Performance-Based Long Term Incentive Compensation and Firm Performance* A Brief Prepared by the Institute for Compensation Studies ILR School, Cornell University

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August 18, 2016

^{*}Funding for this study was provided by executive compensation consulting firm, Pearl Meyer, jointly agreeing with the Institute for Compensation Studies (ICS) authors on the research question of interest. This study builds upon our earlier work examining TSR, Executive Compensation, and Firm Performance. Pearl Meyer obtained the underlying data from Equilar, Inc., a leading independent provider of executive and board compensation data and analysis. Pearl Meyer provided these data to ICS for analysis, including additional data on companies from Capital IQ, and "compensation plan existence and weight" variables that they constructed. Pearl Meyer provided valuable insight on how executive compensation is structured in the corporate landscape, which helped ICS ensure its models were valid in terms of real-world practice and terminology. Independently, ICS conducted the statistical analyses herein. The views, opinions, findings and conclusions or recommendations expressed in this paper are strictly those of the author(s). They do not necessarily reflect the views of the ILR School at Cornell University.

For the complete set of analyses, please email Hassan Enayati at he76@cornell.edu. The authors wish to thank Stephanie Thomas and the consultants at Pearl Meyer for their helpful comments.

1 Executive Summary

Awarding executives long-term incentive pay based on firm performance is often described as a natural way to improve firm performance. This brief uses an analytical approach to examine that proposed relationship. We first document the prevalence of performance-based long-term incentive (PB LTI) measures and the trends in the relative size of these measures compared to aggregate measures of compensation. We then compare the characteristics and performance of firms that have implemented a PB LTI measure in the past to those that have not. In order to understand the impact of PB LTI awards on firm performance, we separately assess the roles of the existence of the PB LTI measures, the relative size of the measures, and the type of PB LTI measure on firm performance.

Key Findings:

- * In 2013, 88 percent of the 2014 S&P 500 firms offered PB LTI plans to one of their top five named executive officers (NEO) - nearly a 40 percent increase from the level of 64 percent in 2006.
- * There has been an increase in the weight of PB LTI awards relative to both all longterm incentive pay and total direct compensation over the past eight years among NEOs. Conditional upon having a PB LTI award, the average award has risen from 51 percent of all LTI in 2006 to 56 percent in 2013.
- * The increasing share of LTI that is performance-based is meaningful as LTI's share of TDC has jumped from 56 percent to 62 percent between 2006 and 2013.
- * The inclusion of PB LTI plans is observed across all sectors, with particularly large uptake in the Information Technology and Consumer Discretionary sectors.
- * There are differences in the firms that include PB LTI awards in the compensation plans of their executives compared to those that do not include PB LTI awards. Firms with PB

LTI awards tend to experience lower returns (as measured by 10 year compound annual growth rates (CAGR) of Net Income, EBIT, EPS, ROA, and Free Cash Flow).

- * Our models indicate a pattern of within-year increases of PB LTI on firm performance followed by losses in subsequent years.
 - → Contemporaneous estimates of the impact of a PB LTI plan on performance are positive for one and three year TSR; however, we find a pattern of negative estimates for the one and two year lags.
 - → Results of the role of the relative weight of PB LTI plans on firm performance follow a similar pattern of positive within year estimates followed by negative estimates in lagged years when examining 1 year TSR and EPS growth. There is evidence of a mostly positive impact on ROE and ROIC when increasing the weight of the plans.
- * Comparing findings by level of analysis, i.e., top five NEOs, CEOs, and top five NEOs excluding CEOs, across all subanalyses showed similar estimates and patterns.

2 Data

The firms studied in this brief 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 2006 through 2013.¹ 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, total revenue growth, and return on invested capital (ROIC). Firm performance measures came from Capital IQ.²

3 Methodology

To examine how the inclusion of PB LTI plans impacts 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 PB LTI plans over time. The resulting tables and figures are valuable in understanding the unconditional relationship between PB LTI plans and firm performance. All analyses were conducted on three subsamples of executives: top five proxy-listed NEOs, CEOs only, and top five proxy-listed NEOs excluding CEOs.

Regression analysis is used to as a way to control for other factors that might obscure the role of PB LTI measures on firm performance. Our baseline model uses the following

¹The analytical sample excluded firms due to extreme values: loses of 195 observations. Additionally, 1,396 firm-year observations were removed from the sample when key data elements were missing. The final baseline sample consisted of 2,249 firm-year observations, which were associated with 367 firms.

 $^{^{2}}$ We would like to thank Pearl Meyer for providing us with the data used in this brief and also for constructing the key measures of performance-based compensation, long-term incentive pay, total compensation, and others.

Ordinary Least Squares regression framework:

$$Y_{it} = \beta_1 + Z_{it}\beta_2 + S_{it}\beta_3 + C_t\beta_4 + \beta_5 X_{it} + \beta_6 X_{i,t-1} + \beta_7 X_{i,t-2} + \epsilon_{it}$$
(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, total revenue growth, and ROIC. 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 are the PB LTI measures represented by X_{it} , which is an indicator variable equal to one when a firm has any executive in the respective sample, i.e., top five NEOs, CEOs, or top five NEOs excluding CEOs, with a PB LTI plan during the current fiscal year. To analyze the role of weight on performance, X_{it} is set to the firm-level average, given the respective sample, of the ratio of PB LTI award to either LTI or TDC. Our baseline model includes two lags of X_{it} to account for a delay between PB LTI plan implementation and impact on firm performance. 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. We also considered the impact of partitioning the sample across firm size and PB LTI plan history. Additional sensitivity checks include removing the Financial sector from the analysis and running models with a richer set of lag measures.

4 Findings

One of the most striking features of PB LTI plans among Fortune 500 firms is how common they have become. Table 1 shows that the share of firms offering their NEOs PB LTI plans has increased from 64 percent of firms in 2006 to 88 percent of firms in 2013. Put another way, only one in ten Fortune 500 firms does not offer a PB LTI award to their NEOs. This high level of prevalence is not driven by PB LTI awards only being offered to CEOs as evidenced by the comparable prevalence levels among CEOs and top five NEOs excluding CEOs. Table 2 shows that firms in all sectors have increasingly included PB LTI plans in the compensation of their executives.

With an understanding of the pervasiveness of PB LTI awards, we next assessed the relative size of the PB LTI awards. Table 3 examines how the weight of PB LTI relative to LTI and TDC has changed over time. The average weight of PB LTI plans has been increasing over time among all firms (the unconditional columns); though the fast growth rate is influenced by the rapid increase in the prevalence of these awards. For the firms that actually offer PB LTI plans (conditional columns), the weight of the plans has increased more modestly over the sample time period, e.g., NEO PB LTI weight grew from 51 percent of LTI to 56 percent. Given the growth of LTI during this same time period, the share of total compensation coming from PB LTI increased from 28 percent to 35 percent.³

In an effort to understand the prevalence and impact of specific components of PB LTI awards, we worked with the executive compensation consulting firm Pearl Meyer to categorize the thirty-one individual incentive pay metrics reported within the Equilar data into six strategically-aligned groups. The groups and individual metrics are reported in Table 4: Cash Flow, Growth, Market-Based, Profitability, Returns, and Other.

The trends in the prevalence of the IP categories among all firms are described in Table 5. We find that each of the six categories became more common over time. For example, 30 percent of firms offered Market-Based metrics to their NEOs in 2006 while 51 percent offered Market-Based metrics in 2013. Table 6 reports the same prevalency rates but only considers firms that offer at least one of their top five NEOs a PB LTI award. Conditioning on PB LTI award changes the patterns observed in Table 5. Here we find that only Cash

 $^{^3{\}rm The}$ share of total direct compensation attributed to LTI increased from 56 percent in 2006 to 62 percent in 2013.

Flow, Growth, and Market-Based metrics are becoming more common with the other three groups becoming slightly less prevalent. Columns 7 and 8 report the number of individual metrics and categories, respectively, in the NEOs plans. The average number of individual measures among NEOs with a PB LTI award has increased by 17 percent from 2.36 to 2.75 metrics. At the same time, the number of unique categories only increased by 11 percent (1.75 to 1.94). The slower growth rate of categories and higher value in individual measures describe a situation where firms are offering NEOs multiple metrics from within the same incentive pay category.

We next compared the performance of firms based on their prior history of offering PB LTI awards to their NEOs. Table 7 shows the results of an analysis that separated firms into one of three groups: those that always offered a PB LTI awards to their NEOs, those that never offered the awards, and those that changed between offering and not. Results indicate the firms that change or always had a PB LTI award have lower returns in terms of Net Income, EBIT, EPS, and ROA. While Table 7 provides evidence of differences in performance being related to a firm's history offering PB LTI awards, these estimates may be influenced by other factors associated to the firm.

A series of regression analyses were implemented in an attempt to isolate the role of PB LTI awards on firm performance. Tables 8 through 11 report the estimates from our baseline model, described in Equation 1, of the relationship between the inclusion of PB LTI awards and performance. The tables reveal a pattern of positive within year increases followed by negative estimates in lagged years. For example, column 2 of Table 8 indicates that including a PB LTI plan in the current year predicts a 10.7 percentage point jump in 1-year TSR. At the same time, we also find that having a PB LTI plan last year (two years ago) predicts a 7.2 (10.3) percentage point decline in 1-year TSR. Looking at our preferred specifications in the four columns reported for each dependent variable, we find evidence of positive contemporaneous estimates on 1-year TSR, 3-year TSR, and ROE but negative lagged estimates for 1-year TSR, 3-year TSR.

Estimates of the relative size of PB LTI to LTI on firm performance, reported in Tables 12 through 15, continue to present evidence of a short-term bump followed by a decline in firm performance. Notably, a different set of firm performance measures are impacted by changes in the weight compared to the introduction or removal of a PB LTI plan. Here we find that the weight of PB LTI to LTI most directly predicts ROE, EPS Growth, and ROIC. In fact, increasing the weight of PB LTI plans predicts only a positive increase in ROE and ROIC with no subsequent decline, i.e., increasing the share of LTI that is performance based by 1 percentage point is associated with between a 0.020 and 0.026 percentage point increase in ROIC.

In addition to the baseline analysis, we performed a series of sensitivity checks, examining the relative impact of market capitalization, financial sector, PB LTI offering pattern, and richer five year lag structure. The positive relationship between contemporaneous PB LTI plans is only present in Fortune 500 firms with lower market capitalization. Excluding firms from the Financial sector weakens the evidence of the positive contemporaneous relationships with PB LTI plans. Neither restricting the analysis to only those firms with changing PB LTI policy nor extending the model to include five lags change the baseline findings other than attenuating the results. Additionally, we explored the relationship between specific incentive pay categories on firm performance but found most estimates to be insignificant. Thus, these findings do not point to a particular category as driving the broader PB LTI impact found earlier.

5 Discussion and Future Direction

Currently, almost ninety percent of the 2014 S&P 500 firms offer PB LTI plans to their named executive officers - a forty percent increase between 2006 and 2013. The relative value of these PB LTI plans has also increased over time, even among those firms that offer the plans, with PB LTI awards now representing just over one third of the total direct compensation for NEOs. Breaking all PB LTI into six major categories reveals that half of those categories have growth while the other half remain stable or have slightly decreased.

Differences are observable in the firms that include PB LTI awards into the compensation plans of their NEOs compared to those that do not. Firms with PB LTI plans experience poorer performance in key areas. That said, the decision to use PB LTI awards may actually have been a response by the board to improve poor performance among those firms with any PB LTI history. In a similar vein, firms that have been performing well may not feel the need to change their compensation structure. Thus, the usage of PB LTI awards may be endogenous to observed firm performance, so care should be used when drawing causal implications from descriptive statistics.

Our baseline models examined the impact of the inclusion and size of PB LTI awards on firm performance. Evidence suggests that the inclusion of these plans results in short-term increases in performance followed by later declines. Alternatively, increasing the weight of the plans has a more positive impact overall, though there was still some evidence of later losses. While these models provide a clearer understanding of the impact of PB LTI awards on firm performance than the purely descriptive analyses, they still only describe the statistical relationship and are not causal.

This work builds upon our prior work exploring the role of TSR awards on firm performance. In this project, we aimed to understand how the role of the broader category of PB LTI is related to firm performance and which subcomponents may be driving that relationship. Future steps may include examining the role of compensation complexity on the relationship between incentive pay and firm performance.

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)(1/3)}-1
 - 5-Year TSR: {(Fiscal year end stock price/five fiscal year priors end stock price)(1/5)} 1
- TDC measure
 - TDC = Long-Term Incentives + Base Salary + Short-Term Portion of NEIP
 Compensation + Bonus
- LTI measure
 - LTI = Grant Date Present Value of Securities + Grant Date Present Value of
 Option (FAS 123(R)) + Grant Date Present Value of Target Award

7 Tables

Table 1: Percent of Firms with PB LTI Plans

	Top 5	CEO	Top 5
			Excluding CEO
2006	63.60	62.18	62.76
2007	65.75	62.35	64.83
2008	66.87	63.04	65.94
2009	68.01	64.38	67.70
2010	71.64	69.88	71.34
2011	78.10	76.59	77.52
2012	85.24	83.84	84.68
2013	88.08	86.49	87.31

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

Table 2: Share of	Firms v	vith PI	3 LTI I	Plan by	Sector	(Top !	5)	
	2006	2007	2008	2009	2010	2011	2012	2013
Energy	0.58	0.53	0.59	0.58	0.64	0.71	0.82	0.85
	(31)	(34)	(32)	(33)	(33)	(35)	(38)	(39)
Materials	0.75	0.71	0.85	0.81	0.88	0.86	0.90	0.93
	(24)	(28)	(27)	(27)	(26)	(29)	(29)	(28)
Industrials	0.63	0.70	0.61	0.69	0.71	0.72	0.81	0.92
	(41)	(53)	(51)	(52)	(52)	(50)	(53)	(59)
Consumer Discretionary	0.52	0.56	0.71	0.74	0.74	0.83	0.84	0.89
	(23)	(50)	(49)	(50)	(57)	(59)	(58)	(64)
Consumer Staples	0.67	0.70	0.69	0.77	0.75	0.88	0.90	0.91
	(15)	(33)	(29)	(30)	(32)	(32)	(30)	(32)
Health Care	0.71	0.84	0.68	0.74	0.83	0.85	0.93	0.94
	(14)	(19)	(22)	(23)	(23)	(26)	(29)	(31)
$\operatorname{Financials}$	0.57	0.58	0.49	0.39	0.46	0.64	0.83	0.82
	(49)	(52)	(53)	(46)	(52)	(50)	(52)	(56)
Information Technology	0.30	0.54	0.59	0.57	0.67	0.71	0.72	0.74
	(10)	(26)	(29)	(28)	(27)	(34)	(36)	(42)
Telecommunication Services	0.50	0.50	0.67	0.50	0.80	0.67	1.00	1.00
	(4)	(4)	(3)	(4)	(5)	(3)	(5)	(5)
Utilities	0.89	0.96	1.00	1.00	1.00	0.97	1.00	1.00
	(28)	(28)	(28)	(29)	(28)	(29)	(29)	(30)
Means with number of observati	ions in]	parenth	eses for	the san	nple of 1	the top	5 NEO	ŵ

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		Top	0 5			CE	0		Top	5 Exclu	lding Cl	OF
	Uncon	ditional	Condi	tional	Uncone	ditional	Cond	itional	Uncone	ditional	Condi	tional
	(1)	(2)	(3)	(4)	(5)	(9)	(2)	(8)	(6)	(10)	(11)	(12)
Year	ITI	TDC	LTI	TDC	LTI	TDC	LTI	TDC	LTI	TDC	ITI	TDC
2006	32.80	19.13	50.50	30.07	35.74	21.16	54.09	34.03	32.79	17.59	50.94	28.03
2007	33.20	19.13	49.57	29.10	35.59	20.58	53.57	32.90	32.99	17.88	49.80	27.58
2008	34.13	21.02	50.24	31.43	36.90	23.25	55.27	36.76	33.35	19.19	49.78	29.10
2009	36.07	21.75	52.38	31.98	37.85	23.23	55.49	36.09	35.98	20.44	52.49	30.19
2010	38.31	22.05	52.35	30.78	40.42	24.13	55.58	34.53	37.42	20.29	51.35	28.43
2011	41.43	24.74	52.29	31.68	43.38	26.86	54.51	35.07	40.67	22.82	51.71	29.43
2012	47.13	28.85	54.83	33.85	49.66	31.51	57.57	37.58	45.92	26.45	53.78	31.23
2013	49.73	30.88	56.02	35.05	52.55	34.64	59.81	39.94	47.78	27.75	54.30	31.78
Means	of the v	veight of	PB LTI	plans b	by three	samples:	top 5 1	NEOs, C	EOs, an	d top 5	NEOs e	scluding
CEOs.	Uncond	itional es ¹	timates i	nclude f	irms wit.	h zero inc	dividuals	s (with r	espect to	the sam	iple) rep	orted to
have a	PB LTI	plan. Co.	nditional	l estima	tes exclu	de firms	with zer	o indivic	luals (wi	th respec	t to the	$\operatorname{sample})$
reporte	d to hav	e a PB Ľ	II plan.									

Table 3: Weight of PB LTI Plan Relative to LTI and TDC

7.1 Trends in IP Categories

IP Award Bin	IP Award Metric
Cash Flow	Cash Flow
	EBITDA
Growth (Top Line)	Market Share
	Revenue
Market-Based	Absolute TSR
	Market Capitalization
	Relative TSR
	Stock Price
	Total TSR (Relative and Absolute)
Profitability	EPS
	EPS / Net Income
	Gross Profit / Margin
	Net Income
	Operating Income / Margin
	ROS
Returns	EVA
	ROC / ROIC
	ROE
	ROA
Other	Asset/Asset Ratio
	Cost/Cost Ratio
	Customer Satisfaction
	Debt Leverage/Debt Ratios
	Division Performance
	Environmental
	Industry Specific
	N/A
	Other Financial
	Other Non-Financial
	Other Ratios
	Safety

 Table 4: Separating IP Metrics in Strategically-Aligned Categories

The ICS thanks Pearl Meyer for categorizing the individual metrics into the above six groups.

Average IP Count	(7) (8)	ividual Measures Categories	1.44 1.07	1.12 1.12	1.51 1.13	1.54 1.17	1.71 1.27	1.90 1.40	2.21 1.56	2.33 1.65	or all firms by three samples: top
	(9)	Other I	11.72	11.31	12.38	12.42	11.04	13.54	16.16	15.54	P categorie
	(5)	Returns	20.92	21.71	20.12	18.63	20.90	22.19	25.07	28.24	of the six I
ıry	(4)	Profitability	29.29	32.42	32.51	35.09	37.31	40.06	39.00	39.90	irms with each
IP Catego	(3)	Market-Based	30.13	28.44	30.34	30.75	35.82	37.18	45.68	50.78	s of the share of f
	(2)	Growth	7.95	11.01	11.15	10.56	12.54	15.56	18.11	17.36	ts the mean
	(1)	Cash Flow	6.69	7.03	6.81	9.32	8.96	11.24	11.98	13.21) panels repor
		Year	2006	2007	2008	2009	2010	2011	2012	2013	The left

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Table 5:

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Table 6:

	Always PB LTI	Change PB LTI	Never PB LTI
Market Cap - Avg	23690.79	25687.94	26379.44
	(0.72)	(0.94)	
Total Revenue - Avg	20476.85	17960.63	22355.41
	(0.78)	(0.55)	
$10~\mathrm{Yr}$ Net Inc CAGR	7.10	7.12	14.64
	(0.00)	(0.00)	
10 Yr ROIC CAGR	0.69	0.48	3.76
	(0.07)	(0.06)	
10 Yr EBIT CAGR	7.26	6.92	15.62
	(0.00)	(0.00)	
10 Yr EPS CAGR	7.00	6.33	13.38
	(0.00)	(0.00)	
10 Yr ROA CAGR	0.06	0.06	0.08
	(0.01)	(0.03)	
10 Yr ROE CAGR	0.16	0.15	0.26
	(0.51)	(0.02)	
10 Yr FCF CAGR	6.65	7.23	13.25
	(0.03)	(0.02)	
Observations	210	122	35

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

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 PB LTI plan, those that never had a PB LTI plan, and those that changed their PB LTI plans by either introducing or removing them.

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		1-Yea	r TSR			3-Yea	r TSR	
	(1)	(2)	(3)	(4)	(5)	(9)	(2)	(8)
PB LTI Plan	3.610	10.704^{***}	5.168	3.734	0.635	3.487^{*}	3.348^{*}	3.113^{*}
	(2.961)	(3.126)	(3.984)	(4.082)	(1.362)	(1.409)	(1.511)	(1.481)
PB LTI Plan - 1 Lag	-2.168	-7.163*	-1.781	-9.661^{**}	1.029	-1.578	1.479	-2.555
	(2.764)	(3.322)	(3.250)	(3.164)	(1.195)	(1.294)	(1.455)	(1.354)
PB LTI Plan - 2 Lags		-10.275^{**}		-10.833^{***}		-3.282*		-2.547
1		(3.162)		(2.904)		(1.468)		(1.539)
Time FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sector FE	Yes	Y_{es}	N_{O}	N_{O}	\mathbf{Yes}	Yes	N_{O}	N_{O}
Firm FE	N_{O}	N_{O}	$\mathbf{Y}_{\mathbf{es}}$	\mathbf{Yes}	N_{O}	N_{O}	$\mathbf{Y}_{\mathbf{es}}$	$\mathbf{Y}_{\mathbf{es}}$
Observations	2249	2247	2249	2247	2249	2247	2249	2247
R^2	0.18	0.12	0.21	0.16	0.16	0.11	0.19	0.15
Adjusted R^2	0.17	0.11	0.20	0.15	0.15	0.11	0.18	0.14
Regression point estimat	es with st	andard erro	rs in pare	ntheses. Tin	ne fixed ef	fects (FE)	are captı	ired using
dummy variables to ident	ify each y	ear within t	he panel.	The sector i	fixed effect	s are base	ed on the	10 sectors
under the two-digit GICS	Energy,	Materials, I ₁	ndustrials.	, Consumer I	Discretiona	ry, Consu	mer Stapl	es, Health
Care, Financials, Inform ⁶	tion Tech	nology, Tele	communic	ation Service	es, and Ut	ilities. Fi	irm fixed a	effects are
represented by a set of du	mmy varia	bles that sep	arately id	entifies each f	irm. Signi	ficance lev	rels: $* p < 0$.05, ** p <
0.01, *** p < 0.001								

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

Table	9: Estim	ates of PI	3 LTT PI8	(-C no su	ear TSR	and RUE		
		5-Yea	r TSR			R(ЭE	
	(1)	(2)	(3)	(4)	(5)	(9)	(2)	(8)
PB LTI Plan	-2.249*	-0.515	-0.283	-0.425	1.552	1.801	1.120	1.163
	(1.073)	(1.089)	(1.084)	(1.098)	(1.177)	(1.171)	(0.852)	(0.877)
PB LTI Plan - 1 Lag	2.119^{**}	0.277	2.103^{*}	-0.278	1.088	0.464	0.581	0.188
	(0.791)	(0.830)	(0.855)	(0.794)	(0.862)	(0.729)	(0.714)	(0.661)
PB LTI Plan - 2 Lags		-1.669		-1.499		0.206		0.161
1		(0.858)		(0.937)		(0.928)		(0.909)
Time FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sector FE	\mathbf{Yes}	Yes	N_{O}	N_{O}	Yes	Yes	N_{O}	N_{O}
Firm FE	N_{O}	N_{O}	Yes	$\mathbf{Y}_{\mathbf{es}}$	N_{O}	N_{O}	Yes	\mathbf{Yes}
Observations	2249	2247	2249	2247	2249	2247	2249	2247
R^2	0.22	0.18	0.27	0.23	0.13	0.13	0.05	0.05
Adjusted R^2	0.21	0.17	0.27	0.23	0.12	0.12	0.05	0.04
Regression point estimat	es with st	andard er	rors in pa	trent heses.	Time fiy	ted effects	(FE) are	captured
using dummy variables to	o identify e	each year	within the	e panel. T	The sector	fixed effec	ts are bas	ed on the
10 sectors under the two-	-digit GIC	S: Energy,	Materials	s, Industri	als, Consu	imer Disci	etionary,	Consumer
Staples, Health Care, Fine	ancials, Inf	ormation '	Technolog	y, Telecom	umunicatio	n Services	, and Utili	ties. Firm
fixed effects are represented	ed by a se	t of dumm	ıy variable	s that sep	arately ide	entifies eac	sh firm. Si	gnificance
levels: * $n < 0.05$. ** $n < 0$.	.01. *** p <	< 0.001						

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Table 10: Est	imates of I	PB LTI Pl	ans on EPS	S Growth a	and Total	Revenue	Growth	
		EPS C	rowth		T	otal Reve	nue Grow	th
	(1)	(2)	(3)	(4)	(5)	(9)	(2)	(8)
PB LTI Plan	9.807	19.286	32.898	30.231	-1.884	-1.450	0.296	0.280
	(13.081)	(10.589)	(21.099)	(24.286)	(0.960)	(0.997)	(1.117)	(1.122)
PB LTI Plan - 1 Lag	-15.031	-13.884	-9.142	-17.247	0.323	0.412	1.575	1.087
	(13.982)	(14.624)	(17.111)	(16.080)	(0.882)	(0.979)	(1.059)	(1.031)
PB LTI Plan - 2 Lags		-24.676		-17.605		-1.165		-0.268
		(20.676)		(26.024)		(0.987)		(1.152)
Time FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sector FE	\mathbf{Yes}	\mathbf{Yes}	N_{O}	N_{O}	Yes	\mathbf{Yes}	N_{O}	N_{O}
Firm FE	N_{O}	N_{O}	\mathbf{Yes}	\mathbf{Yes}	N_{O}	N_{O}	\mathbf{Yes}	\mathbf{Yes}
Observations	2249	2247	2249	2247	2249	2247	2249	2247
R^2	0.02	0.02	0.02	0.02	0.17	0.16	0.19	0.19
Adjusted R^2	0.01	0.01	0.01	0.01	0.16	0.16	0.18	0.18
Regression point estimate	es with sta	ndard error	s in parent	heses. Tin	ne fixed eff	fects (FE)	are capti	rred using
dummy variables to ident	ify each ye	ar within tl	he panel. T	The sector f	ixed effect	s are base	ed on the	10 sectors
under the two-digit GICS	: Energy, N	Iaterials, Ir	ndustrials, (Consumer I	Discretiona	ry, Consu	mer Stapl	es, Health
Care, Financials, Informa	tion Techn	ology, Telee	communicat	tion Service	ss, and Ut	ilities. Fi	irm fixed	effects are
represented by a set of dur	mmy variab.	les that sep.	arately iden	tifies each f	irm. Signi	ficance lev	rels: $*p < 0$	0.05, ** p < 0.05
0.01, *** p < 0.001								

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Table 11: Estima	ates of PB	LTI Pla	ns on RO	IC
		RC	DIC	
	(1)	(2)	(3)	(4)
PB LTI Plan	0.285	0.468	0.621	0.642
	(0.833)	(0.845)	(0.528)	(0.530)
PB LTI Plan - 1 Lag	-0.008	-0.201	-0.104	-0.425
)	(0.595)	(0.437)	(0.411)	(0.394)
PB LTI Plan - 2 Lags		-0.175		0.027
1		(0.625)		(0.475)
Time FE	Yes	Yes	Yes	Yes
Sector FE	Yes	$\mathbf{Y}_{\mathbf{es}}$	N_{O}	N_{O}
Firm FE	N_{O}	N_{O}	\mathbf{Yes}	\mathbf{Yes}
Observations	2249	2247	2249	2247
R^{2}	0.17	0.17	0.08	0.07
Adjusted R^2	0.16	0.16	0.07	0.07
Regression point estimat	es with st	andard er	rors in pa	rentheses.
Time fixed effects (FE) a	are captur	ed using a	dummy va	triables to
identify each year within	the panel	. The sec	tor fixed e	effects are
based on the 10 sectors u	under the	two-digit	GICS: En	ergy, Ma-
terials, Industrials, Const	umer Disc	retionary,	Consume	r Staples,
Health Care, Financials,	Informatic	on Techno	ology, Tele	communi-
cation Services, and Utili	ities. Firm	n fixed eff	ects are re	presented
by a set of dummy varial	oles that s	eparately	identifies	each firm.
Significance levels: $* p < 0$	0.05, ** p <	0.01, ***	p < 0.001	

Table 12:	Estimate	S OF PB L		ı I-Year	SK and	S-Year TS	λK	
		1-Year	: TSR			3-Year	r TSR	
	(1)	(2)	(3)	(4)	(5)	(9)	(2)	(8)
PB LTI to LTI	0.084	0.162^{***}	0.109	0.078	0.000	0.024	0.034	0.028
	(0.046)	(0.049)	(0.056)	(0.054)	(0.026)	(0.028)	(0.033)	(0.033)
PB LTI to LTI - 1 Lag	-0.083	-0.153^{**}	-0.043	-0.145^{*}	0.020	-0.005	0.027	-0.019
	(0.047)	(0.055)	(0.057)	(0.058)	(0.024)	(0.022)	(0.021)	(0.022)
PB LTI to LTI - 2 Lags		-0.097*		-0.107^{*}		-0.029		-0.019
		(0.049)		(0.054)		(0.032)		(0.033)
Time FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sector FE	Yes	Yes	N_{O}	N_{O}	\mathbf{Yes}	\mathbf{Yes}	N_{O}	N_{O}
Firm FE	N_{O}	N_{O}	$\mathbf{Y}_{\mathbf{es}}$	Yes	N_{O}	N_{O}	Yes	\mathbf{Yes}
Observations	2249	2205	2249	2205	2249	2205	2249	2205
R^{2}	0.18	0.11	0.21	0.15	0.16	0.11	0.19	0.15
Adjusted R^2	0.17	0.10	0.21	0.15	0.15	0.10	0.18	0.14
Regression point estimates	with stan	dard errors	in parent	heses. Tir	ne fixed ef	fects (FE)	are captı	tred using
dummy variables to identify	y each yea	r within th	e panel. T	The sector	fixed effec	ts are base	ed on the	10 sectors
under the two-digit GICS: I	Energy, M ²	aterials, Ind	lustrials, C	Jonsumer]	Discretion	vry, Consu	mer Stapl	es, Health
Care, Financials, Informatic	on Techno	logy, Teleco	ommunica	tion Servic	ces, and U	tilities. F	irm fixed e	effects are
represented by a set of dumn	ny variable	s that sepa:	rately iden	tifies each	firm. Sign	ificance le	vels: $*p < 0$	0.05, **p < 0.05
$0.01, ^{***} p < 0.001$								

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Table	13: Estim	ates of P	В LT1/L1 	T on 5 Ye	ear TSK a			
		b-Yea	r TSK			R	JE	
	(1)	(2)	(3)	(4)	(5)	(9)	(2)	(8)
PB LTI to LTI	-0.022	-0.004	0.017	0.016	0.041^{*}	0.040^{*}	0.036^{*}	0.037^{*}
	(0.015)	(0.015)	(0.016)	(0.017)	(0.017)	(0.017)	(0.014)	(0.015)
PB LTI to LTI - 1 Lag	0.022	0.007	0.042^{*}	0.015	-0.005	-0.006	-0.006	-0.013
	(0.014)	(0.015)	(0.016)	(0.015)	(0.014)	(0.013)	(0.013)	(0.013)
PB LTI to LTI - 2 Lags		-0.026		-0.016		-0.001		0.013
		(0.015)		(0.016)		(0.016)		(0.015)
Time FE	Yes	$\mathbf{Y}_{\mathbf{es}}$	Yes	$\mathbf{Y}_{\mathbf{es}}$	Yes	Y_{es}	Yes	Yes
Sector FE	\mathbf{Yes}	Yes	N_{O}	N_{O}	Yes	\mathbf{Yes}	N_{O}	N_{O}
Firm FE	N_{O}	N_{O}	Yes	$\mathbf{Y}_{\mathbf{es}}$	No	N_{O}	Yes	\mathbf{Yes}
Observations	2249	2205	2249	2205	2249	2205	2249	2205
R^{2}	0.22	0.18	0.27	0.23	0.13	0.13	0.05	0.05
Adjusted R^2	0.21	0.17	0.27	0.23	0.12	0.12	0.05	0.05
Regression point estimates	with stand	lard errors	s in parent	theses. Ti	me fixed ef	ffects (FE) are captı	ired using
dummy variables to identify	r each year	within th	ie panel. J	The sector	fixed effec	ts are bas	ed on the	10 sectors
under the two-digit GICS: E	hergy, Mat	terials, Inc	lustrials, C	Consumer	Discretion	ary, Const	umer Stapl	es, Health
Care, Financials, Informatic	on Technol	ogy, Telec	ommunica	tion Servi	ices, and U	Itilities. F	irm fixed	effects are
represented by a set of du	mmy varia	ables that	separatel	y identifie	ss each fir	m. Signif	icance lev	els: * $p <$

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 $0.05, \ ^{**}p < 0.01, \ ^{***}p < 0.001$

Table 14: Est	imates of I	PB LTI/L	II on EPS	Growth a	nd Total I	Revenue (Growth	
		EPS (Growth		Ĕ	otal Reve	nue Grow	th
	(1)	(2)	(3)	(4)	(5)	(9)	(2)	(8)
PB LTI to LTI	0.767^{**}	0.872^{**}	1.050^{*}	1.092^{*}	-0.001	0.007	0.027	0.032
	(0.253)	(0.300)	(0.425)	(0.435)	(0.015)	(0.016)	(0.018)	(0.018)
PB LTI to LTI - 1 Lag	-0.660**	-0.711^{**}	-0.591^{**}	-0.721***	-0.008	-0.005	0.011	0.001
	(0.225)	(0.231)	(0.191)	(0.213)	(0.017)	(0.021)	(0.020)	(0.023)
PB LTI to LTI - 2 Lags		-0.194		-0.135		-0.018		-0.000
		(0.271)		(0.281)		(0.018)		(0.021)
Time FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sector FE	Yes	\mathbf{Yes}	N_{O}	N_{O}	\mathbf{Yes}	\mathbf{Yes}	N_{O}	N_{O}
Firm FE	N_{O}	N_{O}	\mathbf{Yes}	\mathbf{Yes}	N_{O}	N_{O}	$\mathbf{Y}_{\mathbf{es}}$	\mathbf{Yes}
Observations	2249	2205	2249	2205	2249	2205	2249	2205
R^{2}	0.02	0.02	0.02	0.02	0.16	0.16	0.19	0.18
Adjusted R^2	0.01	0.01	0.02	0.02	0.16	0.15	0.18	0.18
Regression point estimates	s with stan	dard errors	s in parent	heses. Tim	le fixed eff	ects (FE)	are captı	ired using
dummy variables to identif	iy each year	r within th	ie panel. T	The sector f	ixed effect	s are base	ed on the	10 sectors
Under the two-digit GICS:	Energy, M	aterials, In logic Tolog	dustrials, (Jonsumer L)iscretiona	ry, Consu	mer Stapl	es, Health
represented by a set of dum	umv variable	iugy, reieu is that sena	aratelv iden	tifies each f	irm. Signif	icance lev	$a = \frac{1}{2} a < 0$	05. ** n < 05.
0.01, *** p < 0.001	6	.	<i>د</i> ا		C !		-	

Ľ 4 Total R 4 FDC D f pr LTI/LTI + ц Цан Table 14.

Table 15: Estim	ates of PI	3 LTI/LT	I on ROI	C
		RC	DIC	
	(1)	(2)	(3)	(4)
PB LTI Plan	0.026^{*}	0.025^{*}	0.021^{*}	0.020^{*}
	(0.012)	(0.012)	(0.00)	(0.010)
PB LTI Plan - 1 Lag	-0.013	-0.010	-0.008	-0.013
	(0.010)	(0.010)	(0.008)	(0.007)
PB LTI Plan - 2 Lags		-0.006		0.005
		(0.011)		(0.008)
Time FE	Yes	Yes	Yes	Yes
Sector FE	\mathbf{Yes}	$\mathbf{Y}_{\mathbf{es}}$	N_{O}	N_{O}
Firm FE	N_{O}	N_{O}	\mathbf{Yes}	Yes
Observations	2249	2205	2249	2205
R^{2}	0.17	0.16	0.08	0.07
Adjusted R^2	0.16	0.15	0.07	0.07
Regression point estimat	es with st	andard er	rors in pe	vrentheses.
Time fixed effects (FE) a	are captur	ed using e	dummy va	ariables to
identify each year within	the panel	. The sec	tor fixed	effects are
based on the 10 sectors u	under the	two-digit	GICS: Er	tergy, Ma-
terials, Industrials, Const	umer Disc	retionary,	Consume	er Staples,
Health Care, Financials,	Informatic	on Techno	ology, Tele	ecommuni-
cation Services, and Utili	ties. Firm	n fixed eff	ects are r	spresented
by a set of dummy variak	oles that s	eparately	identifies	each firm.
Significance levels: * $p < 0$.05, ** p <	0.01, ***	p < 0.001	