

Internet Appendix

Alternative definition of passive investors

Table I1

Summary statistics

This table presents the baseline summary statistics for a bandwidth of 250 firms on each side of the Russell 1000 and 2000 index cut-off. Firms to the left of the cut-off are at the bottom of the larger Russell 1000 index, while firms to the right of the cut-off are at the top of the Russell 2000. The firms' ranks are based on end-of May market capitalisation (obtained from CRSP). The sample spans 1998 to 2006. We classify a fund as passive if either the CRSP Mutual Fund Database classifies the fund as an index fund or its fund name contains a string that identifies it as an index fund. Definitions for all variables are provided in the Appendix. All continuous variables are winsorised at the 1st and 99th percentiles to mitigate the effects of outliers.

	N	Mean	SD	Median
PASSIVE_OWN	3,791	0.026	0.021	0.023

Table I2**Russell index reconstitution and passive investor ownership**

This table presents estimates of the first-stage regression of passive investor ownership on an indicator of index assignment into the Russell 2000 index. Specifically,

$$PASSIVE_OWN_{it} = \alpha + \beta R2000_{it} + \sum_{n=1}^N \gamma_n (LN(MAY\ MCAP)_{it})^n + \theta LN(FLOAT)_{it} + \delta_t + \varepsilon_{it},$$

where R2000 is an indicator variable that takes a value of one if the firm is in the Russell 2000 after reconstitution. The firms' ranks are based on end-of May market capitalisation (obtained from CRSP). The sample in each year is restricted to a bandwidth (indicated at the bottom of the table) on each side of the index cut-off threshold. Variable definitions are provided in the Appendix. For brevity, we only tabulate β . The model is estimated over the 1998–2006 period. Standard errors are clustered at the firm level and are reported in parentheses. *, **, and *** indicate significance better than 10%, 5%, and 1%, respectively.

	(1)	(2)	(3)
Dependent variable:	PASSIVE_OWN	PASSIVE_OWN	PASSIVE_OWN
R2000	0.349*** (0.022)	0.298*** (0.031)	0.409*** (0.047)
Observations	3791	3791	6119
Adjusted R ²	0.356	0.393	0.355
Bandwidth	250	250	400
Polynomial order (N)	1	3	1
Controls	Yes	Yes	Yes
Year F.E.	Yes	Yes	Yes

Table I3**Passive investor ownership and properties of earnings**

This table presents estimates of the second-stage regression of the instrumental variable estimation. Specifically,

$$Y_{it} = \tau + \sigma \widehat{PASSIVE_OWN}_{it} + \sum_{n=1}^N \rho_n (LN(MAY\ MCAP)_{it})^n + \varphi LN(FLOAT)_{it} + \delta_t + \omega_{it},$$

where Y_{it} is the measure of accruals management. Variable definitions are provided in Appendix. In column (1), the sample consists of equities in the 250 bandwidth around the cut-off between the two indices. In column (2), we repeat the regressions in column (1) but with a polynomial order of 3. In column (3), the sample consists of equities in the 400 bandwidth around the cut-off. For brevity, we only report σ . Standard errors are clustered at the firm level and are reported in parentheses. *, **, and *** indicate significance better than 10%, 5%, and 1%, respectively.

Panel A: Accruals Management			
	(1)	(2)	(3)
Dependent Variable:	ACCRUALS	ACCRUALS	ACCRUALS
<i>PASSIVE_OWN</i>	-0.092*** (0.035)	-0.134** (0.056)	-0.091*** (0.023)
Observations	3791	3791	6119
Bandwidth	250	250	400
Polynomial order (N)	1	3	1
Controls	Yes	Yes	Yes
Year F.E.	Yes	Yes	Yes

This table presents estimates of the second-stage regression of the instrumental variable estimation. Specifically,

$$NI_{it+1} = \tau + \sigma \widehat{PASSIVE_OWN}_{it} + \sigma_1 D_{it} \times \widehat{PASSIVE_OWN}_{it} + \sigma_2 D_{it} \times RETURN_{it} + \sigma_3 D_{it} \times RETURN_{it} \times \widehat{PASSIVE_OWN}_{it} + \sigma_4 RETURN_{it} \times \widehat{PASSIVE_OWN}_{it} + \sigma_5 D_{it} + \sigma_6 RETURN_{it} + \sum_{n=1}^N \rho_n (LN(MAY\ MCAP)_{it})^n + \varphi LN(FLOAT)_{it} + \delta_t + \omega_{it},$$

where NI_{it+1} is net income scaled by beginning of the year market value of equity. D_{it} is an indicator that equals one if net income is negative and zero otherwise. $RETURN_{it}$ is accumulated stock price return. Variable definitions are provided in the Appendix. For brevity, we only report σ . Standard errors are clustered at the firm level and are reported in parentheses. *, **, and *** indicate significance better than 10%, 5%, and 1%, respectively.

Panel B: Timely Loss Recognition			
	(1)	(2)	(3)
Dependent Variable:	NI	NI	NI
<i>PASSIVE_OWN</i>	0.003*** (0.001)	0.002** (0.001)	0.003* (0.002)

D * RETURN	0.018*** (0.003)	0.018*** (0.003)	0.015*** (0.001)
D * RETURN * $\widehat{PASSIVE_OWN}$	0.007* (0.004)	0.008** (0.004)	0.008*** (0.002)
Observations	3506	3506	5699
Bandwidth	250	250	400
Polynomial order (N)	1	3	1
Controls	Yes	Yes	Yes
Year F.E.	Yes	Yes	Yes

This table presents estimates of the second-stage regression of the instrumental variable estimation. Specifically,

$$Y_{it} = \tau + \sigma \widehat{PASSIVE_OWN}_{it} + \sum_{n=1}^N \rho_n (LN(MAY\ MCAP)_{it})^n + \varphi LN(FLOAT)_{it} + \delta_t + \omega_{it},$$

where Y_{it} is the measure of instances of MBE (columns 1–3) and expectation management (columns 4–6). Variable definitions are provided in the Appendix. For brevity, we only report σ . Standard errors are clustered at the firm level and are reported in parentheses. *, **, and *** indicate significance better than 10%, 5%, and 1%, respectively. (Although not reported, the results are robust even after controlling for forecast error and net revision in analysts' forecasts of the earnings.)

Panel C: Target Beating						
	(1)	(2)	(3)	(4)	(5)	(6)
Dependent Variable:	MBE	MBE	MBE	EXPECT MGMT	EXPECT MGMT	EXPECT MGMT
$\widehat{PASSIVE_OWN}$	- (0.053)	-0.140** (0.070)	-0.115** (0.048)	-0.244*** (0.092)	-0.255*** (0.095)	-0.160 (0.107)
Observations	3208	3208	5170	3208	3208	5170
Bandwidth	250	250	400	250	250	400
Polynomial	1	3	1	1	3	1
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Year F.E.	Yes	Yes	Yes	Yes	Yes	Yes

Table I4**Passive investor ownership and investor responsiveness to earnings**

This table presents estimates of the second-stage regression of the instrumental variable estimation. Specifically,

$$RETURN_{it} = \tau + \sigma \widehat{PASSIVE_OWN}_{it} + \sigma_1 NI_{it} \times \widehat{PASSIVE_OWN}_{it} + \sigma_2 NI_{it} + \sum_{n=1}^N \rho_n (LN(MAY_MCAP)_{it})^n + \varphi LN(FLOAT)_{it} + \delta_t + \omega_{it},$$

where NI_{it} is net income scaled by beginning of the year market value of equity. $RETURN_{it}$ is accumulated stock price return. Variable definitions are provided in the Appendix. For brevity, we only report σ . Standard errors are clustered at the firm level and are reported in parentheses. *, **, and *** indicate significance better than 10%, 5%, and 1%, respectively.

	(1)	(2)	(3)
Dependent Variable:	RETURN	RETURN	RETURN
<i>PASSIVE_OWN</i>	0.071*** (0.016)	0.071* (0.039)	0.047** (0.021)
<i>NI * PASSIVE_OWN</i>	3.206*** (1.162)	3.196*** (1.138)	0.363 (2.421)
Observations	3726	3726	6008
Bandwidth	250	250	400
Polynomial order (N)	1	3	1
Controls	Yes	Yes	Yes
Year F.E.	Yes	Yes	Yes

Table 15**Passive investor ownership and external indicators of earnings misstatements**

This table presents estimates of the second-stage regression of the instrumental variable estimation. Specifically,

$$Y_{it} = \tau + \sigma \widehat{PASSIVE_OWN}_{it} + \sum_{n=1}^N \rho_n (LN(MAY\ MCAP)_{it})^n + \varphi LN(FLOAT)_{it} + \delta_t + \omega_{it},$$

where Y_{it} is the indicator of misstatement. The misstatement measure used in each regression is indicated at the top of the table. Variable definitions are provided in the Appendix. For brevity, we only report σ . Standard errors are clustered at the firm level and are reported in parentheses. *, **, and *** indicate significance better than 10%, 5%, and 1%, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
Dependent Variable:	Misstate	Misstate	Misstate	Irreg	Irreg	Irreg
<i>PASSIVE_OWN</i>	-0.021*** (0.008)	-0.031* (0.018)	-0.002 (0.019)	-0.058*** (0.010)	-0.081*** (0.017)	-0.040 (0.028)
Observations	3791	3791	6110	3791	3791	6110
Bandwidth	250	250	400	250	250	400
Polynomial order	1	3	1	1	3	1
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Year F.E.	Yes	Yes	Yes	Yes	Yes	Yes

Table I6**Long-term investment horizon of passive investors**

This table presents estimates of the second-stage regression of the instrumental variable estimation. Specifically,

$$Y_{it} = \tau + \sigma \widehat{PASSIVE_OWN}_{it} + \sum_{n=1}^N \rho_n (LN(MAY\ MCAP)_{it})^n + \varphi LN(FLOAT)_{it} + \delta_t + \omega_{it},$$

where Y_{it} is the measure of long-term investment. The long-term investment used in each regression is indicated at the top of the table. Variable definitions are provided in the Appendix. For brevity, we only report σ . Standard errors are clustered at the firm level and are reported in parentheses. *, **, and *** indicate significance better than 10%, 5%, and 1%, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
Dependent	CAPEX	CAPEX	CAPEX	R&D	R&D	R&D
<i>PASSIVE_OWN</i>	0.121*** (0.047)	0.152*** (0.054)	0.136** (0.055)	0.331*** (0.122)	0.407** (0.161)	0.244** (0.116)
Observations	3791	3791	6119	3791	3791	6119
Bandwidth	250	250	400	250	250	400
Polynomial order	1	3	1	1	3	1
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Year F.E.	Yes	Yes	Yes	Yes	Yes	Yes

Table I7**Strategic monitoring of passive investors**

This table presents estimates of the second-stage regression of the instrumental variable estimation. Specifically,

$$Y_{it} = \tau + \sigma_1 \widehat{PASSIVE_OWN}_{it} + \sigma_2 \widehat{PASSIVE_OWN}_{it} \times LOW_{DED} + \sigma_3 LOW_{DED} + \sum_{n=1}^N \rho_n (LN(MAY\ MCAP)_{it})^n + \varphi LN(FLOAT)_{it} + \delta_t + \omega_{it},$$

where Y_{it} is the measure of earnings quality proxy. The earnings quality measure proxy in each regression is indicated at the left column of the table. LOW_{DED} is a dummy variable that takes a value of one if the stock holdings by active mutual fund investors is less than the sample median, and zero otherwise. Variable definitions are provided in the Appendix. For brevity, we only report results for the sample consisting of equities in the 250 bandwidth around the cut-off between the two indices (our baseline regression). Standard errors are clustered at the firm level and are reported in parentheses. *, **, and *** indicate significance better than 10%, 5%, and 1%, respectively.

Dependent Variable:	$\widehat{PASSIVE_OWN}$	$\widehat{PASSIVE_OWN} * LOW_{DED}$	LOW_{DED}	Observations
ACCRUALS	-0.040*** (0.012)	-0.403** (0.170)	0.311** (0.157)	3791
MBE	-0.044 (0.034)	-0.701*** (0.277)	0.533** (0.226)	3561
EXPECT	-0.171*** (0.049)	-1.206* (0.720)	0.965 (0.618)	3561
MGMT	-0.057*** (0.018)	0.181 (0.135)	-0.210* (0.121)	4351
Restat	-0.053*** (0.010)	-0.030 (0.033)	-0.023 (0.030)	4351
Irreg				

Table I8**Falsification test**

Panel A presents estimates of the first-stage regression of the instrumental variable estimation but with an arbitrary cut-off of 600 (column 1) and 1400 (column 2). Specifically, in column 1 (column 2), we define R2000 as an indicator variable that takes a value of one if the firm's rank is above 600 (above 1400) based on end-of-May market capitalisation, and zero otherwise. In Panel B (Panel C), we repeat baseline regressions with a cut-off of 600 (1400). Standard errors are clustered at the firm level and are reported in parentheses. *, **, and *** indicate significance better than 10%, 5%, and 1%, respectively.

Panel A		
	(1)	(2)
Dependent variable:	PASSIVE_OWN	PASSIVE_OWN
R2000	-0.033 (0.061)	-0.031 (0.051)
Observations	3956	3848
Adjusted R ²	0.314	0.294
Bandwidth	250	250
Polynomial order (N)	1	1
Controls	Yes	Yes
Year F.E.	Yes	Yes

Panel B					
Dependent Variable:	<i>PASSIVE_OWN</i>	<i>D</i> *	<i>D * RETURN</i> *	<i>NI</i> *	Observations
		<i>RETURN</i>	<i>PASSIVE_OWN</i>	<i>PASSIVE_OWN</i>	
ACCRUALS	0.924 (2.125)				3956
MBE	-1.267 (1.487)				3567
EXPECT MGMT	0.576 (1.245)				3567
NI	-0.0001 (0.002)	0.001 (0.003)	0.0005 (0.003)		3720
RETURN	0.583 (0.867)			322.68 (191.44)	3867
Misstate	0.232 (0.857)				3956
Irreg	-0.201 (0.782)				3956

Panel C

Dependent Variable:	<i>PASSIVE_OWN</i>	<i>D * RETURN</i>	<i>D * RETURN * PASSIVE_OWN</i>	<i>NI * PASSIVE_OWN</i>	Observations
ACCRUALS	-0.163 (1.199)				3848
MBE	-0.067 (1.660)				3133
EXPECT	-1.838 (4.524)				3133
MGMT					
NI	0.019 (0.089)	-0.027 (0.392)	0.028 (0.354)		3589
RETURN	1.625 (2.897)			129.22 (369.09)	3796
Misstate	1.842 (3.133)				3848
Irreg	1.529 (2.609)				3848