

Predicting Equity Prices of Realty Income Corporation: A Regression Analysis Using Financial Metrics

I. Introduction

This research aims to predict the equity price of Realty Income Corporation, a leading REIT known for its monthly dividends and commercial property portfolio. Headquartered in San Diego, California, the company owns and manages a large portfolio of commercial properties, primarily leased to high-quality tenants in sectors such as retail, healthcare, and distribution. By analyzing key variables such as Earnings Per Share (EPS), Book Value Per Share (bvps), Dividend Per Share (dps), and Funds from Operations (FFO), the study seeks to identify factors influencing the company's stock price. Focused on prediction, this research is relevant to investors and analysts looking to better understand equity valuation in the REIT sector.

II. Previous Research

There has been a lot of previous research, but none right on point with this.

III. Methodology

This study uses time series secondary data for Realty Income Corporation, collected via FactSet, comprising 60 observations with a quarterly frequency starting from December 2006 and ending in September 2024. Graphical techniques, including histograms, scatterplots, and time series plots, were employed for visualization to identify trends, patterns, and relationships over time. Descriptive statistics, correlation analysis, and regression modeling provided deeper insights into the factors influencing equity prices. The analysis, conducted entirely in Excel, offers a systematic approach to predicting equity prices using key financial indicators.

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Eqn. 1	Price = f (EPS, bvps, dps, FFO)
Eqn. 2	Price = $\alpha + \beta_{EPS} * EPS + \beta_{bvps} * bvps + \beta_{dps} * dps + \beta_{FFO} * FFO$
Eqn. 3	Price = $a + b_{EPS} * EPS + b_{bvps} * bvps + b_{dps} * dps + b_{FFO} * FFO$

IV. Results

a. Histograms:

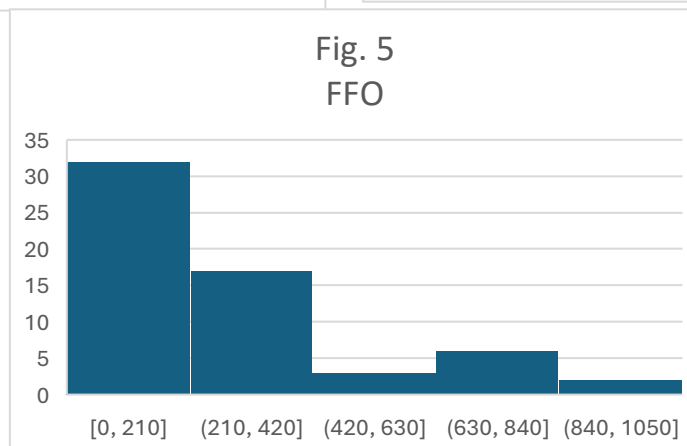
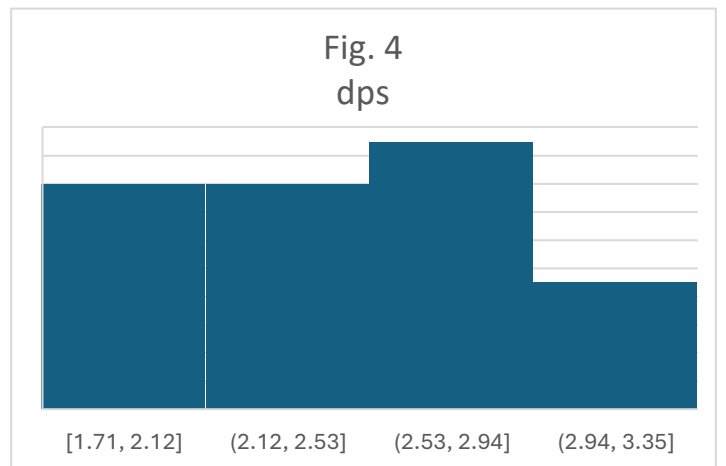
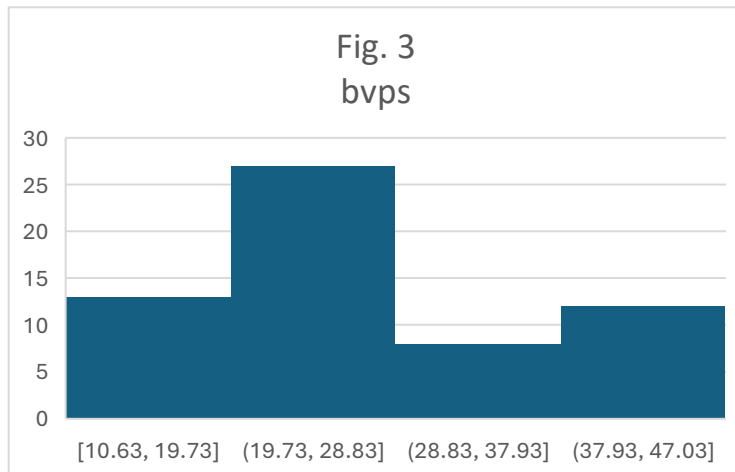
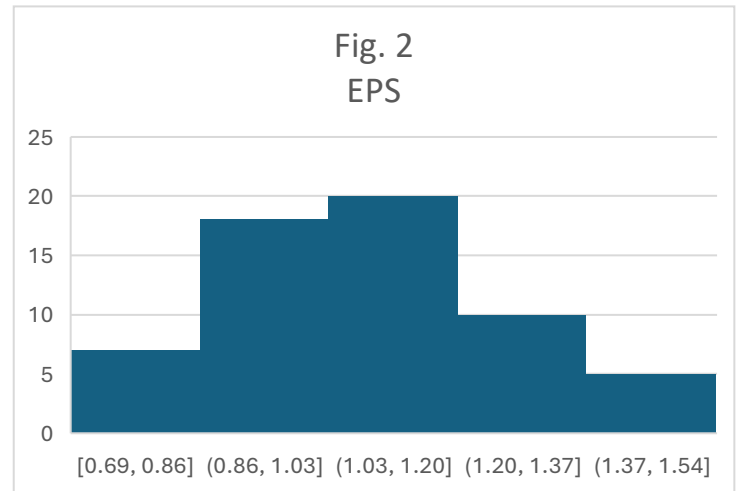
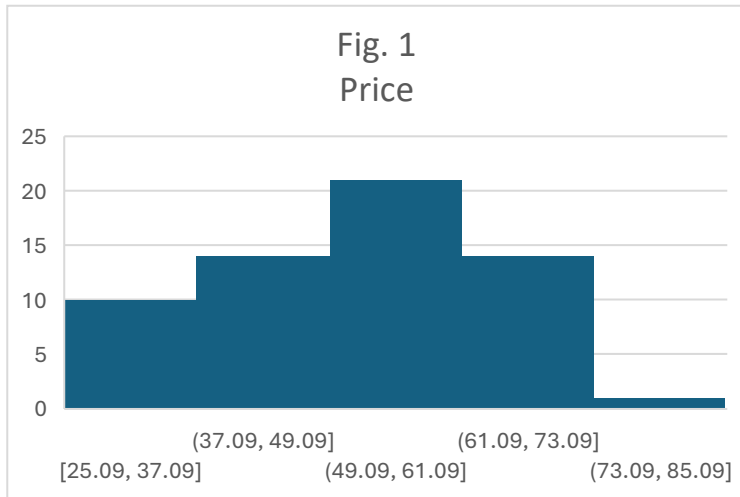


Fig. 1 and **Fig. 4** are relatively symmetric, suggesting no transformation is needed, while **Fig. 2**, **Fig. 3** and **Fig. 5** are right-skewed. No significant outliers are observed.

b. Time Series plots:

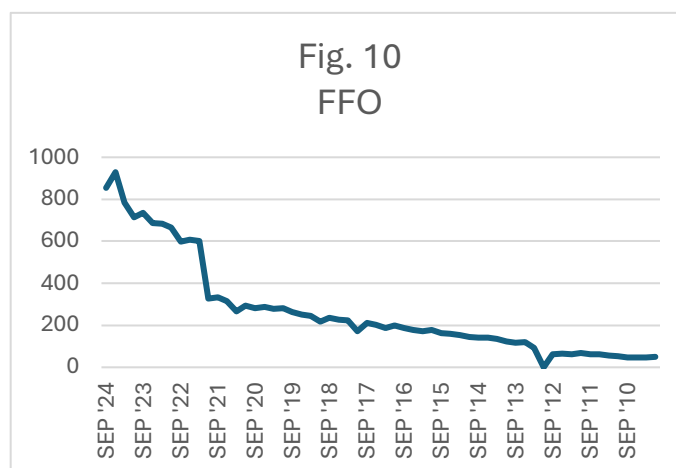
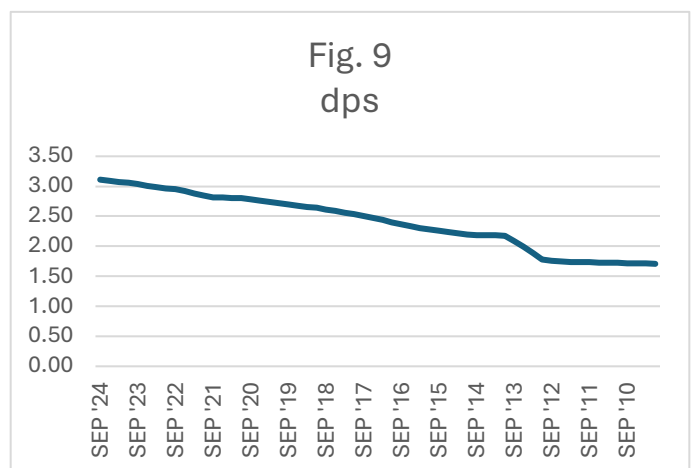
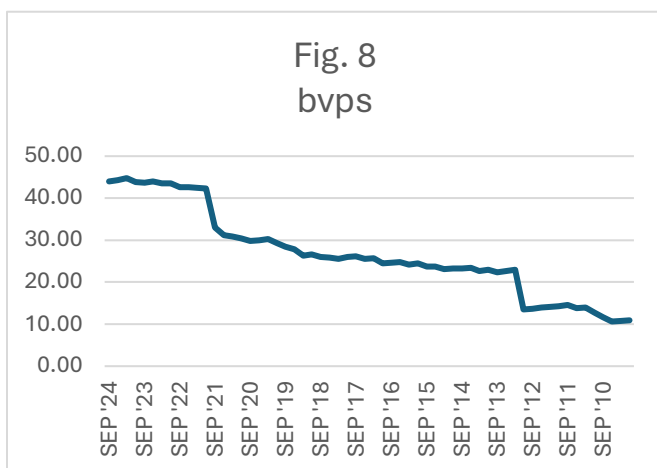
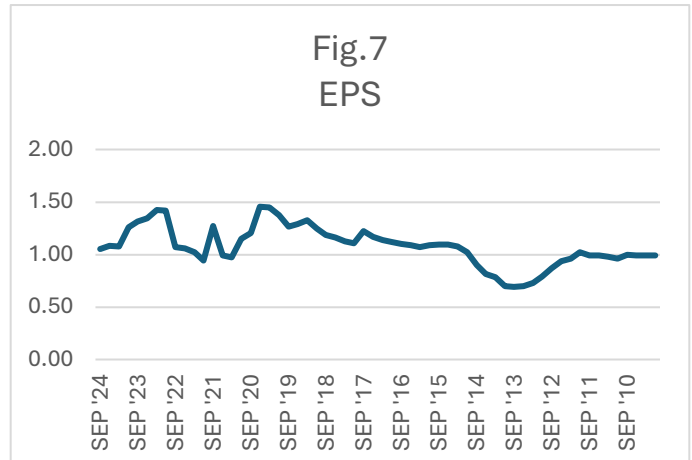
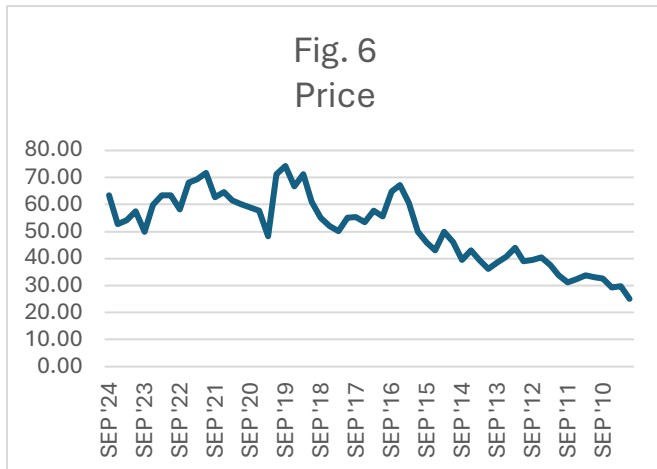


Fig. 6 shows a downward trend with volatility, while **Fig. 7** remains stable with minor fluctuations. Both **Fig. 8** and **Fig. 9** exhibit consistent declines, with a sharp drop in **Fig. 8** around 2013. **Fig. 10** shows a pronounced downward trend with volatility, aligning with the overall decline across variables.

c. Scatter plots:

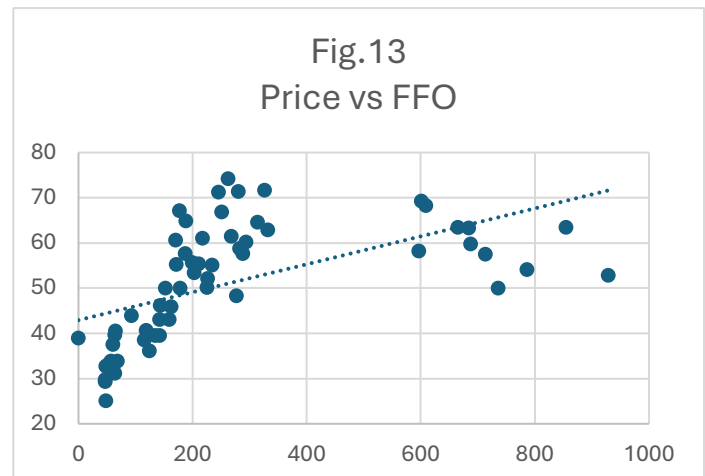
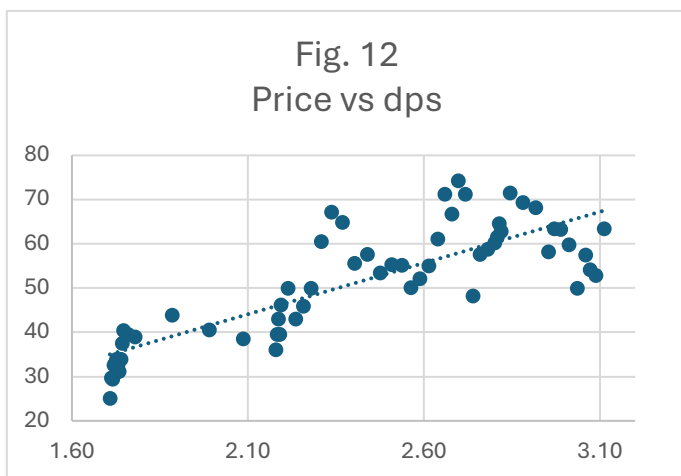
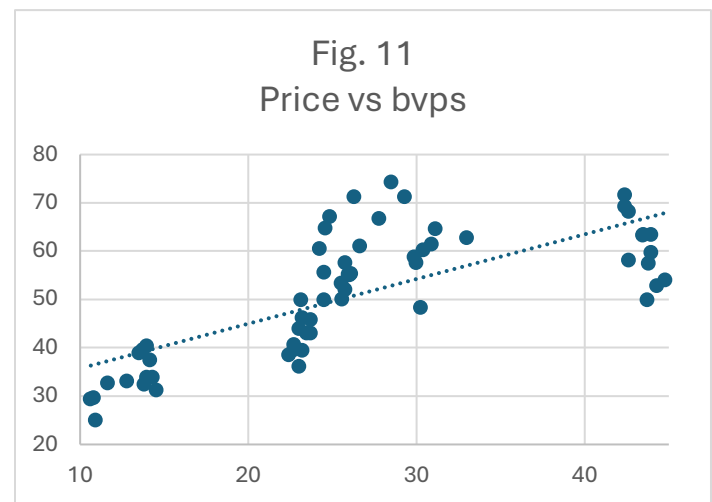
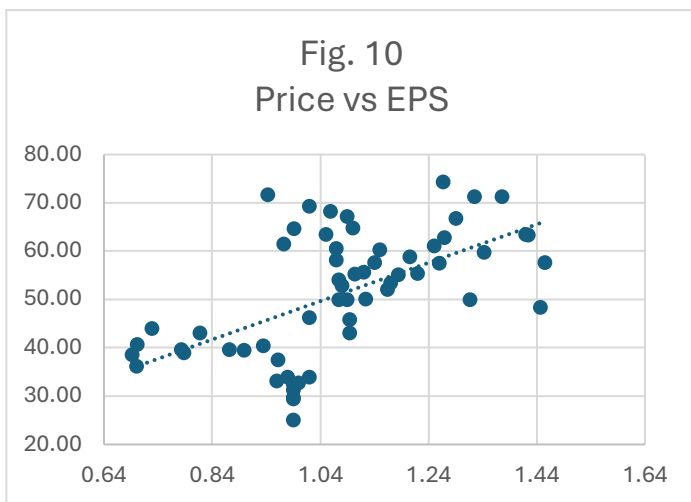


Fig. 10, Fig. 11, Fig. 12, and Fig. 13 show positive and moderately strong linear relationships, with slight heteroscedasticity visible in the spread of data points. The trends are consistent across all figures, indicating that as the independent variables increase, the dependent variable follows a linear upward pattern.

d. Table 1: Descriptive Statistics

	<i>Price</i>	<i>EPS</i>	<i>bvps</i>	<i>dps</i>	<i>FFO</i>
μ	51.19	1.08	26.70	2.41	267.42
Median	53.13	1.07	25.55	2.46	194.06
StdDev	12.91	0.19	10.21	0.46	232.72
k	(1.05)	(0.18)	(0.65)	(1.26)	0.86
Sk	(0.16)	(0.02)	0.37	(0.21)	1.37
Range	49.16	0.76	34.14	1.40	929.13
Min	25.09	0.69	10.63	1.71	0.00
Max	74.26	1.46	44.77	3.11	929.13

e. Table 2: Correlation Matrix

	EPS	bvps	dps	FFO
Price	0.577	0.732	0.827	0.557

The correlation results largely align with the original hypotheses: DPS and BVPS show strong positive relationships with Price, while EPS and FFO exhibit moderate positive correlations.

f. Table 3: Regression Results

Eqn. 4	$P = -23.38 + 8.62 * EPS + 0.72 * bvps + 23.77 * dps - 0.04 * FFO$				
t-stat	(-3.178)	(1.33)	(1.764)	(3.331)	(-4.046)
p-value	(0.0024)	(0.187)	(0.0832)	(0.0015)	(0.0002)

n = 60 r-sq. = 77% F -stat = 47 SE = 6.36

F-test: The model is statistically significant, indicating that at least one independent variable affects Price.

R-squared: 77% of the variation in Price is explained by the independent variables.

Standard Error: The average prediction error is **6.36**, showing low variability in predictions.

Significant Coefficients: **dps** (23.76, p = 0.0015) and **FFO** (-0.041, p = 0.0002) significantly affect Price, while **EPS** and **bvps** are not significant and may be removed.

Interpretations for the slopes:

- As **dps** increases by one dollar, the equity price increases by \$23.76 on average.
- As **FFO** increases by one unit, the equity price decreases by \$0.041 on average.

V. Conclusion

The research was successful, as it identified **dps** and **FFO** as significant predictors of equity price, while **EPS** and **bvps** were not predictive. The model captured a substantial portion of the variation in equity prices, though moderate error levels suggest room for improvement. Future research could enhance accuracy by increasing the sample size, incorporating additional relevant variables, or utilizing longitudinal data to better capture long-term trends.

VI. Appendix - Dataset used

Date	Price	EPS	bvps	dps	FFO
SEP '24	63.42	1.05	43.94	3.11	854.926
JUN '24	52.82	1.08	44.30	3.09	929.133
MAR '24	54.10	1.07	44.77	3.07	785.683
DEC '23	57.42	1.26	43.78	3.06	713.716
SEP '23	49.94	1.32	43.73	3.04	736.146
JUN '23	59.79	1.34	43.94	3.01	687.985
MAR '23	63.32	1.42	43.46	2.99	684.291
DEC '22	63.43	1.42	43.48	2.97	664.508
SEP '22	58.20	1.07	42.63	2.95	597.154
JUN '22	68.26	1.06	42.63	2.92	608.815
MAR '22	69.30	1.02	42.39	2.88	601.416
DEC '21	71.59	0.94	42.37	2.85	326.163
SEP '21	62.81	1.27	32.99	2.82	332.335
JUN '21	64.63	0.99	31.14	2.81	314.375
MAR '21	61.49	0.97	30.88	2.81	267.707
DEC '20	60.20	1.15	30.41	2.80	293.7
SEP '20	58.83	1.21	29.86	2.78	282.978
JUN '20	57.62	1.46	29.98	2.76	288.338
MAR '20	48.28	1.45	30.25	2.74	277.104
DEC '19	71.30	1.38	29.30	2.72	280.396
SEP '19	74.26	1.27	28.52	2.70	262.031
JUN '19	66.79	1.29	27.77	2.68	251.489
MAR '19	71.23	1.33	26.28	2.66	245.675
DEC '18	61.05	1.25	26.63	2.64	217.743
SEP '18	55.09	1.18	26.01	2.61	234.55
JUN '18	52.09	1.16	25.78	2.59	226.082
MAR '18	50.09	1.12	25.56	2.56	224.882
DEC '17	55.22	1.10	25.94	2.54	170.988
SEP '17	55.38	1.22	26.10	2.51	211.192
JUN '17	53.44	1.17	25.55	2.48	203.272
MAR '17	57.65	1.14	25.76	2.44	187.213
DEC '16	55.66	1.12	24.49	2.40	199.832
SEP '16	64.81	1.10	24.59	2.37	188.286
JUN '16	67.17	1.09	24.83	2.34	176.648
MAR '16	60.53	1.07	24.23	2.31	170.629
DEC '15	50.00	1.09	24.50	2.28	177.907
SEP '15	45.89	1.09	23.71	2.26	162.16
JUN '15	42.99	1.09	23.69	2.23	159.47
MAR '15	49.97	1.07	23.15	2.21	152.9
DEC '14	46.20	1.02	23.20	2.19	143.706

SEP '14	39.50	0.90	23.20	2.19	142.259
JUN '14	43.02	0.82	23.48	2.19	142.409
MAR '14	39.57	0.78	22.71	2.18	134.52
DEC '13	36.15	0.70	23.02	2.18	124.492
SEP '13	38.49	0.69	22.42	2.09	115.906
JUN '13	40.59	0.70	22.72	1.99	118.547
MAR '13	43.92	0.73	23.03	1.88	92.887
DEC '12	38.94	0.79	13.51	1.78	0.00
SEP '12	39.60	0.87	13.74	1.76	63.42
JUN '12	40.45	0.93	13.97	1.75	65.167
MAR '12	37.51	0.96	14.14	1.74	60.695
DEC '11	33.85	1.02	14.32	1.74	68.456
SEP '11	31.22	0.99	14.55	1.73	63.405
JUN '11	32.43	0.99	13.82	1.73	60.934
MAR '11	33.84	0.98	13.97	1.73	56.598
DEC '10	33.12	0.96	12.78	1.72	52.467
SEP '10	32.65	1.00	11.65	1.72	47.804
JUN '10	29.37	0.99	10.63	1.72	46.791
MAR '10	29.72	0.99	10.82	1.71	46.652
DEC '09	25.09	0.99	10.94	1.71	48.375