

# (Not) Everybody's Working for the Weekend: A Study of Mutual Fund Manager Effort

Boone Bowles & Rich Evans

Texas A&M University – Mays  
University of Virginia – Darden

Colorado State University

December 15, 2025

# Mutual Fund Managers Matter

MONEYBEAT BLOG

## The \$108 Billion Man Who Has Beaten the Market



Will Danoff

PHOTO: JONATHAN KOZOWYK FOR THE WALL STREET JOURNAL

- If not, why are they paid so well?
  - In 2015 he donated \$31M.
- Gross performance as metric.
  - Kacperczyk, Sialm, & Zheng (2008).
  - Berk & Van Binsbergen (2015).
  - Fama & French (2020).
- Given their importance, we should understand how they work and even what motivates them?

# Quiet Quitting...

THE  
NEW YORKER

2022 IN REVIEW

## THE YEAR IN QUIET QUITTING

*A new generation discovers that it's hard to balance work with a well-lived life.*

By Cal Newport

December 29, 2022

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### Is Quiet Quitting Real?

 [gallup.com/workplace/396306/quiet-quitting-real.aspx](https://gallup.com/workplace/396306/quiet-quitting-real.aspx)

by Jim Harter

September 6, 2022



#### Story Highlights

- At least half of the U.S. workforce is quiet quitting
- The workplace, amid the pandemic, got worse for younger workers
- Managers are essential to combatting quiet quitting

"Quiet quitters" make up at least 50% of the U.S. workforce -- probably more, Gallup finds.

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ANALYSIS NEWSLETTER

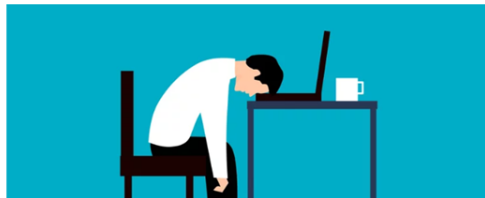
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## The economics behind 'quiet quitting' — and what we should call it instead

SEPTEMBER 13, 2022 - 6:31 AM ET

By Greg Rosalsky, Alina Selyukh



## Is Quiet Quitting Real?

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Highlights

Just half of the U.S. workforce is quiet quitting

Harvard  
Business  
Review

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## When Quiet Quitting Is Worse Than the Real Thing

by Anthony C. Klotz and Mark C. Bolino

September 15, 2022

# Quiet Quitting...

THE NEW YORKER

2022 IN REVIEW

## THE YEAR IN QUIET QUITTING

*A new generation discovers that it's hard to balance*

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December 29, 2022

**PLANET MONEY** ANALYSIS NEWSLETTER

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September 6, 2022



603K

Dislike

9,508

workforce is quiet quitting

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me to log off and go enjoy my personal life

anyways it's time for me to log off and go enjoy my personal life

@loewhaley  
Toodaloot

### Quiet Quitting Is worse than the Real Thing

by **Anthony C. Klotz** and Mark C. Bolino

September 15, 2022

# Quiet Quitting or Hustle Culture?



# Quiet Quitting or Hustle Culture?

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SMALL BUSINESS

## The Pros And Cons Of Work Hard Without Burnout

By [Jason Saltzman](#), Forbes Councils Member,  
for [Forbes Business Council](#), [COUNCIL POST](#) | Membership (fee-based)

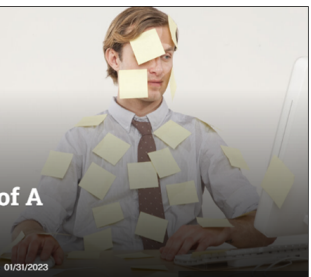
Feb 16, 2023, 07:15am EST

Forbes

DIGITAL TRANSFORMATION

## Hustle Culture: The Rise of A New Work Ethic

By [Abdul Waheed Khan](#) 5 Comments 7 Mins Read — 01/31/2023



# Quiet Quitting or Hustle Culture?

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## The Pros And Cons Of Work Hard Without Burnout

By for Feb

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February 15, 2025 at 1:37 PM

**The price of not *locking in* is spending the rest of your life *clocking in*.**

Barb...

DIGITAL TRANSFORMATION

## Culture: The Rise of A Work Ethic

5 Comments 7 Mins Read — 01/31/2023



# Quiet Quitting or Hustle Culture?

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DIGITAL TRANSFORMATION

## Hustle Culture: The R... k Ethic

5 Comments 7 M

COLUMNS, OPINION, PRICE OF EXISTENCE

## Hustle culture is taking its victims younger and younger | Price of Existence

February 1, 2024 11:29 pm by Karyna Cheung

mileu

Do you believe in the hustle culture? (i.e working as much as possible)

|     | 16 to 24 years old (N=229) | 25 to 44 years old (N=392) | 45+ years old (N=102) |
|-----|----------------------------|----------------------------|-----------------------|
| Yes | 52%                        | 39%                        | 35%                   |
| No  | 48%                        | 61%                        | 65%                   |

Based on a Mileu survey in Singapore

# Effort is unobservable

## Moral hazard and observability

**Bengt Holmström**

Swedish School of Economics and Business Administration

13,500 citations

*The role of imperfect information in a principal-agent relationship subject to moral hazard is considered. A necessary and sufficient condition for imperfect information to improve on contracts based on the payoff alone is derived, and a characterization of the optimal use of such information is given.*

### 1. Introduction

■ It has long been recognized that a problem of moral hazard may arise when individuals engage in risk sharing under conditions such that their privately taken actions affect the probability distribution of the outcome.<sup>1</sup> This situation is common in insurance, labor contracting, and the delegation of decisionmaking responsibility, to give a few examples. In these instances Pareto-optimal risk sharing is generally precluded, because it will not induce proper incentives for taking correct actions. Instead, only a second-best solution, which trades off some of the risk-sharing benefits for provision of incentives, can be achieved.

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*The role of imperfect information to moral hazard is considered. Information to improve on a characterization of the optimal*

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## Agency Problems and the Theory of the Firm

Eugene F. Fama

University of Chicago

20,000 citations

This paper attempts to explain how the separation of security ownership and control, typical of large corporations, can be an efficient form of economic organization. We first set aside the presumption that a corporation has owners in any meaningful sense. The entrepreneur is also laid to rest, at least for the purposes of the large modern corporation. The two functions usually attributed to the entrepreneur—management and risk bearing—are treated as naturally separate factors within the set of contracts called a firm. The firm is disciplined by competition from other firms, which forces the evolution of devices for efficiently monitoring the performance of the entire team and of its individual members. Individual participants in the firm, and in particular its managers, face both the discipline and opportunities provided by the markets for their services, both within and outside the firm.

Economists have long been concerned with the incentive problems that arise when decision making in a firm is the province of managers who are not the firm's security holders.<sup>1</sup> One outcome has been the development of "behavioral" and "managerial" theories of the firm which reject the classical model of an entrepreneur, or owner-

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## Performance Pay and Top-Management Incentives

Michael C. Jensen

Harvard University

11,000 citations

Kevin J. Murphy

University of Rochester

Our estimates of the pay-performance relation (including pay, options, stockholdings, and dismissal) for chief executive officers indicate that CEO wealth changes \$3.25 for every \$1,000 change in shareholder wealth. Although the incentives generated by stock ownership are large relative to pay and dismissal incentives, most CEOs hold trivial fractions of their firms' stock, and ownership levels have declined over the past 50 years. We hypothesize that public and private political forces impose constraints that reduce the pay-performance sensitivity. Declines in both the pay-performance relation and the level of CEO pay since the 1930s are consistent with this hypothesis.

The conflict of interest between shareholders of a publicly owned corporation and the corporation's chief executive officer (CEO) is a

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Our estimates of the effects of performance pay on stockholder wealth indicate that CEO wealth is more sensitive to performance than is the level of stockholder wealth. This suggests that the performance hypothesis is not supported.

The conflict of interest between the corporation and the manager

Journal of Financial Economics 3 (1976) 305-360. © North-Holland Publishing Company

128,000 citations

## THEORY OF THE FIRM: MANAGERIAL BEHAVIOR, AGENCY COSTS AND OWNERSHIP STRUCTURE

Michael C. JENSEN and William H. MECKLING\*

University of Rochester, Rochester, NY 14627, U.S.A.

Received January 1976, revised version received July 1976

This paper integrates elements from the theory of agency, the theory of property rights and the theory of finance to develop a theory of the ownership structure of the firm. We define the concept of agency costs, show its relationship to the 'separation and control' issue, investigate the nature of the agency costs generated by the existence of debt and outside equity, demonstrate who bears these costs and why, and investigate the Pareto optimality of their existence. We also provide a new definition of the firm, and show how our analysis of the factors influencing the creation and issuance of debt and equity claims is a special case of the supply side of the completeness of markets problem.

The directors of such [joint-stock] companies, however, being the managers rather than the owners of the money, it cannot well be expected, that they should watch over it with the same anxious vigilance with which the partners in a private copartnership frequently watch over their own. Like the stewards of a rich man, they are apt to consider attention to small matters as not for their master's honour, and very easily give themselves a dispensation from having it. Negligence and profusion, therefore, must always prevail, more or less, in the management of the affairs of such a company.

Adam Smith, *The Wealth of Nations*, 1776, Cannan Edition (Modern Library, New York, 1937) p. 700.

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Bengt Holmström

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## Performance Pay and Top-Management Incentives

### AR ANNUAL REVIEWS

The role of moral information in character

#### 1. Introduction

■ It has been argued that individual incentives taken into account in compensation is common responsibility sharing, taking care of some of

## *Annual Review of Financial Economics*

# Conflicts of Interest in Asset Management and Advising

Chester S. Spatt

Tepper School of Business, Carnegie Mellon University, Pittsburgh, Pennsylvania 15213, USA;  
email: csatt@andrew.cmu.edu

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**But for researchers, effort is now observable!**

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# Ideal measure of effort



10 employees all worked  
4 days this week.  
**40 employee workdays.**

## Ideal measure of effort

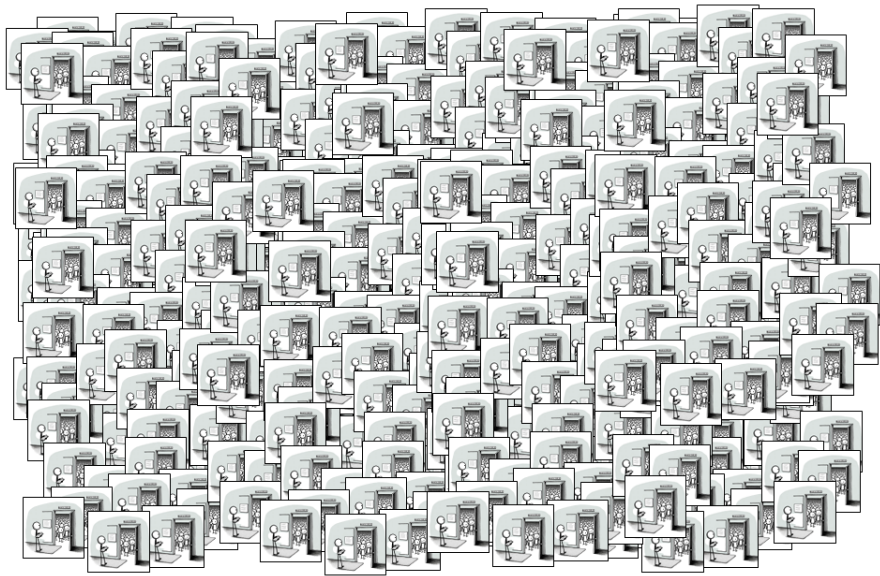


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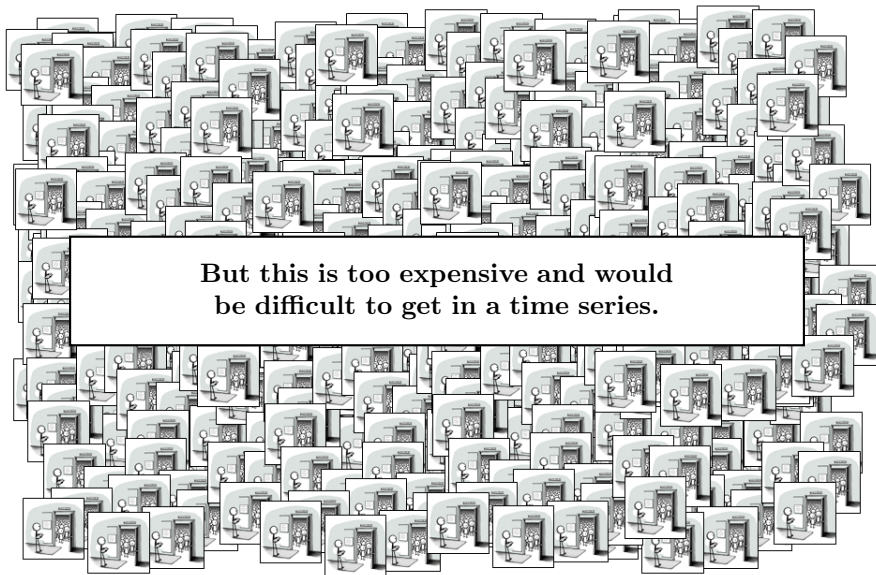


Most employees  
claimed they worked  
very hard this week.

# Ideal measure of effort



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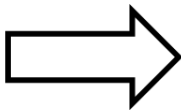


**But this is too expensive and would  
be difficult to get in a time series.**

# Our measure of effort

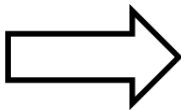


## Our measure of effort



We tie EDGAR usage to mutual funds and observe their day-to-day activity of viewing (requesting) filings.

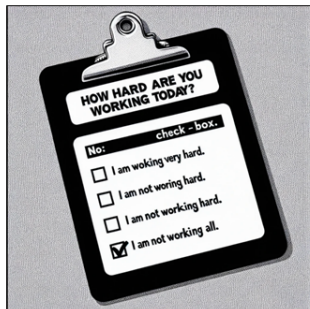
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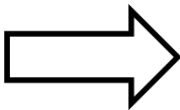
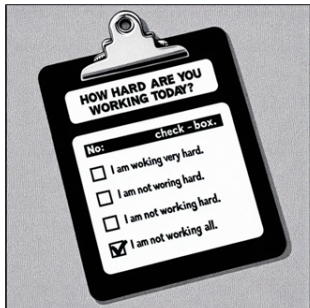
We tie EDGAR usage to mutual funds and observe their **day-to-day activity** of viewing (requesting) filings.

We aggregate usage at the advisor-level each month and define **TotalWDs** and **TotalReqs**.

# Our measure of effort

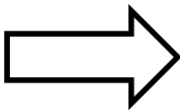
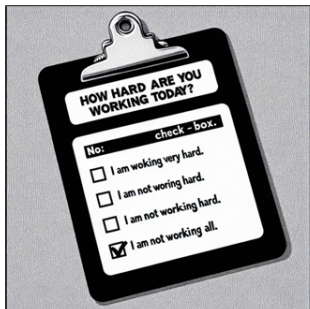


# Our measure of effort



For effort, we focus on weekends. Relatively how much work got done on weekends.

# Our measure of effort



For **effort**, we focus on weekends. Relatively how much work got done on weekends.

We define ***PctWk*** as the ratio of weekend work activities to total work activities over a month's time.

# Summary of Findings



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Large and expensive funds

Managers facing many  
competitive incentives

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Following outflows and  
increased tracking error

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More portfolio concen-  
tration and active share

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Managers facing many competitive incentives

Following outflows and increased tracking error

More portfolio concentration and active share

Effort leads to higher future returns

Especially for high active share, low turnover, and competitive funds

# Summary of Findings



Effort **CAUSES**  
higher future returns

Especially for high active share, low turnover, and competitive funds

Large and expensive funds

Managers facing many competitive incentives

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# Summary of Findings



Effort **CAUSES**  
higher future returns

Especially for high active share, low turnover, and competitive funds

Large and expensive funds

Managers facing many competitive incentives

Following outflows and increased tracking error

More portfolio concentration and active share

Mechanism: Effort, information acquisition, and trading

# Outline

Data

Determinants of Effort

Outcomes of Effort

Effort and Performance

Causation

Mechanism

Conclusion

## The EDGAR Log Files

| ip address    | date      | cik        | accession            |
|---------------|-----------|------------|----------------------|
| 206.15.89.gjc | 4/25/2015 | 0001377013 | 0001193125-15-149828 |
| 206.15.89.gjc | 4/25/2015 | 0000017797 | 0001326160-15-000008 |
| 206.15.89.gjc | 4/26/2015 | 0001158172 | 0001158172-15-000051 |
| 206.15.89.gjc | 4/26/2015 | 0001326160 | 0001193125-09-041096 |
| 206.15.89.aba | 4/25/2015 | 0001053112 | 0000950123-07-013889 |
| 206.15.89.aba | 4/25/2015 | 0000784681 | 0001628280-15-001010 |
| 206.15.89.aba | 4/26/2015 | 0000101830 | 0000101830-15-000005 |
| 206.15.89.aba | 4/26/2015 | 0001170565 | 0001193125-15-323840 |

The log files show **who** is looking at **whom**. We can also see **when** and **what** they are looking at.

## The EDGAR Log Files

| Mutual Fund IP           | Date      | Firm                 | Filing  |
|--------------------------|-----------|----------------------|---------|
| Dodge & Cox <sub>1</sub> | 4/25/2015 | Time Warner Cable    | 10-K    |
| Dodge & Cox <sub>1</sub> | 4/25/2015 | Duke Energy Florida  | 10-K    |
| Dodge & Cox <sub>1</sub> | 4/26/2015 | Comscore Inc.        | 10-Q    |
| Dodge & Cox <sub>1</sub> | 4/26/2015 | Duke Energy          | 10-K    |
| Dodge & Cox <sub>2</sub> | 4/25/2015 | Cable Vision Systems | DEFA14A |
| Dodge & Cox <sub>2</sub> | 4/26/2015 | Sprint Corp.         | 10-Q    |
| Dodge & Cox <sub>2</sub> | 4/26/2015 | Weatherford Inter.   | 424B2   |

This is especially true when we link IP addresses to [mutual funds](#) and ciks to [firms](#).

But in this project, we mostly care about the [advisory firms](#) (fund families) and the [dates](#).

## The EDGAR Log Files

| Advisory Firm | Date      | Work Days | Requests |
|---------------|-----------|-----------|----------|
| Dodge & Cox   | 4/25/2015 | 2         | 3        |
| Dodge & Cox   | 4/26/2015 | 2         | 4        |

On April 25<sup>th</sup>, Dodge & Cox had **2** computers come in to work, and in total there were **3** requests made.

On April 26<sup>th</sup>, Dodge & Cox had **2** computers come in to work, and in total there were **4** requests made.

## The EDGAR Log Files

| Advisory Firm | Date      | Work Days | Requests |
|---------------|-----------|-----------|----------|
| Dodge & Cox   | 4/25/2015 | 2         | 3        |
| Dodge & Cox   | 4/26/2015 | 2         | 4        |

We aggregate this activity for each advisory firm at the monthly level and pay particular attention to **weekends and holidays**.

| Advisory Firm | Month | TotWD | TotReq | PctWkWD | PctWkReq |
|---------------|-------|-------|--------|---------|----------|
| Dodge & Cox   | 4-15  | 16    | 227    | 25.0    | 11.5     |
| Dodge & Cox   | 5-15  | 13    | 141    | 30.8    | 12.8     |
| Golub Group   | 5-16  | 31    | 100    | 6.5     | 2.0      |
| Golub Group   | 6-16  | 37    | 197    | 2.7     | 1.0      |

The dataset is a panel of Advisor-by-Month observations for 115 advisory firms from 2010 through June 2017.

# Data: Summary Statistics

*Summary of the Panel (Advisor-by-Month Observations)*

| Variable  | Mean  | Std. Dev. | Skewness | Percentile       |                  |                  |
|-----------|-------|-----------|----------|------------------|------------------|------------------|
|           |       |           |          | 25 <sup>th</sup> | 50 <sup>th</sup> | 75 <sup>th</sup> |
| TotalWDs  | 125   | 252       | 4.61     | 21               | 39               | 131              |
| PctWkWDs  | 0.10  | 0.10      | 1.43     | 0.01             | 0.08             | 0.16             |
| TotalReqs | 4,200 | 10,181    | 4.38     | 205              | 923              | 3,546            |
| PctWkReqs | 0.05  | 0.12      | 4.84     | 0.00             | 0.02             | 0.05             |
| PctWk     | 0.08  | 0.10      | 2.95     | 0.01             | 0.05             | 0.11             |

Weekends make up 30% of all days, but only up to 10% of total workdays and 5% of total requests.

# Data: Summary Statistics

*Summary of the Panel (Advisor-by-Month Observations)*

| Variable  | Mean  | Std. Dev. | Skewness | Percentile       |                  |                  |
|-----------|-------|-----------|----------|------------------|------------------|------------------|
|           |       |           |          | 25 <sup>th</sup> | 50 <sup>th</sup> | 75 <sup>th</sup> |
| TotalWDs  | 125   | 252       | 4.61     | 21               | 39               | 131              |
| PctWkWDs  | 0.10  | 0.10      | 1.43     | 0.01             | 0.08             | 0.16             |
| TotalReqs | 4,200 | 10,181    | 4.38     | 205              | 923              | 3,546            |
| PctWkReqs | 0.05  | 0.12      | 4.84     | 0.00             | 0.02             | 0.05             |
| PctWk     | 0.08  | 0.10      | 2.95     | 0.01             | 0.05             | 0.11             |

*Principal Component Analysis in the Panel*

| Variable                | Factor 1 | Factor 2 |
|-------------------------|----------|----------|
| TotalWDs                | 0.84     | -0.46    |
| TotalReqs               | 0.87     | -0.42    |
| PctWkWDs                | 0.67     | 0.59     |
| PctWkReqs               | 0.45     | 0.79     |
| Eigenvalues             | 2.12     | 1.36     |
| Proportion of Variation | 0.53     | 0.34     |

PctWk is our preferred variable (the average).

# Data: Other Sources

## CRSP Survivorship Bias-Free Mutual Funds Database

- Names, returns, total net assets under management, turnover, active share, expenses (exratio), fund flows, etc.

## SEC N-SAR Filings

- Hand collected data and computed advisor-year level measures of *cooperative* and *competitive* incentives faced by fund managers. (Evans, Prado, and Zambrana (2020))
- The incentive measures are based on:
  - Team versus individually managed funds.
  - Manager ownership.
  - Manager compensation.
- **Competitive** as a variable is the difference between the competitive and cooperative incentive measures.

# Data: Other Sources

*Summary of Advisor-by-Month Observations*

| Variable                 | Mean    | Std. Dev. | Median | N     |
|--------------------------|---------|-----------|--------|-------|
| Funds                    | 56      | 57        | 40     | 5,631 |
| TNAM ( <i>millions</i> ) | 130,000 | 319,000   | 41,000 | 5,631 |
| HHI                      | 1.75    | 0.64      | 1.66   | 4,927 |
| Expenses                 | 1.13    | 0.32      | 1.17   | 5,632 |
| Turnover                 | 52      | 31        | 46     | 5,632 |
| ActiveShare              | 77      | 10        | 77     | 5,631 |
| PctNetFlow               | 0.01    | 1.11      | 0.06   | 5,631 |
| Alpha                    | -0.78   | 1.92      | -0.71  | 4,957 |
| TrackError               | 0.92    | 0.34      | 0.87   | 4,957 |

*Comparison of Sample versus Universe of Mutual Funds*

| Variable                                 | Sample       | Universe     |
|------------------------------------------|--------------|--------------|
| No. of Investment Advisors               | 115          | 614          |
| No. of Funds                             | 1,408        | 2,922        |
| Total Net AUM ( <i>millions</i> )        | \$10,818,135 | \$16,134,532 |
| Mean Advisor Net AUM ( <i>millions</i> ) | \$99,249     | \$26,891     |
| Pct. Of Large Cap Categories             | 57%          | 55%          |
| Mean Alpha                               | -0.10%       | -0.11%       |
| Mean Morningstar Stars                   | 3.41         | 3.30         |

# Determinants of Effort

$$PctWk_{ijt} = \alpha + \beta X_{ijt} + \gamma TotalWDs_{ijt} + \epsilon_{ijt}$$

Independent Variables of Interest:

- TNAM              Expenses              Competitive              HHI
- ActiveShare      PctNetFlow      Alpha              TrackError      Turnover

Style and time fixed effects are used for all specifications.

Also use advisor fixed effects in some specifications.

Include *TotalWDs* to control for general work activity.

Using a time fixed effect and controlling for *TotalWDs* allows us to interpret *PctWk* as a measure of effort.

Last Note:

- There are many  $PctWk = 0$  observations, so we show the results while both including and excluding those observations, and while excluding advisory firms that rarely use EDGAR, and look for consistency in the coefficient estimates.

# Determinants of Effort

$$PctWk_{ijt} = \alpha + \beta X_{ijt} + \gamma TotalWDs_{ijt} + \epsilon_{ijt}$$

Independent Variables of Interest:

- TNAM                      Expenses                      Competitive                      HHI
- ActiveShare              PctNetFlow              Alpha                      TrackError              Turnover

Style and time fixed effects are used for all specifications.

Also use advisor fixed effects in some specifications.

Include *TotalWDs* to control for general work activity.

Using a time fixed effect and controlling for *TotalWDs* allows us to interpret *PctWk* as a measure of effort.

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- There are many  $PctWk = 0$  observations, so we show the results while both including and excluding those observations, and while excluding advisory firms that rarely use EDGAR, and look for consistency in the coefficient estimates.

# Determinants of Effort

$$PctWk_{ijt} = \alpha + \beta X_{ijt} + \gamma TotalW Ds_{ijt} + \epsilon_{ijt}$$

Independent Variables of Interest:

- TNAM                      Expenses                      Competitive                      HHI
- ActiveShare              PctNetFlow              Alpha                      TrackError              Turnover

Style and time fixed effects are used for all specifications.

Also use advisor fixed effects in some specifications.

Include *TotalW Ds* to control for general work activity.

Using a time fixed effect and controlling for *TotalW Ds* allows us to interpret *PctWk* as a measure of effort.

Last Note:

- There are many  $PctWk = 0$  observations, so we show the results while both including and excluding those observations, and while excluding advisory firms that rarely use EDGAR, and look for consistency in the coefficient estimates.

# Determinants of Effort

$$PctWk_{ijt} = \alpha + \beta X_{ijt} + \gamma TotalW Ds_{ijt} + \epsilon_{ijt}$$

Independent Variables of Interest:

- TNAM              Expenses              Competitive              HHI
- ActiveShare      PctNetFlow              Alpha              TrackError              Turnover

Style and time fixed effects are used for all specifications.

Also use advisor fixed effects in some specifications

Include *TotalWDs* to control for general work activity.

Using a time fixed effect and controlling for *TotalWDs* allows us to interpret *PctWk* as a measure of effort.

Last Note:

- There are many  $PctWk = 0$  observations, so we show the results while both including and excluding those observations, and while excluding advisory firms that rarely use EDGAR, and look for consistency in the coefficient estimates.

# Determinants of Effort: Across Advisory Firms

|                | All Obs.           | PctWk > 0          | MedWk > 1          |
|----------------|--------------------|--------------------|--------------------|
|                | PctWk              | PctWk              | PctWk              |
| TNAM           | 0.17***<br>(0.03)  | 0.16***<br>(0.03)  | 0.14***<br>(0.03)  |
| Expenses       | 2.41***<br>(0.25)  | 2.91***<br>(0.26)  | 3.34***<br>(0.27)  |
| Competitive    | 10.33***<br>(0.65) | 11.90***<br>(0.74) | 13.76***<br>(0.73) |
| HHI            | 0.01<br>(0.09)     | -0.05<br>(0.09)    | -0.21**<br>(0.10)  |
| Turnover       | 0.16***<br>(0.06)  | 0.16***<br>(0.06)  | 0.17***<br>(0.07)  |
| ActiveShare    | -0.05***<br>(0.01) | -0.04***<br>(0.01) | -0.05***<br>(0.01) |
| PctNetFlow     | 1.91<br>(1.93)     | 2.94<br>(2.05)     | 3.25<br>(2.00)     |
| Alpha          | 0.02<br>(0.02)     | 0.02<br>(0.02)     | -0.01<br>(0.02)    |
| TrackError     | -0.39***<br>(0.11) | -0.52***<br>(0.11) | -0.63***<br>(0.11) |
| N              | 23,937             | 20,367             | 18,634             |
| R <sup>2</sup> | 0.39               | 0.34               | 0.40               |
| Time FE        | Y                  | Y                  | Y                  |
| Advisor FE     | N                  | N                  | N                  |

# Determinants of Effort: Across Advisory Firms

|                | All Obs.           | PctWk > 0          | MedWk > 1          |
|----------------|--------------------|--------------------|--------------------|
|                | PctWk              | PctWk              | PctWk              |
| TNAM           | 0.17***<br>(0.03)  | 0.16***<br>(0.03)  | 0.14***<br>(0.03)  |
| Expenses       | 2.41***<br>(0.25)  | 2.91***<br>(0.26)  | 3.34***<br>(0.27)  |
| Competitive    | 10.33***<br>(0.65) | 11.90***<br>(0.74) | 13.76***<br>(0.73) |
| HHI            | 0.01<br>(0.09)     | -0.05<br>(0.09)    | -0.21**<br>(0.10)  |
| Turnover       | 0.16***<br>(0.06)  | 0.16***<br>(0.06)  | 0.17***<br>(0.07)  |
| ActiveShare    | -0.05***<br>(0.01) | -0.04***<br>(0.01) | -0.05***<br>(0.01) |
| PctNetFlow     | 1.91<br>(1.93)     | 2.94<br>(2.05)     | 3.25<br>(2.00)     |
| Alpha          | 0.02<br>(0.02)     | 0.02<br>(0.02)     | -0.01<br>(0.02)    |
| TrackError     | -0.39***<br>(0.11) | -0.52***<br>(0.11) | -0.63***<br>(0.11) |
| N              | 23,937             | 20,367             | 18,634             |
| R <sup>2</sup> | 0.39               | 0.34               | 0.40               |
| Time FE        | Y                  | Y                  | Y                  |
| Advisor FE     | N                  | N                  | N                  |

**Larger funds exert more effort**

# Determinants of Effort: Across Advisory Firms

|                | All Obs.           | PctWk > 0          | MedWk > 1          |                                   |
|----------------|--------------------|--------------------|--------------------|-----------------------------------|
|                | PctWk              | PctWk              | PctWk              |                                   |
| TNAM           | 0.17***<br>(0.03)  | 0.16***<br>(0.03)  | 0.14***<br>(0.03)  | Larger funds exert more effort    |
| Expenses       | 2.41***<br>(0.25)  | 2.91***<br>(0.26)  | 3.34***<br>(0.27)  | Expensive funds exert more effort |
| Competitive    | 10.33***<br>(0.65) | 11.90***<br>(0.74) | 13.76***<br>(0.73) |                                   |
| HHI            | 0.01<br>(0.09)     | -0.05<br>(0.09)    | -0.21**<br>(0.10)  |                                   |
| Turnover       | 0.16***<br>(0.06)  | 0.16***<br>(0.06)  | 0.17***<br>(0.07)  |                                   |
| ActiveShare    | -0.05***<br>(0.01) | -0.04***<br>(0.01) | -0.05***<br>(0.01) |                                   |
| PctNetFlow     | 1.91<br>(1.93)     | 2.94<br>(2.05)     | 3.25<br>(2.00)     |                                   |
| Alpha          | 0.02<br>(0.02)     | 0.02<br>(0.02)     | -0.01<br>(0.02)    |                                   |
| TrackError     | -0.39***<br>(0.11) | -0.52***<br>(0.11) | -0.63***<br>(0.11) |                                   |
| N              | 23,937             | 20,367             | 18,634             |                                   |
| R <sup>2</sup> | 0.39               | 0.34               | 0.40               |                                   |
| Time FE        | Y                  | Y                  | Y                  |                                   |
| Advisor FE     | N                  | N                  | N                  |                                   |

# Determinants of Effort: Across Advisory Firms

|                | All Obs.           | PctWk > 0          | MedWk > 1          |                                     |
|----------------|--------------------|--------------------|--------------------|-------------------------------------|
|                | PctWk              | PctWk              | PctWk              |                                     |
| TNAM           | 0.17***<br>(0.03)  | 0.16***<br>(0.03)  | 0.14***<br>(0.03)  | Larger funds exert more effort      |
| Expenses       | 2.41***<br>(0.25)  | 2.91***<br>(0.26)  | 3.34***<br>(0.27)  | Expensive funds exert more effort   |
| Competitive    | 10.33***<br>(0.65) | 11.90***<br>(0.74) | 13.76***<br>(0.73) | Competitive funds exert more effort |
| HHI            | 0.01<br>(0.09)     | -0.05<br>(0.09)    | -0.21**<br>(0.10)  |                                     |
| Turnover       | 0.16***<br>(0.06)  | 0.16***<br>(0.06)  | 0.17***<br>(0.07)  |                                     |
| ActiveShare    | -0.05***<br>(0.01) | -0.04***<br>(0.01) | -0.05***<br>(0.01) |                                     |
| PctNetFlow     | 1.91<br>(1.93)     | 2.94<br>(2.05)     | 3.25<br>(2.00)     |                                     |
| Alpha          | 0.02<br>(0.02)     | 0.02<br>(0.02)     | -0.01<br>(0.02)    |                                     |
| TrackError     | -0.39***<br>(0.11) | -0.52***<br>(0.11) | -0.63***<br>(0.11) |                                     |
| N              | 23,937             | 20,367             | 18,634             |                                     |
| R <sup>2</sup> | 0.39               | 0.34               | 0.40               |                                     |
| Time FE        | Y                  | Y                  | Y                  |                                     |
| Advisor FE     | N                  | N                  | N                  |                                     |

# Determinants of Effort: Across Advisory Firms

|                | All Obs.           | PctWk > 0          | MedWk > 1          |                                     |
|----------------|--------------------|--------------------|--------------------|-------------------------------------|
|                | PctWk              | PctWk              | PctWk              |                                     |
| TNAM           | 0.17***<br>(0.03)  | 0.16***<br>(0.03)  | 0.14***<br>(0.03)  | Larger funds exert more effort      |
| Expenses       | 2.41***<br>(0.25)  | 2.91***<br>(0.26)  | 3.34***<br>(0.27)  | Expensive funds exert more effort   |
| Competitive    | 10.33***<br>(0.65) | 11.90***<br>(0.74) | 13.76***<br>(0.73) | Competitive funds exert more effort |
| HHI            | 0.01<br>(0.09)     | -0.05<br>(0.09)    | -0.21**<br>(0.10)  |                                     |
| Turnover       | 0.16***<br>(0.06)  | 0.16***<br>(0.06)  | 0.17***<br>(0.07)  |                                     |
| ActiveShare    | -0.05***<br>(0.01) | -0.04***<br>(0.01) | -0.05***<br>(0.01) |                                     |
| PctNetFlow     | 1.91<br>(1.93)     | 2.94<br>(2.05)     | 3.25<br>(2.00)     |                                     |
| Alpha          | 0.02<br>(0.02)     | 0.02<br>(0.02)     | -0.01<br>(0.02)    |                                     |
| TrackError     | -0.39***<br>(0.11) | -0.52***<br>(0.11) | -0.63***<br>(0.11) | Less Tracking Error                 |
| N              | 23,937             | 20,367             | 18,634             |                                     |
| R <sup>2</sup> | 0.39               | 0.34               | 0.40               |                                     |
| Time FE        | Y                  | Y                  | Y                  |                                     |
| Advisor FE     | N                  | N                  | N                  |                                     |

# Determinants of Effort: *Within* Advisory Firms

|                | All Obs.          | PctWk > 0          | MedWk > 1         |
|----------------|-------------------|--------------------|-------------------|
|                | PctWk             | PctWk              | PctWk             |
| TNAM           | 0.01<br>(0.01)    | 0.01<br>(0.01)     | 0.02**<br>(0.01)  |
| Expenses       | -0.05<br>(0.08)   | 0.03<br>(0.08)     | -0.03<br>(0.08)   |
| Competitive    | 0.42<br>(1.50)    | 0.97<br>(1.60)     | 0.91<br>(1.64)    |
| HHI            | 0.12***<br>(0.05) | 0.15***<br>(0.04)  | 0.15***<br>(0.04) |
| Turnover       | -0.01<br>(0.03)   | -0.02<br>(0.03)    | 0.01<br>(0.03)    |
| ActiveShare    | -0.01**<br>(0.00) | -0.01***<br>(0.00) | -0.01**<br>(0.00) |
| PctNetFlow     | -2.15*<br>(1.11)  | -2.36**<br>(1.13)  | -2.04*<br>(1.08)  |
| Alpha          | -0.03**<br>(0.01) | -0.01<br>(0.01)    | -0.02**<br>(0.01) |
| TrackError     | 0.14**<br>(0.06)  | 0.11*<br>(0.06)    | 0.11*<br>(0.06)   |
| N              | 23,937            | 20,367             | 18,634            |
| R <sup>2</sup> | 0.71              | 0.72               | 0.74              |
| Time FE        | Y                 | Y                  | Y                 |
| Advisor FE     | Y                 | Y                  | Y                 |

# Determinants of Effort: *Within* Advisory Firms

|                | All Obs.          | PctWk > 0          | MedWk > 1         |                              |
|----------------|-------------------|--------------------|-------------------|------------------------------|
|                | PctWk             | PctWk              | PctWk             |                              |
| TNAM           | 0.01<br>(0.01)    | 0.01<br>(0.01)     | 0.02**<br>(0.01)  |                              |
| Expenses       | -0.05<br>(0.08)   | 0.03<br>(0.08)     | -0.03<br>(0.08)   |                              |
| Competitive    | 0.42<br>(1.50)    | 0.97<br>(1.60)     | 0.91<br>(1.64)    |                              |
| HHI            | 0.12***<br>(0.05) | 0.15***<br>(0.04)  | 0.15***<br>(0.04) |                              |
| Turnover       | -0.01<br>(0.03)   | -0.02<br>(0.03)    | 0.01<br>(0.03)    |                              |
| ActiveShare    | -0.01**<br>(0.00) | -0.01***<br>(0.00) | -0.01**<br>(0.00) |                              |
| PctNetFlow     | -2.15*<br>(1.11)  | -2.36**<br>(1.13)  | -2.04*<br>(1.08)  | <b>Effort after outflows</b> |
| Alpha          | -0.03**<br>(0.01) | -0.01<br>(0.01)    | -0.02**<br>(0.01) |                              |
| TrackError     | 0.14**<br>(0.06)  | 0.11*<br>(0.06)    | 0.11*<br>(0.06)   |                              |
| N              | 23,937            | 20,367             | 18,634            |                              |
| R <sup>2</sup> | 0.71              | 0.72               | 0.74              |                              |
| Time FE        | Y                 | Y                  | Y                 |                              |
| Advisor FE     | Y                 | Y                  | Y                 |                              |

# Determinants of Effort: *Within* Advisory Firms

|                | All Obs.          | PctWk > 0          | MedWk > 1         |                         |
|----------------|-------------------|--------------------|-------------------|-------------------------|
|                | PctWk             | PctWk              | PctWk             |                         |
| TNAM           | 0.01<br>(0.01)    | 0.01<br>(0.01)     | 0.02**<br>(0.01)  |                         |
| Expenses       | -0.05<br>(0.08)   | 0.03<br>(0.08)     | -0.03<br>(0.08)   |                         |
| Competitive    | 0.42<br>(1.50)    | 0.97<br>(1.60)     | 0.91<br>(1.64)    |                         |
| HHI            | 0.12***<br>(0.05) | 0.15***<br>(0.04)  | 0.15***<br>(0.04) |                         |
| Turnover       | -0.01<br>(0.03)   | -0.02<br>(0.03)    | 0.01<br>(0.03)    |                         |
| ActiveShare    | -0.01**<br>(0.00) | -0.01***<br>(0.00) | -0.01**<br>(0.00) |                         |
| PctNetFlow     | -2.15*<br>(1.11)  | -2.36**<br>(1.13)  | -2.04*<br>(1.08)  | Effort after outflows   |
| Alpha          | -0.03**<br>(0.01) | -0.01<br>(0.01)    | -0.02**<br>(0.01) |                         |
| TrackError     | 0.14**<br>(0.06)  | 0.11*<br>(0.06)    | 0.11*<br>(0.06)   | Effort after volatility |
| N              | 23,937            | 20,367             | 18,634            |                         |
| R <sup>2</sup> | 0.71              | 0.72               | 0.74              |                         |
| Time FE        | Y                 | Y                  | Y                 |                         |
| Advisor FE     | Y                 | Y                  | Y                 |                         |

# Determinants of Effort: *Within* Advisory Firms

|                | All Obs.          | PctWk > 0          | MedWk > 1         |                          |
|----------------|-------------------|--------------------|-------------------|--------------------------|
|                | PctWk             | PctWk              | PctWk             |                          |
| TNAM           | 0.01<br>(0.01)    | 0.01<br>(0.01)     | 0.02**<br>(0.01)  |                          |
| Expenses       | -0.05<br>(0.08)   | 0.03<br>(0.08)     | -0.03<br>(0.08)   |                          |
| Competitive    | 0.42<br>(1.50)    | 0.97<br>(1.60)     | 0.91<br>(1.64)    |                          |
| HHI            | 0.12***<br>(0.05) | 0.15***<br>(0.04)  | 0.15***<br>(0.04) |                          |
| Turnover       | -0.01<br>(0.03)   | -0.02<br>(0.03)    | 0.01<br>(0.03)    |                          |
| ActiveShare    | -0.01**<br>(0.00) | -0.01***<br>(0.00) | -0.01**<br>(0.00) |                          |
| PctNetFlow     | -2.15*<br>(1.11)  | -2.36**<br>(1.13)  | -2.04*<br>(1.08)  | Effort after outflows    |
| Alpha          | -0.03**<br>(0.01) | -0.01<br>(0.01)    | -0.02**<br>(0.01) | Effort after low returns |
| TrackError     | 0.14**<br>(0.06)  | 0.11*<br>(0.06)    | 0.11*<br>(0.06)   | Effort after volatility  |
| N              | 23,937            | 20,367             | 18,634            |                          |
| R <sup>2</sup> | 0.71              | 0.72               | 0.74              |                          |
| Time FE        | Y                 | Y                  | Y                 |                          |
| Advisor FE     | Y                 | Y                  | Y                 |                          |

# Determinants of Effort: Within Advisory Firms

All Obs.

PctWk > 0

MedWk > 1

**Outflows before increased effort?**

**or**

**Inflows before decreased effort?**

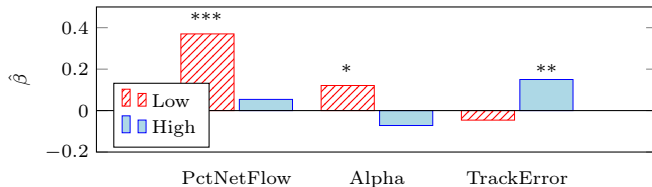
|                |                   |                    |                   |                         |
|----------------|-------------------|--------------------|-------------------|-------------------------|
| ActiveShare    | -0.01**<br>(0.00) | -0.01***<br>(0.00) | -0.01**<br>(0.00) | Effort after outflows   |
| PctNetFlow     | -2.15*<br>(1.11)  | -2.36**<br>(1.13)  | -2.04*<br>(1.08)  |                         |
| Alpha          | -0.03**<br>(0.01) | -0.01<br>(0.01)    | -0.02**<br>(0.01) |                         |
| TrackError     | 0.14**<br>(0.06)  | 0.11*<br>(0.06)    | 0.11*<br>(0.06)   | Effort after volatility |
| N              | 23,937            | 20,367             | 18,634            |                         |
| R <sup>2</sup> | 0.71              | 0.72               | 0.74              |                         |
| Time FE        | Y                 | Y                  | Y                 |                         |
| Advisor FE     | Y                 | Y                  | Y                 |                         |

## Determinants of Effort: Within Advisory Firms

**Bad performance spurs effort!**

**NOT**

**Good performance means time off.**



# Outcomes of Effort

$$Y_{ijt} = \alpha + \beta PctWk_{ijt-k} + \gamma TotalWDs_{ijt-k} + \delta Z_{ijt-k} + \epsilon_{ijt}$$

Dependent Variables of *Most* Interest:

- HHI    Turnover    ActiveShare

Style, time, and advisor fixed effects are used for all specifications.

$k \in \{3, 12\}$  means we lag independent variables 3 months or 1 year.

Include *TotalWDs* to control for general work activity.

Using a time fixed effect and controlling for *TotalWDs* allows us to interpret *PctWk* as a measure of effort.

- E.g., How does an increase in effort (*PctWk*) several months ago relate to changes in portfolio concentration or active share?

# Outcomes of Effort

$$\boxed{Y_{ijt}} = \alpha + \beta PctWk_{ijt-k} + \gamma TotalWDs_{ijt-k} + \delta Z_{ijt-k} + \epsilon_{ijt}$$

Dependent Variables of *Most* Interest:

- HHI    Turnover    ActiveShare

Style, time, and advisor fixed effects are used for all specifications.

$k \in \{3, 12\}$  means we lag independent variables 3 months or 1 year.

Include *TotalWDs* to control for general work activity.

Using a time fixed effect and controlling for *TotalWDs* allows us to interpret *PctWk* as a measure of effort.

- E.g., How does an increase in effort (*PctWk*) several months ago relate to changes in portfolio concentration or active share?

# Outcomes of Effort

$$Y_{ijt} = \alpha + \beta PctWk_{ijt-k} + \gamma TotalWDs_{ijt-k} + \delta Z_{ijt-k} + \epsilon_{ijt}$$

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# Outcomes of Effort: Results

|                       | HHI    |        | Turnover |         | ActiveShare |         |
|-----------------------|--------|--------|----------|---------|-------------|---------|
| PctWk <sub>t-3</sub>  | 0.16** |        | -0.29*** |         | 0.53        |         |
|                       | (0.07) |        | (0.10)   |         | (0.88)      |         |
| PctWk <sub>t-12</sub> |        | 0.18** |          | -0.28** |             | 3.76*** |
|                       |        | (0.07) |          | (0.11)  |             | (0.95)  |
| N                     | 23,713 | 20,865 | 25,492   | 20,990  | 25,564      | 21,059  |
| R <sup>2</sup>        | 0.53   | 0.53   | 0.27     | 0.27    | 0.66        | 0.65    |

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**More Effort More Concentration**

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More Effort More Concentration

More Effort Less Turnover

More Effort More ActiveShare

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More Effort More Concentration

More Effort Less Turnover

More Effort More ActiveShare

These relations are primarily driven by **High Effort**

# Effort and Performance

$$Alpha_{ijt+k} = \alpha + \beta PctWk_{ijt} + \gamma TotalWDS_{ijt} + \delta V_{ijt} + \epsilon_{ijt}$$

Dependent Variable: Alpha as benchmark-adjusted return.

- We use compound benchmark-adjusted returns over the six months beginning at month  $t + k$  for  $k \in \{1, 7, 13\}$ .
- We expect that it takes time for effort to influence returns, so we are most interested in the returns further out in time.

Style, time, and advisor fixed effects are used for all specifications.

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# Effort and Performance: Results

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| <i>All Observations.</i> |                    |                    |                     |
|--------------------------|--------------------|--------------------|---------------------|
|                          | Alpha <sub>1</sub> | Alpha <sub>7</sub> | Alpha <sub>13</sub> |
| PctWk                    | -1.25*<br>(0.68)   | -0.78<br>(0.61)    | 2.05***<br>(0.69)   |
| N                        | 25,257             | 25,357             | 25,513              |
| R <sup>2</sup>           | 0.13               | 0.12               | 0.12                |

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| <i>Observations where PctWk &gt; 0.</i> |                    |                    |                     |
|-----------------------------------------|--------------------|--------------------|---------------------|
|                                         | Alpha <sub>1</sub> | Alpha <sub>7</sub> | Alpha <sub>13</sub> |
| PctWk                                   | -1.00<br>(0.78)    | -1.52**<br>(0.73)  | 1.69**<br>(0.79)    |
| N                                       | 21,137             | 21,125             | 21,185              |
| R <sup>2</sup>                          | 0.13               | 0.13               | 0.13                |

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| <i>Observations where MedWk &gt; 1.</i> |                    |                    |                     |
|-----------------------------------------|--------------------|--------------------|---------------------|
|                                         | Alpha <sub>1</sub> | Alpha <sub>7</sub> | Alpha <sub>13</sub> |
| PctWk                                   | -1.74**<br>(0.77)  | -1.01<br>(0.77)    | 1.70**<br>(0.73)    |
| N                                       | 19,561             | 19,614             | 19,675              |
| R <sup>2</sup>                          | 0.13               | 0.12               | 0.13                |

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Returns are **HIGH** after a while

This is the **average effect** across all managers

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# Effort and Performance: Heterogeneous Results

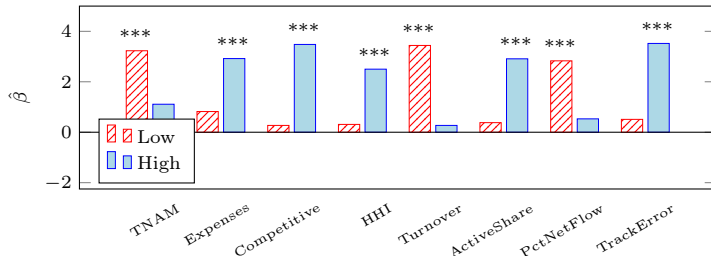
We may expect certain funds to see benefits from effort and other funds not to.

Funds with **LOW Turnover and TNAM** and with **HIGH Competitive, HHI, TrackError, and Active Share** are the advisory firms that see a large increase in alpha following increases in effort.

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| <i>Sample Split by E-Score.</i> |                                    |                           |                           |                                    |
|---------------------------------|------------------------------------|---------------------------|---------------------------|------------------------------------|
|                                 | <u>E-Score <math>\leq 2</math></u> | <u>E-Score = 3</u>        | <u>E-Score = 4</u>        | <u>E-Score <math>\geq 5</math></u> |
|                                 | <u>Alpha<sub>13</sub></u>          | <u>Alpha<sub>13</sub></u> | <u>Alpha<sub>13</sub></u> | <u>Alpha<sub>13</sub></u>          |
| PctWk                           | -1.19<br>(0.91)                    | -0.44<br>(0.97)           | 3.51***<br>(1.35)         | 6.06***<br>(1.23)                  |
| N                               | 6,337                              | 6,203                     | 5,182                     | 7,785                              |
| R <sup>2</sup>                  | 0.20                               | 0.17                      | 0.13                      | 0.12                               |

# Causation

The main concern is reverse causality. (Pastor et al. (2017))

- “Mutual funds trade more when they foresee more profitable future opportunities.”

We need exogenous variation in effort.

- Specifically, the **costs of effort**.

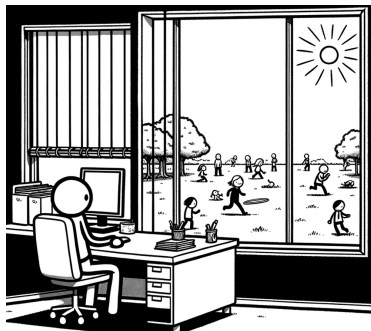
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Costly Effort

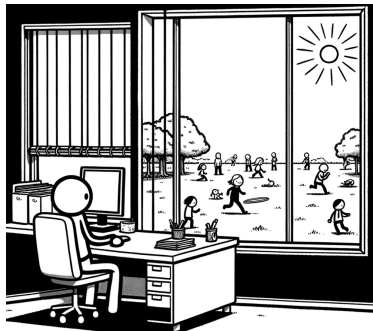
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Costly Effort



Easy Effort

# Causation: Results

|                           | First Stage       | Second Stage      |                   |                  |                   |
|---------------------------|-------------------|-------------------|-------------------|------------------|-------------------|
|                           |                   | High Competitive  |                   | E-Score $\geq 4$ |                   |
|                           | PctWkF            | Alpha             | FF4               | Alpha            | FF4               |
| $\widehat{\text{PctWkF}}$ |                   | 10.20**<br>(3.82) | 6.90***<br>(1.84) | 13.79<br>(12.82) | 8.23***<br>(2.06) |
| Rain                      | 0.04***<br>(0.01) |                   |                   |                  |                   |
| N                         | 12,347            | 7,024             | 5,660             | 5,758            | 4,836             |
| R <sup>2</sup>            | 0.75              | 0.14              | 0.18              | 0.19             | 0.24              |

# Causation: Results

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Relatively more rain on the week-ends increases the level of effort.

For the investment advisors that benefit from extra effort, more rain-induced effort results in higher returns in the future.

# Mechanism

How is effort a performance enhancer?

Our analysis is in three levels, all focusing on the information acquisition activities:

1. Is effort related to research activity?
2. Are mutual funds more likely to trade the stocks they have been researching, especially when they are exerting more effort?
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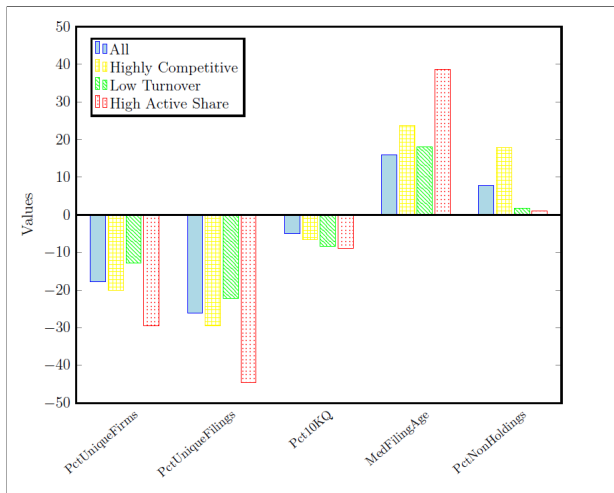
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3. Do effort- and research-driven trades outperform?

For the last two items the level of analysis will be at the **stock** level.

- $MFIA_{ijlt}$  is an indicator of some research activity from advisory firm  $i$  and fund  $j$  about firm  $l$  during month  $t$ .

# Mechanism: Results 1



*Deeper* information acquisition.

## Mechanism: Results 2

$$\begin{aligned}\Delta Position_{ijlt+3} = & \alpha + \beta_1 MFIA_{ijlt} + \beta_2 PctWk_{ijt} \\ & + \beta_3 MFIA_{ijlt} \times PctWk_{ijt} + \gamma X_{ijt} + \epsilon_{ijlt}\end{aligned}$$

Dependent Variable: Indicates position change from month  $t$  to  $t + 3$ .

- *Buy New Position* – purchased a new position.
- *Sold Entire Position* – sold out of a position.

Independent Variable of *Most* Interest: Interaction between research (*MFIA*) and effort (*PctWk*).

We estimate the model on all observations, the set of highly competitive advisory firms, and the set of funds with high E-Scores.

## Mechanism: Results 2

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## Mechanism: Results 2

|                | Buy New Position     |                     |                     |
|----------------|----------------------|---------------------|---------------------|
| PctWk          | -0.034***<br>(0.013) | -0.032*<br>(0.016)  | 0.014<br>(0.024)    |
| MFIA           | 0.009***<br>(0.002)  | 0.007***<br>(0.002) | 0.011***<br>(0.003) |
| MFIAXPctWk     | 0.007<br>(0.015)     | 0.034**<br>(0.017)  | 0.012<br>(0.031)    |
| N              | 9,380,095            | 5,603,908           | 1,037,289           |
| R <sup>2</sup> | 0.02                 | 0.02                | 0.04                |
| Sample         | All Obs.             | Competitive         | E-Score $\geq 4$    |

**Effort *AND* Information Acquisition  
together are *NOT* associated with  
increased likelihood of *BUYING*.**

## Mechanism: Results 2

|                | Buy New Position     |                     |                     |
|----------------|----------------------|---------------------|---------------------|
| PctWk          | -0.034***<br>(0.013) | -0.032*<br>(0.016)  | 0.014<br>(0.024)    |
| MFIA           | 0.009***<br>(0.002)  | 0.007***<br>(0.002) | 0.011***<br>(0.003) |
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| Sample         | All Obs.             | Competitive         | E-Score $\geq 4$    |

|                | Sold Entire Position |                    |                     |
|----------------|----------------------|--------------------|---------------------|
| PctWk          | 0.005<br>(0.030)     | -0.043<br>(0.043)  | 0.064<br>(0.064)    |
| MFIA           | -0.010***<br>(0.003) | -0.006*<br>(0.003) | -0.011**<br>(0.005) |
| MFIAXPctWk     | 0.094***<br>(0.029)  | 0.060*<br>(0.033)  | 0.098**<br>(0.041)  |
| N              | 3,851,872            | 2,318,627          | 527,322             |
| R <sup>2</sup> | 0.09                 | 0.09               | 0.11                |
| Sample         | All Obs.             | Competitive        | E-Score $\geq 4$    |

## Mechanism: Results 2

|                                                                                                                              | Buy New Position     |                     |                     |
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| PctWk                                                                                                                        | -0.034***<br>(0.013) | -0.032*<br>(0.016)  | 0.014<br>(0.024)    |
| MFIA                                                                                                                         | 0.009***<br>(0.002)  | 0.007***<br>(0.002) | 0.011***<br>(0.003) |
| MFIAXPctWk                                                                                                                   | 0.007<br>(0.015)     | 0.034**<br>(0.017)  | 0.012<br>(0.031)    |
| N                                                                                                                            | 9,380,095            | 5,603,908           | 1,037,289           |
| R <sup>2</sup>                                                                                                               | 0.02                 | 0.02                | 0.04                |
| <b>Effort <i>AND</i> Information Acquisition together <i>ARE</i> associated with increased likelihood of <i>SELLING</i>.</b> |                      |                     |                     |
| PctWk                                                                                                                        | 0.005<br>(0.030)     | -0.043<br>(0.043)   | 0.064<br>(0.064)    |
| MFIA                                                                                                                         | -0.010***<br>(0.003) | -0.006*<br>(0.003)  | -0.011**<br>(0.005) |
| MFIAXPctWk                                                                                                                   | 0.094***<br>(0.029)  | 0.060*<br>(0.033)   | 0.098**<br>(0.041)  |
| N                                                                                                                            | 3,851,872            | 2,318,627           | 527,322             |
| R <sup>2</sup>                                                                                                               | 0.09                 | 0.09                | 0.11                |
| Sample                                                                                                                       | All Obs.             | Competitive         | E-Score $\geq 4$    |

## Mechanism: Results 3

$$\begin{aligned} ExcessReturn_{ijlt+13} = & \alpha + \beta_1 MFIA_{ijlt} + \beta_2 PctWk_{ijt} \\ & + \beta_3 MFIA_{ijlt} \times PctWk_{ijt} + \gamma X_{ijlt} + \epsilon_{ijlt} \end{aligned}$$

Dependent Variable: Stock returns in excess of the portfolio benchmark from month  $t + 13$  to  $t + 18$ .

- We think of these as *excess returns* over the same period where effort mattered in our earlier tests.

Independent Variable of *Most* Interest: Interaction between research (*MFIA*) and effort (*PctWk*).

We estimate the model on all observations, the set of highly competitive advisory firms, and the set of funds with high E-Scores.

We also use subsamples based on New Positions and Sold Positions.

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## Mechanism: Results 3

|                | Returns to New Positions |             |                  |
|----------------|--------------------------|-------------|------------------|
| PctWk          | 2.09*                    | 1.64        | -1.99            |
|                | (1.19)                   | (2.09)      | (2.96)           |
| MFIA           | -0.19                    | -0.14       | 0.01             |
|                | (0.24)                   | (0.30)      | (0.52)           |
| MFIAXPctWk     | -2.47                    | -4.57       | 0.31             |
|                | (2.13)                   | (2.78)      | (4.48)           |
| N              | 831,817                  | 401,891     | 81,250           |
| R <sup>2</sup> | 0.20                     | 0.21        | 0.26             |
| Sample         | All Obs.                 | Competitive | E-Score $\geq 4$ |

No returns for New Positions

# Mechanism: Results 3

|                | Returns to New Positions |             |                  |
|----------------|--------------------------|-------------|------------------|
| PctWk          | 2.09*                    | 1.64        | -1.99            |
|                | (1.19)                   | (2.09)      | (2.96)           |
| MFIA           | -0.19                    | -0.14       | 0.01             |
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|                | (2.13)                   | (2.78)      | (4.48)           |
| N              | 831,817                  | 401,891     | 81,250           |
| R <sup>2</sup> | 0.20                     | 0.21        | 0.26             |
| Sample         | All Obs.                 | Competitive | E-Score $\geq 4$ |

|                | Returns to Sold Positions |             |                  |
|----------------|---------------------------|-------------|------------------|
| PctWk          | -0.61                     | 1.89        | 2.70             |
|                | (1.13)                    | (2.50)      | (3.32)           |
| MFIA           | -0.11                     | -0.01       | 1.02*            |
|                | (0.20)                    | (0.30)      | (0.53)           |
| MFIAXPctWk     | -1.26                     | -5.38**     | -9.11**          |
|                | (1.61)                    | (2.55)      | (4.44)           |
| N              | 858,203                   | 422,072     | 82,285           |
| R <sup>2</sup> | 0.21                      | 0.22        | 0.27             |
| Sample         | All Obs.                  | Competitive | E-Score $\geq 4$ |

## Mechanism: Results 3

|                                       | Returns to New Positions  |             |             |
|---------------------------------------|---------------------------|-------------|-------------|
| PctWk                                 | 2.09*                     | 1.64        | -1.99       |
|                                       | (1.19)                    | (2.09)      | (2.96)      |
| MFIA                                  | -0.19                     | -0.14       | 0.01        |
|                                       | (0.24)                    | (0.30)      | (0.52)      |
| MFIAXPctWk                            | -2.47                     | -4.57       | 0.31        |
|                                       | (2.13)                    | (2.78)      | (4.48)      |
| N                                     | 831,817                   | 401,891     | 81,250      |
| R <sup>2</sup>                        | 0.20                      | 0.21        | 0.26        |
| Sample                                | All Obs.                  | Competitive | E-Score > 4 |
| <b>Yes returns to Sold Positions.</b> |                           |             |             |
|                                       | Returns to Sold Positions |             |             |
| PctWk                                 | -0.61                     | 1.89        | 2.70        |
|                                       | (1.13)                    | (2.50)      | (3.32)      |
| MFIA                                  | -0.11                     | -0.01       | 1.02*       |
|                                       | (0.20)                    | (0.30)      | (0.53)      |
| MFIAXPctWk                            | -1.26                     | -5.38**     | -9.11**     |
|                                       | (1.61)                    | (2.55)      | (4.44)      |
| N                                     | 858,203                   | 422,072     | 82,285      |
| R <sup>2</sup>                        | 0.21                      | 0.22        | 0.27        |
| Sample                                | All Obs.                  | Competitive | E-Score ≥ 4 |

# Conclusion



# Conclusion



Effort **CAUSES**  
higher future returns

Especially for high active share, low turnover, and competitive funds

Large and expensive funds

Managers facing many competitive incentives

Following outflows and increased tracking error

More portfolio concentration and active share

Mechanism: Effort, information acquisition, and trading