

**Table 1**

	Obs.	Mean	Median	SD
<i>Total mutual fund ownership %</i>	4500	21.661	19.428	14.437
<i>Passive ownership %</i>	4500	2.386	1.682	2.61
<i>Active ownership %</i>	4500	16.091	14.248	11.301
<i>Unclassified ownership %</i>	4500	3.156	2.258	3.307
<i>Independent director %</i>	2676	74.947	80	14.508
<i>Poison pill removal</i>	1727	0.035	0	0.183
<i>Greater ability to call special meeting</i>	1792	0.006	0	0.075
<i>Indicator for dual class shares</i>	1792	0.13	0	0.336
<i>ROA</i>	3046	0.033	0.04	0.152

**Table 2**

<i>Dependent variable =</i>	Percent of firm's common shares held by:				
	All mutual funds		Passive	Active	Unclassified
	(1)		(2)	(3)	(4)
<i>R2000</i>	2.030***		0.529***	1.252***	0.17
	(0.414)		(0.070)	(0.353)	(0.111)
Bandwidth	250		250	250	250
Polynomial order, <i>N</i>	3		3	3	3
Float control	Yes		Yes	Yes	Yes
Year fixed effects	Yes		Yes	Yes	Yes
# of firms	1800		1800	1800	1800
Observations	4500		4500	4500	4500
<i>R</i> -squared	0.41		0.54	0.3	0.23

**Table 3**

<i>Dependent variable =</i>	Passive % scaled by its sample standard deviation		
	(1)	(2)	(3)
<i>R2000</i>	0.241***	0.188***	0.203***
	(0.030)	(0.029)	(0.027)
Bandwidth	250	250	250
Polynomial order, <i>N</i>	1	2	3
Float control	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
# of firms	1800	1800	1800
Observations	4500	4500	4500
<i>R</i> -squared	0.38	0.53	0.54

**Table 4**

<i>Dependent variable =</i>	Independent director %		
	(1)	(2)	(3)
<i>Passive %</i>	1.996***	2.907**	2.528***
	(0.678)	(1.293)	(0.925)
Bandwidth	250	250	250
Polynomial order, <i>N</i>	1	2	3
Float control	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
# of firms	1057	1057	1057
Observations	2676	2676	2676

**Table 5**

<i>Dependent variable =</i>	Independent director %					
	<i>Sample years = 1998–2002</i>			<i>Sample years = 2003–2006</i>		
	(1)	(2)	(3)	(4)	(5)	(6)
<i>Passive %</i>	2.223***	3.054***	2.748***	3.419	5.15	3.115**
	(0.721)	(0.910)	(0.823)	(4.268)	(5.964)	(1.569)
Bandwidth	250	250	250	250	250	250
Polynomial order, <i>N</i>	1	2	3	1	2	3
Float control	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
# of firms	838	838	838	545	545	545
Observations	1523	1523	1523	1153	1153	1153

**Table 6**

<i>Dependent variable =</i>	Greater ability to call special meeting		
	(4)	(5)	(6)
<i>Passive %</i>	0.530**	0.699**	0.645**
	(0.224)	(0.334)	(0.284)
Bandwidth	250	250	250
Polynomial order, <i>N</i>	1	2	3
Float control	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
# of firms	1046	1046	1046
Observations	1792	1792	1792

**Table 7**

<i>Dependent variable =</i>	Indicator for dual class shares		
	(1)	(2)	(3)
<i>Passive %</i>	-1.249***	-1.847***	-1.647***
	(0.350)	(0.610)	(0.466)
Bandwidth	250	250	250
Polynomial order, <i>N</i>	1	2	3
Float control	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
# of firms	1046	1046	1046
Observations	1792	1792	1792

**Explanations:**

I noticed that the coefficients in the regression results of Table 4 have gaps with the results in the paper. This may be due to some difference in the independent director variable. The procedure of being scaled by its sample standard deviation may increase the difference. However, the results in Table 1 are relatively similar to the original table, which may require more time to figure out the reasons. Also, it may miss some eligible data when merging many datasets, which would generate errors in regression results.

**Answer to Questions:****1) What is the economic model underlying the relationship between passive ownership and governance?**

The economic model used is two-stage least square. the model takes companies' performance and governance as the dependent variables, with passive ownership of the corresponding stocks being the independent variable. Additionally, since the inclusion of a stock in the Russell 2000 index is determined by its market capitalization, which directly influences passive ownership, a dummy variable is employed as an instrumental variable for the passive ownership variable to deal with endogeneity. This instrumental variable directly impacts passive ownership, conditioned on market capitalization, while it does not have a direct effect on the company's performance and governance.

**2) In the specific setting of this paper, what is the endogeneity concern that the authors face? How might this concern bias the estimation in a setting that is not endogeneity-proof? You can address this issue using formulas as in basic econometrics textbooks. Explain what are the two conditions that a valid IV should satisfy and how the authors propose to deal with these two conditions.**

The endogeneity concern is that passive ownership as a dependent variable could be correlated with omitted factors that are reflected in error terms. Specifically, consider the relationship  $y = \alpha + \beta_1 x_1 + \beta_2 x_2 + \epsilon$ , and  $x_1 = \gamma x_2 + \varepsilon$ . If  $x_2$  is omitted as an error term,  $x_1$  will be correlated with  $\epsilon$ , and  $\beta_1$  includes the parts of  $\beta_2$ .

A valid instrumental variable (IV) should satisfy ‘relevance’ and ‘exclusion’ conditions: it should be correlated with the endogenous variable while conditioning on other covariates, and it should affect the outcome variable only through endogenous variables. In this study, the authors select inclusion in the Russell 2000 as the IV because it directly affects passive ownership, conditioned on market capitalization, as explained in the subsequent questions. The relevance condition is confirmed through first-stage estimation.

Without tests, the second condition is only fulfilled by assuming that there is no clear causal relationship between firm performance and index inclusion.

### **3) What are the economic rationale behind using the inclusion into Russell-1000 or Russell-2000 indices as one of the determinants of ownership structure of firms?**

Although the top 500 stocks in the Russell 2000 and the bottom 500 stocks in the Russell 1000 may have similar market sizes, their weights in the respective indexes differ significantly because they represent the top and bottom companies in terms of market capitalization. As a result, there is a substantial difference in their weights within the corresponding index, which directly impacts passive ownership by mutual funds.

More specifically, the top stocks in the Russell 2000 tend to have higher passive ownership because passive funds allocate their holdings based on the weight of the index. Therefore, whether a stock is assigned to the Russell 1000 or 2000 directly affects its passive ownership, while considering market capitalization.

### **4) How do Table 2 and Table 3 help to justify this rationale?**

Firstly, according to Table 2, it is evident that the overall ownership by mutual funds is associated with the inclusion in the Russell Index. This finding suggests that there is a weight disparity at the cutoff point. Furthermore, Table 2 demonstrates that the ownership discrepancy is primarily influenced by passive ownership. This observation is further supported by the robust estimation of the relationship between passive ownership and membership in the Russell 2000.

### **5) How does the econometric setup in this paper compare to other related recent work?**

Crane, Michenaud, and Weston:

This paper adopts a similar methodology to examine the relationship between institutional ownership and payout for stocks listed in the Russell 1000 and 2000 indexes. However, there is a key difference: the paper focuses on a sample of only 100 stocks around the cutoff of the Russell indexes. This approach offers the advantage of capturing more weight, and thus institutional ownership differences around the cutoff. Moreover, since the selected stocks are closer in terms of market capitalization, it becomes easier to control for this variable.

In comparison to the previous paper, Crane, Michenaud, and Weston also employ 2SLS method, using inclusion in the Russell 2000 as the IV. However, instead of controlling for market capitalization directly, they control for it indirectly by considering the ranking distance of each stock to the cutoff. One potential weakness of this approach is that rankings are linear, whereas the actual relationship between market capitalization and the 200 stocks around the Russell 1000 and 2000 cutoffs may not be linear. Hence, using rankings to represent market capitalization could introduce bias.

#### Schmidt and Fahlenbrach:

This paper primarily focuses on examining the impact of passive ownership on CEO power and entrenchment. The authors introduce a novel dataset to measure CEO power and entrenchment, which includes the accumulation of titles. Additionally, they incorporate acquisition data to measure corporate governance.

Similar to the prior paper, this study also employs the 2SLS model. However, the key difference is that the paper uses changes in governance and percentage changes in passive ownership as regression variables. The changes in the passive ownership variable are instrumented using a strategy where the instrumental variable indicates whether a firm switches between the Russell 1000 and 2000 indexes. One potential weakness is that changes in passive ownership may not necessarily capture the magnitude of its effect. For instance, the governance change in a firm with already high passive ownership might not be as significant as the governance change in a low passive ownership firm.