Single Name Report

Valuation Space Single Name Analysis

Automated report designed by DWD

July 07, 2023

Background

You have selected GLW. This app produces an automated valuation report that you can export as a pdf. You can select a ticker from a list that includes the nonfinancial firms in the SNP500 as well as some other popular names. To do so type the ticker into the *widget* at the top of the browser and the report will run. Generating the full report may take a minute. For additional background on the conceptual frame behind this report go to: The Valuation Space Blog

Corning Inc. (GLW)

- As of the end of 2023q1, the actual Enterprise Value of Corning Inc. (GLW) was $36.778B.
- The type of valuation we solve for is *Business as Usual*.
- This valuation analysis reveals that a value investor would consider investing in it

Overview

This analysis determines if the current valuation of Corning Inc. (GLW) is expensive or cheap. We translate the Enterprise Value of a company into a set of projections for Revenue, EBIT, Taxes and Free Cash Flow to the Firm that are consistent with the current Enterprise Value for a given WACC. Key in these projections are estimates of medium term growth and the current margin, as well as an implied sustainable margin. We find that if the estimate of medium term growth is too big or too small, if the current margin is negative or the implied margin is too big or too small that the value investor is unlikely to invest in the given name (less than a 1% chance), whereas if all these conditions are meet, the value investor may or may not choose to invest in a given name (about a 7% chance that they would).

The Projections

In order to obtain projections of Free Cash Flow to the Firm whose present discounted value is equal to the current Enterprise Value we make the following assumptions:

- We used an estimated/historical revenue growth rate of 6.93% for next five years before converging to 2% by year ten
- The current estimated/historical margin is 14%, which changes to the implied margin of 24.2% by year five and then stabilizes
- Our assumption for the WACC was 7.55%
- For Asset Turnover we used 0.43, which means that each dollar reinvested brings in an additional 0.43 dollars of revenue.

For growth, we assume that the average growth over the past five years will persist for the next five years before tapering off to 2% by year 10. For the initial margin and asset turnover, we use the median values over the past 5 years. For the implied margin, we solve for this value to set the present discounted value of cash flows equal to the current enterprise value.

Below is the projection that we solve for.

Year	Revenue	Assets	EBIT	EBITafterTax	ROI	Reinvest	FCFF	Discounted
2023	15.2	31.8	2.12	1.66	4.67	2.31	-0.647	-0.6010
2024	16.3	34.4	2.69	2.11	5.52	2.64	-0.521	-0.4500
2025	17.5	37.4	3.34	2.63	6.38	2.92	-0.291	-0.2340
2026	18.9	40.5	4.07	3.2	7.23	3.1	0.103	0.0773
2027	20.2	43.5	4.87	3.83	8.09	3.07	0.759	0.5280
2028	21.4	46.4	5.16	4.06	8.09	2.83	1.23	0.7930
2029	22.4	48.9	5.42	4.26	8.09	2.49	1.77	1.0700
2030	23.3	50.9	5.63	4.43	8.09	2.03	2.39	1.3400
2031	23.9	52.4	5.78	4.55	8.09	1.5	3.05	1.5800
2032	24.4	53.5	5.9	4.64	8.09	1.12	3.51	1.7000
2033	24.9	54.7	6.01	4.73	8.09	1.17	3.56	31.0000
								36.8000

In the table above, the sum of discounted cash flows is the number in the lower right corner. It is the sum of the column above. The last number in this column is the terminal value.. The Terminal Value ($31B) is computed with a Gordon Growth Model that multiplies terminal cash flow by 18.02 and then discounts it by 48.3%. Equivalently, mutiplies terminal cash flow by 8.702. Terminal Cash Flow is $3.56B. Terminal WACC is 7.55% and terminal growth is 2%. So the terminal multiplier is the reciprocal of 5.55% (which is 18.02).

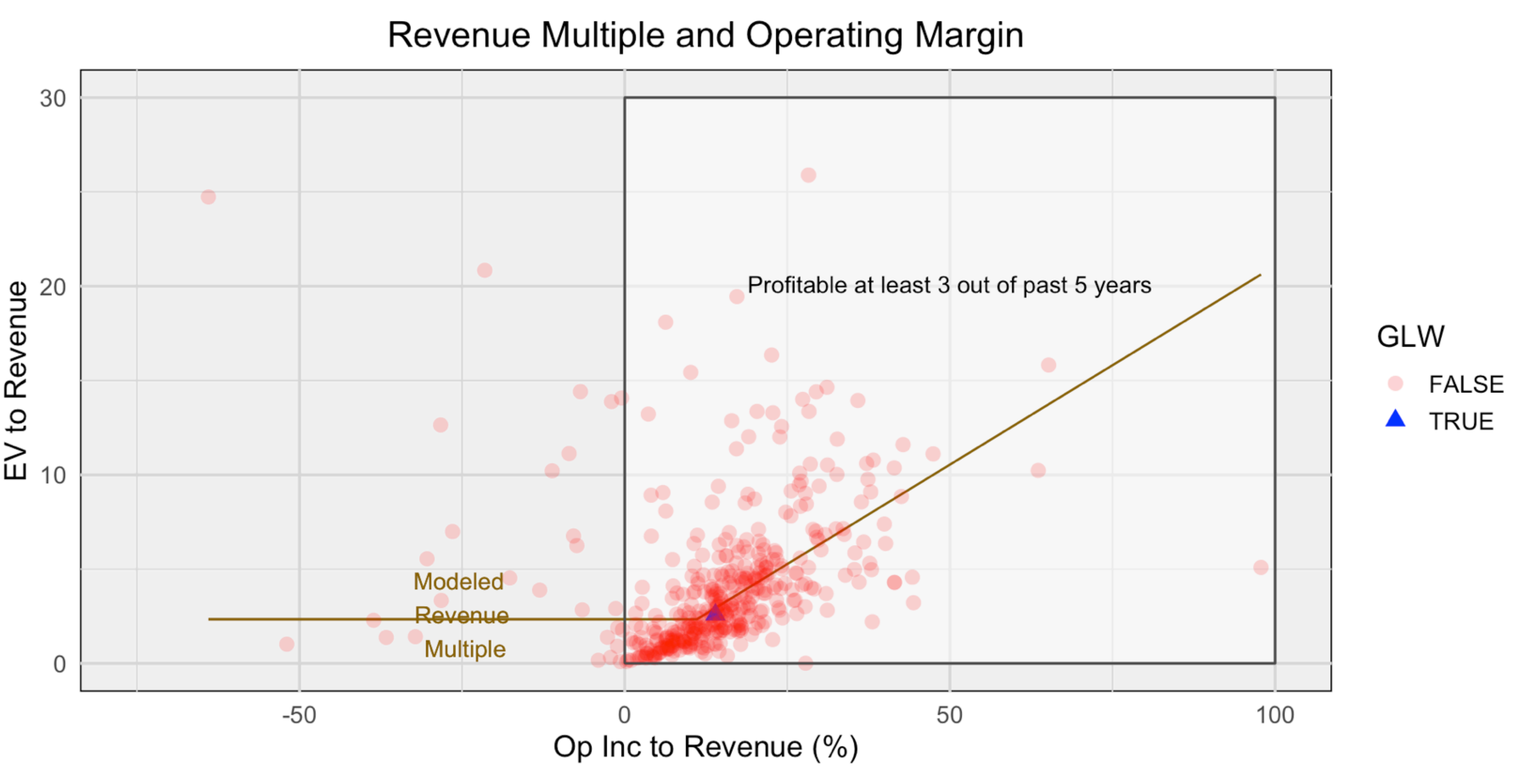
Firms with Similar Valuations

Below is the set of ten firms with the most similar valuations that are similar to GLW in terms of initial margin, margin expansion and the growth assumption.

	Firm Name	EV / EBIT	MkCap to EV (%)	OM1	OM5	G	EV	MKCAP	REV
GLW	Corning Inc.	17.4	81.2	14.00	24.2	6.930	36.8	29.9	14.20
MDLZ	Mondelez International	20.3	100.0	14.30	28.8	3.840	95.0	95.0	31.50
ETN	Eaton Corporation	26.6	89.1	14.00	33.4	-1.010	76.5	68.2	20.70
DIS	Disney	17.5	80.2	14.22	24.0	8.280	228.0	183.0	84.40
OTIS	Otis Worldwide	21.5	82.8	14.20	27.0	1.410	42.3	35.0	13.70
TT	Trane Technologies	20.9	87.7	14.30	25.5	0.511	48.0	42.1	16.00
SJM	J.M. Smucker Company (The)	18.1	79.6	13.73	23.7	2.300	21.1	16.8	8.34
DOV	Dover Corporation	20.0	85.2	14.03	21.6	4.490	24.9	21.2	8.50
CAT	Caterpillar Inc.	18.3	79.2	13.32	22.2	2.480	149.0	118.0	59.40
ECL	Ecolab	29.5	84.6	13.40	34.3	-0.376	55.7	47.1	14.20

- EV/EBIT is Enterprise Value divided by EBIT
- MKCap/EV is Market Cap divided by Enterprise Value. Low values would be indicative of credit risk.
- OM1 is the initial operating margin which is set to the median of past five year margins
- OM5 is the implied margin after year five, which is chosen to set the sum of Discounted Cach Flows to the Firm (DCFF) to Enterprise Value (EV)
- G is the growth rate for the first five years which is set to the average of the growth rate over the past five years (assumed to converge to 2% by year 10).
- EV, MkCap and Rev are Enterprise Value, Market Capitalization and Revenue respectively (in billions of $).

Revenue Multiple



This tab displays the valuation of GLW expressed as a revenue multiple. A firm with an expensive valuation is a firm whose Revenue Multiple (Enterprise Value to Revenue) is large relative to what we would expect given the revenue of the firm and its operating margin.

We construct this as the difference between the Revenue Multiple and a "Modeled Revenue Multiple". In this chart we compare the revenue multiple (Enterprise Value to Revenue) of a firm in the portfolio to a modeled revenue multiple. The modeled revenue value is computed assuming a 3.75% for the WACC, a 21% tax rate, 0 growth. We set the operating margin to the greater of the firm's actual margin (median over past five years) or 11.1% and fixed over time. We assume that Net Operating Losses are 0. The values for WACC (3.75%) and lower bound on margin (11.1%) were chosen to "fit" the portfolio – to minimize the sum of the squared errors. The "error" was computed as the log difference between the actual multiple and the modeled multiple.

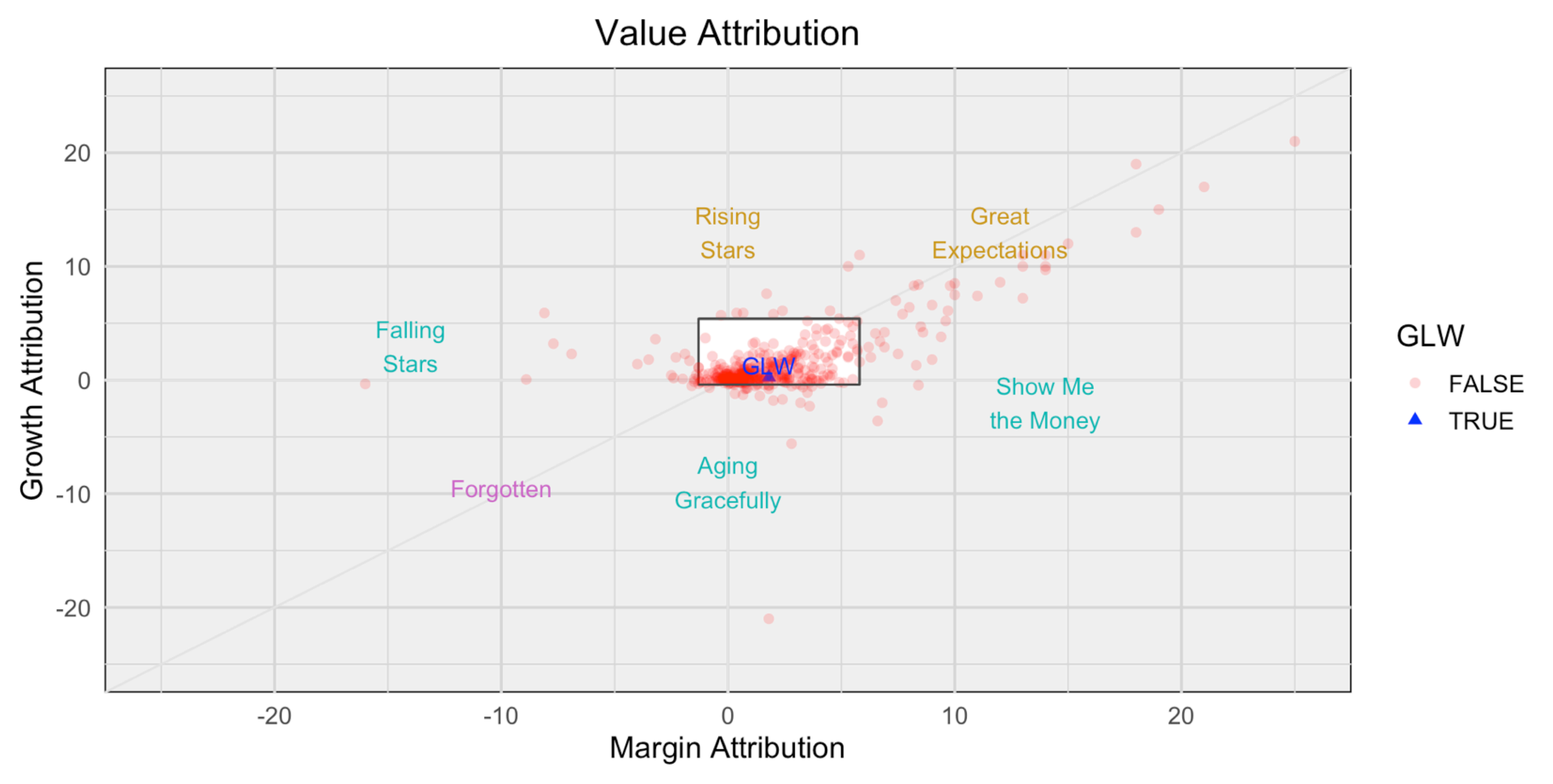
The x axis for GLW in the graph above

- The initial Operating Income to Revenue for GLW is 14%

The y axis for GLW in the graph above

- The Enterprise Value to Revenue Multiple for GLW is 2.59

Value Attribution



The chart shows the impact of the Assumed Growth Rate and the Implied Margin on the firms Revenue Multiple. The Impact of Margin is measured by computing what the Revenue Multiple would be if we held everything else constant but set the margin over the next ten years to the median value over the past five year and then subtract this value from the current Revenue Multiple. When the Revenue Multiple would have been less than 5% of revenue we lower bound the valuation to 5% of revenue.

The Impact of Growth is measured by computing what the Revenue Multiple would be if we assumed 0 revenue growth going forward and then subtract this value from the Current Revenue Multiple. When the revenue multiple would have been less than 5% of revenue we lower bound the valuation to 5% of revenue.

The firms that are near *Great Expectations* are firm's whose valuations are positively impacted by both the assumed growth rate and the implied margin. These are the firms that are both expected to continue to grow and simultaneously increase their margins.

The firms near the origin are *Business as Usual* firms in the sense that their valuation is not heavily impacted by either the assumed growth rate or the implied margin.

The firms near *Show Me the Money* are firms for which the assumed growth rate has little impact but the implied margin has a positive impact on the Revenue Multiple. These are the firms that the market expects to improve their operating margins going forward.

The firms near the "Rising Stars" are the firm's for which the assumed growth rate has a large positive impact on the valuation but the implied margin does not. These are firms that are expected to grow over the next five years like they have in the past five years and sustain the current levels of operating margins.

The x axis for GLW in the graph above

- The valuation of GLW is 1.8 more annual revenues than it would have been if we had assumed the operating margin stayed at is initial level.

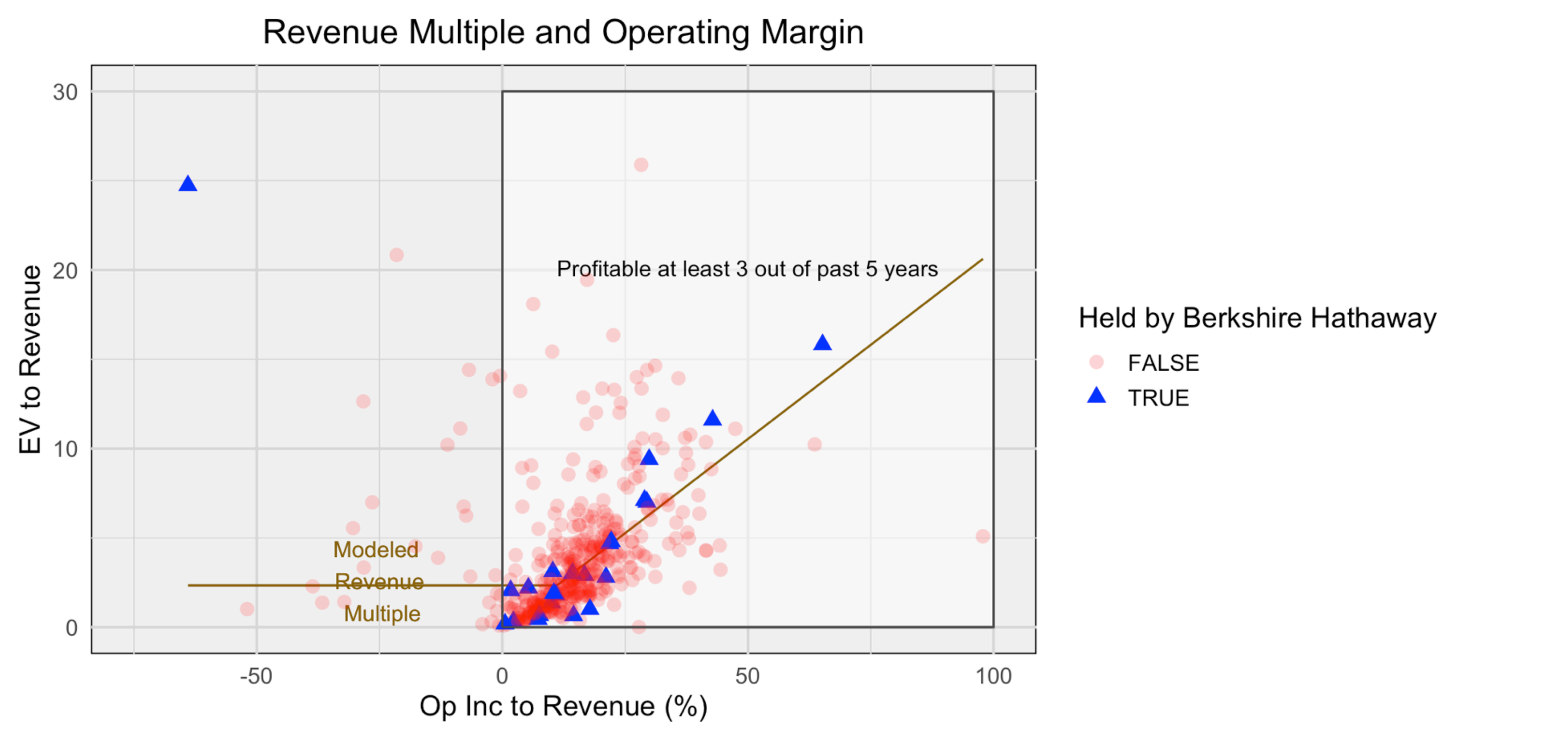
The y axis for GLW in the graph above

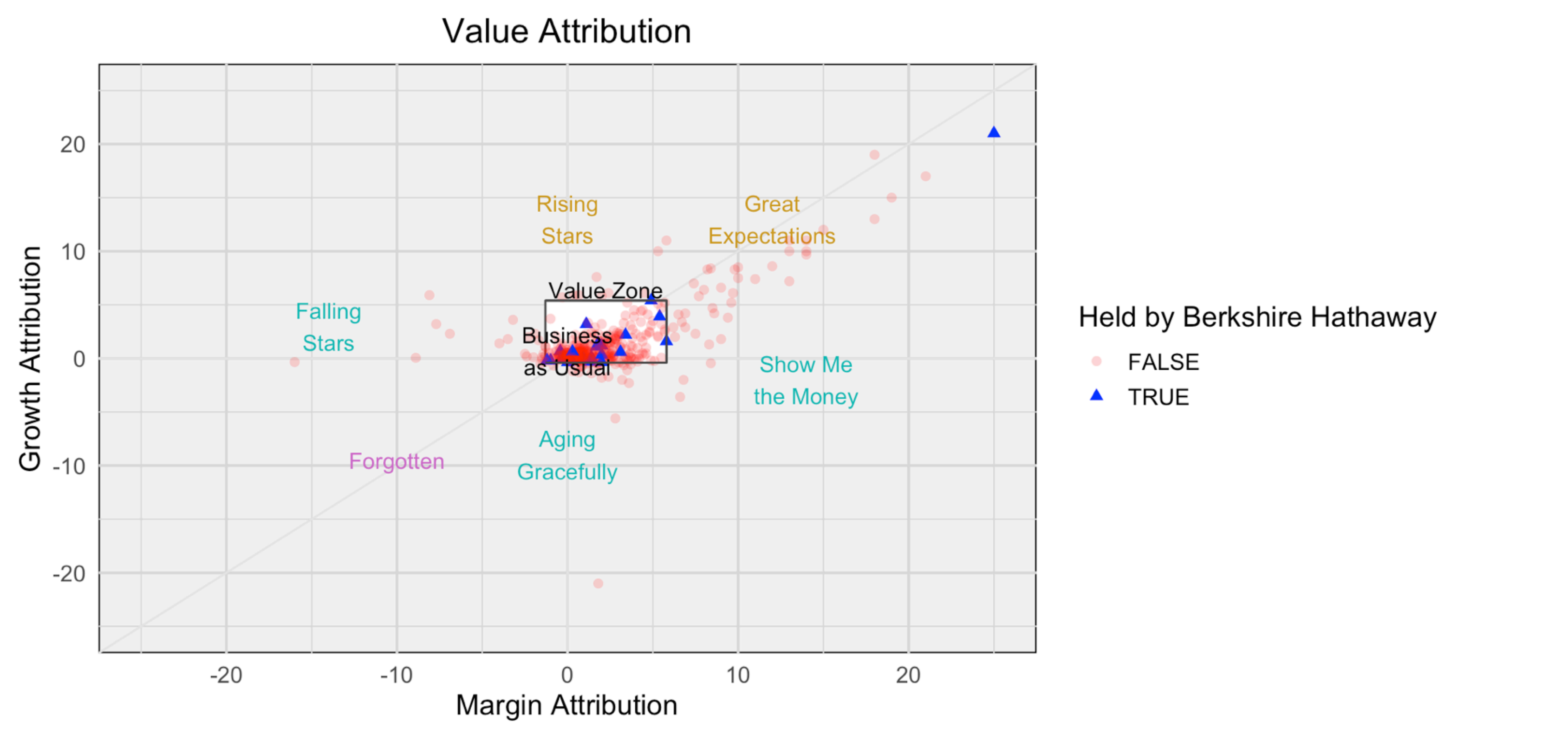
- The valuation of GLW is 0.25 more annual revenues than it would have been if we had assumed zero growth.

Validation

Our sample consists of 423 firms which includes the 361 non-financial companies that are in the S&P as well as another 62 firrms that were added to the sample because they were of interest. For example, the name commonly appears in the press.

With the exception of SNOW, in the first quarter of 2013, Berkshire Hathaway did not hold names with negative operating margins and only held names that were in the center of the *valuation zone* defined by having a margin attribution between -1.3 and 5.8 and and a growth attribution of between -0.4 and 5.4. Of the 423 names in are sample, there are 23 that were held by Buffet in early 2023. Of 311 meet are criteria for being acceptable to a value investor and 112 did not. Of the 311 that were acceptable, buffet held 22 of them (7.1%) and of the 112 that were not acceptable Buffet held 1 (0.9%).





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GLW