Do Index Funds Monitor?

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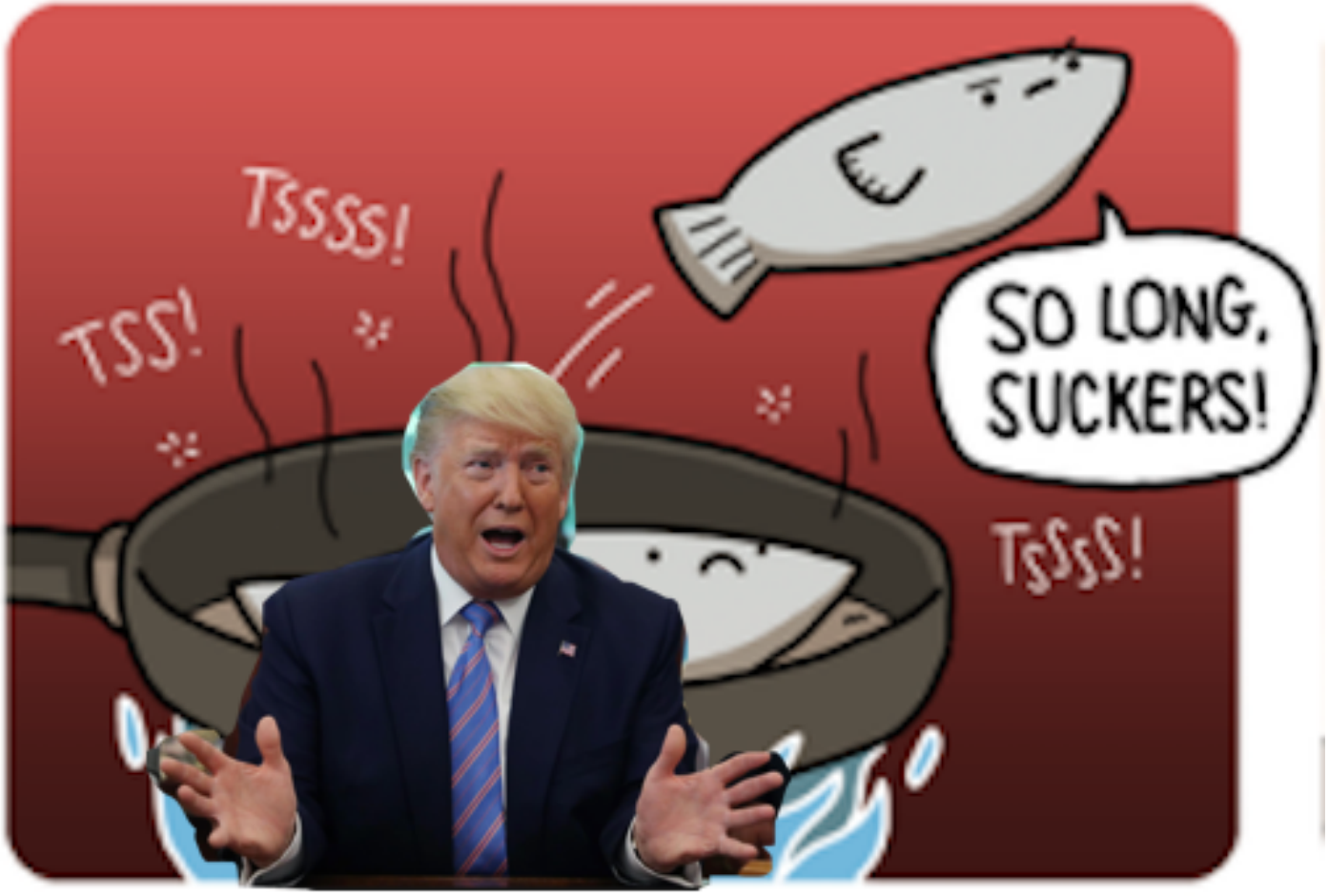
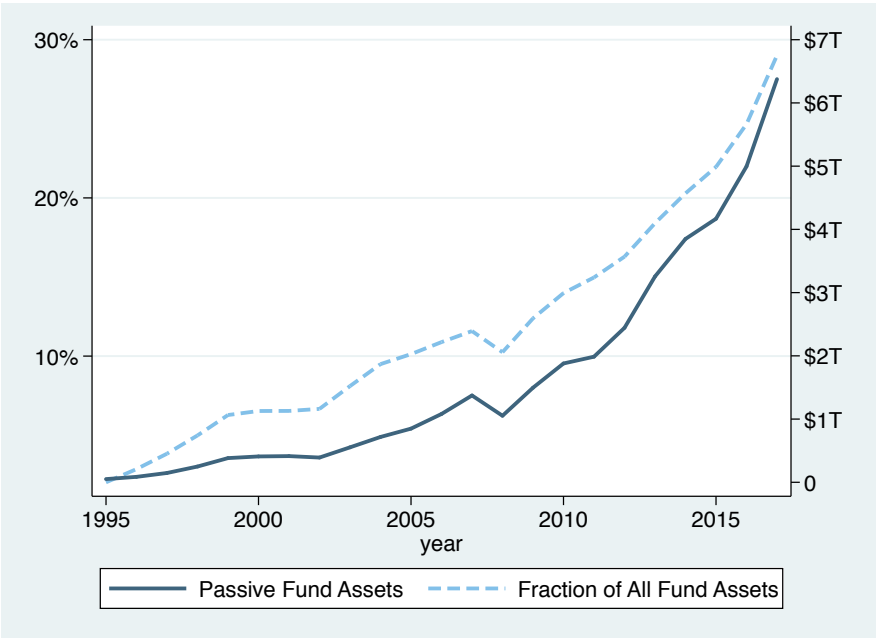

TSSSS!
TSS!
SO LONG, SUCKERS!
TSSSS!


OH. THIS IS MUCH WORSE.

The Rise of Passive Index Investing

- Active managers, on average, do not outperform
- As a result, capital in index funds has grown to $>$ \$6 trillion
- Passively managed index funds now own 30% of assets in U.S. mutual funds and ETFs
- **What is the impact on efficiency of firms and markets?**



Research Question: do index funds monitor portfolio firms?

Research Questions

1. To what extent do index funds monitor?
   - Do index funds monitor differently than active funds?
2. Does passive investing lead to increased agency costs?

- We examine the main governance mechanisms predicted by theory:
  1. Voting
  2. Exit
  3. (& also engagement)

Conceptual Framework: *Should* index funds monitor?

- Principal-agent theories argue that long term investors with large positions have strong incentives to monitor
  - Index funds are largest blockholders of most large U.S. corporations (Grossman-Hart 1980; Shleifer-Vishny 1986)
  - Since they can hardly exit – more incentive to monitor and use voice (Fisch et al 2018)

Conceptual Framework: *Should* index funds monitor?

- But index funds may have weak incentives to monitor:
  - Hold 1000s of stocks $\rightarrow$ limited resources *pro rata*
  - Unclear benefits from improving governance
  - Free-rider problem (Bebchuk et al. 2018)

Heated debate in the empirical literature

1. Boone & White (2015), Appel, Gormley & Keim (2016), Crane, Michenaud & Weston (2016), others:
   - More passive ownership → better governance
     - More independent directors, disclosure, dividends
     - Less poison pills, dual class shares
   - Index funds are "Closet Activists"
2. Schmidt & Fahlenbrach (2017), Brav, Jiang, and Li (2018):
   - More passive ownership → worse governance
     - Worse M&A
     - Negative returns on appointment of directors
   - Index funds side with managers in proxy contests

- **Who is right?**
- **How do these effects occur?**

Research Question: do index funds monitor portfolio firms?

Preview of Results

- We find index funds cede power to firm managers
  1. Significantly more likely to vote with managers
     - Index funds are 12.5 percentage points more likely to vote with managers compared to active funds
     - Across a wide range of vote categories
  2. Significantly less likely to exit
     - Index funds (surprisingly) do omit and exit index stocks
     - Unlike active funds, do not use exit to enforce good governance
  3. No evidence that they engage
     - Directly or indirectly

Data

- Data from CRSP, ISS, and Russell, 2003 to 2017

1. ISS data: 59,461,743 *individual* fund votes on 313,635 agenda items for 6,470 firms
2. We merge with the CRSP mutual fund database
   - 3,642 funds and 31,377 fund-years with equity focus and $>$ \$10m in AUM
   - "Index funds" are those with fund flag "D" (both open-ended mutual funds and ETFs)
   - "Active funds" are all others

Identifying the Effect of Index Investing

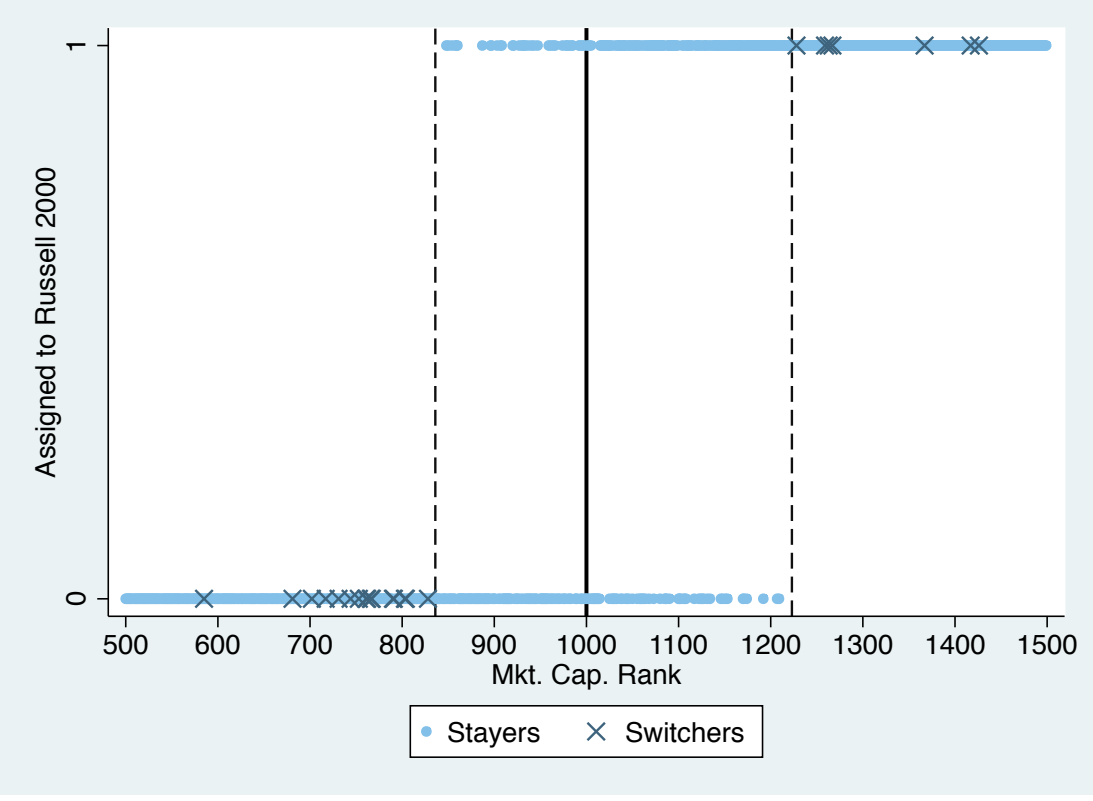
Problem: Fund holdings are endogenous:

1. Firm characteristics jointly affect ownership and governance (*omitted variable*)
2. Different firm policies attract different types of investors (*reverse causality*)
3. We never observe voting or exit if funds *choose* not to hold a firm (*selection bias*)

Solution

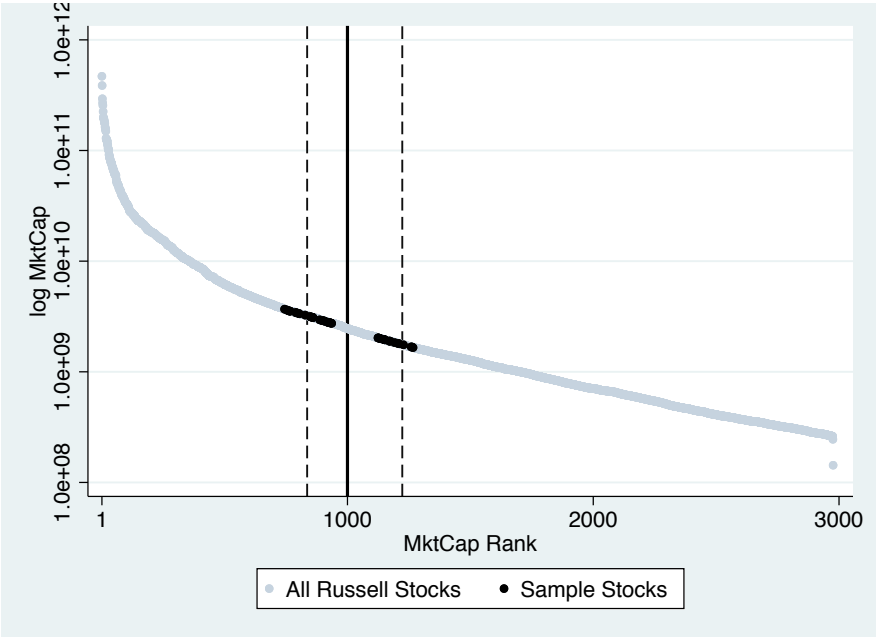
- 1 & 2: We use panel regressions with fixed effects
- 3: We compare stocks on either side of the cutoff between Russell 1000 and 2000 using a diff-in-diff regression
  - Implement a Heckman correction

Overview of our Russell methodology



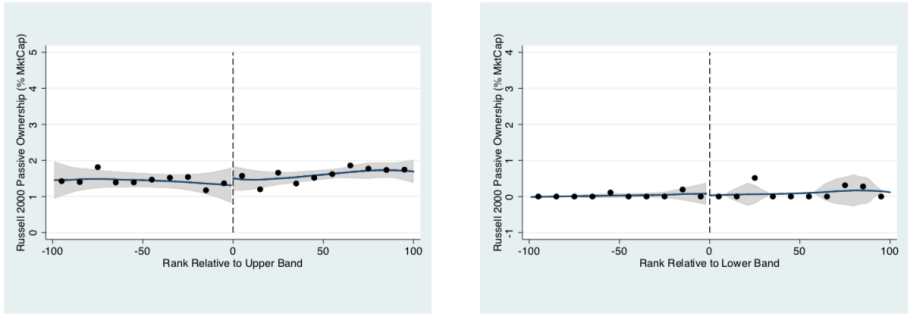
Overview of our Russell methodology

- Bottom line: Compare firms that are similar in every way EXCEPT index assignment

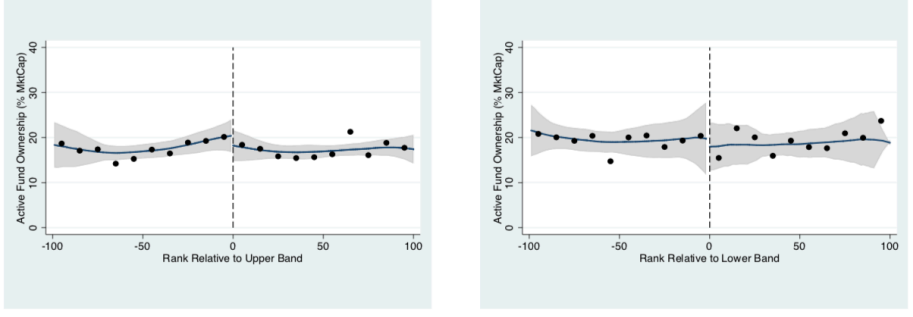


- We implement a Heckman model, with Russell index switching as a shock to the probability that fund *i* owns firm *j*
- Details are in the paper and the Appendix

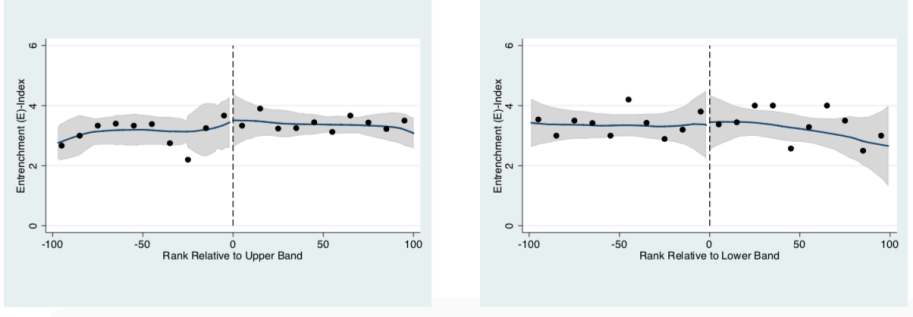
Balance Tests support identification assumptions



(a) Pretreatment ownership by Russell 2000 index funds

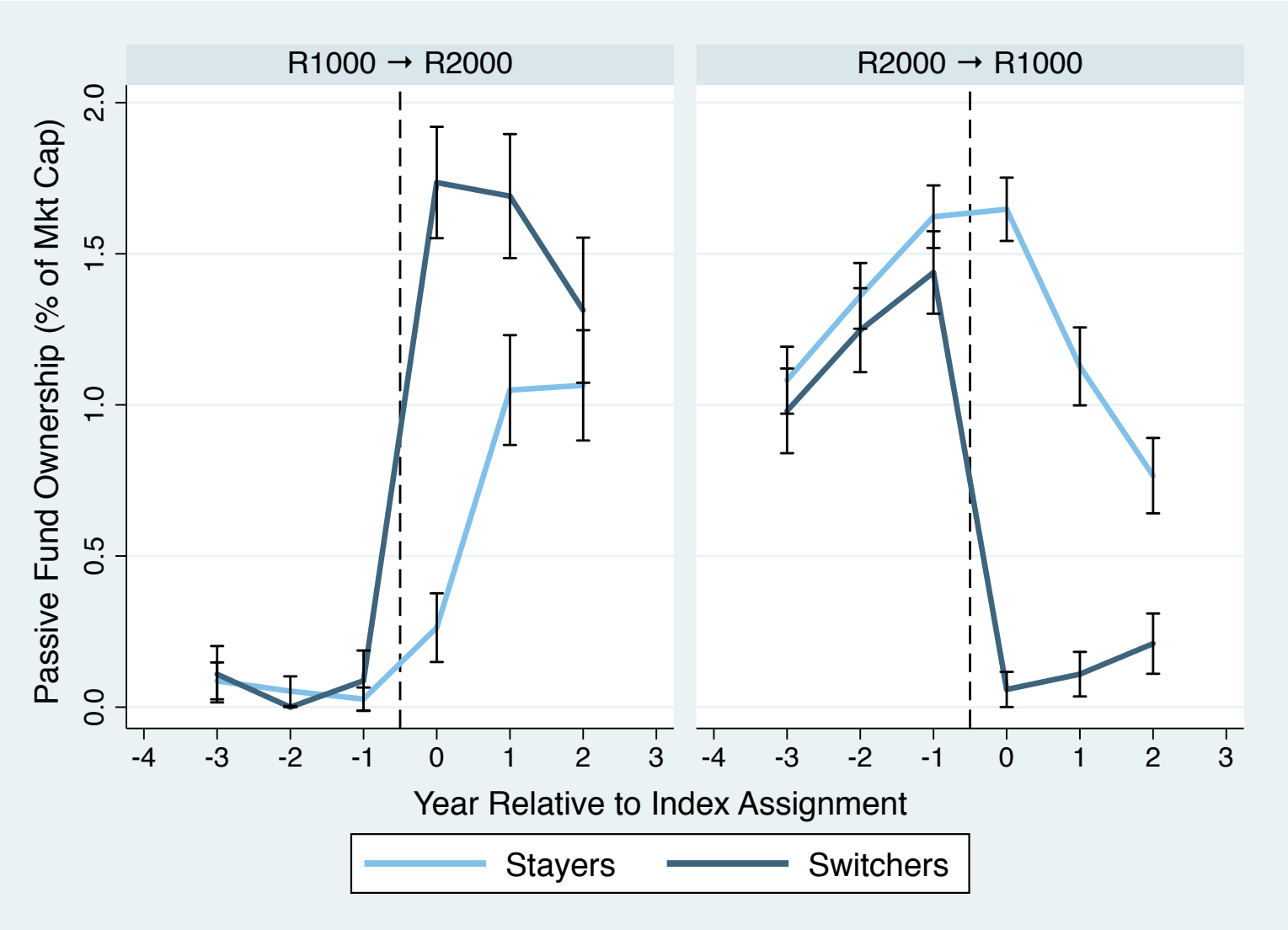


(b) Pretreatment ownership by active funds



(c) Pretreatment governance (E-Index)

Switching: Parallel pre-trends in ownership



Index Assignment Changes Passive Ownership

- First step: index assignment matters
- Stocks that switch to the R2000 experience a large increase in index fund ownership

	(1) $PassiveOwn_{jt}^{R2000}$	(2) $PassiveOwn_{jt}^{R1000}$	(3) $PassiveOwn_{jt}^{S\&P500}$	(4) $PassiveOwn_{jt}$	(5) $ActiveOwn_{jt}$	(6) $TotalFundOwn_{jt}$
$R1000 \rightarrow R2000_j \times PostAssignment_t$	1.45***	-0.18***	-0.03**	1.03***	-0.06	0.97*
	(0.10)	(0.01)	(0.01)	(0.24)	(0.36)	(0.48)
$R2000 \rightarrow R1000_j \times PostAssignment_t$	-1.34***	0.17***	0.02***	-0.86***	-0.06	-0.93**
	(0.08)	(0.02)	(0.01)	(0.14)	(0.27)	(0.34)
Observations	4,392	4,392	4,392	4,392	4,392	4,392
Adjusted R^2	0.468	0.474	0.361	0.674	0.569	0.582
Years	2004-2017	2004-2017	2004-2017	2004-2017	2004-2017	2004-2017
Cohorts	2007-2015	2007-2015	2007-2015	2007-2015	2007-2015	2007-2015
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Firm × Cohort FE	Yes	Yes	Yes	Yes	Yes	Yes

Does Index Ownership Affect Governance?

- Results show index membership changes ownership by index funds
- So what? Does this matter?
- Theory suggests separation of ownership and control leads to agency conflicts (Berle and Means (1932))

– Adam Smith, *The Wealth of Nations*

"The directors of such [joint-stock] companies, however, being the managers rather of other people's money than of their own, it cannot well be expected, that they should watch over it with the same anxious vigilance with which the partners in a private copartnery frequently watch over their own...."

- We examine voting and exit behavior

Simple summary stats for voting

managers	ISS	Index funds				Active Funds				Difference	
Recommend	Recommend	Yes	No	Abstain	DNV	Yes	No	Abstain	DNV	PctYes	N
All		90.4%	6.2%	3.2%	0.2%	89.4%	7.1%	3.1%	0.4%	1.0%	23,221,799
Consensus											
Yes	Yes	95.6%	2.8%	1.4%	0.1%	96.0%	2.6%	1.1%	0.3%	-0.4%	20,669,238
No	No	4.2%	84.6%	8.8%	2.4%	5.1%	82.7%	10.7%	1.5%	-0.9%	362,447
Contentious											
Yes	No	54.3%	19.0%	24.9%	1.8%	41.9%	25.1%	30.4%	2.5%	12.4%	1,426,904
No	Yes	41.5%	53.5%	4.9%	0.1%	47.7%	46.0%	6.0%	0.3%	-6.2%	763,210

- On both kinds of **consensus** items, no difference in voting
- Makes sense! Everyone agrees what to do, so no costly effort is necessary

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- And active funds abstain **more** (is abstain = "soft no"? Bebchuk et al (2017))

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Summary Stats $\Longrightarrow$ Voting Differences

1. On **consensus** items, no difference in voting
2. On both kinds of **contentious** items, index funds are more likely to vote with managers
   - From a principal-agent perspective, this means index funds cede power to managers

Vanguard 2018:

"We will give substantial weight to the recommendations of the company's board, absent guidelines or other specific facts that would support a vote against management."

Index funds vote with managers

- Of course, concerned about endogeneity
  - So we examine regressions (OLS and DiD+Heckman)
  - Across all specifications, we find the same result

	(1) *VotedWithMgmt*	(2) *VotedWithMgmt*	(3) *VotedWithMgmt*	(4) *VotedWithMgmt*	(5) *VotedWithMgmt*	(6) *VotedWithMgmt*
$IndexFund_i$	0.125***	0.126***	0.150***	0.150***	0.084***	0.079***
	(0.025)	(0.024)	(0.030)	(0.030)	(0.032)	(0.029)
$InverseMillsRatio_{ijt}$					-0.114	-0.111
					(0.040)	(0.034)
$ExpenseRatio_{it} \times$		-0.238***		-0.209**		-0.209**
$IndexFund_i$		(0.073)		(0.085)		(0.084)
$ExpenseRatio_{it} \times$		0.021		0.071		0.071
$ActiveFund_i$		(0.046)		(0.060)		(0.060)
Model	OLS	OLS	OLS	OLS	Heckman	Heckman
Sample Firms	All	All	Russell	Russell	Russell	Russell
Observations	2,187,598	2,187,598	189,319	189,319	189,319	189,319
Adjusted R^2	0.074	0.083	0.076	0.084	0.076	0.084
Firm FE	Yes	Yes	No	No	No	No
Firm $\times$ Cohort FE	No	No	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes

Voting differs by the type of agenda item

	(1)	(2)	(3)	(4)
	Item Type			
	Board of Directors	Compensation	Disclosure	Entrenchment
	VotedwithMgmt	*VotedwithMgmt*	*VotedwithMgmt*	*VotedwithMgmt*
$IndexFund_i$	0.132***	0.127***	0.095***	0.116***
	(0.029)	(0.028)	(0.029)	(0.026)
Observations	1,173,740	44,953	106,314	77,189
Adjusted R^2	0.086	0.057	0.021	0.101
Firm FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes

- Index funds side with firm management, across many types of agenda items
- See also Brav, Jiang, and Li (2018) on proxy battles

Voting results are clear

- Index funds are 12.5% more likely to vote with managers
  - Across many specifications. Across agenda items relating to compensation, disclosure, board of directors, **entrenchment**
  - At the fund family level, same results: As the family has more passive AUM, more likely to vote with managers
- Within index funds: As fund fees decrease, the fund is more likely to vote with managers
  - Consistent with less resources and less incentive to monitor (Lewellens (2019))
- All of the tests & methodologies point to the same conclusion
  1. Index funds have less incentive to monitor
  2. Thus, they monitor less
  3. This cedes power to managers

Is this just a Voting Effect?

- Results show index funds are more likely to vote with managers
- Possible that funds use other channels to affect governance (e.g., Edmans et al. (2018))
  - They could sell their position (exit)
  - They could meet with managers (engagement)
- Accordingly we examine these other channels

Fund Exit

- We measure fund exit using fund holdings data
  - *Exit*=1 if a fund holds a firm in year t, but not in year $t+1$
  - Conservative definition of exit
- We find that each year, on average:
  - Active funds exit 36 (33%) of 114 positions
  - Russell 2000 funds exit 290 (16%) of 1789 positions; 67 (4%) are *voluntary*
- Of the 10 largest ETFs in 2018, 6 / 10 (accounting for >50% of AUM) *statistically* replicate their index

Index funds exit less: No strategic use of exit

	(1) *VoluntaryExit*	(2) *VoluntaryExit*	(3) *VoluntaryExit*	(4) *VoluntaryExit*	(5) *VoluntaryExit*	(6) *VoluntaryExit*
$IndexFund_i$	-0.179***	-0.138***	-0.174***	-0.136***	-0.185***	-0.141***
	(0.012)	(0.012)	(0.015)	(0.014)	(0.015)	(0.014)
$InverseMillsRatio_{ijt}$					-0.021***	-0.008**
					(0.005)	(0.004)
$ActiveFund_i \times LostVote_{ijt-1}$		0.009**		0.005		0.005
		(0.004)		(0.008)		(0.006)
$IndexFund_i \times LostVote_{ijt-1}$		-0.004		-0.007		-0.007
		(0.004)		(0.007)		(0.007)
Model	OLS	OLS	OLS	OLS	Heckman	Heckman
Sample Firms	All	All	Russell	Russell	Russell	Russell
Observations	4,192,281	2,211,016	452,902	282,738	452,902	282,738
Adjusted R^2	0.093	0.074	0.072	0.058	0.072	0.058
Firm FE	Yes	Yes	No	No	No	No
Firm × Cohort FE	No	No	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes

- Active funds are more likely to exit after a lost vote
- Index funds exit less, and do not exit after a lost vote

What about behind the scenes engagement?

- Results show index funds are (i) more likely to vote with managers and (ii) less likely to exit
- Possible that index funds "engage" with firm managers to get good governance
  - Vote with managers because they already convinced managers to put the items they wanted on ballot
- We test for engagement in three ways
  - Examine management vs. shareholder proposals
  - Examine whether different items on ballot
  - Examine 13D vs. 13G filings

Contentious proposals by managers versus shareholders

	(1)	(2)	(3)	(4)	(5)	(6)
	Management Proposals			Shareholder Proposals		
	VotedYes	*VotedNo*	*Abstained*	*VotedYes*	*VotedNo*	*Abstained*
$IndexFund_i$	0.144***	-0.050***	-0.085***	-0.092***	0.103***	-0.009
	(0.031)	(0.011)	(0.020)	(0.023)	(0.022)	(0.008)
Observations	1,408,736	1,408,736	1,408,736	778,846	778,846	778,846
Adjusted R^2	0.079	0.232	0.218	0.089	0.071	0.055
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes

- Even if index funds engage with managers, it cannot explain their voting on shareholder proposals, which is equally strong
- Again, index funds cede authority to managers

Changes in the Supply of Agenda Items

	(1) $NumItems_{jt}$	(2) $NumShrProp_{jt}$	(3) $NumMgmtProp_{jt}$	(4) $FracISSAgainst_{jt}$	(5) $FracMgmtAgainst_{jt}$	(6) $FracConsensus_{jt}$
$R1000 \rightarrow R2000_j \times$ $PostAssignment_t$	0.02	-0.02	0.05	-0.01	0.003	0.012
	(0.34)	(0.07)	(0.32)	(0.02)	(0.004)	(0.017)
$R2000 \rightarrow R1000_j \times$ $PostAssignment_t$	-0.28	0.001	-0.29	-0.00	0.004	-0.00
	(0.37)	(0.030)	(0.37)	(0.01)	(0.003)	(0.013)
Observations	3,726	3,726	3,726	3,726	3,726	3,726
Adjusted R^2	0.614	0.119	0.623	0.430	-0.031	0.431
Firm × Cohort FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes

- Recall: Index switching changes index fund holdings
- Yet there is **zero change** in the number or type of agenda items at the annual meeting
- Inconsistent with index funds engaging behind the scenes

Blockholding Disclosures: Schedule 13D versus 13G

	(1) Filed 13D	(2) Filed 13D	(3) Filed 13D
$FracAUMPassive_{jt}$	-1.13**	-1.05**	-1.15**
	(0.48)	(0.46)	(0.49)
$logAUM_{jt}$		-0.052	
		(0.042)	
$numFilings_{jt}$			0.00028
			(0.00032)
Model	Probit	Probit	Probit
Observations	920	920	921
Pseudo R^2	0.018	0.018	0.018

- Blockholding disclosure via form 13D signals an intent to engage (recorded at the fund-family level)
- Index fund families are saying: We do not intend to engage
- Subsample analysis suggests index funds **never** file 13D

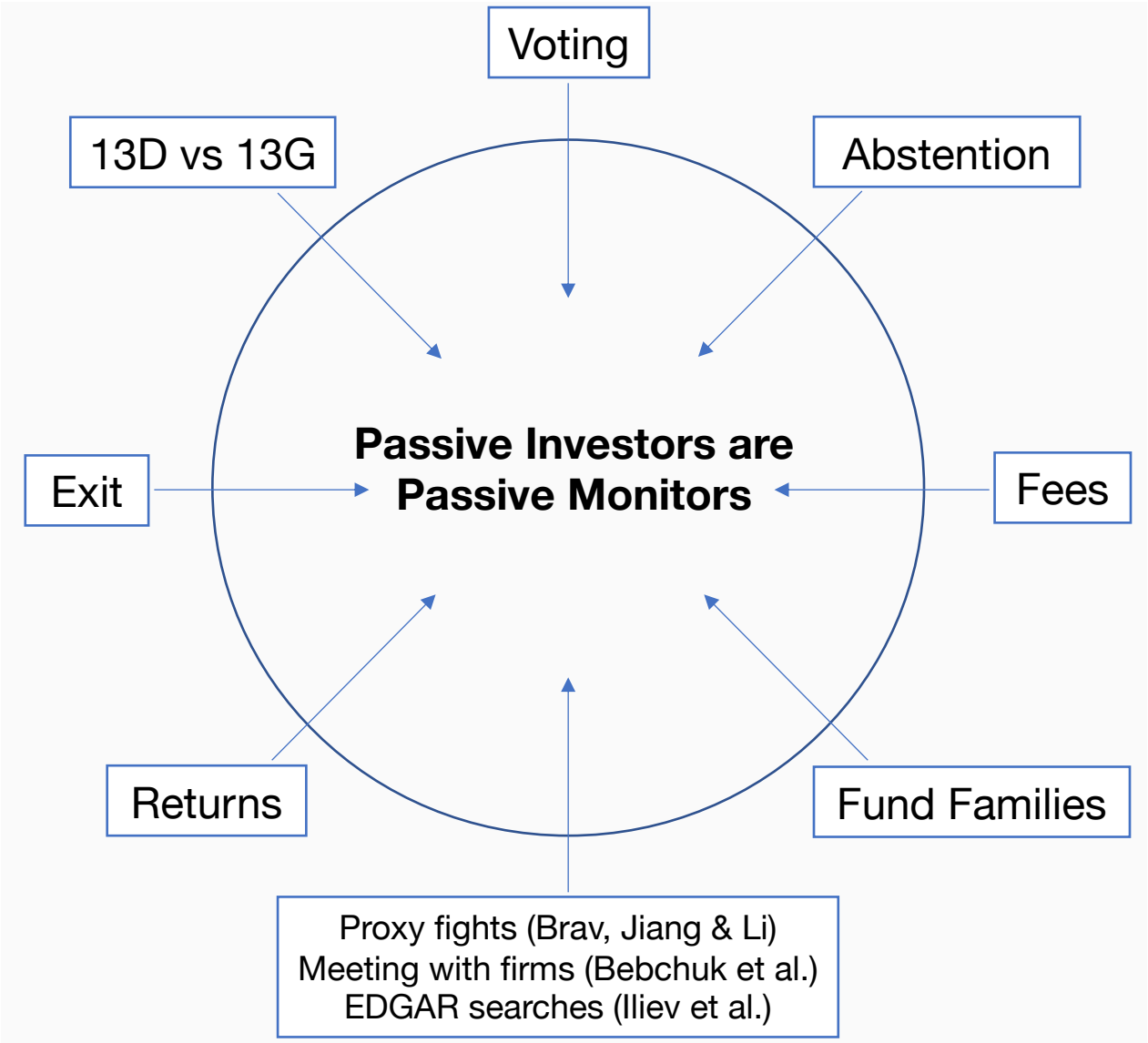
Conclusion: Passive funds are passive monitors

- We directly examine voice and exit by index funds
- Index funds are **weaker monitors** than active funds:
  1. Index funds vote with firm managers
  2. Across agenda items, and regardless who proposed
  3. Index funds with lower fees vote more passively
  4. More passive fund families vote more passively
  5. Index funds are less likely to exit
  6. No evidence that index funds engage with managers
- All our results suggest that index funds cede power to firm managers

Contemporaneous research

- Bebchuk, Hirst (WP): Index funds do not meet with the vast majority of their portfolio firms
- Brav, Jiang, Li (WP): Index funds are more likely than active funds to side with firm management in proxy contests
- Iliev, Kalodimos, Lowry (WP): Index funds do not look up their portfolio firms on EDGAR

Conclusion: Passive funds are passive monitors



Appendix

Fund Votes and Announcement Returns

	(1) $DailyRtn_{ik}$	(2) $DailyRtn_{ik}$	(3) $DailyRtn_{ik}$
$VotedYes_{ik} \times IndexFund_i$	0.0006*	0.0014	0.0021
	(0.0003)	(0.0014)	(0.0014)
$VotedYes_{ik} \times IndexFund_i \times ItemPassed_k$	-0.0006*	-0.0017	-0.0017
	(0.0003)	(0.0014)	(0.0014)
$VotedYes_{ik} \times ActiveFund_i$	-0.0002	0.0004	-0.0005
	(0.0003)	(0.0013)	(0.0013)
$VotedYes_{ik} \times ActiveFund_i \times ItemPassed_k$	0.0000	-0.0008	-0.0007
	(0.0003)	(0.0014)	(0.0014)
$InverseMillsRatio_{ijt}$			0.0035***
			(0.0008)
Observations	22,727,613	2,596,144	2,596,144
Adjusted R^2	0.175	0.191	0.191
Main Effects	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes

Heckman Correction

$$
\begin{aligned}
Observed_{ijt} = Probit(&\tau IndexFund_i \\
&+ \xi_1 R1000 \rightarrow R2000_j \times Post_t \times IndexFund_i \\
&+ \xi_2 R2000 \rightarrow R1000_j \times Post_t \times IndexFund_i \\
&+ \mu_1 R1000 \rightarrow R2000_j \times Post_t \\
&+ \mu_2 R2000 \rightarrow R1000_j \times Post_t \\
&+ \phi_j + \chi_t + \nu_{ijt})
\end{aligned}
\tag{1}
$$

$$
\begin{aligned}
Y_{ijt} = &\beta IndexFund_i + \alpha InverseMillsRatio_{ijt} \\
&+ \delta_1 R1000 \rightarrow R2000_j \times Post_t \\
&+ \delta_2 R2000 \rightarrow R1000_j \times Post_t \\
&+ \lambda_j + \kappa_t + \epsilon_{ijt}
\end{aligned}
\tag{2}
$$

Heckman Observation Equation

	(1) $Observed_{ijt}$
$IndexFund_i$	0.696***
	(0.057)
$R2000 \rightarrow R1000_j \times$	0.071***
$PostAssignment_t$	(0.021)
$R1000 \rightarrow R2000_j \times$	-0.224***
$PostAssignment_t$	(0.025)
$R2000 \rightarrow R1000_j \times$	-0.055*
$PostAssignment_t \times IndexFund_i$	(0.032)
$R1000 \rightarrow R2000_j \times$	0.067***
$PostAssignment_t \times IndexFund_i$	(0.024)
Model	Probit
Observations	6,586,669
Pseudo R^2	0.054
Firm $\times$ Cohort FE	Yes
Year FE	Yes

No *pre-treatment* difference on fund ownership

	(1) $PassiveOwn^{R2000}$	(2) $PassiveOwn^{R1000}$	(3) $PassiveOwn^{S\&P500}$	(4) $ActiveOwn$	(5) $TotalFundOwn$
$R1000 \rightarrow R2000_j$	-0.02	0.00	-0.02	-1.28	-1.32
	(0.08)	(0.02)	(0.03)	(3.07)	(3.09)
$R1000 \rightarrow R2000_j$	-0.07	0.01	-0.00	2.17	2.10
	(0.12)	(0.01)	(0.01)	(1.55)	(1.60)
Observations	732	732	732	732	732
Adjusted R-squared	0.731	0.831	0.077	0.045	0.052
Window	100	100	100	100	100
Cohort	2007-2015	2007-2015	2007-2015	2007-2015	2007-2015
Control Fn Degree	2	2	2	2	
Cohort $\times$ Band FE	Yes	Yes	Yes	Yes	Yes

No *pre-treatment* difference on governance measures

	(1) E-Index	(2) S/H Chg Bylaws	(3) Supmaj. BusComb	(4) Supmaj. Charter	(5) Poison Pill	(6) Conf. Vote	(7) Cumul. Vote
$R1000 \rightarrow R2000_j$	0.34	0.05	0.04	0.14	-0.01	0.15	0.02
	(0.35)	(0.07)	(0.14)	(0.15)	(0.11)	(0.11)	(0.11)
$R2000 \rightarrow R1000_j$	-0.29	-0.07	0.02	-0.18	0.15	-0.02	-0.07
	(0.38)	(0.10)	(0.14)	(0.17)	(0.14)	(0.08)	(0.13)
Observations	365	365	365	365	365	365	365
Adjusted R-squared	0.016	-0.010	-0.007	-0.021	0.011	-0.028	-0.019
Window	100	100	100	100	100	100	100
Cohort	2007-2015	2007-2015	2007-2015	2007-2015	2007-2015	2007-2015	2007-2015
Control Fn Degree	2	2	2	2	2	2	2
Cohort $\times$ Band FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes