Risky Business: CEO Risk Tolerance and Non-GAAP Earnings

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Risk and Reward

- Tope Awotonda, CEO of Calendly, attributes his company's success to his ability to take risks (Pompliano, 2021).
- CEOs takes risks when making strategic decisions, managing rivals, and communicating or disclosing their company's success or minimizing their company's failures. Yet there are great rewards for risk-taking.



Black Box

- The mechanism of how a CEO influences their organization is a "black box" investigated by several researchers.
- Other CEOs may take risks, but may not be as outspoken about their risk-taking. However, information about their sports hobbies may be known.
- A proxy for risk-taking is sports hobbies (Luo et al. 2022).



CEO Sports Risk Taking and Their Firm's Non-GAAP Earnings

- Is it possible that the risk CEOs take in sports reflects the risk they willingly take in business?
- Non-GAAP earnings are not regulated and can be used to entice investments with the company.
- Will this risk-taking by the CEO reflect in their firm's non-GAAP earnings?



Research Question

• How and to what extent is a CEO's sports hobby risk an

indicator of non-GAAP earnings?



Importance of Research

• There is a gap in the literature for the influence of CEO risk taking and its influence on non-GAAP earnings.



Literature Review



Literature Review – Upper Echelon Theory

-Oreg and Berson (2018) posit that firm leaders interpret strategy based on

their personality characteristics. These strategy interpretations trickle down

the organization and become embedded in the firm's culture and

environment.



Literature Review – Upper Echelon Theory

Hambrick and Quigley (2014) posit that the influence of the CEO is related

to their individual characteristics. $\$

Research on the overall influence of the CEO is done under the umbrella of

upper echelon theory. Hambrick and Quigley (2014) suggest that since the

CEO's overall influence on the firm and the CEO's personal characteristic

are entwined.



Literature Review – non-GAAP Earnings

-Opinions of non-GAAP use varies among researchers.

-Black et al. (2021) suggests the primary use of non-GAAP earnings is to inform investors.

-Other researchers criticize non-GAAP lack of comparability (Henry et al. (2020)

The SEC prohibits misleading non-GAAP disclosures but does not define a

misleading non-GAAP disclosure.



Literature Review – CEO Influence

- According to Chen et al.(2015), firms with an overconfident CEO may have an optimistic forecast and the CEO is less open to feedback.
- Koch-Bayram and Wernicke (2018) found that CEOs with a military background are less likely to be involved in fraudulent activity and more likely to comply with internal controls.



Literature Review – Proxies for Influence

-Both Black et al. (2021) and Abdel-Meguid et al. (2021) successfully used proxies to explain CEO influence on non-GAAP earnings.

-Black et al. (2021) used short-term bonuses and long-term incentive payments as proxies for short and long-term focus on firm performance.

-Abdel-Meguid et al. (2021) used the placement of CEO photos as a proxy for narcissism and its influence on non-GAAP earnings.



Literature Review – CEO Sports Hobbies

Bunea (2020) posits that CEOs use sports hobbies as a relief from their work..
Shohan et al. (2000) theorizes that risky sports help supports identity construction, however practice and proficiency of a risky sport make it less attractive. Comradery with others may explain continuing risky sports.

-Biggerstaff et al. (2017) found that CEOs who play golf have firms with lower earnings.

Luo et al. (2022) found a relationship between sports risk and tax aggressiveness.



Hypotheses

H1: Firms run by CEOs that engage in riskier sports hobbies are more likely to have non-GAAP earnings that exceed GAAP earnings than firms run by CEOs that do not engage in riskier sports hobbies.

H2: CEO involvement in risky sports hobbies is positively associated with the magnitude of income-decreasing items excluded from their firm's non-GAAP earnings

H3:Firms led by CEOs with riskier sports hobbies have non-GAAP exclusions that are persistent.



Method



Data Selection

Toble 1

Sample Selection	Number of
-	Observations
Beginning number of firm	
CEOs with sports hobbies	50
-	
Firm-quarter observations	
(January 1, 2018, to December	
2019 quarters multiplied by	
$\frac{2019}{1000} \frac{1}{1000} \frac{1}{1$	400
$(8 \cdot 30)$	400
Less firm-quarters without 8K	
filings	(71)
Less firm-quarters with	
Compustat data errors	(2)
I	(-)
Less firm quarters without non	_
GAAPEPS	(103)
	(100)
Final firm quarter somela	227
Final firm-quarter sample	221

- This list of data began with the CEOs and their hobbies from Bunea (2020).
- Additional CEOs and their sports information were found with Google.
- Bentley et al. (2018) used an algorithm to gather non-GAAP earnings and they provide it to the public on a website maintained by Kurt Gee.



- The models used were based on the work of prior research by Abdel-Meguid (2021) and Frankel et al. (2011).
- Data was gathered from Compustat and from the website provided by Gee.
- After data was entered into Excel, analysis was done in SPSS.



Logistic Regression:

Research Models Model 1

To test whether firms run by

CEOs with riskier hobbies have non-

GAAP earnings higher than firms run

by CEOs with less risky hobbies, the

following model is used. A positive

coefficient is expected on SportsRisk.

Exceed = 1 if non-GAAP earnings existed,

Exceed = 0 if non-GAAP earning do not exist

 $Exceed_{i,q} = \beta_0 + \beta_1 Sports \ Risk_{i,q} + \beta_2 BTM_{i,q} + \beta_3 SizeEquity_{i,q} + \beta_4 ROA_{i,q} + \beta_5 CEOAge + \beta_6 CEOTenure + \beta_7 CEOMale + \beta_8 BoardIndependence + Industry +$

Year-Quarter + $\varepsilon_{i,q}$



Research Models Model 2

- To test whether CEO involvement in risky sports hobbies is positively associated with the magnitude of income-decreasing items excluded from their firm's non-GAAP earnings. A positive coefficient is expected on *SportsRisk*.
- Regression analysis was used.
- Non-GAAPExclusions_{i, q} = $\beta_0 + \beta_1 SportsRisk_{i, q} + \beta_2 BTM_{i, q} + \beta_3 SizeEquity_{i, q} + \beta_4 ROA_{i, q}$ + $\beta_5 CEOAge + \beta_6 CEOTenure + \beta_7 Male + \beta_8 BoardIndependence + Industry + Year-Quarter$
 - $+\epsilon_{i,q}$



Research Models Models 3a & b

- The third model analyzes the outcomes of two earnings based dependent variables.
- *FutureGAAPEarnings* is equal to EPS before extraordinary items summed over the next four quarters.
- FutureOperatingIncome is equal to the operating income per diluted share summed over the next four quarters.



Research Models Models 3a & b

- To test whether firms led by CEOs with riskier sports hobbies have non-GAAP earnings that are persistent. A positive coefficient is expected on *non-GAAPEarnings* if non-GAAP earnings are persistent. A negative coefficient is expected on *non-GAAPExclusions*, indicating that non-GAAP exclusions are persistent.
- Regression analysis was used.
- $FutureGAAPEarnings_{i,q+1 to q+4} = \beta_0 + \beta_1 Non-GAAPEarnings_{i,q} + \beta_2 Non-GAAPExclusions_{i,q} + \beta_3 SportsRisk_{i,q} + \beta_4 Non-GAAPEarnings_{i,q} * SportsRisk_{i,q} + \beta_5 Non-GAAPExclusions_{i,q} * SportsRisk_{i,q} + Industry + Year-Quarter + \varepsilon_{i,q}$
- Future Operating Income_{i,q+1} to_{q+4} = $\beta_0 + \beta_1 Non$ -GAAPEarnings_{i,q} + $\beta_2 Non$ -GAAPExclusions_{i,q} + $\beta_3 SportsRisk_{i,q} + \beta_4 Non$ -GAAPEarnings_{i,q} * SportsRisk_{i,q} + $\beta_5 Non$ -GAAPExclusions_{i,q} * SportsRisk_{i,q} + Industry + Year-Quarter + $\varepsilon_{i,q}$



Results



Table 3Frequency of SportsRisk

	SportsRisk	Qtr Frequency	Qtr %	CEO Frequency	CEO %
Name of Sport	<u>(1)</u>	<u>(2)</u>	(3)	<u>(4)</u>	(5)
Running	0.00	18	7.9	3	7.8
Bowling	0.01	3	1.3	1	2.6
Golf	0.04	73	32.2	13	34
Racquet games	0.07	24	10.6	4	10.5
Skiing	0.11	4	1.8	1	2.6
Martial Arts,					
Swimming	0.12	22	9.7	3	7.8
Hockey	0.19	3	1.3	1	2.6
Basketball, Soccer	0.29	13	5.7	2	6
Cycling (Non-motor)	0.31	30	13.2	4	10.5
Football	0.52	30	13.2	5	13
Motorized Vehicles-					
including aircraft	<u>1.19</u>	<u>7</u>	<u>3.1</u>	<u>1</u>	<u>2.6</u>
<u>Total</u>		<u>227</u>	<u>100</u>	<u>38</u>	<u>100</u>



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Means for H1 and H2 Panel A: Descriptive Statistics H1 and H2

	Mean
NonGAAPExclusions	0.294
Exceed	0.674
SportsRisk	0.199
BTM	0.292
SizeEquity	4.789
ROA	0.022
CEOAge	57.767
CEOTenure	7.335
CEOMale	0.943
CEOIndependence	0.542

The variable for *NonGAAPExclusions*

is .294. This is similar to Frankel et al.

(2011) pre-SEC scrutiny (1998-2nd

qtr 2001) result.

Descriptive Statistics and Correlations H1 and H2 Panel B: Correlations H1 and H2

1	NonGAAPExclusions	1
2	Exceed	.539**
3	SportsRisk	<mark>-0.04</mark> 0
4	BTM	.191**
5	SizeEquity	.130*
6	ROA	204**
7	CEOAge	0.032
8	CEOTenure	0.115
9	CEOMale	-0.114
10	CEOIndependence	-0.001

The correlation for NonGAAPExclusions

and SportsRisk is negative.



Evaluation of Model 1

• The results for model 1 indicated that the null hypothesis should be rejected.

Panel C: Hos	mer and Lemeshow Test		
Step	Chi-square	df	Sig.
1	8.445	8	0.391

 The result of a nonsignificant *p*-value provides more support for this model since there is not a significant difference between predicted and observed values (Meyers, 2017)



Here *SportsRisk*, *ROA*, *CEOAge*, *CEOMale*, and *CEOIndepencence* had negative coefficients, indicating that as these variables increase, the likelihood of non-GAAP earnings exceeding GAAP earnings decreases.

Coefficients for Model 1Variables S.E. df Sig. Wald Exp(B)b 0.706 0.072 *SportsRisk* -0.1891 0.789 0.828 BTM 1.770 0.947 3.498 0.061 5.874 1 0.504 0.400 1.581 0.209 1.655 *SizeEquity* ROA -24.216 15.076 2.580 0.108 0.000 CEOAge -13.352 5.914 5.098 0.024 0.000 1 **CEOTenure** 1.143 0.894 1.634 0.201 3.135 -0.248 0.898 0.076 0.783 0.780 **CEOMale** 1 *CEOIndependent* -0.0370.408 0.008 0.927 0.963 Constant 20.844 10.988 3.599 0.058 1128314042.409 Variable(s) entered on step 1: SportsRisk, BTM, SizeEquity, ROA, CEOAge, CEOTenure, CEOMale, CEOIndependent, SIC, QtrYearCategory.



Coefficients for Model 1 Variables

Coefficients	Model 2
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Variables	b	
(Constant)	1.926	- The coefficient for <i>SportsRisk</i> is
SportsRisk	-0.129	negative, suggesting that as
BTM	0.101	Construction Disch in anno anno Maria
SizeEquity	0.143	Sportskisk increases, Non-
ROA	-5.304	GAAPExclusions decrease. The
CEOAge	-0.898	apofficient for Size Equity is positive
CEOTenure	-0.001	coefficient for <i>SizeEquity</i> is positive,
CEOMale	-0.344	suggesting that as firm size
CEOIndependent	-0.187	increases, so do the items excluded

from GAAP earnings.



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High Low Sports Risk Observations

To identify support for Model 1 and Model 2, the data was placed in two groups based on high and low *SportsRisk*. The median rate for *SportsRisk* of .070 (Raquet sports) determined the groups.

Because each firm-quarter is a unique combination, with some firms having multiple firm-quarter observations and others having one or two firm-quarter observations, there is a difference in the number of observations in each group. This analysis suggests that, on average firms are more likely to exclude income-decreasing items from non-GAAP earnings (Exceed) when the CEO has a high risk sports hobby (p-value <-.05).

Although it is not significant, the magnitude of *non-GAAPExclusions* are lower for firm quarters for CEOs with higher sports risk. The mean for *CEOIndependent* is larger and significant (p < .001) in the low SportsRisk group. This relationship may indicate that CEOs who are their firm's board chair take less risks with their choice of sports hobbies.



Comparison of High and Low SportsRisk Observations

	High	Low			
	SportsRisk	SportsRisk			
	Sample Mean	Sample Mean			
Variables	n = 133	n = 94	Difference	t-statistic	p-value
NonGaapExclusions	0.248	0.358	-0.110	-1.007	0.315
Exceed	0.740	0.580	0.160	2.376	< .05
BTM	0.266	0.329	-0.063	-1.638	0.103
ROA	0.022	0.022	0.000	-0.186	0.852
SizeEquity	4.805	4.766	0.039	0.627	0.532
CEOAge	1.749	1.777	-0.028	-7.745	< .001
CEOTenure	0.751	0.877	-0.126	-4.398	< .001
CEOMale	0.940	0.950	-0.010	-0.223	0.825
CEOIndependent	0.440	0.690	-0.250	-3.961	< .001



Descriptive Statistics and Correlations for Model 3a and Model 3b

Panel B: Correlations for Model 3a and Model 3b

Variables	1	2	3	4	5	6	7		
1 FutureGAAPEarnings	1.000	0.932**	.741**	-0.033	0.155*	0.619**	0.004		
2 FutureOperatingIncome	0.865**	1.000	.702**	0.011	0.187**	0.603**	0.034		
3 NonGAAPEarnings	0.780^{**}	0.818**	1.000	0.110	0.021	0.488**	0.084		
4 NonGAAPExclusions	0.066	0.105	0.177**	1.000	-0.056	Expec	ted posit NonGA	tive coeffic APEarnings	ient
5 SportsRisk	0.144*	0.213**	0.121	-0.040	1.000	indica	tes they	are persist	ent.
6 NonGAAPEarningsXSportsRisk	0.488**	0.513**	0.584**	0.041	0.803**	E	Expected	negative	
7 NonGAAPExclusionsXSportsRisk	0.054	0.076	0.103	0.790^{**}	0.407**		coeffic	ient on	
						N	onGAAP	Exclusions	
						indica	tes they	are persist	ent.
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Expected positive coefficient of NonGAAPEarnings is they are persistent. Expected negative coefficient o NonGAAPExclusions is they are persistent.	n I <i>3a and b</i>	The pern 4, sir 4 qu	expecte nanent nce futi arters.	ed coefficient for co non-GAAP earning ure GAAP earnings (Frankel et al. (2013	ompletely s would l is the su 1)	y be m of
Fut	tureGAAPEarnings			FutureOperatingIncome		
Variables	Coefficient	t	Sig.	Coefficient	t	Sig.
NonGAAPEarnings	1.178	10.205	0.000	1.180	9.085	0.00
NonGAAPExclusions	-0.358	-1.041	0.299	-0.055	0.141	0.88
SportsRisk	-3.319	-2.717	0.007	-2.079	-1.512	0.13
NonGAAPEarningsxSportRisk	3.885	7.407	0.000	3.536	5.989	0.00
NonGAAPExclusionxSportRisk	-2.071	-1.539	0.125	-2.340	-1.545	0.12

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0.000

0.888

0.132

0.000

0.124

Table 15

High Low SportsRisk Comparison for Model 3a and 3b

	HighSportsRisk	LowSportsRisk			
Variables	n = 133	n = 94	Difference	t-statistic	p-value
FutureGAAPEarnings	6.467	4.972	1.495	2.371	0.019
<i>FutureOperatingIncome</i>	7.437	5.606	1.830	2.840	0.005
NonGAAPEarnings	1.975	2.046	-0.071	0.220	0.826
NonGAAPExclusions	0.248	0.358	-0.110	-1.007	0.315
NonGAAPEarningsXSportsRisk	0.654	0.068	0.586	8.919	0.000
Non GAAPExclusions XSports Risk	0.074	0.011	0.063	2.714	0.007



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Discussion and Limitations

• Limitations:

- Access to databases for CEO sports hobbies, like Exucomp was not available.
- Selection was limited to Fortune 500 companies small sample size.
- The measure for sports risk developed by Luo et al. (2021) does not include sports like riding horses. Including more sports would increase sample size.
- The influence of other leaders, for instance, the CFOs, were not part of this study.
- There are possible errors in gathering non-GAAP data due to variances in corporate disclosures. This limitation is inherent in the study of non-GAAP earnings.



Discussion and Limitations

- Model 1 Results did not support the hypothesis. *SportsRisk* was a negative coefficient. As *SportsRisk* increases, the probability of non-GAAP earnings that *Exceed* GAAP earnings decreases overall.
- Model 2 Results did not support hypotheses. *SportsRisk* was a negative coefficient. The negative interaction between *SportsRisk* and *NonGAAPExclusions* indicates CEO involvement with riskier sports would be negatively associated with the magnitude of incomedecreasing items excluded from non-GAAP earnings overall.
- Placing data into high-risk and low-risk groups shows evidence of some behavioral differences between the groups.



Discussion and Limitations

- Model 3 a &b-*NonGAAPExclusions* was a negative coefficient which supports the hypothesis. Prior research suggests that a negative coefficient on *NonGAAPExclusionsxSportsRisk* implies exclusions from GAAP earnings reoccur or are more persistent.
- When placed into groupings of high-risk sports and low-risk sports NonGAAP Earnings and *nonGAAPExclusions* was larger in the low-risk sports group.
- The inference is that firms with CEOs who engage in low-risk sports like golf, bowling, and running have *NonGAAPExclusions* that are more likely to occur over time or are more persistent.



Thank you!



Table 14

Coefficients for Model 3b

Variables	b	SE-b	Beta	t S	Sig.
(Constant)	4,646	0.769		6.042	0.022
NonGAAPEarnings	1.18	0.130	0.505	9.085	0.000
NonGaapExclusions	-0.055	0.387	-0.008	-0.141	0.888
SportsRisk	-2.079	1.375	-0.099	-1.512	0.132
NonGAAPEarningsxSportRisk	3.536	0.590	0.439	5.989	0.000
NonGAAPExclusionxSportRisk	-2.340	1.514	-0.093	-1.545	0.124



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Table 13

Coefficients for Model 3a

Variables	b	SE-b	Beta	t	Sig.
(Constant)	2.922	0.683		4.277	0.000
NonGAAPEarnings	1.178	0.115	0.518	10.205	0.000
NonGAAPExclusions	-0.358	0.344	-0.056	-1.041	0.299
SportsRisk	-3.319	1.222	-0.162	-2.717	0.007
NonGAAPEarningsxSportRisk	3.885	0.525	0.496	7.407	0.000
NonGAAPExclusionxSportRisk	-2.071	1.345	-0.085	-1.539	0.125

Dependent variable is *FutureGAAPEarnings*

