

**Broker Conflict of Interest Mitigation Efforts and Mutual Funds:
Evidence from the 2016 Department of Labor Fiduciary Rule**

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Dedication

This dissertation is dedicated to those who have supported me throughout my academic pursuits.

First and foremost, to my lovely wife, Ashlyn Kasten, for being the best partner a man could ask for. Your continued prayer, support, and encouragement throughout this program sustained me during difficult times. You believed in me when I doubted myself. You set an example of hard work and dedication when I felt I had nothing left to give. Your continued love pointed me back to the faith that sustains me. Without you, this degree would be impossible. I wish I could put your name on it.

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Abstract

This dissertation utilizes the 2016 Department of Labor (DOL) Fiduciary Rule to analyze the impact of efforts to mitigate broker conflicts of interest on mutual funds. The first chapter examines the effect of the Fiduciary Rule on mutual fund investment. Specifically, I look at changes in the composition of funds available for investment and fund flows during and after the implementation of the Fiduciary Rule. I find that investment companies shifted away from offering investments with broker compensation by eliminating commissioned loads on existing funds, removing funds with broker compensation, and adding funds without broker compensation. This change in investment supply is consistent with changes in demand for these funds. I find that monthly flows to funds with broker compensation arrangements decreased significantly compared to those without such arrangements after the rule was implemented. However, the magnitude of this decrease lessened after the Fiduciary Rule was vacated, indicating that brokers resumed directing flow to funds with compensation after regulatory risk was reduced. The results suggests that conflicts of interest drive fund flows, and efforts to mitigate them can alter capital allocation, primarily driven by the risk-averse nature of brokers avoiding regulatory liability.

In the second chapter, I examine the motivation behind the Fiduciary Rule and its impact on fund performance. The Fiduciary Rule was largely driven by studies that found broker-sold funds to underperform those directly sold to investors. My study confirms this finding, showing that funds with broker compensation tend to underperform those without compensation, excluding commissions. While my results suggest an average underperformance, the Fiduciary Rule's assumed position was that brokers were harming investors by directing capital toward underperforming funds. To evaluate this claim, I compare hypothetical portfolios with and without broker compensation and find no significant difference in risk-adjusted performance on a value-

weighted basis, which presents broker allocation efforts more favorably. The average underperformance is mostly driven by small funds, suggesting that brokers may help alleviate underperformance by directing capital away from the worst-performing funds. Finally, I examine how the Fiduciary Rule changed fund performance and find it had little impact on risk-adjusted performance, raising questions about the relationship between fund manager incentives to generate alpha and broker sales incentives.

Table of Contents

Chapter 1 - Avoiding Conflict: How Regulating Broker Conflicts of Interest Through Fiduciary Policy Affects Mutual Fund Investment	1
Abstract	2
1. Introduction.....	3
2. Background	8
2.1. Overview of 2016 Fiduciary Rule.....	8
2.2. Institutional Response	11
3. Analysis.....	14
3.1.1. Mutual Fund Investment Options – Sample Construction.....	14
3.1.2. Mutual Fund Investment Options – Results.....	15
3.2.1. Mutual Fund Investment Flows – Sample Construction.....	20
3.2.2. Mutual Fund Investment Flows – Share-Class Level Results	21
3.2.3. Mutual Fund Investment Flows – Fund Level Sample Adjustment and Results.....	23
3.2.4. Mutual Fund Investment Flows – Fiduciary Rule Vacated	25
3.2.5. Mutual Fund Investment Flows – Return Chasing	26
3.3. Fund Family Investment Flows	26
4. Discussion	29
5. Conclusion	33
 Chapter 2 – Should Conflicts be Avoided? Broker Compensation, Fiduciary Regulation, and Underperformance	34
Abstract	35
1. Introduction.....	36
2. Background and Motivation	42
2.1. The 2016 Fiduciary Rule	42
2.2. What’s the Motivation?.....	44
3. Data	46
4. Analysis.....	48
4.1. The Average Performance of Conflicted and Clean Funds	48
4.2. Long-short Portfolio Performance and Broker Capital Allocation.....	50
4.3. Fiduciary Regulation, Fund Performance, and Broker Allocation	53
5. Conclusion	55

References	57
Appendix.....	62
Figures.....	72
Tables	77
Vita.....	94

List of Tables

Table 1	77
Table 2	78
Table 3	79
Table 4	80
Table 5	81
Table 6	82
Table 7	83
Table 8	84
Table 9	85
Table 10	86
Table 11	87
Table 12	88
Table 13	89
Table 14	90
Table 15	91
Table 16	92
Table 17	93

List of Figures

Figure 1	72
Figure 2	73
Figure 3	74
Figure 4	75
Figure 5	76

Chapter 1 - Avoiding Conflict: How Regulating Broker Conflicts of Interest Through Fiduciary Policy Affects Mutual Fund Investment

Abstract

How do regulatory efforts to alleviate broker conflicts of interest affect mutual fund investment? I analyze a recent Department of Labor (DOL) intervention limiting the types of compensation brokers could receive from individual retirement accounts (IRAs). I find that this regulation impacted investment flows and fund offerings. Specifically, monthly flows to mutual funds with conflicted broker compensation arrangements decreased relative to those without such arrangements. This decrease was concentrated in funds with high past unadjusted performance, suggesting the Fiduciary Rule impacted brokers' recommendation preferences. Moreover, investment companies with more conflicted assets experienced increases in net outflows. Aligning with regulatory-driven changes in product demand, investment companies transitioned away from offering investments with conflicted broker compensation. My results suggest that conflicts of interest drive fund flows and that mitigation efforts may alter capital allocation, consistent with brokers avoiding regulatory risk. Improvements to investor outcomes are uncertain. Thus, future fiduciary policy should heed both direct and indirect effects of past policy implementation.

1. Introduction

Regulators and industry practitioners often scrutinize conflicts of interests between financial advisors and their clients. Of particular concern are mutual fund distribution channels that tie advisor and broker compensation to the funds they recommend, raising the question of whether these compensation-based incentives misalign brokers' interests with those of their clients. Consistent with brokers neglecting their clients' best interests and investors bearing substantial agency costs, prior literature has found that brokers tend to favor and recommend high-commissioned mutual funds, and these funds often underperform alternative funds.¹

While regulators seemingly concentrate effort on stifling potential conflicts of interest, there is little direct evidence of how such interventions affect the mutual fund industry. As such, an empirical examination of these effects can improve our understanding of regulatory- and market-based solutions to the conflicts of interest problem. In this paper, I exploit a Department of Labor (DOL) regulation targeting broker compensation arrangements to examine how efforts to align brokers' interests with those of their clients affect mutual fund investment.

In response to broker conflicts of interest, in 2016, the DOL issued the "Fiduciary Rule" to establish a new standard of care for individual retirement accounts (IRAs), targeting financial products such as mutual funds with commissioned loads and 12b-1 fees. Brokers transacting in IRAs would no longer be able to recommend investments that directly affected their level of compensation unless they could demonstrate that their recommendations were solely in their clients' best interests. Practically, the regulation sought to alleviate conflicts of interest between

¹ See Carhart (1997), Elton et al. (2004), Hortacsu and Syverson (2004), Bergstresser et al. (2009), Hackethal et al. (2012), Mullainathan et al. (2012), Christoffersen et al. (2013), Del Guercio and Reuter (2014), Anagol et al. (2016), Guiso et al. (2017), Hoechle et al. (2018), Egan (2019), Robles-Garcia (2019), Chalmers and Reuter (2020), and Cooper et al. (2020), Egan (2022).

brokers and their clients, which can arise when brokers favor one investment over another due to its underlying compensation arrangements irrespective of its benefit to investors.

The impact of the Fiduciary Rule on mutual funds is unclear and previously unexplored. On one hand, the regulation may have negligible effects on investment. Such would be the case if industry participants believed the regulation to be short-lived and unenforceable, or if they believed their recommendations are justified as brokers could still sell impacted funds if they properly documented and disclosed how a recommendation was in their clients' best interest.² Moreover, if most mutual fund flows in IRAs are driven by investor demand rather than broker recommendations, the regulation's effects may also be muted. On the other hand, industry participants may have altered their investment practices to comply with the rule and reduce regulatory risk, leading to significant changes in the availability of and investment in funds with broker compensation arrangements.

My analysis on mutual fund investment focuses on both the fund options available to investors and the investment flows into impacted funds. Therefore, it is crucial to identify investment opportunities impacted by conflicts of interest, which I refer to as "conflicted" share classes or funds, and those that are not, referred to as "clean" share classes or funds. Following prior work (Sun, 2014; Barber et al., 2016), I designate share classes with underlying broker compensation (commission loads and 12b-1 fees greater than 25 basis points) as conflicted and most affected by the Fiduciary Rule. Conversely, I designate share classes without commission loads and 12b-1 fees over 25 basis points as clean.

² Numerous lawsuits were filed in the wake of the Fiduciary Rule issuance, leading many in the industry to expect the rule to be struck down in court. For example see "Nine groups file lawsuit to strike down 'capricious' DOL fiduciary rule" – InvestmentNews.com – June 6, 2016.

I first examine the investment offerings made available by the mutual fund industry, representing the actions of mutual fund companies. Using a sample of actively managed domestic equity mutual funds from January 2012 through February 2018, the month before the 5th Circuit Court of Appeals vacated the Fiduciary Rule, my findings reveal a stark change in the mix of products offered by mutual fund companies. After the Fiduciary Rule was announced in 2015, the number of conflicted share classes began to decrease, while the number of other share classes steadily increased. Two distinct behaviors drove this trend. First, over 40 funds switched their share classes away from conflicted status. Second, on net, funds introduced new clean share classes and closed conflicted share classes leading to a net deletion of up to 50 conflicted share classes in a quarter. In fact, the number of conflicted share classes declined every quarter after the rule was announced.

I next turn to the impact of the Fiduciary Rule on mutual fund flows, which reflect decisions made by both brokers and investors. As stated previously, it is unclear whether the rule altered investment behavior as brokers could still sell these funds in IRAs if they could prove that doing so was in their clients' best interests. To satisfy the best interest requirement, brokers faced increased legal liability and the burden of documenting such recommendations. Analysis of conflicted and clean share *classes* within a fund reveals significant changes to flows after the Fiduciary Rule was issued. Specifically, I find that flows to conflicted share classes decreased by an additional 63 to 76 basis points per month relative to clean share classes in the same fund. Expanding the analysis to the *fund* level, I find that mutual funds with mostly conflicted assets experienced significantly less flow than funds with mostly clean assets after the rule's issuance. This suggests that some brokers may have been unable or unwilling to accept the legal liability and burden of proof required under the best interest standard of care. Finally, I find that fund

families with a higher proportion of conflicted assets experienced a more pronounced reduction in flows after the Fiduciary Rule was issued. Given that revenue is tied to assets under management, the Fiduciary Rule had a more adverse impact on fund management companies primarily reliant on broker-directed flows.

Changes in flows differed by past returns. I find that before the rule, flows to conflicted funds in the top quartile of past returns were more sensitive to past unadjusted returns than comparable clean funds, suggesting that flows to conflicted funds tend to chase past unadjusted returns more than clean funds. This finding is consistent prior studies finding flow-performance differentials between broker-sold and direct-sold mutual funds (Bergstresser et al., 2009; Del Guercio and Reuter, 2014, Barber et al., 2016). However, after the Fiduciary Rule was issued, conflicted funds experienced significantly more outflow in the top quartile of past returns while the bottom quartile did not see significant changes in flows. This result is noteworthy in light of prior literature that has attributed return chasing behavior to investor unsophistication.³ Given that brokers may find it easier to recommend funds with high past returns and the Fiduciary Rule is more likely to have impacted broker recommendations than investor preferences, it is likely that the return-chasing behavior observed in past studies is partly due to broker incentive structures rather than unsophisticated investor demand.

Taken together, my results indicate that the Fiduciary Rule impacted mutual fund investment. More specifically, the supply of investment products shifted away from those with broker compensation arrangements, reflecting changes in demand from brokers and clients. On the demand side, flows toward conflicted funds significantly decreased relative to clean funds, indicating that brokers may have been risk averse and unable or unwilling to prove the best interest

³ See Kim (2011), Ferreria et al (2012), Barber et al. (2016), Miguel and Su (2019), and Huang et al. (2021).

of their recommendations to continue recommending commissionable products. The regulatory risk-averse nature of brokers is highlighted by the subsequent reversal of flows toward conflicted funds after the Fiduciary Rule was vacated by the 5th circuit court in early 2018. While the Fiduciary Rule did achieve its goal in changing mutual fund investment, the extent to which this change benefitted investors is less certain and requires further analysis.

This paper contributes to the empirical literature on conflicts of interest in investment advice. One of the most consistent findings is that brokers are more likely to recommend high-commission products (Hackethal et al., 2012; Mullainathan et al., 2012; Christoffersen et al., 2013; Anagol et al., 2016; Hoechle et al., 2018; Egan, 2019; Chalmers and Reuter, 2020). Using a unique shock to broker conflicts of interest, I affirm that such conflicts matter empirically and drive investment decisions. I find that following regulatory intervention, mutual fund investment flowed away from funds with underlying compensation arrangements, and mutual fund families in aggregate responded by shifting their offerings toward those without these arrangements.

This paper also contributes to the ongoing debate over the fiduciary role of financial professionals and the literature on regulating consumer financial products (Campbell, 2006; Agarwal et al., 2009; Campbell et al., 2010, 2011; Inderst and Ottaviani, 2012a, b). Several studies have discussed legal implications of such a ruling (Pratt, 2016; Schanzenbach and Sitkoff, 2016a, 2016b), while others have examined the impact of fiduciary duty on annuity markets. Using transaction-level deferred annuity data and variation in state-level common law fiduciary duty, Bhattacharya et al. (2020) find that fiduciary duty raises risk-adjusted returns by 25 basis points. Similarly, Egan et al. (2022) show that after the Fiduciary Rule, sales of high-expense variable annuities dropped by over 50%. They assert that their findings provide evidence of conflicts of interest in the variable annuity market. Additionally, the DOL released a new Fiduciary Rule

proposal in June 2020, which extends the fiduciary definition to IRA rollovers and proposes new exemptions to conflicted transactions.⁴ Thus, the fiduciary issue continues to be timely and relevant.

Overall, the regulatory framework for the broker-client relationship is still uncertain, and policymakers should consider the direct and indirect effects of past policy decisions when crafting future iterations. This paper offers valuable insights by being the first, to the best of my knowledge, to demonstrate the effects of the Fiduciary Rule on mutual funds.

The rest of the paper proceeds as follows: Section 2 provides institutional background details, Section 3 describes my sample and presents my main results, Section 4 discusses implications from the Fiduciary Rule, and Section 5 concludes.

2. Background

2.1. Overview of 2016 Fiduciary Rule

In early 2015, President Barack Obama put the entire financial advice industry on notice when he announced he was directing the DOL to move ahead on a proposal that would greatly expand the investment-advice standards for brokers and advisors handling retirement accounts.⁵ The Department of Labor’s proposal and final ruling in April 2016 came to be known as the “Fiduciary Rule.”⁶

The fiduciary standard of care in retirement plans is governed by the Employee Retirement Income Security Act of 1974 (ERISA), and it typically requires certain brokers over employer-

⁴ DOL Fiduciary Rule – Evershed Sutherland - <https://www.dolfiduciaryrule.com/#:~:text=In%20June%202020%2C%20DOL%20released,investment%20advice%20and%20principal%20transactions.>

⁵ Sometimes advisor refers specifically to Registered Investment Advisor. In my context, I refer to advisor and broker as interchangeable terms for those who hold Series 7 licenses and can get compensated for the sale of investment products. For ease of interpretation, I will use the term “broker” throughout this paper.

⁶ See Appendix A for a detailed timeline of the Fiduciary Rule.

sponsored retirement plans to act as fiduciaries. In other areas of retirement planning, brokers had to adhere to a less stringent standard of care called the suitability standard, which only required investments to be suitable to an investor's circumstance. The Fiduciary Rule, which initially was to go into effect on April 10, 2017, sought to expand the fiduciary responsibilities of brokers in the retirement industry. Most consequentially, the fiduciary duty laid out in ERISA would expand from traditional employer-sponsored retirement plans to individual retirement accounts (IRAs).

Under this expansion of fiduciary duty, brokers over IRAs would no longer be able to make recommendations that can directly affect the level of their compensation without committing a prohibited transaction. These prohibited transactions include investment recommendations that create compensation from commissions, 12b-1 fees, revenue sharing, trailing commissions, and forms of non-monetary compensation such as gifts and trips. Legally, this fell under the "but for" test that asks, "but for the recommendation, would the advisor have received compensation or have been entitled to greater compensation?"⁷ Previously, brokers operating under a suitability standard only had to disclose possible conflicts of interest, not avoid such arrangements.⁸

While prohibitive, the DOL offered an exemption to brokers recommending investments with these compensation arrangements. The Best Interest Contract Exemption (BICE) required advisors engaging in this "conflicted" advice to satisfy the best interest standard of care. The best interest standard of care included three components. First, the prudent-person rule requires that the investment would be one that a knowledgeable and prudent investor would choose given the circumstances. Second, a requirement for individualization necessitates that the investment is based on an individual's risk preferences, objectives, and financial circumstances. Finally, a duty

⁷ "Interesting Angles on the DOL's Fiduciary Rule #27" – Fred Reish – November 8, 2016 – National Law Review

⁸ "What The Demise of the DOL Fiduciary Rule Means for You: 4 Questions to Ask Your Advisor Now" – Ron Carson – August 5, 2018 – Forbes

to loyalty requires that the recommendation is made without regard to the financial advisor.⁹ While BICE allowed prohibited transactions, the burden to prove the best interest standard of care laid with those providing advice, which required extensive documentation and regulatory burden to show that their prohibited transaction met the criteria of prudence, individualization, and loyalty. However, those that charged flat advisory fees (e.g., 1% of assets under management) were mostly exempt from the prohibited transactions under the Fiduciary Rule and therefore were insulated from BICE. To properly comply with the regulation, brokers had two options: either move to an alternative compensation structure or satisfy a prohibited transaction exemption such as BICE. Failure to do so would present greater risks of class-action lawsuits, liabilities, and civil penalties.¹⁰

To no surprise, the Fiduciary Rule was contentious. The Obama administration and proponents of the rule argued that the burden of retirement savings was being assumed by individual Americans and ERISA needed to be updated to protect the interests of retirement savers. Research by the Investment Company Institute supports this assertion as IRA assets represented around 22% of total retirement assets in 2000 but grew to around 31% in 2015 when the ruling was proposed.¹¹ Further, the White House Council of Economic Advisors (CEA) found that biased advice drained \$17 billion per year from retirement accounts.¹² Advocates for the ruling pointed to such a number as an indication of excessive broker compensation and possible abuses in retirement accounts that needed to be regulated. Additionally, the Department of Labor published its Regulatory Impact Analysis report (RIA) laying out, in detail, the motivation behind the

⁹ “Interesting Angles on the DOL’s Fiduciary Rule #20” – Fred Reish – September 20, 2016 – National Law Review

¹⁰ “Costs of Fiduciary Rule Underestimated” – Michael Wong – February 9, 2017 – Morningstar

¹¹ According to the Investment Company Institute, as of Quarter 3, 2021, IRA assets represent 35% of the retirement market.

¹² The White House - FACT SHEET: Middle Class Economics: Strengthening Retirement Security by Cracking Down on Backdoor Payments and Hidden Fees.

ruling.¹³ Although a lower estimate than the CEA, the RIA found that the Fiduciary Rule should reduce investors' costs by approximately \$3.76 billion annually. Their estimates include the assertion that broker-sold mutual funds typically underperform direct-sold funds, and they cite various studies supporting their claims.¹⁴ Overall, some industry groups, such as the Financial Planning Coalition, supported the ruling and commended the DOL for taking steps to protect retirement investors.¹⁵

However, others stood against the ruling. While some large institutional players such as Vanguard and BlackRock asked for the rule to be delayed,¹⁶ many brokers argued for the rule to be eliminated on the grounds that stricter fiduciary regulation would cost the financial services industry up to \$5.7 billion over a 10-year period in the form of eliminated commissions and mutual fund fees.¹⁷ Others argued that smaller independent financial advisors would not be able to comply with the new rule and be forced out of business. Finally, some asserted that the rule would drastically increase the cost to work with investors with smaller accounts and limit the types of investments available for investors.¹⁸

The Fiduciary Rule faced legal scrutiny, leading to six litigations challenging the rule. The ruling survived three district courts and one court of appeals. However, in March 2018, the 5th Circuit Court of Appeals ruled in *U.S. Chamber of Commerce v. DOL* that the DOL overreached in regulating services and providers beyond its authority, effectively killing the Fiduciary Rule and

¹³ Department of Labor Regulatory Impact Analysis - <https://www.dol.gov/sites/dolgov/files/ebsa/laws-and-regulations/rules-and-regulations/completed-rulemaking/1210-AB32-2/ria.pdf>

¹⁴ For more information, refer to Appendix C and sections 3.2.3.4.3 & 3.2.3.4.4 of the RIA.

¹⁵ Financial Planning Coalition - <https://www.dol.gov/sites/dolgov/files/EBSA/laws-and-regulations/rules-and-regulations/public-comments/1210-ZA25/00224.pdf>

¹⁶ "BlackRock and Vanguard Call for Delay to Fiduciary Rule" – Financial Times – March 26, 2017

¹⁷ Department of Labor Regulatory Impact Analysis

¹⁸ "What Regulation Best Interest Means for You and Your Financial Advisor" – Kelly Smith & Ben Curry – March 5, 2021 – Forbes

reinstating prior fiduciary law under ERISA.¹⁹ By June 2018, the 5th Circuit issued its mandate officially vacating *in toto* the Fiduciary Rule.

2.2. Institutional Response

The implementation uncertainty surrounding the Fiduciary Rule and increased scrutiny of financial advice left broker-dealers with three choices. They could either begin transitioning towards compliance with the new fiduciary standards, continue engaging in prohibited transactions while hoping the ruling would be overturned, or find ways to substantiate their recommendations through the utilization of BICE. While some broker-dealers undoubtedly took the latter two positions, many firms transitioned away from traditional forms of compensation and advisory services. For example, Morgan Stanley Wealth Management saw \$18.8 billion in fee-based asset flows in Q1 of 2017, a 219% increase over Q1 of 2016.²⁰ Likewise, traditional broker-dealers such as Raymond James and Edward Jones saw fee-based accounts increase by 33% and 46%, respectively.²¹ Edward Jones even launched a new fee-based account called Guided Solutions that offered advisory services and portfolio management for a fee of a little over 1% of assets under management. Accounts like this removed the “conflicts of interest” as advisors would no longer be compensated from fund loads, 12b-1 fees, or commissions. Likewise, investors would gain access to lower fee share classes such as institutional shares.

Although commission revenues for broker-dealers were in decline prior to the ruling, according to *InvestmentNews* Research, commission revenues dropped 3.7 percentage points in 2016, which was the largest annual decline since 2011.²⁶ While this trend in commissions was felt

¹⁹ 5th Circuit Court Ruling – <http://www.ca5.uscourts.gov/opinions/pub/17/17-10238-CV0.pdf>

²⁰ Morgan Stanley Q1 2017 Statement - <https://www.morganstanley.com/about-us-ir/finsup1q2017/finsup1q2017.pdf>

²¹ “DOL Fiduciary Rule Pushing Broker-Dealer Assets to Fee-Based Accounts, Away from Commissions” – Greg Iacurci – May 24, 2017 – Investment News.

across the industry, a similar shift in mutual fund compensation occurred. For example, LPL Financial saw its mutual fund revenue increase from \$497 million in 2012 to \$610 million in 2014. However, by the end of 2017, LPL's mutual fund revenue was \$534 million, down 12% from 2014. This reduction may reflect LPL Financials' experimentation with a mutual fund only (MFO) IRA,²² which lowered and standardized commissions across 20 mutual fund companies. Surprisingly, after the ruling was vacated in early 2018, LPL increased mutual fund revenue to \$616 million at year-end.²³ This interesting trend highlights the ever-changing, quick-adapting nature of the investment industry during the Fiduciary Rule years of 2016 through early 2018. For example, in October 2016, Merrill Lynch took a hardline stance and became the first major firm to announce concrete plans to comply with the Fiduciary Rule and eliminate all commissions on IRAs.²⁴ However, as the Trump administration pushed for a review and possible revision of the rule in 2017, Merrill Lynch backed off from this position slightly, allowing IRA commissions in certain products and transactions.²⁵

Ultimately, how this ruling affected the mutual fund industry is a largely unexplored empirical question. Anecdotally, some mutual funds sought to comply with the ruling by changing sales loads and introducing new share classes such as "Clean Shares" or "Class T Shares."²⁶ This paper seeks to bridge this knowledge gap by examining how conflict of interest mitigation through the Fiduciary Rule affected mutual fund investment.

²² "LPL Financial Announces Details and Fund Companies For Its Industry-First Mutual Fund Only Platform" – LPL Financial – July 13, 2017.

²³ Investment News LPL Revenue Breakdown - <https://careers.investmentnews.com/adviser-center/profile/72?U=Revenue&Y=2018>.

²⁴ "Merrill Lynch Eliminates Commission IRA Business in Response to DOL Fiduciary Rule" – Greg Iacurci – October 6, 2016 – Investment News.

²⁵ "Merrill Lynch Will Allow IRA Commissions in Some Circumstances Under DOL Fiduciary Rule" – Greg Iacurci – May 11, 2017 – Investment News.

²⁶ "Past, Present, and Future of the DOL Fiduciary Rule" – Gonzalez et al. – February 8, 2018 – K&L Gates

3. Analysis

In this section, I explore the effects of the Fiduciary Rule on mutual fund investment. In the context of my study, I consider two separate aspects of mutual fund investment. First, I analyze the options available to investors. If the Fiduciary Rule changed the incentives for management companies to offer some funds over others, we would expect structural changes in the types of funds offered to investors. This represents a change in the supply-side of mutual fund investment. Second, I analyze the demand-side of mutual fund investment proxied by mutual fund flows. Mutual fund flows can be seen as the joint investment decisions made between brokers and investors.

The extent to which the Fiduciary Rule should affect mutual fund investment is not entirely clear. On one hand, the regulation may have negligible effect on investment. Such would be the case if mutual funds and brokers believed the regulation to be short-lived and lacking enforcement. This would hardly be seen as a surprising response as various groups quickly filed lawsuits in the weeks after the rule issuance and with full enforcement of the rule's provisions a year in the future and likely to be delayed, practitioners may have deferred their compliance. Additionally, if brokers viewed their recommendations to be above reproach or if their investments are primarily driven by client requests rather than recommendations, the regulation's effects should be muted. On the other hand, in an effort to comply with the rule issuance and to reduce regulatory risk, industry participants may have implemented structural changes on the availability of and investment in funds with broker compensation arrangements.

3.1.1. Mutual Fund Investment Options – Sample Construction

I begin my analysis by examining whether actively managed mutual fund investment options changed during the Fiduciary period. I obtain monthly mutual fund data from the CRSP

mutual fund database from January 2012 to February 2018.²⁷ Following Ben-David et al. (2021) and Dannhauser and Pontiff (2019), I eliminate ETFs, ETNs, and index funds from my sample. I restrict my sample to domestic equity funds with a CRSP objective code beginning with “ED.” I include fund characteristics, such as fund identifiers, front loads, rear loads, total net assets (TNA), raw returns, expense ratios, and 12b-1 fees, among other variables.

Next, I identify share classes affected by the Fiduciary Rule according to their associated broker compensation. Like Sun (2014) and Barber et al. (2016), I designate share classes with broker compensation as those with front and rear loads and/or 12b-1 fees greater than 25 basis points. By law, the 12b-1 fee cannot exceed 1% and has two components: (1) the service fee and (2) the marketing and distribution fee.²⁸ The service fee is used to cover administrative costs for the fund, such as prospectus preparation, and it is capped at 25 basis points. The marketing and distribution fee is used to compensate brokers and firms for the selling and distribution of their products, and it is capped at 75 basis points. Therefore, any 12b-1 fee greater than 25 basis points must have a marketing and distribution component. I refer to classes with these arrangements as “conflicted”, following the terminology used by the DOL’s RIA. Likewise, I designate share classes without loads and 12b-1 fees over 25 basis points as “clean.”²⁹

3.1.2. Mutual Fund Investment Options - Results

To keep the analysis simple and give an accurate picture of the changes in the mutual fund industry, I initially drop only observations that are missing a ticker, a *crsp_fundno* identifier, and

²⁷ I start my sample after 2011 because SEC regulatory changes in mutual fund fee disclosures that began in 2012 (Badoer et al., 2020). Furthermore, I stop my main sample in February 2018, the month before the rule was vacated.

²⁸ Morningstar -

https://admainnew.morningstar.com/webhelp/glossary_definitions/mutual_fund/mfglossary_12b_1_Current.html

²⁹ I do not drop those share classes with 12b-1 fees under 25 basis points. I believe the inclusion of these share classes biases me against finding results. In untabulated results, I exclude these funds in my analysis and find that my results are robust.

monthly TNA. Table 1 shows the summary statistics for conflicted and clean share classes. Panel A reports statistics from December 2014, the year before President Barack Obama announced that the Department of Labor would review the broker recommendation standards. There are 10,091 unique share classes from 3,278 actively managed domestic equity funds. Clean share classes tend to be larger with a mean TNA of \$461 million compared to the mean of \$249 million for conflicted share classes. Additionally, conflicted share classes tend to be older, receive less flows, are more likely to be a retail share class,³⁰ and have higher expense ratios. Because expense ratios include 12b-1 fees, the mean 12b-1 fee represents over a third of the mean expense ratio for the conflicted share classes. Interestingly, with the removal of the 12b-1 fee, the mean expenses of the conflicted share class are still approximately 10 basis points higher than that of the clean share class.

Panel B reports statistics from December 2016, the end of year after the Department of Labor officially issued the Fiduciary Rule. Both conflicted and clean classes saw slight decreases in expense ratios, from 1.493% to 1.435% and 0.881% to 0.821%, respectively. Conflicted share classes also saw a mean decrease in 12b-1 fees of 1.6 basis points, explaining approximately 28% of the decrease in expense ratios seen by conflicted share classes. The average monthly flows to conflicted classes decreased from 52.4 basis points per month in December 2014 to 2.3 basis points in December 2016. At the same time, clean share classes saw an increase in their mean monthly flow, which is likely driven by the increase in newly adopted share classes. Finally, the total number of share classes and funds both increased to 10,468 and 3,324, respectively. However, the mix of share classes does shift in favor of the clean share classes. In Panel A, there were 4,922

³⁰ Share classes are often designated as either retail or institutional. Institutional share classes often have lower fees and higher investment minimums. It is not appropriate to consider retail share classes exclusively for retail investors and institutional share classes exclusively for institutional investors. In fact, according to the Investment Company Institute, approximately 90% of institutional share classes were held by retail investors at the end of 2014. These are primarily held in employer-sponsored retirement plans.

conflicted share classes. By December 2016, that number decreased to 4,698. Likewise, there were 5,169 clean share classes in December 2014. That number increased to 5,770 by the end of 2016.

Further examining these changes, Figure 1 shows the total number of actively managed domestic share classes per quarter. The first red line in the figure corresponds to the first quarter of 2015 when President Barack Obama announced in February 2015 that the Department of Labor would eventually be issuing new fiduciary guidance. The second red line in the figure corresponds to the second quarter of 2016 when the Fiduciary Rule was officially issued in April 2016. The figure shows that the total number of unique share classes increased prior to the announcement from President Obama and the rate of change decreased during the Fiduciary period, topping off with a little over 10,500 unique conflicted and clean share classes.³¹

Highlighting a stark change in the mix of products offered by the mutual fund industry, Figure 2 plots the number of conflicted and clean share classes and shows that the number of clean share classes steadily increased during the Fiduciary period while the number of conflicted share classes began to decrease steadily after the rule announcement. The decreased rate of change in share class offerings in Figure 1 appears to stem from a reduction in share classes with broker compensation arrangements.

Two effects can potentially drive the transition away from conflicted offerings displayed in Figure 2: share classes changing their compensation arrangements and the net addition or deletion of share classes. Examining the first effect, Figure 3 shows changes in compensation arrangements by looking at the number of share classes that switched from conflicted to clean and those that switched from clean to conflicted status. Consistent with a regulatory push away from broker compensation arrangements, most classes in my sample that transitioned moved away from

³¹ Share classes correspond to *crsp_fundno* in the CRSP mutual fund dataset. It represents a unique ticker that is available to investors.

conflicted status. These transitions seemed to be concentrated during the 4th quarter of the years following the 2015 announcement. Most of the transitions away from broker compensation occurred in the 4th quarter of 2016 after the Fiduciary Rule was officially issued. All the transitions were tied to a commissioned load with 135 of the 172 total switchers eliminating their load while 37 added loads.

To address the second effect, I examine the additions and deletions of share classes. I designate a class addition by documenting whether the age of the class is less than or equal to one month. I do this by taking the current month of observation and subtracting the first month of observation available in the CRSP monthly return dataset. I designate a class deletion by documenting whether the class disappears from the sample and does not have any fund returns. The last available month in the CRSP monthly return dataset represents the deletion month. Table 2 shows the total number of additions and deletions by conflicted status and time period.³² There were a total of 509 conflicted share classes and 829 clean share classes deleted during the Fiduciary period from April 2016 through February 2018. In that same timeframe, 310 and 1,159 conflicted and clean share classes were added, respectively. The average quarterly deletion dropped from 80 per quarter to 63 per quarter, suggesting that conflicted classes deleted at a lesser rate during later quarters than prior quarters before the Fiduciary Rule. However, clean share classes had similar deletion trends both before and after the Fiduciary Rule (108 vs. 104).

The additions stand out as a main driver of the trends in Figure 2 with the average quarterly additions for conflicted share classes decreasing from 73 per quarter to 39 per quarter while clean share classes saw an increase from 131 per quarter to 145 per quarter. While both conflicted and clean share classes seemed to have decreases in the number of deletions per quarter, conflicted

³² See Appendix D for list of fund companies with the most deletions and additions during these periods.

share classes saw a large decrease in the number of additions after the Fiduciary Rule and clean share classes saw an increase. This suggests that, on net, more clean share classes are being added and more conflicted share classes are being deleted. Figure 4 supports this assertion and shows the net addition of conflicted and non-conflicted share classes. This is computed by taking the difference between total class additions and total class deletions in a quarter. The figure shows that conflicted classes had net negative additions primarily during the Fiduciary period while clean classes largely remained with pre-period trends, further supporting evidence that the mutual fund industry moved away from compensation arrangements.

While both conflicted and clean share classes saw slight decreases in their deletion rates during the Fiduciary period, the characteristics of the deleted classes may differ between the two groups. Table 3 shows the sample means of deleted classes for both conflicted and clean share classes before and after the Fiduciary Rule was issued. I report the difference in means for the two periods in columns 3 and 6. Across both periods, conflicted share classes that were deleted tended to be smaller, more expensive (expense ratio and 12b-1 fee), and had lower unadjusted returns than deleted clean share classes. Comparing the difference in means between the two periods, most of the differences were insignificant, suggesting that the characteristic differences between the two groups did not meaningfully change after the Fiduciary Rule was issued.

Taken together, the results are consistent with the mutual fund industry moving away from share classes with broker compensation and toward share classes without broker compensation. This trend was seemingly exacerbated during the Fiduciary period when more share classes transitioned away from conflicted compensation arrangements and more clean share classes were added. Thus, if mutual funds are viewed as a financial product supplied to meet the demand of investors and brokers, regulatory-driven changes in demand from brokers and investors would be

reflected in the types of investments available in the market. Therefore, to study the joint investment decisions made by brokers and their clients, I examine mutual fund flows around the Fiduciary Rule.

3.2.1. Mutual Fund Investment Flows – Sample Construction

Whether the Fiduciary Rule affected mutual fund investment is an empirical question. On one hand, the Fiduciary Rule directly targeted the sale of mutual funds with compensation arrangements which would incentivize brokers to direct less money toward these funds. On the other hand, if brokers believed their recommendations were above reproach and would satisfy BICE, flow behavior should largely remain unchanged. Furthermore, because of the legal challenges facing the Fiduciary Rule, some brokers may have resisted changing investment behavior, leaving flows unchanged.

I calculate monthly flows at the share class level as in Sirri and Tufano (1998):

$$FLOW_{f,t} = \frac{TNA_{c,t} - TNA_{c,t-1} * (1 + R_{c,t})}{TNA_{c,t-1}}, \quad (1)$$

where $TNA_{c,t}$ is share class c 's total net assets in month t , and $R_{c,t}$ is the class' monthly unadjusted return. This measure represents the percentage growth in TNA independent of monthly return. I make additional data qualifications to clean the sample and establish consistently populated controls. I require all share class observations to have non-missing returns and monthly total net assets greater than or equal to \$5 million. I require non-missing current and lagged expense ratios, turnover, and calculated percentage flow, and I eliminate extreme flows that are less than -90% and greater than 1,000%. I keep only those funds with multiple share classes, both conflicted and clean. To mitigate potential incubation bias, I only keep classes that have 12 months of prior returns (Evans, 2010). This leaves 259,606 class-month observations for 2,614 and 3,076 clean and

conflicted classes in 1,323 funds from 2012 through February 2018, the month before the rule was vacated.

3.2.2. Mutual Fund Investment Flows – Share-Class Level Results

Similar to Evans and Sun (2020), I initially conduct my analysis at the share-class level instead of at the fund level. I believe that this methodology is appropriate for two reasons. First, practically, brokers do not sell mutual funds at the fund-level as much of the academic literature defines it. Instead, they typically sell a specific *ticker* of a fund, which represents a particular share class. Second, different share classes of the same fund have different fee structures, clienteles, and return history. By conducting the analysis at the share-class level, I can exploit these variations in share classes within fund, negating potential confounding effects from the fund manager, family, or portfolio.

To test the effects of the Fiduciary Rule on flows to conflicted share classes, I use the following difference-in-differences model:

$$FLOW = \beta_1 Conflicted + \beta_2 Conflicted \times Fiduciary + X + FEs + \varepsilon, \quad (2)$$

where *FLOW* is the monthly percentage class flow calculated by using equation 1. The variable *Conflicted* is a dummy variable that equals one for those share classes with conflicted compensation arrangements (commission load and/or 12b-1 fee greater than 25 basis points) and zero, otherwise. *Fiduciary* is a time dummy denoting April 2016 through February 2018, before the rule was vacated in March 2018. *X* is a vector of control variables that includes the prior month's natural log of TNA, prior month's expense ratio, prior month's turnover, prior month's unadjusted return, the natural log of current age measured in months, and prior month's flow. *FEs* include fixed effects controlling for fund-month and fund family.

Table 4 shows the results of the regression in equation 2. In column 1, the conflicted dummy variable loads negatively, suggesting that conflicted share classes received 64.8 basis points less flows than clean share classes. The interaction with *Fiduciary* indicates that after the Fiduciary Rule was officially issued, conflicted share classes received approximately 140.8 (64.8 + 76.0) basis points less flow than clean share classes. In column 2, I include controls which flips the sign on the conflicted dummy in the pre-period, showing that flow is sensitive to variables like prior flow, expense ratio, and size. This is primarily driven by the inclusion of expense ratio as a control. The conflicted indicator is highly correlated with lagged expense ratios with a correlation coefficient of 0.59. However, the interaction with *Fiduciary* remains significantly negative, meaning that the reduction in flow directed toward conflicted classes is not purely driven by expense ratios and other class characteristics.³³

The fixed effects in columns 1 and 2 are at the fund-month level. Practically, these results can be interpreted as flows to conflicted share classes in fund f at month t compared to clean share classes within the same fund and month. The results in columns 3 and 4, which include fund family fixed effects to control for any time-invariant family characteristics that could be correlated with flows and Fiduciary Rule exposure, are largely consistent with the results in columns 1 and 2.

An important criterion to a valid difference-in-differences model is the parallel trend assumption, which requires that, in the absence of treatment, the difference between the treatment and control groups remains constant over time. To test whether my results violate the parallel trends assumption, I regress the monthly flows of my conflicted and clean share class sample on a monthly indicator variable. I include 2015 through 2016 and set my base month to March 2016,

³³ In untabulated results, I include share class fixed effects and the results largely hold. To create share class indicators, I group share classes together based upon the share class reported in CRSP. For example, Class B1 and B5 are grouped into a “B” share class group. CRSP has over 820 unique share class names. I group these share classes into 120 unique class groups based upon share class name.

the month immediately before the Fiduciary Rule issuance. Figure 5 plots the coefficients of both the conflicted and clean samples. While there does seem to be some differences in the pre-period particularly in the early part of 2015, the flows of the two groups tend to mirror each other with conflicted share classes receiving less flow than clean share classes on average. However, after the rule was issued, flows to conflicted share classes trended down and became significantly negative while clean share classes did not see the same trend, underscoring a notable break in the tendency of these two groups to move with each other.

In Section 3.1, I showed that the mutual fund industry transitioned away from conflicted investments primarily through the net deletion of funds with compensation arrangements and the removal of compensation arrangements on existing funds. To alleviate the concern that these transitions impacted flows and biases my results, I run the same regression in Table 4 with three separate data limiters and present the results in the Appendix. First, I eliminate the impacts of deleted or added funds by requiring the share classes to be in the entire sample. Second, I eliminate those share classes that switched their conflicted status at some point in the sample. Third, I hold constant the conflicted indicator and keep only those funds present at the end of 2014, ensuring that there is no variation in the classification of conflicted and clean classes. Across all limiters, my results remain robust. Specifically, coefficients on the interaction term across specifications were significant and ranged from -0.328 to -0.766, in line with the estimates of Table 4.

3.2.3. Mutual Fund Investment Flows – Fund Level Sample Adjustment and Results

I next examine the effects of the Fiduciary Rule issuance on flows at the fund level, which shows the effects of efforts to mitigate conflicts of interest in the cross-section of mutual funds. This test distinguishes whether the changes in flows are merely within-fund transitions away from conflicted share classes or are also cross-sectional transitions away from fund structures with

conflicted arrangements. The former would be inconsequential to fund managers as clean share classes may be largely unaffected or may present another option for brokers to sell after the rule, muting the total outflow experienced at the fund level. The latter would represent total flows to the fund level, which is critically important to the fund family and manager as revenue is primarily driven by fund size. I address fund family flows in a later section. From my base sample, I aggregate TNA to the fund level and calculate the value-weighted return, turnover, and expense ratio based upon share class TNA. I calculate fund-level flows with equation 1 using the value-weighted returns and total fund assets, and I require similar data qualifiers as in the share class analysis.³⁴ Following prior work, I keep only funds where 75% of their assets are either conflicted or clean, emphasizing fund structures primarily exposed and insulated from the Fiduciary Rule.³⁵ This leaves me with 135,562 fund-month observations for 1,259 conflicted and 2,113 clean funds from 2012 through February 2018.

Table 5 shows the equation 2 regression with variables aggregated to the fund level. Columns 1 and 2 include fund investment objective-month fixed effects. While the pre-period monthly flows to conflicted funds are significantly less than clean funds, flows to conflicted funds become more significantly negative after the Fiduciary Rule issuance. Specifically, in column 2, flows to conflicted funds are an additional 40 basis points less than flows to non-conflicted funds after the rule issuance. Columns 3 and 4 add fund family fixed effects and the results largely persist.

³⁴ Unlike the share class analysis, I do not require funds to have multiple share classes. Therefore, some funds will only have a single class.

³⁵ See Bergstresser et al. (2009), Del Guercio and Reuter (2014), and Barber et al. (2016).

3.2.4. Mutual Fund Investment Flows – Fiduciary Rule Vacated

One advantage of my identification strategy is that the Fiduciary Rule was challenged in court and ultimately vacated in early 2018. This allows me to examine the reversal of the rule back to an environment where brokers could freely sell these products again. I extend my sample to include the vacated period from March 2018 through December 2019.³⁶ Tables 6 and 7 respectively present the flows around the Fiduciary Rule issuance and its subsequent vacation at the share class and fund level, respectively.

I find that monthly flows to conflicted share classes remain significantly negative after the Fiduciary Rule was vacated, but these magnitudes are less than what was observed after the rule was issued. Specifically, in column 1, flows to conflicted share classes were 29.8 basis points less than flows to clean share classes. However, this is less than half of the 76.0 basis point decrease observed after the rule was issued, a slight reversal. Similar trends are seen at the fund level. Across all specifications, the vacated period interaction is negative, but it is only significant with the inclusion of controls. This shows that while there was significantly less flow toward conflicted funds than clean funds during the vacated period relative to the pre-period, the magnitudes are more attenuated than the Fiduciary period.

These suggest that some brokers may have resumed directing flows to conflicted investments, but not to the extent that occurred prior to the ruling. Some brokers and firms may have transitioned to other forms of compensation to accommodate the Fiduciary ruling and did not immediately revert to pre-period practices. Anecdotally, this seems plausible as many firms moved toward more fee-based accounts. For example, according to Morgan Stanley's 2017 Q1 financial statement, their wealth management division saw a 219% increase in fee-based asset flows in the

³⁶ I stop my analysis at the end of 2019 to avoid possible confounding effects from the Covid-19 pandemic in early 2020.

year after the Fiduciary Rule was issued. Ultimately, such transitions may have persisted even after the rule was vacated.

Although the rule was not yet enforceable and brokers had the ability to satisfy BICE, the flow changes around the Fiduciary Rule and the return of investment flow toward conflicted investments after the rule was vacated indicates that brokers actively changed their behavior due to the potential of regulatory scrutiny. Ultimately, these results suggest that brokers behave in a risk-averse manner when faced with regulatory and legal burden.

3.2.5. Mutual Fund Investment Flows – Return Chasing

Research has shown that flows to broker-sold funds are more sensitive to past unadjusted returns (O’Neal, 2004; Bergstresser et al., 2009; Del Guercio and Reuter, 2014). Return chasing behavior has been attributed to the unsophistication of investors (Kim, 2011; Ferreria et al., 2012; Barber et al., 2016; Miguel and Su, 2019, Huang et al., 2022). Specifically, the more unsophisticated the flow, the stronger the relation of flows to past unadjusted performance. Consistent with broker-sold flows being unsophisticated, Chalmers and Reuter (2013) report that investors who purchase mutual funds through a broker tend to be younger, less well educated, and less wealthy than investors who buy funds directly sold from fund companies.

Compensation is involved in these transactions. Christoffersen et al. (2013) report that flows to broker-sold funds are heavily influenced by payments made by fund companies to brokers. Therefore, brokers may rely on high past performance as a justification for their recommendations into these funds, driving the observed sensitivity differential.³⁷ In this section, I test how the change in flow during the Fiduciary period was related to past performance.

³⁷ In conversations with financial advisors and brokers, some admit that advisors heavily rely on past fund performance when evaluating what to recommend.

If compensation incentives drive broker recommendations, I expect to see the outflows experienced after the rule issuance concentrated in those funds that brokers are more likely to recommend, namely those with high past unadjusted performance. If investor preference and choice drives broker recommendations, I expect there to be no change to those funds with high past performance.

To examine changes in flow-performance sensitivity, I compute the unadjusted cumulative return for each fund from months $t-1$ to $t-12$. I use unadjusted returns because it is easily observable to investors, and the tendency to chase raw returns are deemed unsophisticated and common investment behavior (Ben-David et al., 2021). The literature traditionally shows flow-performance sensitivities using a continuous measure of past returns or through a piecewise function using performance quintiles to show fund convexity (Sirri and Tufano, 1998). I conduct these tests and present them in the Appendix. However, for ease of interpretation, I separate funds into quartiles based upon its past year's unadjusted return and compare the impact of the Fiduciary Rule between conflicted and clean funds in the top and bottom quartiles separately using equation 2.

Table 8 presents the results. Columns 1 and 2 show the impact of the Fiduciary Rule on funds in the bottom 25% of the past year's return. In the pre-period, conflicted funds receive significantly less monthly flow than comparable clean funds in the pre-period. This relationship seems to remain during the Fiduciary period as the interaction effect is insignificant.

Columns 3 and 4 presents the results for funds in the top 25% of past returns. Column 3 shows that conflicted funds receive 33 basis points more than comparable clean funds per month, consistent with flows to conflicted funds being more sensitive to past positive returns. When management company fixed effects are included, Column 4 shows that there is no significant difference between clean and conflicted funds in the pre-period. However, across both

specifications, flows toward conflicted funds significantly decrease relative to clean funds after the Fiduciary Rule was issued. Specifically, outflows from conflicted funds increased by 1.03 percentage points relative to comparable clean funds, suggesting that the Fiduciary Rule's effect on flows was concentrated in those funds at the top end of the past performance distribution.

These results are consistent with brokers preferring to recommend funds with high past return. Therefore, changes in the ability of brokers to recommend funds with compensation incentives are concentrated in funds with high past return. More generally, this suggests that conflicts of interest and broker incentives, rather than unsophisticated investor demand, are driving some part of the commonly observed flow-performance relationship in mutual fund flows.

3.3. Fund Family Investment Flows

A reduction in flows is critically important to fund management companies as their revenue is tied to assets under management. In this section, I examine the impacts of the Fiduciary Rule on family-level flows. I aggregate to the family level using the *mgmt_cd* indicator in CRSP by adding the total amount of assets invested in the family, the total amount of assets invested in conflicted share classes, and the total amount of flows to each investment in the family. I compute family-level flows following equation 1 and the monthly proportion of conflicted assets to total assets in each fund family. Additionally, I require fund families to have over \$500M in total AUM, and I control for the natural log of the family-level lagged TNA, the averages of the family's lagged expense ratio and turnover, and the proportion of family assets invested in index funds.

Table 9 reports the effects of interacting the percentage of conflicted assets with a fiduciary indicator on family-level flows. The average fund family has about 40% of their assets invested in conflicted investments with a standard deviation of 37.9%. I find that families with higher levels of conflicted assets relative to total assets receive less flow and that relationship is exasperated

during the Fiduciary period, suggesting that fund families more reliant on broker sales channels were most impacted by the changes in fiduciary standards. Specifically in column 1, a one standard deviation increase in the percentage of conflicted investments would decrease flows to the management company by an additional 34.2 basis points per month (-0.902×0.379). This result is robust to controlling for month and fund family fixed effects as well as holding the conflicted percentage constant at December 2014 levels. These results suggest that the impact of the Fiduciary Rule on fund families was heterogeneous, with fund families that rely on brokers to distribute their funds experiencing the greatest reduction in flows.

4. Discussion

In the previous section, I presented evidence that mutual fund investment transitioned away from those funds with broker compensation arrangements after the Fiduciary Rule was issued. This represents a structural shift in the way capital is allocated toward mutual funds. It is natural to wonder whether the rule was successful and such shifts are “good.” To begin to explore this idea, one must understand the motivation and goals of the regulation. As discussed in Section 2, the DOL was highly motivated by analysis that showed biased advice harming investor wealth, mainly through higher costs such as commissions and 12b-1 fees. On top of that, their analysis cited research such as Bergstresser et al. (2009), Christoffersen et al. (2013), and Del Guercio and Reuter (2016) which asserts that broker-sold funds typically underperform. In some sense, one can see a clear and simple picture painted by the DOL: broker fees not only eat away at client wealth but also the funds they recommend underperform, and if their recommendations are driven by conflicted compensation arrangements, limiting these arrangements should improve investor outcomes.

Therefore, the regulation had a successive goal of improving investor wealth and outcomes by first limiting the types of investments brokers could recommend to their clients. My study shows that the regulation was indeed successful in terms of limiting and shifting investment behavior away from funds deemed problematic. However, the question whether the regulation was “good” or improved investor welfare is much less clear for a few reasons.

First, did brokers begin recommending products that performed better? As we know, a main motivation for the rule was the oft-cited underperformance of broker-sold funds. However, without account-level transaction data, it is not directly evident where brokers decided to redirect capital and whether this redirected capital performed better than it otherwise would have. While some capital surely redirected toward low-cost index funds, some may have redirected toward individual stocks and ETFs allowing brokers to still collect commissions.³⁸ In the second chapter of this dissertation, I review the underperformance of broker-sold domestic equity mutual funds and confirm prior studies showing the average underperformance of these funds. However, when value-weighting the returns in broker-sold funds, I find that broker-sold funds do not significantly underperform, questioning the necessity of the Fiduciary Rule. In addition, the Fiduciary Rule seemed to do little in terms of changing fund performance, which raises doubts about the extent to which broker compensation incentives drive fund-level underperformance. Moreover, the extent to which brokers recommend products to exploit their clients for personal gain is questionable as recent literature has shown that financial advisors often invest and hold similar portfolios as their clients (Foerster et al., 2017; Linnainmaa et al., 2020).

³⁸ The DOL was mostly concerned about brokers favoring one fund over another due to compensation arrangements inside the fund structure. Stock and ETF commissions are often set at the broker-level and equal across investments (i.e. a commission for a trade in AAPL does not pay more than a commission for a trade in VTI), and thus, were not as scrutinized by the Fiduciary Rule.

Second, opponents to the Fiduciary Rule brought up concerns about possible adverse spillovers from the regulation. Confirming these concerns, multiple studies and polling suggested that advisors raised account thresholds or limited services.³⁹ One such study, conducted by A. T. Kearney, a management consulting firm, recommended that financial advisors transition to fee-based services and evaluate new account minimums and suggested that the ruling would lead broker-dealers to collectively stop serving \$400 billion in low-balance retirement accounts by 2020. In addition, the Securities Industry and Financial Markets Association (SIFMA) commissioned a study in 2017 that found brokerage services were eliminated for many investors and assets were shifted to fee-only accounts, which demanded higher fees for higher levels of service.⁴⁰

Consequently, losing access to financial advice may harm investors. In a report funded by Capital Group, Robert Litan of the Brookings Institution and Hal Singer of the Progressive Policy Institute argue that the Fiduciary Rule could deprive investors of the ancillary benefits that advisors provide.⁴¹ Specifically, they argue that advisors help investors stay invested during times of market turmoil, engage in less market timing, and properly rebalance their portfolios. They cite Vanguard’s 2014 Advisor Alpha report stating that the avoidance of market timing and efficient rebalancing provides 44.5 basis points of yearly return to investors. Finally, they argue that advisors help maximize investor savings through establishing a financial plan and encouraging full utilization of employer-sponsored plans. Consistent with this, Chalmers and Reuter (2020) show that brokers help participants bear market risk but recommend higher-commissioned products,

³⁹ Davis & Harman LLP – Proposed extension of transition period and delay of applicability dates - <https://www.dol.gov/sites/dolgov/files/EBSA/laws-and-regulations/rules-and-regulations/public-comments/1210-ZA27/00025.pdf>

“The Consequences of the Fiduciary Rule for Consumers” – Meghan Milloy – April 10, 2017 - American Action Forum

⁴⁰ Deloitte Study on the DOL Fiduciary Rule – August 2017 – SIFMA

⁴¹ “Good Intentions Gone Wrong: The Yet-To-Be-Recognized Costs of the Department of Labor’s Proposed Fiduciary Rule” – Robert Litan and Hal Singer – July 2015 – Economists Incorporated

suggesting that the tradeoff for some investors may be investing with higher-commissions or not investing at all.

Additionally, a transition to fee-based advisory services may not be in the best interest of all investors. Such would be the case for long-term buy and hold investors with minimal deposits. For example, imagine an investor inherited \$100,000 and wanted to invest in a balanced mutual fund. This investor did not expect to contribute any additional capital to the account and desired to hold the account until retirement in 25 years. The investor has an option to invest in the A-share of the mutual fund with a 4.25% front-end load and an expense ratio of 50 basis points. The investor could alternatively invest in a fee-based account that offers the institutional share class of the same fund for zero load and an expense ratio of 25 basis points. The fee-based account charges 1% of assets under management (AUM) per year. Based on rough back-of-the-envelope calculations which assumes the account balance remains at \$100,000 throughout the 25 years, the fee-based account becomes more expensive than the commissioned alternative around year 7 and will be almost double the cost by year 25. In this case, a limitation of account-type options could prove costly for some investors.

Third, the Fiduciary Rule compliance costs proved to be incredibly costly as brokers hired teams of lawyers and spent resources transitioning to a new regulatory regime. For example, Primerica cited that it expected its yearly costs to go up by approximately \$5M per year in order to comply with the Fiduciary Rule. Across the entire market, SIFMA conducted a study and found that compliance costs for brokers exceeded \$4.7B.

At the time of this writing, a new Fiduciary Rule has been proposed and is currently undergoing a barrage of litigation, much like its predecessor that is discussed in this paper. Although the new rule is less encompassing, primarily focusing on rollover recommendations

rather than all recommendations within IRAs, much of the same concerns have been brought up and the DOL should consider the direct and indirect implications of this policy as it moves forward.

5. Conclusion

Overall, the Fiduciary Rule sought to address a troubling issue in financial advice and, to the extent that it aimed to redirect investment away from potentially conflicted investments, the rule proved effective. My research reveals that flows toward conflicted mutual funds significantly decreased relative those without broker compensation arrangements, suggesting that brokers become risk-averse under regulatory scrutiny. Consistent with a structural decrease in investment demand for conflicted funds, I find that the supply of investable funds shifted away from those with broker compensation arrangements toward those without.

However, it remains debatable whether the Fiduciary Rule achieved its ultimate goal of improving investor welfare due to lack of analysis and unforeseen spillover effects. As such, subsequent iterations of fiduciary policy would do well to consider a myriad of tradeoffs, goals, and outcomes.

In the future, it is imperative to conduct more research on the effects of fiduciary policy and advice. Overcoming data limitations would allow for a deeper exploration of the quality of advice given by advisors who are subject to fiduciary standards versus those who are not. Additionally, it is crucial to examine the quality of investment under current ERISA plans, especially given the impact of COVID-19 and recent regulatory alterations like the SECURE Act. Finally, there is a need for a comprehensive analysis to assess the potential impact of proposed changes to fiduciary advice that includes Environmental, Social, and Governance (ESG) standards. Such studies will aid in the development of future fiduciary policies that balance the competing goals of protecting investors while ensuring a healthy and efficient financial marketplace.

Chapter 2 – Should Conflicts be Avoided? Broker Compensation, Fiduciary Regulation, and Underperformance

Abstract

Broker-sold mutual funds have been consistently shown to underperform those directly sold to clients, raising regulatory concerns about conflicts of interest. This paper reaffirms the underperformance of broker-compensated mutual funds on both risk-adjusted and unadjusted bases. This underperformance is primarily driven by higher expense ratios. However, value-weighted portfolios eliminate this underperformance, suggesting brokers distribute client capital in a manner that mitigates underperformance and questioning the necessity of regulatory intervention targeting broker sales. One such regulation, the Fiduciary Rule of 2016, had little impact on mutual fund returns, further questioning the link between fund performance and broker sales incentives.

1. Introduction

Do broker sales incentives harm investor performance and to what extent does regulatory intervention improve investor outcomes? Previous studies have consistently found that mutual funds recommended by brokers tend to underperform and come with higher commissions, raising concerns about potential conflicts of interest between brokers and their clients.⁴² To address these concerns and improve investor welfare, regulatory agencies have sought to limit brokers' ability to recommend funds with underlying compensation incentives.

One significant effort in this direction was the Department of Labor's (DOL) introduction of the "Fiduciary Rule" in April of 2016. This rule expanded the fiduciary standards in the Employee Retirement Income Security Act of 1974 (ERISA) to brokers serving individual retirement accounts (IRAs). Essentially, the rule prohibited brokers from recommending mutual funds with compensation arrangements like load commissions and 12b-1 fees unless they could demonstrate that these recommendations were in the best interest of their clients. The Fiduciary Rule upended the brokerage industry, leading to significant changes in business practices and an estimated \$4.7 billion in compliance costs.⁴³

Although the Fiduciary Rule was eventually vacated by the 5th Circuit Court of Appeals in 2018, the DOL has continued to pursue policies targeting conflicts of interest tied to broker compensation arrangements.⁴⁴ Consequently, it remains critically important to continually evaluate the problem of conflicted advice and the effectiveness of past policy solutions to inform

⁴² See Carhart (1997), Elton et al. (2004), Hortacsu and Syverson (2004), Bergstresser et al. (2009), Hackethal et al. (2012), Mullainathan et al. (2012), Christoffersen et al. (2013), Del Guercio and Reuter (2014), Anagol et al. (2016), Hoechle et al. (2018), Egan (2019), Chalmers and Reuter (2020), and Cooper et al. (2020).

⁴³ "DOL Fiduciary Rule Compliance Costs Exceed \$4.7 Billion: SIFMA Study" – Bruce Kelley – August 10, 2017 – InvestmentNews.com

⁴⁴ For more information about Fiduciary Rule 3.0 see Eversheds Sutherland's "Department of Labor's Fiduciary Rule 3.0" report.

future iterations of fiduciary policy. In this paper, I first aim to re-evaluate the performance of funds with broker compensation arrangements and compare them to funds without such incentives. Next, I examine whether broker compensation arrangements discourage efficient capital allocation, thereby harming investor wealth. Finally, I test whether the 2016 Fiduciary Rule had a meaningful impact on fund performance and capital allocation, underscoring the effectiveness of regulation targeting potential conflicts of interest in broker advice.

To investigate the impact of broker compensation on mutual fund performance, I analyze a sample of actively managed domestic equity mutual funds from 2005 to 2015, the year preceding the issuance of the Fiduciary Rule. I classify funds with 100% of their assets invested in classes with broker compensation, including commission loads and 12b-1 fees greater than 25 basis points, as "conflicted" and funds with 0% of their assets invested in classes with broker compensation as "clean." This approach ensures that the funds I evaluate are either fully exposed or not exposed to broker sales incentives, which may not be the case for funds with share classes of differing compensation arrangements and distribution channels.

Consistent with prior research and the assertions of the DOL, my analysis finds that conflicted mutual funds generally underperform their clean counterparts. Specifically, I observe that funds with broker compensation arrangements exhibit significant underperformance, net of fees, of around 7 basis points per month on an unadjusted basis and 3 basis points per month on a risk-adjusted basis. However, this underperformance disappears when comparing risk-adjusted gross alpha, indicating that differences in expense ratios are the primary driver of the observed underperformance.

The findings suggest that, on average, mutual funds that have broker compensation arrangements tend to underperform compared to those that do not have such arrangements.

However, these results do not account for the allocation decisions made by brokers themselves, which is arguably a more pressing concern for the DOL. Brokers play a crucial role in directing their clients' capital through their recommendations, and they can either exacerbate the underperformance by directing their clients towards underperforming funds or mitigate the underperformance by recommending the best-performing funds. The former represents a potential misallocation of investor capital due to conflicts of interest or lack of informational advantages, while the latter represents the efficient allocation of capital across funds, which aligns with the interests of clients.

To evaluate brokers' allocation decisions, I construct a conflicted portfolio with the share classes of my conflicted sample and a clean portfolio with the share classes of my clean sample. I compute both equal- and value-weighted returns for both portfolios and run a hypothetical trading strategy that goes long the conflicted portfolio and short the clean portfolio, rebalancing monthly. Consistent with my earlier findings, the equal-weighted strategy produces significantly negative four-factor net alphas. However, the value-weighted strategy shows no significant difference in performance, indicating that while conflicted funds do underperform on average, their adverse economic effects may be limited to a relatively small fraction of aggregate wealth. Therefore, the accusations of investor harm, which motivated the Fiduciary Rule, may have been overstated as my results indicate that brokers do not systematically direct capital in ways that underperform comparable alternative investments.

In light of these findings, I expand my sample to investigate the effects of the Fiduciary Rule on fund returns prior to its overturn in March 2018. The impact of the rule on fund returns is unclear and ambiguous. Fund managers are motivated to increase flows to their funds, and if these flows are directed toward conflicted funds due to the underlying broker compensation

arrangements rather than fund performance, managers may lack the incentive to generate alpha (Del Guercio and Reuter, 2014). Hence, regulating broker compensation arrangements could motivate managers to strive for better performance to attract more flows from non-IRA sources or make it easier for brokers to justify recommendations. Conversely, conflicted fund performance might deteriorate as managers view regulated funds as a lost cause, further disincentivizing them from generating alpha as they turn their efforts and attention elsewhere, including non-impacted funds. Alternatively, fund managers may be maximizing their efforts irrespective of broker compensation arrangements, and the average conflicted fund manager may possess less skill or incur higher management fees, depressing their performance. Therefore, performance would be largely unaffected by changing distribution channel incentives.

Using a difference-in-differences analysis, I find a negligible impact on the average underperformance of conflicted funds in the wake of the Fiduciary Rule. This result implies that the relationship between managerial incentives to generate alpha and broker distribution incentives may not be as strong as previously assumed. Therefore, the average underperformance of conflicted funds suggests that the average conflicted fund manager may incur higher fees or have lower skill than the average clean manager. However, the absence of significant differences in gross alpha between the two groups before or after the Fiduciary Rule indicates that higher expenses are the main driver of underperformance.

Although the Fiduciary Rule did little to change the average risk-adjusted underperformance of conflicted funds, brokers themselves have changed their allocation practices. My first chapter shows a significant reduction in flows toward conflicted funds following the issuance of the Fiduciary Rule, indicating a structural change in investment capital flow. Whether these allocation changes improved aggregate investor performance is an empirical question. If poor

incentives facilitate underperformance, then incentive changes should change performance after the rule. Alternatively, if managers were already maximizing their efforts and skill drives underperformance, then the Fiduciary Rule should have little impact on risk-adjusted performance. After including the Fiduciary period and reassessing the hypothetical trading strategy, I find no significant changes in underperformance for equal-weighted and value-weighted portfolios. These findings suggest that the Fiduciary Rule did not affect fund performance and brokers may have transitioned from one equilibrium to another, consistent with Berk and Green's (2004) theory.

This paper contributes to the empirical literature on conflicts of interest in investment advice. One of the most consistent findings is that brokers are more likely to recommend high-commission products (Hackethal et al., 2012; Mullainathan et al., 2012; Christoffersen et al., 2013; Anagol et al., 2016; Hoechle et al., 2018; Egan, 2019; Chalmers and Reuter, 2020) and these recommendations often underperform alternative investments (Bergstresser et al., 2009; Del Guercio and Reuter, 2016). In this paper, I confirm the average underperformance of broker-sold funds but bring new perspective to its causes and implications. First, my results suggest that regulation targeting broker compensation arrangements did little to improve fund performance, questioning the link between fund manager and broker incentive structures. Second, my results expand prior work by evaluating performance on a value-weighted basis, showing that the negative effects of broker-sold fund underperformance may be partially mitigated by brokers avoiding poorly performing funds in spite of the compensation structure. Finally, my results present a less nefarious view of brokers consistent with a recent studies using Canadian financial advisor data showing that advisors invest personally just as they advise their clients (Foerster et al., 2017; Linnainmaa et al., 2020).

This paper also contributes more generally to the literature on household finance by examining the returns of products recommended by brokers. The Fiduciary Rule targeted the recommendations and products sold in IRAs. According to a 2021 Investment Company Institute report, IRAs held \$5.8T of the \$20.9T invested in mutual funds by households and most of that investment held outside employer-sponsored plans was invested with the help of financial professionals. Price dispersions exist in the products that brokers recommend, and prior literature has documented these dispersions in other financial products (Brown and Goolsbee, 2002; Cristoffersen and Musto, 2002; Ge, 2002; Hortacsu and Syverson, 2004; Choi et al., 2010; Duarte and Hastings, 2012; Woodward and Hall, 2012; Agarwal et al., 2017; Bhutta et al., 2020). The cost of financial advice and the products recommended to investors underscores the importance of financial sophistication and the role brokers play in household investment decisions (Gennaioli et al., 2015; Foerster et al., 2017). Furthermore, regulatory changes to broker compensation arrangements highlights the incentives for financial service providers to compete on dimensions other than cost (Hastings et al., 2017; Roussanov et al., 2018; Gurun et al., 2021).

In addition, this paper is related to existing work on mutual fund returns. While this paper does not seek to answer whether fund managers are skilled, I present results suggesting that fund management is unrelated to distribution incentives and therefore is more likely tied to internal factors such as managerial ability (Del Guercio and Reuter, 2014). Furthermore, I find that net alphas were negative and gross alphas were not statistically different from zero. If one views gross alpha as a measure of managerial skill, this suggests that the average manager doesn't have the ability to produce a positive risk-adjusted alpha during my sample period and managerial fees further erode this performance (Carhart, 1997; French, 2008; Fama and French, 2010).

Finally, this paper adds to the ongoing debate over the fiduciary role of financial professionals. Several studies from law journals have discussed the legal fallout of such a ruling (Pratt, 2016; Schanzenbach and Sitkoff, 2016a, 2016b). Both Bhattacharya et al. (2020) and Egan et al. (2022) study the Fiduciary Rule impacts on the variable annuity market. Likewise, the first chapter in this dissertation uses the Fiduciary Rule to examine how regulatory efforts to alleviate broker conflicts of interest affect mutual fund investment. Notedly, the Department of Labor released a new Fiduciary Rule proposal in June of 2020 which extends the fiduciary definition to IRA rollovers and proposes new exemptions to conflicted transactions.⁴⁵ Thus, the fiduciary issue continues to be timely. Overall, there is uncertainty around the regulatory framework for the broker-client relationship, and future iterations should consider the impacts of past policy initiatives. My paper seeks to help inform policymakers in such decisions.

The rest of the paper proceeds as follows: Section 2 provides institutional background details, Section 3 describes my sample, Section 4 presents my analysis, and Section 5 concludes.

2. Background and Motivation

2.1. The 2016 Fiduciary Rule

In early 2015, President Barack Obama signaled a significant shift in the financial advice industry when he directed the DOL to move ahead on a proposal that would expand the investment-advice standards for brokers and advisors handling retirement accounts.⁴⁶ The Department of Labor’s proposal and final ruling in April 2016 came to be known as the “Fiduciary Rule.”⁴⁷

⁴⁵ DOL Fiduciary Rule – Evershed Sutherland - <https://www.dolfiduciaryrule.com/#:~:text=In%20June%202020%2C%20DOL%20released,investment%20advice%20and%20principal%20transactions.>

⁴⁶ Sometimes advisor refers specifically to Registered Investment Advisor. In my context, I refer to advisor and broker as interchangeable terms for those who hold Series 7 licenses and can get compensated for the sale of investment products. For ease of interpretation, I will use the term “broker” throughout this paper.

⁴⁷ See Appendix A for a detailed timeline of the Fiduciary Rule.

The fiduciary standard of care in retirement plans is governed by the Employee Retirement Income Security Act of 1974 (ERISA), and it requires certain brokers over employer-sponsored retirement plans to act as fiduciaries. In other areas of retirement planning, brokers had to adhere to a less stringent standard of care called the suitability standard, which only required investments to be suitable to an investor's circumstance. However, under the Fiduciary Rule, the fiduciary duty laid out in ERISA would expand from traditional employer-sponsored retirement plans to individual retirement accounts (IRAs), previously governed by the suitability standard. This expansion of fiduciary duty meant that brokers over IRAs would no longer be able to make recommendations that could directly affect their compensation level without committing a prohibited transaction, unless they could prove their recommendations were in the best interest of their clients.⁴⁸ These prohibited transactions included investment recommendations that created compensation from commissions, 12b-1 fees, revenue sharing, trailing commissions, and non-monetary compensation such as gifts and trips. Previously, brokers operating under a suitability standard only had to disclose possible conflicts of interest, not avoid such arrangements.⁴⁹

The Fiduciary Rule faced legal scrutiny, leading to six litigations challenging the rule. The ruling survived three district courts and one court of appeals. However, in March 2018, the 5th Circuit Court of Appeals ruled that the DOL's overreached in regulating services and providers beyond its authority, effectively killing the Fiduciary Rule and reinstating prior fiduciary law under ERISA.⁵⁰ By June 2018, the 5th Circuit issued its mandate officially vacating *in toto* the Fiduciary

⁴⁸ Best Interest Contract Exemption (BICE) allowed brokers to sell conflicted products conditional on the broker proving that the recommendation did not violate the fiduciary standards of prudence, individualization, and loyalty.

⁴⁹ "What The Demise of the DOL Fiduciary Rule Means for You: 4 Questions to Ask Your Advisor Now" – Ron Carson – August 5, 2018 – Forbes

⁵⁰ 5th Circuit Court Ruling – <http://www.ca5.uscourts.gov/opinions/pub/17/17-10238-CV0.pdf>

Rule. For a more detailed background of the Fiduciary Rule, refer to Egan et al. (2022) and the first chapter of this dissertation.

2.2. What's the Motivation?

The Obama administration and advocates of the rule contended that individual Americans were shouldering the burden of retirement savings and that ERISA required updating to safeguard the interests of retirement savers. According to the White House Council of Economic Advisors (CEA), biased advice siphoned \$17 billion annually from retirement accounts.⁵¹ Supporters of the ruling used this figure to underscore excessive broker compensation and potential abuses in retirement accounts that necessitated regulation. Furthermore, the Department of Labor released its Regulatory Impact Analysis report (RIA), which meticulously laid out the rationale behind the rule.⁵² Although the RIA's estimate was lower than the CEA's, it determined that the Fiduciary Rule would result in a reduction of approximately \$3.76 billion in investors' expenses annually.

A critical component of their arguments was the assertion that broker-sold mutual funds typically underperformed funds sold directly to investors. They substantiated this claim with various studies, including Bullard et al. (2008), Bergstresser et al. (2009), Christoffersen et al. (2013), Chalmers and Reuter (2014), and Del Guercio and Reuter (2014), among others.⁵³ When examining the issue through the Department of Labor's lens, a clear and straightforward picture emerged: broker fees not only eroded client wealth, but the funds they recommended also underperformed. Limiting these conflicted compensation arrangements, which may drive their recommendations, could enhance investor outcomes.

⁵¹ The White House - FACT SHEET: Middle Class Economics: Strengthening Retirement Security by Cracking Down on Backdoor Payments and Hidden Fees.

⁵² Department of Labor Regulatory Impact Analysis - <https://www.dol.gov/sites/dolgov/files/ebsa/laws-and-regulations/rules-and-regulations/completed-rulemaking/1210-AB32-2/ria.pdf>

⁵³ For a complete list of their citations regarding this subject, see Appendix C, which corresponds to Figure 3-17 in the RIA.

Undoubtedly, the DOL's policy aimed to enhance investor welfare, yet there remain three unresolved questions arising from their motivation. Firstly, to what extent was the underperformance of broker-sold funds a significant issue immediately before the rule's implementation? One concern regarding the RIA's motivation is that the studies evaluating performance used in the most recent sample concluded in 2009, with most studies ending in the early 2000s, years before the Obama administration proposed the rule. Moreover, these studies do not include the post-financial crisis years, which may raise doubts about their relevance to current market conditions.⁵⁴

Secondly, to what degree do brokers exacerbate underperformance? Although broker-sold funds may underperform on average, brokers may channel capital toward the best-performing broker-sold funds, reducing the harm to investors. However, brokers could also intensify the issue by directing capital in ways that benefit themselves at the expense of investor returns. Therefore, it is crucial to determine the extent to which brokers contribute to underperformance to assess the impact of the DOL's policy effectively.

Thirdly, how did the regulation affect investor underperformance and capital allocation? Fund managers are motivated to increase flows to their funds, and if these flows are directed toward conflicted funds due to the underlying broker compensation arrangements rather than fund performance, managers may lack the incentive to generate alpha (Del Guercio and Reuter, 2014). On one hand, regulating broker compensation arrangements could motivate managers to strive for better performance to attract more flows from non-IRA sources or make it easier for brokers to justify recommendations. On the other hand, conflicted fund performance might worsen as managers view regulated funds as wasted effort, further disincentivizing them from generating

⁵⁴ This represented only one study, Christoffersen et al. (2013). Almost all other studies ended their samples in the early 2000s.

alpha as they turn their focus elsewhere, including non-impacted funds. It could also be the case that fund managers maximize their efforts irrespective of broker compensation arrangements, suggesting that conflicted fund underperformance is driven by less skilled managers or higher management fees. Therefore, performance would be largely unaffected by changing distribution channel incentives. Additionally, regardless of performance and faced with changes in their incentives, brokers may have redirected capital in ways that could improve or harm investor wealth.

In this paper, I aim to address these questions, which remain relevant today, as the DOL is expanding its guidance on fiduciary advice. The DOL Fiduciary Rule 3.0, which concerns broker rollover recommendations, began taking effect in February 2021 and is currently facing lawsuits by the Federation of Americans for Consumer Choice (FACC) and American Securities Association in Texas and Florida courts. As the DOL is likely to make further changes regarding the definition of a fiduciary and what constitutes fiduciary advice,⁵⁵ it is essential to re-evaluate the motivations and impacts of past rules to inform future policy.

3. Data

I obtain monthly data for actively managed domestic equity funds from the CRSP Mutual Fund Survivorship-Bias Free database covering the period from 2005 to 2015. Following Ben-David et al. (2021) and Dannhauser and Pontiff (2019), I eliminate ETFs, ETNs, and index funds from my sample. To identify domestic equity funds, I keep only those funds with a CRSP objective code beginning with “ED.”

I identify share classes affected by the Fiduciary Rule according to their associated broker compensation. Following Sun (2014) and Barber et al. (2016), I designate share classes with broker

⁵⁵ The DOL’s Final Rule on the application of ERISA’s fiduciary duties of prudence and loyalty to the selection of plan investments that incorporate ESG goals began to take effect in February of 2023.

compensation as those with front and rear loads and/or 12b-1 fees greater than 25 basis points. The 12b-1 fee has two components: the service fee, which covers administrative costs such as prospectus preparation and is capped at 25 basis points, and the marketing and distribution fee, which compensates brokers and firms for selling and distributing their products and is capped at 75 basis points. Therefore, any 12b-1 fee exceeding 25 basis points must include a marketing and distribution component. I refer to share classes with these arrangements as “conflicted”, consistent with the terminology used by the DOL’s RIA. Conversely, I refer to share classes without loads and 12b-1 fees over 25 basis points as “clean.”⁵⁶

This identification is done at the unique investible share-class level, which is identified in CRSP by *crsp_fundno*. Then, I aggregate the *crsp_fundno* up to the unique fund-level group, *crsp_cl_grp*, to find the proportion of the fund’s total net assets (TNA) invested in conflicted share classes. I only include funds that have either 100% or 0% of their TNA invested in conflicted assets. This simplifies my analysis and minimizes any confounding effects of fund structures with various distribution channels and investment clientele. Finally, I exclude any fund with missing TNA, returns, and expense ratios, as well as funds with TNA below \$1M.

Table 10 presents the largest 10 conflicted and clean funds in 2005, 2010, and 2015, respectively. Notably, Vanguard and Fidelity appear in both groups due to their offering of funds with varying compensation structures, particularly in the earlier period. However, they are primarily represented in the clean funds group, aligning with their position as cost leaders in the industry. The presence of fund companies in both groups is beneficial to my analysis as it reduces concerns about differences in management companies driving returns. Interestingly, Vanguard

⁵⁶ I do not drop those share classes with 12b-1 fees under 25 basis points. I believe the inclusion of these share classes biases me against finding results. In untabulated results, I exclude these funds in my analysis and find that my results are robust.

PRIMECAP Fund was listed as a conflicted fund in 2010 but was classified as clean in 2015. This shift reflects the industry trend toward reducing fees, as Vanguard eliminated the commissioned load on that particular fund.

Table 11 presents summary statistics for the two groups in 2005, 2010, and 2015, respectively. Variables such as expense ratio and 12b-1 fees are value-weighted averages of the share classes within the fund structure. At the end of 2005, there were more conflicted fund options than clean fund options (786 vs. 515). However, this trend reversed by the end of 2010 and continued in 2015, potentially indicating a shift away from high-cost actively managed funds to those with lower costs following the financial crisis. This is evident in the reported expense ratios, where clean funds had an average expense ratio 47.7 basis points lower than conflicted funds in 2015, while that difference was 38.5 basis points in 2005.

Across the three years, the average clean fund was younger and around twice the size of conflicted funds, and flows toward conflicted funds decreased significantly relative to clean funds by 2015, suggesting a lower demand for funds with broker compensation even before the Fiduciary Rule scrutinized broker compensation arrangements. Turnover for clean funds remained similar in 2005 and 2010 but decreased significantly in 2015, consistent with the trend of reducing fund expenses.

4. Analysis

4.1. The Average Performance of Conflicted and Clean Funds

I now compare the performance of conflicted funds and clean funds from January 2006 through December 2015, the ten years before the Fiduciary Rule was enacted. The purpose of this analysis is to evaluate the extent of the underperformance of funds with broker compensation before the Fiduciary Rule was issued. To do this, I run the following regression:

$$Fund\ Return = \beta_1 Conflicted + FE + \varepsilon , \quad (1)$$

where *Fund Return* represents five different return measures: net return, net return plus 12b1 fees, gross return, net alpha, and gross alpha.⁵⁷ *Conflicted* is a dummy variable that takes the value of one if a fund has 100% of its TNA invested in classes with broker compensation, and zero if a fund has 0% of its TNA invested in such classes. I include fund objective-month fixed effects to account for different investment objectives and time-invariant factors that may affect fund returns.

Table 12 presents the results of equation 1 for various return measures. By using a simple model, the analysis provides an easy-to-understand picture for investors who are evaluating average fund returns. Returns for funds in columns 1 through 3 are value-weighted by share class while returns in columns 4 through 6 are equal-weighted. Columns 1 and 2 show the estimates of the constants of both conflicted and clean funds during the period. Column 3 of the table shows that, on average, conflicted funds tend to underperform clean funds within the same month and fund objective. Specifically, the unadjusted underperformance is 7.3 basis points per month, which reduces to 4.3 basis points per month when considering gross return, where management fees and 12b-1 fees are added back. On a risk-adjusted basis, conflicted funds underperform clean funds by 3.2 basis points per month. However, the differences in gross alpha are statistically insignificant, suggesting that higher fees associated with conflicted funds drive most of the underperformance. On an equal-weighted basis, returns for funds are qualitatively and quantitatively similar to the value-weighted returns. Therefore, in later analysis, I focus my analysis on value-weighted fund returns.

In Table 13, I repeat the analysis in Table 12 for two subperiods. Column 3 shows that the differences in returns between the two groups are statistically insignificant from 2006 through

⁵⁷ See Appendix J for variable definitions.

2010, suggesting that performance between the two fund groups were economically similar during the years around the financial crisis. In contrast, column 6 shows that the underperformance of conflicted funds from 2011 through 2015 is statistically significant, driving the results in Table 12. This discrepancy may be due to decreasing fees in the clean fund group in the later periods and indicate that the underperformance of conflicted funds is heterogeneous over time. Notably, gross alpha differences are statistically insignificant across periods. Thus, the analysis provides a clear picture that, within the same month and fund objective, conflicted funds underperform their clean counterparts on average, primarily due to higher expense ratios.

4.2. Long-short Portfolio Performance and Broker Capital Allocation

While conflicted funds tend to underperform clean funds on average, the impact of underperformance can be exacerbated by brokers who direct client capital toward the worst-performing funds. Conversely, brokers may help alleviate underperformance by avoiding those same funds.

To examine the aggregate performance differences between conflicted and clean funds, I employ a long-short trading strategy that involves buying a portfolio of conflicted funds and shorting a portfolio of clean funds and taking the difference in returns between the two portfolios each month. The returns of each portfolio are calculated by value-weighting or equal-weighting each holding based on the monthly TNA of their underlying share classes. Specifically, I run the following model:

$$R_{conflicted} - R_{clean} = \alpha + MKTRF + SMB + HML + UMD + \varepsilon , \quad (2)$$

where $R_{conflicted}$ and R_{clean} are the excess returns above the risk-free rate for the conflicted and clean portfolio, respectively. The portfolio returns are risk adjusted with contemporaneous factors using the Carhart (1997) four-factor model.⁵⁸

It is important to note two caveats to this methodology. Firstly, this "trading strategy" is not intended to be used in practice as investors cannot short sell mutual funds. Rather, it is designed to illustrate the difference between two hypothetical portfolios. Secondly, the portfolios are rebalanced monthly, and the impact of commissioned loads is not considered when comparing returns. While this would significantly affect the cost to investors in this hypothetical strategy, it is not necessary to evaluate the underlying performance of the funds in which capital is invested. Additionally, the existence of a commission can be seen as a cost of access. Chalmers and Reuter (2020) find that brokers typically recommend higher commissioned products but help investors manage market risk. Therefore, the tradeoff for the average investor may be to invest in the market with a commission or to not invest at all.

Given the complexity of investor costs and the varying types of investment strategies and advisors, it's difficult to make a direct comparison between the two portfolios. However, the portfolios can be viewed as proxies for the allocation of investors who use different types of investment professionals or invest on their own. For instance, the conflicted fund portfolio may represent the allocation of investors who use a broker who charges a commission, while the clean fund portfolio may represent the allocation of investors who invest on their own or through a fee-based financial advisor.

While accounting for commission costs would be important for evaluating the costs to investors in this hypothetical trading strategy, it's not necessary to evaluate the underlying

⁵⁸ Factors are obtained from Kenneth French's website.

performance of the funds in which capital is allocated. Instead, I simply compare the performance of the two portfolios which only account for the underlying fund fees that all investors would bear. To properly compare the cost tradeoffs, the commission would need to be weighed against the search costs of individual do-it-yourself investors and the ongoing cost of working with a fee-based financial advisor.

The results for the conflicted and clean portfolios, as well as the spread portfolio, are presented in Table 14. In Column 3, the intercept confirms the underperformance of broker-sold funds as reported by the RIA and prior research. Specifically, the conflicted portfolio significantly underperforms the clean portfolio by 7.6 basis points per month when the returns are equal weighted across funds, which is consistent with the results reported in Table 11.

Column 6 shows the value-weighted alpha differences between the conflicted and non-conflicted portfolios. Surprisingly, the coefficient is positive and not statistically significant. The value-weighted portfolio accounts for where investors' capital is actually invested and more broadly addresses overall investor welfare, which directly questions the RIA and the interpretation of the prior studies cited. While conflicted funds tend to underperform on average, when considering the funds in which investors are concentrating their capital, presumably with the help of brokers, there is no evidence of underperformance.

To conduct a more in-depth analysis, I categorized each portfolio as above or below the median fund size each month. The portfolios above the median exhibited an average monthly total asset of \$1T and \$364.1B for the clean and conflicted portfolios, respectively. The clean portfolio holds an average of 472 unique funds with an average (median) TNA of \$2.1B (\$562M) while the conflicted portfolio holds an average of 584 unique funds with an average (median) TNA of \$622.9M (\$172.1). For the below median portfolios, the average monthly total assets were \$14.4B

for the clean portfolio and \$7.8B for the conflicted portfolio. The clean portfolio holds an average of 472 funds with an average (median) TNA of \$32.6M (\$22.4M). Meanwhile, the conflicted portfolio holds an average of 584 funds with an average (median) TNA of \$13.4M (\$9.0M).

Table 15 uses equation 2 to compare the equal-weighted returns for clean and conflicted portfolios in the above and below median groups. Comparing columns 3 and 6 shows that the underperformance of the conflicted portfolio is concentrated in smaller holdings. Therefore, the adverse economic effects of funds with broker compensation arrangements may be limited to a relatively small fraction of aggregate wealth, suggesting that brokers do not systematically direct capital in ways that underperform comparable alternative investments.⁵⁹

4.3. Fiduciary Regulation, Fund Performance, and Broker Allocation

The performance of funds with broker compensation arrangements presents a mixed picture prior to the issuance of the Fiduciary Rule. While previous studies and the DOL were correct in their assessment of the average underperformance of these funds, the value-weighted performance of funds with broker compensation do not differ significantly from reasonable alternative funds without broker compensation. This suggests that brokers did not systematically direct client capital towards underperforming funds with compensation arrangements. Instead, brokers concentrated capital in a manner that did not underperform the allocations of do-it-yourself investors and fee-based advisors.

Despite this, the DOL issued the Fiduciary Rule in April 2016. In this section, I evaluate the impacts that the Fiduciary Rule had on fund performance. Fund managers are motivated to increase flows to their funds, and if flows are directed toward conflicted funds due to the

⁵⁹ Results in this section remain similar with CAPM and Fama-French Three-Factor Models.

underlying compensation arrangements available to brokers rather than fund performance, managers may lack an incentive to generate alpha (Del Guercio and Reuter, 2014).

Regulating broker compensation incentives may motivate managers to improve performance to attract more flows, either from other non-IRA sources or by making it easier for brokers to justify recommendations. Conversely, conflicted fund underperformance might worsen as managers view regulated funds as a lost cause, further disincentivizing them from generating alpha as they turn their efforts elsewhere. Alternatively, fund managers may be maximizing their efforts regardless of broker compensation arrangements, which implies that the underperformance of conflicted funds may be due to factors such as higher management fees or less skilled managers. As a result, changing distribution channel incentives should have little impact on the overall performance of these funds.

To test the effects of the Fiduciary Rule on the average performance of conflicted and clean funds, I extend the analysis to include the time in which the Fiduciary Rule was effective, April 2016 through February 2018. Furthermore, I drop any observations prior to 2014 to create a more balanced sample. I use the following difference-in-differences model:

$$Fund\ Return = \beta_1 Conflicted + \beta_2 Conflicted \times Fiduciary + FE + \varepsilon, \quad (3)$$

where *Fiduciary* is a dummy variable that equals 1 for the time that the Fiduciary Rule was issued and zero, otherwise. All other variables are the same as in equation 1.

Table 16 presents the results. Although the conflicted funds' unadjusted return underperformance worsened during the Fiduciary period, the risk-adjusted return differences did not significantly change. This suggests that the link between broker compensation arrangements and fund managers' incentives to generate alpha may not be as meaningful as previously thought as the Fiduciary Rule appeared to have had little impact on improving investor performance. The

results support the idea that conflicted funds' underperformance can be explained by either higher management fees or less skilled managers. Nonetheless, the lack of significant variations in gross alpha between the conflicted and clean funds before and after the Fiduciary Rule suggests that higher expenses are the primary factor contributing to the underperformance.

The issuance of the Fiduciary Rule may have changed how brokers allocate capital, as suggested in my first chapter of a significant reduction in flows toward conflicted funds. To examine whether these changes benefited or harmed overall investor welfare, I rerun the analysis in Table 14 but extend the sample to include the Fiduciary period. The *Fiduciary* dummy variable measures the difference in alpha generated during the Fiduciary period across the various portfolio specifications. The results are presented in Table 17.

Across all specifications, the Fiduciary period had little impact on the performance of the conflicted and clean portfolios. The value-weighted portfolio analysis suggests that any changes in broker allocations following the Fiduciary Rule did not result in significant differences in returns between the clean and conflicted portfolios or within each portfolio. These findings are consistent with the equilibrium theory of Berk and Green (2004), indicating that capital flows into both clean and conflicted funds until the difference in net alpha is not significantly different from zero.

5. Conclusion

This study examines the underperformance of mutual funds with broker compensation, which was a key driver for the implementation of the 2016 DOL Fiduciary Rule. The results confirm prior literature that funds with broker compensation arrangements generally underperform those without compensation. However, this study also accounts for the allocation of capital in the market, finding that aggregate capital invested in funds with broker compensation arrangements does not systematically underperform capital without compensation arrangements. This suggests

that the DOL may have overstated the issue and that brokers do not consistently direct capital in ways that underperform comparable alternative investments.

Furthermore, this study evaluates the impact of the Fiduciary Rule on fund returns and finds no significant changes in risk-adjusted returns after the rule was implemented. This challenges the assumption that broker conflicts of interest drive mutual fund manager incentives and underperformance. Overall, the study suggests that the DOL correctly identified an issue but did not consider whether the underperformance was pervasive and realized by broker allocation decisions, and because the Fiduciary Rule did not appear to improve investor performance, this raises questions about the rule's effectiveness and intended purpose. More broadly, my study highlights the complexity of evaluating intervention efficacy, and regulators should consider multiple tradeoffs, goals, and outcomes when drafting future policy.

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Appendix

Appendix A Fiduciary Rule Timeline

<u>Date</u>	<u>Description</u>
February 23, 2015	President Barack Obama announces that the Department of Labor will begin the process in developing a new fiduciary rule.
April 14, 2015	The Department of Labor (DOL) proposed possible rule and opened for comment.
April 8, 2016	The DOL officially issues the final Fiduciary Rule. Initial enforcement date is April 10, 2017.
January 6, 2017	Rep. Joe Wilson (R-SC) introduced bill to delay rule for two years.
February 3, 2017	President Trump asks DOL to conduct an economic and legal analysis for the rule.
April 4, 2017	Applicability Date delayed from April 10, 2017 to June 9, 2017.
June 9, 2017	Final rule fully applicable. All prohibited transaction relief available with limited transition conditions for financial institutions relying on BICE. Transition relief ends on January 1, 2018.
August 30, 2017	Proposal released to extend transition relief to July 1, 2019.
November 27, 2017	Transition relief extended to July 1, 2019.
March 15, 2018	5 th Circuit Court effectively vacates the rule in <i>U.S. Chamber of Commerce v. DOL</i> , ruling that the Fiduciary Rule was invalidly promulgated.
March 16, 2018	DOL suspends enforcement of final rule pending review.
June 21, 2018	the United States Court of Appeals for the Fifth Circuit issued its mandate officially vacating <i>in toto</i> the U.S. Department of Labor's 2016 Fiduciary Rule, including the Best Interest Contract Exemption ("BICE"), and the DOL's other related 2016 prohibited transaction exemptions.

Appendix B

Variable Definitions for Chapter 1

<u>Variable</u>	<u>Definition</u>
Monthly Flow (%)	$FLOW_{f,t} = \frac{TNA_{f,t} - TNA_{f,t-1} * (1 + R_{f,t})}{TNA_{f,t-1}}$
Conflicted	This is a dummy variable that equals one if the share class includes a load or a 12b-1 fee greater than 25bps and zero otherwise.
Fiduciary	A dummy variable indicating the period after the Fiduciary Rule was issued, April 2016-February 2018.
Vacated	A dummy variable indicating the period after the Fiduciary Rule was vacated, March 2018-December 2019.
Ln (Fund Age)	Natural log of fund age measured in months. This is based on the first time a specific <i>crsp_fundno</i> appears in the CRSP mutual fund data.
Ln (TNA)	Natural log of the sum of monthly total net assets within <i>crsp_fundno</i> for class-level and <i>crsp_cl_grp</i> for fund-level analysis. Total net assets are measured by <i>mtna</i> in the CRSP mutual fund data.
Expense Ratio	This is the variable <i>exp_ratio</i> in the CRSP mutual fund data. The expense ratio is set to zero if missing. Value-weighted across share classes for fund-level analysis.
Turnover Ratio	This is the variable <i>turn_ratio</i> in the CRSP mutual fund data.
Unadjusted Return	This is the variable <i>mret</i> in the CRSP mutual fund data. For class-level analysis, <i>mret</i> is the variable used. For fund/portfolio-level analysis, the return is value-weighted across share classes within fund/portfolio.
Retail Class Ratio	The percentage of retail share classes relative to total share classes. Total share classes include both retail and institutional share classes. Retail share class designation corresponds the <i>retail_fund</i> indicator in the CRSP mutual fund data.
Number of Classes	Number of share classes identified by <i>crsp_fundno</i> within a fund (<i>crsp_cl_grp</i>).
Conflicted Pct	A continuous variable representing the monthly percentage of conflicted fund family assets relative to total family assets.

Appendix C

DOL Regulatory Impact Analysis Underperformance Citations (RIA Figure 3-17)

Paper	Sample	Methodology	Annual Impact
Bergstresser, Chalmers, and Tufano (2009)	Domestic equity, foreign equity, bond, and money market mutual funds; 1996-2004	Compares annual performance – prior to distribution fees – of broker-sold funds with direct-sold funds	Broker-sold domestic equity funds underperform by 0.27-0.88 percentage points on an asset-weighted basis and by 0.93-2.50 percentage points on an equal-weighted basis. Broker-sold foreign equity <i>overperform</i> by 1.45-3.26 percentage points on an asset-weighted basis, but underperform by 1.13-2.08 percentage points on an equal-weighted basis.³⁶² Broker-sold bond funds underperform by 0.14-0.90 percentage points on an asset-weighted basis and by -0.10-0.45 percentage points on an equal-weighted basis.
Bullard, Friesen, and Sapp (2008)	Domestic equity mutual funds; 1991-2004	Investigates how load and no-load fund investor returns compare to a buy-and-hold strategy	Load funds underperform a buy-and-hold strategy by 1.82 percentage points, more than double the underperformance for no-load investors.
Chalmers and Reuter (2014)	Oregon University System's defined contribution retirement plan accounts; 1996-2007	Estimate the causal impact of brokers on their clients' portfolio	Broker clients underperform self-directed investors by 1.54 percentage points.
Christoffersen, Evans, and Musto (2013)	Mutual funds with front-end-loads; 1993-2009	Investigates the effect of load sharing and revenue sharing on performance	Investment returns decrease by about 50 basis points for every 100 basis points of load-share for mutual funds that pay load-shares exclusively to unaffiliated brokers.
Del Guercio, Reuter, and Tkac (2010)	Domestic equity mutual funds; 1996-2002	Compares returns for broker-sold funds with comparable direct-sold funds	Broker-sold actively-managed funds underperform direct-sold funds by approximately 1 percentage point.
Del Guercio and Reuter (2014)	Domestic equity mutual funds, 1992-2004	Compares returns for index funds with actively managed funds in the direct channel and comparable funds in the broker channel	Direct-sold actively managed funds do not underperform index funds, but broker sold actively managed funds underperform index funds by approximately 1 percentage point.
Friesen and Sapp (2007)	Domestic equity mutual funds, 1991-2004	Investigates how load and no-load fund investor returns compare to a buy-and-hold strategy	Load funds underperform a buy-and-hold strategy by about 2 percentage points, approximately double the underperformance for no-load investors.
Hackethal, Haliassos and Jappelli (2011)	Customers of a large German brokerage firm and customers of a large German commercial bank; 2003-2005	Compares net returns of advised and self-managed accounts	Annual returns for advised accounts are lower by approximately more than 4 percentage points.
Morey (2003)	Domestic equity mutual funds; 1993-1997	Compares performance of load and no-load funds before and after adjusting returns for loads paid.	Load funds underperform no-load funds by 0.4-0.8 percentage points, prior to adjusting for loads. After adjusting returns for loads paid, load funds underperform no-load funds by 1.3-2.0 percentage points. ³⁶³

Appendix D

Management Companies with the Most Additions and Deletions

This table sorts mutual fund management companies by the number of conflicted and clean share classes added and deleted during the Pre-Fiduciary and the Fiduciary period. The rankings are reported in descending order where the management company with the most additions/deletions is at the top.

<u>Additions</u>				
Conflicted		Clean		
Pre	Post	Pre		Post
MFS	Invesco	John Hancock		Prudential
AllianceBernstein	TransAmerica	Columbia		JP Morgan
John Hancock	Goldman Sachs	American Funds		Invesco
JP Morgan	Prudential	AllianceBernstein		Fidelity
PIMCO	MassMutual	BMO Asset Management		MassMutual
<u>Deletions</u>				
Conflicted		Clean		
Pre	Post	Pre		Post
Fidelity	American Funds	Great West Capital		Fidelity
AllianceBernstein	Invesco	AllianceBernstein		Columbia
Goldman Sachs	Waddell & Reed	Directed Services (Voya)		PIMCO
Pioneer Management	Columbia	Legg Mason		Russell Investments
JP Morgan	Wells Fargo	PIMCO		Harbor Capital Advisors

Appendix E

Class Level Monthly Flows and the Fiduciary Rule with Attrition

This table shows results from the difference-in-difference regression of monthly flow percentage on a conflicted class indicator and its interaction with a dummy variable indicating the Fiduciary Rule issuance. The sample includes funds with multiple share classes with differing conflicted status and runs from January 2012 – March 2016 for the pre-period and April 2016 – February 2018 for the Fiduciary period. I require classes to be in the entire sample. Fixed effects include fund-month and fund family. All continuous variables are winsorized at the 1% and 99% level within month. Controls includes the prior month's natural log of TNA, prior month's expense ratio, prior month's turnover, the natural log of current age measured in months, and prior monthly flow. Coefficients are in percentage terms where a value of 0.50 equals 0.50%. *t*-statistics in parentheses are calculated from heteroskedasticity-robust standard errors clustered by fund. *, **, *** denote significance at the 10%, 5%, and 1% levels, respectively. See Appendix B for variable definitions.

	<u>Dependent Variable = <i>Monthly Flow (%)</i></u>			
	(1)	(2)	(3)	(4)
Conflicted	-0.401*** (-5.60)	0.079 (1.05)	-0.402*** (-5.59)	0.075 (1.00)
Conflicted × Fiduciary	-0.325*** (-3.40)	-0.336*** (-3.83)	-0.328*** (-3.41)	-0.338*** (-3.85)
Controls	No	Yes	No	Yes
Fund-Month FE	Yes	Yes	Yes	Yes
Fund Family FE	No	No	Yes	Yes
Observations	143,800	143,800	143,564	143,564
Adjusted R ²	0.216	0.225	0.216	0.224

Appendix F

Class Level Monthly Flows and the Fiduciary Rule without Switchers

This table shows results from the difference-in-difference regression of monthly flow percentage on a conflicted class indicator and its interaction with a dummy variable indicating the Fiduciary Rule issuance. The sample includes funds with multiple share classes with differing conflicted status and runs from January 2012 – March 2016 for the pre-period and April 2016 – February 2018 for the Fiduciary period. I drop from the sample any share classes that switched conflicted and clean status during the sample. Fixed effects include fund-month and fund family. All continuous variables are winsorized at the 1% and 99% level within month. Controls includes the prior month's natural log of TNA, prior month's expense ratio, prior month's turnover, the natural log of current age measured in months, and prior monthly flow. Coefficients are in percentage terms where a value of 0.50 equals 0.50%. *t*-statistics in parentheses are calculated from heteroskedasticity-robust standard errors clustered by fund. *, **, *** denote significance at the 10%, 5%, and 1% levels, respectively. See Appendix B for variable definitions.

	<u>Dependent Variable = <i>Monthly Flow (%)</i></u>			
	(1)	(2)	(3)	(4)
Conflicted	-0.658*** (-9.19)	0.281*** (3.88)	-0.653*** (-9.13)	0.290*** (3.98)
Conflicted × Fiduciary	-0.766*** (-8.11)	-0.637*** (-7.35)	-0.764*** (-8.09)	-0.640*** (-7.35)
Controls	No	Yes	No	Yes
Fund-Month FE	Yes	Yes	Yes	Yes
Fund Family FE	No	No	Yes	Yes
Observations	257,667	259,667	257,181	257,181
Adjusted R ²	0.225	0.238	0.225	0.238

Appendix G

Class Level Monthly Flows and the Fiduciary Rule based on 2014 Values

This table shows results from the difference-in-difference regression of monthly flow percentage on a conflicted class indicator and its interaction with a dummy variable indicating the Fiduciary Rule issuance and vacation. The sample includes funds with multiple share classes with differing conflicted status and runs from January 2012 – March 2016 for the pre-period and April 2016 – February 2018 for the Fiduciary period. I fixate conflicted status based on December 2014 values. Fixed effects include fund-month and fund family. All continuous variables are winsorized at the 1% and 99% level within month. Controls includes the prior month's natural log of TNA, prior month's expense ratio, prior month's turnover, the natural log of current age measured in months, and prior monthly flow. Coefficients are in percentage terms where a value of 0.50 equals 0.50%. *t*-statistics in parentheses are calculated from heteroskedasticity-robust standard errors clustered by fund. *, **, *** denote significance at the 10%, 5%, and 1% levels, respectively. See Appendix B for variable definitions.

	<u>Dependent Variable = <i>Monthly Flow (%)</i></u>			
	(1)	(2)	(3)	(4)
Conflicted	-0.602*** (-8.50)	0.158*** (2.24)	-0.605*** (-8.58)	0.154*** (2.20)
Conflicted × Fiduciary	-0.427*** (-4.73)	-0.442*** (-5.19)	-0.421*** (-4.66)	-0.438*** (-5.13)
Controls	No	Yes	No	Yes
Fund-Month FE	Yes	Yes	Yes	Yes
Fund Family FE	No	No	Yes	Yes
Observations	222,647	222,647	222,182	222,182
Adjusted R ²	0.217	0.227	0.216	0.226

Appendix H

Flow-Performance Sensitivity and the Fiduciary Rule

This table shows the results from a regression of monthly flow on the cumulative 12-month unadjusted returns, interacted with a broker-compensation indicator and the Fiduciary Rule period. Conflicted funds are funds where 75% of their assets are in conflicted share classes while clean funds are funds where 75% of their assets are in clean share classes. The sample runs from January 2012 – March 2016 for the pre-period and April 2016 – February 2018 for the Fiduciary period. Fixed effects include fund-month and fund family. All continuous variables are winsorized at the 1% and 99% level within month. Controls includes the prior month's natural log of TNA, prior month's expense ratio, prior month's turnover, the natural log of current age measured in months, and prior monthly flow. Coefficients are in percentage terms where a value of 0.50 equals 0.50%. *t*-statistics in parentheses are calculated from heteroskedasticity-robust standard errors clustered by fund. *, **, *** denote significance at the 10%, 5%, and 1% levels, respectively. See Appendix B for variable definitions.

	<u>Dependent Variable = <i>Monthly Flow (%)</i></u>			
	(1)	(2)	(3)	(4)
Prior12	5.504*** (5.31)	6.904*** (6.92)	4.231*** (4.03)	5.492*** (5.56)
Conflicted × Prior12	4.646*** (6.73)	4.320*** (6.54)	4.907*** (6.88)	4.614*** (6.72)
Conflicted × Fiduciary × Prior12	-3.002*** (-3.42)	-2.874*** (-3.44)	-3.327*** (-3.69)	-3.001*** (-3.42)
Fiduciary × Prior12	0.936 (0.79)	0.473 (0.42)	1.721 (1.49)	1.429 (1.28)
Conflicted	-0.845*** (-7.29)	-0.568*** (-4.99)	-1.00*** (-6.89)	-0.795*** (-5.54)
Conflicted × Fiduciary	0.007 (0.05)	-0.091 (-0.66)	-0.056 (-0.38)	-0.130 (-0.91)
Controls	No	Yes	No	Yes
Objective-Month FE	Yes	Yes	Yes	Yes
Fund Family FE	No	No	Yes	Yes
Observations	135,554	135,554	135,387	135,387
Adjusted R ²	0.039	0.053	0.057	0.070

Appendix I

Convexity and the Fiduciary Rule

This table compares the flow-performance sensitivities between conflicted and clean funds, before and after the Fiduciary Rule. A panel regression with a piecewise linear specification is performed, separately for conflicted and clean funds, in which monthly flows are regressed on funds' fractional performance ranks over the low, middle, and high-performance ranges and the interaction with an indicator variable denoting the Fiduciary Rule. Following Sirri and Tufano (2008), I assign a fractional performance rank (RANK) ranging from 0 to 1 to funds according to their cumulative raw returns from months $t-1$ to $t-12$. The fractional rank at month t for fund i in the bottom performance quintile is defined as Low = min (Rank, 0.2). The fractional rank at month t for fund i in the middle performance quintiles is defined as Mid = min (0.6, Rank – Low). The fractional rank at month t for fund i in the top performance quintile is defined as High = Rank – Mid – Low. All specifications include objective-month fixed effects. Controls includes the prior month's natural log of TNA, prior month's expense ratio, prior month's turnover, the natural log of current age measured in months, and prior monthly flow. Coefficients are interpreted as the difference between the two portfolios and are in percentage terms where a value of 0.50 equals 0.50%. t -statistics in parentheses are calculated from heteroskedasticity-robust standard errors clustered by month. *, **, *** denote significance at the 10%, 5%, and 1% levels, respectively.

	<u>Dependent Variable = Monthly Flow (%)</u>					
	(1) Conflicted	(2) Clean	(3) Diff (1)-(2)	(4) Conflicted	(5) Clean	(6) Diff (4)-(5)
High	20.55*** (10.63)	7.752*** (5.02)	12.80*** (5.18)	16.03*** (10.39)	7.732*** (5.15)	8.299*** (3.86)
High × Fiduciary	-11.00*** (-3.87)	1.549 (0.65)	-12.58*** (-3.42)	-9.22*** (-3.87)	2.295 (0.99)	-11.51*** (-3.48)
Mid	1.678*** (5.82)	1.504*** (5.27)	0.174 (0.42)	1.760*** (7.24)	2.218*** (7.85)	-0.459 (-1.22)
Mid × Fiduciary	0.302 (0.73)	0.086 (0.20)	0.215 (0.36)	0.171 (0.48)	-0.023 (-0.05)	0.195 (0.35)
Low	11.74*** (7.10)	-1.380 (-0.54)	13.12*** (4.67)	10.22*** (7.42)	0.039 (0.02)	10.18*** (3.96)
Low × Fiduciary	-1.310 (-0.53)	4.318 (1.26)	-5.628 (-1.33)	-1.431 (-0.71)	2.924 (0.88)	-4.355* (-1.11)
Controls	No	No		Yes	Yes	
Objective-Month FE	Yes	Yes		Yes	Yes	
Observations	50,261	85,147		50,261	85,147	
Adjusted R ²	0.063	0.049		0.108	0.063	

Appendix J

Variable Definitions for Chapter 2

<u>Variable</u>	<u>Definition</u>
Monthly Flow (%)	$FLOW_{f,t} = \frac{TNA_{f,t} - TNA_{f,t-1} * (1 + R_{f,t})}{TNA_{f,t-1}}$
Fiduciary	A dummy variable indicating the period after the Fiduciary Rule was issued, April 2016-February 2018.
Age	Fund age measured in months. This is based on the first time a specific <i>crsp_fundno</i> appears in the CRSP mutual fund data.
Size/TNA	The sum of monthly total net assets within <i>crsp_cl_grp</i> for fund-level analysis. Total net assets are measured by <i>mtna</i> in the CRSP mutual fund data.
Expense Ratio	This is the variable <i>exp_ratio</i> in the CRSP mutual fund data and is value-weighted across share classes for fund-level analysis. Dropped if missing.
12b-1 Fee	This is the variable <i>actual_12b1</i> in the CRSP mutual fund data and is value-weighted across share classes for fund-level analysis.
Turnover Ratio	This is the variable <i>turn_ratio</i> in the CRSP mutual fund data.
Unadjusted Return	This is the variable <i>mret</i> in the CRSP mutual fund data. For fund/portfolio-level analysis, the return is value-weighted across share classes within fund/portfolio.
Retail Class Ratio	The percentage of retail share classes relative to total share classes. Total share classes include both retail and institutional share classes. Retail share class designation corresponds the <i>retail_fund</i> indicator in the CRSP mutual fund data.
Number of Classes	Number of share classes identified by <i>crsp_fundno</i> within a fund (<i>crsp_cl_grp</i>).
Net Return	See Unadjusted Return definition.
Net Return + 12b1	This is the variable <i>mret</i> in the CRSP mutual fund data with the monthly 12b-1 fee added back (<i>actual_12b1/12</i>). The return is value-weighted across share classes within fund/portfolio.
Gross Return	This is the variable <i>mret</i> in the CRSP mutual fund data with the total monthly expense ratio added back (<i>exp_ratio/12</i>). The return is value-weighted across share classes within fund/portfolio.
Net Alpha	This is the four-factor risk adjusted Net Return. Betas for the four-factor models are calculated using prior 24-month returns, with a minimum of 24-months.
Gross Alpha	This is the four-factor risk adjusted Gross Return. Betas for the four-factor models are calculated using prior 24-month returns, with a minimum of 24-months.

Figures

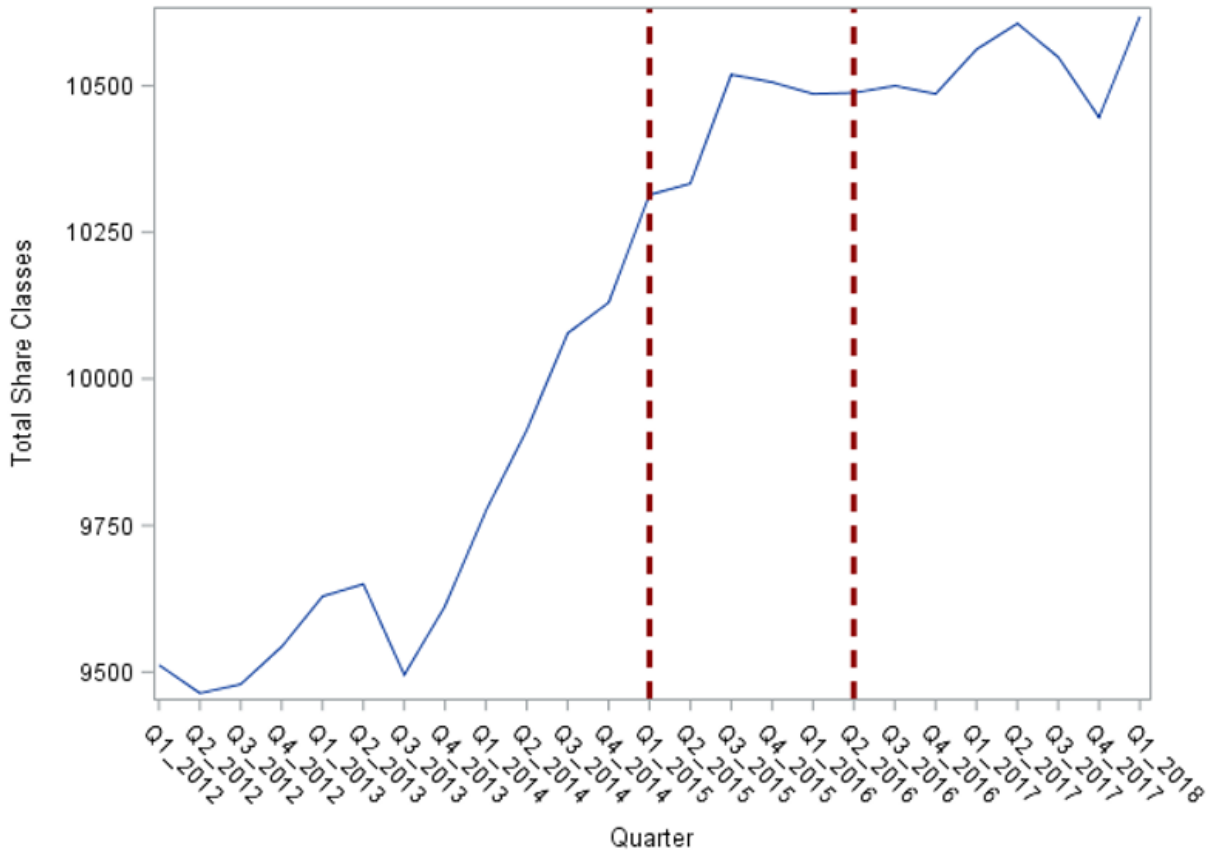


Figure 1. Total Number of Actively Managed Domestic Equity Share Classes

This figure shows the total number of share classes per quarter from Q1 2012 through Q1 2018. The first red dashed line represents the quarter in which President Barack Obama announced that the Department of Labor would be issuing a rule regarding a fiduciary standard of care. The second red dashed line represents the quarter in which the Department of Labor officially issued the Fiduciary Rule.

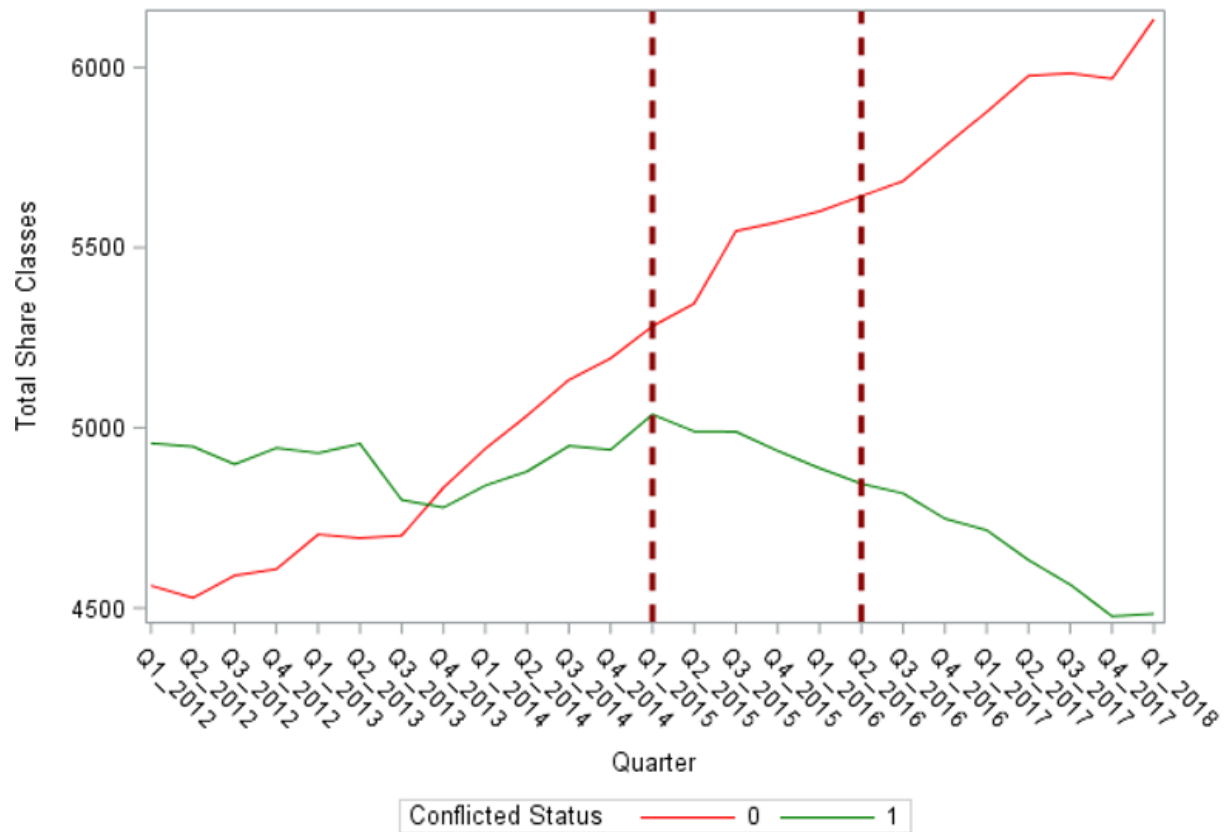


Figure 2. Number of Actively Managed Domestic Equity Share Classes by Conflicted Status

This figure shows the total number of share classes per quarter from Q1 2012 through Q1 2018 separated by conflicted (green line) and non-conflicted (red line) status. The first red dashed line represents the quarter in which President Barack Obama announced that the Department of Labor would be issuing a rule regarding a fiduciary standard of care. The second red dashed line represents the quarter in which the Department of Labor officially issued the Fiduciary Rule.

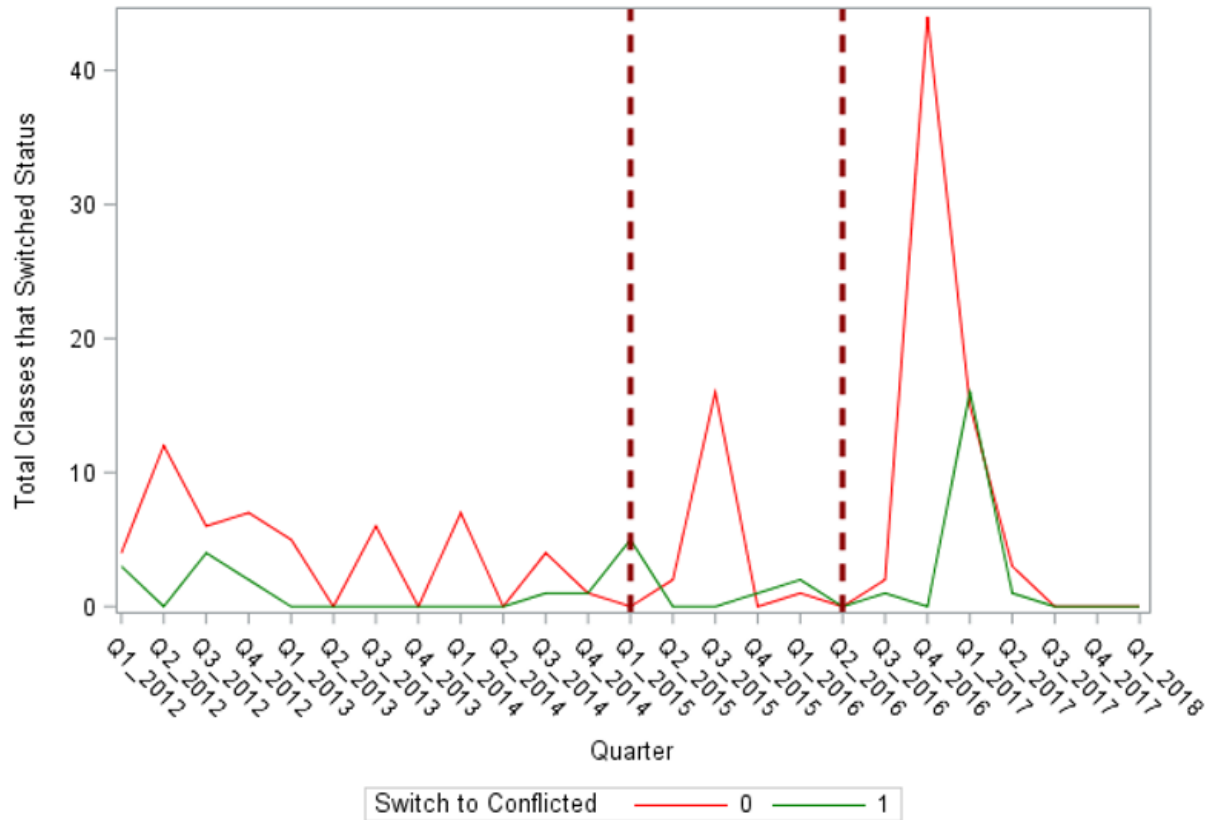


Figure 3. Number of Share Classes that Switched Conflicted Status

This figure shows the total number of share classes per quarter from Q1 2012 through Q1 2018 that switched from conflicted to clean (red line) and from clean to conflicted (green line). The first red dashed line represents the quarter in which President Barack Obama announced that the Department of Labor would be issuing a rule regarding a fiduciary standard of care. The second red dashed line represents the quarter in which the Department of Labor officially issued the Fiduciary Rule.

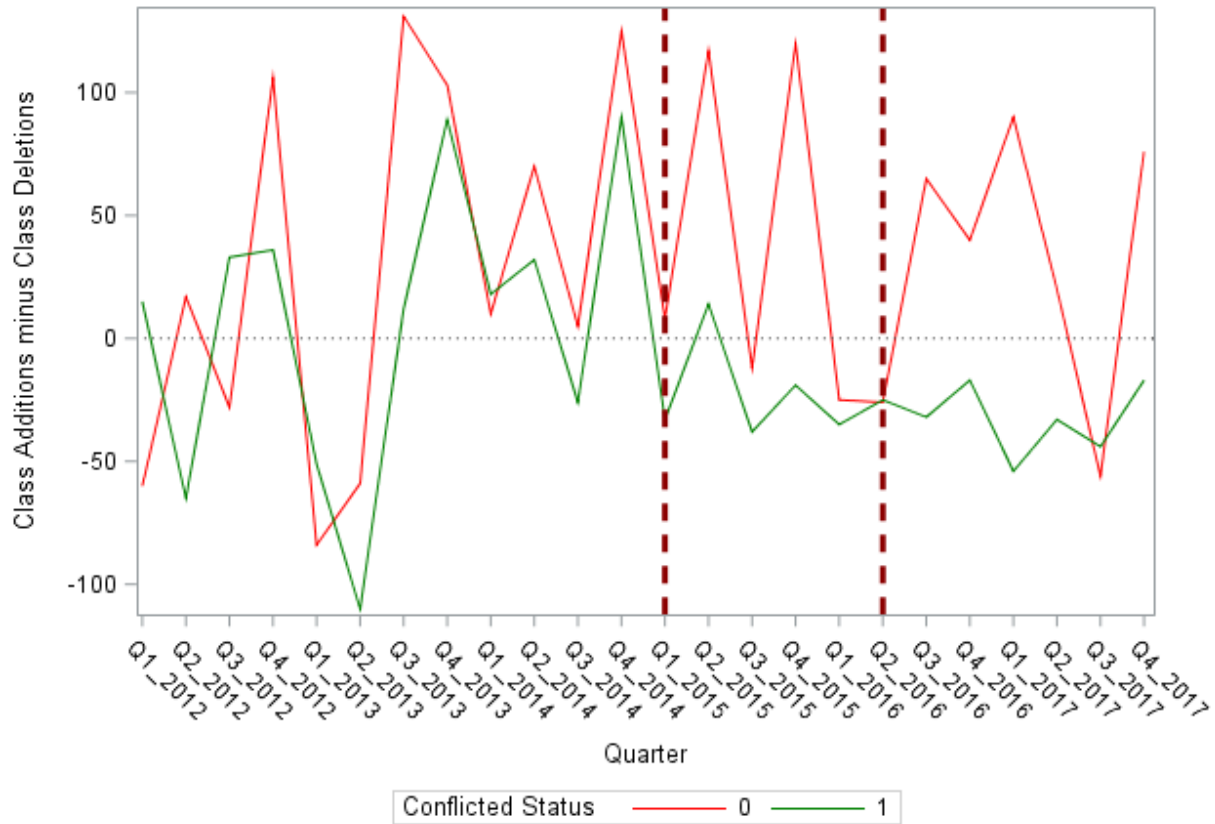


Figure 4. Net Additions of Share Classes by Conflicted Status

This figure shows the net additions per quarter from Q1 2012 through Q1 2018. The red line represents the additions minus deletions of clean share classes. The green line represents the additions minus deletions of conflicted share classes. The first red dashed line represents the quarter in which President Barack Obama announced that the Department of Labor would be issuing a rule regarding a fiduciary standard of care. The second red dashed line represents the quarter in which the Department of Labor officially issued the Fiduciary Rule.

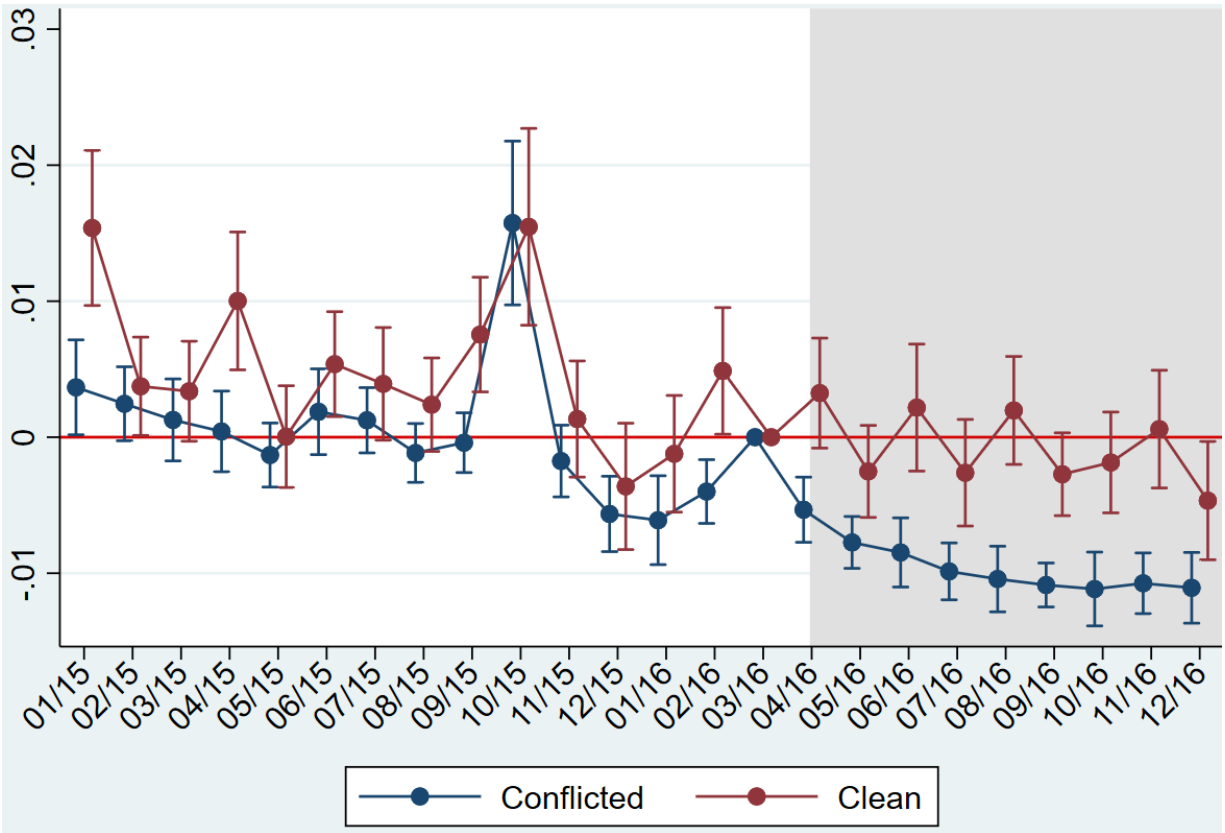


Figure 5. Trends of Quarterly Differences Between Conflicted and Clean Share Classes

This figure shows the coefficients of the regression of monthly dummy variables on monthly fund flow for both the clean and conflicted share classes. The shaded region represents the time period after the Fiduciary Rule was issued in April 2016. Regression standard errors are clustered at the fund level. Confidence Intervals are at 90% and the base period is March 2016, the month before the rule was issued.

Tables

Table 1
Summary Statistics

This table shows the summary stats of the sample of actively managed domestic mutual fund share classes downloaded from the CRSP mutual fund database. The data are snapshots of conflicted and clean share classes from December 2014 and December 2016 and excludes observations missing total net asset values. All continuous variables are winsorized at the 1% and 99% level within month. Conflicted classes are classes with a load and/or a 12b-1 fee greater than 25bps. Clean classes are classes without a load and a 12b-1 fee under 25bps. See Appendix B for variable definitions.

<i>Panel A:</i>										
<i>December 2014</i>	<i>Conflicted Share Classes</i>					<i>Clean Share Classes</i>				
Classes (<i>N</i> = 10,091)	4,922					5,169				
Funds (<i>N</i> = 3,278)	2,058					2,685				
	Mean	Stdev	P25	P50	P75	Mean	Stdev	P25	P50	P75
Size/TNA (\$M)	249.0	847.1	2.900	19.70	124.7	461.0	1344	4.800	38.70	256.7
Age (Months)	134.6	103.5	51.00	122.0	195.0	103.8	97.07	30.00	78.00	156.0
Monthly Flow (%)	0.524	12.08	-2.214	-0.568	1.182	1.001	15.18	-2.161	-0.325	1.298
Expense Ratio (%)	1.493	0.527	1.140	1.450	1.900	0.881	0.423	0.650	0.910	1.130
12b-1 fee (%)	0.507	0.377	0.250	0.499	1.000	0.043	0.092	0.000	0.000	0.000
Turnover Ratio (%)	78.61	100.4	27.00	50.00	88.00	72.42	95.90	24.00	46.00	80.00
Unadjusted Ret (%)	-0.136	1.899	-0.913	-0.188	0.795	-0.228	1.974	-1.059	-0.249	0.681
Retail Class Ratio (%)	78.50	41.08	100.0	100.0	100.0	23.91	42.66	0.000	0.000	0.000
<i>Panel B:</i>										
<i>December 2016</i>	<i>Conflicted Share Classes</i>					<i>Clean Share Classes</i>				
Classes (<i>N</i> = 10,468)	4,698					5,770				
Funds (<i>N</i> = 3,324)	2,035					2,835				
	Mean	Stdev	P25	P50	P75	Mean	Stdev	P25	P50	P75
Size/TNA (\$M)	222.8	769.3	2.900	20.90	120.2	445.9	1379	3.100	32.50	227.0
Age (Months)	146.3	107.8	58.00	135.5	210.0	108.4	101.9	32.00	80.00	156.0
Monthly Flow (%)	0.023	12.31	-2.832	-1.251	0.526	1.647	16.01	-2.295	-0.866	1.360
Expense Ratio (%)	1.435	0.538	1.080	1.380	1.840	0.821	0.429	0.550	0.850	1.070
12b-1 fee (%)	0.491	0.372	0.250	0.400	1.000	0.039	0.087	0.000	0.000	0.000
Turnover Ratio (%)	78.23	104.0	27.00	50.00	86.00	69.97	93.10	24.00	44.00	81.00
Unadjusted Ret (%)	1.407	1.620	0.588	1.410	2.229	1.305	1.704	0.634	1.446	2.082
Retail Class Ratio (%)	77.37	41.85	100.0	100.0	100.0	21.42	41.03	0.000	0.000	0.000

Table 2
Additions and Deletions

This table shows the number of clean and conflicted share classes deleted and added before (Pre) and after (Post) the Fiduciary Rule was issued. I also present the average quarterly share class additions and deletions. I designate a class deletion by documenting whether the class disappears from the sample and does not have any fund returns. The last available month in the CRSP monthly return dataset represents the deletion month. Likewise, I designate a class addition as the first month a share class appears in the CRSP monthly return dataset.

	<u>Deleted Share Classes</u>				<u>Added Share Classes</u>			
	Conflicted		Clean		Conflicted		Clean	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post
Total Classes	1,357	509	1,844	829	1,312	310	2,362	1,159
Avg. Quarterly	80	63	108	104	73	39	131	145

Table 3
Differences in Means of Deleted Share Classes

This table compares the means of conflicted and clean share classes that were deleted in the Pre-Fiduciary and Fiduciary periods. I designate a class deletion by documenting whether the class disappears from the sample and does not have any fund returns. The last available month in the CRSP monthly return dataset represents the deletion month. Columns 1 through 3 denote the Pre-Fiduciary period. Columns 4 through 6 denote the Fiduciary period. Column 7 denote the difference in the differences from the Fiduciary Period and Pre-Fiduciary period. Standard errors are clustered by fund. *, **, *** denote significance at the 10%, 5%, and 1% levels, respectively.

	<i>Pre-Fiduciary</i>			<i>Fiduciary</i>			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Conflicted	Clean	Diff (1)-(2)	Conflicted	Clean	Diff (4)-(5)	DiD (6)-(3)
Ln (TNA)	1.328	1.592	-0.264***	0.968	1.533	-0.568***	-0.301
Ln (Fund Age)	4.118	4.018	0.100**	4.345	4.265	0.080	-0.020
Monthly Flow (%)	-1.084	-1.388	0.304	-4.033	-4.969	-0.935	-0.631
Expense Ratio (%)	1.099	1.731	0.632***	1.528	0.869	0.659***	0.274
Turnover Ratio (%)	112.4	119.4	-7.026	67.94	64.63	3.323	10.34
12b-1 fee (%)	0.179	0.011	0.168***	0.098	0.013	0.086***	-0.082***
Unadjusted Ret (%)	0.291	0.554	-0.263**	0.585	0.786	-0.201*	0.062

Table 4
Class Level Monthly Flows and the Fiduciary Rule

This table shows results from the difference-in-difference regression of monthly flow percentage on a conflicted class indicator and its interaction with a dummy variable indicating the Fiduciary Rule issuance. The sample includes funds with multiple share classes with differing conflicted status and runs from January 2012 – March 2016 for the pre-period and April 2016 – February 2018 for the Fiduciary period. Fixed effects include fund-month and fund family. All continuous variables are winsorized at the 1% and 99% level within month. Controls includes the prior month's natural log of TNA, prior month's expense ratio, prior month's turnover, prior month's unadjusted return, the natural log of current age measured in months, and prior monthly flow. Coefficients are in percentage terms where a value of 0.50 equals 0.50%. *t*-statistics in parentheses are calculated from heteroskedasticity-robust standard errors clustered by fund. *, **, *** denote significance at the 10%, 5%, and 1% levels, respectively. See Appendix B for variable definitions.

	<u>Dependent Variable = <i>Monthly Flow (%)</i></u>			
	(1)	(2)	(3)	(4)
Conflicted	-0.648*** (-9.12)	0.286*** (4.00)	-0.644*** (-9.06)	0.295*** (4.10)
Conflicted × Fiduciary	-0.760*** (-8.10)	-0.630*** (-7.31)	-0.758*** (-8.09)	-0.633*** (-7.32)
Controls	No	Yes	No	Yes
Fund-Month FE	Yes	Yes	Yes	Yes
Fund Family FE	No	No	Yes	Yes
Observations	259,606	259,606	259,120	259,120
Adjusted R ²	0.226	0.239	0.226	0.239

Table 5
Fund Level Monthly Flows and the Fiduciary Rule

This table shows results from the difference-in-difference regression of monthly flow percentage on a conflicted fund indicator and its interaction with a dummy variable indicating the Fiduciary Rule issuance. Conflicted funds are funds where 75% of their assets are in conflicted share classes while clean funds are funds where 75% of their assets are clean share classes. The sample runs from January 2012 – March 2016 for the pre-period and April 2016 – February 2018 for the Fiduciary period. Fixed effects include objective-month and fund family. All continuous variables are winsorized at the 1% and 99% level within month. Controls includes the prior month's natural log of TNA, prior month's expense ratio, prior month's turnover, prior month's unadjusted return, the natural log of current age measured in months, and prior monthly flow. Coefficients are in percentage terms where a value of 0.50 equals 0.50%. *t*-statistics in parentheses are calculated from heteroskedasticity-robust standard errors clustered by fund. *, **, *** denote significance at the 10%, 5%, and 1% levels, respectively. See Appendix B for variable definitions.

	<u>Dependent Variable = <i>Monthly Flow (%)</i></u>			
	(1)	(2)	(3)	(4)
Conflicted	-0.429*** (-4.50)	-0.173* (-1.86)	-0.478*** (-3.66)	-0.319** (-2.53)
Conflicted × Fiduciary	-0.345** (-2.78)	-0.401*** (-3.48)	-0.444*** (-3.51)	-0.463*** (-3.81)
Controls	No	Yes	No	Yes
Objective-Month FE	Yes	Yes	Yes	Yes
Fund Family FE	No	No	Yes	Yes
Observations	135,544	135,544	135,387	135,387
Adjusted R ²	0.034	0.050	0.053	0.068

Table 6
Class Level Monthly Flows and the Rule Vacated

This table shows results from the difference-in-difference regression of monthly flow percentage on a conflicted class indicator and its interaction with a dummy variable indicating the Fiduciary Rule issuance and vacation. The sample includes funds with multiple share classes with differing conflicted status and runs from January 2012 – March 2016 for the pre-period, April 2016 – February 2018 for the Fiduciary period, and March 2018 – December 2019 for the Vacated period. Fixed effects include fund-month and fund family. All continuous variables are winsorized at the 1% and 99% level within month. Controls includes the prior month's natural log of TNA, prior month's expense ratio, prior month's turnover, prior month's unadjusted return, the natural log of current age measured in months, and prior monthly flow. Coefficients are in percentage terms where a value of 0.50 equals 0.50%. *t*-statistics in parentheses are calculated from heteroskedasticity-robust standard errors clustered by fund. *, **, *** denote significance at the 10%, 5%, and 1% levels, respectively. See Appendix B for variable definitions.

	<u>Dependent Variable = <i>Monthly Flow (%)</i></u>			
	(1)	(2)	(3)	(4)
Conflicted	-0.648*** (-9.12)	0.424*** (6.22)	-0.644*** (-9.11)	0.433*** (6.30)
Conflicted × Fiduciary	-0.760*** (-8.10)	-0.636*** (-7.41)	-0.758*** (-8.08)	-0.638*** (-7.41)
Conflicted × Vacated	-0.298*** (-3.35)	-0.219** (-2.77)	-0.304*** (-3.43)	-0.238** (-2.91)
Controls	No	Yes	No	Yes
Fund-Month FE	Yes	Yes	Yes	Yes
Fund Family FE	No	No	Yes	Yes
Observations	348,948	348,948	348,462	348,462
Adjusted R ²	0.222	0.236	0.222	0.236

Table 7
Fund Level Monthly Flows and the Rule Vacated

This table shows results from the difference-in-difference regression of monthly flow percentage on a conflicted fund indicator and its interaction with a dummy variable indicating the Fiduciary Rule issuance and vacation. Conflicted funds are funds where 75% of their assets are in conflicted share classes while clean funds are funds where 75% of their assets are in clean share classes. The sample runs from January 2012 – March 2016 for the pre-period, April 2016 – February 2018 for the Fiduciary period, and March 2018 – December 2019 for the Vacated period. Fixed effects include fund-month and fund family. All continuous variables are winsorized at the 1% and 99% level within month. Controls includes the prior month's natural log of TNA, prior month's expense ratio, prior month's turnover, prior month's unadjusted return, the natural log of current age measured in months, and prior monthly flow. Coefficients are in percentage terms where a value of 0.50 equals 0.50%. *t*-statistics in parentheses are calculated from heteroskedasticity-robust standard errors clustered by fund. *, **, *** denote significance at the 10%, 5%, and 1% levels, respectively. See Appendix B for variable definitions.

	<u>Dependent Variable = <i>Monthly Flow (%)</i></u>			
	(1)	(2)	(3)	(4)
Conflicted	-0.429*** (-4.50)	-0.178* (-1.93)	-0.533*** (-4.33)	-0.360** (-3.00)
Conflicted × Fiduciary	-0.345** (-2.78)	-0.403*** (-3.48)	-0.418*** (-3.35)	-0.435*** (-3.62)
Conflicted × Vacated	-0.056 (-0.42)	-0.210* (-1.72)	-0.224 (-1.63)	-0.311** (-2.32)
Controls	No	Yes	No	Yes
Objective-Month FE	Yes	Yes	Yes	Yes
Fund Family FE	No	No	Yes	Yes
Observations	178,470	178,470	178,304	178,304
Adjusted R ²	0.033	0.048	0.050	0.065

Table 8
Fund Level Monthly Flows and the Fiduciary Rule – Past Return Quartile Analysis

This table shows results from the difference-in-difference regression of monthly flow percentage on a conflicted fund indicator and its interaction with a dummy variable indicating the Fiduciary Rule issuance. The sample is split into the top and bottom quartiles of the prior 12-month cumulative returns. Conflicted funds are funds where 75% of their assets are in conflicted share classes while clean funds are funds where 75% of their assets are clean share classes. The sample runs from January 2012 – March 2016 for the pre-period and April 2016 – February 2018 for the Fiduciary period. Fixed effects include objective-month and fund family. All continuous variables are winsorized at the 1% and 99% level within month. Controls includes the prior month's natural log of TNA, prior month's expense ratio, prior month's turnover, prior month's unadjusted return, the natural log of current age measured in months, and prior monthly flow. Coefficients are in percentage terms where a value of 0.50 equals 0.50%. *t*-statistics in parentheses are calculated from heteroskedasticity-robust standard errors clustered by fund. *, **, *** denote significance at the 10%, 5%, and 1% levels, respectively. See Appendix B for variable definitions.

	<u>Dependent Variable = <i>Monthly Flow (%)</i></u>			
	Bottom 25%		Top 25%	
	(1)	(2)	(3)	(4)
Conflicted	-0.641*** (-3.67)	-0.604** (-2.47)	0.330* (1.77)	-0.023 (-0.09)
Conflicted × Fiduciary	0.053 (0.24)	0.165 (0.71)	-1.033*** (-4.23)	-1.160*** (-4.42)
Controls	Yes	Yes	Yes	Yes
Objective-Month FE	Yes	Yes	Yes	Yes
Fund Family FE	No	Yes	No	Yes
Observations	33,771	33,742	33,697	33,611
Adjusted R ²	0.073	0.096	0.060	0.077

Table 9
Fund Family Level Monthly Flows and the Fiduciary Rule

This table shows results from the difference-in-difference regression of monthly flow percentage on the percentage of conflicted fund family assets relative to total family assets and its interaction with a dummy variable indicating the Fiduciary Rule issuance. The sample runs from January 2012 – March 2016 for the pre-period and April 2016 – February 2018 for the Fiduciary period. Fixed effects include month and fund family. Controls includes the prior month's natural log of fund family TNA, prior month's average fund family expense ratio, prior month's average fund family turnover, and percentage of fund family assets invested in index funds. All continuous variables are winsorized at the 1% and 99% level within month. Coefficients are in percentage terms where a value of 0.50 equals 0.50%. *t*-statistics in parentheses are calculated from heteroskedasticity-robust standard errors clustered by fund family. *, **, *** denote significance at the 10%, 5%, and 1% levels, respectively.

	<u>Dependent Variable = <i>Monthly Flow (%)</i></u>			
	(1)	(2)	(3)	(4)
Conflicted Pct	-0.304 (-1.10)	-0.209 (-0.71)	-1.442*** (-2.10)	-1.562*** (-2.37)
Conflicted Pct × Fiduciary	-0.902*** (-2.76)	-0.992*** (-3.02)	-0.834** (-2.39)	-1.061*** (-3.08)
Controls	No	Yes	No	Yes
Month FE	Yes	Yes	Yes	Yes
Fund Family FE	No	No	Yes	Yes
Observations	16,463	16,280	16,463	16,280
Adjusted R ²	0.083	0.103	0.321	0.333

Table 10
Largest 10 Funds

This table shows the 10 largest conflicted and clean funds in terms of total net assets in December 2005, 2010, and 2015, respectively. The rankings are reported in descending order where the largest funds are shown at the top of each list.

<u>EOY 2005</u>	
<i>Conflicted Funds</i>	<i>Clean Funds</i>
Fidelity Low-Priced Stock Fund	Fidelity Contrafund
Vanguard Health Care Fund	Dodge & Cox Stock Fund
Van Kampen Comstock Fund	Fidelity Magellan Fund
Putnam Fund for Growth & Income	Vanguard Windsor II Fund
Putnam Voyager Fund	Fidelity Growth & Income Portfolio
Fidelity Mid-Cap Stock Fund	Fidelity Growth Company Fund
Federated Kaufmann Fund	Fidelity Equity Income Fund
Vanguard Capital Opportunity Fund	Fidelity Blue Chip Growth Fund
Vanguard Energy Fund	Vanguard Windsor Fund
MFS Value Fund	Fidelity Dividend Growth Fund
<u>EOY 2010</u>	
<i>Conflicted Funds</i>	<i>Clean Funds</i>
Vanguard PRIMECAP	Fidelity Contrafund
Vanguard Capital Opportunity Fund	Fidelity Growth Company Fund
T. Rowe Price Small-Cap Value Fund	Vanguard Windsor II Fund
Hussman Strategic Growth Fund	Fidelity Magellan Fund
Vanguard Precious Metals & Mining Fund	T. Rowe Price Equity Income Fund
Third Avenue Value Fund	GMO Quality Fund
Vanguard PRIMECAP Core Fund	Fidelity Blue Chip Growth Fund
Franklin Mutual Beacon Fund	Vanguard Windsor Fund
Fidelity Gold Portfolio	Fidelity Equity Income Fund
Credit Suisse Commodity Return Strategy Fund	T. Rowe Price Value Fund
<u>EOY 2015</u>	
<i>Conflicted Funds</i>	<i>Clean Funds</i>
Fidelity Biotechnology Portfolio	Fidelity Contrafund
Fidelity Health Care Portfolio	Dodge & Cox Stock Fund
AMG Yacktman Fund	Vanguard PRIMECAP Fund
T. Rowe Price Small-Cap Value Fund	Vanguard Windsor II Fund
T. Rowe Price Real Estate Fund	Fidelity Growth Company Fund
Federated Kaufmann Fund	Harbor Capital Appreciation Fund
AMG Yacktman Focused Fund	Fidelity Strategic Advisers Core Fund
Fidelity Small Cap Discovery Fund	T. Rowe Price Value Fund
Fidelity Real Estate Investment Portfolio	T. Rowe Price Equity Income Fund
Fairholme Fund	Fidelity Blue Chip Growth Fund

Table 11
Summary Statistics

This table shows the summary stats of the sample of actively managed domestic mutual funds downloaded from the CRSP mutual fund database. The data are snapshots of conflicted and clean share classes from December 2005, 2010, and 2015 and excludes missing observations and funds with TNA less than \$1M. All continuous variables are winsorized at the 1% and 99% level within month. Conflicted funds are those where 100% of its TNA has a load and/or a 12b-1 fee greater than 25bps. Clean funds are those where 100% of its TNA does not have a load or 12b-1 fee greater than 25bps. See Appendix B for variable definitions.

<i>December 2005</i>										
	<i>Conflicted Funds (N=786)</i>					<i>Clean Funds (N=515)</i>				
	Mean	Stdev	P25	P50	P75	Mean	Stdev	P25	P50	P75
Size/TNA (\$M)	681.0	2,095	47.40	169.0	542.1	1,628	5,485	58.20	213.7	892.9
Age (Months)	146.2	109.0	77.00	109.0	170.0	155.4	119.1	76.00	113.0	180.0
Monthly Flow (%)	-0.158	7.23	-2.189	-0.793	0.989	-0.876	6.53	-2.309	-0.659	0.740
Expense Ratio (%)	1.479	0.530	1.123	1.423	1.734	1.094	0.546	0.850	1.020	1.260
12b-1 fee (%)	0.274	0.260	0.001	0.250	0.447	0.034	0.076	0.000	0.000	0.010
Turnover Ratio (%)	84.16	79.49	32.00	64.00	112.0	84.34	82.01	34.00	62.00	109.00
Unadjusted Ret (%)	0.693	1.525	-0.192	0.522	1.222	0.442	1.033	-0.174	0.345	0.956
Retail Class Ratio (%)	87.43	28.98	98.12	100.0	100.0	66.81	45.73	0.000	100.0	100.0
Number of Classes	2.319	1.474	1.000	2.000	3.000	1.239	0.591	1.000	1.000	1.000

<i>December 2010</i>										
	<i>Conflicted Funds (N=399)</i>					<i>Clean Funds (N=548)</i>				
	Mean	Stdev	P25	P50	P75	Mean	Stdev	P25	P50	P75
Size/TNA (\$M)	603.2	1840	45.30	146.2	456.1	1,196	4,495	44.10	166.4	716.5
Age (Months)	175.9	115.0	96.00	153.0	211.0	154.4	127.6	57.00	124.0	204.0
Monthly Flow (%)	1.340	9.165	-1.824	-0.155	1.872	3.696	84.48	-1.711	-0.318	1.260
Expense Ratio (%)	1.353	0.530	1.000	1.299	1.544	1.001	0.409	0.791	0.986	1.234
12b-1 fee (%)	0.171	0.218	0.000	0.052	0.262	0.042	0.084	0.000	0.000	0.022
Turnover Ratio (%)	90.89	123.05	28.00	63.00	110.0	80.62	115.48	29.00	57.00	94.00
Unadjusted Ret (%)	6.390	2.109	5.117	6.345	7.635	6.763	2.158	5.363	6.644	7.708
Retail Class Ratio (%)	84.09	32.36	94.386	100.0	100.0	56.99	47.09	0.000	93.5	100.0
Number of Classes	1.992	1.404	1.000	1.000	3.000	1.376	0.612	1.000	1.000	2.000

<i>December 2015</i>										
	<i>Conflicted Funds (N=362)</i>					<i>Clean Funds (N=774)</i>				
	Mean	Stdev	P25	P50	P75	Mean	Stdev	P25	P50	P75
Size/TNA (\$M)	495.9	1313	29.30	86.35	428.0	1,641	6,016	39.30	164.0	810.5
Age (Months)	188.6	129.3	69.00	181.0	258.0	163.9	130.6	75.00	118.5	224.0
Monthly Flow (%)	-1.815	6.25	-3.668	-1.188	0.485	0.221	26.99	-3.305	-0.858	0.515
Expense Ratio (%)	1.346	0.632	0.999	1.210	1.500	0.869	0.421	0.624	0.950	1.108
12b-1 fee (%)	0.127	0.190	0.000	0.018	0.250	0.035	0.072	0.000	0.000	0.022
Turnover Ratio (%)	100.2	422.53	26.00	46.00	78.00	62.68	97.34	20.00	39.00	71.00
Unadjusted Ret (%)	-3.063	2.630	-4.709	-2.793	-1.426	-2.622	2.737	-3.789	-2.235	-1.490
Retail Class Ratio (%)	73.66	38.69	43.820	100.0	100.0	42.74	46.23	0.000	9.2	100.0
Number of Classes	1.768	1.122	1.000	1.000	2.000	1.615	0.837	1.000	1.000	2.000

Table 12
Differences Between Conflicted vs. Clean Fund Returns

This table shows the difference between conflicted and clean fund monthly returns for 2006-2015. Conflicted funds are those where 100% of its TNA has a load and/or a 12b-1 fee greater than 25bps. Clean funds are those where 100% of its TNA does not have a load or 12b-1 fee greater than 25bps. Net return is unadjusted returns directly reported by CRSP and aggregated up to the fund level, weighted by the TNA of the fund's share classes. Net return + 12b1 is the unadjusted return with its monthly 12b-1 charge added back. Gross returns are the unadjusted return with its monthly expense ratio added back. Net alpha is the four-factor risk-adjusted net-of-fee return. Gross alpha is the four-factor risk-adjusted gross-of-fee return. Betas for the four-factor models are calculated using prior 24-month returns, with a minimum of 24-months. Objective code-month fixed effects are included in all specifications. All continuous variables are winsorized at the 1% and 99% level within month. Columns 1-3 shows the value-weighted fund returns by share class. Columns 3-6 shows the equal-weighted fund returns by share class. *t*-statistics in parentheses are calculated from heteroskedasticity-robust standard errors clustered by fund. *, **, *** denote significance at the 10%, 5%, and 1% levels, respectively. Adjusted R-squared is reported in brackets.

	Value-Weighted Returns			Equal-Weighted Returns		
	(1) Conflicted	(2) Clean	(3) Diff (1)-(2)	(4) Conflicted	(5) Clean	(6) Diff (4)-(5)
Net Return	0.565*** (59.28)	0.638*** (70.28)	-0.073*** (-5.59) [0.862]	0.558*** (58.42)	0.637*** (70.16)	-0.079*** (-6.08) [0.863]
Net Return + 12b1	0.581*** (61.15)	0.642*** (70.87)	-0.061*** (-4.70) [0.862]	0.580*** (61.10)	0.641*** (70.79)	-0.061*** (-4.71) [0.863]
Gross Return	0.677*** (72.31)	0.721*** (80.32)	-0.043*** (-3.38) [0.861]	0.678*** (72.57)	0.722*** (80.60)	-0.044*** (-3.42) [0.863]
Net Alpha	-0.110*** (-12.67)	-0.078*** (-9.85)	-0.032*** (-2.73) [0.376]	-0.118*** (-13.55)	-0.080*** (-10.09)	-0.038*** (-3.26) [0.376]
Gross Alpha	0.003 (0.30)	0.006 (0.77)	-0.003 (-0.30) [0.376]	0.002 (0.27)	0.005 (0.66)	-0.003 (-0.25) [0.377]
Observations	125,272			125,272		

Table 13
Differences Between Conflicted vs. Clean Fund Returns – Subsample Analysis

This table shows the difference between conflicted and clean fund monthly returns. Conflicted funds are those where 100% of its TNA has a load and/or a 12b-1 fee greater than 25bps. Clean funds are those where 100% of its TNA does not have a load or 12b-1 fee greater than 25bps. All returns are value-weighted by share class. Net return is unadjusted returns directly reported by CRSP and aggregated up to the fund level, weighted by the TNA of the fund's share classes. Net return + 12b1 is the unadjusted return with its monthly 12b-1 charge added back. Gross returns are the unadjusted return with its monthly expense ratio added back. Net alpha is the four-factor risk-adjusted net-of-fee return. Gross alpha is the four-factor risk-adjusted gross-of-fee return. Betas for the four-factor models are calculated using prior 24-month returns, with a minimum of 24-months. Objective code-month fixed effects are included in all specifications. All continuous variables are winsorized at the 1% and 99% level within month. Columns 4-6 shows the subperiod 2006-2010. Columns 7-9 shows the subperiod 2011-2015. *t*-statistics in parentheses are calculated from heteroskedasticity-robust standard errors clustered by fund. *, **, *** denote significance at the 10%, 5%, and 1% levels, respectively. Adjusted R-squared is reported in brackets.

	2006-2010			2011-2015		
	(1) Conflicted	(2) Clean	(3) Diff (1)-(2)	(4) Conflicted	(5) Clean	(6) Diff (4)-(5)
Net Return	0.463*** (46.53)	0.478*** (44.05)	-0.015 (-1.00) [0.893]	0.659*** (38.98)	0.800*** (57.07)	-0.142*** (-6.58) [0.804]
Net Return + 12b1	0.481*** (48.37)	0.482*** (44.53)	-0.001 (-0.08) [0.893]	0.671*** (39.91)	0.804*** (57.38)	-0.132*** (-6.16) [0.804]
Gross Return	0.578*** (57.91)	0.567*** (52.52)	0.011 (0.77) [0.892]	0.769*** (46.51)	0.877*** (62.99)	-0.109*** (-5.13) [0.802]
Net Alpha	-0.049*** (-4.53)	-0.029** (-2.66)	-0.019 (-1.25) [0.416]	-0.179*** (-13.47)	-0.132*** (-11.66)	-0.047*** (-2.78) [0.315]
Gross Alpha	0.067*** (6.17)	0.060*** (5.49)	0.006 (0.40) [0.415]	-0.068*** (-5.30)	-0.053*** (-4.71)	-0.015 (-0.91) [0.315]
Observations		64,472			60,800	

Table 14
Hypothetical Long-Short Portfolio Returns

This table reports the results from portfolio regressions based on Carhartt (1997) four-factor model. The sample is January 2006 to December 2015. Portfolio returns are calculated monthly by equal (columns 1-3) or value weighting (columns 4-6). Weights correspond to the monthly total net assets of each holding in the fund-of-funds portfolio. The dependent variable is excess return and the difference in excess return between the conflicted and clean portfolio. *MKTRF* is the return on the market minus the risk-free rate. *SMB*, *HML*, and *UMD* are the small minus big, high minus low book-to-market, and momentum factors. *t*-statistics in parentheses are calculated from robust standard errors. *, **, *** denote significance at the 10%, 5%, and 1% levels, respectively.

	<u>Dependent Variable = <i>Excess Return (%)</i></u>					
	Equal-Weighted			Value-Weighted		
	(1) Conflicted	(2) Clean	(3) Diff (1)-(2)	(4) Conflicted	(5) Clean	(6) Diff (4)-(5)
Intercept	-0.133** (-2.51)	-0.057 (-1.02)	-0.076* (-1.80)	-0.027 (-0.39)	-0.056 (-1.19)	0.029 (0.57)
MKTRF	0.966*** (59.68)	1.004*** (60.69)	-0.038*** (-4.48)	0.936*** (50.19)	1.027*** (70.61)	-0.091*** (-7.58)
SMB	0.269*** (10.00)	0.198*** (8.11)	0.070*** (3.72)	0.213*** (6.59)	0.090*** (4.35)	0.123*** (4.71)
HML	-0.080*** (-3.82)	-0.050** (-2.26)	-0.030* (-1.89)	-0.109*** (-4.36)	-0.110*** (-5.15)	0.000 (0.01)
UMD	-0.015 (-1.31)	-0.018 (-1.62)	0.002 (0.21)	-0.029* (-1.79)	-0.015 (-1.37)	-0.015 (-0.84)
Observations	120	120	120	120	120	120
Adjusted R ²	0.985	0.985	0.190	0.972	0.989	0.334

Table 15
Hypothetical Long-Short Portfolio Equal-Weighted Returns – Size Analysis

This table reports the results from portfolio regressions based on Carhartt (1997) four-factor model. The sample is January 2006 to December 2015. Portfolio returns are calculated monthly by equal (columns 1-3) or value weighting (columns 4-6). Weights correspond to the monthly total net assets of each fund in the fund-of-funds portfolio. The dependent variable is excess return and the difference in excess return between the conflicted and clean portfolio. *MKTRF* is the return on the market minus the risk-free rate. *SMB*, *HML*, and *UMD* are the small minus big, high minus low book-to-market, and momentum factors. Top 50% represents the above median TNA holdings for both portfolios and Bottom 50% represents the below median TNA holdings for both portfolios. *t*-statistics in parentheses are calculated from robust standard errors. *, **, *** denote significance at the 10%, 5%, and 1% levels, respectively.

	<u>Dependent Variable = <i>Excess Return (%)</i></u>					
	Bottom 50%			Top 50%		
	(1) Conflicted	(2) Clean	(3) Diff (1)-(2)	(4) Conflicted	(5) Clean	(6) Diff (4)-(5)
Intercept	-0.182*** (-3.59)	-0.039 (-0.48)	-0.142** (-2.01)	-0.087 (-1.49)	-0.074* (-1.67)	-0.013 (-0.39)
MKTRF	0.974*** (62.25)	0.985*** (46.38)	-0.011 (-0.77)	0.959*** (54.35)	1.024*** (70.86)	-0.065*** (-8.09)
SMB	0.263*** (9.83)	0.194*** (5.84)	0.069** (2.53)	0.273*** (9.65)	0.203*** (10.10)	0.071*** (3.77)
HML	-0.079*** (-3.79)	-0.029 (-0.95)	-0.050** (-2.03)	-0.082*** (-3.69)	-0.071*** (-3.84)	-0.011 (-0.77)
UMD	-0.009 (-0.79)	-0.020 (-1.55)	0.011 (1.04)	-0.022 (-1.61)	-0.015 (-1.48)	-0.006 (-0.44)
Observations	120	120	120	120	120	120
Adjusted R ²	0.986	0.969	0.093	0.982	0.991	0.351

Table 16
Fiduciary Period Difference-in-Differences

This table shows the difference-in-difference between conflicted and clean fund monthly returns during the Fiduciary Rule. Conflicted funds are those where 100% of its TNA has a load and/or a 12b-1 fee greater than 25bps. Clean funds are those where 100% of its TNA does not have a load or 12b-1 fee greater than 25bps. Net return is unadjusted returns directly reported by CRSP and aggregated up to the fund level, weighted by the TNA of the fund's share classes. Net return + 12b1 is the unadjusted return with its monthly 12b1 charge added back. Gross returns are the unadjusted return with its monthly expense ratio added back. Net alpha is the four-factor risk-adjusted net-of-fee return. Gross alpha is the four-factor risk-adjusted gross-of-fee return. Betas for the four-factor models are calculated using prior 24-month returns, with a minimum of 24-months. Objective code-month fixed effects are included in all specifications. The sample runs from January 2014 through February 2018. The Fiduciary period is from April 2016 through February 2018. All continuous variables are winsorized at the 1% and 99% level within month. *t*-statistics in parentheses are calculated from heteroskedasticity-robust standard errors clustered by fund. *, **, *** denote significance at the 10%, 5%, and 1% levels, respectively.

	(1) Pre-Period	(2) Fiduciary	(3) Diff (2)-(1)
Net Return	-0.120*** (-4.16) [0.739]	-0.234*** (-6.59) [0.573]	-0.114** (-2.53) [0.687]
Net Return + 12b1	-0.113*** (-3.89) [0.739]	-0.227*** (-6.41) [0.573]	-0.115** (-2.55) [0.687]
Gross Return	-0.086*** (-3.03) [0.736]	-0.190*** (-5.36) [0.571]	-0.103** (-2.29) [0.684]
Net Alpha	-0.047* (-1.86) [0.288]	-0.060** (-2.44) [0.258]	-0.013 (-0.37) [0.274]
Gross Alpha	-0.015 (-0.61) [0.287]	-0.021 (-0.85) [0.257]	-0.005 (-0.16) [0.273]
Observations	29,488	26,108	56,153

Table 17
The Fiduciary Rule and Hypothetical Long-Short Portfolio Returns

This table reports the results from portfolio regressions based on Carhartt (1997) four-factor model. The sample is January 2006 to February 2018. Portfolio returns are calculated monthly by equal (columns 1-3) or value weighting (columns 4-6). Weights correspond to the monthly total net assets of each fund in the fund-of-funds portfolio. The dependent variable is excess return and the difference in excess return between the conflicted and clean portfolio. *MKTRF* is the return on the market minus the risk-free rate. *SMB*, *HML*, and *UMD* are the small minus big, high minus low book-to-market, and momentum factors. *Fiduciary* is a dummy variable indicating the period after the Fiduciary Rule was issued, April 2016-February 2018. *t*-statistics in parentheses are calculated from robust standard errors. *, **, *** denote significance at the 10%, 5%, and 1% levels, respectively.

	<u>Dependent Variable = <i>Excess Return (%)</i></u>					
	Equal-Weighted			Value-Weighted		
	(1) Conflicted	(2) Clean	(3) Diff (1)-(2)	(4) Conflicted	(5) Clean	(6) Diff (4)-(5)
Intercept	-0.124 (-2.33)	-0.054 (-0.96)	-0.070* (-1.67)	-0.041 (-0.60)	-0.065 (-1.40)	0.024 (0.47)
Fiduciary	-0.042 (-0.36)	-0.059 (-0.72)	0.016 (0.17)	-0.085 (-0.50)	0.095 (1.10)	-0.180 (-0.93)
MKTRF	0.963*** (58.83)	1.001*** (59.26)	-0.038*** (-4.44)	0.938*** (51.02)	1.027*** (71.19)	-0.089*** (-7.34)
MKTRF × Fiduciary	-0.121*** (-2.98)	-0.165*** (-5.12)	0.043* (1.89)	-0.113** (-2.00)	-0.034 (-0.78)	-0.079 (-1.02)
SMB	0.267*** (9.82)	0.195*** (7.86)	0.072*** (3.84)	0.217*** (6.62)	0.090*** (4.30)	0.126*** (4.80)
SMB × Fiduciary	-0.043 (-1.01)	-0.098*** (-2.82)	0.054* (1.76)	0.046 (0.74)	-0.090** (-2.09)	0.136* (1.87)
HML	-0.078*** (-3.67)	-0.044* (-1.97)	-0.033** (-2.07)	-0.113*** (-4.44)	-0.109*** (-5.14)	-0.004 (-0.22)
HML × Fiduciary	0.078** (2.43)	-0.003 (-0.11)	0.082*** (3.59)	0.073 (1.51)	0.008 (0.27)	0.065 (1.40)
UMD	-0.016 (-1.34)	-0.016 (-1.36)	0.000 (0.01)	-0.029* (-1.77)	-0.013 (-1.16)	-0.016 (-0.89)
UMD × Fiduciary	-0.040 (-0.89)	-0.036 (-1.54)	-0.005 (-0.12)	-0.042 (-0.55)	-0.039 (-0.94)	-0.003 (-0.03)
Observations	146	146	146	146	146	146
Adjusted R ²	0.984	0.985	0.237	0.970	0.989	0.400

Vita

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