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# The Journal *of* Wealth Management

*“We look at three challenging assumptions and view them as bifurcations in a strategic integrated wealth management decision tree, which achieves a finer matching of a family’s dreams, nightmares, and circumstances with the deployment of its assets.”*

*Jean Brunel - Editor’s Letter*

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## Preventing Emotional Investing: *An Added Value of an Investment Advisor*

PHILIP Z. MAYMIN AND GREGG S. FISHER

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**B**y the notions of traditional finance, starting with Markowitz [1952], investors should pay a financial advisor for one of two things: an expected higher return or a lower anticipated risk. Yet the evidence, culminating most recently with Busse, Goyal, and Wahal [2010] and Fama and French [2010], show that the active domestic equity institutional products offered by investment management firms have statistically insignificant risk-adjusted alphas, indistinguishable from luck. Furthermore, even the occasional good performers have no persistence. In other words, active investment managers at best add nothing in terms of traditional notions of risk and return, and that is for institutional products; individual products are surely no better and possibly far worse.

Perhaps investors retain advisors to prevent themselves from making bad trading decisions—to help them navigate near-term emotions like fear, regret, and greed and make healthier, more-objective choices that keep them on track to meet their long-term goals. More aggressive individual trading does tend to lead to poorer investment results: Barber, Lee, Liu, and Odean [2009] analyze a comprehensive dataset of Taiwanese investors to determine that aggressive orders by individuals result in substantial economic losses for them—on the order of 4 percentage points a year. In other words, enlightened

behavioral investors ought to be more willing to pay on the order of 1 percentage point to an investment manager who will prohibit or at least impede aggressive orders than to pay nearly four times as much for the privilege of excessively and detrimentally trading their own account.

What are the alternatives faced by an investor looking to restrict his trading activity? An analogy to food may help explain the self-regulation possibilities and their various efficacies.

Coates [1978] describes a case study in which a client wishing to minimize his night eating pursued increasingly physical behavioral strategies. The client initially posted signs on his refrigerator and elsewhere saying “Stop! Think!” He intentionally arranged furniture in the hallway in the hope that he would stumble over it and even paid his friends cash in advance to be refunded only if he successfully refrained from night eating. He ate more desserts at night and drank less to try to be able to sleep through the night. He even tried tying twine around the refrigerator and hiding all of the knives in the trunk of his car so he couldn’t cut it easily. Such strategies were effective only initially and night eating soon resumed. He even ran down to his car once to get the knives, and on the nights he didn’t, he felt enormous anxiety, just knowing that the knives were at least possible to reach. Finally, the client

discovered what turned out to be the only effective strategy: completely removing the option.

Every night, he would lock the refrigerator and give the key to a roommate. The first two nights, he awakened, but because the food was simply physically unavailable, he was able to return to sleep without much anxiety. The refrigerator lock did not remove the desire for nighttime eating; in fact, on every night when the refrigerator was deliberately left unlocked, an eating episode occurred. But his complete inability to satisfy the craving when it was locked lowered his anxiety and led effectively to his weight-loss goal.

Furthermore, his urges never went away. Even a year and a half later, the client continued to keep a lock on his refrigerator at night. His nighttime eating had ended, and his anxiety was low, but the urge continued. Coates [1978] concludes that similarly strong procedures may be needed to control other cases of uncontrollable appetites.

Perhaps aggressive trading is one such appetite. Do investment managers act like refrigerator locks?

Like the client described by Coates [1978], investors feel constant urges to binge. Simply telling themselves to abstain does not work. Mild barriers such as making it difficult to trade or complicated passwords may, at best, have an initial effect, but revert quickly back to failure. The best path is removing the option completely. In this sense, the investment advisor acts in the role of the roommate by keeping the key. (In reality, of course, the role is more nuanced—the advisor is also like a nutritional coach who educates the individual and coaches him to make healthier choices, as well as keeping the key).

If investment managers act as refrigerator locks, then we can make several predictions concerning the “touches” or the number of attempts by the individual investor to bypass the lock by calling the manager and arguing for a reallocation or other aggressive trade. First, this number should be high initially, just as the client in Coates [1978] tried the door and lock the first few days, but then it should diminish. Second, the number should never vanish because the urge never does. It should reach some sort of steady state average. Third, high market volatility ought to act like too much water before bedtime did for Coates’ client: It should increase the amplitude of the urgency and therefore the touches. Fourth, the number of times the investor is able to buck his manager’s advice and substantially alter his portfolio should be low, just as the number of times the client was able to penetrate the lock was quite low, on the order of a few

days per year, or about 1%. Fifth, any times the investor actually does engage in aggressive trading or direct a major strategy shift against his advisor’s advice, however rare these episodes are, they will always come with higher touches, essentially requiring “re-education” and coaching, just as the client’s desires and anxiety would increase after a successful, and also infrequent, raid on the unlocked refrigerator.

Statman [2004] makes a different food analogy. He argues that investors trade or choose investment managers not simply for risk and return; they overpay for expressive rather than utilitarian purposes, just as diners pay a premium for fine establishments. As they put it, investors will overpay for “tasty, varied, prestigious, and cultural investment portfolios.” We view Statman [2004] as further motivation for our approach, rather than a competing theory. It is probably true that investors like the “taste” of certain securities or portfolio allocations, and one of the important functions of an investment manager is to make each client’s particular portfolio one with which they are comfortable. But a rational individual could in principle compose a portfolio with which he is comfortable all by himself; our theory is that investment advisors act, in part, like a healthy lifestyle or diet coach who keeps you from bingeing at midnight.

We test these five predictions:

1. Client touches should be higher in the first months of the relationship with the investment advisor.
2. The touches should then decline to a relatively steady but significantly non-zero level.
3. Higher market volatility should lead to a higher volume of touches.
4. The incidence of substantial changes in investor allocation should be quite low, i.e., aggressive trading should be rare.
5. When aggressive individual trading does happen, it will coincide with a higher volume of touches.

We use a unique dataset to test these hypotheses. The dataset was compiled during the course of business at Gerstein Fisher, a boutique investment management firm founded by one of the co-authors (Fisher) in 1993 and still operating today with nearly \$1 billion in assets from more than 600 clients. We next describe this dataset in detail and then present the results of our analysis on the predictions above. We find that all five predictions are confirmed, and so we conclude that an

important way that an investment advisor adds value is by restraining clients from their own tendencies to aggressively trade.

## DATA

Gerstein Fisher was founded in 1993 and all account and household information, client introduction history, notes, and portfolio allocations and performances were meticulously kept from the beginning.

### Households and Accounts

From 1993 through mid-2010, the Gerstein Fisher database stored a total of 1,427 households. A household is defined as an amalgamation of all of the various accounts of a single family, incorporating each spouse's equities, cash, retirement, and other accounts. It also includes the accounts of retirement plan participants and other group accounts managed by the firm. Currently, as of mid-2010,

Gerstein Fisher manages the assets of 1,224 households. Approximately half of these would be considered core individual/family relationships, with the balance being group accounts. Gerstein Fisher estimates that their annual retention rate for clients exceeds 95% every year. Attrition of clients primarily results from death or divorce.

Exhibit 1 shows the distribution of the peak value of assets across all households over the entire dataset: 10% had peak assets exceeding \$2,000,000, and 10% had assets less than \$20,000. The median peak household asset size was \$285,000; the mean was \$570,000. The largest peak household asset size was \$23,000,000. Only 767 households ever had assets exceeding \$250,000. Among these, the median asset size was \$740,000 and the mean was \$1,200,000.

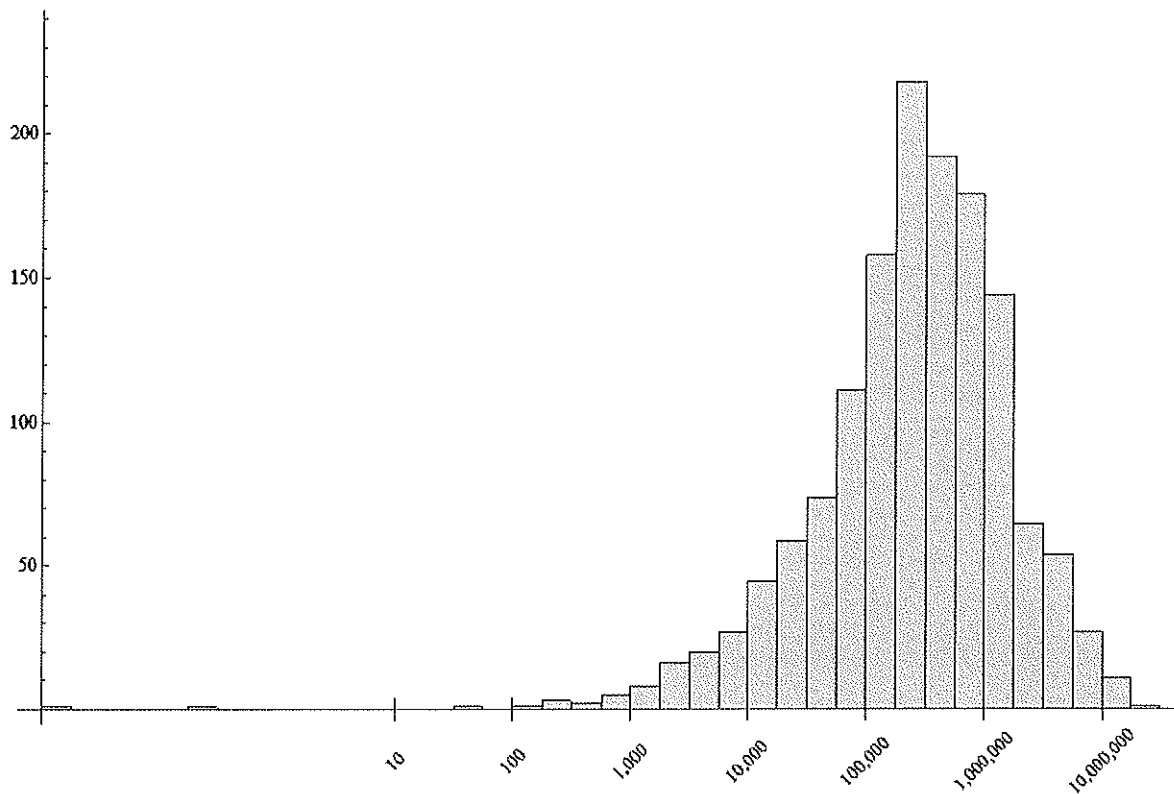
### Notes and Touches

Every contact in the Gerstein Fisher database has a history of notes associated with it. A note is created

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## EXHIBIT 1

### Peak Household Assets



any time an email is sent or received from the contact, or a telephone call or meeting takes place, or there is any other activity. The notes for any given contact are defined as the “touches.”

Among all contacts, from 1993 through mid-2010, there were more than 650,000 notes. About half of those were to non-clients: restricted to contacts who were also clients at least once, there were nearly 300,000 notes.

Many of those notes can be duplicates, for example, if they are emails from the firm to all clients. Therefore, we focus on notes that are unique, i.e., non-duplicative. Approximately 70% of the notes are non-duplicative. However, some of the unique notes may differ only mildly from each other, such as emails from the firm that differ only in the addressee. Removing such “near-duplicates” is a topic of future research.

As an example of the notes, Exhibit 2 shows the portion of all notes in each given month that contained the word “mortgage.” Until 2008, about one half of 1% of all unique monthly notes mentioned that word, with zero occurrences during the mid-1990s; after 2007, “mortgage” was mentioned about twice as

often. (This was a period in which many investors were debating the merits of liquidating all or a portion of their investment portfolios and using the proceeds to pay off their mortgages).

Although many of the notes were further categorized as appropriate (for example, meetings, phone calls, and emails), such categorization became more routine around the year 2000 than before.

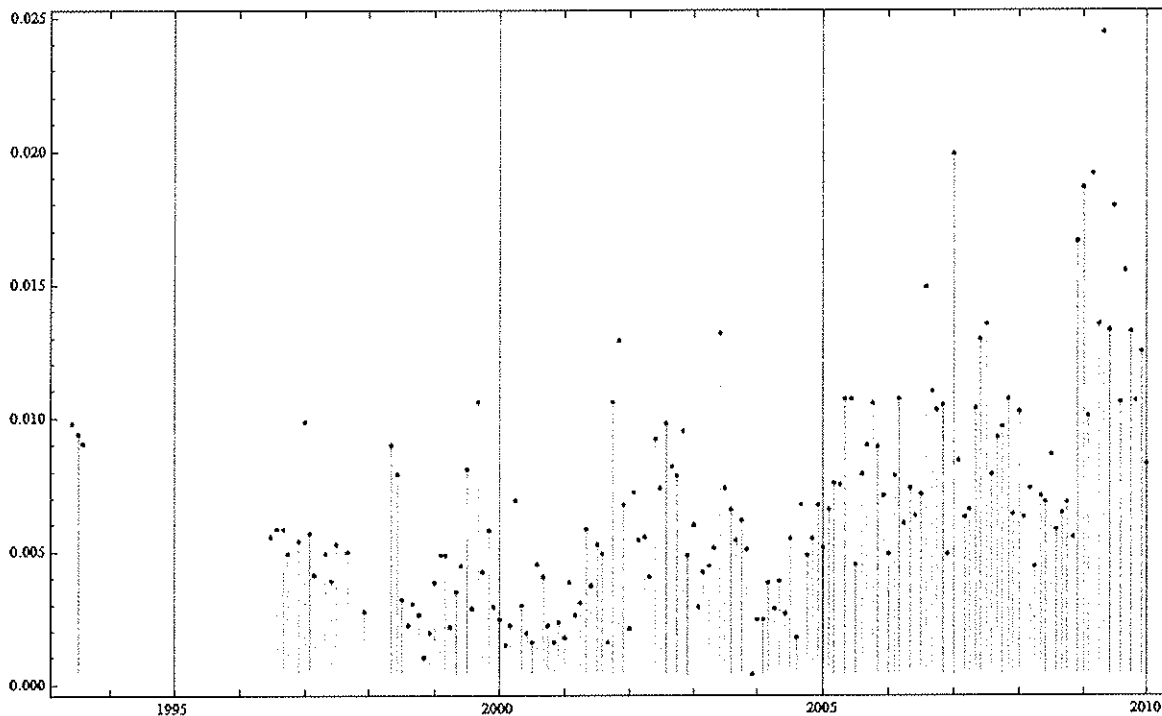
### Financial Allocations and Performance

Clients are primarily invested into the following asset classes: domestic equities, domestic fixed income, international fixed income, commodities, gold, and cash. Exhibit 3 lists the average and standard deviation of these allocations across all of the 76,000 client-month pairs.<sup>1</sup>

Exhibit 4 plots the distribution of allocations to domestic equities (dark-shaded bars, showing local peaks near 55% and 75%) and domestic fixed income (lighter bars, showing local peaks near 10% and 25%).

## EXHIBIT 2

Portion of Unique Monthly Notes Matching “Mortgage”



## EXHIBIT 3

### Average and Standard Deviation of Client Asset Allocations

	Domestic Equities	Domestic Fixed Income	International Fixed Income	Commodities	Gold	Cash
Average	59.1%	19.0%	5.4%	3.7%	3.0%	9.5%
Standard Deviation	24.1%	16.0%	5.1%	2.6%	2.2%	21.7%

Also computed for each household and month is the weighted average of returns across all invested asset classes, weighted by the amount of assets invested in each asset class.

## RESULTS

In this section, we test the five main predictions of the investment-manager-as-refrigerator-lock theory: 1) initially high touches, 2) stable but positive touches in the long run, and 3) a higher volume of touches when market volatility is higher, 4) rare incidents of aggressive

trading, and 5) more touches surrounding those rare incidents of aggressive trading. For ease of exposition, the last two predictions will be discussed together in the final subsection, and in reverse order.

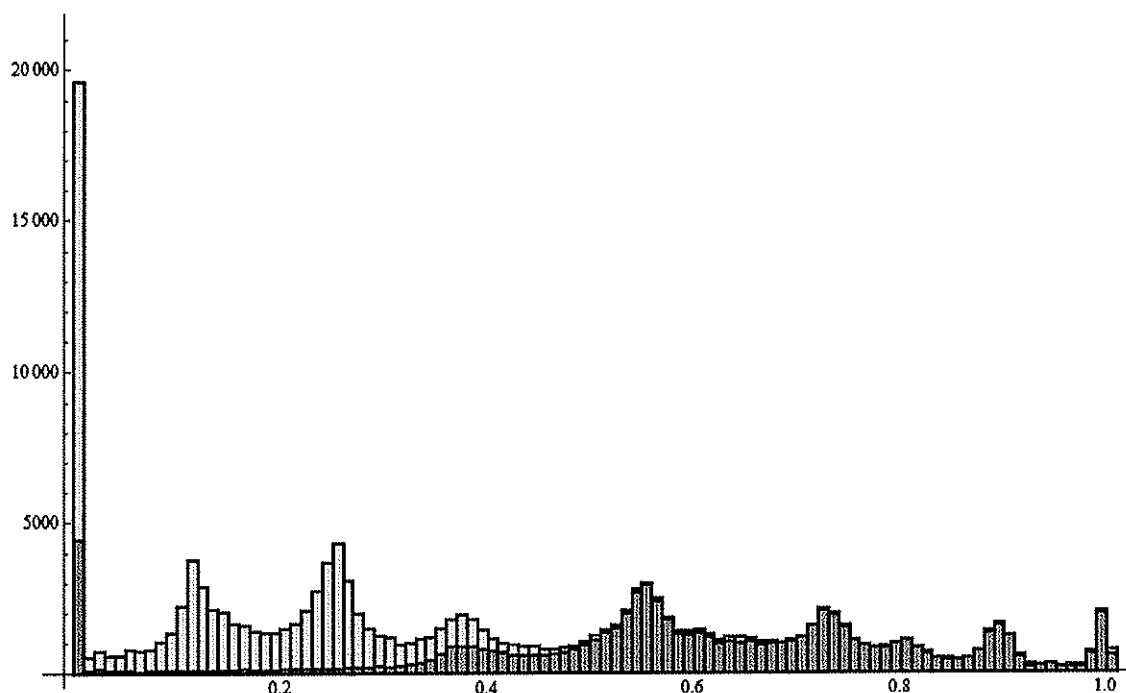
### Initially High Touches

We want to explore the circumstances of the first few months of a client relationship, so we need to filter out those relationships that did not last long enough for a conclusion to be reached. Of the 1,427 clients in the Gerstein Fisher database, only 76, or less than 5%, were clients for fewer than six months.

Exhibit 5 displays the number of touches in each of the first six months for clients, as well as the average number of touches for all the remaining months (i.e., months seven, eight, and so on) that the household was a client of Gerstein Fisher. The standard error of the estimate is reported below each of the touches.

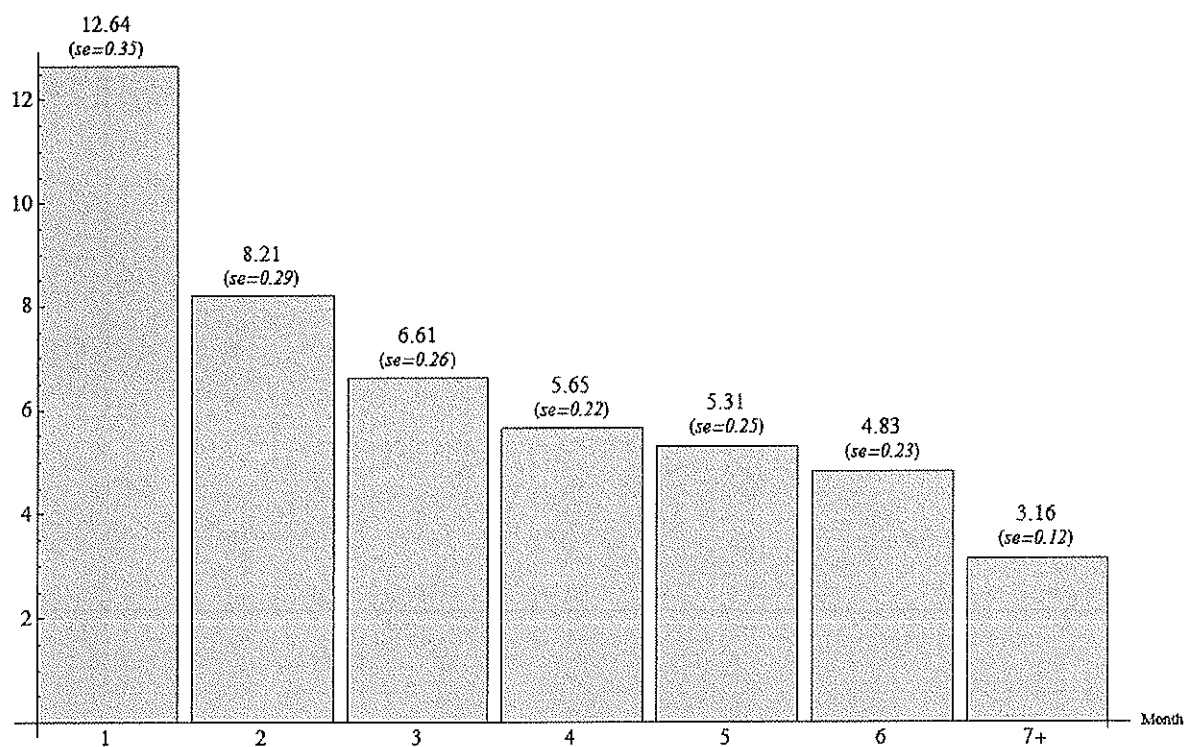
## EXHIBIT 4

### Domestic Allocations



## EXHIBIT 5

### Initial New Client Touches



Clearly the first prediction holds: new clients have significantly higher touches in their first few months. Much of the first month's excess is due to the communication-intensive client "onboarding" process of account setup, goal-setting and strategy development, and education.

#### Stable and Positive Touches in the Long Run

To look at the touches that happened after the initial several months of the client's involvement with Gerstein Fisher, we use essentially the same method as the previous subsection, but starting from the most recent month and moving earlier. To avoid compounding the long-run results with the initial results, we filter for clients with at least 24 months of history and look only at the last 18 months. There were 365 households, or about 25%, who were clients for fewer than 24 months.

Exhibit 6 displays the average touches for each of the remaining 1,062 clients for the most recent 18 months. The standard error of the estimate is also reported in parentheses beneath the estimate itself.

The axis is labeled with negative numbers to signify the number of months up until today: "–1" means the most recent month of the client relationship, "–2" means the second most recent month, and so on.

The second prediction holds as well. Starting with the fifth most recent month, the touches in each subsequent month are within one standard error of the previous month. The touches appear to be converging to some number roughly on the order of magnitude of two touches per year.

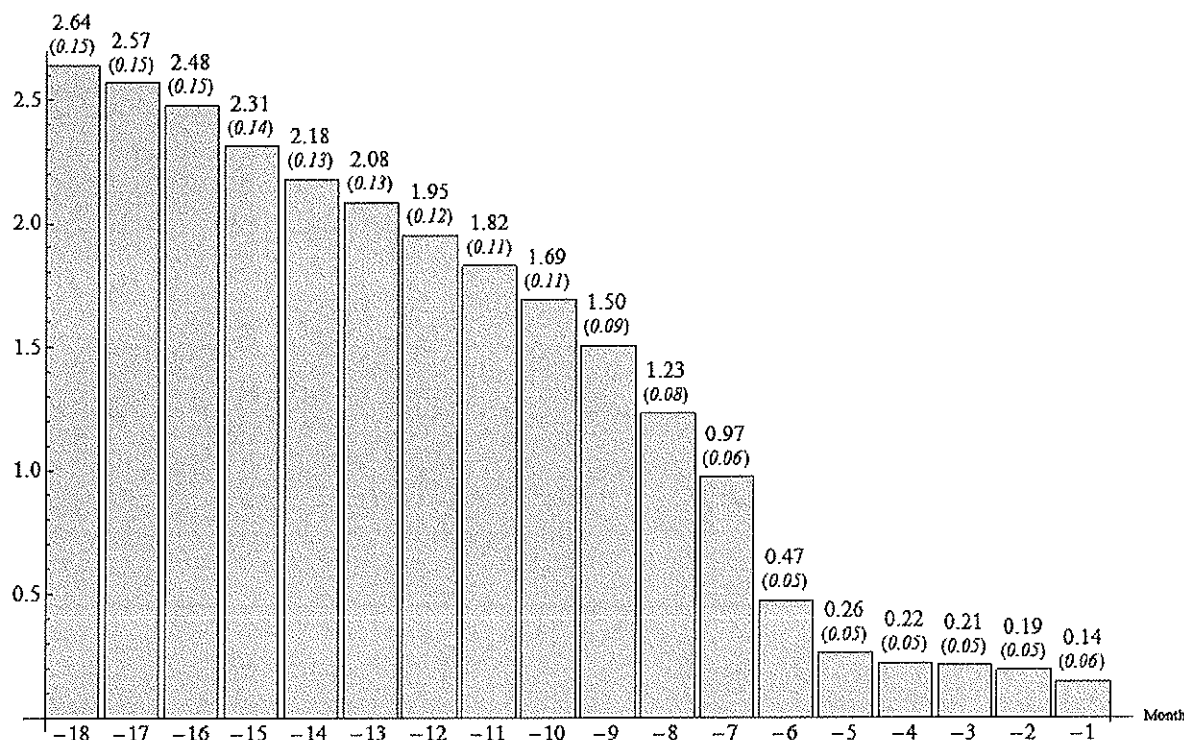
#### More Touches Around Volatile Times

The VIX index is the implied market volatility index published by the Chicago Board Options Exchange. It measures the implied volatility of short-term index options on the S&P 500 Index and is a popular barometer of expected future volatility.

The RVOL, or the realized market volatility within a given month, can be computed as the annualized standard deviation of the S&P 500 returns occurring within

## EXHIBIT 6

### Latest Client Touches



that month, with the standard annualization factor of 252 trading days per year.

Exhibit 7 summarizes regressions done with the average monthly touches per client as the dependent variable on either the VIX alone, the RVOL alone, or both together.

While in separate regressions, each of the implied and realized volatility measures appear significant, when both are included, neither is significant, although the realized volatility measure, with a  $p$ -value of 13%, is far closer to being significant than the implied volatility measure, with a  $p$ -value of 93%.

In other words, there is some support for the statement that investors increase touches following periods of high realized volatility, but there is no support for the statement that investors increase touches in periods of expected high future volatility, conditional on the volatility that has already been realized.

Put another way, the prediction of higher touches following higher market volatility seems to hold, and it seems to hold in the behavioral way: Investors become

agitated by what they have already experienced, rather than market forecasts of their future experience.

These are the moments in which they are likely to call their advisor and want to make a change or at least receive reassurance about the continued merits of their current strategy.

## EXHIBIT 7

### Average Monthly Touches per Client

	Regression 1	Regression 2	Regression 3
<b>Intercept</b>	2.95 ( $p = 10^{-18}$ )	2.60 ( $p = 10^{-9}$ )	2.92 ( $p = 10^{-9}$ )
<b>RVOL</b>	5.03 ( $p = 0.0006$ )		4.77 ( $p = 0.13$ )
<b>VIX</b>		5.75 ( $p = 0.0022$ )	0.36 ( $p = 0.93$ )
<b>R<sup>2</sup></b>	6.0%	4.8%	5.5%



### Aggressive Trading Is Rare but Coincides with Higher Touches

We split client-month pairs into two sets: those where the client has just acted aggressively and those where he has not. Because most clients focus on the equity markets, and because the equity allocation is typically the largest component, we look at the percentage of equity allocation to determine aggressiveness.

The fastest way to ascertain the correspondence between touches and aggressiveness is to compare across clients their total number of touches as it relates to the standard deviation of their equity allocation. Clients who are more aggressive will have a higher standard deviation of equity allocation and are therefore predicted to have a higher number of touches.

Exhibit 8 describes the results of several regressions where the dependent variable is the touches.

Having more accounts associated with a household or having more total assets under management increases the total touches. Additionally, having a higher standard deviation of percentage equity allocation also significantly increases the number of touches: An account that has a very aggressive standard deviation of 50% will have about 2.5 more touches per month than a very non-aggressive account that has a near-zero standard deviation.

But we can do an even finer-grained analysis.

Let us say that a client has just acted aggressively if for the past  $n = 3$  months, his allocation to equities has remained relatively constant, with the difference between the maximum and the minimum of his

equity allocation not exceeding some small number  $\epsilon = 0.01$  (i.e., 1%), but in the current month, the absolute value of the change in his equity allocation relative to last month exceeds some large threshold  $\lambda = 0.05$ . In other words, a client is being aggressive if he had a recent history of being stable but then experienced a large jump.

For any given  $n$  and  $\lambda$ , we can compute the mean and standard error of the touches in each of the two groups. Because  $\lambda > \epsilon$  (i.e., because aggressive behavior is rare), it turns out that the mean and the standard error of the non-aggressive touches do not vary much as a function of  $n$  and  $\lambda$ . Indeed, the mean is always around 3.5, and the standard error is always around 0.02.

For aggressive touches, of course, the mean and standard error depend on the choice of  $n$  and  $\lambda$ . We choose  $n \in \{3, 4, 5, 6\}$ , meaning we want between three and six months of initial stability in the equity allocation percentage, and we choose  $\lambda \in \{.01, .025, .05, .075, .10\}$ , meaning we want to find aggressive trades that change the equity allocation by 1% to 10% from its previous value.

Exhibit 9 displays the aggressive touches for a given  $n$  and  $\lambda$ . It also displays the standard error of the estimate for each bar. The thick line in the middle represents the non-aggressive touches. In other words, clients usually have about 3.5 touches per month. When they have recently changed their equity allocation by more than 1%, they have slightly more than 3.5 touches per month. When they have recently changed it by more than 10%, they have around 6 touches per month, depending on how many  $n$  months we use to define recency.

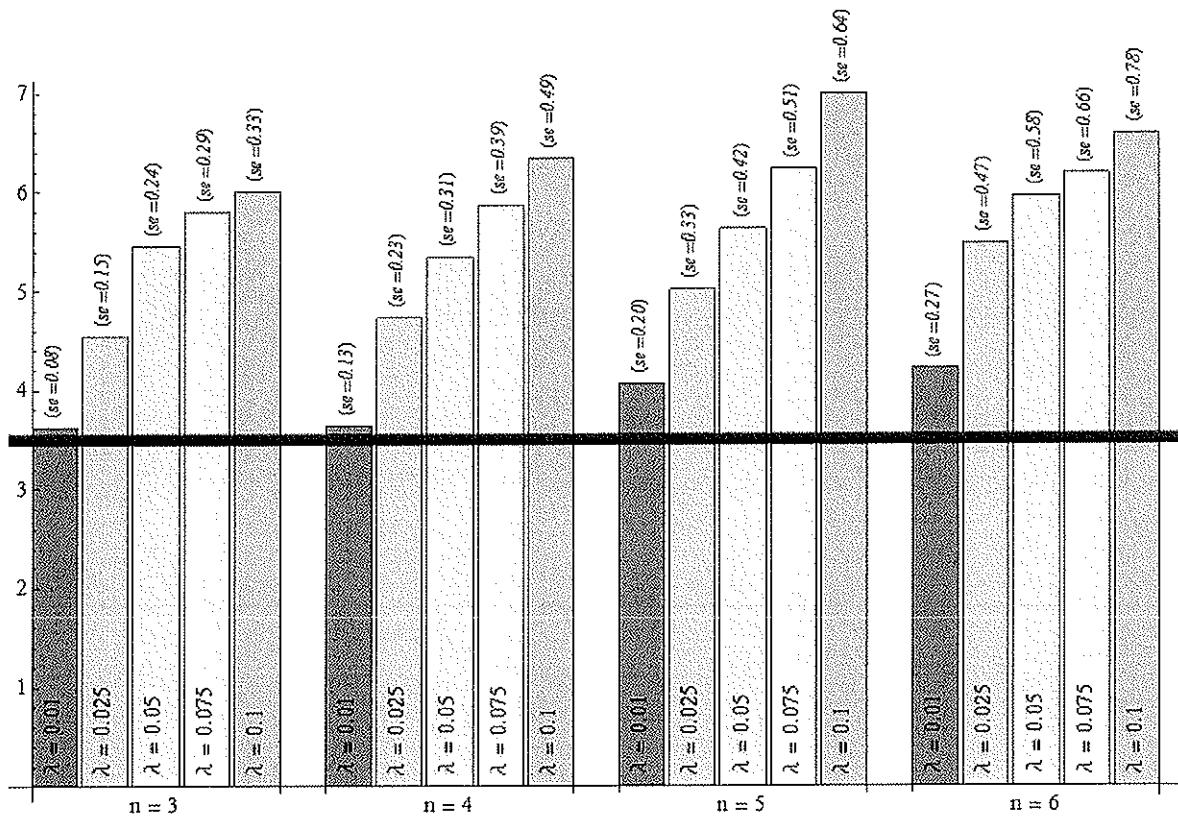
## EXHIBIT 8

### Regressions with Touches as the Dependent Variable

	Regression 1	Regression 2	Regression 3	Regression 4	Regression 5
<b>Intercept</b>	3.31 ( $p = 10^{-50}$ )	3.09 ( $p = 10^{-98}$ )	0.98 ( $p = 10^{-7}$ )	1.12 ( $p = 10^{-8}$ )	0.56 ( $p = 0.023$ )
<b>Accounts (mean)</b>			1.22 ( $p = 10^{-65}$ )	0.99 ( $p = 10^{-37}$ )	0.99 ( $p = 10^{-37}$ )
<b>Total Assets (mean)</b>		$1.4 \times 10^{-6}$ ( $p = 10^{-40}$ )		$7.4 \times 10^{-7}$ ( $p = 10^{-11}$ )	$7.4 \times 10^{-7}$ ( $p = 10^{-11}$ )
<b>Equity Allocation (std. deviation)</b>	5.07 ( $p = 0.0006$ )				4.89 ( $p = 0.0002$ )
<b>R<sup>2</sup></b>	0.8%	12%	19%	21%	22%

## EXHIBIT 9

### Aggressive Touches



Thus, the fifth prediction about aggressive trading coinciding with more touches also holds. Touches are higher when aggressive trading occurs, and furthermore, touches are higher the more aggressive the trading is. The difference between the aggressive touches and the non-aggressive touches of 3.5 is significant for all levels of aggression  $\lambda$ , except for the smallest one of  $\lambda = 0.01$ , meaning it is the mildest sort of aggression.

To determine if the fourth prediction holds (that aggressive trading should be rare), we can count the number of times each of the conditions in Exhibit 9 actually occur. Specifically, the bars with values of  $\lambda$  greater than 0.05 almost surely represent substantial and aggressive client trading rather than a possibility of large rebalancing moves done merely to keep the portfolio at its optimal allocation. In other words, our fourth prediction is that counting the number of client-month pairs that are in the  $\lambda = 0.075$  and  $\lambda = 0.10$  bars should result in a very small portion of overall client-month pairs.

## EXHIBIT 10

Number of Occurrences as a Percentage of Total for Various Values of  $n$  and  $\lambda$

	n = 3	n = 4	n = 5	n = 6
$\lambda = 0.075$	1.23%	0.71%	0.49%	0.34%
$\lambda = 0.10$	0.88%	0.51%	0.37%	0.27%

Exhibit 10 lists the number of occurrences as a percentage of the total for various values of  $n$  and  $\lambda$ . Indeed, the percentages are on the order of magnitude of 1% or less, the same as for the refrigerator-locking client that Coates [1978] described.

Thus, all five of the predictions are supported.

## CONCLUSION

We have used a unique, long, and comprehensive dataset of client communications by an investment

manager to test the theory that one of the important functions served by investment advisors is to act like a lock on a refrigerator to prevent the individual investor from overindulging in unhealthy choices as it relates to their portfolios.

The self-regulation theory makes five predictions: that the number of contacts between client and manager will start off high then decrease, that the number of contacts will reach a steady state above zero, that the number of contacts will be higher when realized volatility is higher, that the number of “cheating” times, when the investor aggressively trades against the manager’s advice, will be low, and that those “cheating” times will also coincide with a higher number of contacts as the investor essentially reverts to his old behavior and needs to be re-educated.

Analyzing the contacts actually recorded between clients and the manager in our dataset allows us to test each of these predictions, and we find that each is confirmed.

Therefore, we conclude that the advisor’s role in helping investors stay disciplined and on plan in the face of market volatility, including dissuading them from excessive trading, is one that is highly valued by the individual investor.

Future research will include textual analysis of the notes, with both automated and manual methods, to better distinguish between routine correspondence and investment-related notes, and to learn more about the nature of the touches surrounding instances of aggressive trading.

## ENDNOTE

<sup>1</sup>Gerstein Fisher takes a disciplined, long-term, strategic approach to constructing and managing client portfolios. While the firm opportunistically rebalances portfolios on a periodic basis, its strategy is not inherently trading-oriented.

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