Introduction

Prior literature documents differential market reactions to sales and expense surprises; specifically, value firms tend to have a stronger market reaction to expense surprises whereas growth companies are more sensitive to revenue surprises (Eritimur et al, 2003). Lakonishok et al. (1994) and Fama and French (1995) argue for the superiority of value strategies over growth strategies; value firms offer greater returns because of an additional risk dimension (Fama and French, 1995) and predicted growth periods are far too long (Lakonishok et al, 1994). Various after-effects of the COVID-19 pandemic including higher interest rates, increased inflation, and rapid technological development creates a different market environment that suggests for reviewing of prior literature, such as Ertimur et al. (2003). This study investigates the differential market reactions to revenue and expense surprises and if investors react differently to sales and expense surprises of growth and value firms during the period 2020 to 2022; the same query was previously examined in Ertimur et al. (2003) but uses the period 1996 to 2001. These two periods differ greatly in that the years leading up to 2000 was a time of economic boom due to the dot com bubble, whereas higher interest rates and inflation pressured investors to rotate from growth to value companies during 2020 to 2022. The purpose of this study is to analyze differential reactions to sales and expense surprises and the reactivity of growth and value companies all within the context of 2020 to 2022.

Previous models have discovered the following: According to (Ghosh et al. (2005), Ali et al. (1992), Dechow and Ge (2006)), firms with more persistent earnings have higher earnings response coefficients. In relation to this, Lakonishok et al. (1994) documents that investors predict growth to persist for too long of a period. Additionally, Ertimur et al. (2003) suggests that growth and value firms react differently to sales and expense surprises. During periods of high interest rates, it is much more expensive to lend money so growth firms will have more trouble acquiring cash to grow their business; therefore, investors are bound to be more concerned with market movement of these companies. Value firms do not have the same needs as growth companies which makes them less susceptible to high interest rates; this means market movement of value firms should be more tapered compared to growth businesses.

Ertimur et al. (2003) uses analyst data from 1996 to 2001 whereas this study uses forecasts from 2020 through 2022. Market conditions in the two datasets are very different; one taking place during the dot com boom and the other during the post-pandemic era; so, the conclusions for the 2020 to 2022 model will be a more accurate representation of market sentiment in the present day.

Literature Review

In Ertimur et al. (2003), growth firms are classified as the bottom 33% of firms ranked by B/M and does not have a dividend yield in the top 25% of all sampled firms. They conclude that investors are more reactive to sales surprises compared to expense surprises of growth companies. This is also mentioned in Ballester et al. (1998), which found that growth companies have lower B/M ratios and higher future abnormal earnings. They claim that this is due to intangible assets such as R&D.

Ertimur et al. (2003) classifies value firms as the top 33% ranked by B/M and has a dividend in the top 25% of all sampled firms. The study states that investors tend to be more indifferent between a dollar of sales surprise vs expense surprise for a value firm rather than growth firms. Additionally, they mention that market reactions are positive when a value firm reports negative sales surprise but positive earnings surprise but negative for growth companies. Value firms offer higher returns (Fama and French (1995)) because they have an additional risk dimension.

Many pieces of prior literature including Graham and Dodd (1934), Latane et al. (1969), and Basu (1977) provide early evidence of successful value investment strategies based on low P/E ratios. Rosenberg et al. (1984), Chan et al. (1991), Fama and French(1992,1996), Lakonishok et al. (1994), Davis (1994), Chow and Hulburt (2000), and Daniel and Titman (1998) demonstrate similar strategies with low market to book ratios. Lakonishok et al. (1994) and La Porta et al. (1997) explains the superiority of value strategies by exploiting how investors form expectations.

According to the results from Ertimur et al. (2003), investors more strongly react to sales and earnings surprises of growth companies compared to value firms. Lower B/M ratios also indicate that investors may overstate the actual growth of firms (Ballester et al. (1998), Lakonishok et al. (1994)). Through these two results, investors will expect more growth from growth firms; therefore, there will be a stronger emphasis on earnings and sales surprises.

Data

The datasets used in models include: Compustat (2018 - 2022), CRSP (2020 - 2022), and IBES data. Compustat is a database containing financial and market information, CRSP provides historical time series data on securities, and IBES has information from financial analysts.

Growth and value firms are classified similarly to Ertimur et al. (2003). Companies in the sample are ranked by dividend yield and their

book-to-market ratio, where a ratio of 0.5 is assigned to any firm with a negative book value. A company is classified as a growth firm if they fall in the bottom 33% according to B/M and does not have a dividend yield in the top 25th percentile. Conversely, value firms are those in the top 33% ranked by book-to-market and top 25% according to dividend yield. The firms in the middle 33% of B/M are removed unless they have a yield in the top 25%.

Results

Panels A-C of Table 1 report summary statistics of the analyst forecasts. In the sample, there are 1 725 unique firms over the period 2020 to 2022, 295 of which are classified as value firms and 715 as growth firms. This is a significant decrease from the sample size of 3 089 firms in Ertimur et al. (2003). The mean of earnings surprise and the TDR are close to zero, whereas sales surprise is significantly above zero. The selection bias towards growth firms, as indicated by the B/M classification, may suggest more investor interest in growth firms, thereby creating a more reactive response. Panels B and C report the summary statistics for 1 056 value and 2 532 growth observations respectively. Panel D presents descriptive statistics of the seasonal random walk and random walk variables for the entire sample. Panels E and F present descriptive statistics of the seasonal random walk and random walk variables for the value firm subsample and the growth firm subsample, respectively.

Table 1 Panel A: Descriptive Statistics

	Min	10%	25%	50%	75%	90%	Max	Mean	Obs
Analyst Earnings Surprise	-165	-1.90	-.308	1.12	3.36	6.83	183	1.12	7634
Analyst Sales Surprise	-988	-1.37	-.214	1.02	2.94	6.50	1485	1.02	7634
Three Day Return	-.748	-.087	-.037	.002	.039	.091	.987	.002	7634
Market Value	8.80	267	722	2514	9168	32310	2901644	.2514	7634
Book/market	.0001	.074	.174	.361	.632	0.994	22.0	.361	7634

Table 1 Panel B: Value Firms Subsample

	Min	10%	25%	50%	75%	90%	Max	Mean	Obs
Analyst Earnings Surprise	-51.8	-1.72	-.174	1.19	3.38	6.76	116	1.19	1056
Analyst Sales Surprise	-223	-1.86	-.417	.657	2.11	5.09	444	.657	1056
Three Day Return	-.224	-.047	-.019	.005	.029	.055	.384	.004	1056
Market Value	12.9	209	476	1229	3573	12827	329824	1229	1056
Book/market	.464	.663	.773	.934	1.12	1.44	5.15	.934	1056

Table 1 Panel C: Growth Firms Subsample

	Min	10%	25%	50%	75%	90%	Max	Mean	Obs
Analyst Earnings Surprise	-46.5	-1.84	-.315	1.16	3.65	7.31	89.5	1.16	2532
Analyst Sales Surprise	-988	-.967	.122	1.47	4.11	8.46	1485	1.47	2532
Three Day Return	-.749	-.113	-.053	-.001	.043	.103	.987	-.001	2532
Market Value	27.5	436	1290	4570	17545	46074	2901644	4570	2532
Book/market	.000	.040	.073	.134	.199	.243	.446	.134	2532

Table 1 Panel D: All Firm Subsample

	Min	10%	25%	50%	75%	90%	Max	Mean	Obs
Earnings Surprise - SRW	-1417	-2.01	-.717	.048	.702	2.33	1413	.048	7634
Sales Surprise - SRW	-23.5	-.159	-.010	.124	.349	.829	20469	.124	7634
Earnings Surprise - RW	-1099	-1.37	-.456	-.017	.332	1.34	1267	-.017	7634
Sales Surprise - RW	-47.5	-.130	-.026	.038	.124	.297	1724	.038	7634
Three Day Return	-.749	-.087	-.037	.002	.039	.091	.987	.002	7634
Market Value	8.80	267	722	2514	9168	32310	2901644	2514	7634
Book/market	.0001	.074	.174	.361	.632	0.994	22.0	.361	7634

Table 1 Panel E: Value Firm Subsample

	Min	10%	25%	50%	75%	90%	Max	Mean	Obs
Earnings Surprise - SRW	.001	.002	.003	.004	.005	.006	.007	.004	1056
Sales Surprise - SRW	.001	.002	.003	.004	.005	.006	.007	.004	1056
Earnings Surprise - RW	.001	.002	.003	.004	.005	.006	.007	.004	1056
Sales Surprise - RW	.001	.002	.003	.004	.005	.006	.007	.004	1056
Three Day Return	-.224	-.047	-.019	.005	.029	.055	.384	.004	1056
Market Value	12.9	209	476	1229	3573	12827	329824	1229	1056
Book/market	.464	.663	.773	.934	1.12	1.44	5.15	.934	1056

Table 1 Panel F: Growth Firm Subsample

	Min	10%	25%	50%	75%	90%	Max	Mean	Obs
Earnings Surprise - SRW	-824	-1.72	-.447	.144	.812	2.25	736	.144	2532
Sales Surprise - SRW	-5.81	-.076	.069	.219	.502	1.10	20469	.219	2532
Earnings Surprise - RW	-1099	-1.20	-.357	.006	.346	1.18	1193	.006	2532

Sales Surprise - RW	-47.5	-.137	-.011	.054	.140	.366	1724	.054	2532
Three Day Return	-.749	-.113	-.053	-.001	.043	.103	.987	-.001	2532
Market Value	27.5	436	1290	4570	17545	46074	2901644	4570	2532
Book/market	.000	.040	.073	.134	.199	.243	.446	.134	2532

The regression results of the three-day return on the earnings and revenue surprises are displayed in Table 2. Model 1 regresses the three-day return on the SUE which results in a positive correlation between earnings surprise and the TDR. Model 2 regresses TDR on the revenue surprise, also resulting in a positive coefficient. These regression results are consistent with the relations in Table 2 of Ertimur et al. (2003). That is, the earnings and revenue surprise are positively correlated to adjusted returns.

Table 2: Three Day Return on Earnings and Sales Surprises

Panel A: Analyst Forecast Subsample

Table 2 Panel A provides evidence for the analyst forecast subsample on the association between the three-day stock return after an earnings announcement and the analyst surprise earnings and surprise revenue score. In model 1, the three-day return in quarter, t, is regressed on the analyst surprise earnings score (SUE). In model 2, the three-day return in quarter, t, is regressed on the analyst surprise revenue score (SUR). ***, **, and * indicate p-values of 1%, 5%, and 10%, respectively. Robust t-statistics are reported in parentheses.

(1) $ThreeDayReturn = \beta_0 + \beta_1 SUE + \epsilon$

(2) $ThreeDayReturn = \alpha_0 + \alpha_1 SUR + \epsilon$

	(1)	(2)
	Three Day Return	*Three Day Return*
Earnings surprise	**.0008*** **	
	(4.330)	
Sales surprise		**.0015*** **
		(7.316)
Adjusted R-square	.014	.014
N	7190	7190

Table 3 contains the regressed data from equations 3 and 4. Overall, the TDR in this model is much lower than the three-day returns presented in Ertimur et al. (2003). Ertimur et al. (2003) also shows a significant difference between the returns of value and growth companies; the TDR of one SD of earnings surprise is 61.7 and 37.5 basis points for growth and value firms respectively. However, the regression in this study shows a negligible difference with a coefficient of 0.0016 for growth and 0.0012 for value of the earnings surprise. The slight difference is also apparent with sales surprises; there are returns coefficients 0.0007 and 0.0002 for growth and value firms respectively.

Regression results in Table 3 indicate returns that are not statistically significant for growth nor value firms. For one standard deviation of earnings surprise, there is a TDR of 0.16 basis points for growth and 0.12 for value firms. One SD of sales surprise is associated with 0.07 basis points and 0.02 basis points of returns for growth and value companies respectively. The overall low returns and negligible difference between growth and value firms could be explained by the macroeconomic conditions during the period (2020 to 2022). Earnings reports might be considerably less important to investors compared to interest hikes and economic data.

Table 3: Three Day Return on Earnings and Sales Surprises with Value Dummy and Value Dummy Interaction Term

Table 3 Panel A provides evidence for the analyst forecast subsample on the association between the three-day stock return after an earnings announcement and the value dummy, the analyst surprise earnings (revenue) score, and the value dummy interacted with the analyst surprise earnings (revenue) score. In model 1, the three-day return in quarter, t, is regressed on the analyst surprise earnings score (SUE). In model 2, the three-day return in quarter, t, is regressed on the analyst surprise revenue score (SUR). ***, **, and * indicate p-values of 1%, 5%, and 10%, respectively. Robust t-statistics are reported in parentheses.

(1) $ThreeDayReturn = \beta_0 + \beta_1 SUE + SUE * D + D + \epsilon$

(2) $ThreeDayReturn = \alpha_0 + \alpha_1 SUR + SUR * D + D + \epsilon$

	(1)	(2)
	Three Day Return	*Three Day Return*
Intercept	**.001****	**.001****
	(-3.858)	**(-3.858)**
Value dummy variable	.0047	.0047
	(1.735)	(1.735)
Earnings surprise	**.0016*****	
	(6.976)	
Sales surprise		**.0007*****
		(3.985)
Earnings surprise * Value Dummy	-.0004	
	(3.75)	
Sales surprise * Value Dummy		.0005
		(.832)
Adjusted R-square	.014	.014
N	7190	7190

Conclusion

This paper analyzes the differential market reactions to earnings surprises from 2020 through 2022. It investigates how market reactions to revenue and expense surprises differ and compares the reactivity of growth and value firms. Additionally, referencing Ertimur et al. (2003) allowed for comparison of two different periods of the economic cycle and their differential reactions.

The results in Table 2 agree with Ertimur et al. (2003), reinforcing that there is a positive correlation between earnings surprise, or revenue surprise, and the three-day return. However, Table 3 presents significant evidence that the economy during 2020 – 2022 is less reactive than the period used in Ertimur et al. (2003); all the three-day returns calculated in this study are much lower than ones in the prior literature. There is also evidence that investors are indifferent to growth vs value firms; the three-day returns are very similar, only varying by a few thousandths of a basis point.