbecker v. Electric Data System Corp.*, the plaintiffs argued that the employer committed a fiduciary breach by including company stock in the plan menu when it should have been evident that the company was performing poorly. The defendant employer asserted a 404(c) defense, saying that any losses resulting from investments in company stock were a result of participant control, and therefore the employer was immune from claims of fiduciary breach. The *Langbecker* court found that, even applying an analysis under *Chevron, U.S.A., Inc. v. Natural Resources Defense Council, Inc.*,[60] the Department of Labor's argument that 404(c) did not shield menu construction decisions could not be supported.[61] The court argued that investors could not be harmed unless they chose to hold the investment option in question. Since this was a matter of investor choice, the employer was insulated from liability even if including the investment was a breach of fiduciary duty.[62]

Other courts have also been skeptical of claims that faulty menus including high-fee funds should give rise to liability under 404(c). In *Hecker v. Deere &*

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57. *See, e.g., In re* Unisys Sav. Plan Litig., 74 F.3d 420, 446 (3d Cir. 1996).
58. Final Regulation Regarding Participant Directed Individual Account Plans (ERISA Section 404(c) Plans), 57 Fed. Reg. 46,906 (Oct. 13, 1992) (codified at 29 C.F.R. pt. 2550).
59. Langbecker v. Elec. Data Sys. Corp., 476 F.3d 299, 310-12 (5th Cir. 2007).
60. 467 U.S. 837 (1984).
61. *Langbecker*, 476 F.3d at 310-12.
62. *Id.*

Co.,[63] the Seventh Circuit found that a menu including high-cost funds did not give rise to liability. The court focused on the overall size of the menu, noting that it offered "23 different Fidelity mutual funds, two investment funds managed by Fidelity Trust, [and] a fund devoted to Deere's stock."[64] The court took particular note of the plan's use of a brokerage window, which enabled investors (for an additional fee) to choose from 2,500 funds across a variety of fund complexes. While such accounts must be affirmatively elected by plan participants, the *Hecker* court, consistent with the regulation, treated the options in the window as full-fledged components of the plan menu. The court argued that it was "untenable to suggest that all of the more than 2,500 publicly available investment options had excessive expense ratios."[65]

In analyzing the claim that the menu's construction amounted to a fiduciary breach because the plan included funds with allegedly unreasonably high fees, the court invoked the 404(c) safe harbor.[66] The *Hecker* court argued that – provided that the plan sponsor makes available "a sufficient range of options so that the participants have control over the risk of loss"[67] – the safe harbor provides an affirmative defense against losses incurred by the plan participants due to fund fees. The court noted that the 404(c) regulation explicitly directs consideration of brokerage window funds in determining whether there is sufficient menu diversity. The court concluded that "[g]iven the numerous investment options, varied in type and fee, neither Deere nor Fidelity (assuming for the sake of argument that it somehow had fiduciary duties in this respect) can be held responsible for those choices."[68] The *Hecker* case was denied rehearing en banc, and the court, in denying the rehearing, disclaimed that a large menu was a per se bar to liability.[69] Nonetheless, the denial of rehearing did not, as one scholar put it, "disavow the dispositive weight afforded to the offering of a large number of investment options."[70]

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63. Hecker v. Deere & Co., 556 F.3d 575 (7th Cir. 2009).

64. *Id.* at 578.

65. *Id.* at 581.

66. *Id.*

67. *Id.* at 589.

68. *Id.* at 590.

69. The court said that the opinion did not stand for the "sweeping statement that any Plan fiduciary can insulate itself from liability by the simple expedient of including a very large number of investment alternatives in its portfolio." Hecker v. Deere & Co., 569 F.3d 708, 711 (7th Cir. 2009).

70. Mercer Bullard, *The Social Costs of Choice, Free Market Ideology and the Empirical Consequences of the 401(k) Plan Large Menu Defense*, 20 CONN. INS. L.J. 335, 345 (2014). Indeed, the Seventh Circuit affirmed the benefit to defendants of large menus in *Loomis v. Exelon Corp.*, 658 F.3d

The Eighth Circuit addressed the question of menu adequacy in *Braden v. Wal-Mart*.[71] In *Braden*, the plaintiff alleged that, even though Wal-Mart's plan had almost ten billion dollars under management, it offered only high-fee retail-class shares of funds in its small menu.[72] According to the complaint, seven of the ten funds in the plan carried 12b-1 fees, which are generally charged in lieu of load (sales charges) and are associated with funds sold to individual investors, not giant institutions.[73] The court of appeals held that the plaintiff's allegations regarding the fee structure were sufficient to state a claim. In the court's view, the apparent availability of lower-cost alternatives to the challenged funds created a plausible inference of fiduciary breach, even though (1) Braden could not, prior to discovery, precisely specify the nature of that breach and (2) "there may well be lawful reasons appellees chose the challenged investment options."[74]

While reaching opposite outcomes, *Braden* and *Hecker* take an approach to menu assessment that shares a common theme: while a menu that offers only poor options, like the *Braden* menu, may be legally deficient, a menu that offers at least some good options, like the *Hecker* menu, will much more likely benefit from the protection of the safe harbor. The *Braden* court explicitly distinguished *Hecker* on the grounds that Wal-Mart provided fewer funds and omitted a brokerage window.[75] In their respective circuits, these cases create a template for avoiding fiduciary liability for fees in 401(k) plans: a plan that includes a large number of funds of "varied" fee levels, and otherwise meets the requirements of the safe harbor, is less likely to give rise to liability for fiduciary breach. This approach has been labeled the "large menu defense"[76] and has gained considerable traction among courts and with plan sponsors.[77]

The Ninth Circuit case *Tibble v. Edison* sweeps more broadly than *Hecker* in regulating fund fees but nevertheless sounds some of the same themes.[78] As in

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667 (7th Cir. 2011), which cited the original *Hecker* opinion. *E.g.*, *Loomis*, 658 F.3d at 670. For additional commentary on *Loomis*, see Bullard, *supra*, at 345-47.

71. Braden v. Wal-Mart Stores, Inc., 588 F.3d 585 (8th Cir. 2009).

72. *Id.* at 595.

73. *Id.* at 595-96.

74. *Id.* at 596.

75. *Id.* at 596 n.6.

76. *See* Bullard, *supra* note 70, at 340-50 (providing an extended overview of the large menu defense).

77. *Id.* Bullard identifies the Third, Seventh, and Eighth Circuits as having "taken the position that a large . . . menu can protect a plan fiduciary from liability for imprudently selecting investment options for the plan." *Id.* at 347.

78. Tibble v. Edison Int'l, 711 F.3d 1061 (9th Cir. 2013), *amended and superseded by* 729 F.3d 1110 (9th Cir. 2013).

Braden, the central claim in *Tibble* was that the menu offered by the employer was deficient because it included retail share classes of funds, but not lower-cost institutional share classes that would likely have been available if the employer had bargained for them.[79] The *Tibble* court sided with the Department of Labor on the issue of fiduciary duties in menu construction, explicitly rejecting the *Langbecker* holding.[80] In doing so, the *Tibble* court also went further than the *Braden* court. In *Tibble*, it was not alleged that all of the funds in the menu were excessively costly. Only some of the funds had lower-cost institutional shares available. Therefore, it was not possible (as it had been in *Braden*) to use the deficiency of the *entire* menu to avoid the 404(c) issue. Investors' decisions to opt into the bad funds were an essential link in the causal chain by which they suffered losses. *Tibble* therefore reflects a willingness to hold fiduciaries responsible for including bad funds, even when the fiduciary breach would not have inevitably led to losses.

Despite creating broader potential grounds for liability than *Hecker* or *Braden*, *Tibble* nevertheless cabins liability in one important way: the district court did not find the inclusion of the retail funds when institutional funds were available to be a fiduciary breach. Instead, it found that the fiduciary breach was the employer's *failure to consider* lower-cost options in constructing the menu.[81] Therefore, the court avoided directly evaluating the inclusion of the funds in the plan menu in favor of a holding focused on the procedure by which the menu was constructed. Even though funds in the menu carried fees as high as 2%,[82] the court found that there was no duty under ERISA to offer only institutional share classes.[83] The court emphasized the faulty procedure rather than the actual funds selected.

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79. *Id.* at 1067.

80. *Id.* at 1072-73.

81. *Id.* at 1067 (citing Tibble v. Edison Int'l, No. CV 07-5359 SVW, 2010 WL 2757153, at *30 (C.D. Cal. July 8, 2010)) ("Without retreating from an earlier decision – at summary judgment – that retail mutual funds were not categorically imprudent, the court agreed with beneficiaries that Edison had been imprudent in failing to investigate the possibility of institutional-class alternatives.").

82. *Id.* at 1083.

83. The court wrote:

    > There are simply too many relevant considerations for a fiduciary, for that type of bright-line approach to prudence to be tenable . . . . Nor is the particular expense ratio range out of the ordinary enough to make the funds imprudent. In *Hecker*, the court upheld the dismissal of a similar excessive fee claim where the range of expenses varied from .07 to 1% across a pool of twenty mutual funds. 556 F.3d at 586. *Here, the summary-judgment facts showed that the expense ratio varied from .03 to 2%, and there were roughly forty mutual funds to choose from.*

    Id. (emphasis added).

Three themes are apparent from the *Tibble*, *Hecker*, and *Braden* opinions. First, small menus will be easier to challenge than large, diversified menus. Even the *Tibble* court characterized diversification – the "roughly forty" mutual funds available to participants in the plan menu – as ameliorative of the inclusion of high-cost options.[84] Second, menus consisting entirely of high-fee funds will be more susceptible to challenge than menus that incorporate funds with a range of fees, even if the inclusion of the high-fee funds is difficult to defend. This is the primary point of distinction between *Hecker* and *Braden*. Third, a challenge based solely on an allegation of excessive fees is less likely to succeed than a challenge based on an allegation of a procedural failing on the part of the fiduciary. In *Tibble*, the court brushed aside fees ranging up to 2% as roughly comparable to the 1% fees of the *Hecker* case, despite the fact that such fees are higher than the vast majority of funds even in the individual investor market.[85] Courts thus seem reluctant to base a claim of fiduciary breach on high fees alone.

In the next Part, we present our empirical findings, which suggest that the judicial approach is a poor fit for the problem of excessive fees in 401(k) plans.

II. FEES, MENU DIVERSITY, AND INVESTOR CHOICE IN 401(K) PLANS

This Part begins by describing our empirical results, identifying and quantifying the costs of fees and menu deficiencies in 401(k) plans. The data and methodology for these results are more fully described in the Appendix. We demonstrate that, while menu diversity is not a problem, fees have a considerable impact on investor welfare in terms of both their direct cost and the loss in expected returns associated with distorting portfolio holdings, particularly in small plans. We then present empirical data to characterize a class of funds that we term *dominated funds*. These are funds that are ex ante poor choices compared to other funds available in the same investment menu or in the marketplace. Taken together, our data suggest that the focus on providing extensive, diversified menus (due to the large menu defense) and the difficulty in making out fee-based claims do a disservice to plan investors and leave many investors, especially in smaller plans, vulnerable.

A. An Empirical Analysis of Fees and Menus in 401(k) Plans

The data for this study come from a large proprietary database of 401(k) plans that includes plan-level information as of the beginning of 2010. The da-

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84. *Id.*
85. *Id.*

ta include the funds offered in each plan's menu, as well as the costs charged against plan assets. About 70% of the plans in the full database offer investment options that are not mutual funds and feature fee arrangements that may not be disclosed in full. The richness of this dataset allows us to filter out plans with no fee data and still permits the construction of a large sample of more than 3,500 plans.[86] We match these data against several commercial data sources (with data running from 2002 to 2013) that contain information about fund performance and cost. Combining these datasets allows us to describe fund performance both ex ante, reflecting the decisions of plan fiduciaries at the time the menu is assembled, and ex post, reflecting three years of performance data for the funds included in the menus.

We merge these data with fund investing style data from Morningstar and fee information from the Center for Research in Security Prices (CRSP) Survivor-Bias Free Mutual Fund Database to answer several questions: How do fees in 401(k) plans affect investor outcomes relative to other limitations, such as limited plan investment menus and investors' mistakes in allocating their portfolios? How are fees and other losses associated with plan size? What portion of the fees paid by investors is necessary to get optimal diversification, and what portion of the fees is incurred simply because investors choose to invest in costly funds? Finally, is there evidence that high fees buy services that might offset the direct costs? These findings have important implications for the regulation of 401(k) plans, which this Article addresses in Part IV.

1. Sources of Reduced Utility in 401(k) Plans

Investors in 401(k) plans are subject to several constraints that tend to reduce their returns relative to an unrestricted investment universe. First, they must choose from the menu of funds that their employers make available. Even if all of the options in the menu were costless, having a limited set of mutual funds from which to choose might prevent investors from selecting funds that appropriately reflect their risk tolerance and investment goals. As an extreme

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86. Excluding these plans introduces the possibility that the sample is not representative of the industry as a whole. In particular, the largest plans often negotiate management agreements for investment options that are not regulated as mutual funds. Very small plans, on the other hand, are more likely to offer insurance products as non-mutual fund options. We observed the excluded plans and found that we under-sampled both very small and very large plans, while oversampling in the middle. Despite this, we find that our measures of total cost are comparable to surveys that include the types of plans we exclude. *See, e.g.*, Sean Collins et al., *The Economics of Providing 401(k) Plans: Services, Fees, and Expenses, 2013*, 20 ICI RES. PERSP., July 2014, at 1, http://www.ici.org/pdf/per20-03.pdf [http://perma.cc/PT6K -9JEX]. Moreover, our sample represents a substantial portion of the marketplace—18% of assets and $119 billion—and is therefore an important object of study in its own right.

example, a 401(k) plan that offered investors only a single, very conservative, bond fund would prevent young employees from making portfolio allocations that included stocks. Since most young employees would prefer the higher long-term return on equities and would be able to tolerate the higher risk given their long time horizon, these employees would be worse off with this menu restriction, even if the management fees were very low.

Second, even if investors in a plan are offered a diverse set of investment options covering the spectrum of asset classes, the menu may nevertheless be deficient if all of the options, or at least some important options, are costly to hold. A lengthy menu of varied funds all charging management fees of 1.5%, well above the industry average,[87] would not lead to good outcomes for the investors who must hold those funds. On the other hand, a menu that offers an adequate selection of low-cost options, alongside various high-cost options, would at least enable a sophisticated investor to make cost-efficient choices by simply avoiding the high-fee funds.

Finally, investors may make mistakes that lead to higher-than-necessary fees for their chosen level of diversification. For example, if a menu offers two equity funds and two bond funds – each in a high- and low-fee version – investors might adequately diversify their portfolios by holding both stocks and bonds, but opt to hold the high-fee funds rather than the low-fee funds, thereby incurring unnecessary costs.

2. Measuring Reduced Utility in 401(k) Plans

We use a large sample of 401(k) plans to measure, in terms of reduced returns, the impact of each of the sources of loss described above on assets invested in 401(k) plans. We begin with a brief summary of how we measure the magnitude of losses caused by the above factors. We then describe our findings.

a. Brief Summary of the Methodology

We begin by computing, for each plan, a set of optimal portfolios contingent on the menu. For each plan menu of funds, using historic performance data from 2002 to 2008, we compute the fraction of the total investment that each fund should receive to produce two sets of optimally diversified portfolios, one before all costs, including plan-level costs, and one after both plan-level

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87. Average mutual fund fees are currently around seventy-seven basis points. *See Expenses and Fees Paid on Mutual Funds in 401(k) Plans*, INV. CO. INST., http://www.ici.org/pdf/ppr_401k _mf_fees.pdf [http://perma.cc/UP88-B526].

and fund-level costs. With these portfolios in hand, it is possible to measure the losses from various sources, relative to a risk-adjusted, after-fee return that was achievable in the market by investing in a low-cost, well-diversified plan. First, we adjust the portfolios for each plan so that they all produce the same level of expected financial risk. This means that differences in the performance of each portfolio can be expressed as differences in expected return for a common level of risk. Losses from various sources can then be measured on a common risk-adjusted scale: expected returns.

We measure the following costs to plan participants:

1. *Menu Limitation Costs.* These are losses that arise because 401(k) investors are restricted to the menu of funds offered by their plan. These losses reflect the reduced returns associated with holding each plan's optimal pre-fee portfolio as compared with the plan that has the most efficient pre-fee plan menu. This cost is high when a plan menu is unduly restrictive of an investor's ability to diversify before taking costs into account.

2. *Plan Asset-Based Fees.* These include the costs charged against the assets in the plan for general administration and not associated with any particular investment option. We disaggregate these costs into two components: (1) a benchmark that reflects the administrative costs of a low-cost plan, Plan Fees Benchmark; and (2) the fees charged in excess of the benchmark, Excess Plan Additional Fees. We use a benchmark of eight basis points, based on fees charged by very low-cost providers in the marketplace.

3. *Menu Fund Fees.* These are the fees charged by mutual funds in the plan's post-fee optimal portfolio. This measure therefore reflects the fund management fees borne by an investor who optimally attempts to minimize fees while still diversifying to the extent feasible. We disaggregate these into Retail Index Fund Benchmark Fees,[88] which represent the costs of an optimal portfolio of retail index funds, and Plan Menu Additional Fund Fees, which are the costs to an investor charged in excess of this benchmark.

4. *Investor-Choice Additional Fund Fees.* These fees are the difference between fees on the optimal post-fee portfolio and fees on the actual portfolio that investors in the plan hold in aggregate. They reflect fees

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88. This is a useful benchmark since it measures a fee-efficient option available to retail investors outside the 401(k) context.

that are incurred by investors who deviate from the optimal menu portfolio.

The first three cost categories are not under the investor's control, but are the result of decisions made by the plan fiduciary, so we term the sum of these "plan costs." Since some level of cost is inevitable, we benchmark these menu costs to low-cost administrative services and the investment management costs associated with a low-cost basket of retail index funds. Thus, we express each cost in terms of a benchmark, and an additional cost over the benchmark. We dub the additional fees due to investor choice "investor-choice costs." Although these costs are avoidable in principle, a major point of this Article is that fiduciaries' choices of menu design contribute to these losses by leading investors to make predictable allocation mistakes. For example, as we will soon show, fiduciaries' offerings of "dominated" menu options with high fees predictably lead to increases in investor-choice costs.

    b. Losses in 401(k) Plans

Table 1.

SUMMARY OF COSTS IN SAMPLE OF 3,534 401(K) PLANS

Table 1 summarizes the average estimated losses in our dataset of 3,534 plans measured in terms of risk-adjusted basis points. Return-Equivalent Costs *are computed as the difference between the returns on the benchmark portfolios as determined by their expected Sharpe ratios, at the mean level of expected risk on all observed portfolios. For* Menu Limitation Costs, *the benchmark portfolios are the global optimum factor portfolio and the Pre-Fee Optimum. This reflects the cost of pre-fee menu restrictions. The* Plan Fees Benchmark *is the administrative costs associated with a very low-cost plan.* Plan Additional Fees *is computed as the difference between the post-fee optimum portfolio and the post-fee and plan expense optimum portfolio.* Fund Fee Cost *is determined by the Pre-Fee Optimum and Post-Fee Optimum, less the Plan Fees Benchmark. Together the Plan Fees measures reflect the plan level asset-based costs not associated with particular funds. The* Retail Index Benchmark Fees *measure the cost associated with holding a portfolio of retail index funds optimized over the factor model, giving an attainable low-cost benchmark.* Plan Menu Additional Fund Fees *is the difference between the pre-fee optimum portfolio and the post-fee optimum portfolio, less the Retail Index Benchmark Fees. This measures the cost of an optimally diversified portfolio over each plan menu relative to the index fund benchmark.* Investor-Choice Additional Fund Fees *is the difference between the pre- and post-fee actual portfolio expected returns, less the plan menu excess fund fees and the retail index benchmark fees. This measures the additional cost due to investor choices over the menu. N=3534.*

			% of Total	Mean	Std. Dev.	Min.	5th Pctle	95th Pctle	Max.
Plan Costs	Plan Asset-Based Fees	Investment Constraints	Menu Limitation Cost	6.20%	0.0006	0.0010	0.0000	0.0000	0.0022	0.0303
			Plan Fees Benchmark	8.03%	0.0008					
			Plan Additional Fees	5.21%	0.0005	0.0023	-0.0008	-0.0008	0.0048	0.0315
	Fund Fees		Retail Index Benchmark Fees	22.07%	0.0022					
			Plan Menu Additional Fund Fees	38.23%	0.0038	0.0035	-0.0017	-0.0005	0.0101	0.0189
Investor-Choice Costs			Investor-Choice Additional Fund Fees	20.26%	0.0020	0.0023	-0.0065	-0.0017	0.0056	0.0238
			Total Fees	93.80%	0.0093					
			Total Cost	100.00%	0.0100	0.0062	0.0001	0.0054	0.0251	0.0720

First, we find that employer-imposed menus generally succeed at giving employees a substantial ability to diversify.[89] In our data, menu limitation costs account for only about six basis points in loss. This finding suggests that the menus that most employers offer are, on average, adequate to meet the diversification and risk-exposure needs of employees. This conclusion is significant in

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89. This conclusion is consistent with the finding of Ning Tang et al., *The Efficiency of Sponsor and Participant Portfolio Choices in 401(K) Plans*, 94 J. PUB. ECON. 1073 (2010) (finding low losses associated with menu limitations (as opposed to inefficient portfolio construction by participants)).

light of courts' focus on providing large and diversified menus as a palliative to alleged problems with 401(k) plans. While it is encouraging that these losses are low, it appears that any continued effort directed at improving plan menu diversification is unlikely to pay significant dividends for investors.

On the other hand, our results suggest that high fees are a significant issue for participants in 401(k) plans. We find that the total impact of fees and expenses is substantial. For an average plan, an investor making optimal menu allocations would be forced to pay forty-three basis points in expenses over the benchmark (five basis points of plan additional fees and thirty-eight basis points of plan menu additional fund fees). More than 19% of plans have menu additional fund fees of more than seventy-five basis points, and the average menu additional fee in the top fee decile is 1.46%. Because these are computed from post-fee optimized portfolios, these expenses reflect costs imposed even on investors who would prefer to hold very low-cost funds and have the sophistication to minimize costs through portfolio choice. The actual fees paid by investors in these plans are higher, since these excess fees don't include the fees on the low-cost benchmarks. The problem of fees is especially acute in small plans, where there is less competition and fewer resources are likely to be devoted by the plan sponsor to administering the plan.[90]

Fees are high enough that, for 16% of plans in our sample, the excess menu fees when compared to fees on an index fund consume more than the tax benefits conferred by ERISA.[91] We compute the end-of-career tax-adjusted returns on a 401(k) with the actual costs of each plan and compare it with the end-of-career balance on a low-cost tax-efficient index ETF, assuming equal pre-fee returns. We consider a young worker faced with the question of where to deposit current retirement savings so as to maximize his assets available for retirement in thirty-five years. In 16% of plans this employee would be better off, on a pre-match basis,[92] saving in a standalone (after tax) account rather than contributing unmatched dollars to his employer's plan (assuming parity in returns between the index fund and the actively managed fund).

Fees are high enough that offering company stock as an option in plan menus often mitigates the impact of high fees. From a diversification perspective, the inclusion of company stock in plan menus is rightly criticized as a trap

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90. *See infra* Table 3 (showing that large plans have lower costs, lower investor-choice costs, more index funds, and lower menu limitation costs).

91. *See infra* pp. 1550-52.

92. We assume equal pre-fee returns on the two funds, fifteen basis points of fees, and 4% taxable capital gains distributed annually on the ETF. We assume a tax rate of 28% currently, 25% at retirement, and 15% on capital gains. Using these parameters, we estimate the after-tax, end-of-career value of a single contribution to each type of account and determine the fee differential at which those values are equal.

for unwary employees who might sink too much of their retirement in the company store. But from the excess-fee perspective, investing in company stock has the distinct advantage of incurring no (or very low) expenses. In our sample, it would be optimal for investors to overweight company stock in about half of the plans that offer it.[93]

Importantly, we find that a significant portion of the excess-fee loss comes from investors' deviations from the optimally diversified portfolio; these are the investor-choice additional fund fees.[94] These losses are a matter of investor allocation, meaning that a substantial portion of the fees investors pay could be avoided while maintaining or improving the risk-reward tradeoff in each investor's portfolio. On the other hand, our data suggest that the way plan menus are constructed affects the choices that investors make.[95] Among menus that include at least one index fund, menus with more index funds or with fewer high-cost options show lower total losses (plan costs plus investor-choice costs) and lower investor-choice losses. This suggests that investors' propensities to allocate to low-cost funds is partially a function of the number of these funds available in their menu.[96] While this may seem intuitive, it is in tension with the notion that investor choice and menu design are independent and warrant separate legal treatment.

Moreover, we find that the way in which service providers are compensated affects menu design, which then may affect investor losses. Plans that report more compensation paid directly to service providers—a proxy for less revenue sharing—have more index funds and lower investor losses.[97]

Our data also cast doubt on the competitiveness and efficiency of plan fees. While we find a strong relationship between the assets in a plan and the overall cost of the plan,[98] there is wide variation between similarly sized plans in terms

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93. There are about two hundred plans that offer company stock in our sample. For those plans, we estimate the optimal portfolio weight of company stock, assuming twenty-five basis points in fees associated with company stock, and find that, in 48% of plans, the optimal weight to company stock exceeds $1/N$ where N is the number of options in the plan menu.

94. *See supra* Table 1.

95. That menu construction affects choices within menus is a central insight of behavioral economics. *See, e.g.*, RICHARD H. THALER & CASS R. SUNSTEIN, NUDGE: IMPROVING DECISIONS ABOUT HEALTH, WEALTH, AND HAPPINESS 103-17 (2008) (proposing various menu constructions that would increase personal savings rates).

96. See *infra* pp. 1542-43, which show that investor losses are lower in plans that have more index funds and in plans that have a menu that is more robust to the $1/N$ heuristic of Shlomo Benartzi & Richard H. Thaler, *Naive Diversification Strategies in Defined Contribution Saving Plans*, 91 AM. ECON. REV. 79, 79-80 (2001). *See also* text accompanying *infra* notes 110-111.

97. *See infra* pp. 1544-46 and Table 5 (showing that direct investment management fees are associated with lower menu costs, lower investor costs, and more index funds).

98. *See supra* note 90.

of total costs. For example, even for plans in the top quartile of size in our sample (where the market should be the most competitive), we find a difference in excess fees between funds in the highest and lowest deciles of nearly seventy basis points. This very significant spread corresponds to 83% of the mean plan expense. Put differently, a very pricey plan can be nearly twice as expensive as a plan of similar size with very low costs. Clearly, size does not explain all of the variation in plan cost.

We also test whether variations in cost are driven by differences in plan services.[99] The quality of plan services cannot be observed from our data, but we have identified several variables that seem to be reasonable proxies for whether plans provide services that investors value: participation rate, contributions per account, and the quality of allocations in the portfolio. We ran regressions testing whether employee participation is higher in plans with higher costs. After controlling for industry groups, employer matching, and other factors that might directly be related to employee participation, we found evidence that expensive plans actually have significantly lower employee participation.[100] We also found that expensive plans have lower contributions per employee and that employees in expensive plans allocate their portfolios less effectively even before accounting for fees. Plan advisors often defend their fees by claiming that they educate employees about the importance of retirement savings. But our results suggest that high-cost plans are not inducing more employees to participate more or to contribute more. In fact, our data hint that the opposite may be the case: it may be that costly plans discourage investor participation, reduce investor contributions, and produce poorer allocation decisions.

A recent industry whitepaper suggests that one component of fees, the cost of mutual funds in 401(k) plans, has declined since the window observed in our data.[101] This trend would be consistent with the gradual decline of fees from very high levels over the last decade.[102] While this development is heartening, the degree to which this trend has reached small plans, which face particular challenges, remains unclear. The extent to which this trend is due to changing investor preferences — an increasing allocation to index funds, for example — or lower prices at a fund-by-fund level is also unclear. Moreover, the decrease mirrors an overall downward trend in mutual fund fees,[103] so it is not certain whether it reflects changes in 401(k) plans or simply that certain inputs

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99. *See infra* pp. 1546-50 and Table 6.

100. *See infra* Table 6.

101. Collins et al., *supra* note 86.

102. *Id.* at 12 fig.6.

103. *Id.*

to plans are decreasing in price.[104] The fee patterns we document suggest that a considerable portion of costs is due to choices investors make in selecting from within the plan menu. This finding puts a particular emphasis on our second contribution, which is to identify menu construction choices that set investors up to make decisions likely to lead to underperformance.

B. The Problem of Dominated Funds

The division between employer menu construction and employee choices over the menu is not as clean as it may seem. Employer decisions can predictably influence employee choices in ways that leave employees worse off, and this effect is empirically measurable. Consider a menu that offers a wide selection of cost-efficient funds, including an S&P 500 index fund with very low fees. Imagine that the employer then adds an actively managed large-cap fund to the menu that closely tracks the S&P 500, but has fees of 1.5%. Investors are better off investing in the index fund, but when a new fund is added to the menu, some investors are likely to split their investments between the low-cost S&P index fund and the actively managed, high-cost S&P fund. Since the new fund is worse than existing options in the menu, the addition of an inferior fund will tend to reduce investor welfare.

In one sense, the reduction in investor returns associated with adding a bad fund to an otherwise good plan is a consequence of choices investors make. Investors are always free to forgo investment in a bad fund so long as there are alternatives. But when employers make choices to include menu options that are clearly worse than other funds in the menu, it is a foreseeable consequence that investors in the plan will end up with worse portfolios.

1. Measuring the Prevalence of Dominated Funds

How widespread is the problem of inferior menu choices? There are a number of ways to answer this question, all of which require a definition of a "bad choice." To get empirical traction on this issue, we describe what we term *dominated funds*. These are funds that are so clearly inferior to other funds or groups of funds *offered in the same plan menu* that investors are clearly better off avoiding them. The goal here is to identify funds that are objectively poor investment options ex ante. We characterize dominated funds as follows:

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104. The difference in prices between the fund market and the 401(k) market has been relatively stable. *Id.* Kwak, *supra* note 11, at 496, notes that the relatively small difference in fees between 401(k) plan funds and other funds is relatively "paltry" in light of the bargaining advantages of large plans.

- A fund is dominated if:

  - there is another fund of the same investing style[105] offered in the same plan menu as the candidate fund with fees at least fifty basis points lower;

  - the candidate fund has fees twenty-five basis points higher than the mean fees of funds with the same investing style in our sample of 401(k) plans; and

  - the candidate fund receives less than 1% weight in our computation of the optimal portfolio for the plan.

- Alternatively, a fund is dominated if:

  - there is no other fund in the plan menu with the same style;

  - the candidate fund has fees that are fifty basis points higher[106] than the mean fees of funds with the same investing style in our sample of 401(k) plans; and

  - the candidate fund receives less than 1% weight in our computation of the optimal portfolio for the plan.

The goal of these criteria is to identify funds that are unattractive *relative to the rest of the plan menu*. The first set of criteria identifies a specific fund of the same style that is a better alternative to the dominated fund. The second set of criteria describes a situation in which an investor would be better off allocating to other funds in the menu because we estimated that an optimal choice would allocate less than 1% to the dominated fund (even though the plan does not offer another fund with the same style). In either case, the dominated fund is an unattractive investment option and the investor can avoid the dominated option by allocating away from the fund in her portfolio. Losses from dominated

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105. We categorized funds using eighty-two Morningstar style categories and identified whether the fund is an index fund. These style categories identify funds with similar investing strategies and asset classes. Thus, the comparable fund must invest in a similar asset class and have the same active/passive management strategy.

106. Fifty basis points is about two standard deviations in fees. Thus, the fund would be roughly two standard deviations above mean fees.

funds are disproportionately a matter of investor choice. But as we'll soon argue, a prudent fiduciary would not give an investor the choice to invest in a dominated fund.

To evaluate the frequency of dominated funds, we begin with the same sample of plans described above. Out of the 3,534 plans in our sample, 1,842 (52%) – holding 22.6% of total assets – included at least one dominated fund in the menu. In the plans that offer dominated funds, 15% of the offered menu funds (for which fee data were available) are dominated, and dominated funds hold 11.5% of plan assets. Looking across all plans, 8.9% of funds – holding 3.4% of assets in aggregate – are dominated.[107] Since all dominated funds carry an optimal portfolio weight of less than 1%, these funds are significantly overweighed in 401(k) plans.

Dominated funds are poor investment choices on average. We computed one-year returns each month from January 2010 to January 2013 and found that average returns on a dominated fund are more than sixty basis points worse than other funds.[108] Dominated funds meeting the first set of criteria are outperformed by their low-cost, same-style, in-menu alternative by more than 1.07% on average. If dominated funds were eliminated from plan menus and the assets were distributed pro rata among the other funds in the menu, we estimate that investors would save more than half of the management fees currently charged on dollars invested in the dominated funds, or sixty-seven basis points. The total cost of plans with dominated funds would fall by about seven basis points, or 11%. The savings to the investors holding the dominated funds would be even more substantial.

2. Why Dominated Funds Are a Problem

Including dominated funds in plan menus is not harmless to investors. While investors are free to forgo holding dominated funds in their portfolios and may opt for other investment options, empirical findings suggest that investors will tend to allocate their portfolios to low-quality choices. Our regressions show, for example, that the more high-cost funds included in a portfolio, the higher the investor losses.[109]

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107. Ninety-five percent of these funds are dominated by the second set of criteria for identifying dominance, as laid out above. Fifteen percent are dominated by the first set of criteria. Ten percent are dominated under both sets of criteria.

108. Data for these calculations come from the Center for Research in Security Prices (CRSP) Survivor-Bias Free Mutual Fund Database.

109. *See supra* text accompanying note 97.

Our empirical findings – that adding bad funds to the menu will leave investors worse off – confirm the investor tendencies identified by behavioral economists. Shlomo Benartzi and Richard H. Thaler, for example, found that investors tend to follow a naïve diversification strategy of allocating their funds equally across options in the menu, even when this allocation is not consistent with their investing goals.[110] In essence, rather than looking at the financial properties of the funds in the menu when allocating their portfolios, investors simply weighted their portfolios according to the relative representation of the funds in the plan menu. Benartzi and Thaler dubbed this simple, and possibly counterproductive, diversification strategy the "$1/N$ heuristic" because it tends towards allocating each of the N funds in the menu $1/N$ of the total employee contributions.[111]

In a recent paper, Jill E. Fisch and Tess Wilkinson-Ryan document that investors in a laboratory experiment exhibited naïve diversification in several ways.[112] For example, investors mixed their portfolios between two S&P 500 index funds with different fees.[113] Since index funds that track the same index will have very similar returns, it is irrational to allocate funds to a high-cost index fund when a low-cost index fund is available. A similar effect has been identified by James J. Choi, David Laibson, and Brigitte C. Madrian.[114]

Investors' naïve diversification across whatever funds are available in the plan menu means that adding dominated funds to the menu is problematic. Since investors tend to hold all of what is offered, offering high-cost funds in the presence of low-cost alternatives with similar risk exposure is not a neutral act; rather, it leads to predictably worse outcomes for investors.[115]

III. THE CURRENT LEGAL AND REGULATORY REGIME IS ILL-EQUIPPED TO ADDRESS EXCESSIVE FEES

In Part I we characterized the case law interpreting the 404(c) safe harbor as containing three themes: (1) small menus are worse than large menus; (2) menus consisting entirely of high-fee funds are worse than menus that include

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110. Benartzi & Thaler, *supra* note 96, at 79-80.

111. *Id.*

112. Fisch & Wilkinson-Ryan, *supra* note 35, at 638.

113. *Id.*

114. James J. Choi et al., *Why Does the Law of One Price Fail? An Experiment on Index Mutual Funds*, 23 REV. FIN. STUD. 1405 (2010).

115. There may be other reasons that adding funds to menus without justification is costly. *See* Bullard, *supra* note 70, at 368-70 (describing research showing that large menus may lead to investor under-participation through information overload).

low-fee funds; and (3) claims of high fees are more likely to succeed when accompanied by claims that the fiduciary's decision making was procedurally imprudent.[116] In light of our empirical findings, these themes are a poor fit for the realities of investor choice in two ways. First, by suggesting that the availability of low-cost funds mitigates the inclusion of high-cost ones, courts ignore the evidence that too many investors will hold the high-cost funds, leading to predictably worse outcomes for investors and increased income for service providers. Second, by focusing on the decision-making procedures rather than the substantive choices made in menu construction, courts make it more difficult to bring claims against plans with menus that include choices that no reasonable fiduciary would select. We suggest that courts, rather than focusing on the procedure that led to individual funds' inclusion, should instead evaluate whether the inclusion of individual funds was imprudent given evidence of excessive costs and expected risk-adjusted returns.

A. Toward an Improved Fiduciary Standard

1. 404(c) and Menu Construction

As outlined in Part I, the Department of Labor has adopted the position that menu construction is prior to investor choice, and therefore the safe harbor is unavailable for fiduciary breaches in menu design.[117] The *Langbecker* court rejected this interpretation, and the *Hecker* decision suggested that, as long as a menu includes good options, there will be no liability for including bad options. This framework provides for the "large menu defense" described above.

The empirical evidence presented in Part II suggests that the Department of Labor has, as a matter of policy, the better case. Allowing companies to escape liability for imprudently including high-cost options in plans by appealing to the availability of a brokerage window or other low-cost options ignores the evidence that investors will tend to hold those high-cost options even when it is disadvantageous to do so. The inclusion of good options alongside the bad options is better than offering only bad options, but it does not neutralize the predictable impact of the low-quality choices.

To see why this is the case, imagine a plan that consists solely of low-cost options with fees vigorously negotiated by the employer. Employees would likely do quite well allocating investment choices in such a menu. Now imagine that the employer expanded the plan by simply appending the Wal-Mart

116. *See supra* Part I.

117. *See supra* note 58.

401(k) menu from *Braden*, which consisted of high-cost retail funds. The empirical evidence strongly suggests that such a change would leave investors as a group worse off than they were under the original menu, because some investors would allocate to the high-cost funds with below-market, risk-adjusted expected returns. A legal standard that asks only if the menu includes some good options cannot distinguish between the original plan and the plan with the higher cost funds appended. Indeed, a legal standard that puts a premium on offering an extensive selection of funds with "varied" fee levels might actually prefer the larger menu with high-cost retail funds.[118] Only a legal standard that asks plan sponsors to justify the inclusion of each fund in the plan menu is sufficient to address the problem of dominated choices: what prudent fiduciary would add funds that are inferior to already available choices?

The problem is particularly pernicious because of a double agency issue in the construction of plan menus. Employers make decisions on behalf of employees when constructing the menu, and they do so with the guidance of service providers who, in many cases, receive revenue from funds that are included in the plan (through revenue sharing).[119] Plan service providers have an incentive to include high-cost funds to maximize revenue sharing opportunities; moreover, the employer will be insulated from liability for including the high-cost funds so long as some good options are also available. The employer has little reason to object to the plan service provider's proposal to include high-cost funds. From the employer's perspective, including extra funds simply expands employees' choice set, while the service provider receives predictably higher revenues from the inclusion of the dominated funds. This trend is enabled by the prevailing judicial interpretation of the 404(c) safe harbor, which insulates employers from liability for choices that predictably lead to bad outcomes.

In evaluating plan menus when excessive fees are alleged, courts ought to ask: in light of other options in the plan menu, could a prudent person reasonably believe that the fund in question ought to be held by investors? This evaluation, which is aimed at identifying the presence of dominated funds, turns the availability of superior options on its head. Rather than suggesting that a menu is well constructed because it includes low-cost options that investors can elect to hold, this analysis asks why a menu that includes a low-cost alternative to a closely correlated high-cost option ought to include the high-cost option to begin with. A court need not find a per se fiduciary breach in the

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118. *See* Hecker v. Deere & Co., 556 F.3d 575, 590 (7th Cir. 2009) (observing the "varied" fee levels in the menu).

119. *See* Fisch, *supra* note 30, at 2004.

presence of a dominated fund, but a fiduciary ought to be called upon to explain why the particular fund was selected for inclusion.

2. The Misdirected Procedural Focus

As noted above, courts addressing alleged fiduciary breaches in 401(k) plans often focus on procedural aspects of the construction of the plan menu even when the menu contains very high fees.[120] This focus on procedure is misguided and may have its roots in policy concerns that are more applicable to other contexts. For instance, just as courts (with the benefit of hindsight) are cautious about second-guessing the business decisions of corporate managers,[121] the 404(c) limitation on liability can be read as consistent with a desire to limit post hoc liability for investment choices by clearly assigning the responsibility to choose wisely to the employee. But in evaluating the 404(c) safe harbor, it is useful to distinguish between claims regarding the fees of investment options (and their impact on expected returns) and claims regarding the performance of specific investments.

There is a distinction between investment decisions that, as a matter of market risk, turn out poorly and investment decisions that ex ante can be expected to underperform. A suit alleging that a mutual fund that has posted poor returns should not have been included in a plan menu is decidedly different from a suit alleging that an excessively expensive fund was included in the menu. Poor performance is observable only ex post, but the costs of an investment option can be evaluated at the time of the fund's inclusion. While it may make sense to insulate employers from suits motivated by hindsight-biased allegations about underperforming funds, concerns about hindsight are much less applicable to allegations regarding fees.

Because the costs of investment options are known ex ante, the focus on the fiduciary's procedure becomes almost tautological in fee cases. In *Tibble*, for example, the complaint alleged that certain funds were offered through retail share classes when institutional share classes were available. The court was at pains to say that the violation was not the inclusion of the retail share classes

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120. *See supra* Part I.C.

121. An analogy can be made to the business judgment rule, which emphasizes informed business decisions rather than direct judicial oversight of particular business decisions. *See, e.g.,* 1 AM. LAW INST., PRINCIPLES OF CORPORATE GOVERNANCE: ANALYSIS AND RECOMMENDATIONS § 4.01(c), at 141-43 (1994). The discussion below demonstrates why the reasoning behind the business judgment rule is less applicable to cases of the selection of high-fee and dominated funds for 401(k) investment menus. The practice of revenue sharing also calls into question whether menu construction decisions are, in fact, made by financially disinterested parties as required by the business judgment rule. *Id.* § 4.01(c)(1), at 139, 142.

themselves, but the fiduciary's failure to *consider*, as a procedural matter, whether institutional shares were available.[122] In the *Braden* case, the lower court held, before being overruled, that the failure to specify procedural failings was fatal to the plaintiff's claim on a motion to dismiss, despite the fact that the menu consisted solely of high-fee options.[123]

Absent concerns about hindsight, it is unclear what useful work the emphasis on procedure is doing. High fees — and particularly the inclusion of dominated funds — are strong evidence that a fiduciary has not prudently constructed the menu. One need not treat high fees as a per se breach in order to deemphasize the importance of procedural matters.[124] The question ought to be simply whether a fiduciary acted reasonably. If the fiduciary can produce evidence of "relevant considerations"[125] to defend the choice, then no liability should attach. Of course, careful and consistent procedures may produce documentation and other evidence that helps make the case that the fiduciary acted reasonably. However, it is the quality not of the procedure, but of the decision, that ought to be the core consideration.

3. A Coherent New Standard

Our suggested revised fiduciary standard fits squarely with the empirical evidence on investor choice in 401(k) plans. If the purpose of menu construction is to aid investor choice, then the standard for evaluating menu construction should be responsive to what we know about the choices that investors make. Since investors tend to hold many (if not all) of the funds that are offered, the legal standard should focus on the question of whether each individual fund is a worthwhile addition to the menu. That evaluation should focus not on the decision-making process that leads to the conclusion, but on whether the inclusion of the fund is defensible. This adjusted standard puts the emphasis on fiduciaries' structuring of menus, including their elimination of dominated funds, to encourage sound investing choices.[126] Procedure is not ir-

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122. *See* Tibble v. Edison Int'l, 711 F.3d 1061, 1085-87 (9th Cir. 2013), *amended and superseded by* 729 F.3d 1110 (9th Cir. 2013).

123. Braden v. Wal-Mart Stores, Inc., 588 F.3d 585, 595-96 (8th Cir. 2009).

124. *Tibble*, 711 F.3d at 1083 (declining to hold that offering retail share classes constitutes a per se breach of fiduciary duty).

125. *Id.*

126. *See supra* text accompanying note 71-74. Under the Pension Protection Act of 2006, 29 U.S.C. § 1001 (2012), fiduciaries who stop offering funds are able to maintain participant-directed safe harbor liability for "mapping" (that is, establishing a procedure for the default transferring) investments from the discontinued, dominated fund to a "reasonably similar" fund in terms of risk and return — so long as the "[p]articipants are notified of the change at

relevant to such a determination, but it should not be necessary to point to a concrete procedural defect in order to show that a menu is substantively deficient.

Our focus on substance is analogous to how tort law might approach the issue of design defects. Consider a car with a button on the steering wheel that served no beneficial purpose but only caused the car to drive less safely. By making this design choice, the car manufacturer would run a substantial risk of being held accountable under products liability law for failing "to design a product to prevent a foreseeable misuse."[127] The fact that informed consumers would not push the button would not absolve the manufacturer from liability for including an option that no reasonable user should ever push as long as it had been foreseeable that some users would misuse the car by pressing the button. The likelihood of investor misallocation is just as foreseeable.

The more aggressive role we propose for courts in policing menus is consistent with the Department of Labor's view that menu selection is prior to employer choice and should not be subject to the 404(c) safe harbor. Our proposed approach is somewhat more aggressive than that of the *Tibble* court, which sided with the Department of Labor, insofar as we take a whole menu approach to policing dominated funds and to the extent we deemphasize procedural considerations. Nevertheless, our approach is a better fit for both the policy goal of providing high-quality menus and the legal principle that a fiduciary ought to act in the best interests of plan participants. It is anathema to the notion of fiduciary duty to allow employers to make decisions that predictably profit service providers at the expense of plan participants.

B. Revenue Sharing and Cross-Subsidization of Expenses

The changes to the fiduciary standard that we suggest would substantively alter the construction of menus, as well as the way that 401(k) plans are financed. To the extent that plans rely on revenue sharing to cover plan-level expenses, our proposal to expand liability for offering high-cost options would limit the stream available for revenue sharing. While total costs may be reduced, these reforms may also result in costs that were previously covered out of revenue sharing being billed directly to the plan. We view this change as a positive one for two reasons. First, revenue sharing creates perverse incentives

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    least 30 but not more than 60 days prior to the effective date of the change" and the participants have "not provided affirmative investment instructions to move to another investment option." Jennifer Heilig et al., *Mapping - What the New Regulations Suggest for Defined Contribution Plans*, NEPC 2 (2013), http://www.nepc.com/writable/research_articles/file/2008 -04_nepc_mapping_what_the_new_regs_suggest.pdf [http://perma.cc/Y2DG-UV7W].

127. Welch Sand & Gravel, Inc. v. O & K Trojan, Inc., 668 N.E.2d 529, 533 (Ohio Ct. App. 1995).

for plan advisors to suggest dominated funds. Second, revenue sharing promotes a pernicious cross-subsidization of plan-level expenses from less sophisticated to more sophisticated investors or employees.

The practice of revenue sharing means that income from fees collected by the advisors of investment funds on the plan menu are passed back to the service provider as compensation for certain services.[128] The administrative costs of running the plan are paid out of the investment management fees. One potential objection to our proposal to lower the costs of funds in the menu is that the costs of the plan must be paid somehow, and costs that are currently borne through revenue sharing may simply reappear as direct costs if high-fee funds are eliminated from menus. If this is the case, the argument goes, then perhaps there is not much benefit to be had through revising the plan menu.

This objection overlooks one important aspect of the practice: even if eliminating high-cost options leads to increases in other fees, the distribution of those fees would be different. In the current regime, the relatively unsophisticated investors who choose dominated and other high-cost funds effectively subsidize the administrative expenses of plan participants who opt into the low-cost options. Since high-cost funds contribute disproportionately to the pool of fees available for revenue sharing to cover administrative costs, investors in those funds contribute disproportionately to the administration of the plan. We see no normative justification for this cross-subsidization. Administrative costs are real costs associated with plan operations and are not particularly onerous in efficiently structured plans. Why should unsophisticated investors fund the retirement accounts of workers with the sophistication to opt out of low-quality choices?

While courts have generally viewed revenue sharing as a relatively innocuous means of paying administrative bills that must be paid one way or another,[129] neither courts nor, to our knowledge, commentators have acknowledged that revenue sharing amounts to a cross-subsidization of sophisticated investors by unsophisticated investors. Importantly, fee-sensitive investors have little incentive to agitate for menus with fewer high-cost options when they benefit indirectly from the mistakes made by holders of high-fee funds through the subsidization of plan-level costs through revenue sharing.

C. The Limits of a Revised Fiduciary Standard

The reforms we suggest are sensible in light of what the economics literature has taught us about menu effects in 401(k) plans. Ultimately, though, it is

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128. *See supra* note 32 and accompanying text.
129. *See, e.g.*, Braden v. Wal-Mart Stores, Inc., 588 F.3d 585, 590 (8th Cir. 2009).

doubtful that even the most stringent fiduciary standard can have a significant impact on the widespread problem of high-fee funds.

While ERISA class action lawsuits regarding plan costs are not uncommon, they are ill-matched to the scope of the problem.[130] As with many class action lawsuits, fee lawsuits rely on plaintiffs' attorneys to identify potential claims and initiate the action. Thus, a lawsuit is undertaken only when the plaintiffs' bar finds the expected recovery sufficient to justify the investment required to pursue the case. But the recoveries in fee litigation are, at most, a small portion of the assets in the plan. Even in a very expensive plan, fees are generally two or three percent of total plan assets, and only the portion of fees that is held to be excessive is recoverable. Attorneys' fees, of course, will typically be a fraction of that amount, and so the incentive to undertake the suit is attenuated.

The problem is exacerbated by the fact that the highest fees are concentrated in the smallest plans. The high-profile suits described above—Hecker, Braden, and Tibble—all involved plans with billions of dollars invested. Since fees are a percentage of plan size, even a substantial recovery in percentage terms for a fiduciary breach in a small plan may not provide sufficient incentive to bring suit.[131] The class action model is an imperfect tool to address the widespread problem of high fees in small plans, but that is precisely the problem that our evidence suggests exists in the 401(k) market. While calls for expanding potential liability need to contend with the possibility of frivolous litigation and the related concern that employers without secure safe harbors will cease to offer retirement benefits,[132] our primary concern here is that expanded liability is unlikely to generate enough of the right kinds of cases to deter investors in small plans or to compensate them. While enhanced fiduciary duties might curtail the prevalence of dominated funds and other menu defects in large plans, these problems would likely persist in smaller plans.

IV. IMPROVING INVESTOR OUTCOMES IN RETIREMENT PLANS

In this Part we develop several policy proposals that go beyond heightened fiduciary duties in addressing fee issues, particularly in small plans that are unlikely to be targets of fiduciary suits. We suggest: (1) extending the existing

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130. ERISA permits plan participants to recover as a class for fiduciary breaches. *See* 29 U.S.C. §§ 1109(a), 1132(a)(2) (2012).

131. This claim is in part inspired by our conversations with plaintiffs' attorneys.

132. For a discussion of how rules aimed at benefiting consumers can backfire and hurt consumers, see Robin S. Conrad, *The Roberts Court and the Myth of a Pro-Business Bias*, 49 SANTA CLARA L. REV. 997, 1007 (2009). Our policy proposals in Part IV would mitigate these concerns, as they would provide stronger default options and greater standardization that would make it easier for small plans to meet their fiduciary obligations.

Qualified Default Investment Alternative framework to encourage low-cost defaults; (2) providing enhanced disclosures that provide all-in fee information, specifically for high-cost plans, combined with rollover rules that permit investors to remove funds from high-cost plans; and (3) requiring investors to pass a sophistication test before they can invest in funds with a substantial risk of underperformance. Some of these proposals could be adopted through relatively simple regulatory changes,[133] while others would require legislative change. The proposals also differ in terms of how radically they would alter the plan landscape and how likely they are to be adopted. While certain aspects of these changes interact, each could also stand on its own with little modification.

A. Strengthen Qualified Default Investment Alternative Regulations

Research on 401(k) plans has shown that default options have powerful effects.[134] While a fully rational individual operating free of constraints on time and attention would simply reallocate his investment to reflect an optimal portfolio, real-world investors have a strong tendency to lock in and continue to hold whatever investments they initially purchase.[135] Therefore, it is especially important to adopt policies that promote prudent initial investment choices.

The current Qualified Default Investment Alternative (QDIA) rule is an important step toward making 401(k) participation and allocation automatic so as to minimize the impact of behavioral biases. The Pension Protection Act of 2006 permits employers to enroll employees in 401(k) plans as a default, and to invest their funds by default into the plan's QDIA.[136] To qualify as a QDIA, an

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133. We discuss the possible means of implementing proposals in the context of the individual proposals. We hasten to add that, as the extensive litigation over the limits of the 404(c) safe harbor indicates, the scope of the Department of Labor's regulatory authority is the subject of considerable debate. Moreover, whether a regulation survives scrutiny is partially a matter of the process by which it is adopted and the evidence marshaled to support it. Anticipating whether a policy could be adopted by regulation, therefore, is not an exact science.

134. *See, e.g.*, James J. Choi et al., *For Better or for Worse: Default Effects and 401(k) Savings Behavior, in* PERSPECTIVES ON THE ECONOMICS OF AGING 81 (David A. Wise ed., 2004); William G. Gale & J. Mark Iwry, *Automatic Investment: Improving 401(k) Portfolio Investment Choices, in* AGING GRACEFULLY: IDEAS TO IMPROVE RETIREMENT SECURITY IN AMERICA 33, 38 (Peter R. Orszag et al. eds., 2006); Brigitte C. Madrian & Dennis F. Shea, *The Power of Suggestion: Inertia in 401(k) Participation and Savings Behavior*, 116 Q.J. ECON. 1149, 1159 (2001). *See generally* Bubb & Pildes, *supra* note 22, at 1627 (describing the literature on default effects).

135. Bubb & Pildes, *supra* note 22, at 1628 ("[O]nly 1-3% of people tended to change their initial portfolio allocations.").

136. The provision is implemented as an extension of the meaning of "control" within the 404(c) safe harbor. Default enrollment and investment in a specified fund will be treated as an act under the employee's control and therefore will not subject the employer to liability if the

investment fund must, applying "generally accepted investment theories," be either (1) "diversified so as to minimize the risk of large losses" and be "designed to provide . . . a mix of equity and fixed income exposures based on the participant's age, target retirement date (such as normal retirement age under the plan) or life expectancy,"[137] or (2) "consistent with a target level of risk appropriate for participants of the plan as a whole."[138] Traditional "target-date funds," which decrease stock exposure as the target date nears, or so-called "balanced" funds, which contain relatively fixed proportions of stocks and bonds, are common and desirable QDIAs.

Notably missing from the requirements for a fund to be a QDIA is any limitation on the fund's cost. This is yet another instance in which concerns about diversification have taken precedence over concerns about costs.[139] A QDIA must be diversified and balanced, but there is no separate requirement that fees in the default fund fall below any threshold, or even be good relative to the market.

We propose strengthening the current QDIA rules in two ways, in effect creating an Enhanced QDIA standard or EQDIA. First, we would require that EQDIAs, in addition to meeting the qualifications of QDIAs, be low cost as described below.[140] Second, while current rules merely permit plans to designate a default investment fund, we would mandate that plans designate an EQDIA as a default investment choice.[141] This would make EQDIAs a universal feature of 401(k) plans.

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other requirements of the safe harbor are met, along with the specific requirements for the default option.

137. 29 C.F.R. § 2550.404c-5 (2009) ("Such products and portfolios change their asset allocations and associated risk levels over time with the objective of becoming more conservative (i.e., decreasing risk of losses) with increasing age. For purposes of this paragraph (e)(4)(i), asset allocation decisions for such products and portfolios are not required to take into account risk tolerances, investments or other preferences of an individual participant. An example of such a fund or portfolio may be a 'life-cycle' or 'targeted-retirement-date' fund or account.").

138. *Id.*

139. A QDIA would be subject to a claim of excessive costs just as any other fund in a plan menu, but as described above, this liability is difficult to establish under current case law. A default option ought, in our view, to be more closely policed for costs.

140. This change could likely be accomplished by amending the existing QDIA regulations to include a fee ceiling in order to receive the safe harbor protection under ERISA section 404(c)(5), which explicitly grants the Department of Labor authority to create "regulations under this subparagraph [that] provide guidance on the appropriateness of designating default investments." 29 U.S.C. § 1104 (2012).

141. Section 404(c)(5) is expressly phrased as a safe harbor from the plan sponsor's being held to have exercised control over the assets (and therefore incurring fiduciary liability for the in-

To qualify as an EQDIA, we propose that a fund have expenses that are less than a relatively low regulatory threshold. We suggest fifty basis points as a reasonable cutoff. As is the case with any hard fee cutoff, fifty basis points is somewhat arbitrary, but would permit almost all index funds, including passively managed target date funds, as well as relatively low-cost actively managed funds to function as defaults. A clear threshold would provide plan sponsors with the benefit of certainty. There are hundreds of funds that currently exist in the marketplace and that would qualify as EQDIAs.[142] Our proposal would not prohibit actively managed funds, of which there are several available to institutional investors at this price point, but, as a practical matter, most EQDIAs will be passively managed. In light of the research on how difficult it is to beat market returns,[143] we regard placing investors by default into low-cost index funds to be an empirically well-supported policy, particularly in small plans without much bargaining power vis-à-vis service providers.

B. Freeing Employees from High-Cost Plans

1. High Costs Undermine the Policy Case for Employer-Sponsored Plans

In many ways, the current structure of 401(k) plans is a result of path dependence rather than deliberate design.[144] Employers originally offered pensions to induce loyalty and provide security.[145] As pensions became more regulated, defined-contribution plans, which exposed the employer to less long-term financial risk, gained popularity as a tool for employers to supplement pensions without increasing future liabilities. These defined-contribution plans have gradually come to dominate the retirement savings space as the popularity of defined-benefit plans has declined.[146] Since defined-contribution plans slowly evolved to become a major component of retirement savings, beyond merely a supplement to pensions, they were not originally designed to provide as much of a portion of retirement income as they are currently expected to provide.

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vesting decisions). Such a change would likely require enabling legislation. 29 C.F.R. § 2550.404c-5 (2009).

142. The balanced and target date index fund categories in our sample all have mean fees below the threshold. There are several actively managed funds that would also meet the threshold.

143. *See supra* Part I.A.2.

144. *See* Zelinsky, *supra* note 4, at 471 ("ERISA, without anyone planning it that way, started the trend toward the defined contribution society as we know it today.").

145. JOHN H. LANGBEIN ET AL., PENSION AND EMPLOYEE BENEFIT LAW 7-11 (5th ed. 2010).

146. *Id.*

Nevertheless, employer-sponsored, defined-contribution plans have advantages over individual investing. First, pooling employee assets into large investment accounts allows employers to potentially leverage lower investment management fees.[147] Limited plan menus may also encourage better investment decisions by employees. For example, they may encourage investments in diversified mutual funds rather than individual stocks. And at least as a theoretical matter, menu-driven choices give employees greater autonomy than defined-benefit plans to tailor the levels of risk and reward to better fit their "in-"individual preferences and circumstances."[148]

The advantages for employer sponsorship can evaporate in plans that offer menus with dominated choices and high fees. Too many 401(k) menus present a set of selections with pitfalls that employees must carefully avoid — in contrast to a model in which a sophisticated party uses leverage to drive a hard bargain on behalf of all employees. Our empirical evidence indicates that, at least for a subset of plans, employers make many of the same mistakes as individuals in setting up plans. For example, while research suggests that low-cost index funds often outperform actively managed funds,[149] actively managed funds continue to predominate in plan menus.[150] Others have pointed out that funds included in 401(k) menus tend to have a history of strong performance, suggesting that plan sponsors chase returns much like individual investors do.[151] Extensive research has shown that return-chasing behavior in mutual fund investing is unlikely to be a successful investment strategy.[152] In such cases, the question becomes: does the tax code's policy commitment to employer-sponsored retirement accounts make sense?

The law provides few avenues for escape once money is paid into a 401(k) plan. The money cannot be withdrawn without penalty except under limited

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147. Zelinsky, *supra* note 4, at 459 (noting the advantage of economies of scale in employer plans).

148. Zvi Bodie et al., *Defined Benefit Versus Defined Contribution Pension Plans: What Are the Real Trade-Offs?*, *in* PENSIONS IN THE U.S. ECONOMY 139, 145 (Zvi Bodie et al. eds., 1988) ("[Defined-contribution] plans typically offer sufficient flexibility to select a risk-return strategy suited to the employee's individual preferences and circumstances.").

149. For an overview of the relevant research, see Kwak, *supra* note 11, at 492-99.

150. More than 20% of plans in our sample still offer no index options. *See infra* Table 2; *see also* INV. COMP. INST., ICI INVESTMENT COMPANY FACTBOOK 2014, at 44 fig.2.14 (2014), http://www.ici.org/pdf/2014_factbook.pdf [http://perma.cc/KJ22-HDDN] (showing that 18% of the mutual fund market is invested in index funds).

151. *See, e.g.*, Edwin J. Elton et al., *The Adequacy of Investment Choices Offered by 401(k) Plans*, 90 J. PUB. ECON. 1299 (2006).

152. *See supra* note 44 and accompanying text (documenting the low degree of performance persistence).

circumstances.[153] An early distribution from a 401(k) is treated as income added to the plan holder's taxable income and is taxed at the applicable marginal rate. Additionally, the recipient of the distribution, unless he meets one of the stated exceptions, must pay a penalty of 10% additional tax.[154] The most commonly used exception to the restriction on early withdrawal occurs when employees change jobs and are permitted to roll over their assets from their old employer's plan into their new employer's plan.

The 401(k) system is predicated on the notion that investing in an employer-sponsored plan is better than saving in another type of account when the 401(k) option is available. The law provides ancillary, tax-favored means of saving for retirement. But for employees whose employers offer a 401(k), this option is likely to be the centerpiece of their personal retirement savings.[155] When economies of scale are not realized and a particular 401(k) plan offers inferior options to what might be available to an individual seeking an outside option, the incentives surrounding 401(k) plans — designed to spur individuals to save and invest responsibly — have the perverse effect of forcing employees to settle for suboptimal options or forgo the incentives to save.[156]

2. *Employees Should Be Able To Withdraw from High-Cost Plans*

There is no policy reason to lock employees into plans that leave them worse off than they would be if they had access to, for example, ordinary retail index funds. If a plan does not realize economies of scale, then one of the primary policy advantages of employer sponsorship is moot. In such cases, the

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153. The rules governing distribution of 401(k) money severely limit the occasions when 401(k) money may be distributed. These exceptions are laid out in 26 U.S.C. § 401(k)(2)(B)(i) (2012). Under this provision, the money may not be distributed unless the employee severs his employment, dies, is disabled, encounters substantial financial hardship, turns fifty-nine-and-a-half, or deploys as a reservist, or the plan is terminated by the employer without a replacement. Even the occurrence of one of these events doesn't mean that rollover will necessarily be allowed. For example, the IRS Restructuring and Reform Act of 1998 added section 402(c)(4)(C), which excludes hardship distribution from being rolled over. Pub. L. No. 105-206, 112 Stat. 685 (codified as amended at 26 U.S.C. § 402(c)(4)(C) (2012)). As a result, there are generally very few exceptions for when an employee may take money out of his 401(k) and roll it over into an IRA prematurely.

154. 26 U.S.C. § 72(t) (2012).

155. *See* Drummonds, *supra* note 6, at 270.

156. In instances when further incentives to invest in the plan are provided by employer matching, the situation is not really improved. The total compensation of the employee comprises a fixed pool of assets from which investment management fees are extracted. While an employer match is, all else equal, certainly good for an employee, an employer match into a high-cost plan simply means that the employer, as well as the employee, is unnecessarily paying excess fees.

impediments to employees' leaving such plans should also be mooted. Our pol-
icy proposal is simple: if the average total percentage costs paid by all investors
in a plan exceed a regulatory threshold, then investors should be permitted to
roll over their investments in the plan on a continuing basis, without penalty,
into an individual retirement account offering qualified, low-cost investments.
Employees who leave an employer with expensive 401(k) plans currently have
the option of rolling their accounts into the 401(k) of their new employer or an
IRA. This rollover option gives former employees the ability to escape being
locked into high-fee investments. Our proposal aims to provide employees
saddled with demonstrably deficient plans the incidental benefit of switching
employers – in other words, a penalty-free rollover – without actually requiring
that they change jobs.

Allowing employees to roll over from high-cost plans requires identifying
these plans and disclosing to employees the fact of high costs. This disclosure,
however, is a departure from recent changes to 401(k) fee disclosure rules is-
sued by the Department of Labor,[157] which have been met with some criti-
cism.[158] The current rules ensure that employees get basic fee information, but
many employees are unable to process such information and act on it effective-
ly.[159] By explicitly stating that the plan is high cost, our proposal would give
employees a far more useful signal; only with considerable effort can an em-
ployee glean useful cost information under the current fee disclosure rules.
Moreover, because employers likely want to avoid having their plans designat-
ed as high-cost, our proposed disclosure regime would give employers strong
incentives to only offer low-cost plans. In cases in which employees do face a
high-cost plan, they will receive notice and be offered a chance to roll over their
account without penalty.

This proposal could likely be implemented within existing statutory
frameworks. The Department of Labor could amend the disclosure require-
ments under ERISA to require disclosure of a plan's high-cost status.[160] IRS

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157. Fiduciary Requirements for Disclosure in Participant-Directed Individual Account Plans, 29
C.F.R. § 2550.404a-5 (2014).

158. *See, e.g.*, Christopher Carosa, *401k Fee Disclosure One Year Later: What We've Learned*, FIDU-
CIARY NEWS, July 16, 2013, http://fiduciarynews.com/2013/07/401k-fee-disclosure-one-year
-later-what-weve-learned [http://perma.cc/HS8W-STDF]; Ashlea Ebeling, *401(k) Fees Still
Widely Misunderstood*, FORBES, Mar. 11, 2013, http://www.forbes.com/sites/ashleaebeling
/2013/03/11/401k-fees-still-widely-misunderstood [http://perma.cc/4E8N-7BMT]; Richard
Eisenberg, *The Retirement Gamble We're All Making*, FORBES, Apr. 22, 2013, http://www
.forbes.com/sites/nextavenue/2013/04/22/the-retirement-gamble-were-all-making [http://
perma.cc/3Q7U-L34L].

159. *See supra* note 40 and accompanying text.

160. The existing disclosure regulations are at 29 C.F.R. § 2550.404a-5 (2011).

regulations already give plans the option of allowing current employees to roll over their 401(k) balances to traditional and Roth IRAs. A majority of plans—especially larger plans—allow these "in-service" rollovers.[161] Our proposal would require designated high-cost plans to offer in-service rollovers to all employees (instead of permitting plan fiduciaries to block in-service withdrawals).

This policy would directly benefit investors who leave high-cost plans for low-cost options elsewhere. It would have indirect benefits as well. First, employers whose plans are designated as high-cost would get a strong signal that they were not getting the best possible deal for their employees. Employers would receive another, similar signal if plan participants began exercising their in-service rollover option. These signals would likely lead some employers to seek menu options that decreased their fund costs below the regulatory threshold. Second, because the threshold is tied to the portfolios actually held by plan participants, employers would have incentives not only to include low-cost options, but also to ensure that employees are actually holding them, either through effective investor education or simply by eliminating high-cost options. Third, employees would get a signal of how their employer is doing. Since employees would be notified that their plan was designated high-cost (and that they qualified for the in-service rollover), the cost performance of the plan would be more salient to employees. While the option to escape might be attractive to some, others might put pressure on the employer to do better, which could even benefit investors who remain in the plan. Fourth, the proposal would make plan costs a more central consideration in regulation without engaging in outright price control.

a. Determining the Cost Percentage that Triggers the High-Cost Plan Designation

In this proposal, we link the rollover right to the average costs incurred by plan participants in the aggregate rather than to the fees paid by an individual. By doing so, we keep costs low by addressing the incentives to include dominated funds in plan menus. If plans include expensive funds that investors will

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161. *See Rollover Rules*, [2014] Pens. Plan Guide (CCH) ¶ 7710. An alternative approach to facilitating this type of rollover would be to modify the SIMPLE IRA (Savings Incentive Match Plan for Employees). Currently, the SIMPLE IRA regulations are targeted to employers with low-cost plans, but this retirement investment vehicle might be redeployed to mandate that employers with high-cost plans offer a qualifying SIMPLE IRA. For employers without retirement plans, the mandate would be to create a default SIMPLE IRA plan with a low-cost EQDIA investment. *See* OFFICE OF MGMT. & BUDGET, EXEC. OFFICE OF THE PRESIDENT, BUDGET OF THE UNITED STATES GOVERNMENT, FISCAL YEAR 2014, at 127 (2013) (proposing analogous auto-enrollment IRA for small employers without retirement plans).

predictably hold, then the fees incurred count against the expenses for the entire plan. The total average cost is the correct point of focus for a fiduciary whose responsibility runs to all of the investors in a plan.

The standard for defining "high-cost" should grow out of an inquiry into the distribution of costs that exist in the marketplace. Just as the term "high-cost mortgage" is based on a certain basis point increment above the average prime interest offer rate,[162] we propose that a high-cost plan be defined with reference to an increment above the average costs charged by an analogue to prime low-cost funds found in the marketplace. More specifically, we recommend that plans with average plan and fund level costs that exceed the average expense ratios of a mixed portfolio of index funds by 125 basis points receive the "high-cost" designation. We estimate that currently our index+125 standard would set a 148 basis point trigger for plan designation and that approximately 10% of plans in our sample would qualify for the high-cost designation.

It is not our position that *all* plans so designated are charging excess fees. The higher costs can be justified by a variety of services, including the plan-level services of providing advice on how much to save and how to invest, or because a plan is very small.[163] But we believe that designated high-cost plans are more likely to charge excess fees than the plans not so designated, and if a plan is too small to benefit from economies of scale to generate lower fees, then employees should be free to leave in any case. Labeling these plans "high-cost" warns participants that they might be better off rolling over their investment to a lower-cost IRA. Of course, if a plan provides valuable services or otherwise meets the needs of investors, then the rollover options might be little-used for that plan, but our proposal would give investors the opportunity to decide whether those services are worthwhile.

b. Distributive Effects

It's not clear that investors who roll over into an IRA will be better off. There are IRA accounts that make essentially the entire universe of mutual funds available to investors. Moreover, some IRA account providers have known issues with high fees,[164] so plan participants who roll over to IRA in-

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162. Requirements for High-Cost Mortgages, 12 C.F.R. § 1026.32(a) (2012).

163. Our research casts doubt on the extent to which high plan costs are related to generous services. We find that plans with high costs also tend to have lower participation rates, lower contribution rates, and worse portfolios, even controlling for relevant covariates. *See infra* Table 6. This suggests that high-cost plans may not, in fact, be more likely to provide services that investors value or that enhance portfolio allocations.

164. While addressing fee issues in rollover accounts is beyond the scope of this paper, IRAs have recently attracted the attention of regulators due to concerns about investor decisions in

vestments might be jumping from the frying pan into the fire. In addition, rollover investors might fail to diversify adequately or might expose their portfolio to too much or too little systemic risk. Since investors are, by construction, departing only high-cost plans and are likely doing so to avoid high fees, these concerns are less acute than concerns that arise with respect to, for example, investors in a low-cost plan using a brokerage window. Moreover, the high-cost designation is one that plans are likely to avoid whenever possible, so we expect to see few such plans in equilibrium, meaning rollovers will be relatively rare in practice.[165] Of course, the most desirable course of action would be to address the fee problems in IRA accounts directly through reforms that, for example, encourage low-fee options in accounts that receive rollover funds, rather than trapping investors in high-cost 401(k) plans to protect them from the dangers of high-cost IRAs.

It is likely that fee-sensitive investors will be the ones who use the rollover option to escape high fees, whereas unaware and unsophisticated investors may be left behind in the plan. Paradoxically, these sophisticated investors are more likely to avoid high-fee options to begin with by choosing wisely over the plan menu. Of course, in a plan that has high-cost funds across the board, allowing sophisticated investors to escape will be beneficial to those who use the option, but most plans are not structured this way. For example, it is possible for a plan to offer dominated funds and very low-cost options that are more attractive than options available outside the plan. In these cases, sophisticated investors might stay put even if the plan is designated high cost. If they stay and, a fortiori, the bulk of fee-insensitive investors stay in the plan, then the rollover policy will have little effect. It remains true that the employer and plan participants would get a signal from the high-cost designation that the plan is expensive, which would be helpful in potentially encouraging the employer to renegotiate the plan with the service provider. Absent this effect, however, the composition of the plan might remain largely unchanged. Escape is, therefore, an incomplete solution. In the next section we consider a reform aimed at aiding investors who are unlikely to depart even a high-cost plan.

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those accounts. *See, e.g.*, Nick Thornton, *ERISA Panel To Dig into Rollovers*, BENEFITSPRO (July 11, 2014), http://www.benefitspro.com/2014/07/11/erisa-panel-to-dig-into-rollovers [http://perma.cc/L97N-CYQC].

165. Researchers have found that the Department of Labor's enhanced disclosure requirements, discussed in Part I.A.2, have had a "small impact" on employers' offerings. Erickson & Madland, *supra* note 39. Between 2012, when the Department adopted the enhanced requirements, and 2013, the number of employers planning to change investment options over the next year increased from 44% to 51%. *See id.* We anticipate that our approach, however, which makes a plan's high-cost status much more salient to investors and fiduciaries, will have a larger impact as fiduciaries reduce plan fees to avoid the high cost designation.

C. Strengthening Qualified Defaults To Encourage Low-Cost Investing

One way to frame the foregoing suggestions is that they are aimed at (1) creating smaller menus that include choices that are more robust to known be-havior biases such as naïve diversification and (2) establishing defaults that are appropriate for most investors. Some investors, however, have either genuinely unusual investing goals or informed but esoteric preferences that cannot be ac-commodated through menus designed with the welfare of mainstream savers in mind. How should the tradeoff be made between the need to construct a menu suitable for most participants and the desire to provide options suitable for investors with other needs? With the backing of the large menu defense, some plans opt for very extensive menus, which put investors at risk of holding underperforming investments. In plans that seek to maintain a more curated menu, this desire is sometimes met through the use of a brokerage window,[166] which provides access to hundreds or thousands of funds and even individual stocks that investors can opt to hold. Of course, many of those funds will be high-cost options that would qualify as dominated funds under our metric, and there is a risk that investors using brokerage windows will be worse off than if they had been constrained to the plan menu.[167]

The current legal approach to defaults is to allow investors to freely reallo-cate their portfolio to other funds in the menu or in a brokerage window. But if defaults are the right answer for most investors, then a thumb on the scale in favor of defaults may be desirable. The proposal we develop here is motivated, in part, by the important work of Ryan Bubb and Richard H. Pildes, who have critiqued behavioral economists for an ideological commitment to choice preservation, when a central tenet of behavioral economics is that choices can be systematically suboptimal.[168] Indeed, they have specifically called out advo-cates of opt-out defaults in 401(k) plans for exposing investors to the risk of ill-advised departures from the default.[169] We are moved by the arguments of Bubb and Pildes that regulations founded in behavioral economics should es-chew "choice-preservation" as a central element because choices are likely to

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166. About 11% of plans in our sample include brokerage windows.

167. See, e.g., Roger Levy, *A Dangerous Leap Through the Brokerage Window*, WORKFORCE (Apr. 28, 2010), http://www.workforce.com/articles/a-dangerous-leap-through-the-brokerage -window [http://perma.cc/G797-ZKFJ] ("Letting 401(k) plan participants jump through the brokerage window is tantamount to giving the inmates run of the asylum."); Sheyna Steiner, *Risk of 401(k) Plans with a Brokerage Window*, BANKRATE (Sept. 3, 2013), http:// www.bankrate.com/finance/investing/401k-plans-brokerage-window.aspx [http://perma.cc /6T3E-65TQ].

168. Bubb & Pildes, *supra* note 22.

169. *Id.* at 1658.

expose participants to considerable risk of mistake. Mandates, however, are not the sole alternative to unrestricted choice.

As a middle ground between costless opt out and mandates, we propose that the Department of Labor adopt "altering rules" that reduce the likelihood of uninformed investment choices. Altering rules are the legal "necessary and sufficient conditions for displacing the legal consequences of a default rule."[170] Just as software programmers at times beneficially impose "are you sure" warning boxes before allowing files to be deleted, the Department of Labor should structure altering rules that reduce the chance that plan participants who opt out are making obvious mistakes.

Specifically, we propose two tiers of altering rules that will allow plan participants to opt for presumptively safe EQDIA alternative investments easily, but will prophylactically require evidence of sophistication before participants can opt for non-EQDIA investments. Under this regime, plan participants will be able to freely transfer their investments in whole or in part among funds that qualify as EQDIAs. This reform will give investors some flexibility in allocating their portfolios to account for different risk preferences, while still ensuring that they avoid serious allocation errors. For example, investors with more risk tolerance could opt for a target date fund with a date beyond their anticipated retirement date.

More radically, however, investors seeking to make aggressive allocations or to invest through brokerage windows should be required to demonstrate a specified level of knowledge by passing a "401(k) Investment Sophistication" test.[171] This proposal is an example of a "train and test" altering rule that reduces the likelihood of error by requiring individuals to demonstrate actual knowledge of the issues related to opt out before they can deviate from the status quo.[172] Train and test altering has been deployed in other high-stakes settings (such as student loans and human subjects approval)[173] and has been rec-

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170. Ayres, *supra* note 21, at 2036.

171. Creating a train and test regime to regulate menu allocation in plans is almost certainly beyond the existing regulatory authority of the Department of Labor. Thus, this proposal amounts to a call for legislation to create such authority.

172. Ayres, *supra* note 21, at 2076.

173. The 2008 Higher Education Opportunity Act encourages institutions administering student loan programs to use "*interactive programs that test the borrower's understanding* of the terms and conditions of the borrower's loans . . . using simple and understandable language and clear formatting." 20 U.S.C. § 1092(*l*)(1)(B) (2012) (emphasis added). Health Insurance Portability and Accountability Act (HIPAA) regulations require researchers to train and test on the requisite privacy protection before they can access personal health information. 45 C.F.R. § 164.530(b) (2010).

ommended for testing securities sophistication.[174] Some investors with significant outside wealth may have genuinely specialized investment needs for their 401(k) plans but be unable to pass (or uninterested in passing) the test. To accommodate these individuals, employees acting pursuant to professional financial advice from, for example, a certified financial planner, should be permitted to bypass the testing requirement. It is important that this professional advice not originate from the plan service provider to avoid the sort of conflicts of interest described above.[175]

As applied to the 401(k) context, the test should strive to assure that test takers understand the potential risks of the investing mistakes documented above: investing in funds with excess fees relative to fund services, investing in undiversified portfolios, and investing in portfolios with risk exposure that is not suitable considering the investor's time horizon. The test should address these core problems by requiring a rudimentary understanding of the impact of fees, the importance of diversification, and the appropriate levels of risk for young and old employees. For example, the test could confirm that an investor understands that high management costs reduce returns and must be offset by higher returns to make investing in a high-cost fund worthwhile. Similarly, the test might evaluate the test taker's understanding of the benefits of diversification.[176] The goal would be to increase the likelihood that investors who opt out are likely to leave themselves better off than they would be if they stuck with the default. The test would impose not simply a surmountable barrier that imposes a pure cost (filling out a form, for example), but a barrier calibrated to correlate with investor sophistication.[177]

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174. A 2009 *Forbes* article suggested that sophisticated investors "should be required to meet minimum qualifications, attend a few educational classes and pass a basic test of knowledge of the markets." John E. Girouard, *The Sophisticated Investor Farce*, FORBES (Mar. 24, 2009, 12:30 PM), http://www.forbes.com/2009/03/24/accredited-investor-sec-personal-finance -financial-advisor-network-net-worth.html [http://perma.cc/Z66B-WW6B].

175. *See supra* note 36 and accompanying text.

176. Before implementing our proposed altering rule regime, the Department of Labor should establish empirically that people who can pass the test are better able to make retirement investment decisions. There is evidence that such tests can improve decision making if they are well designed. *See infra* note 177. The Department should also simultaneously develop training materials to help motivated participants learn the kind of information needed to pass the test.

177. There is evidence that basic financial education can improve decision making. *See, e.g.,* James J. Choi et al., *$100 Bills on the Sidewalk: Suboptimal Investment in 401(k) Plans*, 93 REV. ECON. & STAT. 748 (2010); Fisch & Wilkinson-Ryan, *supra* note 35; Jinhee Kim & E. Thomas Garman, *Financial Education and Advice Changes Worker Attitudes and Behaviors*, J. COMP. & BENEFITS, Sept./Oct. 2003, at 7; Bruce Ian Carlin & David T. Robinson, *What Does Financial Literacy Training Teach Us?* (Nat'l Bureau of Econ. Research, Working Paper No. 16271, 2010); *see also* Maarten C.J. van Rooij et al., *Financial Literacy, Retirement Planning and*

Some participants under this regulatory regime would not be able to opt for non-EQDIA investment alternatives without seeking professional advice for the simple reason that they would lack the required knowledge to pass the sophistication test. Existing work on financial literacy is helpful in providing a benchmark: only about one-third of 1269 respondents in a "nationally representative longitudinal dataset of Americans over the age of 50" were able to answer these three questions correctly:

- Suppose you had $100 in a savings account and the interest rate was 2% per year. After five years, how much do you think you would have in the account if you left the money to grow: more than $102, exactly $102, less than $102?

- Imagine that the interest rate on your savings account was 1% per year and inflation was 2% per year. After one year, would you be able to buy more than, exactly the same as, or less than today with the money in this account?

- Do you think that the following statement is true or false? "Buying a single company stock usually provides a safer return than a stock mutual fund."[178]

Both the content of the test and the passing score needed to opt out can be debated, but the questions should be substantially more difficult than the three presented above. Even with training, the proportion of participants qualifying for opt out is likely to be small.

That some investors would not be able to opt out of designated funds without unbiased professional advice is not a bug, but a feature of our proposal. Our proposal avoids two key criticisms made by Bubb and Pildes against some policies motivated by behavioral law and economics. First, we recognize

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Household Wealth, 122 ECON. J. 449 (2012) (providing a relationship between financial literacy and net worth); Annamaria Lusardi & Olivia S. Mitchell, *Financial Literacy and Planning: Implications for Retirement Wellbeing* (Nat'l Bureau of Econ. Research, Working Paper No. 17078, 2011) (showing that financial literacy is correlated with better decision making in retirement planning).

178. The survey was a module in the 2004 Health and Retirement Study, in which 34.3% of respondents answered the three questions correctly. Lusardi & Mitchell, *supra* note 177, at 26 tbl.1; Annamaria Lusardi & Olivia S. Mitchell, *Baby Boomer Retirement Security: The Roles of Planning, Financial Literacy, and Housing Wealth*, 54 J. MONETARY ECON. 205, 215-16 (2007). The correct answers to the questions respectively are "more than $102," "less than today," and "false."

that because of our altering rule test, our default will operate as a de facto mandate for many investors.[179] Accordingly, we have made sure that it is well designed to avoid the concerns of high cost, poor diversification, and poor risk suitability.[180] Second, we recognize that cognitively constrained participants may commit errors when they opt out of the default to make investment choices;[181] our testing altering rule is explicitly tailored to minimize these errors.

Our approach aims for evidence-based choice preservation. In contrast to Bubb and Pildes, who are more inclined to regulate by mandates,[182] we would allow participants who demonstrate sufficient sophistication to deviate from the presumptive best investing practices. Furthermore, unlike Thaler and Sunstein, who are more inclined to preserve a comprehensive list of investment alternatives but use inertial "choice architecture" to discourage opting out,[183] our

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179. *See* Bubb & Pildes, *supra* note 22, at 1616-25 (arguing that many default rules function as de facto mandates without being acknowledged as such by the architects of the relevant defaults).

180. Bubb and Pildes also point out that default contribution rates are often inefficiently low (at 3%). Bubb & Pildes, *supra* note 22, at 1618-19. While this Article's focus is on investment choice, the Bubb and Pildes de facto mandate argument cuts in favor of a higher default contribution rate on the order of 6%.

181. In criticizing the leading study on optimal default contribution rates in the behavioral economics literature, *see* Gabriel D. Carroll et al., *Optimal Defaults and Active Decisions*, 124 Q. J. ECON. 1639 (2009), Bubb and Pildes point out: "Crucially, the authors assume that whenever individuals actively choose their savings rate, they do so optimally and never make a mistake." Bubb & Pildes, *supra* note 22, at 1620. A striking example of mistaken affirmative choice can be seen in participants who do not take adequate advantage of employer matching. *See* Choi et al., *supra* note 177, at 748. The authors found that educating a randomly selected treatment group about this foregone compensation had no effect on raising contribution rates. *See also* THALER & SUNSTEIN, *supra* note 95, at 108 (finding that workers often turn down "free money" by not joining or delaying to join their plans).

182. Bubb & Pildes, *supra* note 22, at 1599 ("A full policy analysis might determine that behavioral limitations, combined with strategic behavior of firms, lead too many people to opt out who should not, making mandates better in terms of overall social welfare.").

183. Thaler and Sunstein conclude:

> A better plan would start by following Sweden's lead of choosing a good default plan, containing mostly index funds with managers selected by competitive bidding. Participants would then be guided through a simplified choice process (preferably on the Web). The process would start with a yes-or-no question: "Do you want the default fund?" For those who said yes, their task would be done (though of course they could always change their minds at a later date). Those who rejected the default would be offered a small set of blended funds, perhaps based on the age of the participant (again privately managed with competitive fees). Only participants who rejected all of these funds would get to the comprehensive list. Evidence from the private sector suggests that few participants would make use of the big list, but their right to do so would be fully protected.

proposal would use a more stringent and more tailored restriction on opt out. While we predict that few people would qualify to opt out of the default, we — unlike Sunstein and Thaler — would be unconcerned if a more substantial proportion did, because our altering rules assure that opt outs would be less likely to misallocate their portfolio. The proposal thus demonstrates the feasibility of a third way between costless opt outs and mandates that preserve (informed) choices, while still recognizing that not all decisions to opt out, particularly when opting out is costless, will leave investors better off.

Any altering rule that raises barriers to allocating away from the default is a marked departure from the current structure of the QDIA regulations, which are designed to maximize the opportunity that enrollees have to allocate away from the default choice. For example, current regulations require that at least three alternative investments be present in the plan, that employees be given information about alternatives, and that employees be presented explicitly with the option of altering the default.[184] Among the current requirements for the QDIA is that employees be able to easily allocate money invested in the default option to other funds in the menu.[185] These aspects of the current regulation may simply reflect the ascendency of "choice preserving" policymaking.[186] It may also reflect a sort of conservatism on the part of the Department of Labor. That is, maximizing the opportunity to opt out of the default lessens the concentration of investors in the default plan, making the move to the default less dramatic and more incremental. In moving from an opt-in regime to an opt-out regime, it is perhaps wise to make the option to opt out as salient as possible in order to minimize the thumb on the scale in favor of the default. However, if the default options are demonstrably better, then conservatism bias toward attenuated change ought to eventually give way to an optimal policy.[187]

Provided that a default meets the existing diversification requirements, is age-appropriate, and is low-cost, we believe that a thumb on the scale is highly desirable. A well-chosen target date fund is likely to be a far better option for most investors than attempting to make their own choices over a limited menu. How many employees have a good sense of how to allocate between stocks and bonds based on their age? What is the policy reason for leaving this decision in

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THALER & SUNSTEIN, *supra* note 95, at 156. This plan relies on a kind of double inertia in that participants who want to access the comprehensive list must make two affirmative choices.

184. *See* 29 C.F.R. § 2550.404c-5 (2013).

185. *See id.* § 2550.404c-5(c).

186. *See generally* Bubb & Pildes, *supra* note 22.

187. Another possibility is that making options salient for QDIAs is a direct result of the absence of fee considerations from the QDIA rule as currently drafted. Since the default fund might, as a result, be high cost, opting out might be optimal in some plans. EQDIAs address this issue by including fee considerations in the rule and so justify a more stringent altering rule.

the hands of employees rather than investment professionals? Raising the costs of opting out of the default is somewhat more paternalistic than the current regime, but it is far less paternalistic than a traditional defined-benefit pension, which essentially consists of a single investment option managed on behalf of all of the participants.[188] Our enhanced defaults (EQDIAs) preserve this feature of traditional pensions – investment decisions left in the hands of professionals – and adapt it to a defined contribution framework.

Moreover, this paternalism takes place within the framework of a substantial government subsidy. The tax code's subsidy of defined-contribution plans and IRAs represents a tax expenditure of $72 billion.[189] Participants are not just investing "their" money when they choose to invest on a tax-preferred basis. Employees would remain free to invest however they see fit by forgoing the tax subsidy and investing in a conventional brokerage account. The goal of the framework we propose is to maximize the public benefit of the tax subsidy by ensuring that the subsidized accounts are likely to be well invested.[190]

A potential objection to our proposal is that some current default options are imperfect, making easy opt out essential for participant self-protection. Target date funds, which frequently feature as a default option in 401(k) plans, have been criticized for offering unpredictable asset mixes and engaging in return-seeking behavior inappropriate for their investors' objectives.[191] Notably,

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188. *See* Zelinsky, *supra* note 4, at 456 (describing the structure of a traditional defined benefit plan).

189. Bubb & Pildes, *supra* note 22, at 1631, n.133 ("This is composed of about $64 billion for employer-sponsored [defined-contribution] plans, $4.3 billion for IRAs, $2.5 billion for Self-Employed plans, and $1.1 billion for the Saver's Credit available to low- and moderate-income households who contribute to an IRA or qualified [defined-contribution] plan."); *see also* OFFICE OF MGMT. & BUDGET, EXEC. OFFICE OF THE PRESIDENT, ANALYTICAL PERSPECTIVES: BUDGET OF THE UNITED STATES GOVERNMENT, FISCAL YEAR 2014, at 254, 257 (2013).

190. A potential concern is that some investors may be so determined to opt out of the defaults – despite an inability to demonstrate sophistication – that they elect to reduce their 401(k) contributions. Presumably, at least some individuals may already behave this way, chafing at even a low-cost employer-limited menu and opting to day-trade stocks in a brokerage account, for example. Further restricting menus might increase the tendency of such investors to invest outside a 401(k) plan, leaving most of them worse off. The number of such investors is likely to be quite small. First, employer-matching and tax benefits provide powerful incentives to use the 401(k) framework. Second, plan service providers benefit from increased assets under management and have an incentive to minimize the number of employees using outside options through marketing or education.

191. *See, e.g.*, Jill E. Fisch, *Rethinking the Regulation of Securities Intermediaries*, 158 U. PA. L. REV. 1961, 2022-24 (2010); Pierluigi Balduzzi & Jonathan Reuter, *Heterogeneity in Target-Date Funds: Optimal Risk Taking or Risk Matching?* (Nat'l Bureau of Econ. Research, Working Paper No. 17886, 2012), http://www.nber.org/papers/w17886.pdf [http://perma.cc/3MRY -7YCY]; Vallapuzha Sandhya, Agency Problems in Target-Date Funds (Mar. 15, 2011) (un-

target date funds with near-term target dates did more poorly during the financial crisis than many of their investors had expected, given the nearness of the target date.[192] If default investment options are systematically problematic, then restricting opt out may be harmful to investors. Of course, our proposed EQDIA regulatory changes are targeted at improving default options by keeping fees low. It also bears emphasizing that investors would always be free to allocate among EQDIAs. More importantly, though, to the extent default options remain so problematic that opt out is important, then this is not an indictment of restrictions on opt out, but rather raises questions about why the given option is a default in the first place. Here we side firmly with Bubb and Pildes: if default investment options are so low quality that restricting opt out to sophisticated investors is harmful, *then they should not be defaults regardless of the opt-out regime*. To rely on investors to opt out in order to protect themselves is to disregard the behavioral principles that motivated the default regime in the first place.[193]

Of course, some employees may have legitimate reasons for departing from the default option, and our suggested policy will not prevent them from doing so. Our proposal simply ensures that employees who choose to reallocate demonstrate some knowledge suitable to the investment task that they are undertaking or seek professional guidance from a disinterested advisor. This reform will not guarantee that investors who opt out will make prudent choices, but it represents a public commitment to the notion that the default is a suitable and vetted choice for most investors.

CONCLUSION

ERISA regulations have been successful at creating participant opportunities for diversified 401(k) investments but less successful at assuring competitive plan pricing. Our empirical evidence from Part II suggests that a substantial proportion of 401(k) plans have poorly designed menus that offer participants dominated (high-fee) funds. The problem of excess fees is sufficiently severe that, in 16% of plans, young participants would do better to forgo the tax benefits of 401(k) savings and invest any unmatched contributions in low-cost stand-alone investments. The problem of excess fees is so great that

published manuscript), http://papers.ssrn.com/abstract=1786976 [http://perma.cc/D3D3 -N65Y].

192. *See, e.g.,* Tom Lauricella, *Target-Date Funds Dodge a Bond Bullet,* WALL ST. J., Feb 3, 2014, http://online.wsj.com/news/articles/SB1000142405270230344820457934072362030857 0 [http://perma.cc/4F7C-B62R] (noting poor performance in 2008 among funds with targets 2011 to 2015).

193. *See* Bubb & Pildes, *supra* note 22, at 1599.

overweighting company stock in plans that offer it is often a reasonable alternative to investing in the high-cost options provided by the plan menu.

To address these problems, we have proposed reforms that would (i) enhance employers' fiduciary duties, (ii) increase participants' ability to avoid the harms of high-cost plans by encouraging in-service rollovers, and (iii) promote the use of plan defaults and altering rules. Adjusting the liability standard for fiduciary breach to address real problems in plan design that slip through the cracks under the current standard is important for two reasons. First, employers really do fear liability under ERISA, even if litigation is ill-suited to addressing the problems with most plans, and this fear motivates plan design choices. It is important, therefore, that the standard for fiduciary duty liability reflect best practices. Second, it is the prospect of liability that motivates companies to seek the protection of the 404(c) safe harbor. Since the safe harbor provides the regulatory hook for our more constructive reforms, it is important that the fiduciary liability regime remain robust.

Due to the shortcomings we addressed at the end of Part III, litigation alone is unlikely to be sufficient to address the issue of costs in 401(k) plans. Our regulatory and statutory reforms are aimed at increasing the chances that investors will hold low-cost options. Our more unconventional proposal requires that plans offer an enhanced default investment (EQDIA) and only allows opt out to non-EQDIAs for participants who demonstrate sufficient investor sophistication. Such a reform would likely produce substantial participant benefits, but because these dollars will largely be taken from the pockets of a well-organized advisor industry and because the reform departs substantially from the choice-preserving mantra of many advocates, it represents a political challenge. We have proposed a more modest rollover reform, which would permit existing employees invested in designated high-cost plans to roll over their investments to IRAs. While not as far-reaching as our enhanced default/altering rule proposal, this rollover reform is likely to reduce the number of "high-cost" plans and is more politically palatable than the alternatives.

Before imposing a new requirement on 401(k) plans, the Department of Labor should be confident that the new regulations will increase the risk-adjusted returns of ERISA investments as a whole. The reforms that we have proposed meet this criterion. Our proposals may restrain a small subset of informed investors, notwithstanding our proposed opt-out option for participants who pass a sophistication test, from investing in certain high-fee funds that offer higher expected gross returns. But systemic regulations should be centrally conditioned on systemic results. Regulations to correct menu design defects that predictably lead to excessive fees have a good chance of doing much more good than harm when it comes to ERISA investments as a whole.

The diversification revolution in retirement investments, while not complete, should be considered largely a success. An important reason for its success was that the advisor community was able to cooperate with the diversification project without sacrificing revenues. Attempts to reduce the costs of investing present much more of a zero-sum game, however, with the industry standing to lose when investors save on fees. As such, policy efforts to reduce costs, including those suggested here, will predictably meet fierce industry resistance. Nevertheless, the critical social importance of assuring that the retirement needs of an aging population are met makes reform a moral and policy imperative.

APPENDIX: DATA AND METHODOLOGY

A. Computing Optimal Portfolios

To measure the quality of 401(k) plan menus, we draw on the work of Cal-
vet, Campbell, and Sodini[194] and Tang et al.[195] We begin by implementing a
factor model that can be used to estimate the moments of return for each fund.
The model is as follows:

$$R_{it} - r_f = \beta_i^1 \cdot \left(r_{mkt,t} - r_f\right) + \beta_i^2 \cdot \left(r_{bond,t} - r_f\right) + \beta_i^3 \cdot \left(r_{intl,t} - r_f\right) + \varepsilon$$

Here R_{it} is the return of ith mutual fund for the month t. In the model, r_{mkt} is
the return on the Russell 3000, r_{bond} is the return on the Barclay's US Aggre-
gate Bond index, and r_{intl} is the return on the MSCI EAFE international equity
index. This model is similar to that used by Tang et al. We estimate the model
for all mutual funds using data between January 2002 and December 2009. If
mutual funds are missing more than three years of data during this period,
those funds and their associated plans are excluded from the sample. The risk-
free rate, r_f, is taken from three-month treasuries.

We estimate the mean excess return of the factors, $\hat{\mu}$, and the variance co-
variance matrix of the factors, $\hat{\Sigma}$. The absolute levels of menu- and investor-
level costs are sensitive to choice of estimating window for the factor moments.
One option, used in Tang et al., would be to estimate the factor moments over
the same window as the fund betas. However, we find that the portfolio
weights suggested by the factor moments over the period of 2002 to 2009 are
historically anomalous. The Sharpe ratio optimal portfolio during that time
would have shorted domestic equities and put more than 90% of the portfolio
into bonds. Estimating plan quality using these weights produces very large
menu losses, since very few plans include funds that negatively correlate with
domestic equities. While it is fair to question whether current plan menus are
well attuned to challenging market conditions,[196] we believe a more conserva-

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194. Laurent E. Calvet et al., *Down or Out: Assessing the Welfare Costs of Household Investment Mis-
takes*, 115 J. POL. ECON. 707 (2007).

195. Ning Tang et al., *The Efficiency of Pension Plan Menus and Individual Pension Investment Port-
folios*, 94 J. PUB. ECON. 1073 (2010).

196. The future of equities has been a subject of recent public discussion. PIMCO's Bill Gross has
argued that the conventional weight given to equities is no longer appropriate while Burt
Malkiel recently has defended the traditional approach to allocation. *Compare* Steven
Russolillo, *Bill Gross, We're Witnessing the Death of Equities*, WALL ST. J.: MARKETBEAT
(July 31, 2012, 3:03 PM), http://blogs.wsj.com/marketbeat/2012/07/31/bill-gross-were
-witnessing-the-death-of-equities [http://perma.cc/C72R-ZGE3], *with* Burton G. Malkiel,

tive choice of factor loadings for our purposes is one that reflects conventional advice about portfolio allocation, and therefore reflects the likely approach of plan fiduciaries in constructing plans. Canner, Mankiw, and Weil[197] review brokerage advice regarding asset allocation and find that brokerages recommend ratios of bonds to stocks of 0.25 to 1.5. We estimate factor moments over the window 1980 to 2000, which yields factor moments with an optimal portfolio where the ratio of bonds to equities is 1.2, on the conservative side of the Canner et al. range. The vector of estimated factor moments is $\hat{\mu}$ and the estimated variance is $\hat{\Sigma}$.

The model provides estimated betas for every fund in each plan, $\widehat{\beta_i^1}, \widehat{\beta_i^2}, \widehat{\beta_i^3}$. The model also provides a variance-covariance matrix of idiosyncratic risk, $\hat{\Sigma}_{idio}$, computed as the variance-covariance matrix of the residuals. For each plan we define $\hat{\beta} = \begin{bmatrix} \overrightarrow{b_1} \\ ... \\ \overrightarrow{b_n} \end{bmatrix}$, where $\overrightarrow{b_i} = (\widehat{\beta_i^1}, \widehat{\beta_i^2}, \widehat{\beta_i^3})$, the row-vector of estimated betas for each fund, and i indexes each of the n funds in the plan. For a plan with n funds, $\hat{\beta}$ is an n-by-3 matrix of estimated factor loadings. We compute three sets of expected returns. The vector of pre-fee expected excess returns on each fund in the plan is:

$$\vec{\mu}_p = \hat{\beta}\hat{\mu}$$

The column vector of after-plan-level-expense expected excess returns is

$$\vec{\mu}_e = \hat{\beta}\hat{\mu} - \rho\vec{1}$$

where ρ is the scalar value of plan-level expenses and $\vec{1}$ is a vector of ones. The vector of fund expected returns after fund-level fees and plan-level expenses is given by

$$\vec{\mu}_f = \hat{\beta}\hat{\mu} - \vec{\phi} - \rho\vec{1}$$

where $\vec{\phi} = \begin{bmatrix} \phi_1 \\ ... \\ \phi_n \end{bmatrix}$ is the vector of fees with ϕ_i being the fees for the ith fund in the plan menu.[198]

The inclusion of fees in the returns computation is a notable difference from Calvet et al. and Tang et al. Since the fund management fees are constant, they do not affect the plan variance-covariance matrix, given by

Op-Ed, *Even Amid the Current Turmoil, Stocks Still Beat Bonds*, WALL ST. J., Aug. 14, 2012, http://online.wsj.com/article/SB10000872396390444184704577585752786129144.html [http://perma.cc/H8NU-SGM8].

197. Niko Canner et al., *An Asset Allocation Puzzle*, 87 AM. ECON. REV. 181-91 (1997).

198. While 401(k) plan menus often include shares that carry loads, these loads are generally waived, and so we exclude them from the calculation.

$$\hat{\Sigma}_p = \hat{\beta}\hat{\Sigma}\hat{\beta}' + \hat{\Sigma}_{idio}$$

For a given portfolio over plan options, the column vector $\vec{w}$, we are now equipped to compute the Sharpe ratio of the pre-fee and pre-plan-expense portfolio for each plan:

$$\widehat{SR}(w) = \frac{\vec{\mu}_p'\vec{w}}{\sqrt{\vec{w}'\hat{\Sigma}_p\vec{w}}}$$

The post-fee and post-plan expense Sharpe ratios are computed using equivalent methodology.

To compute the optimal pre-fee portfolio, $\overrightarrow{w_p}$, for each plan, we use an optimization package to find the no-short-sale portfolio that maximizes $\widehat{SR}(w)$ where the sum of the portfolio weights is one. Similarly, to find the post-fee portfolio, w_f, we solve the same maximization problem using post-fee returns, $\vec{\mu}_f$. Finally, the actual expected Sharpe ratio is computed using the observed balances for each fund in the plan, w_a, with post-fee expected returns, $\vec{\mu}_f$.

Note that the optimization problem is solved separately for the pre- and post-fee returns. This means that the optimum portfolio weights change to underweight high-cost funds. This is in contrast to simply deducting fees from the pre-fee optimum portfolio weights. Repeating the optimization will lead to a lower cost of fees, since weights can shift to reduce the impact of expensive funds.

Using this procedure, we compute the Sharpe ratios for the five portfolios listed above: global optimum formed directly on the factors, pre-fee optimum, post-fee optimum, post-fee and expense optimum, and actual plan portfolio. Figure 1 illustrates the mean-variance spaces of the portfolios.

B. Measuring Plan Diversification and Excess Expense Costs

To provide a simple framework for comparing losses from different sources, we use the Sharpe ratios of these portfolios to render all losses as return-equivalent losses. That is, given the difference between the Sharpe ratios of two portfolios, we compute the corresponding difference in returns for a fixed level of portfolio risk. In particular, we use the average expected standard deviation of returns of observed portfolios held by plan participants, $\overline{\sigma_a}$ (which is 11.8% in our sample), as our benchmark risk measure. To determine the return-equivalent loss between two portfolio vectors $\overrightarrow{w_a}$ and $\overrightarrow{w_b}$ we compute:

$$SR(\overrightarrow{w_a}) * \overline{\sigma_a} - SR(\overrightarrow{w_b}) * \overline{\sigma_a}$$

This difference is the change in returns to portfolio b that would be required to give it the same Sharpe ratio as portfolio a, given that both portfolios are leveraged to have the same risk, $\overline{\sigma_a}$.

Figure 1.

MEAN-VARIANCE DIAGRAM OF RETURN-LOSS DECOMPOSITION
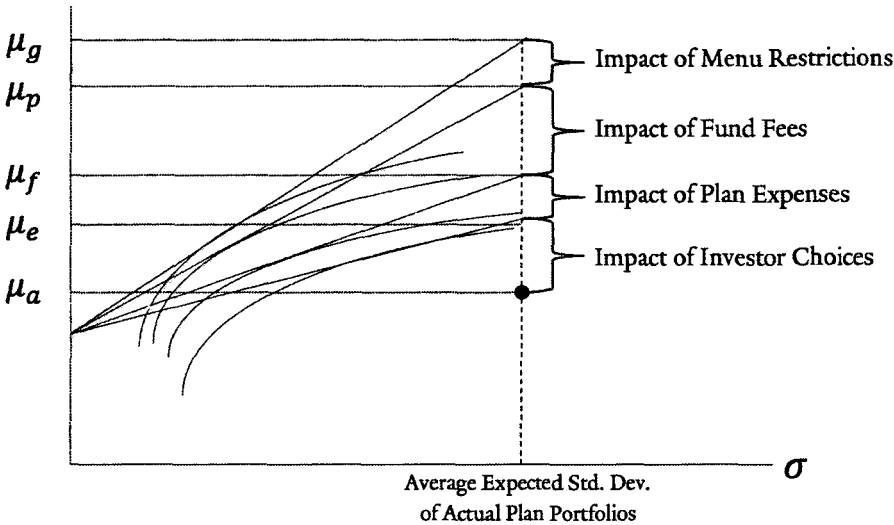
Figure 1 illustrates our approach. The mean returns for each portfolio, leveraged to standard deviation $\overline{\sigma_a}$ (11.8%), are denoted by μ_g, μ_p, μ_e, μ_f, and μ_a for the global optimum, pre-fee menu optimum, post-plan-level-expense, post-fee menu optimum, and actual portfolios, respectively. Since each portfolio has, by construction, the same variance, the differences in these returns provide a means of comparing the losses due to the limitations of investing through a 401(k) plan.

We compute μ_g, the global optimal return, as the highest pre-fee optimal return across plans. The difference between the return on the global optimum portfolio, μ_g, and the pre-fee optimum portfolio, μ_p, provides a measure of the costs of being limited to a specified menu of funds. We term this *menu limitation cost*.

To measure the losses due to mutual fund expenses, we compute the difference between the pre-fee and post-fee optimum portfolios.[199] The difference between the pre- and post-fee optimums reflects the impact of mutual fund

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199. The benchmark portfolio consists of retail shares of twenty-eight Vanguard index funds offered during the sample period. Since these funds are available to individuals, they provide a reasonable cost benchmark of basic fund operational costs for even very small plans.

fees, while deducting the fees of a low-cost portfolio reflects the reality that fund expenses will not be zero. For the purposes of comparison to feasible fees outside the plan, we benchmark this cost by the cost of an optimal portfolio of all retail index funds offered by Vanguard in the same period, *retail index fund benchmark fees*. We term the balance of the fund fee loss between the pre- and post-fund fee optimal portfolios *plan menu additional fund fees*.

Since some plans offer options with lower fees than the benchmark portfolio of retail index funds, fee loss for some plans is negative. The effect of fees on obtainable Sharpe ratio captures both the direct cost of fees and the distortive effect of fees on investment decisions. For example, if a fund carries low weight in the pre-fee portfolio, then its fees should have a slight effect on the post-fee optimum. Conversely, if a fund is heavily weighted, relatively modest fees may have a substantial effect on the pre- and post-fee optimum Sharpe ratios.

Plan level fees are those itemized expenses reported on the Form 5500 that are not associated with specific investment choices. They include investment plan management, bookkeeping, and administrative fees. We are able to measure only plan expenses that are charged against plan assets. Plan sponsors may make additional direct payments that comprise part of the total cost of the plan, but these costs would not directly affect employees. We measure these costs as *plan asset-based fees*. This is the difference between the return on the post-fee optimal portfolio, μ_f, and the return on the optimal portfolio, μ_e, which accounts for both fund and plan level fees. We choose as a benchmark, *plan fees benchmark*, a very low-cost administrative fee of eight basis points,[200] and express *plan additional fees* as an excess over that benchmark.

Finally, we term any additional return-equivalent losses incurred by investors on the actual portfolio over the fees on the optimal post-fee and post-expense portfolio *investor-choice additional fund fees*. Note that this quantity can be negative if investors pay lower fees than in the optimal portfolio. For example, investors might over-allocate to a money-market fund, resulting in a portfolio with lower fees than the optimal portfolio but also a lower Sharpe ratio. Summary statistics for the sample of plans is reported in Table 2.

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200. The majority of plans report that they pay no plan-level expenses. Service providers for these plans are compensated from mutual fund expenses. Since compensation paid from fund fees is not currently disclosed, it is absent from our data. A very low-cost service provider, Employee Fiduciary LLP, reports that it charges $30 per employee plus 0.08% of plan assets for administrative services for small plans. Vanguard offers services to plans under $20 million through its small-business program. While pricing information is not publicly available, Vanguard estimates that a $5 million dollar plan would feature an all-in fee of about thirty-two basis points, including fund fees, which corresponds well with Employee Fiduciary's eight-basis-point administration-only fee.

Table 2.

PLAN SUMMARY STATISTICS

This table presents summary statistics for the plans included in the sample. Total Plan Assets *is the sum of balances of all investment options.* Number of Options *is the number of mutual fund options as well as GIC, brokerage window, and company stock options. The table also summarizes the percentage of plans offering at least one instance of each broad category of investment type. We use the Morningstar asset class designation to derive the broad investment classes. Plans with only retirees may be reported as having zero active participants.*

= 3534	Mean	Median	Std. Dev.	Min.	Max.
Total Plan Assets ($ millions)	33.68	12.98	114.3	.06	3,662.5
Number of Active Participants	927.0	927	4,724.0	0	221,558
Number of Investment Options	22.7	22	7.7	1	75

Percent of Plans Offering Options	
Asset Class	Percentage
Equity Funds	99.9%
Bond Funds	99.3%
Balanced Funds	94.1%
International Equity	99.2%
Index Funds	79.3%
Company Stock	5.2%
Brokerage Windows	9.5%

C. Regression Results

This section uses the cost decomposition reported in Table 1 to measure cross-sectional characteristics of plans in the sample. Table 3 presents regressions of elements of plan costs on two measures of plan size: the log of total plan size and the log of the number of participants. Plans may be large either because they include many participants or because the participants have large average balances. While having a substantial pool of assets under management ought to lead to lower per-dollar administrative costs through economies of scale, plans with many participants may have high costs despite their size if there are per-participant costs that scale with the number of accounts.

Table 3.

PLAN SIZE AND PLAN COSTS

The regressions in this table investigate the relationship between plan size, plan balances, and cost variables of interest. Total Plan Excess Expense *is the sum of Plan*

Excess Fees and Plan Menu Excess Fund Fees. Total Excess Fees *is the sum of total Plan Excess Expense and Total Excess Fees. Employee contribution share is the proportion of total contributions to the plan made by the employer. Panel B includes industry dummies coded as described in this Appendix.*

Panel A.

NO INDUSTRY CONTROLS

	(1) Menu Limitation Cost	*(2) Percent of Index Funds*	*(3) Total Plan Excess Expense*	*(4) Investor-Choice Excess Fees*	*(5) Total Excess Fees*
Log(Total Net Assets)	-0.000229***	0.0153***	-0.00239***	0.000179***	-0.00221***
	(-10.44)	(9.38)	(-21.51)	(3.70)	(-20.45)
Empl. Contribution Share	-0.000172	0.0249***	0.000102	-0.000373*	-0.000271
	(-1.63)	(2.81)	(0.29)	(-1.73)	(-0.81)
Log(Plan Participants)	0.0000868***	-0.00707***	0.000883***	0.0000676	0.000951***
	(4.34)	(-4.48)	(9.65)	(1.46)	(10.91)
Constant	0.000757***	0.0759***	0.00544***	0.00124***	0.00668***
	(7.05)	(9.61)	(15.09)	(5.50)	(19.65)
Observations	3519	3519	3519	3519	3519
R^2	0.046	0.033	0.292	0.012	0.289

Panel B.

INCLUDING INDUSTRY CONTROLS

	(1) Menu Diversification Loss	*(2) Percent of Index Funds*	*(3) Plan Excess Expense*	*(4) Investor-Choice Excess Fees*	*(5) Total Excess Fees*
Log(Total Net Assets)	-0.000306***	0.0153***	-0.00225***	0.0000832	-0.00217***
	(-5.04)	(9.38)	(-8.46)	(0.81)	(-8.58)
Empl. Contribution Share	-0.000157	0.0249***	0.000568	-0.000933**	-0.000365
	(-0.67)	(2.81)	(0.88)	(-2.06)	(-0.66)
Log(Plan Participants)	0.000143***	-0.00707***	0.000900***	0.0000894	0.000989***
	(3.11)	(-4.48)	(4.21)	(0.87)	(5.12)
Constant	0.000473**	0.0759***	0.00449***	0.00166***	0.00615***
	(2.22)	(9.61)	(5.07)	(3.03)	(8.15)
Observations	826	3519	826	826	826
R^2	0.044	0.033	0.239	0.025	0.261

t statistics in parentheses * $p < 0.10$, ** $p < 0.01$, *** $p < 0.001$

In addition to the size variables, Table 3 accounts for two other elements that might be associated with plan costs. First, it includes a control for the share of total contributions to the plan in the prior plan year that came from the employer. This is a proxy for the generosity of the employer match.[201] Employers that offer generous matching may be more diligent in contracting for services or choosing low cost funds. Second, Panel B of Table 3 includes dummies for seven industry groupings. There is a strong liklihood that the quality of 401(k) plans varies across industry groups. We use word matching in company names to identify plans that are associated with particular industries. For example, plans including the words "hospital," "clinic," or "health" can be coded under the healthcare industry grouping. Since not all company names include an industry key word, only 826 of the firms can be coded for industry.

For the main variable of interest, total plan assets, results confirm that it is an important predictor of total loss, with the total impact of size being both statistically and economically significant. Doubling the assets in a plan is asso-ciated with a decrease of twenty-two basis points in total cost. As might be ex-pected, increasing the number of plan participants while holding the asset base constant increases plan cost. This finding reflects that servicing additional in-vestors increases the cost of administering a plan. The number of plan partici-pants is associated with a significant increase in each measure of costs at a high level of statistical significance, though the economic impact of increasing par-ticipants is lower than the economic impact of reducing assets.

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201. Leslie E. Papke, *Participation in and Contributions to 401(k) Pension Plans: Evidence from Plan Data*, 30 J. HUM. RESOURCES 311, 314 (1995).

Table 4.

INVESTOR EXCESS FEES AND MENU QUALITY

Regressions in this table measure the effect of menu design on investor excess fees. Models 1 and 2 examine the effect of the percentage of index funds in the menu. Models 3 and 4 examine the distance in portfolio-space between the optimal portfolio and the 1/N equal-weighted portfolio. The regressions include a dummy variable indicating whether the plan is missing an index fund option. Employee contribution share is the proportion of total contributions to the plan made by the employer. Models 1 through 3 include the entire sample, while models 3 and 4 include the subsample of plans that could be successfully coded for industry.

| | Investor-Choice Excess Fees | | | |
	(1)	(2)	(3)	(4)
Percent of Index Funds	-0.00147**	-0.00185	--	--
	(-3.14)	(-1.93)	--	--
Optimal Portfolio to 1/N Portfolio Distance	--	--	0.00489***	0.00568***
	--	--	(14.28)	(8.74)
Number of Investment Options	0.0000423***	0.0000446***	0.0000431***	0.0000436***
	(9.25)	(4.50)	(9.91)	(4.75)
No Index Funds Indicator	-0.00285***	-0.00275***	-0.00243***	-0.00228***
	(-28.56)	(-13.07)	(-28.27)	(-13.05)
Log(Total Net Assets)	-0.000142***	-0.000192	-0.0000964*	-0.000134
	(-3.46)	(-1.96)	(-2.41)	(-1.42)
Empl. Contribution Share	-0.0000469	-0.000593	-0.00000695	-0.000550
	(-0.25)	(-1.52)	(-0.04)	(-1.47)
Log(Plan Participants)	0.000111**	0.000115	0.0000935*	0.0000928
	(2.79)	(1.21)	(2.42)	(1.01)
Constant	0.00151***	0.00182**	-0.00187***	-0.00211**
	(6.42)	(3.12)	(-6.07)	(-3.13)
Observations	3519	826	3519	826
R^2	0.273	0.265	0.311	0.325

t statistics in parentheses; * $p < 0.05$, ** $p < 0.01$, *** $p < 0.0$

Table 4 investigates aspects of plan menu design and shows that differences in plan menu may predictably increase total costs, even when the investors are subject to behavioral biases in their allocation of portfolio assets. This includes

the $1/N$ heuristic of Benartzi & Thaler,[202] who show that investors naïvely tend to diversify by allocating funds equally to each option in a 401(k) plan. A corollary of this finding is that the inclusion of poor choices in an investment menu will leave investors worse off, even if they are free to pick other funds. To investigate the impact of low-quality menu choices on investor welfare, we construct a measure of menu quality based on the $1/N$ heuristic. We compute N-space between the optimal portfolio and the $1/N$ portfolio.

Let $\overrightarrow{w_N} = (\frac{1}{N}, \frac{1}{N}, \ldots, \frac{1}{N})$, the equal-weight portfolio of all funds in a plan. Then we define the *equal weight distance* as

$$\left\| \overrightarrow{w^*} - \overrightarrow{w_N} \right\|$$

where w^* is the post-fee optimal portfolio for the plan. This distance, which ranges between 0 and 1, is a measure of difference between the optimal portfolio and an equally weighted portfolio, suggested by the $1/N$ heuristic. The average and standard deviation of equal weight distance in our data are 0.66 and 0.10, respectively. Since investors tend to the equally weighted portfolio, plans that are robust to this tendency should produce lower investor losses, and this measure is designed to capture this effect.

Table 4 presents the results of regressions of investor-level costs on this measure of menu quality, as well as the percentage of index funds offered and a variety of control variables, including the plan controls described above, with and without industry dummies. The results suggest that choices made by the fiduciary in structuring the menu can substantially affect the excess expense and diversification costs from investor choices over the menu. Menus with a high equal weight distance incur substantially higher investor-level costs. Menus that include a higher percentage of index funds also show substantially lower investor-level costs, even after controlling for plan size. Across all models, investor-level costs are increasing in the number of options. Since investors may hold expensive funds that the optimal portfolio avoids, plans with large menus of high-cost funds are associated with worse expected performance for investors.

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202. Shlomo Benartzi & Richard H. Thaler, *Naive Diversification Strategies in Defined Contribution Saving Plans*, 91 AM. ECON. REV. 79 (2001).

Table 5.

DIRECT INVESTMENT MANAGEMENT FEES AND MENU QUALITY

This table presents regressions of measures of menu quality and costs on the percentage of plan assets paid for investment advisory services as reported on the Form 5500, Direct Investment Management Fees. This is a proxy (inversely related) for the use of revenue sharing. Percent Index Funds *is the fraction of funds in the menu that are classified as index funds by Morningstar.* Equal-Weight Distance *is the vector norm of the equally distributed 1/N portfolio and the optimal portfolio. All are estimated as OLS regressions with robust standard errors. Panel A presents regressions for the full sample, while Panel B presents regressions including industry dummies. Employee contribution share is the proportion of total contributions to the plan made by the employer.*

Panel A.

NO INDUSTRY CONTROLS

	(1) Percent of Index Funds	(2) Optimal Portfolio to 1/N Portfolio Distance	(3) Plan Excess Fee Loss	(4) Total Fund-Fee Loss	(5) Total Loss
Direct Investment Management Fees	0.0203***	0.00809*	0.000873***	0.000410***	0.00137***
	(4.90)	(1.66)	(-5.58)	(-3.08)	(4.90)
Log(Total Net Assets)	0.0153***	-0.00524***	-0.00142***	-0.00124***	0.00283***
	(9.15)	(-2.67)	(-22.43)	(-22.99)	(-24.92)
Empl. Contribution Share	0.0226***	-0.0235**	-0.000581*	-0.00101***	0.00171***
	(2.87)	(-2.54)	(-1.95)	(-3.97)	(-3.19)
Log(Plan Participants)	-0.00725***	0.00434**	0.000282***	0.000346***	0.00115***
	(-4.36)	(2.22)	(4.49)	(6.45)	(10.21)
Constant	0.0749***	0.632***	0.00618***	0.00740***	0.0105***
	(9.14)	(65.73)	(19.97)	(28.04)	(29.75)
Observations	3519	3519	3519	3519	3519
R^2	0.040	0.005	0.184	0.182	0.186

Panel B.

INCLUDING INDUSTRY CONTROLS

	(1) Percent of Index Funds	(2) Optimal Portfolio to 1/N Portfolio Distance	(3) Plan Excess Fee Loss	(4) Total Fund-Fee Loss	(5) Total Loss
Direct Investment Management Fees	0.0238**	0.0170	-0.000812**	-0.000479	0.00128**
	(2.48)	(1.46)	(-2.29)	(-1.61)	(2.12)
Log(Total Net Assets)	0.0145***	-0.00743	-0.00135***	-0.00126***	-0.00275***
	(3.51)	(-1.51)	(-8.80)	(-9.78)	(-10.51)
Empl. Contribution Share	-0.00610	-0.0196	-0.0000869	-0.00104**	-0.00133
	(-0.36)	(-1.01)	(-0.14)	(-1.99)	(-1.25)
Log(Plan Participants)	-0.00540	0.00453	0.000324**	0.000401***	0.00115***
	(-1.31)	(0.95)	(2.13)	(3.14)	(4.44)
Constant	0.0841***	0.638***	0.00551***	0.00720***	0.0155***
	(3.84)	(27.32)	(6.81)	(10.58)	(11.25)
Observations	826	826	826	826	826
R^2	0.041	0.008	0.140	0.163	0.166

t statistics in parentheses * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Our data include the expenses paid for investment management by each plan for those plans that record such an expense. About 13% of plans in the sample record such a cost. Table 5 reports the results of regressions of measures of menu quality from Table 4, as well as direct measures of cost, on direct investment management compensation, the employer contribution share, and plan size controls, with and without industry dummies.

The results show that plans that report direct service provider compensation, and do not rely exclusively on revenue sharing, tend to offer more index funds and smaller menus. Interestingly, plans with higher employer contribution percentages tend to score well on a variety of measures, and they tend to have a higher percentage of index funds, lower fund fees, and lower equal-weight distance. Equal-weight distance is marginally positively related to direct investment management fees, with higher fees actually increasing the equal-weight distance; however, this is not robust in the industry-dummy controlled Panel B regressions. Menu-level excess expense and fund fee costs are lower as well.

Total cost, though, is higher as plan level fees increase. This is not surprising, since plan level costs contribute directly to total costs. The trend likely reflects that, while some plans that rely on direct compensation receive benefits in plan structure and fees that offset those direct costs, other plans may be high-fee across the board, attenuating the average effect of direct compensa-

tion. Nevertheless, the measurable impact of direct advisor compensation on menu design provides some empirical support for concerns about conflicts of interest related to revenue sharing.

Table 6.
PROXIES FOR QUALITY OF PLAN SERVICES

This table presents three panels with regressions of three proxies for plan services on plan cost and control variables. The proxies are the participation rate, employee contributions per account, and Actual Portfolio Pre-Fee Expected Underperformance. Actual Portfolio Pre-Fee Expected Underperformance *is the difference between the expected performance of the optimal pre-fee portfolio and the expected performance of the actual pre-fee portfolio, which is a proxy for the quality of investor allocation decisions. Panel A shows the participation rate and uses GLM regressions since the dependent variable is bounded at zero and one. The other panels present regressions using OLS with robust standard errors. In each panel, models 1 through 3 include the entire sample, while models 4 through 6 include the subsample of plans that could be successfully coded for industry.*

Panel A.

PARTICIPATION RATE GLM REGRESSIONS

	Participation Rate					
	(1)	(2)	(3)	(4)	(5)	(6)
Total Excess Expense	-38.49***	--	--	-42.31***	--	--
	(-6.67)	--	--	(-3.85)	--	--
Total Additional Fees	--	-52.44***	-51.17***	--	-58.05***	-58.56***
	--	(-7.94)	(-7.69)	--	(-4.73)	(-4.71)
Menu Diversification Loss	--	--	-36.19	--	--	5.197
	--	--	(-1.20)	--	--	(0.17)
Empl. Contribution Share	2.061***	2.038***	2.030***	2.440***	2.373***	2.375***
	(17.57)	(17.39)	(17.32)	(8.56)	(8.31)	(8.33)
Log(Total Net Assets)	0.208***	0.194***	0.189***	0.167***	0.148***	0.148***
	(8.34)	(7.85)	(7.50)	(3.19)	(2.81)	(2.82)
Constant	0.358***	0.509***	0.599***	0.369*	0.635***	0.634***
	(4.34)	(5.99)	(6.09)	(1.87)	(2.90)	(2.90)
Observations	3511	3511	3511	823	823	823
R^2	--	--	--	--	--	--

Panel B.

EMPLOYEE CONTRIBUTIONS PER ACTIVE ACCOUNT AND PLAN EXPENSES

	Flow Per Active Account					
	(1)	(2)	(3)	(4)	(5)	(6)
Total Excess Expense	-38046.4***	--	--	-66512.9***	--	--
	(-3.28)	--	--	(-3.95)	--	--
Total Additional Fees	--	-13747.5	-14797.3	--	-31647.5*	-37732.0*
	--	(-1.09)	(-1.16)	--	(-1.67)	(-1.96)
Menu Diversification Loss	--	--	28766.8	--	--	81610.0*
	--	--	(0.72)	--	--	(1.85)
Employer Contribution Per Participant	0.250***	0.252***	0.252***	0.202***	0.204***	0.204***
	(11.95)	(12.00)	(12.01)	(6.85)	(6.85)	(6.87)
Log(Total Net Assets)	1508.0***	1566.5***	1570.7***	1245.8***	1321.3***	1333.5***
	(25.66)	(26.46)	(26.40)	(13.18)	(13.59)	(13.71)
Log(Plan Participants)	-1573.0***	-1592.2***	-1593.5***	-1196.6***	-1220.1***	-1225.6***
	(-30.08)	(-30.14)	(-30.14)	(-13.65)	(-13.67)	(-13.75)
Constant	8784.6***	8662.1***	8647.4***	6856.7***	6708.3***	6698.8***
	(35.09)	(33.81)	(33.65)	(15.52)	(14.83)	(14.83)
Observations	3511	3511	3511	821	821	821
R^2	0.384	0.382	0.383	0.551	0.544	0.546

Panel C.

ACTUAL PORTFOLIO PRE-FEE EXPECTED UNDERPERFORMANCE AND PLAN
EXPENSES

| | Actual Portfolio Pre-Fee Expected Underperformance | | | | | |
	(1)	(2)	(3)	(4)	(5)	(6)
Total Excess Expense	0.176***	--	--	0.200***	--	--
	(9.90)	--	--	(5.77)	--	--
Total Additional Fees	--	0.223***	0.228***	--	0.233***	0.243***
	--	(11.69)	(11.87)	--	(6.05)	(6.20)
Menu Diversification Loss	--	--	-0.128**	--	--	-0.123
	--	--	(-2.06)	--	--	(-1.34)
Empl. Contribution Share	-0.00117***	-0.00105***	-0.00107***	-0.000467	-0.000208	-0.000238
	(-3.40)	(-3.06)	(-3.13)	(-0.73)	(-0.32)	(-0.37)
Log(Total Net Assets)	0.0000708	0.000107*	0.0000925	0.000145	0.000165	0.000154
	(1.09)	(1.68)	(1.45)	(1.10)	(1.26)	(1.17)
Constant	0.00799***	0.00721***	0.00730***	0.00693***	0.00616***	0.00621** *
	(33.78)	(27.03)	(27.02)	(12.80)	(10.07)	(10.14)
Observations	3523	3523	3523	827	827	827
R^2	0.038	0.048	0.049	0.073	0.077	0.079

t statistics in parentheses * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Service providers to 401(k) plans differ in the types of services that they
provide. Since these services are difficult to observe, some heterogeneity in
plan costs could be explained by unobserved differences in plan services. To
the extent these services lead investors to end their careers with more available
funds for retirement, for example, by inducing higher savings rates, they may
be beneficial in leaving plan participants better situated for retirement even if
they are a drag on annual returns. To address this possibility, Table 6 explores
plan outcomes that might be related to quality of service by regressing proxies
for quality of service on total excess expense. The regressions include measures
of plan participation rate, 2009 contributions to the plan per active account,
and investor-level costs to capture the effect of investor education.

Control variables are designed to capture the overall quality of the plan and
generosity of the employer in order to isolate the effect of excess expense costs
from overall plan quality. Regressions are presented with and without dummy
variables for industry, constructed as described above. Regressions are also
presented with total excess expense, menu costs, and both the expense and
menu costs as independent variables. While the effect of expenses is the main
variable of interest in these regressions, low-quality menus are likely to be cor-

related with poor plan outcomes and so are an important control. Other controls include the fraction of total plan contributions coming from the employer, a measure of employer generosity likely to be correlated with overall plan quality, and log of total net assets in the plan.

Panel A presents regressions of participation rate on these independent variables. Participation rate is the percentage of employees contributing to accounts as a percentage of all eligible employees.[203] A full-service plan offering more personalized interactions and investor education might benefit employees by inducing more of them to participate. This would directly benefit the marginal participant who would otherwise be less prepared for retirement and could benefit infra-marginal participants by increasing assets under management, which may reduce the overall cost of the plan.

Since the participation rate is bounded by 0 and 1, we estimate generalized linear models with robust standard errors. Across all specifications, participation rate is negatively correlated with the costs of the plan. A single standard deviation increase in plan expenses is associated with a statistically significant 2.6% reduction in plan participation. The results are robust for the industry-controlled subsample. Other independent variables have the expected sign. Menu-level costs are negatively correlated with participation, but the correlation is not statistically significant when cost is included. Employer contribution is associated with an increase in participation. The size control is particularly important, because size is associated with lower fees and, all else equal, a plan that has had historically more participants will have more assets.

It is difficult to make a causal claim from the relationship between fees and participation rate. While we have controlled for plausible measures of plan quality, omitted measures of plan attractiveness may drive participation. That is, low-cost plans may be better than high-cost plans along some unobservable non-cost dimension, and therefore attract more participants. But the correlation we demonstrate is important in light of the 401(k) industry's obverse claim that costly services garner benefits for participants. Our data cast doubt on that relationship.

Panel B presents similar regressions using employee contributions. The dependent variable is the average employee contribution per active account. This is a measurement, holding participation constant, of how much each participant contributes. The regressions evaluate the claim that employees receiving better services may contribute more to their accounts. The control variables are changed slightly to use employer contribution per participant rather than employer contribution as a share of total contributions, since the dependent variable appears in the denominator of the latter. Across all specifications, total ex-

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203. Our measure is based on Papke. *See supra* note 201.

cess expense is associated with a reduction in contributions. A one-standard-deviation change in menu-level costs is associated with a 7.1% decrease in contributions. Once again, these results must be interpreted with caution, but the findings cast doubt on the claim that high-cost plans provide services that attract participants' dollars.

A final test of the services hypothesis is provided in Panel C. For this panel we construct a measure we term *investor allocation loss*, which is the difference between the expected returns ratios for the pre-fee optimal and pre-fee aggregate portfolios for each plan. This difference provides a measure of how reasonably investors in the plan allocate their portfolios. We do not observe individual portfolios, and so investor allocation problems that, in aggregate, cancel out are not captured by our measure. For example, we cannot distinguish two investors each holding a single fund from two investors holding identical portfolios of two funds. This likely makes our estimate of the investor diversification cost a lower bound of the costs investors bear from failing to adequately diversify. Investor allocation costs represent a lower-bound estimate of the cost of allocation problems before fees are taken into account, so they are not directly affected by the inclusion of high-cost funds in the menu. As such, the measure must be interpreted with caution, but is nevertheless useful for cross-plan comparisons.[204] If costly services include investment advice that emphasizes diversification, then this measure might be lower in more costly plans. The regressions show, however, that diversification costs are higher in plans with high costs. Interestingly, they are lower in plans with significant employer contributions, though this result does not hold in the industry-controlled subsample.

D. Benchmarking Expenses

Finally, to obtain a useful point of comparison for plan fees, we compare the tax benefit of investing in a 401(k) with the drag of additional fees. Consider two investment accounts, a conventional brokerage account holding an exchange-traded index fund[205] and a 401(k) retirement account holding an active-

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204. We also do not observe individual savings outside the plan which need not (and in many cases should not) mimic the 401(k) portion of a savings portfolio. *See* John B. Shoven & Clemens Sialm, *Asset Location in Tax-Deferred and Conventional Savings Accounts*, 88 J. PUB. ECON. 23 (2003). But evidence from the Survey of Consumer Finance suggests that for many individuals the non-401(k) savings is not sufficient to substantially change our conclusions. *See* Daniel Bergstresser & James Poterba, *Asset Allocation and Asset Location: Household Evidence from the Survey of Consumer Finances*, 88 J. PUB. ECON. 1893 (2004).

205. An exchange-traded fund (ETF) has the advantage of deferring most taxation until the ETF shares are sold, and so is more tax efficient than a standard index fund.

ly managed mutual fund. We are interested in computing the value of deductions from each type of post-retirement. That is, we want to compute the balance of the account at retirement, for each dollar invested now, discounted by any taxes due on deductions from the account at the time of withdrawal.

Deductions from the brokerage account at retirement are taxed as income when invested, subject to capital gains when withdrawn,[206] and can be valued as follows:

$$\left(1 - \tau_{inc,0}\right)\left[1 + (r(1 - \tau_{r,t})) - f_{etf}\right]^T \left(1 - \tau_{CG,T}\right)$$

where:

$\tau_{inc,0}$ is the current marginal income tax rate

$\tau_{r,t}$ is the effective reduction in returns due to taxes on distributions

r is the expected rate of return

f_{etf} is the ETF asset based fee

T is the time until retirement

$\tau_{CG,T}$ is the capital gains rate at retirement

The 401(k) account can be valued as follows:

$$\left[1 + r - f_{mf}\right]^T \left(1 - \tau_{inc,T}\right)$$

where:

$\tau_{inc,T}$ is the marginal income tax rate at retirement

f_{mf} is the mutual fund fee

The question is when it makes sense to forego the tax benefits of the 401(k). Assume the following calibrations.

$\tau_{inc,0}$	28%
$\tau_{inc,T}$	25%
$\tau_{CG,T}$	15%
$\tau_{r,t}$	4%
f_{etf}	0.15%
r	5%
T	35

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206. The ETF assumption is critical here, because it is taxed when sold and does not distribute capital gains over the course of the investment period, as does a conventional mutual fund. This means that capital gains are fully deferred until retirement.

Under these assumptions, an employee would be better off investing outside the 401(k) so long as the fees on the mutual fund exceed 1.03%. In fact, this holds for 572 out of 3534 plans in our sample (16%). If we look at the fees investors actually pay inside the 401(k) plans, then 49% of plans have investors doing worse than they would with the outside ETF option.