TSR, Executive Compensation, and Firm Performance*

A Brief Prepared by the Institute for Compensation Studies

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1 Overview

- Particularly since the recent recession, the general public and policy makers have been interested in aligning the incentives of executives with the incentives of shareholders.

- Embedding Total Shareholder Return (TSR) target metrics into top executive compensation plans have been described as a simple and direct tool to align incentives.

- Despite the increased popularity of such TSR plans, the empirical evidence supporting the expansion of this compensation strategy is limited.

- This brief aims to shed light on whether the inclusion of TSR measures in long-term incentive plans result in improved firm performance.[1]

2 Data

The population of study for this research were identified using the 2014 S&P 500 index. A rich longitudinal dataset was constructed using compensation data and firm financial data covering fiscal years 2004 through 2013. Our analytical sample excluded 47 firms from this population due to missing data concerns and another two firms as outliers.[2] The information regarding compensation was derived from Equilar's executive compensation data. These data contain detailed records of the compensation types and amounts for named executive officers from firms in our sample. For example, we observe base salary, bonus payouts, stock awards, option awards, and several types of incentive plan awards. Measures of firm performance include 1, 3 and 5-year TSR as well as annual measures of return on equity (ROE), earning per share (EPS) growth, and total revenue growth. Firm performance measures came from

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[1]This brief is meant only to summarize the analytical research conducted to date. A full-length academic working paper is forthcoming.

[2]These two outliers were classified as such because they had firm performance measures outside of the reasonable range of values, suggesting data error. The trimming parameters were set to flag observations where total revenue growth exceeded 100 percent, 1/3/5 TSR was above 5, or ROE was not between negative one and positive one.

Capital IQ.[3]

3 Methodology

To examine how the inclusion of TSR plans impact firm performance, we used both descriptive analysis and also regression analysis. The descriptive analysis compared the raw patterns among groups of firms with and without TSR plans over time. The resulting tables and figures are valuable in understanding the unconditional relationship between TSR plans and firm performance. All analysis was conducted on three subsamples of executives: top five named executive officers (NEOs), CEOs only, and top five NEOs excluding CEOs.

Regression analysis was used to as a way to control for other factors related to the role of TSR measures on firm performance. Our baseline model uses the following Ordinary Least Squares regression framework:

$$Y_{it} = \beta_1 + Z_{it}\beta_2 + S_{it}\beta_3 + C_t\beta_4 + \beta_5 X_{it} + \beta_6 X_{i,t-1} + \beta_7 X_{i,t-2} + \epsilon_{it} \tag{1}$$

Y_{it} represents a given performance measure for firm i in fiscal year t. The set of firm performance measures studied in this brief are 1-year TSR, 3-year TSR, 5-year TSR, ROE, EPS growth, and total revenue growth. Z_{it} is a set of control variables including functions of market capitalization and an indicator for change in CEO. Our model also accounts for sector performance and year fixed effects with S_{it} and C_t, respectively. The key variables in this project capture the existence and weight of TSR measures in the top executive compensation plans, represented by X_{it}. For the existence of a TSR plan, X_{it}, is an indicator variable equal to one when a firm has any executive in the relative sample with a TSR plan during the current fiscal year. To analyze the role of weight on performance, X_{it} is set to the firm-level average of the ratio of TSR award to either long term incentives (LTI) or total direct

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[3]We would like to thank Pearl Meyer & Partners for providing us with the data used in this brief and also for constructing the key measures of TSR plan existence, TSR plan awards, performance-based compensation, long-term incentive pay, total compensation, and others.

compensation (TDC).[4] Our baseline model includes two lags of X_{it}. Finally, the remaining error in the model is captured by ϵ_{it}, which is clustered at the firm level.

Multiple extensions of the baseline model were investigated to assess the sensitivity of our findings. One extension replaced the sector fixed effects with firm effects, which allows the model to control for unobserved firm-specific and fixed attributes.[5] We also partitioned the sample by firm size and by TSR plan history. Additional sensitivity checks include removing the Financials sector from the analysis and running models with a richer set of lag measures.

4 Results

Descriptive Statistics

- Table 1 shows that for all three groups (Top 5, CEOs, and Top 5 Excluding CEOs) the share of firms with TSR plans has increased from roughly 16 percent of firms to just under 50 percent of firms.

- Table 2 reports how the weight of TSR has changed over time. The increasing patterns in the unconditional columns and decreasing patterns in the conditional columns suggests that more executives are receiving TSR measures in their compensation plans but that the relative weight of those TSR plans is decreasing.

- Table 3 confirms the findings from Table 2 by demonstrating that the growth in the weight of performance-based grants is a result of growth in non-TSR components.

- Tables 4 through 6 show that firms in all sectors have increasingly included TSR plans in the compensation of their executives.

- Table 7 groups firms by whether they always had a TSR plan, never had a TSR plan, or changed. This grouping indicates that the firms that change are larger while upholding

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[4]See Appendix for variable definitions.

[5]For a thorough explanation of fixed effects techniques see Wooldridge, Jeffrey M. *Econometric analysis of cross section and panel data*. MIT press, 2010.

the previous finding that those with TSR plans tend to be less profitable.

Regression Analysis

- Estimates of TSR plans on firm performance (Tables 8 through 10) indicate that there is no strong evidence of a positive impact of TSR plans on firm performance. Moreover, we find that point estimates of TSR plans on 1/3/5 year TSR measures are often negative while only occasionally being statistically significant.

- For example, the right panel of Table 10 reports the estimates of the role of TSR plans on total revenue growth.

  - The estimates of the first lag of TSR plan on revenue growth, i.e., how is the existence of a TSR plan among any of the company's NEOs one year ago related to current revenue growth, are negative.

  - Column 5 indicates that the existence of a TSR plan one year ago is associated with a decline in current revenue growth by 2.2 percentage points.

- Moreover, further analyses find a consistent pattern of a negative relationship between TSR plans and total revenue growth, where the one year lag appears to be the driving factor.

- Estimates of relative TSR to LTI on firm performance (Tables 11 through 13) continue to present evidence of a negative relationship between TSR measures and total revenue growth.

  - Models incorporating firm fixed effects find small but statistically significant positive estimates of the role of contemporaneous TSR weights on ROE

  - Specifically, a one percent increase in the ratio of TSR to LTI is associated with a 0.1 percent increase in ROE.

- Additional analyses examined the sensitivity of the above regression estimates by quartile of market capitalization, exclusion of the Financials sector, exclusion of firms without changing TSR policies, richer five year lagged dependent variable structure, and limiting the analysis to only those firms with relative TSR to LTI greater than 50 percent.[6]

5   Discussion and Future Direction

Currently, almost half of the 2014 S&P 500 firms offer TSR plans to their named executive officers (NEO) - a twofold increase between 2004 and 2013. As evidenced by Table 2, the increase in the weight of TSR awards to both LTI and TDC appears to be the result of more NEOs receiving low weighted TSR plans. Furthermore, increases in the weight of performance-based pay to both LTI and TDC over time are related to the increases in both the frequency and weight of performance-based grants over time. The expansion of TSR plans is observed across all sectors, with particularly large uptake within the Consumer Staples and Information Technology sectors.

Differences are observable in the firms that include TSR measures into the compensation plans of their executives compared to those that do not include TSR plans. Firms with TSR plans tend to be larger (as measured by market capitalization and total revenue) and less profitable (as measured by 10 year compound annual growth rates (CAGR) of Net Income, ROIC, EBIT, EPS, ROA, ROE, and Free Cash Flow). The evidence from our primary model specifications as well as numerous sensitivity checks indicate that there is either no impact of TSR plans on firm performance or weak evidence of a negative relationship.

An important caution of these results needs to be noted. As with any regression models of the type deployed here, statistical results only indicate relationship, not causation. That said, the models controlled for a wide range of likely influential factors, including firm size, sector, change in CEO leadership, time effects, and firm-specific fixed effects.

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[6]The results of these analyses are available from the authors upon request.

The academic literature around TSR awards and firm performance is very limited. This project represents the first academic effort to address this topic. The importance of this work is not only to clarify the trends associated with expanding TSR plans for executives of S&P 500 companies, but to surface the need for further empirical research on the relationship between including TSR and other metrics of firm performance in the compensation plans of top executives and the ultimate sustainable financial success for the firms they lead. The future steps in this line of research could examine, for example, more refined measures of TSR awards. This work is an important first, not final, step in the examination of executive performance pay.

6   Appendix

This appendix provides variable definitions for key measures used in this study.

- TSR outcome measures, where the closing price is adjusted for dividends

  - 1-Year TSR: (Fiscal year end stock price/previous fiscal year end stock price)-1

  - 3-Year TSR: {(Fiscal year end stock price/three fiscal year priors end stock price)$\hat{(}1/3)$}-1

  - 5-Year TSR: {(Fiscal year end stock price/five fiscal year priors end stock price)$\hat{(}1/5)$}-1

- TDC measures

  - For FY 2006-2013: TDC = Long-Term Incentives + Base Salary + Short-Term Portion of NEIP Compensation + Bonus

  - For FY 2004-2005: TDC = Base Salary + Bonus + Other Annual Compensation + Restricted Stock + Value of Stock Options (FAS 123(R)) + LTIP Payouts + Other Compensation

- LTI measures

  - For FY 2006-2013: LTI = Grant Date Present Value of Securities + Grant Date Present Value of Option (FAS 123(R)) + Grant Date Present Value of Target Award

  - For FY 2004-2005: LTI = Restricted Stock Awards + Grant Date Present Value of Option (FAS 123(R)) + FYE Target Value

7 Tables

Table 1: Percent of Firms with TSR Plans

	Top 5	CEO	Top 5 Excluding CEO
2004	16.57	16.06	15.75
2005	13.71	12.9	13.48
2006	20.8	20.63	20.35
2007	24.34	22.79	23.68
2008	24.78	24.1	24.33
2009	26.54	25.78	26.1
2010	30.43	29.89	30.22
2011	32.62	31.82	31.97
2012	44.16	42.83	43.31
2013	48.25	47.12	46.82

Means of the share of firms with TSR plans by three samples: top 5 NEOs, CEOs, and top 5 NEOs excluding CEOs.

Table 2: Weight of TSR Plan

| | Top 5 | | | | CEO | | | | Top 5 Excluding CEO | | | |
| | Unconditional | | Conditional on TSR | | Unconditional | | Conditional on TSR | | Unconditional | | Conditional on TSR | |
Year	(1) LTI	(2) TDC	(3) LTI	(4) TDC	(5) LTI	(6) TDC	(7) LTI	(8) TDC	(9) LTI	(10) TDC	(11) LTI	(12) TDC
2004	7.77	5	46.64	31.65	7.87	5.27	50.13	37.64	7.58	4.62	47.86	30.92
2005	6.29	3.48	45.68	26.61	6.34	3.49	48.23	29.96	6.33	3.32	46.54	25.8
2006	7.87	4.89	38.04	24.24	8.8	5.73	41.64	28.66	7.87	4.91	38.57	24.65
2007	8.69	5.41	36.23	22.86	9.37	6.12	41.1	27.83	8.59	5.25	36.47	22.6
2008	8.8	5.71	35.26	23.04	10.06	6.97	40.24	28.73	8.56	5.41	34.96	22.25
2009	8.91	5.83	34.12	22.54	10.23	6.99	38.94	27.53	8.68	5.57	33.83	21.9
2010	10.29	6.44	33.82	21.27	11.51	7.65	37.94	25.72	10.05	6.16	33.3	20.48
2011	10.88	7.04	34.05	22.12	11.69	8.03	36.78	25.7	10.74	6.81	34.3	21.83
2012	14.85	9.67	35.28	23.07	16.74	11.51	40	28.23	14.46	9.23	35.08	22.47
2013	16.38	10.77	35.24	23.31	18.35	12.95	39.96	28.62	15.95	10.24	35.41	22.87

Means of the weight of TSR plans by three samples: top 5 NEOs, CEOs, and top 5 NEOs excluding CEOs. Unconditional estimates include firms with zero individuals (with respect to the sample) reported to have a TSR plan. Conditional on TSR estimates exclude firms with zero individuals (with respect to the sample) reported to have a TSR plan.

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Table 3: Weight of Performance Pay

	Year	Unconditional				Conditional on Performance Pay			
		Non-TSR PP to LTI	Non-TSR PP to TDC	PP to LTI	PP to TDC	Non-TSR PP to LTI	Non-TSR PP to TDC	PP to LTI	PP to TDC
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Top 5	2004	8.85	5.96	16.62	10.95	2.98	3.57	49.62	35.22
	2005	9.35	6	15.64	9.49	1.87	1.7	47.55	28.31
	2006	30.3	17.38	38.17	22.28	22.44	13.73	60.48	37.97
	2007	38.24	22	46.93	27.41	21.76	13.31	57.99	36.17
	2008	39.33	24.14	48.13	29.85	26.75	17.35	62.01	40.39
	2009	40.54	24.72	49.44	30.55	29.32	18.48	63.43	41.02
	2010	40.14	23.79	50.42	30.23	28.17	17.15	61.99	38.42
	2011	41.84	25.9	52.72	32.93	29.14	18.26	63.19	40.38
	2012	41.63	26.44	56.48	36.11	29.92	19	65.2	42.07
	2013	42.83	27.56	59.21	38.33	31	19.86	66.24	43.17
CEO	2004	8.6	6.79	16.47	12.06	1.63	1.82	51.76	39.45
	2005	10.09	7.35	16.43	10.84	0.51	0.5	48.74	30.46
	2006	30.7	19.04	39.5	24.77	19.24	13.2	60.88	41.86
	2007	38.52	23.53	47.9	29.65	19.53	13.51	60.63	41.34
	2008	39.01	25.73	49.07	32.7	24.01	17.11	64.25	45.84
	2009	41.05	26.66	51.28	33.65	26.64	18.53	65.59	46.06
	2010	40.35	25.5	51.86	33.15	25.88	17.14	63.82	42.86
	2011	41.96	27.73	53.65	35.76	26.74	18.36	63.52	44.06
	2012	41.54	28.21	58.28	39.72	28.04	19.59	68.05	47.83
	2013	42.48	29.92	60.83	42.87	28.07	20.03	68.03	48.65
Top 5 - Excluding CEO	2004	9.05	5.8	16.63	10.42	1.4	1.44	49.26	32.36
	2005	9.28	5.67	15.62	8.99	0.49	0.41	47.03	26.22
	2006	30.3	17.04	38.18	21.95	22.08	13.33	60.65	37.98
	2007	38.24	21.65	46.83	26.9	22.38	13.27	58.85	35.87
	2008	39.42	23.77	47.99	29.19	27.32	17.36	62.28	39.61
	2009	40.44	24.27	49.12	29.85	29.96	18.46	63.79	40.36
	2010	40.18	23.38	50.24	29.53	28.61	17.11	61.91	37.59
	2011	41.86	25.44	52.6	32.25	29.28	17.91	63.57	39.74
	2012	41.73	25.99	56.19	35.22	29.85	18.48	64.93	40.94
	2013	42.98	26.96	58.93	37.2	30.86	19.24	66.27	42.12

Means of the weight of performance pay by three samples: top 5 NEOs, CEOs, and top 5 NEOs excluding CEOs. Unconditional estimates include firms with zero individuals (with respect to the sample) reported to have performance-based compensation. Conditional on TSR estimates exclude firms with zero individuals (with respect to the sample) reported to have performance-based compensation.

Table 4: Share of Firms with TSR Plan by Sector (Top 5)

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Energy	0.27	0.28	0.48	0.45	0.48	0.5	0.57	0.58	0.78	0.84
	(41)	(39)	(42)	(42)	(40)	(42)	(42)	(45)	(45)	(45)
Materials	0.25	0.21	0.33	0.32	0.39	0.41	0.5	0.5	0.57	0.59
	(24)	(28)	(27)	(28)	(28)	(29)	(28)	(30)	(30)	(29)
Industrials	0.08	0.09	0.14	0.22	0.15	0.25	0.26	0.27	0.38	0.41
	(48)	(57)	(58)	(58)	(55)	(57)	(57)	(56)	(61)	(63)
Consumer Discretionary	0.09	0.07	0.07	0.12	0.16	0.14	0.19	0.19	0.23	0.32
	(43)	(74)	(73)	(77)	(74)	(77)	(80)	(81)	(81)	(84)
Consumer Staples	0.05	0.03	0.12	0.22	0.15	0.12	0.23	0.22	0.29	0.42
	(19)	(32)	(34)	(36)	(34)	(34)	(35)	(36)	(35)	(36)
Health Care	0.13	0.11	0.11	0.23	0.25	0.29	0.3	0.27	0.45	0.49
	(39)	(47)	(46)	(40)	(44)	(48)	(46)	(44)	(44)	(49)
Financials	0.1	0.12	0.21	0.2	0.18	0.15	0.15	0.3	0.43	0.44
	(79)	(78)	(81)	(82)	(82)	(75)	(79)	(80)	(79)	(82)
Information Technology	0.03	0.02	0.03	0.05	0.08	0.12	0.15	0.15	0.29	0.27
	(34)	(57)	(58)	(60)	(59)	(60)	(59)	(61)	(62)	(64)
Telecommunication Services	0.2	0.2	0.5	0.5	0.67	0.5	0.6	0.33	1	1
	(5)	(5)	(4)	(4)	(3)	(4)	(5)	(3)	(5)	(5)
Utilities	0.63	0.61	0.76	0.79	0.79	0.83	0.9	0.9	0.93	1
	(30)	(28)	(29)	(29)	(29)	(30)	(29)	(30)	(29)	(30)

Means with number of observations in parentheses for the sample of the top 5 NEOs.

Table 5: Share of Firms with TSR Plan by Sector (CEO)

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Energy	0.25	0.28	0.49	0.43	0.48	0.5	0.59	0.59	0.76	0.78
	(40)	(39)	(41)	(42)	(40)	(42)	(41)	(44)	(45)	(45)
Materials	0.25	0.21	0.33	0.32	0.39	0.38	0.5	0.5	0.53	0.59
	(24)	(28)	(27)	(28)	(28)	(29)	(28)	(30)	(30)	(29)
Industrials	0.09	0.09	0.14	0.22	0.15	0.25	0.25	0.27	0.35	0.4
	(47)	(57)	(58)	(58)	(55)	(57)	(57)	(56)	(60)	(63)
Consumer Discretionary	0.07	0.04	0.07	0.1	0.14	0.12	0.18	0.16	0.23	0.31
	(42)	(73)	(71)	(77)	(73)	(76)	(78)	(80)	(79)	(84)
Consumer Staples	0.05	0.03	0.12	0.17	0.12	0.12	0.23	0.23	0.29	0.42
	(19)	(32)	(33)	(35)	(33)	(34)	(35)	(35)	(35)	(36)
Health Care	0.13	0.11	0.11	0.23	0.25	0.27	0.26	0.25	0.45	0.49
	(39)	(47)	(46)	(40)	(44)	(48)	(46)	(44)	(44)	(49)
Financials	0.1	0.1	0.2	0.17	0.18	0.15	0.15	0.3	0.41	0.44
	(78)	(78)	(80)	(81)	(82)	(71)	(79)	(80)	(79)	(82)
Information Technology	0.03	0.02	0.04	0.03	0.09	0.1	0.16	0.13	0.3	0.25
	(31)	(55)	(57)	(58)	(57)	(59)	(57)	(60)	(61)	(63)
Telecommunication Services	0.2	0.2	0.5	0.5	0.67	0.5	0.6	0.33	1	1
	(5)	(5)	(4)	(4)	(3)	(4)	(5)	(3)	(5)	(5)
Utilities	0.6	0.57	0.72	0.76	0.76	0.83	0.9	0.87	0.9	1
	(30)	(28)	(29)	(29)	(29)	(30)	(29)	(30)	(29)	(30)

Means with number of observations in parentheses for the sample of CEOs.

Table 6: Share of Firms with TSR Plan by Sector (Top 5 Excluding CEO)

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Energy	0.27	0.28	0.48	0.45	0.48	0.5	0.57	0.58	0.78	0.82
	(41)	(39)	(42)	(42)	(40)	(42)	(42)	(45)	(45)	(45)
Materials	0.25	0.21	0.33	0.32	0.39	0.41	0.5	0.5	0.57	0.59
	(24)	(28)	(27)	(28)	(28)	(29)	(28)	(30)	(30)	(29)
Industrials	0.06	0.09	0.12	0.17	0.13	0.23	0.26	0.23	0.38	0.4
	(48)	(57)	(58)	(58)	(55)	(57)	(57)	(56)	(61)	(63)
Consumer Discretionary	0.09	0.07	0.07	0.12	0.16	0.14	0.18	0.19	0.21	0.31
	(43)	(74)	(73)	(77)	(74)	(77)	(80)	(81)	(81)	(84)
Consumer Staples	0.05	0.03	0.12	0.22	0.15	0.12	0.23	0.22	0.29	0.39
	(19)	(32)	(34)	(36)	(34)	(34)	(35)	(36)	(35)	(36)
Health Care	0.13	0.11	0.11	0.23	0.23	0.27	0.3	0.27	0.45	0.47
	(39)	(47)	(46)	(40)	(44)	(48)	(46)	(44)	(44)	(49)
Financials	0.1	0.12	0.21	0.2	0.18	0.15	0.15	0.29	0.43	0.41
	(79)	(78)	(81)	(82)	(82)	(75)	(79)	(80)	(79)	(82)
Information Technology	0.03	0.02	0.03	0.05	0.08	0.12	0.15	0.15	0.26	0.27
	(34)	(57)	(58)	(60)	(59)	(60)	(59)	(61)	(62)	(64)
Telecommunication Services	0	0	0.25	0.5	0.67	0.5	0.6	0.33	1	1
	(5)	(5)	(4)	(4)	(3)	(4)	(5)	(3)	(5)	(5)
Utilities	0.6	0.61	0.76	0.79	0.79	0.83	0.9	0.9	0.93	1
	(30)	(28)	(29)	(29)	(29)	(30)	(29)	(30)	(29)	(30)

Means with number of observations in parentheses for the sample of the top 5 NEOs excluding CEOs.

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Table 7: Firm Characteristics by TSR Plan Pattern (Top 5)

	Always TSR	Change TSR	Never TSR
Market Cap - Avg	25380.28	25746.1	19223.57
	(0.31)	(0.1)	
Total Revenue - Avg	18846.49	17223.51	15072.41
	(0.39)	(0.46)	
10 Yr Net Inc CAGR	6.66	7.7	11.51
	(0.02)	(0)	
10 Yr ROIC CAGR	0.88	0.42	1.82
	(0.5)	(0.15)	
10 Yr EBIT CAGR	5.75	7.66	12.38
	(0)	(0)	
10 Yr EPS CAGR	6.95	6.05	11.47
	(0.03)	(0)	
10 Yr ROA CAGR	0.05	0.06	0.07
	(0)	(0)	
10 Yr ROE CAGR	0.31	0.14	0.18
	(0.04)	(0.29)	
10 Yr FCF CAGR	4.33	8.56	11.37
	(0.01)	(0.09)	
Observations	55	188	208

Means with p-values in parentheses for the sample of the top five NEOs. Firms are grouped into three groups based on the sample period: those that always had a TSR plan, those that never had a TSR plan, and those that changed their TSR plans by either introducing or removing them.

Table 8: Estimates of TSR Plans on 1-Year TSR and 3-Year TSR

	1-Year TSR				3-Year TSR			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
TSR Plan	-0.010	-0.009	0.011	0.010	-0.004	-0.002	0.016	0.021
	(0.028)	(0.023)	(0.034)	(0.028)	(0.010)	(0.011)	(0.013)	(0.012)
TSR Plan - 1 Lag	-0.008	0.022	-0.012	0.002	-0.009	0.010	0.007	0.010
	(0.029)	(0.039)	(0.033)	(0.036)	(0.011)	(0.012)	(0.014)	(0.013)
TSR Plan - 2 Lags		-0.048		-0.021		-0.021		-0.003
		(0.030)		(0.031)		(0.013)		(0.015)
Time FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sector FE	Yes	Yes	No	No	Yes	Yes	No	No
Firm FE	No	No	Yes	Yes	No	No	Yes	Yes
Observations	3308	2892	3308	2892	3308	2892	3308	2892
R^2	0.15	0.17	0.18	0.21	0.16	0.21	0.19	0.29
Adjusted R^2	0.14	0.16	0.18	0.21	0.15	0.21	0.19	0.29

Regression point estimates with standard errors in parentheses. Time fixed effects (FE) are captured using dummy variables to identify each year within the panel. The sector fixed effects are based on the 10 sectors under the two-digit GICS: Energy, Materials, Industrials, Consumer Discretionary, Consumer Staples, Health Care, Financials, Information Technology, Telecommunication Services, and Utilities. Firm fixed effects are represented by a set of dummy variables that separately identifies each firm. Significance levels: $^* p < 0.05$, $^{**} p < 0.01$, $^{***} p < 0.001$

Table 9: Estimates of TSR Plans on 5-Year TSR and ROE

	5-Year TSR				ROE			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
TSR Plan	-0.015	-0.018	-0.010	-0.004	0.009	0.004	0.009	0.012
	(0.010)	(0.010)	(0.011)	(0.012)	(0.010)	(0.011)	(0.010)	(0.011)
TSR Plan - 1 Lag	-0.010	0.005	-0.002	0.008	0.009	0.010	0.003	0.008
	(0.009)	(0.008)	(0.010)	(0.009)	(0.010)	(0.010)	(0.009)	(0.010)
TSR Plan - 2 Lags		-0.011		0.007		0.006		0.002
		(0.010)		(0.011)		(0.010)		(0.010)
Time FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sector FE	Yes	Yes	No	No	Yes	Yes	No	No
Firm FE	No	No	Yes	Yes	No	No	Yes	Yes
Observations	3308	2892	3308	2892	3308	2892	3308	2892
R^2	0.17	0.20	0.23	0.28	0.11	0.12	0.06	0.08
Adjusted R^2	0.17	0.19	0.22	0.28	0.11	0.11	0.06	0.07

Regression point estimates with standard errors in parentheses. Time fixed effects (FE) are captured using dummy variables to identify each year within the panel. The sector fixed effects are based on the 10 sectors under the two-digit GICS: Energy, Materials, Industrials, Consumer Discretionary, Consumer Staples, Health Care, Financials, Information Technology, Telecommunication Services, and Utilities. Firm fixed effects are represented by a set of dummy variables that separately identifies each firm. Significance levels: $^* p < 0.05$, $^{**} p < 0.01$, $^{***} p < 0.001$

Table 10: Estimates of TSR Plans on EPS Growth and Total Revenue Growth

	EPS Growth				Total Revenue Growth			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
TSR Plan	0.027	0.219	0.123	0.464	-0.015	-0.010	0.009	0.010
	(0.214)	(0.186)	(0.338)	(0.268)	(0.009)	(0.010)	(0.011)	(0.012)
TSR Plan - 1 Lag	-0.227	-0.207	-0.212	-0.173	-0.022*	-0.018	-0.003	-0.008
	(0.187)	(0.166)	(0.264)	(0.166)	(0.009)	(0.011)	(0.011)	(0.012)
TSR Plan - 2 Lags		0.037		0.235		-0.009		0.012
		(0.205)		(0.321)		(0.011)		(0.012)
Time FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sector FE	Yes	Yes	No	No	Yes	Yes	No	No
Firm FE	No	No	Yes	Yes	No	No	Yes	Yes
Observations	3308	2892	3308	2892	3308	2892	3308	2892
R^2	0.01	0.02	0.01	0.02	0.17	0.16	0.19	0.18
Adjusted R^2	0.01	0.01	0.01	0.02	0.16	0.16	0.18	0.18

Regression point estimates with standard errors in parentheses. Time fixed effects (FE) are captured using dummy variables to identify each year within the panel. The sector fixed effects are based on the 10 sectors under the two-digit GICS: Energy, Materials, Industrials, Consumer Discretionary, Consumer Staples, Health Care, Financials, Information Technology, Telecommunication Services, and Utilities. Firm fixed effects are represented by a set of dummy variables that separately identifies each firm. Significance levels: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 11: Estimates of TSR/LTI on 1-Year TSR and 3-Year TSR

	1-Year TSR				3-Year TSR			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
TSR to LTI	-0.001	-0.000	-0.000	0.000	-0.000	-0.000	0.000	0.001
	(0.001)	(0.000)	(0.001)	(0.001)	(0.000)	(0.000)	(0.000)	(0.000)
TSR to LTI - 1 Lag	-0.000	0.001	0.000	0.000	0.000	0.000	0.001	0.000
	(0.001)	(0.001)	(0.001)	(0.001)	(0.000)	(0.000)	(0.000)	(0.000)
TSR to LTI - 2 Lags		-0.001		-0.001		-0.000		0.000
		(0.001)		(0.001)		(0.000)		(0.000)
Time FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sector FE	Yes	Yes	No	No	Yes	Yes	No	No
Firm FE	No	No	Yes	Yes	No	No	Yes	Yes
Observations	3308	2859	3308	2859	3308	2859	3308	2859
R^2	0.15	0.17	0.18	0.21	0.16	0.21	0.19	0.29
Adjusted R^2	0.14	0.16	0.18	0.21	0.15	0.21	0.19	0.29

Regression point estimates with standard errors in parentheses. Time fixed effects (FE) are captured using dummy variables to identify each year within the panel. The sector fixed effects are based on the 10 sectors under the two-digit GICS: Energy, Materials, Industrials, Consumer Discretionary, Consumer Staples, Health Care, Financials, Information Technology, Telecommunication Services, and Utilities. Firm fixed effects are represented by a set of dummy variables that separately identifies each firm. Significance levels: $^{*}\,p < 0.05$, $^{**}\,p < 0.01$, $^{***}\,p < 0.001$

Table 12: Estimates of TSR/LTI on 3-Year TSR and ROE

	5-Year TSR				ROE			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
TSR to LTI	-0.000	-0.000	-0.000	0.000	0.000	0.000	0.001*	0.001*
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
TSR to LTI - 1 Lag	-0.000	0.000	0.000	0.000*	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
TSR to LTI - 2 Lags		-0.000		0.000		0.000		0.000
		(0.000)		(0.000)		(0.000)		(0.000)
Time FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sector FE	Yes	Yes	No	No	Yes	Yes	No	No
Firm FE	No	No	Yes	Yes	No	No	Yes	Yes
Observations	3308	2859	3308	2859	3308	2859	3308	2859
R^2	0.17	0.20	0.23	0.28	0.11	0.12	0.07	0.08
Adjusted R^2	0.17	0.19	0.22	0.28	0.11	0.11	0.06	0.08

Regression point estimates with standard errors in parentheses. Time fixed effects (FE) are captured using dummy variables to identify each year within the panel. The sector fixed effects are based on the 10 sectors under the two-digit GICS: Energy, Materials, Industrials, Consumer Discretionary, Consumer Staples, Health Care, Financials, Information Technology, Telecommunication Services, and Utilities. Firm fixed effects are represented by a set of dummy variables that separately identifies each firm. Significance levels: $^*\, p < 0.05$, $^{**}\, p < 0.01$, $^{***}\, p < 0.001$

Table 13: Estimates of TSR/LTI on EPS Growth and Total Revenue Growth

	EPS Growth				Total Revenue Growth			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
TSR to LTI	0.007	0.012	0.010	0.018	-0.000*	-0.000	0.000	0.000
	(0.007)	(0.007)	(0.010)	(0.010)	(0.000)	(0.000)	(0.000)	(0.000)
TSR to LTI - 1 Lag	-0.007	-0.006	-0.005	-0.003	-0.001*	-0.000	-0.000	-0.000
	(0.004)	(0.005)	(0.006)	(0.005)	(0.000)	(0.000)	(0.000)	(0.000)
TSR to LTI - 2 Lags		-0.001		0.003		-0.000		0.000
		(0.004)		(0.005)		(0.000)		(0.000)
Time FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sector FE	Yes	Yes	No	No	Yes	Yes	No	No
Firm FE	No	No	Yes	Yes	No	No	Yes	Yes
Observations	3308	2859	3308	2859	3308	2859	3308	2859
R^2	0.01	0.02	0.01	0.02	0.17	0.16	0.19	0.18
Adjusted R^2	0.01	0.01	0.01	0.02	0.16	0.16	0.18	0.18

Regression point estimates with standard errors in parentheses. Time fixed effects (FE) are captured using dummy variables to identify each year within the panel. The sector fixed effects are based on the 10 sectors under the two-digit GICS: Energy, Materials, Industrials, Consumer Discretionary, Consumer Staples, Health Care, Financials, Information Technology, Telecommunication Services, and Utilities. Firm fixed effects are represented by a set of dummy variables that separately identifies each firm. Significance levels: $^* p < 0.05$, $^{**} p < 0.01$, $^{***} p < 0.001$