

Steel Dynamics vs. Competitors

4.26.2023



Steel Dynamics

Steel Dynamics

- Headquarter: Fort Wayne, IN
- Products: steel products in hot roll, cold roll, and coated sheet steel, structural steel beams and shapes, rail, cold finished steel
- Revenue in 2022: \$ 22.261 billion



Competitors

NUCOR®



Executive Summary

Despite a significant **92% increase** in sales from 2020 to 2021, Steel Dynamics' **Contribution Margin Ratio remained flat**, indicating lack of control over variable costs.

Among competitors, Steel Dynamics operates in a low-risk environment compared to its competitors, with a **variance of only 0.6** generated from Operating Leverage Analysis.

Steel Dynamics' Debt to Equity ratio is **42% higher than Nucor's**, indicating a higher financial risk. However, its average **financial leverage is on par with Nucor** suggesting Steel Dynamics is excel in structuring its debt payment risk.

The financial risk benchmark, however, for Steel Dynamics is fast becoming **Commercial** with comparable debt to equity and rapidly decreasing financial leverage forecasted to be on par with Steel Dynamics.

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- **Lack of Variable Cost Control**
- **Lower Volatility in Operating Leverage, Greater Stability**
- **Financing Structure**
- **Lower Debt Payments for Financing Operations**
- **SWOT Analysis**

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- **Lack of Variable Cost Control**

Contribution Margin Ratio

- ❑ Shows the amount of revenue generated by the product that is available to cover the fixed costs of a business

$$\text{CM Ratio} = \frac{\text{Total Revenue} - \text{Variable Costs}}{\text{Total Revenue}}$$

Lack of Variable Cost Control

Contribution margin across peers remains relatively stable

Anova: Single Factor

SUMMARY

Groups	Count	Sum	Average	Variance
Steel Dynamics	5	1.91	0.382	0.00217
Carpenter	5	1.7	0.34	0.00325
Cleveland-Cliffs	5	2.11	0.422	0.00877
Commerical	5	1.7071991	0.341439823	0.000339615
Nucor	5	1.82	0.364	0.00388

F critical > F
NO significant difference was found

ANOVA

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	0.022998105	4	0.005749526	1.561555268	0.223115761	2.866081
Within Groups	0.073638459	20	0.003681923			
Total	0.096636563	24				

Lack of Variable Cost Control

On average peers use 37% of sales to cover fixed costs

Anova: Single Factor

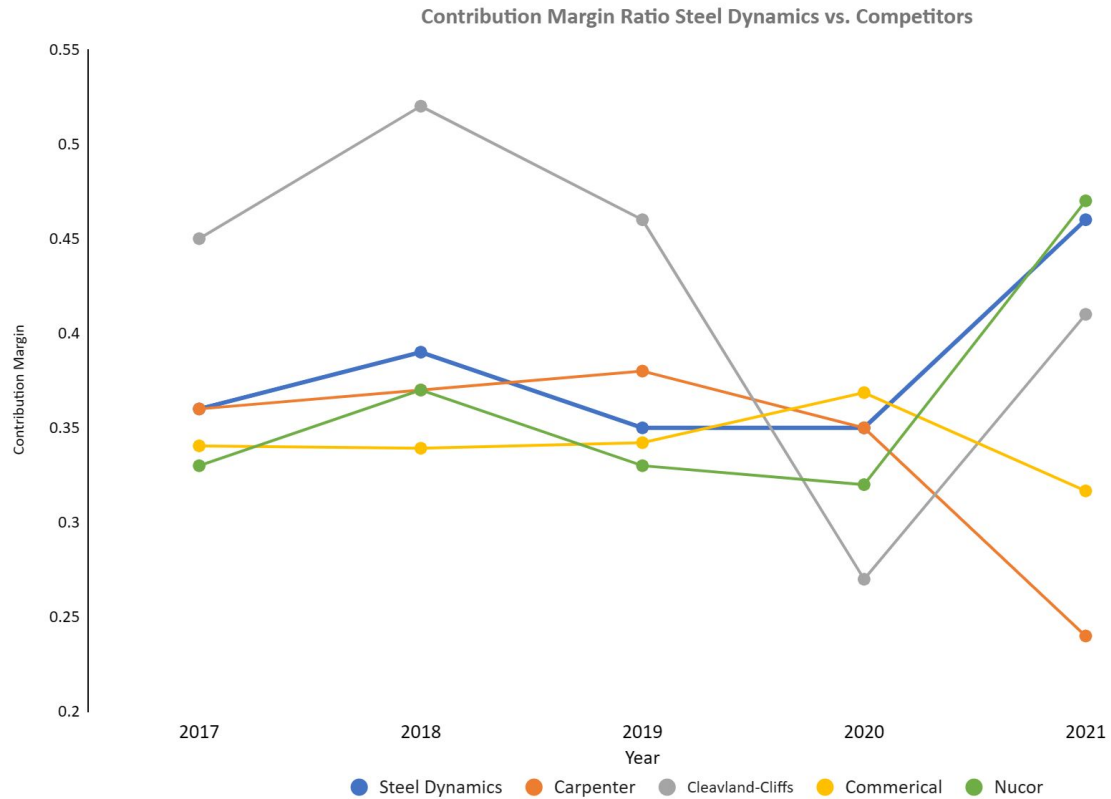
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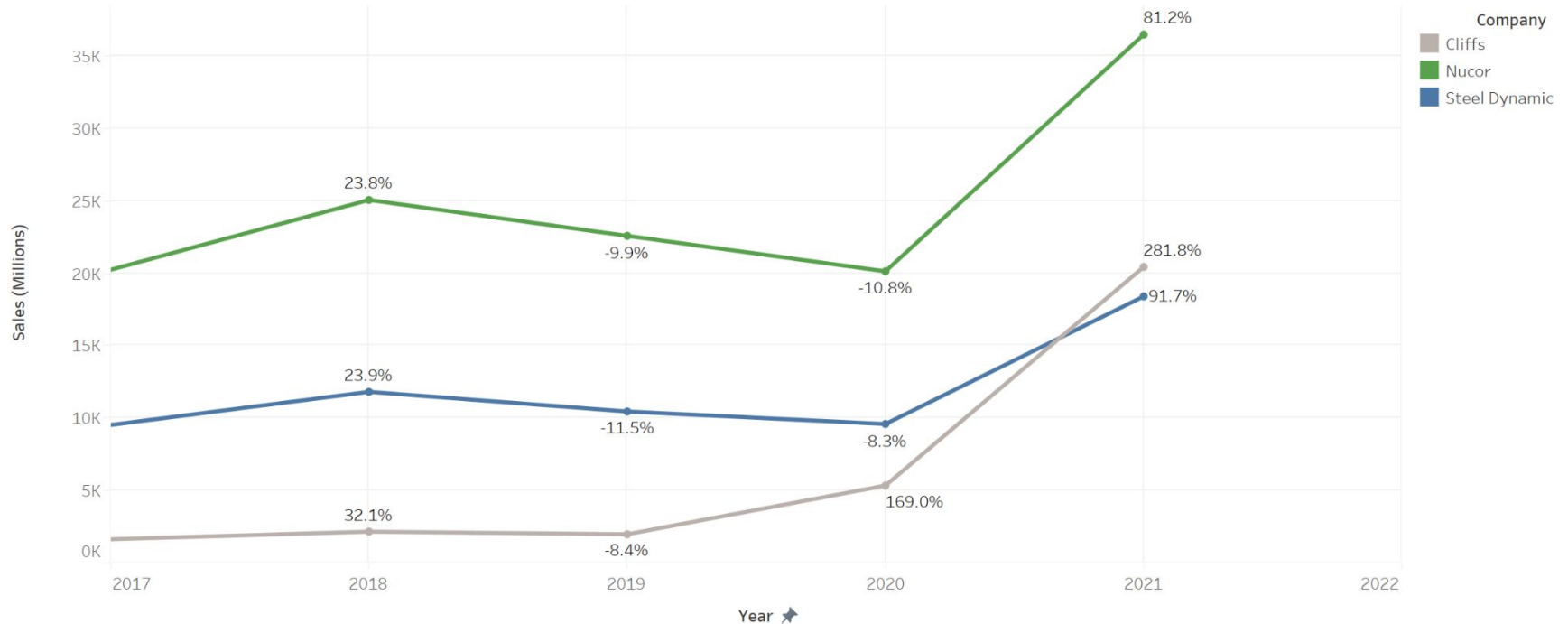
Lack of Variable Cost Control



Lack of Variable Cost Control

Large Increase in Steel Price and Demand

Massive Sales Growth Amongst Peers from 2020-2021



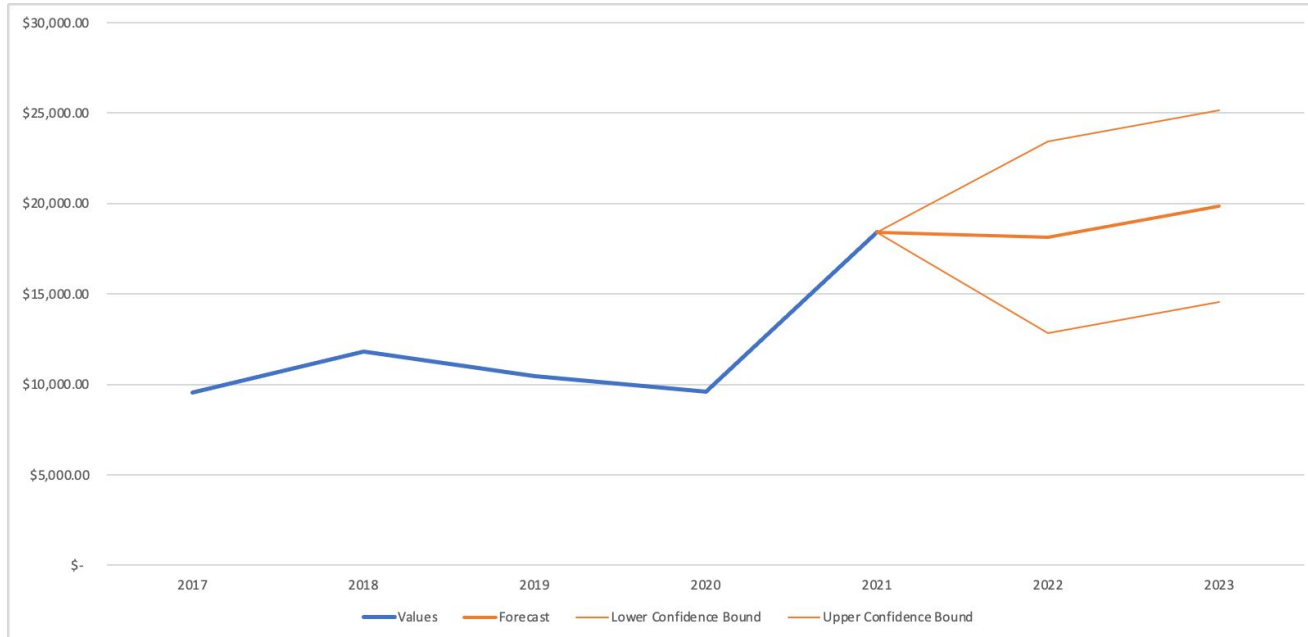
Lack of Variable Cost Control

Huge Spike in Steel Prices from 2020 to 2021



Lack of Variable Cost Control

Steel Dynamics' sales exhibit a high degree of volatility, as evidenced by significant fluctuations in sales from year to year



Lack of Variable Cost Control

Despite the increase in sales, the contribution margin remains unchanged due to rise in variable costs

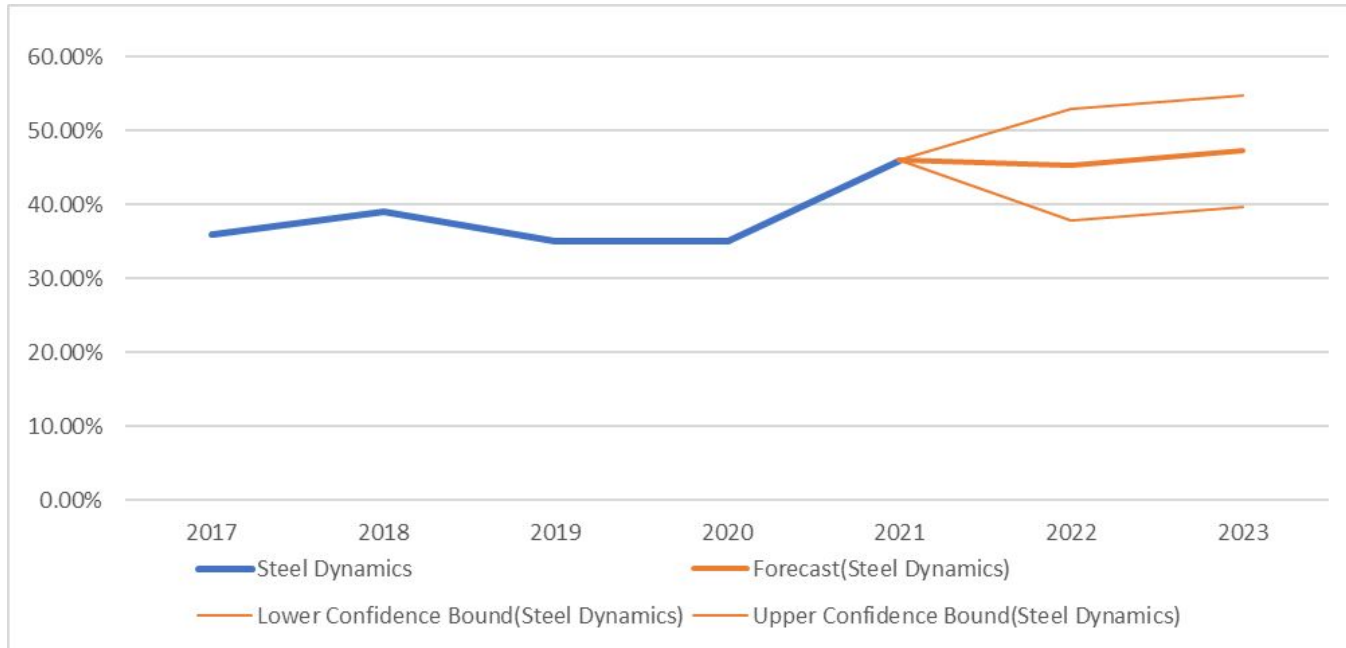


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- **Low Variability in Operating Leverage**

Lower Volatility in Operating Leverage, Greater Stability

Definition

Operating Leverage Effect (OLE)

- ❑ The ratio to measure how much *operating income will change given a percentage change in sales volume*.

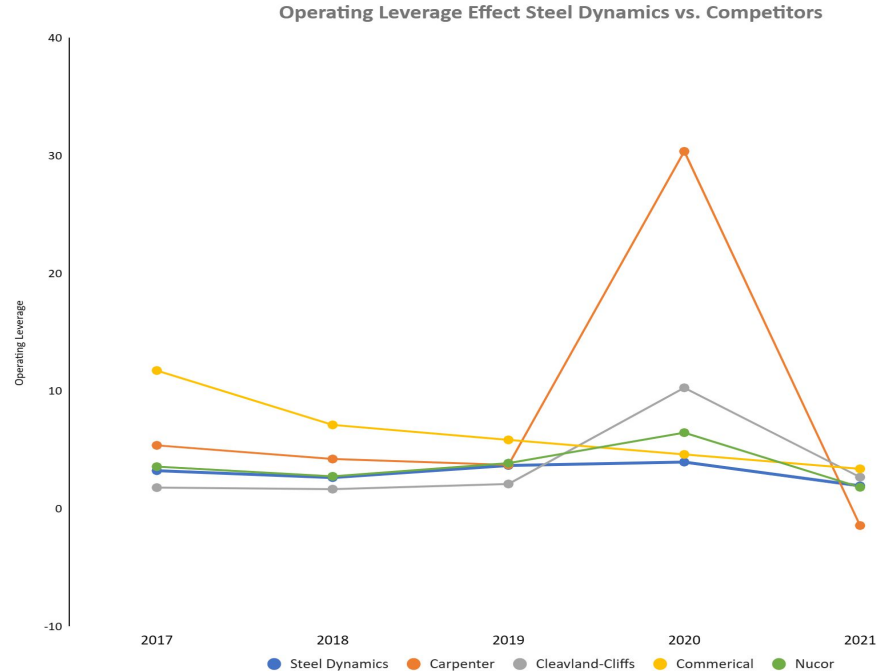
$$\text{OLE} = (\text{Contribution Margin Ratio}) / (\text{Operating Margin})$$

Lower Volatility in Operating Leverage, Greater Stability

High to low volatility in OLE across the steel industry

OLE stayed around
3% for Steel
Dynamics

Any statistical
difference among
them?



Lower Volatility in Operating Leverage, Greater Stability

No Significant Difference Among Five Companies

$F < F_{crit} (2.86)$,
NO significant
difference existed

SUMMARY						
Groups	Count	Sum	Average	Variance		
Steel Dynamics	5	15.54	3.108	0.65947		
Carpenter	5	42.34	8.468	156.72877		
Cleveland-Cliffs	5	18.6	3.72	13.64375		
Commerical	5	32.7922143	6.558443	10.3736806		
Nucor	5	18.57	3.714	3.02503		
ANOVA						
Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	106.3150136	4	26.57875	0.720562068	0.58795571	2.866081
Within Groups	737.7228024	20	36.88614			
Total	844.037816	24				

Lower Volatility in Operating Leverage, Greater Stability

Steel Dynamics Has The Lowest Variance in OLE

The Lower
Variance, the
greater stability

SUMMARY						
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Steel Dynamics < Nucor < Commercial < Cleveland < Carpenter

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- **Financing Structure**

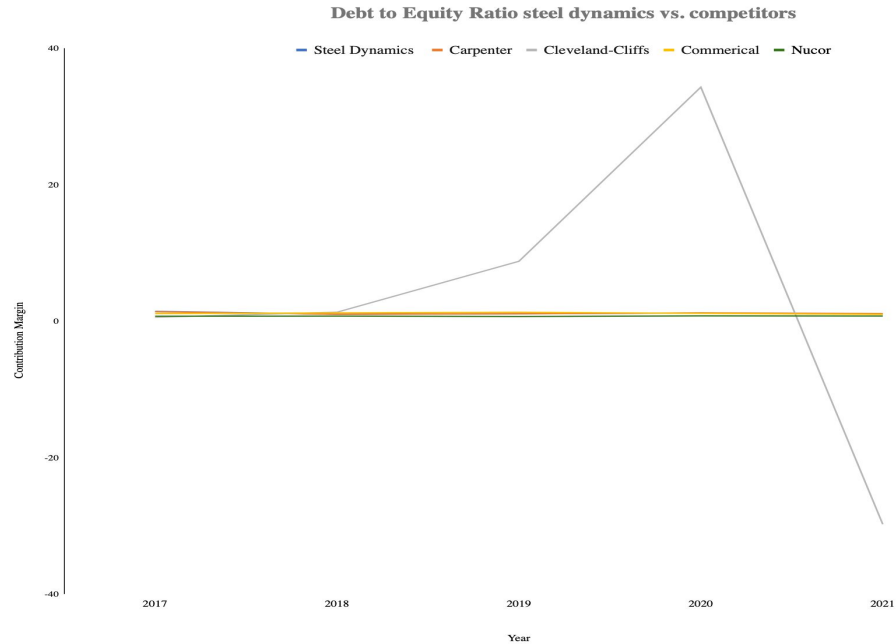
Debt to Equity Ratio

- proportion of financing that comes from debt compared to equity

$$\text{Debt to Equity Ratio (D/E)} = \frac{\text{Total Debt}}{\text{Total Shareholders Equity}}$$

Financing Structure

Cleveland Cliffs Anomaly



Financing Structure

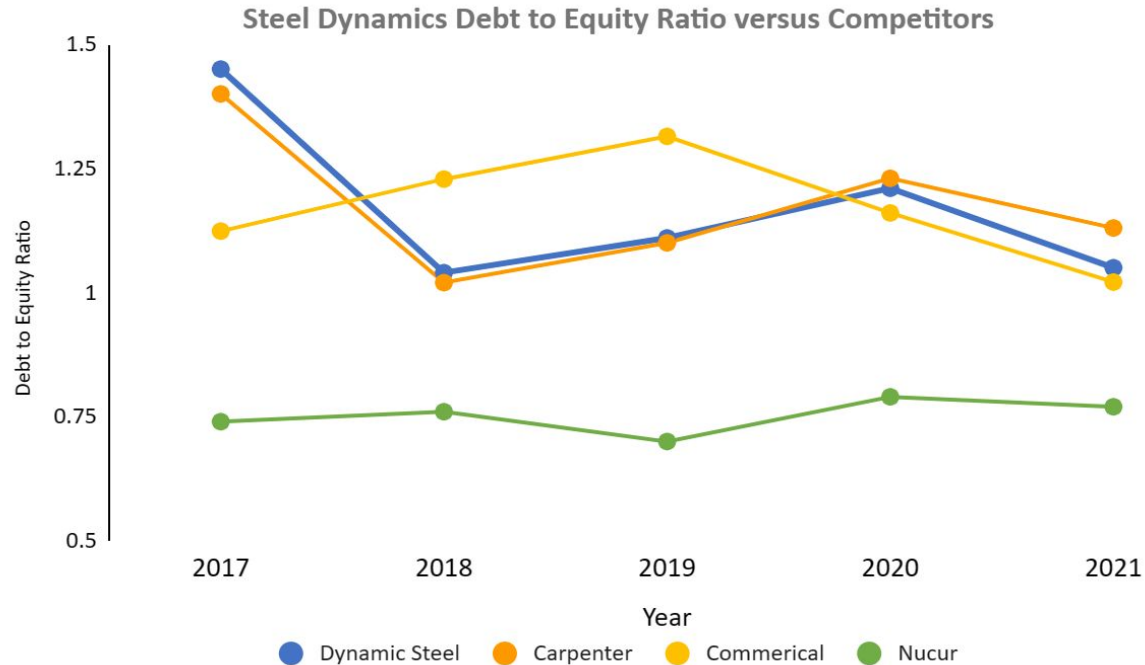
Cleveland Cliffs Major 2020 Acquisition

- Completed ArcelorMittal USA LLC and subsidiaries
- **\$505 Million** in cash and **78 million** in shares
- Acquired an additional **500 million** in liabilities



Financial Structure has

Steel Dynamics vs. Competitors



Current Financial Structure is Stable

Nucor's Debt-to-Equity Ratio is $\frac{1}{3}$ of All Peers

Anova: Single Factor

SUMMARY

Groups	Count	Sum	Average	Variance
Steel Dynamics	5	5.86	1.172	0.02872
Carpenter	5	5.88	1.176	0.02133
Commerical	5	5.85	1.170	0.01217
Nucor	5	3.76	0.752	0.00117

Steel Dynamics DE ratio is 42% higher than Nucor

ANOVA

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	0.663275492	3	0.221091831	13.95128319	9.92004E-05	3.238871517
Within Groups	0.253558704	16	0.015847419			
Total	0.916834196	19				

Current Financial Structure is Stable

Contributing Factors for Nucor's Low DE Ratio

- Nucor possesses a conservative business strategy
 - **2.8 Billion** of additional long-term debt in 2021
- **BUT**
 - Stockholders equity increased by **4 billion**
- Consistent dividend policy
 - **40%** of retained earnings is allocated to dividend payments

Financial Structure is Stable

Steel Dynamics Financing Methods are Sound

- Large acquisition of a Mill in Mexico in 2019
 - Lead to only a slight increase in DE ratio
 - Increased production capacity and potential earnings
- Dividend payments have nearly doubled
 - 2017: **\$0.56**
 - 2021: **\$0.96**
- Steel Industry is known for higher DE ratios

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- **Lower Debt Payments for Financing Operations**

Lower Debt Payments for Financing Operations

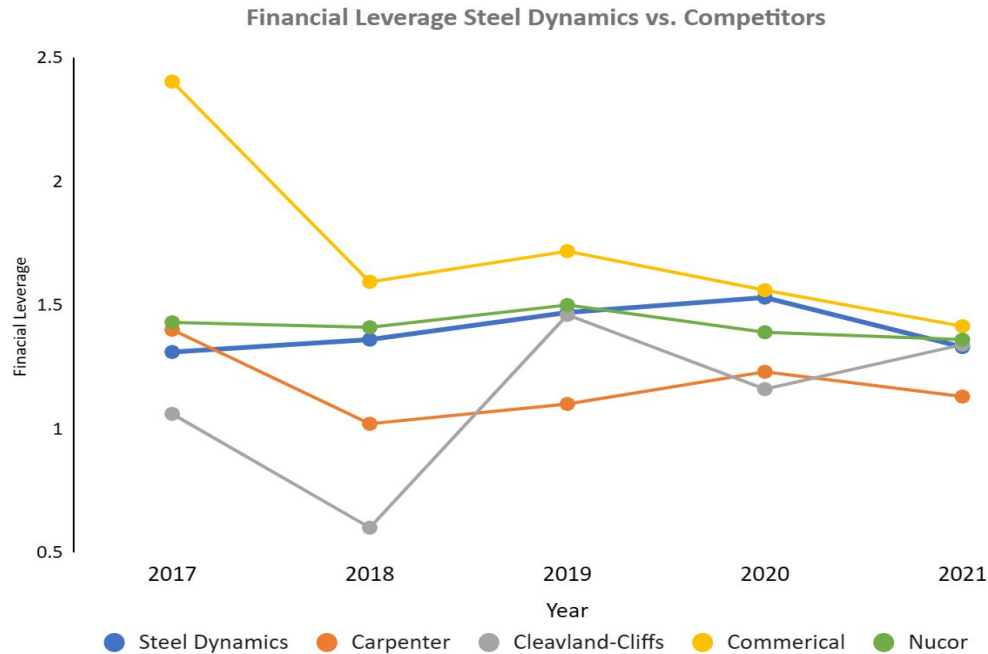
Financial Leverage

- ❏ Measures the amount of debt held by the business that they use to finance their operations

$$\text{Financial leverage} = \frac{\text{operating income}}{\text{net income}}$$

Lower Debt Payments for Financing Operations

Is Steel Dynamics Riskier than Competitors?



Lower Debt Payments for Financing Operations

Steel Dynamics Outperforms only Commercial and Nucor

Anova: Single Factor

SUMMARY

Groups	Count	Sum	Average	Variance
Steel Dynamics	5	7	1.4	0.0091
Carpenter	5	5.88	1.176	0.02133
Cleveland-Cliffs	5	5.62	1.124	0.10988
Commerical	5	8.688151	1.73763	0.150005
Nucor	5	7.09	1.418	0.00277

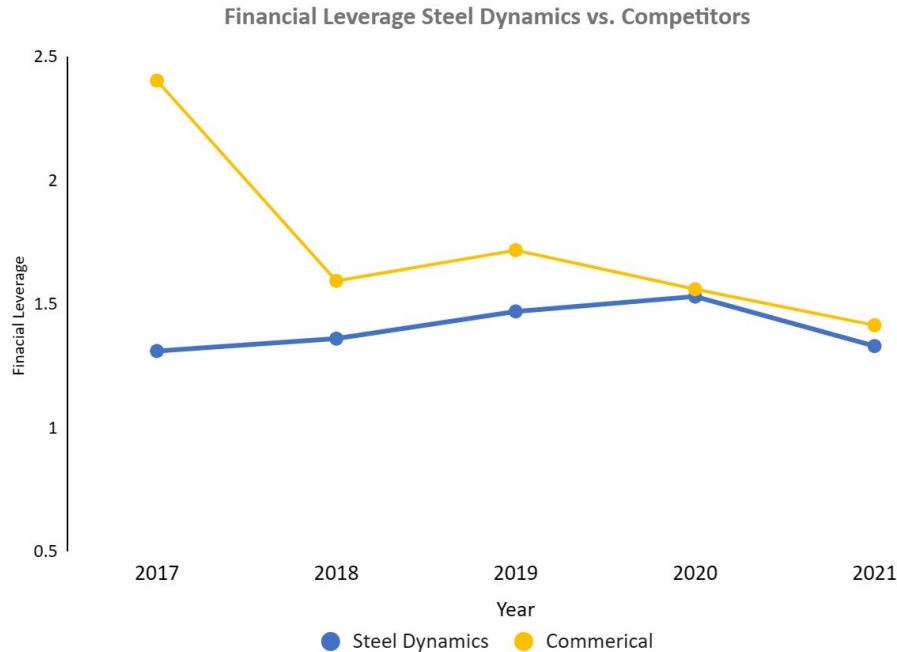
Steel Dynamics is 33% lower than Commercial

ANOVA

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	1.182507805	4	0.295627	5.04336	0.005631	2.866081
Within Groups	1.172341164	20	0.058617			
Total	2.35484897	24				

Lower Debt Payments for Financing Operations

Rapid Decline of Commercial Compared to Steel Dynamics



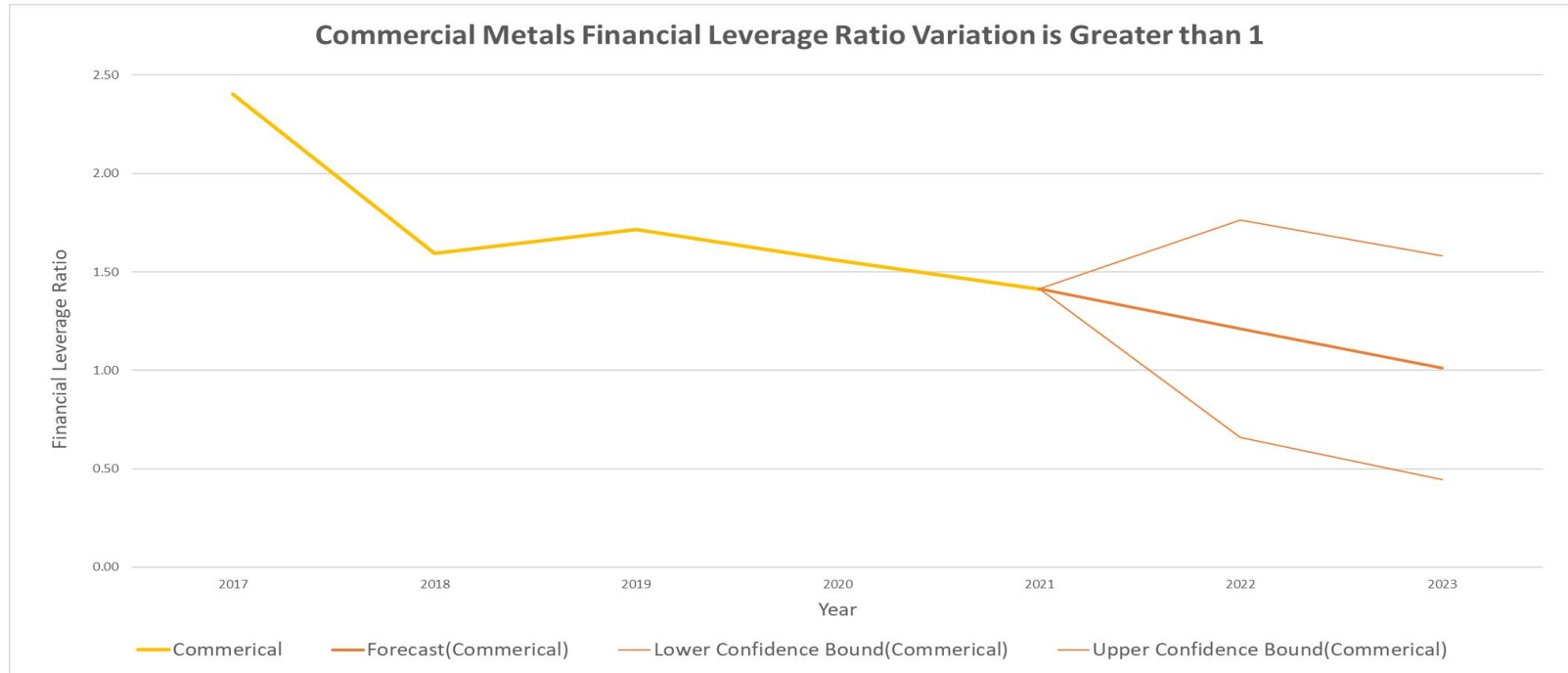
Lower Debt Payments for Financing Operations

Commercial Metals Rebar Investment Impact on Financial Leverage

- Pursued high leverage risk in production of continuously processed rebar steel
 - accumulated large sum of debt with no return
- Became #1 producer in US for rebar steel
 - Revenue and Stockholders Equity Doubled allowed debt repayment
- 67% of steel production is rebar
 - lack of diversification leads to greater market risk

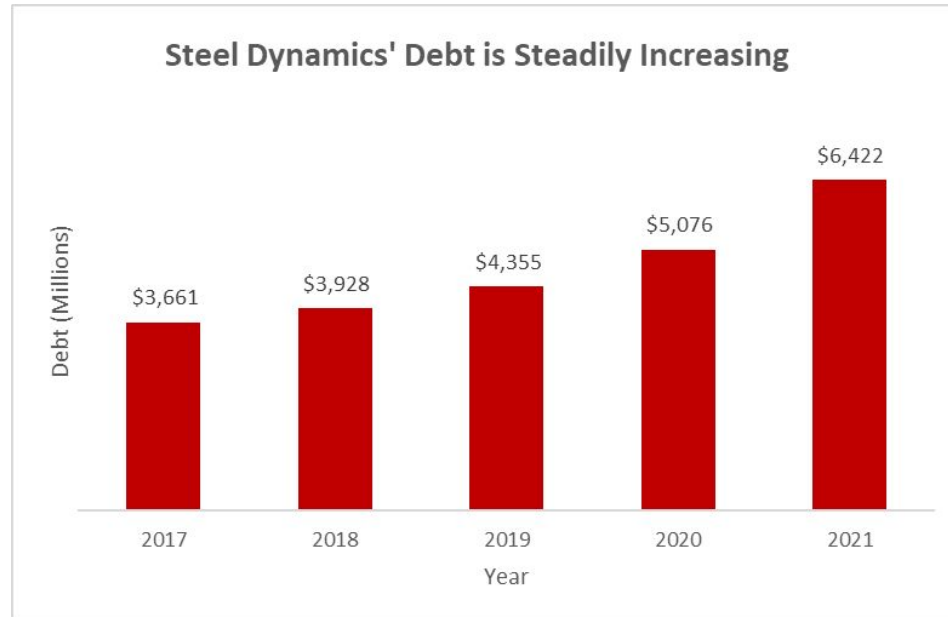
Lower Debt Payments for Financing Operations

Commercial Metals Rebar Investment Impact on Financial Leverage



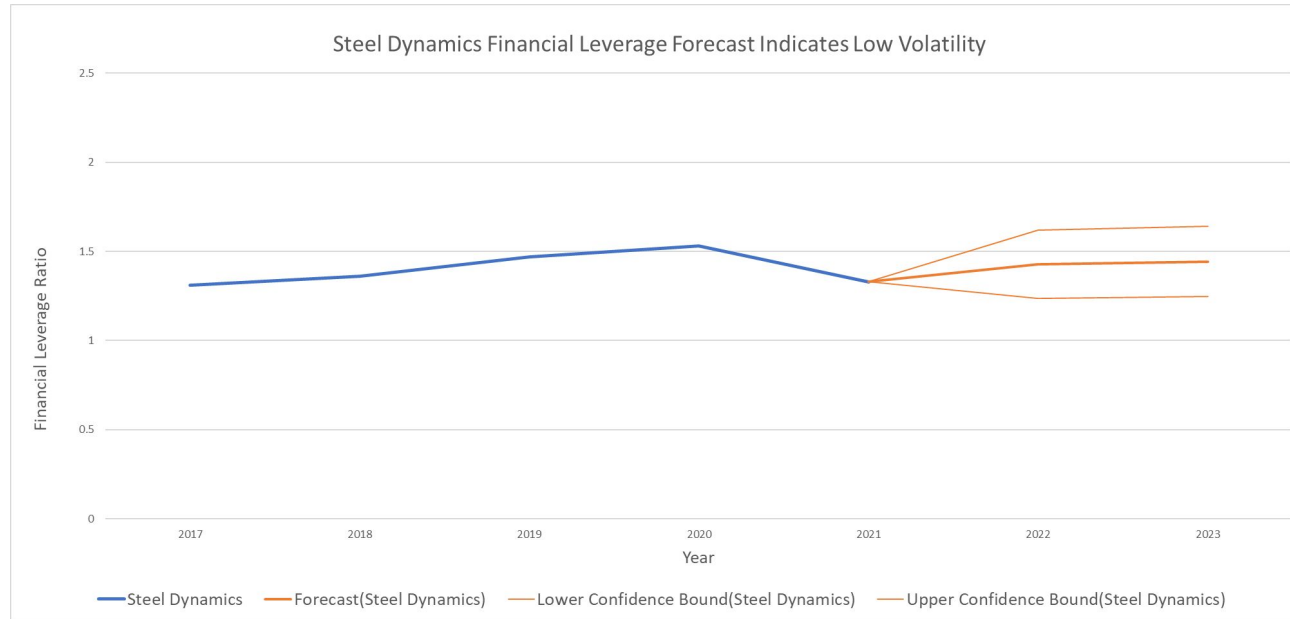
Lower Debt Payments for Financing Operations

Steel Dynamics' Debt Steadily Increasing



Lower Debt Payments for Financing Operations

Steel Dynamics' Debt Steadily Increasing but FL Holds Low Volatility



Lower Debt Payments for Financing Operations

Steel Dynamics Debt Structure is Stable compared to Competitors

- Steel Dynamics' Debt to Equity ratio is 42% higher than Nucor's indicating higher financial risk
 - Steel Dynamics remains on par to Nucor in terms of financial leverage
- 90% of Steel Dynamics Long-term debt obligations possess a fixed interest rate

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- Lower Volatility in Operating Leverage, Greater Stability
- Seek a More Conservative Business Approach
- Lower Debt Payments for Financing Operations
- **SWOT Analysis**

SWOT Analysis

Strengths

- Steel Dynamic has grown more rapidly than their competitors because of larger investment and a good debt structure as maintaining stable operating leverage
- The variance in operating leverage of Steel Dynamic is smallest among all of the competitors , indicating that it is operating at least risk environment while maintaining the same average among peers, 1% change in sales equate 5% changes in operating income.

SWOT Analysis

Weaknesses

- Struggle to predict and account for variable cost
- The financial data from 2020-2021 look extremely fluctuant due to the impact of the decline of the exports of steel partially due to Covid-19.

SWOT Analysis

Opportunities

- During price fluctuation period, Steel Dynamics could reevaluate market pricing to see if price adjustment is required.
- Based on the results from Financial leverage analysis. There is room for investment to stabilize variable costs (Employee training, Better Predict cost of materials by stockpiling or pre orders etc.)

SWOT Analysis

Threats

- Changes in global economic conditions: Any changes in economic conditions in major markets such as China, Europe can have significant impact on demand
- Volatility in raw material prices

Summary

Despite a significant **92% increase** in sales from 2020 to 2021, Steel Dynamics' **Contribution Margin Ratio remained flat**, indicating lack of control over variable costs.

Among competitors, Steel Dynamics operates in a low-risk environment compared to its competitors, with a **variance of only 0.6** generated from Operating Leverage Analysis.

There are notable differences in financial risk among peers. Steel Dynamics' Debt to Equity ratio is **42% higher than Nucor's**, indicating a higher financial risk. However, its average **financial leverage is on par with Nucor** suggesting Steel Dynamics is excel in structuring its debt payment risk.

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