

IDENTIFYING UNDERVALUED COMPANIES USING FINVIZ

FIRST COMPANY ANALYSIS

DATA COLLECTION

Using Finviz, these companies were selected using a P/E ratio at the ranges of; Under 50 and Above 50. The model used to determine the undervalued company, is the **Relative Valuation Model**. The financial metrics to be used for this selection are: P/E, P/B, EV/EBITDA. The first sector to be reviewed is Technology (Software Application).

Technology

COMPANY	TICKER	SECTOR	P/E	GP	REVENUE	GPG	P/B	EV/EBITDA
Zoom Videos Communications Inc	ZM	Technology	22	3,449	4,527	76.19%	2.19	8.99
Immersion Corp	IMMR	Technology	8.87	34	34	100.00%	1.84	7.32
Workday Inc	WDAY	Technology	41.63	5,488	7,259	75.60%	12.05	30.12
Duolingo Inc	DUOL	Technology	186.83	389	531	73.24%	25.6	62

Comparison:

P/E Ratio: At 8.87, Immersion has a relatively low P/E ratio, indicating it might be undervalued compared to companies with higher P/E ratios.

P/B Ratio: A P/B ratio of 1.84 suggests that Immersion's market value is close to its book value, indicating potential undervaluation.

EV/EBITDA: With the ratio of 7.32 being low, suggests that Immersion is undervalued relative to its earnings before interest, taxes, depreciation, and amortization (EBITDA).

Analysis:

- Immersion Corp. (IMMR) stands out with the lowest P/E ratio of 8.87, indicating it may be undervalued compared to its earnings.
- Zoom Video Communications Inc. (ZM) current valuation metrics (P/B,) suggest it is relatively more expensive compared to Immersion Corp.
- Workday Inc. (WDAY) and Duolingo Inc. (DUOL) both have significantly higher P/E ratios and valuation multiples, making them appear overvalued relative to their earnings and book values.

In Summary:

Based on the P/E ratio and other valuation metrics, Immersion Corp. (IMMR) appears to be the most undervalued company among the listed technology firms. Its lower P/E ratio and reasonable P/B ratio, combined with solid margins and return on equity, suggest it offers better value relative to its financial performance compared to the other companies.

COMPARATIVE ANALYSIS:

COMPANY	TICKER	SECTOR	GP(Current)	GP(Year Prev)	GP(Year Prior)	GP(Year Past)	GPG(1)%	GPG(2)%	GP(3)%
Zoom Videos Communications Inc	ZM	Technology	3,449	3,292	3,045.31	1,829	4.78%	8.10%	66.50%
Immersion Corp	IMMR	Technology	34	38.461	35.001	30.288	-11.81%	9.89%	15.56%
Workday Inc	WDAY	Technology	5,488	4,501	3,711	3,119.86	21.93%	21.29%	18.95%
Duolingo Inc	DUOL	Technology	389	270	181	115	44.08%	49.17%	57.39%

COMPANY: Zoom Videos Communications Inc

Formula GPG : $GP(\text{current}) - GP(\text{previous})$

- $GPG(1) = 3449 - 3292 = 207$
- $GPG(2) = 3292 - 3045.31 = 247$
- $GPG(3) = 3045 - 1829 = 1216$

COMPANY: Immersion Corp

Formula GPG : $GP(\text{current}) - GP(\text{previous})$

- $GPG(1) = 34 - 38.461 = -4.461$
- $GPG(2) = 38.461 - 35.001 = 3.46$
- $GPG(3) = 35.001 - 30.288 = 4.713$

COMPANY: Workday Inc

Formula GPG : $GP(\text{current}) - GP(\text{previous})$

- $GPG(1) = 5488 - 4501 = 987$
- $GPG(2) = 4501 - 3711 = 790$
- $GPG(3) = 3711 - 3119.86 = 580.14$

COMPANY: Duolingo Inc

Formula GPG : $GP(\text{current}) - GP(\text{previous})$

- $GPG(1) = 389 - 270 = 119$

- $GPG(2) = 270 - 181 = 89$
- $GPG(3) = 181 - 115 = 66$

ANALYSIS:

Zoom Video Communications Inc shows a steady increase in gross profit over the years with a significant spike three years ago, indicating strong growth potential in its early years. However, the recent growth percentages have slowed down compared to its earlier surge.

Workday Inc displays consistent growth in gross profit with impressive annual growth rates around 20%. This indicates robust and sustained growth, making it a strong performer in the technology sector.

Duolingo Inc has the highest gross profit growth percentages among the listed companies, reflecting rapid expansion. This could be attractive for investors looking for high-growth opportunities.

Immersion Corp shows some volatility in its gross profit growth, with a recent negative growth rate, which could be a concern for potential investors.

Based on this data, Workday and Duolingo appear to be the standout performers in terms of consistent and high growth rates, while Zoom, despite having strong historical growth, shows signs of slowing down. Immersion Corp presents a more mixed picture with fluctuating performance.

CURRENT VALUATION

Zoom Video Communications Inc (ZM)

- Stock Price: \$58.87
- Market Cap: \$18.12 billion as of July 2024.

Immersion Corp

- Stock Price: \$12.14
- Market Cap: \$386.66 Million as of July 2024

Workday Inc (WDAY)

- Stock Price: \$227.49
- Market Cap: \$60.28 billion as of July 2024

Duolingo Inc

- Stock Price: \$175.24
- Market Cap: \$7.56 billion as of July 2024

VALUATION MODEL

To project the future gross profit and future market capitalization of the companies for each company over a period of four years, apply the formula below:

Formulas:

Future Gross Profit (GP):

$$\text{Future GP} = \text{Current GP} \times \left(1 + \frac{\text{GPG}}{100}\right)^n$$

Future Market Capitalization (GP-based):

$$\text{Future Market Cap (GP-based)} = \text{Current Market Cap} \times \left(\frac{\text{Future GP}}{\text{Current GP}}\right)$$

Given the current gross profits (GP) and average gross profit growth rates (GPG), let's project the GP for 4 years.

Calculation to show how the formula works:

Zoom Video Communications Inc (ZM)

- Current GP: 3449
- Average GPG: 26.46%
- Current Market Cap: \$18.12 billion

$$\text{Future GP} = 3449 \times (1.2646)^4 = 8820.76$$

$$\text{Future Market Cap} = 18.2 \times \frac{8820.76}{3449} = \$46.54 \text{ billion}$$

The rest was calculated using excel;

COMPANY	TICKER	SECTOR	GP(Current)	AVG(GP)	MKT CAP	FUT(GP)	FUT(MKT CAP)
Zoom Videos Communications Inc	ZM	Technology	3,449	26.46	18207	8821.83975	46564.08809
Immersion Corp	IMMR	Technology	34	4.55	386.66	40.52651	461.9823623
Workday Inc	WDAY	Technology	5,488	20.72	60280	11655.50271	128023.634
Duolingo Inc	DUOL	Technology	389	50.21	7560	1980.38419	38487.2765

Future Projections:

Zoom Video Communications Inc (ZM)

- Future GP: \$8821.84 (8.82 billion)
- Future Market Cap: \$46.54 billion

Immersion Corp

- Future GP: \$40.53 million
- Future Market Cap: \$462 million

Workday Inc (WDAY)

- Future GP: \$11.66 billion
- Future Market Cap: \$128.02 billion

Duolingo Inc

- Future GP: \$2 billion
- Future Market Cap: \$38.49 billion

Conclusion

- Zoom Video Communications Inc. (ZM) and Workday Inc. (WDAY) are projected to have significant growth in market capitalization, reflecting strong growth potential.
- Duolingo Inc. (DUOL) also shows robust growth, though its smaller initial market cap leads to a more modest absolute increase.
- Immersion Corp (IMMR) shows the least growth, indicating it may be fairly valued or slightly undervalued.

ADDITIONAL VARIABLE

An additional variable that can significantly impact a company's valuation is **technological advancements**. Technological advancements can enhance a company's productivity, reduce costs, improve product quality, and create new revenue streams. These benefits can lead to higher gross profits and ultimately increase the company's valuation.

Revised Model:

Future Gross Profit (GP) with technological advancements(Future gp'):

$$\text{Future GP}' = \text{Current GP} \times \left(1 + \frac{GPG+TGR}{100}\right)^n$$

Future Market Capitalization (GP-based with TGR):

$$\text{Future Market Cap (GP-based with TGR)} = \text{Current Market Cap} \times \left(\frac{\text{Future GP}'}{\text{Current GP}} \right)$$

Estimating Technological Growth Rate (TGR)

For this example, let's assume:

Technological Growth Rate (TGR): 5% annually

Applying Revised Model

Zoom Video Communications Inc (ZM)

- Current GP: 3449
- Average GPG: 26.46%
- Current Market Cap: \$18.12 billion
- TGR: 5%

COMPANY	TICKER	SECTOR	GP(Current)	AVG(GP)	MKT CAP	FUT(GP)	FUT(MKT CAP)	TGR	FUT(GP')	FUT(MKT CAP')
Zoom Videos Communications Inc	ZM	Technology	3,449	26.46	18207	8821.83975	46564.08809	5	10301.99	54376.70705
Immersion Corp	IMMR	Technology	34	4.55	386.66	40.52651	461.9823623	5	48.85315	556.9019957
Workday Inc	WDAY	Technology	5,488	20.72	60280	11655.50271	128023.634	5	13709.81	150588.1275
Duolingo Inc	DUOL	Technology	389	50.21	7560	1980.38419	38487.2765	5	2257.527	43873.32923

Future Projections with technological advancements:

Zoom Video Communications Inc (ZM)

- Future GP: \$10301.99 (10.3 billion)
- Future Market Cap: \$54.38 billion

Immersion Corp

- Future GP: \$48.85 million
- Future Market Cap: \$557 million

Workday Inc (WDAY)

- Future GP: \$13.71 billion
- Future Market Cap: \$150.59 billion

Duolingo Inc

- Future GP: \$2.3 billion
- Future Market Cap: \$43.87 billion

Summary

- Zoom Video Communications Inc. (ZM) and Workday Inc. (WDAY) show substantial increases in their future market capitalizations when factoring in technological advancements, indicating strong potential for value growth.
- Duolingo Inc. (DUOL) also shows a significant increase in its future market capitalization, reflecting high growth potential.
- Immersion Corp (IMMR) demonstrates moderate growth, which might indicate it is fairly valued or slightly undervalued when considering technological advancements.

By incorporating technological advancements, we see an increase in projected market capitalizations for all companies. This highlights the importance of considering technological factors in financial valuation models, as they can significantly influence future performance and market value.

Explanation of Additional Variable: Technological Advancement

Technological Advancement refers to the progress and innovations in technology that can significantly affect a company's operations, efficiency, product offerings, and overall market competitiveness. This variable encompasses the development and implementation of new technologies, improvements in existing technologies, and the adoption of innovative practices within an industry.

Justification for Impact on Company's Value

Technological Advancement

- 1. Increased Efficiency and Productivity:** Advances in technology can streamline operations, reduce costs, and enhance productivity. For example, automation and artificial intelligence can lead to faster and more accurate processes, which can improve profit margins.
- 2. Enhanced Product Offerings:** Technological innovations can lead to the development of new products or the improvement of existing ones, thereby increasing sales and market share. This is particularly relevant for companies in the technology sector, where staying ahead with cutting-edge products is crucial.
- 3. Competitive Advantage:** Companies that effectively leverage new technologies can gain a significant competitive edge. This can lead to increased customer loyalty, the ability to set premium prices, and a stronger market position.
- 4. Expansion into New Markets:** Technological advancements can enable companies to enter new markets or segments, thereby diversifying revenue streams and reducing dependency on existing markets.

Justification for Specific Companies

Zoom Video Communications Inc. (ZM): As a leader in the video communications sector, Zoom's value is heavily influenced by technological advancements. Improvements in video quality, security, and integration with other platforms can significantly enhance its offerings and expand its user base.

Immersion Corp. (IMMR): This company focuses on haptic technology, which is highly dependent on technological innovations. Positive advancements can lead to better product performance and new applications, boosting demand and revenues.

Workday Inc. (WDAY): Operating in the enterprise software space, Workday relies on technological advancements to improve its software solutions, ensuring they meet the evolving needs of businesses. Innovations in AI, machine learning, and cloud computing can enhance its product suite and market position.

Duolingo Inc. (DUOL): As an ed-tech company, Duolingo's growth is driven by advancements in language learning technologies. Enhanced AI-driven personalized learning experiences can attract more users and increase engagement, leading to higher revenues.

By factoring in technological advancements, we can better understand and predict how these companies might perform in the future, providing a more comprehensive assessment of their potential value and investment attractiveness.

SECOND COMPANY ANALYSIS

DATA COLLECTION

Using Finviz, these companies were selected using a P/E ratio at the ranges of; Under 50 and Above 50. The model used to determine the undervalued company, is the **Relative Valuation Model**. The financial metrics to be used for this selection are: P/E, P/B, EV/EBITDA. The second sector to be reviewed is Healthcare (Biotechnology).

Healthcare

COMPANY	TICKER	SECTOR	P/E	GP	REVENUE	GPG	P/B	EV/EBITDA
Incyte Corp	INCY	Healthcare	19.58	3,441	3,696	93.10%	2.41	8.28
Oramed Pharmaceuticals	ORMP	Healthcare	9.77	1,340	1,340.00	100.00%	0.62	0.52
Vertex Pharmaceuticals	VRTX	Healthcare	31.67	8607	9869.2	87.21%	6.85	23.45
Krystal Biotech Inc	KRYS	Healthcare	106.69	47,605	50,669	93.95%	7.27	87.6

Comparison

P/E Ratio: At 9.77, Oramed Pharmaceuticals has a relatively low P/E ratio, indicating it might be undervalued compared to companies with higher P/E ratios.

P/B Ratio: A P/B ratio of 0.62 suggests that Oramed Pharmaceuticals market value is close to its book value, indicating potential undervaluation.

EV/EBITDA: With the ratio of 0.52 being low, suggests that Oramed Pharmaceuticals is undervalued relative to its earnings before interest, taxes, depreciation, and amortization (EBITDA).

Analysis:

- Incyte Corp: While having a higher P/E ratio, it has shown steady gross profit growth over the years.
- Vertex Pharmaceuticals and Krystal Biotech Inc Also have a relatively higher P/E ratio and demonstrate strong profitability and consistent growth.
- Oramed Pharmaceuticals: The lowest P/E ratio suggests it might be undervalued, but it also shows volatile gross profit growth.

In Summary:

Based on the ratios, Oramed Pharmaceuticals(ORMP) appears to be the most undervalued company when compared with the others. It shows favorable metrics across P/E, P/B, and EV/EBITDA ratios, making it a strong candidate for being considered undervalued in this analysis.

COMPARATIVE ANALYSIS

COMPANY	TICKER	SECTOR	GP(Current)	GP(Year Prev)	GP(Year Prior)	GP(Year Past)	GPG(1)%	GPG(2)%	GP(3)%
Incyte Corp	INCY	Healthcare	3,441	3,188	2,835	2,535	7.93%	12.45%	11.83%
Oramed Pharmaceuticals	ORMP	Healthcare	1,340	2,703	904	2,700	-50.43%	199.00%	-66.52%
Vertex Pharmaceuticals	VRTX	Healthcare	8,607	7,850	6,670	5,469	9.64%	17.69%	21.96%
Krystal Biotech Inc	KRYS	Healthcare	47,605	Nil	Nil	Nil	Nil	Nil	Nil

COMPANY: Incyte Corp

Formula GPG : $GP(\text{current}) - GP(\text{previous})$

- $GPG(1) = 3441 - 3188 = 253$
- $GPG(2) = 3188 - 2835 = 353$
- $GPG(3) = 2835 - 2535 = 300$

COMPANY:Oramed Pharmaceuticals

Formula GPG : $GP(\text{current}) - GP(\text{previous})$

- $GPG(1) = 1340 - 2703 = -1363$
- $GPG(2) = 2703 - 904 = 1799$
- $GPG(3) = 904 - 2700 = -1796$

COMPANY: Vertex Pharmaceuticals

Formula GPG : $GP(\text{current}) - GP(\text{previous})$

- $GPG(1) = 8607 - 7850 = 757$
- $GPG(2) = 7850 - 6670 = 1180$
- $GPG(3) = 6670 - 5469 = 1201$

COMPANY: Krystal Biotech Inc

Formula GPG : $GP(\text{current}) - GP(\text{previous})$

- $GPG(1) = 47605 - 0 = 47605$
- $GPG(2) = \text{Nil}$
- $GPG(3) = \text{Nil}$

ANALYSIS:

- **Incyte Corp** shows steady growth in gross profit with consistent positive GPG over the past three years.
- **Oramed Pharmaceuticals** has a highly volatile GPG, showing significant growth one year and a considerable decline the next.
- **Vertex Pharmaceuticals** shows robust and consistent growth in gross profit and GPG over the past three years.
- **Krystal Biotech Inc** has significantly higher gross profit numbers compared to the others, but lacks historical data for comparison.

Vertex Pharmaceuticals stands out with the highest and most consistent gross profit growth. Incyte Corp also shows steady and positive growth. The current market capitalizations align with these trends, as Vertex Pharmaceuticals has the highest valuation among the companies listed.

CURRENT VALUATION

Incyte Corp

- Stock Price: \$65.87
- Market Cap: \$14.81 billion as of July 2024.

Oramed Pharmaceuticals

- Stock Price: \$ 2.55
- Market Cap: \$103.61 Million as of July 2024

Vertex Pharmaceuticals

- Stock Price: \$491.57
- Market Cap: \$126.85 billion as of July 2024

Krystal Biotech Inc

- Stock Price: \$203.66
- Market Cap: \$5.82 billion as of July 2024

VALUATION MODEL

To project the future gross profit and future market capitalization of the companies for each company over a period of four years, apply the formula below:

Formulas:

Future Gross Profit (GP):

$$\text{Future GP} = \text{Current GP} \times \left(1 + \frac{\text{GPG}}{100}\right)^n$$

Future Market Capitalization (GP-based):

$$\text{Future Market Cap (GP-based)} = \text{Current Market Cap} \times \left(\frac{\text{Future GP}}{\text{Current GP}}\right)$$

Given the current gross profits (GP) and average gross profit growth rates (GPG), let's project the GP for 4 years.

Calculation to show how the formula works:

Incyte Corp(INCY)

- Current GP: 3441
- Average GPG: 10.74%
- Current Market Cap: \$14.81 billion

$$\text{Future GP} = 3441 \times (1.1074)^4 = 5174.9$$

$$\text{Future Market Cap} = 14.81 \times \frac{5174.9}{3441} = \$22.27 \text{ billion}$$

The rest was calculated using excel;

COMPANY	TICKER	SECTOR	GP(Current)	AVG(GP)	MKT CAP	FUT(GP)	FUT(MKT CAP)
Incyte Corp	INCY	Healthcare	3,441	10.74	14810	5174.396554	22272.71373
Oramed Pharmaceuticals	ORMP	Healthcare	1,340	27.35	103610	3524.525001	272519.4294
Vertex Pharmaceuticals	VRTX	Healthcare	8,607	16.43	126850	15816.53668	233104.18
Krystal Biotech Inc	KRYS	Healthcare	47,605	Nil	5820	Nil	Nil

Future Projections:

Incyte Corp

- Future GP: \$5174.4 (5.2 billion)
- Future Market Cap: \$22.27 billion

Oramed Pharmaceuticals

- Future GP: \$3.52 billion
- Future Market Cap: \$272.25 billion

Vertex Pharmaceuticals

- Future GP: \$15.82 billion
- Future Market Cap: \$233.10 billion

Krystal Biotech Inc

- Future GP: Nil
- Future Market Cap: Nil

Conclusion

Oramed Pharmaceuticals (ORMP) and **Vertex Pharmaceuticals (VRTX)** show significant growth potential, suggesting they might be undervalued currently.

Incyte Corp (INCY) shows an increase in future GP and market cap, indicating it might be undervalued.

Krystal Biotech (KRYS) remains stable but without growth, making its valuation harder to determine without market cap data.

ADDITIONAL VARIABLE

Regulatory changes can significantly impact pharmaceutical and biotechnology companies. These changes can influence drug approval processes, patent laws, pricing regulations, and market access, among other factors. Let's factor in the potential impact of regulatory changes on the companies' future valuations..

Revised Model:

Future Gross Profit (GP) with Regulatory changes(Future gp'):

$$\text{Future GP}' = \text{Current GP} \times \left(1 + \frac{\text{GPG} + \text{TGR}}{100}\right)^n$$

Future Market Capitalization (GP-based with TGR):

$$\text{Future Market Cap (GP-based with TGR)} = \text{Current Market Cap} \times \left(\frac{\text{Future GP}'}{\text{Current GP}}\right)$$

Estimating Regulatory Growth Rate (TGR)

For this example, let's assume:

Regulatory Growth Rate (TGR): 3% annually

Applying Revised Model

Incyte Corp(INCY)

- Current GP: 3441
- Average GPG: 10.74%
- Current Market Cap: \$14.81 billion
- TGR:3%

COMPANY	TICKER	SECTOR	GP(Current)	AVG(GP)	MKT CAP	FUT(GP)	FUT(MKT CAP)	TGR	FUT(GP')	FUT(MKT CAP')
Incyte Corp	INCY	Healthcare	3,441	10.74	14810	5174.396554	22272.71373	3	5758.303	24786.08611
Oramed Pharmaceuticals	ORMP	Healthcare	1,340	27.35	103610	3524.525001	272519.4294	3	3868.556	299120.2504
Vertex Pharmaceuticals	VRTX	Healthcare	8,607	16.43	126850	15816.53668	233104.18	3	17510.78	258073.9689
Krystal Biotech Inc	KRYS	Healthcare	47,605	Nil	5820	Nil	Nil	3	Nil	Nil

Future Projections with Regulatory changes:

Incyte Corp

- Future GP: \$5758.3 (5.8 billion)
- Future Market Cap: \$24.79 billion

Oramed Pharmaceuticals

- Future GP: \$3.87 billion
- Future Market Cap: \$299.12 billion

Vertex Pharmaceuticals

- Future GP: \$17.51 billion
- Future Market Cap: \$258.1 billion

Krystal Biotech Inc

- Future GP: Nil
- Future Market Cap: Nil

Impact Assessment:

- Incyte Corp (INCY): Regulatory changes could significantly impact its valuation. Positive changes could increase its market cap slightly.
- Oramed Pharmaceuticals (ORMP) and Vertex Pharmaceuticals (VRTX): With strong growth, positive regulatory changes could boost its market cap.
- Krystal Biotech (KRYS): No significant impact on GP, but regulatory changes could affect its overall market performance, which is not calculated here due to missing market cap data.

In conclusion, incorporating regulatory changes highlights the sensitivity of these companies' valuations to external factors but under negative regulatory environments, the market could witness a decline.

Explanation Additional Variable: Regulatory Changes

Regulatory changes refer to modifications in laws, regulations, and guidelines that govern the pharmaceutical and biotechnology sectors. These changes can encompass a wide range of aspects, including drug approval processes, patent laws, pricing regulations, and market access requirements. Regulatory changes are often enacted by governmental bodies or regulatory agencies such as the Food and Drug Administration (FDA) in the United States or the European Medicines Agency (EMA) in Europe.

Justification for Impact on Company Value:

1. **Drug Approval Process:** Regulatory changes that streamline or expedite the drug approval process can significantly reduce the time and cost required to bring new drugs to market. Conversely, stricter regulations or additional requirements can delay product launches and increase development costs.
2. **Patent Laws:** Changes in patent laws can affect the duration and strength of intellectual property protection. Extended patent protection can allow companies to maintain exclusivity and higher profit margins for longer periods, while weaker protections can lead to earlier generic competition and reduced revenues.
3. **Pricing Regulations:** Regulatory changes that control drug pricing can directly impact a company's revenue. Price caps or mandated discounts can reduce profitability, while deregulation or favorable pricing policies can enhance revenue potential.
4. **Market Access:** Regulations that govern market access, such as reimbursement policies and formulary inclusion, can affect the availability and sales volume of drugs. Favorable changes can improve market penetration and revenue, while restrictive changes can limit market opportunities.

Justification for specific companies:

For **Incyte Corp (INCY)**, favorable regulatory changes, such as expedited approval processes or favorable pricing regulations, could enhance its revenue growth and profitability, leading to a higher future market cap. Conversely, stricter regulations could increase development costs and delay product launches, negatively impacting its valuation.

For **Vertex Pharmaceuticals (VRTX)** and **Oramed Pharmaceuticals (ORMP)**, which already shows strong growth, positive regulatory changes could further enhance its market position and revenue potential, significantly boosting its future valuation. Negative changes could slow down its growth trajectory and reduce its market cap.

Overall, the regulatory environment is a critical external factor that can have a profound impact on the valuation of pharmaceutical and biotechnology companies, making it a crucial variable to consider in any comprehensive valuation model.

THIRD COMPANY ANALYSIS

DATA COLLECTION

Using Finviz, these companies were selected using a P/E ratio at the ranges of; Under 50 and Above 50. The model used to determine the undervalued company, is the **Relative Valuation Model**. The financial metrics to be used for this selection are: P/E, P/B, EV/EBITDA. The second sector to be reviewed is Industrial (Specialty Industrial Machinery).

Industrials

COMPANY	TICKER	SECTOR	P/E	GP	REVENUE	GPG	P/B	EV/EBITDA
Donaldson Co. Inc.	DCI	Industrials	22.71	1,160.60	3,430.80	33.83%	5.89	14.33
Broadwind Inc	BWEN	Industrials	8.26	32,508	203,477	15.98%	1.2	5.44
Crane Co	CR	Industrials	40.5	805	2,086.40	38.58%	6.14	25.5
Chart Industries Inc	GTLS	Industrials	149.87	1,040.40	3,352.50	31.03%	2.55	15.58

Analysis:

- Broadwind Inc. has the lowest trailing P/E ratio (8.26), indicating it might be undervalued compared to the other companies.
- Broadwind Inc. also has the lowest P/B ratio (1.20), suggesting it is trading close to its book value.
- Chart Industries Inc and Crane Co both have significantly higher P/E ratios and valuation multiples, making them appear overvalued relative to their earnings and book values.

In Summary:

Broadwind Inc. appears undervalued based on its trailing P/E ratio and P/B ratio. Broadwind's lower valuation metrics might make it attractive for investors looking for value.

COMPARATIVE ANALYSIS

COMPANY	TICKER	SECTOR	GP(Current)	GP(Year Prev)	GP(Year Prior)	GP(Year Past)	GPG(1)%	GPG(2)%	GPG(3)%
Donaldson Co. Inc.	DCI	Industrials	1,160.60	1,067.40	971.7	871.6	8.73%	9.85%	11.48%
Broadwind Inc	BWEN	Industrials	32,508	10,710	5,511	18,001	203.53%	94.34%	-69.39%
Crane Co	CR	Industrials	805	713.6	688.8	1,006.20	12.81%	3.60%	-31.54%
Chart Industries Inc	GTLS	Industrials	1,040.40	407.4	324.2	332.1	155.38%	25.66%	-2.38%

COMPANY: Donaldson Co. Inc.

Formula GPG : $GP(\text{current}) - GP(\text{previous})$

- $GPG(1) = 1160.6 - 1067.40 = 93.2$
- $GPG(2) = 1067.40 - 971.7 = 95.7$
- $GPG(3) = 971.7 - 871.6 = 100.1$

COMPANY: Broadwind Inc

Formula GPG : $GP(\text{current}) - GP(\text{previous})$

- $GPG(1) = 32508 - 10710 = 21798$
- $GPG(2) = 10710 - 5511 = 5199$
- $GPG(3) = 5511 - 18001 = -12490$

COMPANY: Crane Co

Formula GPG : $GP(\text{current}) - GP(\text{previous})$

- $GPG(1) = 805 - 713.6 = 91.4$
- $GPG(2) = 713.6 - 688.8 = 24.8$
- $GPG(3) = 688.8 - 1006.20 = -317.4$

COMPANY: Chart Industries Inc

Formula GPG : $GP(\text{current}) - GP(\text{previous})$

- $GPG(1) = 1040.4 - 407.4 = 633$
- $GPG(2) = 407.4 - 324.2 = 83.2$
- $GPG(3) = 324.2 - 332.1 = -7.9$

ANALYSIS

Broadwind Inc (BWEN) shows significant growth in the current year compared to previous years but had a major decline three years ago.

Donaldson Co. Inc. (DCI) shows consistent growth in GP over the years.

Crane Co (CR) has modest growth with a decline in GP three years ago.

Chart Industries Inc (GTLS) shows significant growth in the current and previous year but had a slight decline three years ago.

CURRENT VALUATION

Donaldson Co. Inc. (DCI)

- Stock Price: \$72.56
- Market Cap: \$8.74 billion as of July 2024.

Broadwind Inc (BWEN)

- Stock Price: \$3.20
- Market Cap: \$69.54 Million as of July 2024

Crane Co (CR)

- Stock Price: \$150.89
- Market Cap: \$8.62 billion as of July 2024

Chart Industries Inc (GTLS)

- Stock Price: \$163.06
- Market Cap: \$6.98 billion as of July 2024

VALUATION MODEL

To project the future gross profit and future market capitalization of the companies for each company over a period of four years, apply the formula below:

Formulas:

Future Gross Profit (GP):

$$\text{Future GP} = \text{Current GP} \times \left(1 + \frac{\text{GPG}}{100}\right)^n$$

Future Market Capitalization (GP-based):

$$\text{Future Market Cap (GP-based)} = \text{Current Market Cap} \times \left(\frac{\text{Future GP}}{\text{Current GP}}\right)$$

Given the current gross profits (GP) and average gross profit growth rates (GPG), let's project the GP for 4 years.

Calculation to show how the formula works:

Donaldson Co. Inc. (DCI)

- Current GP: 1160
- Average GPG: 10.02
- Current Market Cap: \$8.74 billion

$$\text{Future GP} = 1160 \times (1.102)^4 = 1710.74$$

$$\text{Future Market Cap} = 8.74 \times \frac{1710.74}{1160} = 12.9 \text{ billion}$$

The rest was calculated using excel;

COMPANY	TICKER	SECTOR	GP(Current)	AVG(GP)	MKT CAP	FUT(GP)	FUT(MKT CAP)
Donaldson Co. Inc.	DCI	Industrials	1,160.60	10.02	8740	1700.470604	12805.54289
Broadwind Inc	BWEN	Industrials	32,508	76.16	69.54	313054.1444	669.6747016
Crane Co	CR	Industrials	805	-5.05	8620	654.2982469	7006.274395
Chart Industries Inc	GTLS	Industrials	1,040.40	59.55	6980	6741.981828	45231.67355

Future Projections:

Donaldson Co. Inc. (DCI)

- Future GP: \$1700.47 million
- Future Market Cap: \$12.81 billion

Broadwind Inc (BWEN)

- Future GP: \$313,054 million
- Future Market Cap: \$669.67 million

Crane Co (CR)

- Future GP: \$654.3 million
- Future Market Cap: \$7billion

Chart Industries Inc (GTLS)

- Future GP: \$6741 million
- Future Market Cap: \$45.23 billion

Analysis:

- **Donaldson Co. Inc. (DCI)** is projected to have a future market cap of \$12.81 billion, indicating a steady growth.
- **Broadwind Inc. (BWEN)** is projected to have a significant increase in market cap to \$669.67 million, suggesting it might be heavily undervalued currently.
- **Crane Co. (CR)** shows a potential decrease in market cap to \$7 billion, which may indicate overvaluation or decline in business performance.
- **Chart Industries Inc. (GTLS)** is projected to grow substantially to \$42.23 billion, suggesting significant undervaluation if current growth trends continue.

ADDITIONAL VARIABLE

Technological advancements, particularly in automation and digital transformation, significantly impact the industrial sector. Incorporating this variable can provide a more nuanced view of a company's potential growth and future valuation. Let's explore how technological advancements can be factored into the valuation model and assess their impact.

Revised Model:

Future Gross Profit (GP) with Regulatory changes(Future gp'):

$$\text{Future GP}' = \text{Current GP} \times \left(1 + \frac{\text{GPG} + \text{TGR}}{100}\right)^n$$

Future Market Capitalization (GP-based with TGR):

$$\text{Future Market Cap (GP-based with TGR)} = \text{Current Market Cap} \times \left(\frac{\text{Future GP}'}{\text{Current GP}}\right)$$

Estimating Regulatory Growth Rate (TGR)

TGR: A percentage reflecting the expected impact of technological advancements on gross profit. This can be derived from industry reports, company R&D investments, and technological adoption rates.

Donaldson Co. Inc. (DCI): **TGR:** 5% (moderate investment in technology and R&D)

Broadwind Inc. (BWEN): **TGR**: 10% (significant investment in clean tech and automation)

Crane Co. (CR): **TGR**: 3% (slow adoption of new technology)

Chart Industries Inc. (GTLS) :**TGR**: 8% (extensive use of advanced manufacturing technologies)

COMPANY	TICKER	SECTOR	GP(Current)	AVG(GP)	MKT CAP	FUT(GP)	FUT(MKT CAP)	TGR	FUT(GPG')	FUT(MKT CAP')
Donaldson Co. Inc.	DCI	Industrials	1,160.60	10.02	8740	1700.470604	12805.54289	5	2031.309	15296.95136
Broadwind Inc	BWEN	Industrials	32,508	76.16	69.54	313054.1444	669.6747016	10	390423.3	835.1801571
Crane Co	CR	Industrials	805	-5.05	8620	654.2982469	7006.274395	3	740.9922	7934.599803
Chart Industries Inc	GTLS	Industrials	1,040.40	59.55	6980	6741.981828	45231.67355	8	8199.324	55008.92416

Future Projections with technological Advancements:

Donaldson Co. Inc. (DCI)

- Future GP: \$2031.31 million
- Future Market Cap: \$15.3 billion
-

Broadwind Inc (BWEN)

- Future GP: \$390,423 million
- Future Market Cap: \$835.18 million
-

Crane Co (CR)

- Future GP: \$741 million
- Future Market Cap: \$8billion

Chart Industries Inc (GTLS)

- Future GP: \$8199 million
- Future Market Cap: \$55.1 billion

Summary

- Donaldson Co. Inc. (DCI): Adjusted future market cap of \$15.3 billion, indicating it is fairly valued with a slight boost from technological advancements.
- Broadwind Inc. (BWEN): Adjusted future market cap of \$ 835.18million, reinforcing its status as significantly undervalued, driven by its aggressive adoption of clean technology.
- Crane Co. (CR): Adjusted future market cap of \$8 billion, suggesting it remains overvalued with minimal impact from technological advancements.
- Chart Industries Inc. (GTLS): Adjusted future market cap of \$55.1 billion, highlighting its strong potential growth and undervaluation due to extensive use of advanced manufacturing technologies.

Incorporating technological advancements into the valuation model underscores the importance of innovation and R&D investment in driving future growth and competitiveness in the industrial sector.

Explanation of Technological Advancement

Technological advancement refers to the development and adoption of new technologies that enhance the efficiency, productivity, and competitiveness of businesses. In the industrial sector, technological advancements can encompass various innovations such as automation, artificial intelligence (AI), the Internet of Things (IoT), advanced manufacturing technologies, and digital transformation initiatives.

Justification for Impact on Company Value

1. **Efficiency Improvements:** Technological advancements can significantly improve operational efficiency by automating routine tasks, optimizing supply chains, and reducing production costs. Companies that adopt advanced technologies can achieve higher profit margins and lower operating expenses. For example, AI-driven predictive maintenance can reduce downtime and prolong equipment lifespan, leading to cost savings and higher gross profits .
2. **Market Competitiveness:** Companies leveraging cutting-edge technologies can develop superior products and services, enhancing their competitive edge in the market. This can lead to increased market share, customer loyalty, and revenue growth. Firms that invest in R&D and technology are better positioned to respond to market demands and technological shifts .
3. **Scalability:** Technology enables companies to scale their operations more effectively. Automation and digital tools can streamline processes, making it easier for companies to expand their production capacity and enter new markets. This scalability supports faster growth and can drive future revenue streams .
4. **Innovation and R&D:** Continuous investment in research and development (R&D) leads to innovation and new product development. Companies that prioritize technological advancements are often at the forefront of introducing novel products and services, which can open up new revenue opportunities and diversify income streams. R&D investments are crucial for long-term sustainability and growth .

Justification for Specific Companies

Considering technological advancements in valuation models provides a more accurate and forward-looking assessment of a company's potential. Companies with strong technological adoption and innovation capabilities are likely to see significant improvements in efficiency, market competitiveness, scalability, and innovation, all of which contribute to higher gross profits and market capitalization.

For example, **Broadwind Inc.** and **Chart Industries Inc.** are likely to benefit significantly from positive technological advancements due to their focus on clean tech and advanced manufacturing technologies, respectively. These companies are positioned to capitalize on efficiency gains and market competitiveness, leading to potentially substantial increases in future gross profits and market value.

Conversely, companies that lag in technological adoption, such as **Crane Co.**, may face challenges in maintaining competitiveness and growth, which can negatively impact their valuation. Therefore, assessing technological advancements provides a more comprehensive understanding of a company's future prospects and intrinsic value.

By incorporating technological advancements into the valuation model, investors and analysts can better gauge a company's true potential and make more informed investment decisions.

FOURTH COMPANY ANALYSIS

DATA COLLECTION

Using Finviz, these companies were selected using a P/E ratio at the ranges of; Under 50 and Above 50. The model used to determine the undervalued company, is the **Relative Valuation Model**. The financial metrics to be used for this selection are: P/E, P/B, EV/EBITDA. The second sector to be reviewed is Consumer defensive (Beverages- Non-Alcoholic).

Consumer Defensive

COMPANY	TICKER	SECTOR	P/E	GP	REVENUE	GPG	P/B	EV/EBITDA
Coca-Cola Consolidated Inc	COKE	Consumer Defensive	24.16	2,599	6,654	39.06%	5.94	10.59
Embotelladora Andina S.A ADR	AKO-B	Consumer Defensive	12.19	1,219.73	3,142.13	38.82%	2.46	9.08
Primo Water Corporation	PRMW	Consumer Defensive	35.32	1,137	1,771.80	64.17%	2.27	11.28
Celsius Holdings Inc	CELH	Consumer Defensive	50.98	633.139	1,318.01	48.04%	34.17	37.28

Comparison:

P/E Ratio: At 12.19, Embotelladora Andina S.A ADR has a relatively low P/E ratio, indicating it might be undervalued compared to companies with higher P/E ratios.

P/B Ratio: A P/B ratio of 2.46 suggests that Embotelladora Andina S.A ADR market value is close to its book value, indicating potential undervaluation.

EV/EBITDA: With the ratio of 9.08 being low, suggests that Embotelladora Andina S.A ADR is undervalued relative to its earnings before interest, taxes, depreciation, and amortization (EBITDA).

Analysis:

- Embotelladora Andina S.A ADR stands out with the lowest P/E ratio of 12.19, indicating it may be undervalued compared to its earnings.
- Primo Water Corporation (PRMW) and Celsius Holdings IncCELH both have significantly higher P/E ratios and valuation multiples, making them appear overvalued relative to their earnings and book values.

In Summary:

Based on the P/E ratio and other valuation metrics, Embotelladora Andina S.A ADR appears to be the most undervalued company among the listed technology firms. Its lower P/E ratio and reasonable P/B ratio, combined with solid margins and return on equity, suggest it offers better value relative to its financial performance compared to the other companies.

COMPARATIVE ANALYSIS

COMPANY	TICKER	SECTOR	GP(Current)	GP(Year Prev)	GP(Year Prior)	GP(Year Past)	GPG(1)%	GPG(2)%	GPG(3)%
Coca-Cola Consolidated Inc	COKE	Consumer Defensive	2,599	2,277.95	1,954.19	1,768.91	14.08%	16.57%	10.47%
Embotelladora Andina S.A ADR	AKO-B	Consumer Defensive	1,219.73	1,130.99	1,093.74	878.517	7.85%	3.41%	24.50%
Primo Water Corporation	PRMW	Consumer Defensive	1,137	1,019.20	891	1,113.90	11.56%	14.39%	-20.01%
Celsius Holdings Inc	CELH	Consumer Defensive	633.139	270.869	128.169	60.974	133.74%	111.34%	110.20%

COMPANY: Coca-Cola Consolidated Inc.

Formula GPP : GP(current) - GP(previous)

- $GPP(1) = 2599 - 2277.95 = 321.05$
- $GPP(2) = 2277.95 - 1954.19 = 323.76$
- $GPP(3) = 1954.19 - 1768.91 = 185.28$

COMPANY: Embotelladora Andina S.A ADR

Formula GPP : GP(current) - GP(previous)

- $GPP(1) = 1219.73 - 1130.99 = 88.74$
- $GPP(2) = 1130.99 - 1093.74 = 37.25$
- $GPP(3) = 1093.74 - 878.517 = 215.223$

COMPANY: Primo Water Corporation

Formula GPP : GP(current) - GP(previous)

- $GPP(1) = 1137 - 1019.20 = 117.8$
- $GPP(2) = 1019.20 - 891 = 128.2$
- $GPP(3) = 891 - 1113.90 = -222.9$

COMPANY:Celsius Holdings Inc

Formula GPP : GP(current) - GP(previous)

- $GPP(1) = 633.139 - 270.869 = 362.27$
- $GPP(2) = 270.869 - 128.169 = 142.7$
- $GPP(3) = 128.169 - 60.974 = 67.195$

ANALYSIS

Celsius Holdings Inc (CELH) shows the highest growth in gross profit over the years, with the highest percentages across all periods (133.74%, 111.34%, and 110.20%).

Coca-Cola Consolidated Inc (COKE) shows consistent growth with percentages of 14.08%, 16.57%, and 10.47%.

Embotelladora Andina S.A ADR (AKO-B) has a moderate growth, with significant increase in the third year (24.50%).

Primo Water Corporation (PRMW) shows fluctuating growth, with a negative growth rate (-20.01%) in the third year.

CURRENT VALUATION

Coca-Cola Consolidated Inc. (COKE)

- Stock Price: \$1,085
- Market Cap: \$10.17 billion as of July 2024.

Embotelladora Andina S.A ADR (AKO-B)

- Stock Price: \$18.87
- Market Cap: \$1.49 billion as of July 2024

Primo Water Corporation (PRMW)

- Stock Price: \$20.45
- Market Cap: \$3.28 billion as of July 2024

Celsius Holdings IncCELH

- Stock Price: \$49.58
- Market Cap: \$11.56 billion as of July 2024

3.VALUATION MODEL

1. VALUATION MODEL

To project the future gross profit and future market capitalization of the companies for each company over a period of four years, apply the formula below:

Formulas:

Future Gross Profit (GP):

$$\text{Future GP} = \text{Current GP} \times \left(1 + \frac{\text{GPG}}{100}\right)^n$$

Future Market Capitalization (GP-based):

$$\text{Future Market Cap (GP-based)} = \text{Current Market Cap} \times \left(\frac{\text{Future GP}}{\text{Current GP}}\right)$$

Given the current gross profits (GP) and average gross profit growth rates (GPG), let's project the GP for 4 years.

Calculation to show how the formula works:

Zoom Video Communications Inc (ZM)

- Current GP: Coca-Cola Consolidated Inc. (COKE)
- Average GPG: 13.71%
- Current Market Cap: \$10.17 billion

The rest was calculated using excel;

COMPANY	TICKER	SECTOR	GP(Current)	AVG(GP)	MKT CAP	FUT(GP)	FUT(MKT CAP)
Coca-Cola Consolidated Inc	COKE	Consumer Defensive	2,599	13.71	10170	4344.628261	17002.60991
Embotelladora Andina S.A ADR	AKO-B	Consumer Defensive	1,219.73	11.92	1490	1913.787878	2337.852323
Primo Water Corporation	PRMW	Consumer Defensive	1,137	1.98	3280	1229.760375	3547.593694
Celsius Holdings Inc	CELH	Consumer Defensive	633.139	118.43	11560	14412.79498	263152.183

Future Projections:

Coca-Cola Consolidated Inc. (COKE)

- Future GP: \$4344.63 million
- Future Market Cap: \$17.2 billion .

Embotelladora Andina S.A ADR (AKO-B)

- Future GP: \$1913.8 million
- Future Market Cap: \$2.34 billion

Primo Water Corporation (PRMW)

- Future GP: \$1229.8 million
- Future Market Cap: \$3.55 billion

Celsius Holdings Inc CELH

- Future GP: \$1700.47 million
- Future Market Cap: \$263.15 billion

Conclusion

- Coca-Cola Consolidated Inc. (COKE) and Celsius Holdings Inc (CELH) are projected to have significant growth in market capitalization, reflecting strong growth potential.
- Embotelladora Andina S.A ADR (AKO-B) also shows robust growth, though its smaller initial market cap leads to a more modest absolute increase.

ADDITIONAL VARIABLE

One significant variable not captured in the initial analysis is **technological advancements**. For companies in the consumer defensive sector, especially those involved in beverage production and distribution, advancements in technology can have a profound impact on operational efficiency, product innovation, and market expansion.

Revised Model:

Future Gross Profit (GP) with technological advancements(Future gp'):

$$\text{Future GP}' = \text{Current GP} \times \left(1 + \frac{\text{GPG} + \text{TGR}}{100}\right)^n$$

Future Market Capitalization (GP-based with TGR):

$$\text{Future Market Cap (GP-based with TGR)} = \text{Current Market Cap} \times \left(\frac{\text{Future GP}'}{\text{Current GP}}\right)$$

Estimating Technological Growth Rate (TGR)

For this example, let's assume:

Technological Growth Rate (TGR): 5% annually

Applying Revised Model

Coca-Cola Consolidated Inc. (COKE)

- Current GP: 2599
- Average GPG: 13.71%

- Current Market Cap: \$10.17 billion
- TGR:5%

COMPANY	TICKER	SECTOR	GP(Current)	AVG(GP)	MKT CAP	FUT(GP)	FUT(MKT CAP)	TGR	FUT(GPG)	FUT(MKT CAP)
Coca-Cola Consolidated Inc	COKE	Consumer Defensive	2,599	13.71	10170	4344.628261	17002.60991	5	5160.683	20196.22372
Embotelladora Andina S.A ADR	AKO-B	Consumer Defensive	1,219.73	11.92	1490	1913.787878	2337.852323	5	2279.388	2784.463281
Primo Water Corporation	PRMW	Consumer Defensive	1,137	1.98	3280	1229.760375	3547.593694	5	1489.261	4296.197301
Celsius Holdings Inc	CELH	Consumer Defensive	633.139	118.43	11560	14412.79498	263152.183	5	15778.47	288087.0763

Future Projections with technological advancements:

Coca-Cola Consolidated Inc. (COKE)

- Future GP: \$5160.68 million
- Future Market Cap: \$20.2 billion .

Embotelladora Andina S.A ADR (AKO-B)

- Future GP: \$2279.4 million
- Future Market Cap: \$2.78 billion

Primo Water Corporation (PRMW)

- Future GP: \$1489.26 million
- Future Market Cap: \$4.3billion

Celsius Holdings Inc CELH

- Future GP: \$1700.47 million
- Future Market Cap: \$288.09 billion

Summary

- Celsius Holdings Inc CELH shows a huge increase in their future market capitalizations when factoring in technological advancements, indicating strong potential for value growth.
- Coca-Cola Consolidated Inc. (COKE) also shows a significant increase in its future market capitalization, reflecting high growth potential.
- Primo Water Corporation (PRMW) and Embotelladora Andina S.A ADR (AKO-B) demonstrate moderate growth, which might indicate it is fairly valued or slightly undervalued when considering technological advancements.

Technological advancements play a critical role in shaping the future valuation of these companies, highlighting the importance of staying ahead in innovation and efficiency.

Additional Variable: Technological Advancement

Technological advancements encompass innovations and improvements in technology that can enhance a company's operations, products, and market reach. For companies in the consumer defensive sector, especially those involved in beverage production and distribution, technological advancements can influence various aspects of their business.

Key Areas of Impact:

1. **Operational Efficiency:** Automation, advanced manufacturing techniques, and supply chain optimization can reduce costs, improve production speed, and enhance product quality.
2. **Product Innovation:** Research and development fueled by technology can lead to new products, healthier options, and improved flavors, catering to evolving consumer preferences.
3. **Market Expansion:** Digital marketing, e-commerce platforms, and data analytics can help companies reach new markets, better understand consumer behavior, and tailor their strategies accordingly.

Justification for Specific Companies

- **Coca-Cola Consolidated Inc (COKE):** Investments in automation and AI for production processes can reduce costs and improve margins. Innovative products that cater to health-conscious consumers can drive sales growth.
- **Celsius Holdings Inc (CELH):** Leveraging technology for digital marketing and e-commerce can help CELH rapidly expand its market reach, especially among younger, tech-savvy consumers.

Conclusion

Technological advancements have the potential to significantly impact a company's value by enhancing operational efficiency, fostering product innovation, and enabling market expansion. Companies that effectively harness these advancements can achieve higher profitability, greater market share, and increased overall valuation. Conversely, failing to adopt and integrate new technologies may result in higher operational costs, stagnant product lines, and limited market growth, negatively affecting the company's value.

The link below is for the Excel sheet used during the course of this project.

[Excel Sheet](#)