

CEO Influence on Funds from Operations (FFO) Adjustment for Real Estate Investment Trusts (REITs)

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Background

- The REIT industry has experienced tremendous growth and expansion in recent years. REITs play an important role as an alternative investment vehicle in the portfolios of both individual and institutional investors.
- Funds from Operations (**FFO**) is a widely adopted voluntary disclosure performance measure along with Net Income (NI) by the U.S. REIT industry.
- NAREIT believes real estate values are generally not correlated with the GAAP treatment of assets. Hence, it pioneered FFO in the early 90s to provide a better measure of REIT's operating performance, as market conditions, interest rates, and other macroeconomic factors would affect the valuation as they age.

Background (cont.)

- **Calculation:** FFO is calculated as Net Income (NI, calculated in accordance with the GAAP),
- **Excluding:**
 - 1) Depreciation and amortization related to real estate;
 - 2) Gains and losses from sales of certain real estate assets;
 - 3) Gains and Losses from the change in control;
 - 4) Impairment write-downs of certain real estate assets and investments in entities when the impairment is directly attributable to decreases in the value of depreciable real estate held by the entity.

Background (cont.)

- Example, Simon Property Group reported FFO on its 2017 income statement of **\$4 billion**, up 6% from 2016. The firm's net income, meanwhile, totaled **\$2.2 billion**. To arrive at FFO, the firm added back depreciation and amortization of about \$1.8 billion, and further adjusted for other smaller figures — including a reduction of **\$5.3 million** for payment of preferred distributions and dividends, and a non-controlling interest portion of depreciation and amortization that resulted in an additional **\$17.1 million** reduction. Simon additionally reported a **diluted FFO-per-share figure** of \$11.21, compared to a diluted EPS figure of \$6.24.

Literature and arguments

- There are two sides of argument for FFO metric. On the one hand, FFO metric provides **superior information** over the NI for REITs (e.g., better align with dividend payout policy, provide incremental information, closely associated with stock returns, and assess future cash flows and firm value).
- On the other hand, managers use FFO metric to report **“better”** financial results opportunistically and **mislead** investors (e.g., reduce the comparability of their earnings figures, and failure to follow accounting standards is likely to lead to inefficient outcomes).

Research questions and testing hypotheses

- **H1:** *If FFO contains additional information, then it should have a stronger association with REIT market-adjusted stock returns, compared to NI.*
- **H2:** *FFO adjustment is negatively correlated with concurrent NI if it is a widespread practice in the REIT industry that managers use the FFO adjustment to hide subpar operating performance.*
- **H3:** *FFO adjustment is positively associated with CEO tenure (and CEO duality).*
- **H4a:** *The positive correlations between FFO and REIT market-adjusted stock returns are more significant after clarifications of FFO definition by NAREIT and increased scrutiny by SEC.*
- **H4b:** *The negative correlation between FFO adjustment and NI, and CEO influence on FFO adjustment are less significant after clarifications of FFO definition by NAREIT and increased scrutiny by SEC.*

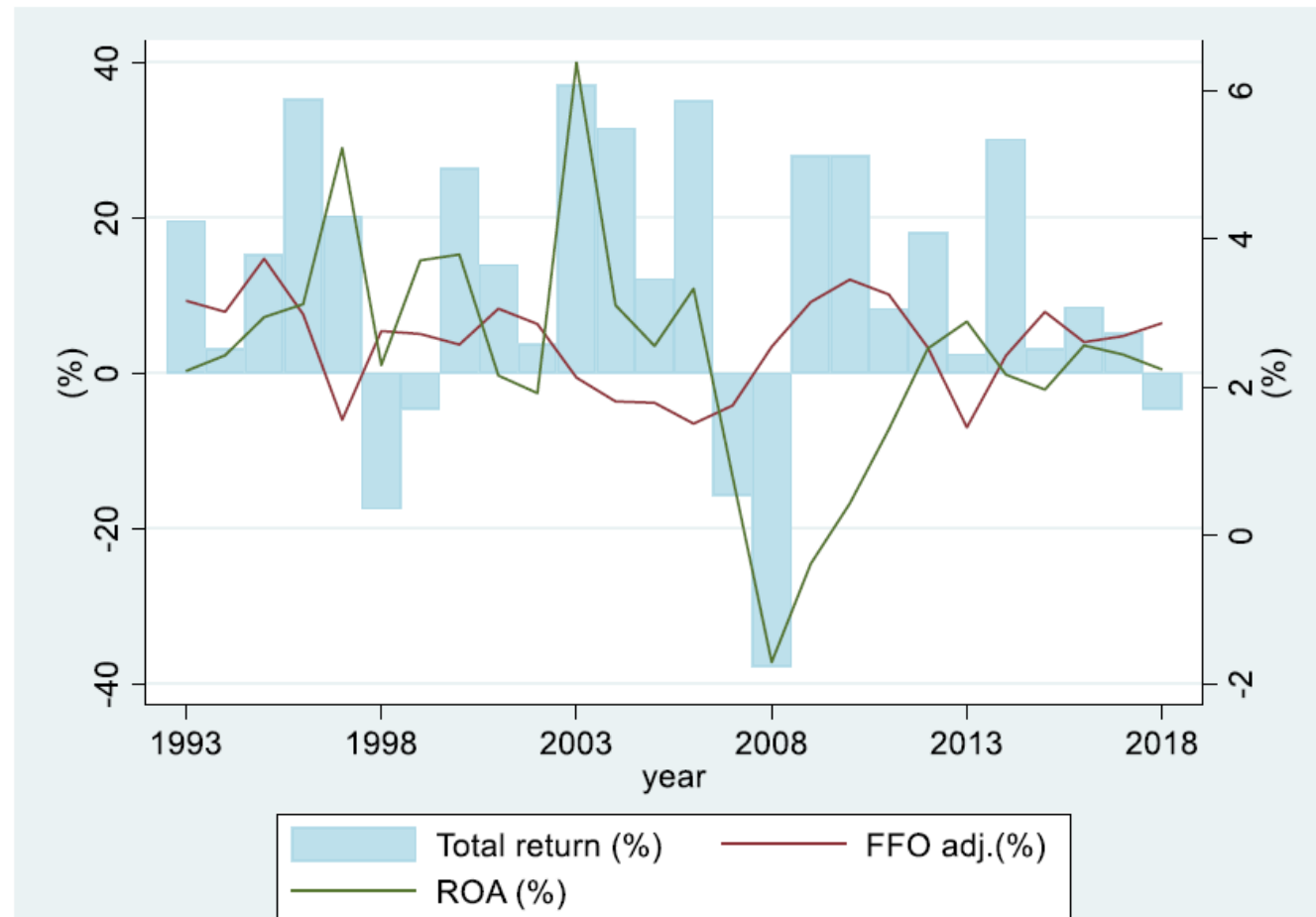
Main findings

- Using the U.S. Equity REIT data from 1993 to 2018, both NI and FFO are associated with REIT stock returns, suggesting both matrix contain information that is **valuable** to investors.
- A significant and **positive** relationship between FFO adjustment and NI, indicating a possible **“selective”** and **“intentional”** inclusion and/or omission of the “good” vs. “bad” news in the FFO reporting.
- More **powerful CEOs** are indeed associated with **higher** FFO adjustments, suggesting CEOs’ involvement in hiding subpar performance.
- A **diminished** “manipulation” for the majority of the REITs, suggesting these guidelines and scrutiny from NAREIT and SEC have achieved the intended purposes.

Empirical results

Figure 1: Evolution of Equity REITs performance (1993 to 2018)

This graph illustrates the evolution of the equity REITs in (1) annual total return on the FTSE-NAREIT All Equity REIT Index, (2) FFO adjustment (%), (3) NI-based ROA. Data for annual total return on the FTSE-NAREIT All Equity REIT Index is from NAREIT website¹⁴, FFO adjustment (%), is defined as the difference between FFO and NI scaled by total assets. NI-based ROA is defined as the NI divided by total asset.



Empirical results (cont.)

- Table 2 Mean difference

	Full sample (3409)			Low NI-based ROA (1704)			High NI-based ROA (1705)			Mean difference (low – high)
	Mean	Median	Standard deviation	Mean	Median	Standard deviation	Mean	Median	Standard deviation	
FFO-based ROA (%)	5.43	5.31	3.23	3.83	4.09	2.66	6.80	6.37	3.03	-2.975***
FFO adjustment (%)	2.59	2.74	4.33	3.54	3.33	2.37	1.78	2.22	5.36	1.760***
CEO tenure (month)	92.56	72.00	82.66	78.80	60.00	68.35	103.74	84.00	91.17	-24.95***
Total asset (million)	3059.38	1462.02	4538.66	2637.90	1331.18	3804.20	3421.76	1580.95	5059.09	-783.9***
REIT age (year)	18.55	19.00	11.18	15.73	14.00	10.47	20.97	22.00	11.21	-5.239***
Leverage	0.45	0.46	0.17	0.49	0.49	0.16	0.42	0.44	0.17	0.0791***
MB	1.31	1.23	0.37	1.18	1.14	0.25	1.43	1.34	0.42	-0.252***

Empirical results (cont.)

- Table 4 FFO, ROA and Stock return

	Dependent variable: Daily compounded market-adjusted (ZIMAN value-weighted) return					
	(1)	(2)	(3)	(4)	(5)	(6)
FFO-based ROA (%)	0.757*** (6.42)		0.556*** (3.50)		0.496*** (3.53)	
NI-based ROA (%)		0.552*** (7.15)		0.333*** (3.03)		0.444*** (4.77)
Constant	-1.771** (-2.38)	0.774* (1.76)	-1.522* (-1.65)	0.382 (0.67)	-2.211*** (-2.71)	-0.886* (-1.82)
Observations	3,401	3,401	2,046	2,046	1,850	1,850
Adjusted R-squared	0.012	0.015	0.005	0.004	0.006	0.012
Year	1993-2018	1993-2018	2003-2018	2003-2018	2003-2007 & 2010-2018	2003-2007 & 2010-2018

Empirical results (cont.)

- Table 5 FFO, ROA and Stock return

VARIABLES	Dependent variable: Daily compounded market-adjusted (ZIMAN value-weighted) return								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Change in FFO-based ROA	1.561*** (8.40)		1.081*** (5.65)	0.563** (2.07)		0.291 (1.06)	0.946*** (3.94)		0.708*** (2.97)
Change in NI-based ROA		0.832*** (11.10)	0.873*** (9.42)		0.602*** (6.38)	0.724*** (5.68)		0.674*** (8.79)	0.846*** (8.18)
Constant	1.523*** (3.57)	2.166*** (5.46)	1.504*** (3.58)	1.142** (2.11)	1.263** (2.47)	1.146** (2.13)	-0.192 (-0.41)	0.153 (0.35)	-0.341 (-0.75)
Observations	3,079	3,167	3,070	1,892	1,937	1,890	1,700	1,741	1,698
Adjusted R-squared	0.022	0.037	0.050	0.002	0.020	0.018	0.008	0.042	0.046
Year	1993-2018	1993-2018	1993-2018	2003-2018	2003-2018	2003-2018	2003-2007 & 2010-2018	2003-2007 & 2010-2018	2003-2007 & 2010-2018

Empirical results (cont.)

- Table 6 FFO adjustment and Change in NI-based ROA

	Dependent variable: FFO adjustment (%)		
	(1)	(2)	(3)
Change in NI-based ROA	-0.279*** (-19.94)	-0.133*** (-7.52)	-0.132*** (-7.52)
Log(tenure)		0.153* (1.76)	0.147* (1.65)
Firm size			0.244*** (3.47)
Log (REIT age)			-0.125 (-0.87)
Leverage			3.525*** (6.38)
MB			0.358 (1.50)
Constant	5.200*** (8.13)	3.452*** (2.68)	0.288 (0.21)
Observations	3,167	2,462	2,459
R-squared	0.147	0.067	0.089
Property Type FE	YES	YES	YES
Year FE	YES	YES	YES

Empirical results (cont.)

- Table 7 FFO adjustment and Change in NI-based ROA after 2003

	Dependent variable: FFO adjustment (%)	
	(1)	(2)
Change in NI-based ROA	-0.104*** (-5.05)	-0.093*** (-4.27)
Log(tenure)	0.270** (2.27)	0.278** (2.14)
Firm size	0.360*** (3.78)	0.379*** (3.64)
Log(REIT age)	-0.302 (-1.56)	-0.335 (-1.63)
Leverage	3.909*** (5.32)	3.941*** (4.80)
MB	0.202 (0.68)	0.060 (0.19)
Constant	-1.681 (-1.57)	-1.606 (-1.40)
Observations	1,756	1,564
R-squared	0.083	0.076
Property Type FE	YES	YES
Year FE	YES	YES
Year	2003-2018	2003-2007 & 2010-2018

Empirical results (cont.)

- Table 8 FFO adjustment and Change in NI-based ROA – Heckman model

	Dependent variable: FFO adjustment (%)	
	(1)	(2)
Change in NI-based ROA	-0.132*** (-7.58)	-0.095*** (-4.49)
Log(tenure)	0.147* (1.66)	0.260** (2.09)
Firm size	0.244*** (3.49)	0.390*** (3.86)
Log(REIT age)	-0.125 (-0.87)	-0.317 (-1.56)
Leverage	3.526*** (6.41)	4.145*** (5.34)
MB	0.358 (1.51)	0.235 (0.76)
LAMBDA	0.002 (0.001)	0.024 (0.07)
Observations	2,459	1,756
Chi2	239.00***	146.30***
Property Type FE	YES	YES
Year FE	YES	YES
Year	1993-2018	2003-2018

Empirical results (cont.)

- Table 9 FFO adjustment and CEO power

Panel A. CEO tenure		
Dependent variable: FFO adjustment (%)	(1) High tenure	(2) Low tenure
Change in NI-based ROA	-0.417*** (-21.58)	-0.039 (-1.48)
Firm size	0.074 (1.40)	0.459*** (3.45)
Log(REIT age)	0.127 (1.01)	-0.395 (-1.62)
Leverage	2.345*** (5.48)	4.310*** (4.19)
MB	0.402** (2.40)	0.491 (0.97)
Constant	-1.492 (-0.97)	1.396 (0.65)
Observations		
R-squared	1,296	1,163
Property Type FE	0.329	0.107
Year FE	YES	YES
Year	1993-2018	1993-2018

Empirical results (cont.)

Panel B. CEO duality		
Dependent variable: FFO adjustment (%)	(1) CEO duality=1	(2) CEO duality=0
Change in NI-based ROA	-0.497*** (-23.93)	0.018 (0.72)
Firm size	0.003 (0.06)	0.543*** (4.15)
Log(REIT age)	0.016 (0.13)	-0.146 (-0.61)
Leverage	2.082*** (4.44)	4.533*** (4.67)
MB	0.382** (1.96)	0.580 (1.28)
Constant	1.641 (1.35)	-1.220 (-0.55)
Observations	1,291	1,252
R-squared	0.369	0.090
Property Type FE	YES	YES
Year FE	YES	YES
Year	1993-2018	1993-2018

Empirical results (cont.)

- Table 10 FFO adjustment and Change in NI-based ROA after 2005

Panel A. Change in NI-based ROA after 2005		
	Dependent variable: FFO adjustment (%)	
	(1)	(2)
Change in NI-based ROA	-0.080*** (-3.66)	-0.068*** (-2.91)
Log(tenure)	0.241* (1.82)	0.243* (1.65)
Firm size	0.398*** (3.72)	0.425*** (3.57)
Log(REIT age)	-0.317 (-1.49)	-0.357 (-1.56)
Leverage	4.055*** (4.96)	4.109*** (4.41)
MB	0.300 (0.92)	0.152 (0.43)
Constant	-2.471** (-2.09)	-2.405* (-1.87)
Observations	1,537	1,345
R-squared	0.075	0.069
Property Type FE	YES	YES
Year FE	YES	YES
Year	2005-2018	2005-2007 & 2010-2018

Empirical results (cont.)

Panel B: Results for sub-groups with and without Comment letter

Dependent variable: FFO adjustment (%)	(1)	(2)
	REITs with comment letter	REITs without comment letter
Change in NI-based ROA	-0.561*** (-15.05)	-0.016 (-0.66)
Log(tenure)	-0.094 (-0.55)	0.333** (2.12)
Firm size	-0.015 (-0.10)	0.493*** (3.89)
Log(REIT age)	-0.400 (-1.34)	-0.326 (-1.30)
Leverage	4.312*** (3.58)	4.317*** (4.54)
MB	0.372 (0.95)	0.328 (0.83)
Constant	2.573 (1.34)	-3.564** (-2.58)
Observations	312	1,225
R-squared	0.487	0.080
Property Type FE	YES	YES
Year FE	YES	YES
Year	2005-2018	2005-2018

Conclusion and discussions

- Using the U.S. Equity REIT data from 1993 to 2018, both NI and FFO are associated with REIT stock returns, suggesting both matrix contain information that is **valuable** to investors.
- A significant and **positive** relationship between FFO adjustment and NI, indicating a possible “**selective**” and “**intentional**” inclusion and/or omission of the “good” vs. “bad” news in the FFO reporting.
- More **powerful CEOs** are indeed associated with **higher** FFO adjustments, suggesting CEOs’ involvement in hiding subpar performance.
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Questions?