



United States Steel

FIN 498 CAPSTONE PROJECT

Financial Valuation and Analysis

Complete financial valuation of United States Steel Corp.

U.S. STEEL

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Engagement Letter

03/07/2022

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Washington, PA 15301

United States Steel, Corporation

At your request, I have performed a security analysis and valuation engagement for United States Steel Corporation (U.S. Steel).

The limitations or restrictions imposed on the work and data are as follows:

- Data is as of 12/31/2021
- Scope is limited to the past 5 years

I have estimated the fair market value on a controlling interest, non-marketable basis for _% of U.S. Steel voting diluted shares as of 12/31/2021 as described in the report

My conclusion is 29.75 per share, as reported below. The conclusion is subject to the market conditions and assumptions as of 12/31/2021.

In arriving at this opinion of value, we relied on a “value in use” or going-concern premise. This premise assumes that the Company is an ongoing business enterprise with management operating in a rational way with a goal of maximizing shareholder value.

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Company Overview

Understanding the Business

Nature and History

Understand the business (nature and history of the company, key products, key customers and suppliers, key competitors, and business cycle).

U.S Steel founded by Andrew Carnegie, J.P. Morgan and Charles Schwab on March 2, 1901. With their principal architect being Elbert H. Gary, U. S. Steel's first chairman. Gary and Morgan bought the Carnegie Steel Company and combined it with their holdings in the Federal Steel Company, financed by J.P Morgan. U.S. Steel was once the largest steel producer and largest corporation in the world. It was capitalized at \$1.4 billion (\$43.6 billion today), which made it the world's first billion-dollar corporation.

In 1907 U.S. Steel bought its largest competitor, the Tennessee Coal, Iron and Railroad Company, which was headquartered in Alabama. This added to the company's large acquisition of the already high market share of steel. At the end of its first year, U.S. Steel made 67% of all steel produced in the United States, classifying it as a monopoly. This led to unsuccessful tries from the government to break up the company with federal anti-trust laws.

During World War II, U.S Steel was heavily involved in production contracts in the United States, ranking 16th among United States corporations. In this period, U.S Steel had its greatest employment levels during 1943, at 340,000 employees. During this period, U.S. Steel supplied hundreds of millions of tons of steel used to build planes and ships of all sizes, as well as tanks and a wide variety of other military equipment.

Key Products

U.S Steel provides a majority of the steel that built America in its early stages, and to this day. Some of the key products made by U.S. Steel are:

Advanced High Strength Steel, and *Ultra High Strength Steel* both used in automobile production.

Coated Sheets, which specialize in corrosion resistance and protection.

The *Cold-Rolled Coil* is utilized in various electrical devices including transformers, generators, and motors.

Dent-Resistant Steel as the name implies is steel that is hardened for exterior applications on thinner and reduced-mass steel to prevent various forms of denting.

High-Strength Low-Alloy Steel have a good combination of formability and weldability, are typically found on structural parts of the vehicle, such as pillars or cross members.

The *Hot-Rolled Coil* is an ideal option for non-surface critical applications where structural integrity and strength are important but tolerances and precise shapes are not required, including Pipe products, storage tanks, and industrial heavy equipment

Mild Steels offer high degrees of formability and uniformity. It is used in applications where severe forming characteristics are required and is typically found in door inners, dash panels, body side inners and floor pans.

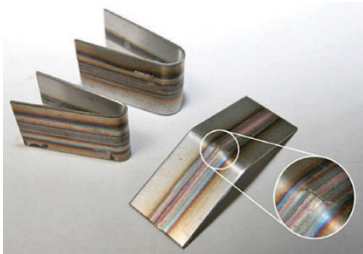
Tin is an important raw material in the packaging industry for the manufacture of a wide range of products, including food cans, aerosol cans, ends and closures.

U.S. Steel Product Line

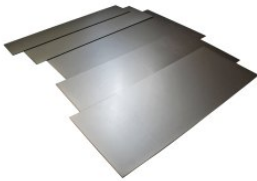
Advanced High Strength Steel (AHSS)



Coated Sheet



Dent Resistant



Hot-Rolled Coil



Ultra High Strength Steel (UHSS)

■ Mild Steel
 ■ High Strength Steel
 ■ Extra High Strength Steel
 ■ Ultra High Strength Steel



Cold-Rolled Coil



High-Strength Low-Alloy



Mild Steels



Tin



Key Customers

The key customers of U.S. Steel include companies in the Automobile and Auto and Truck Parts, such as Tesla Inc, Toyota Motors, Chevron, General Electric, The Construction Industry, Railways and Trains Industry, the Aerospace Industry and Defense Industry, including Lockheed Martin other companies looking to build large structures and the U.S Government itself. Their products are directly sold to customers, through placed orders and contracting. U.S Steel provides them with the refined steel to use as a raw material in construction. Through these contracts, they are required to sell the specified amount to the customer business at the price agreed upon.

Some of the famous structures across the United States built with U.S. Steel include:

- “Three Sisters” bridges in Pittsburgh and the U. S. Steel Tower in Pittsburgh (U.S Steel’s global headquarters)
- United Nations Building and Henry Hudson bridges in New York City
- Chesapeake Bay Bridge in Maryland
- Pablo Picasso’s untitled sculpture in Chicago known as the “Chicago Picasso.”
- San Francisco-Oakland Bay Bridge
- Vehicle Assembly Building at NASA’s Kennedy Space Station in Florida

Key Suppliers

U.S. Steel does not have any suppliers, as they have their own mines, where they gather raw materials, they own steel mills, where they refine the steel into various components/products used in building, which makes up their main products.

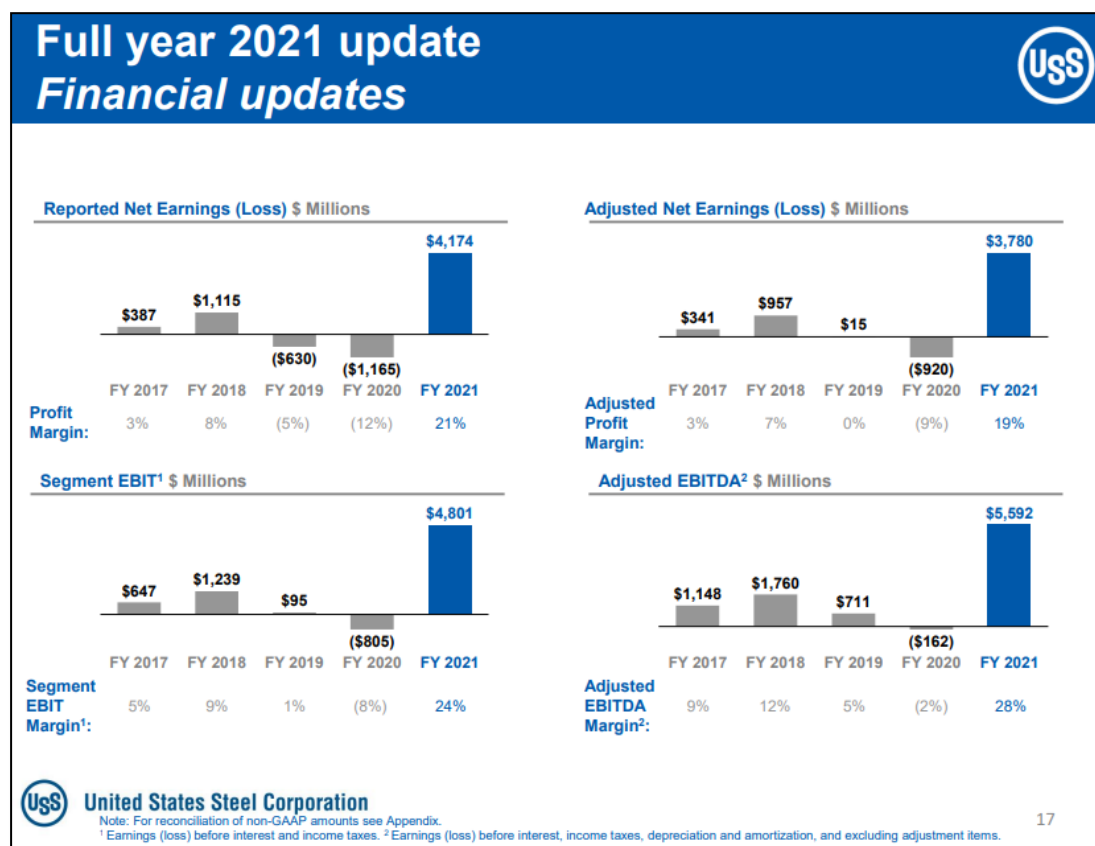
Key Competitors

U.S. Steel's main competitors are Vallourec, Posco International, Gerdau, Worthington Industries, Magnitogorsk Iron and Steel Works, Cleveland-Cliffs.

Business Cycle

Analysis on both the financials on U.S. Steel and based on recent events could infer that the company is at a later stage in its business life cycle. With the recent sudden decline, due to the pandemic, and other economic and fiscal issues in the entire economy, there has been a drop in many different performance metrics, including market share, revenues, profit, stock price, investor sentiment, employment, and employee count. And this market instability has given cause to the company to start inspecting their areas of waste, and areas which they can improve upon.

Conclusion



PESTEL Analysis

Political Factors

- An increase in the political stability in the country, would allow for more stable business, as there is less to worry about concerning outside forces.
- The recent infrastructure bill is very helpful towards U.S. Steel, and infrastructure companies. This should offset the current recession a considerable amount, enough to give U.S. Steel a platform to bounce back from the crushing losses they experienced in 2020.
- U.S. Steel is a mid-size company, however, are one of the largest producers of steel in America. There is a necessity from the economy at large that this company does not fail. This is because there is a major reliance on steel, for various forms of infrastructure, products, and raw materials of various products in different industries. It is in the best interest of political entities to give enough freedom to such a company in order for this system to remain functioning smoothly.
- With the expected increase in general and specific taxes to fund the recent increases in government spending, U.S Steel, would most likely want to rethink their current pricing of steel, and other products. The price change must reflect their new position, so as to increase profits without pushing away existing loyal customers.
- The export of goods will also be affected with the eastern European crisis between Russia and Ukraine. The sanctions placed on Russia would be harmful both towards imports and exports, and since Russia is a main importer of machineries from the United States, this may decrease the demand for steel.

Economic Factors

- Type of economic system & government intervention in the countries of operation and how stable they are
 - Economic systems with high government interference could make market maneuverability much difficult than a free market with little to no government interference
- The rate of GDP growth within the domestic market and how it would affect growth in the future, especially with the pandemic skewing numbers down. There may be a revert to the norm, or there might be an establishment of a new norm, as the pandemic may affect the economy long-term.
- With recessions come unemployment, and in this case, the unemployment levels are increasing steadily in the U.S, with the government aid increasing, giving people less incentive to want to work a job for low pay. This may make the difficulty negotiating contracts with new employees increase.
- Steel as a product is very tied to oil and natural gas as a complimentary good, considering the manufacturing of cars is one of the main drivers for the demand in steel production. As the war in Russia ensues, the prices of natural gas and all related goods will increase. This may force U.S Steel into making a decision based on either incurring extra costs of transportation, or increasing the price of their steel products.
- Business Cycle
 - Understanding of the business cycle of U.S Steel, as well as their competitors' is key. As a company well accustomed to an industry which has been long established, there is a sense of stability and security, as compared to an industry in which most of the products are relatively new. They must not,

however become complacent, but innovate to ensure they remain at a top spot in the economy.

Social Factors

- Demographics and skill level of the population
 - As parents start to reach into reserves that was intended to pay for university, to use for other more pressing priorities, the number of students in university will decrease in future. This would potentially reduce the skill level of the population, especially those in white collar occupations. The demand for those individuals will be high, thus increasing employee wage costs.
- Class structure, hierarchy, and power structure in the society
 - Being able to identify and segment the market based on social structures will allow for U.S Steel to subtly discriminate their prices when selling to certain groups, or in certain areas.
- Leisure interests
 - Adding to the point of segmenting the market, selling products that relate to leisure interests would allow U.S Steel to increase their prices, to gain some margin on those specific products.
- Health attitudes and environmental consciousness
 - With the planet going green, there are certain quotas U.S Steel must meet, in order to remain in the good graces of its investors and customers. Mini-mills that make steel out of scrap using Electric Arc Furnaces (EAFs) are important for sustainability goals

- U. S. Steel has two mini-mills – one for flat-rolled steel and one for tubular – with a third announced for the near future

Technological Factors

- Technology's impact on U.S Steel product offering
 - Technology is fast changing, to be able to keep up with competition. U.S Steel must constantly strive to adapt their technology to make sure they gain and maintain a competitive advantage.
- Impact on cost structure in the Metals and Steel
 - This could lead to potential increases or decreases which can lead to profits.
- Rate of technological diffusion
 - With the introduction of new technology, life cycles of new products have shortened

Environmental Factors

- Weather
 - Harsher weather conditions could increase cost of operations of U.S Steel, this could in turn force a change in the currently established value chain.
- Laws regulating environmental pollution
 - Environmental pollution concerns are on the rise, meaning U.S Steel have less room for allowed pollution. This could reduce capacity levels and in turn reduce possible profits.
- Attitudes towards ecological products

- Making products in countries that want companies to produce products that are ecologically sustainable, means for higher cost of production. This also leads to less profits the U.S. Steel and wealth for the shareholders.

Legal Factors

- U.S. Steel must follow the employment laws of the countries in which they have an intention to work in. In order to provide safer environments and avoid any potential costs that may arise from lawsuits.
- Trademarks, Copyright, Patent/ Intellectual property law
 - There is a risk of not protecting their mark, and some other company assumes a similar mark which would limit or destroy U.S Steel's brand.
- Consumer protection and e-commerce
 - With data protection being an issue over recent years, as U.S. Steel would do well to look into security data, there is an increase importance in understanding the protection regulations.

Industry and Competitive Analysis

The competitors of U.S. Steel are involved in many different marketing sectors. U.S. Steel's profits are derived from mainly steel products and metals. The sectors that U.S. Steel Inc. belongs to is the Iron and Steel, and Metal Mining industries. U.S. Steel's main competitor is Cleveland Cliffs. Cleveland Cliffs generates 12% more revenue than U.S. Steel does. Steel Dynamics is another one of U.S. Steel's main competitors. Steel Dynamics generates \$12.10 billion of the industry revenue. Another big competitor is Nucor Corp. company. Nucor Corp. company generates \$44.43 billion of the industry's revenues. Ternium company, another competitor in the same industry generates \$8.54 billion of the industry's revenues. Reliance steel, another competitor that stands out in this industry generates \$12.03 billion of the sector's revenue.

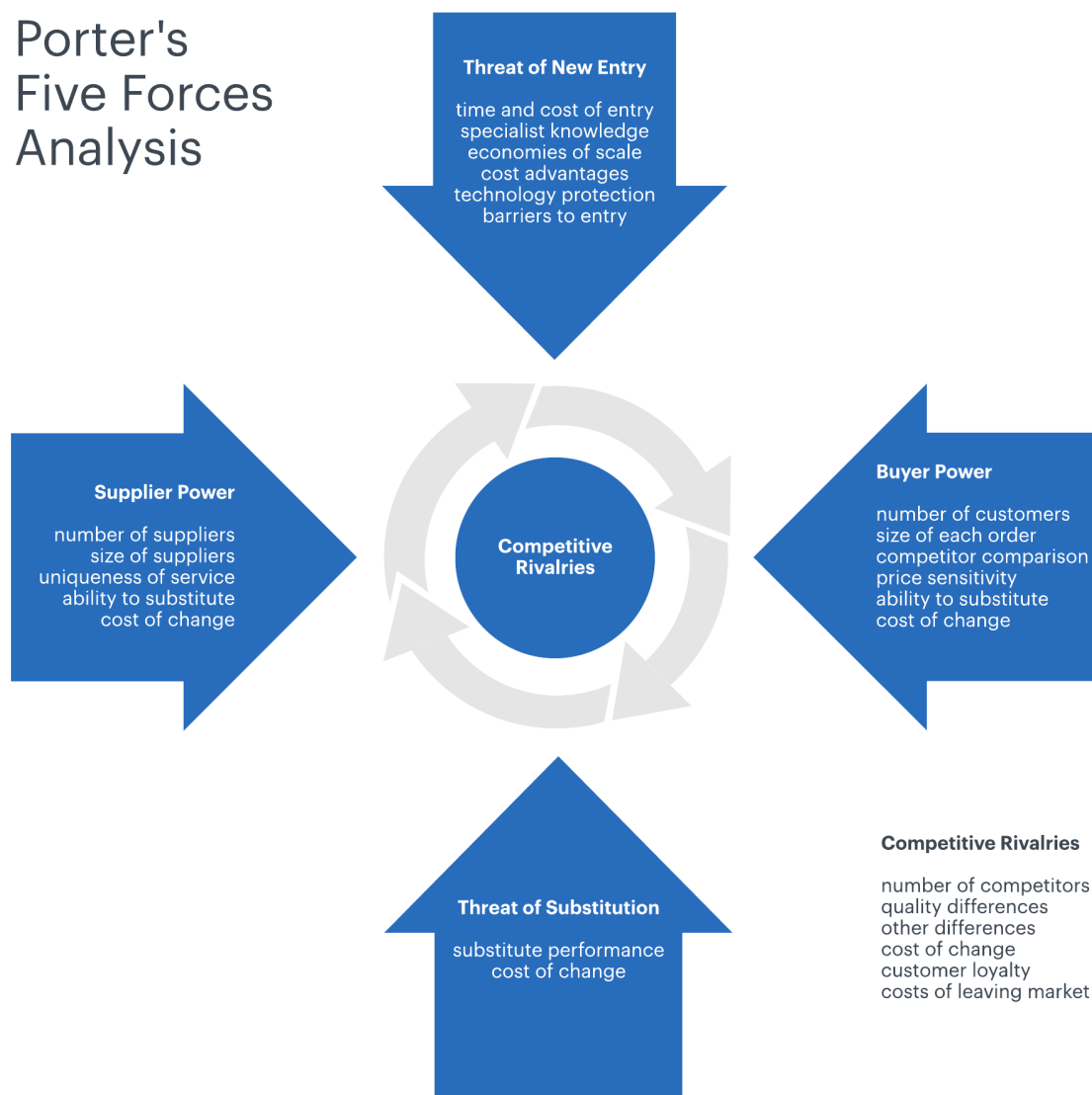
The Iron and Steel industry has been on the rise for the past 5 years in terms of profitability. The industry has also had minor blips in its rising pattern but nothing major to change the course of its foreseeable rise, as there are many needs for steel in modern construction. With heavy specialization, U.S Steel is able to be a competent producer and have a diverse cast of metal products to fall on if there is a failure in one of its industries.

Company name (in billions)	Revenue	Market Share	Percentage Difference
U.S. Steel (X)	\$ 20.28	6.99%	
Ternium (TX)	\$ 16.09	5.55%	79%
Steel Dynamics (STLD)	\$ 18.41	6.35%	91%
Nucor Corp. (NUE)	\$ 36.48	12.58%	180%
Reliance Steel (RS)	\$ 14.09	4.86%	70%
Commercial Metals Company (CMC)	\$ 6.73	2.32%	33%
Alcoa, Corp (AA)	\$ 12.15	4.19%	60%
Total	\$ 124.23	\$ 289.91	

Industry's Prospects for Sustained Profitability

With the use of Porter's five forces, U.S. Steel's industry structure can be broken down and characterized. The main use of Porter's Five forces is to analyze the threats of new entrants, the bargaining power of supplies, the bargaining power of buyers, threat from substitute products and rivalry among the existing players. This competitive analysis can show how U.S. Steel can build a sustainable competitive advantage in the Rubber & Plastic industry as well as the Conglomerates industry.

Porter's Five Forces Analysis



- **Threats of new entrants**

New entrants bring innovation and puts pressure on U.S. Steel, through lower pricing strategy, cost reduction and a provision of new value proposition to customers. To battle this U.S. Steel must:

Innovate new products and services, new products would allow for the introduction of new customers and give current customers more reasons to buy products from U.S. Steel.

By building economies of scale so that they can decrease the fixed cost per unit Spending on research and development as well as building capacities. It makes it harder for new entrants to enter the industry if an established player like U.S. Steel keeps defining the standard. It reduces any vision of extraordinary profits significantly and discourages new firms from entering the industry.

- **Bargaining Power of Suppliers**

Almost all the companies in the Metals and Steel Industry buy their raw materials form many suppliers. A supplier with the upper hand in negotiations can decrease all potential margins that U.S. Steel can earn from the market. To be able to battle this U.S. Steel must:

- Build an efficient supply chain with multiple suppliers
- Experiment with product designs by using different materials, so they can always have substitutes when the price of a raw material goes up to easily transition to another material.

- Develop suppliers that are dedicated to U.S. Steel due to their businesses depending on them.
- The bargaining power of suppliers would decrease if U.S. Steel bought from a region in which the number of suppliers outweighed the amount of buyers.

- **Bargaining Power of Buyers**

Buyers tend to want a lot; they want the best products available while paying the lowest price possible for them. In the long run, this puts pressure on U.S. Steel's profitability. To battle this, U.S. Steel must:

Build a large customer base. This would reduce the bargaining power of buyers as well as give U.S. Steel the ability to streamline its sales and its production process.

Rapidly innovate new products. Customers tend to seek discounts on products that are already established. If U.S. Steel keeps making new products, it can in turn limit the bargaining power of customers

New products also reduce the chances of defection of existing customers to competitors.

- **Threats of substitute products or services.**

When a new product or service is able to meet a similar customer's needs in a different way, the industry's profitability suffers. A substitute products threat is high if it is able to offer a value proposition that is uniquely different from that which is already being offered in the industry. To battle this, U.S. Steel must:

Increase the cost for customers to switch to other products and competitors

Understand the core need of the customer rather than looking at what the customer is buying.

To make sure that U.S. Steel are service oriented as well rather than just product oriented

- **Rivalry among the existing competitors.**

- If the rivalry between the existing competitors in the industry is intense it would cause a driving down of prices and also decrease the overall profitability of the industry. The Metals and Steel Industry is very competitive, this would in turn reduce the long-term profitability of U.S. Steel In order to tackle this, U.S Steel must:

- To build a sustainable differentiation
- Build scale so it can compete better
- Collaborate with competitors to increase the market size rather than just compete for small market.

Company Competitive Position and Strategy

U.S Steel has a few strategies that they implement in order to attain their goal to remain competitive in the international Metals and Steel Industry. They strive to use Mini-mills that make steel out of scrap using Electric Arc Furnaces (EAFs) to achieve sustainability goals, they continue to invest in and develop exceptional talent, accommodate continued organic growth through capital expenditures, and return capital to shareholders through share repurchases and dividends. With waste eliminated and the improvement of efficiencies, it allows for increase in profitability. U. S. Steel has two mini-mills – one for flat-rolled steel and one for tubular – with a third announced for the near future.

U.S Steel's faces competition from many different competitors that produce mining, refining and production of steel. The level of competition is determined according to the market's region and product line. As one of the major manufactures in the of steel and metals in the US, U.S. Steel competes through innovating products, gathering partners and building trust with both contractors and customers and improving customer service in order to gain a competitive advantage.

U.S. Steel faces competition from numerous competitors within each of the market it serves. They gain competitive advantages by positioning itself to gain design specification for customer platforms or products with long life cycles and high barriers to entry. An example of this is the partnership with many car manufacturers and government building maintenance and construction. Specific products that have to deal with automobiles competes primarily on its products performance its ability to meet customers' highly specific design, engineering and delivery needs on a timely basis.

Valuation

Description of Analysis and Advantages of Approach:

The market multiples approach is a method of valuation that is used to find the value of a business by comparing it to other similar business in the same industry. These multiples are ratios of a valuation metric to measure financial performance over a period. This comparative analysis is allowed to take place to see if U.S Steel when compared to similar companies, trade at similar multiples. There are some minor disadvantages to the use of this approach. Valuation using the market multiples hasn't any real thorough theoretical foundation. It also becomes a problem due to the fact that it does not have a requirement for explicit forecasts of future performances for the company that is to be valued. It also requires that the observed market prices for the target company, which are not informative about the intrinsic values, are assumed. It also requires that at the same time it is assumed that the observed market prices for the comparable companies accurately reflect intrinsic value of the company. Some of the advantages is that with this method the comparable companies'

Data are readily available and makes computing less tedious.

The analysis that was done on U.S Steel involved the use of EV/Sales, EV/EBIT, EV/EBITDA, Trailing P/E, P/B as valuation metrics. EV/Sales are the enterprise value of U.S Steel divided by its Sales. The EV/EBIT is the enterprise value divided by the Earnings before interest and tax. EV/EBITDA is the enterprise value divided by the Earnings before interest and tax and depreciation and amortization. P/E is the price to earnings ratio and is

calculated by dividing the market price of the company's earnings per share. P/B is the price to book ratio for the company and is calculated by dividing the share price by U.S Steel's book value per share. Using the median and the average value for each of these, there are comparisons that are made between U.S Steel and six companies in its industry. This analysis puts U.S Steel up against other companies in the steel industry and shows how they compare against them.

Selection of Peer Group

The most crucial part of this valuation method is the selection of comparable companies, also known as the peer group. The companies that are picked are similar companies that have similar financial and performance metrics to that. The peer group contains Ternium (TX), Steel Dynamics (STLD), Nucor Corp. (NUE), Reliance Steel (RS), Commercial Metals Company (CMC) and Alcoa, Corp (AA). These companies were selected because they are all major competitors of U.S Steel, produce similar products, work in the same industry, and have similar business models as well as have a similar market share to U.S Steel.

Almost all the companies have a similar market capitalization including U.S Steel, Nucor, Corp is the only outlier in the equation. They are also almost all similar sized companies, but Ecolab has a much higher enterprise value. Nucor Corp, is the forerunner in stock price at \$123.79.

Equity & Enterprise Value Multiples:

U.S Steel's multiples have values that include an EV/Sales of 2.09, an EV/EBITDA of 7.68, an EV/EBIT of 1.63, a Trailing P/E of 6.25 and P/B of 1.26. As compared to their peer group that had a median EV/Sales of 1.71, an EV/EBITDA of 7.80, an EV/EBIT of 1.65, a Trailing P/E of 4.95 and a P/B of 1.10. They have a higher value compared to their group within all the groups except for their EV sales.

Company name (in billions)	Market Cap	Enterprise Value	EV/Sales	EV/EBITDA	EV/EBIT	Trailing P/E	P/B
U.S. Steel (X)	\$ 6.28	\$ 8.78	\$ 1.56	\$ 6.85	\$ 1.78	\$ 2.05	\$ 0.79
Ternium (TX)	\$ 8.54	\$ 8.60	\$ 1.99	\$ 5.27	\$ 1.63	\$ 2.35	\$ 0.88
Steel Dynamics (STLD)	\$ 12.10	\$ 14.08	\$ 2.65	\$ 9.34	\$ 2.85	\$ 5.63	\$ 2.16
Nucor Corp. (NUE)	\$ 31.10	\$ 34.75	\$ 3.35	\$ 10.56	\$ 3.75	\$ 6.86	\$ 2.32
Reliance Steel (RS)	\$ 12.03	\$ 13.60	\$ 0.97	\$ 6.01	\$ 6.98	\$ 8.84	\$ 0.79
Commercial Metals Company (CMC)	\$ 3.75	\$ 4.33	\$ 2.18	\$ 13.78	\$ 0.01	\$ 9.14	\$ 1.64
Alcoa, Corp (AA)	\$ 10.97	\$ 11.24	\$ 3.37	\$ 92.14	\$ 0.01	\$ 13.86	\$ 2.83

Multiples Selection:

For the analysis, the Trailing P/E, P/B, EV/Sales, EV/EBITDA, and EV/EBIT were used as multiples. These multiples were used within U.S Steel's valuation due to their similarity in value to that of the comparable multiples.

Final Range of Values using Comparable Analysis

	EV/Sales	EV/EBITDA	EV/EBIT	Trailing P/E	P/B
Median	2.09	7.68	1.63	6.25	1.26
Enterprise Value*	\$ 11.73	\$ 10	\$ 8.07	-	-
Total Equity Value*	\$ 9.23	\$ 7.34	\$ 6	\$ 19.13	\$ 10.02
Equity Value Per Share	\$ 33.04	\$ 26.25	\$ 19.93	\$ 68.44	\$ 35.83
Over or Undervalued	Under	Under	Over	Under	Under

	EV/Sales	EV/EBITDA	EV/EBIT	Trailing P/E	P/B
Mean	1.71	7.80	1.65	4.95	1.10
Enterprise Value*	\$ 9.64	\$ 9.99	\$ 8.16	-	-
Total Equity Value*	\$ 7.14	\$ 7.49	\$ 5.66	\$ 15.15	\$ 8.77
Equity Value Per Share	\$ 25.55	\$ 26.80	\$ 20.26	\$ 54.21	\$ 31.38
Over or Undervalued	Under	Under	Over	Under	Under

	EV/Sales	EV/EBITDA	EV/EBIT	P/E	P/B
Max	\$ 58.91	\$ 54.24	\$ 114.53	\$ 151.90	\$ 80.48
Min	\$ 10.59	\$ 15.22	\$ 19.93	\$ 22.47	\$ 58.30

About multiples selection

To avoid skewering the results, which could end up providing a less than accurate final value for the multiples, any industry that was an outlier was excluded from the calculation to get results that were much truer to value. An example of this was Nucor Corp, which had exclusion from some of the multiples calculations, though it was an industry leader and a direct competitor of U.S Steel.

Description of Analysis, and the Advantages of the Approach

The discounted cash flow methodology is a valuation method that is used produce an appreciated terminal value that estimates the projection period growth of a company. There are seven steps that go into providing a detailed estimate of a stocks possible intrinsic value. The steps are as follows; to project the horizon period, to calculate the free cash flow, to calculate the discount rate, to calculate the terminal value, to calculate the present values, to work in any possible adjustments, then to perform a sensitivity analysis to the stock's intrinsic value. There are two different methods that are used to accomplish this, these include the perpetuity growth method and the exit multiple method. These methods allow for an accurate valuation to be able to be projected at the end of the horizon period with a specific amount of time to be forecasted to. The terminal value is then added back to the cash flow of the final year of the projections and is then discounted to the present with the other cashflows.

There are many advantages to using the discounted cashflow method and this includes the ability to be provided an extremely detailed estimate of the intrinsic value of a stock. There is also the ability to look forward and depend on future expectations that surround the business in all operation. This method also allows for sensitivity analysis to be performed which is essential to any valuation analysis. The only drawback would be that this valuation method requires for extensive research to be done on both short-term and long-term prospects. Another major advantage is that many different scenarios can be built using this method which allows for backups to be developed for any situation the company finds itself in.

Calculation of Free Cash Flows:

The calculation of the cashflows is to analyze and understand the firm's ability to generate money out of its business, its ability to strengthen its financial flexibility which can be used in any scenario to pay back any debts accrued and increase the value for shareholders as well.

The steps to calculate the free cash flow are as follows:

1. Multiplication of the earnings before interest and taxes (EBIT) by 1 minus the tax rate (1-T).
2. Add depreciation and amortization.
3. Add the change in net working capital
4. Subtract the changes in capital expenditures

The final formula derived is as follows: $EBIT * (1 - t) + D\&A + \Delta NWC - \Delta CAPEX$

Forecast Period Selection & Assumptions within the Discounted Cash Flow Model:

Due to U.S Steel Company Inc. being a relatively mature company compared to the other companies in its industry. U.S Steel's growth rate is lower than most of the other firms in the Chemicals: Metals and Steel. A forecast of 5 years was selected based on its historical performance; it is also assumed that U.S Steel would continue to function during this time.

There are many assumptions that must be made to make an appropriate estimate of U.S Steel's intrinsic value. The first assumption is that all cash flows are treated

as though they happen at the end of the year. The next assumption would be that the discounted cash flow method treats the cash flows as if they were certain. Another assumption would be that all cash inflows earn a return for the company. Lastly, that the main assumption of this model is that the discounted cash flow analysis assumes a perfect capital market.

Estimation of Terminal Value:

Exit Multiple Method:

The exit multiple method is a valuation technique that uses the underlying assumption that the business would be valued on a market multiple bases at the ending year of projections. The value used is determined by using the EBITDA. The exit multiple method also assumes that market multiple bases is of a fair method for valuing the business. The value is derived from the multiplication of EBITDA by an exit multiple factor that is representative of comparable companies in the industry.

The steps to estimate the terminal value using the exit multiple method are as follows:

1. Selection of an appropriate horizon period
2. Forecast of free cash flow
 - a. Forecast of the EBITDA using the assumed growth rate over the predetermined horizon period.
 - b. Forecast depreciation and amortization using the assumed growth rate over the predetermined horizon period.
 - c. Forecast tax expense using the assumed growth rate over the horizon period
 - d. Forecast capital expenditures using the assumed growth rate over the horizon period
 - e. Forecast the change in net working capital using the assumed growth rate over the horizon period
3. Calculation of the unlevered cash flow

- a. Subtraction of depreciation and amortization from EBITDA to calculate EBIT
 - b. Subtraction of taxes from EBIT to calculate net income
 - c. Adding back depreciation and amortization and capital expenditures and then the subtraction of the change in net working capital to calculate the unlevered cash flow.
4. Estimation of the terminal value
- a. Determination of an appropriate exit multiple from an industry average EBITDA multiple.
 - b. Multiplication of the ending year's EBITDA by the selected EBITDA exit multiple

Perpetuity Growth Rate Method

Mostly known as the Gordo growth, this valuation technique assumes that the growth

of the business will continue and that the new capital will provide a return that is more than its cost. The perpetuity growth rate method also assumes that the cash will grow at a stable and constant rate forever that starts from a specific point in the future.

The steps to estimate the terminal value using the perpetuity growth rate method are as follows:

1. Select and create an appropriate horizon period
2. Forecast the free cash flow.
 - a. Forecast the sales using the assumed growth rate over the predetermined horizon period
 - b. Forecast the EBIT using the assumed growth rate over the predetermined horizon period
 - c. Forecast the taxes using the assumed growth rate over the predetermined horizon period
3. Calculate the OCF by subtracting taxes from the EBIT
4. Calculate the free cash flow by subtracting the change in net working capital and the change in capital expenditures (CAPEX) from the OCF.
5. Estimate the terminal value

- a. Divide the forecasted ending year's free cash flow by the cost of capital
minus the ending year's growth rate.

Enterprise & Equity Value Per Share of U.S Steel:

<i>Perpetuity Growth Method</i>	
Present Value of Explicit FCF	<u>\$ 9,101.03</u>
Terminal Value	
Terminal Year EBIT (2026)	5,070.89
Perpetuity Growth Rate	0.50%
Terminal Value	<u>\$ 27,642.68</u>
Discount Rate	9.07%
Present Value of Terminal Value	<u>\$ 17,906.11</u>
Enterprise Value	<u>\$ 27,029.14</u>
<i>Implied Equity Value & Share Price</i>	
Enterprise Value	\$ 27,029.14
Add: Cash & Cash Equivalents	2,522.00
Less: Debt	<u>2,500.00</u>
Implied Equity Value	<u>\$ 27,051.14</u>
Diluted Shares Outstanding	279.52
Implied Price Per Share	<u>\$ 96.78</u>

<i>Exit Multiple Method</i>	
Present Value of Explicit FCF	
Terminal Value	
Terminal Year EBITDA (2026)	5,585.57
Exit Multiple	0.82
Terminal Value	<u>\$ 1,739.36</u>
Discount Rate	54.38%
Present Value of Terminal Value	<u>\$ 1,126.71</u>
Enterprise Value	<u>\$ 9,346.30</u>
<i>Implied Equity Value & Share Price</i>	
Enterprise Value	\$ 9,346.30
Add: Cash & Cash Equivalents	2,522.00
Less: Debt	<u>2,500.00</u>
Implied Equity Value	<u>\$ 9,368.30</u>
Diluted Shares Outstanding	279.52
Implied Price Per Share	<u>\$ 33.52</u>

*Note: All values are in millions

Sensitivity Analysis:

Purposes of the Analysis

- It is used to check outcomes under different assumptions to determine the sensitivity of different impacts has on results of the model in the presence of variability, it allows any impacts of variation to be monitored and modeled to assist in the prediction of market uncertainty.

Changes in Assumptions:

- When sensitivity analysis is used, the ability to change assumptions and estimates within the calculation allows for the analysis to be able to be completed to see the variations and impact on the finances of the company. Any changes in the assumptions under the Gordon growth method included a reduction and addition of 1 percent to the growth rate, as well as a reduction and an addition of 1 percent to the weighted average cost of capital. The changes in assumption within the exit multiple method included a reduction and addition of 1 to the exit multiple and a reduction and addition of 1 percent to the weighted average cost of capital

Results of Sensitivity Analysis:

Sensitivity Analysis Table							
		WACC					
	\$	33.44	8.07%	8.57%	9.07%	9.57%	10.07%
Exit Multiple	0.62		33.37	32.86	32.36	31.88	31.40
	0.72		33.94	33.42	32.91	32.40	31.91
	0.82		34.51	33.97	33.44	32.93	32.43
	0.92		35.08	34.53	33.99	33.46	32.95
	1.02		35.65	35.08	34.53	33.99	33.47

Sensitivity Analysis Table						
		WACC				
	\$ 96.70	8.07%	8.57%	9.07%	9.57%	10.07%
Growth Rate	0.30%	106.60	100.16	94.46	89.37	84.81
	0.40%	108.02	101.42	95.58	90.38	85.72
	0.50%	109.48	102.71	96.73	91.41	86.64
	0.60%	110.97	104.03	97.90	92.45	87.59
	0.70%	112.51	105.38	99.10	93.53	88.55

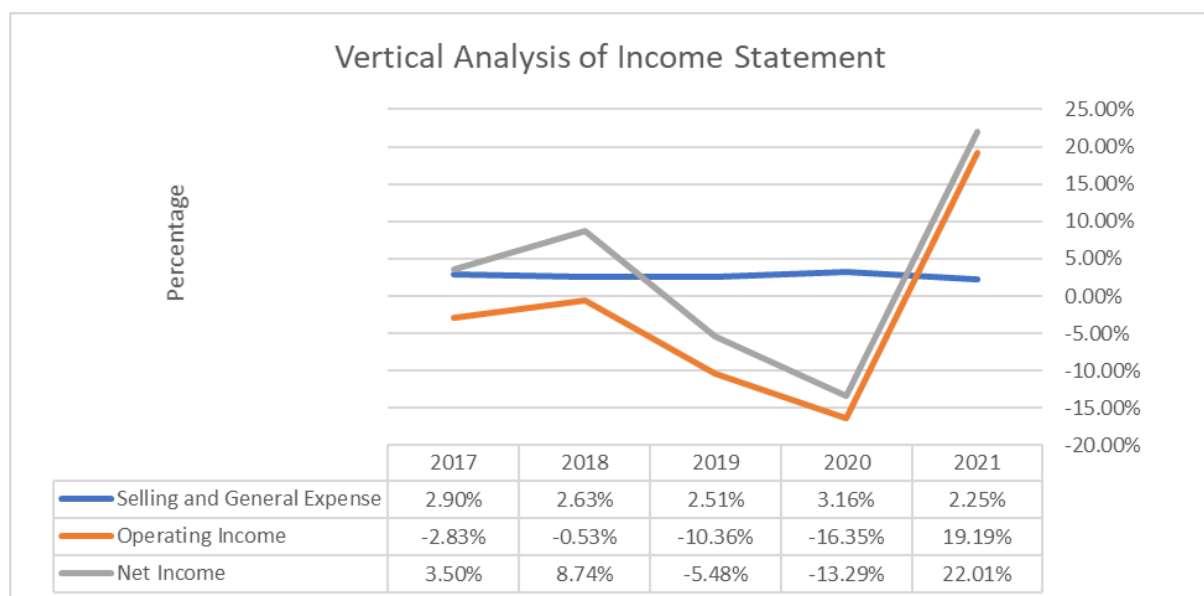
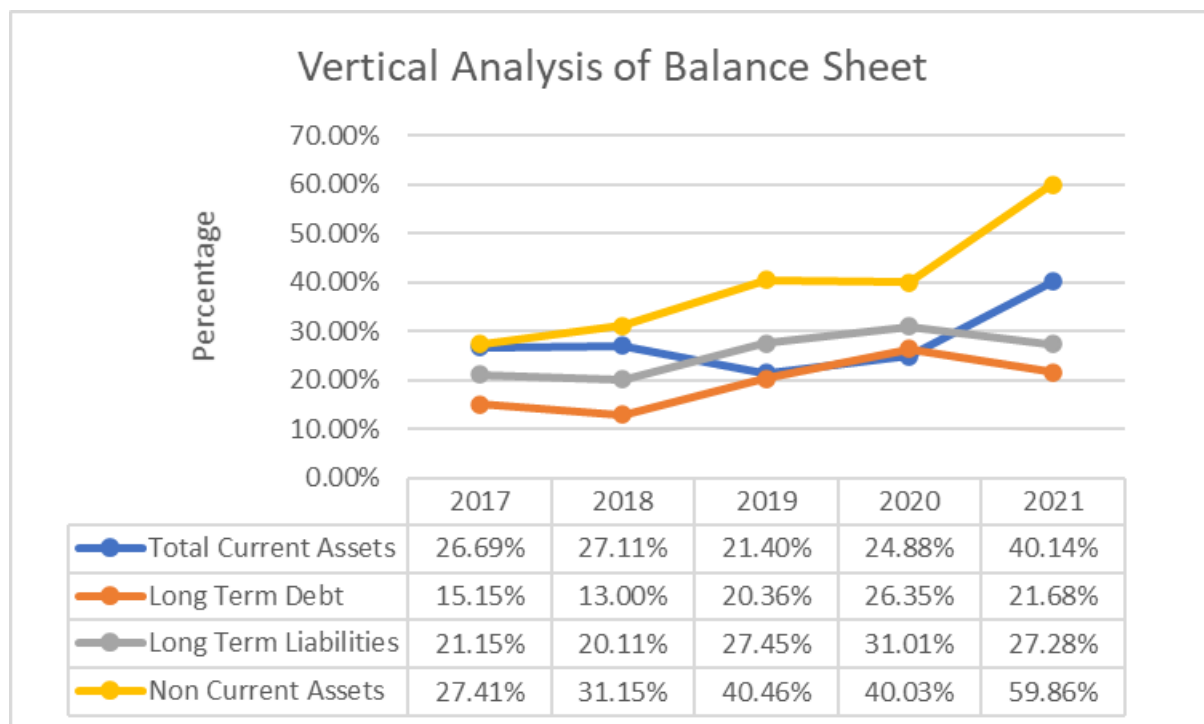
Financials

Financial Statements (2017-2021)

BALANCE SHEET					
United States Steel (X)					
Consolidated Balance Sheets - USD (\$) shares in Millions, \$ in Millions					
	Dec. 31, 2021	Dec. 31, 2020	Dec. 31, 2019	Dec. 31, 2018	Dec. 31, 2017
Current assets:					
Cash and cash equivalents (Note 9)	\$ 2,522	\$ 1,985	\$ 749	\$ 1,000	\$ 1,553
Receivables, less allowance of \$34 and \$28	1,968	914	956	1,435	1,173
Receivables from related parties (Note 23)	121	80	221	224	206
Inventories (Note 10)	2,210	1,402	1,785	2,092	1,738
Other current assets	331	51	102	79	85
Total current assets	7,152	4,432	3,813	4,830	4,755
Long-term restricted cash (Note 9)	76	130	188	0	0
Investments and long-term receivables, less allowance of \$5 in	694	1,177	1,466	513	480
Operating lease assets (Note 24)	185	214	230	0	0
Property, plant and equipment, net (Note 13)	7,254	5,444	5,447	4,865	4,280
Intangibles, net (Note 14)	519	129	150	158	167
Deferred income tax benefits (Note 11)	32	22	19	445	56
Goodwill	920	4	0	0	0
Other noncurrent assets	984	507	295	171	124
Total assets	17,816	12,059	11,608	10,982	9,862
Current liabilities:					
Accounts payable and other accrued liabilities	2,809	1,779	1,970	2,454	2,148
Accounts payable to related parties (Note 23)	99	105	84	81	74
Payroll and benefits payable	425	308	336	440	347
Accrued taxes	365	154	116	118	132
Accrued interest	68	59	45	39	69
Current operating lease liabilities (Note 24)	58	59	60	0	0
Short-term debt and current maturities of long-term debt (Note	28	192	14	65	3
Total current liabilities	3,852	2,656	2,625	3,197	2,773
Noncurrent operating lease liabilities (Note 24)	136	163	177	0	0
Long-term debt, less unamortized discount and debt issuance	3,863	4,695	3,627	2,316	2,700
Employee benefits (Note 18)	235	322	532	980	759
Deferred income tax liabilities (Note 11)	122	11	4	14	6
Deferred credits and other noncurrent liabilities	505	333	550	272	303
Total liabilities	8,713	8,180	7,515	6,779	6,541
Stockholders' equity:					
Common stock	280	229	179	177	176
Additional paid-in capital	5,199	4,402	4,020	3,917	3,932
Retained earnings	3,534	(623)	544	1,212	133
Common stock held in treasury	(334)	(175)	(173)	(78)	(76)
Accumulated other comprehensive loss	331	(47)	(478)	(1,026)	(845)
Noncontrolling interests	93	93	1	1	1
Total stockholders' equity	9,103	3,879	4,093	4,203	3,321
Total liabilities and stockholders' equity	\$ 17,816	\$ 12,059	\$ 11,608	\$ 10,982	\$ 9,862

INCOME STATEMENT					
United States Steel (X)					
Consolidated Statements of Operations - USD (\$) \$ in Millions					
	12 Months Ended				
	Dec. 31, 2021	Dec. 31, 2020	Dec. 31, 2019	Dec. 31, 2018	Dec. 31, 2017
Net sales:					
Net sales	\$ 18,964	\$ 8,765	\$ 11,506	\$ 12,758	\$ 11,046
Net sales to related parties (Note 23)	1,311	976	1,431	1,420	1,204
Total Net Sales (Note 6)	20,275	9,741	12,937	14,178	12,250
Operating expenses (income):					
Cost of sales (excludes items shown below)	14,533	9,555	12,082	12,305	10,858
Selling, general and administrative expenses	426	277	289	336	320
Depreciation, depletion and amortization (Notes 13 and 14)	791	643	616	521	501
(Earnings) loss from investees (Note 12)	(170)	117	(79)	(61)	(44)
Gain on sale of Transtar (Note 5)	(506)	0	0	0	0
Gain associated with U. S. Steel Canada Inc. (Note 5)	0	0	0	0	(72)
Asset impairment charges (Note 1)	273	263	0	(6)	(5)
Restructuring and other charges (Note 25)	128	138	275	0	0
Gain on equity investee transactions (Note 12)	(111)	(31)	0	(38)	(2)
Net gains on sale of assets	(7)	(149)	(1)	(6)	(5)
Other (gains) losses, net	(28)	3	(15)	(3)	(6)
Total Operating Expenses	15,329	10,816	13,167	13,054	11,581
Earnings (loss) before interest and income taxes	4,946	(1,075)	(230)	13,054	11,581
Interest expense	313	280	142	1,124	669
Interest income	(4)	(7)	(17)	168	226
Loss on debt extinguishment (Note 7)	292	0	0	(23)	(17)
Other financial costs (benefits)	46	(16)	6	98	54
Net periodic benefit (income) cost	(45)	(25)	91	0	44
Net interest and other financial costs (Note 7)	602	232	222	69	61
Earnings (loss) before income taxes	4,344	(1,307)	(452)	312	368
Income tax expense (benefit) (Note 11)	170	(142)	178	812	301
Net earnings (loss)	4,174	(1,165)	(630)	\$ 1,115	\$ 387
Comprehensive income (loss) attributable to noncontrolling	0	0	0	0	0
Net earnings (loss) attributable to United States Steel Corporation	\$ 4,174	\$ (1,165)	\$ (630)	\$ 1,115	\$ 387
Earnings (loss) per share attributable to United States Steel					
— Basic	\$ 15.77	\$ (5.92)	\$ (3.67)	\$ 6.31	\$ 2.21
— Diluted	\$ 14.88	\$ (5.92)	\$ (3.67)	\$ 6.25	\$ 2.19

Common-Size/Vertical Analysis of Income Statement & Balance Sheet



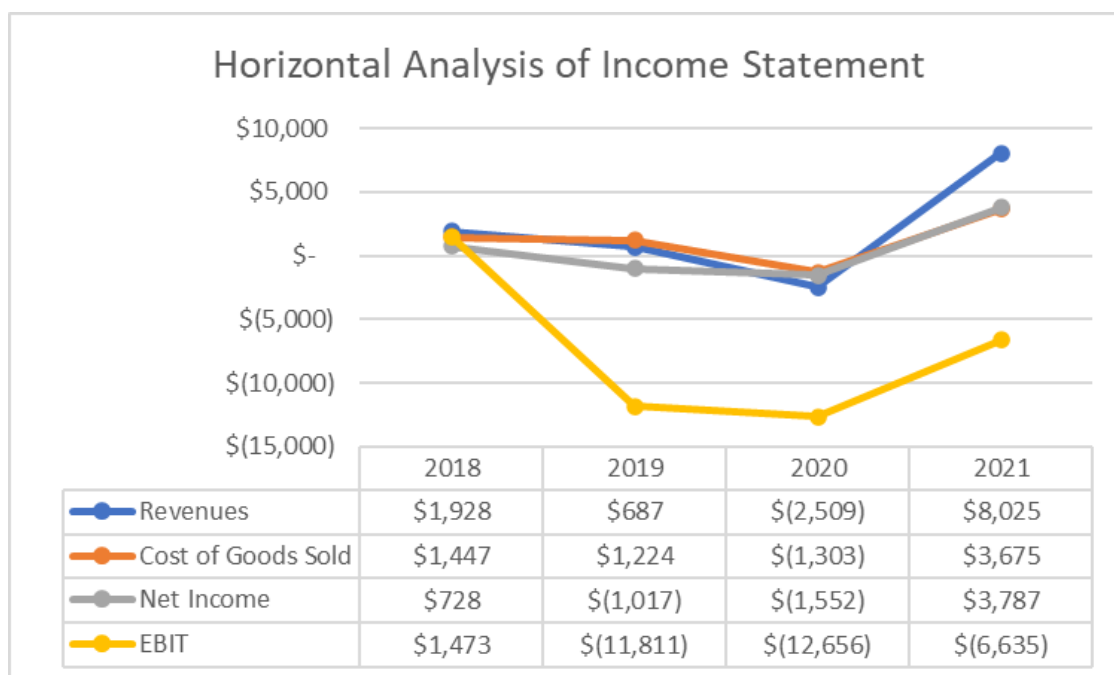
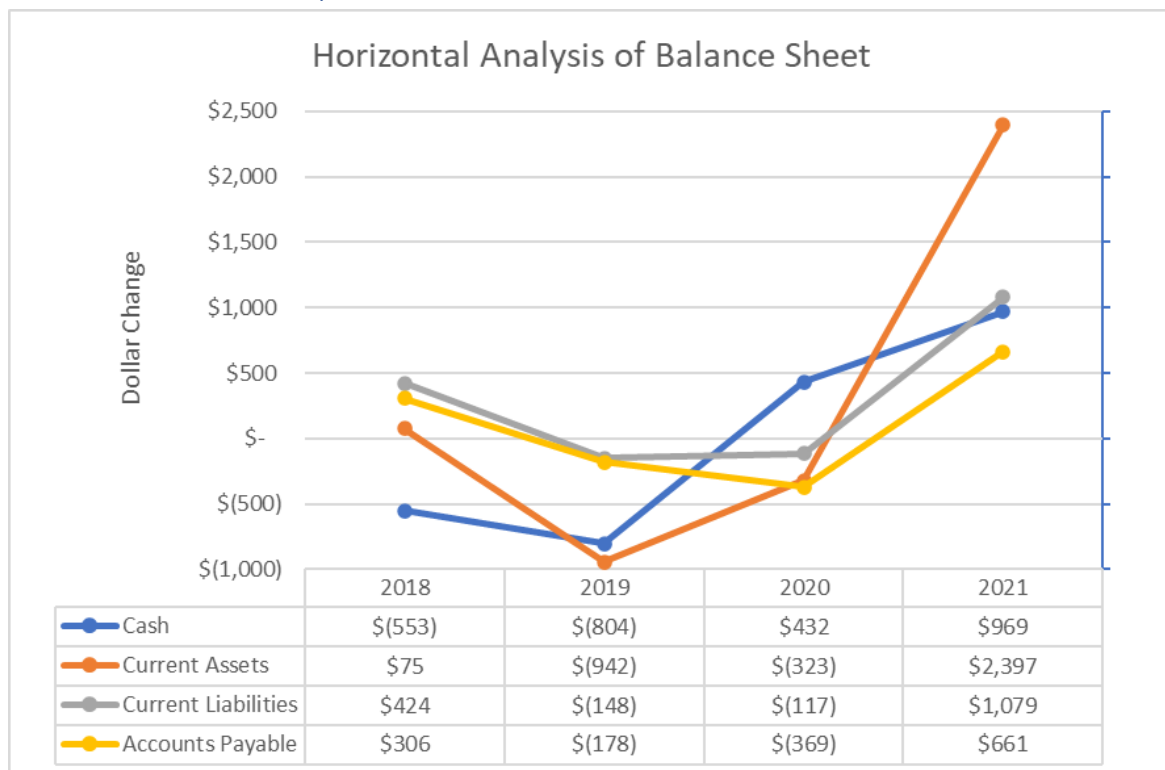
Common-Size/Vertical Analysis Trends and Issues

The selling and general expense of U.S. Steel has lightly fluctuated over the last 5 years, starting at 2.90% in 2017 and hitting a high of 3.16% in 2020. This could be a result of changes in their current liabilities over the years. Similar to their cash and cash equivalents, U.S. Steel's long term debt have also fluctuated over the years. Their long term debt started at 21.68% and reached a high of 26.35% in 2020.

The accounts payable of U.S. Steel Corporation Incorporated decreased over the last 5 years from a high of 15.77% to a low of 9.99%. This shows that U.S. Steel Corporation decided to pay off its prior short term debts much quicker over the years than purchasing on credit. The accrued and other current liabilities of U.S. Steel Corporation Inc. also had a decrease over the years. It started at 15.56% and fell to a low of 14.73% in 2020. Another case in which shows that U.S. Steel is trying to clear out their debts. Total current liabilities of U.S. Steel Corp. Inc. also show a similar pattern to its sub sections. It has followed a decrease over the past 5 years, starting at 15.56% in 2017 and rising to a high of 21.62% in 2021. The total shareholder's equity of U.S. Steel Corporation also increase over the years from a low of 19.81% in 2017 to a high of 51.09% in 2021.

The cost of goods sold by U.S. Steel Corp as a percentage of revenue increased over the last 5 years. It moved from 98.30% in 2017 to a low of 76.63% in 2021. Their selling and administrative expenses has been a lot steadier, there has not been much of a change as a percentage of revenue over the years. Starting at 2.90% in 2017 and ending with 2.25%. This would be due to U.S. Steel's administrative account declining over the 5 years. Operating income has fluctuated a little over the 5 years, it started at -2.83% in 2017 and kept rising and falling each year respectively. This happened due to increases and decreases in operating expenses over the same time period, there was an inverse relationship between operating income and operating expenses. Net Income saw its best percentage at 22.01% in 2018 but fluctuated heavily in the years before.

Trend/Horizontal Analysis of income statement and balance sheet



Trend/Horizontal Analysis Trends and Issues

The cash and cash equivalents of U.S. Steel Corporation Incorporated increased by 62.40% from 2017 to 2021. There was also a notable percentage increase in accounts receivable by 51.19%. The current assets of U.S. Steel Corp. had a huge change of 54.08% which would be a \$2379 change. Property, Plant and Equipment also saw a percentage increase of 54.63%, which was a \$2974 increase. Other noncurrent assets also saw an increase of 329.78%.

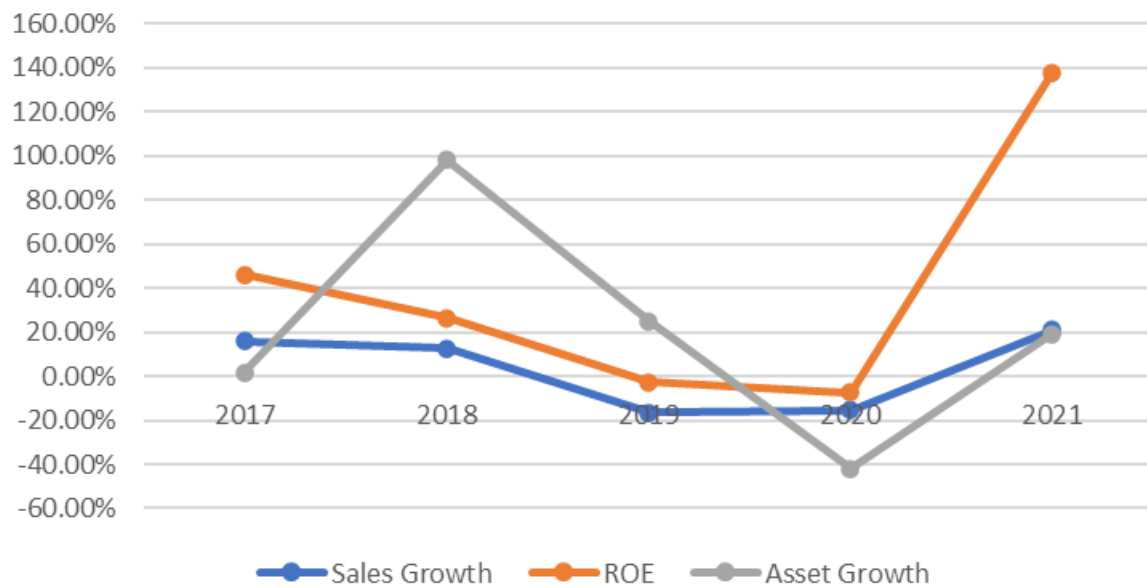
The accrued and other current liabilities saw an increase of 52.87% over the past 5 years. This would be most likely due to the increases in the cost of sales and addition of selling and administrative expenses over the years. U.S. Steel Corporation managed to increase their long-term debt over the 5 years. Unlike the other assets and liabilities, shareholder's equity managed to increase by 61.22% from 2017-2021, a massive change. Total equity and liabilities managed a massive 43.47% increase from 2017-2021.

U.S. Steel Corporation Incorporated saw a 312.50% increase in revenue from 2017 to 2021, which is a \$4350 increase over the last 5 years. Their costs of goods sold also saw an increase of 33.85% over the past 5 years, this may be a result of the sale of some of U.S. Steel Corp's subsidiaries, so cost of production reduced as well as their revenues. Selling and administrative expenses also saw an increase of 33.13%. There has also been an increase in operating income of 455.67% from 2017 to 2021. The net income of U.S. Steel Corp Inc. also saw a serious increase of 978.55% over the past 5 years.

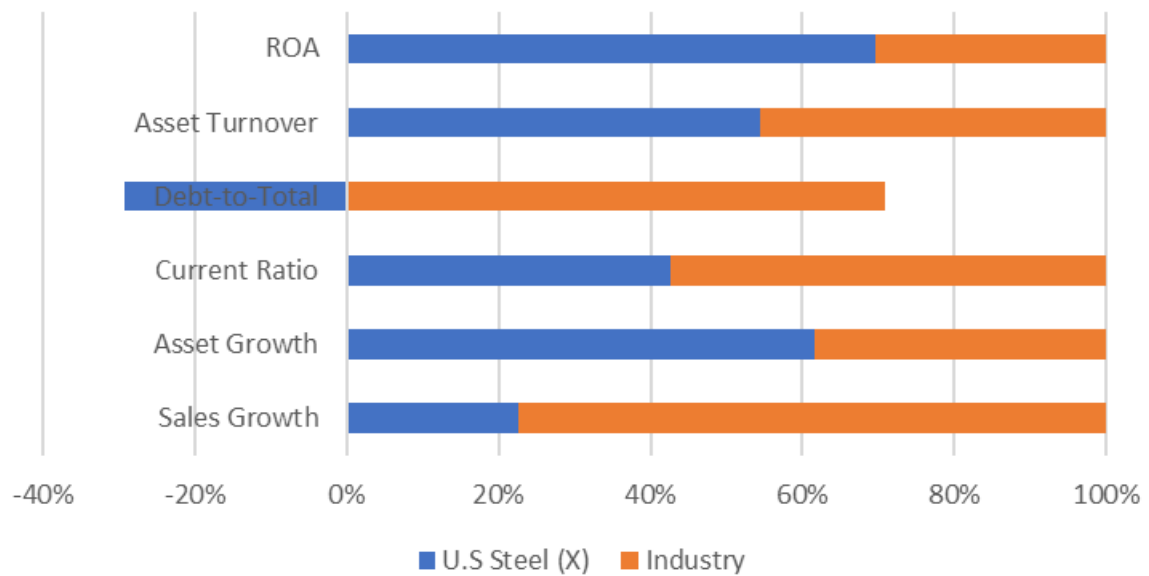
Time-Series Financial Ratio Analysis & Comparison to Industry

	Dec. 31, 2021	
	U.S Steel (X)	Industry
Growth Ratios		
Sales Growth	20.85%	71.79%
Income Growth	2081.63%	7598.84%
Asset Growth	19.03%	11.84%
Liquidity Ratios		
Current Ratio	1.86	2.51
Quick Ratio	0.43	0.63
Leverage Ratios		
Debt-to-Total	-0.02	0.05
Times Interest Earned	0.20	37.05
Asset Management		
Asset Turnover	1.23	1.03
Inventory Turnover	7.30	10.43
Profitability Ratios		
Profit Margin	19.01%	16.02%
ROE	137.98%	22.04%
ROA	25.33%	11.03%
Market Ratios		
P/E	5.28	18.95
M/B	1.12	1.98

Key Ratios



Key Ratios and Industry Average



Summary of Financial Statement Analysis

There are a couple of accounts to look at regarding the common-size analysis of the balance sheet that should be paid attention to. These include the cash and cash equivalents, total current liabilities and the current assets as well. The cash and cash equivalents of U.S Steel in 2017 was 8.72% of its total assets and in 2021, it was 14.16% of its total assets. This seems to be as a result of the fluctuations in U.S Steel's current liabilities from year-to-year. The total liabilities were around 48.91% of their total assets, however currently they stand at having 21.62% of their current liabilities as a part of their total liabilities. This shows that they are working at gaining a better position in regard to their debt. Year-to-year their current assets as a part of their total assets have increased even though slightly from 26.69% in 2017 to 40.14% in 2021, their sales have also increased in correlation to their increase in current assets.

In the common size of U.S Steel's income, there are a couple of accounts to highlight. The revenues of U.S. Steel have increased over the period from \$12.25bn in 2017 to \$20.28bn in 2021. The cost of goods sold have also increased over that time horizon by 33.85%. Selling and administrative expenses have also increased in that time period. These changes in these accounts are because of increases in the company size, sales and also as well as operational and manufacturing efficiency. Net income and operating income have also shown increases in that time period, and this is a promising show of U.S. Steel's financial stability.

Since 2017, there have been increases in the accounts that investors want to see. These would be increases in the net income, the revenues account, operating income account. It shows that the company is on the right path in regard to increasing their

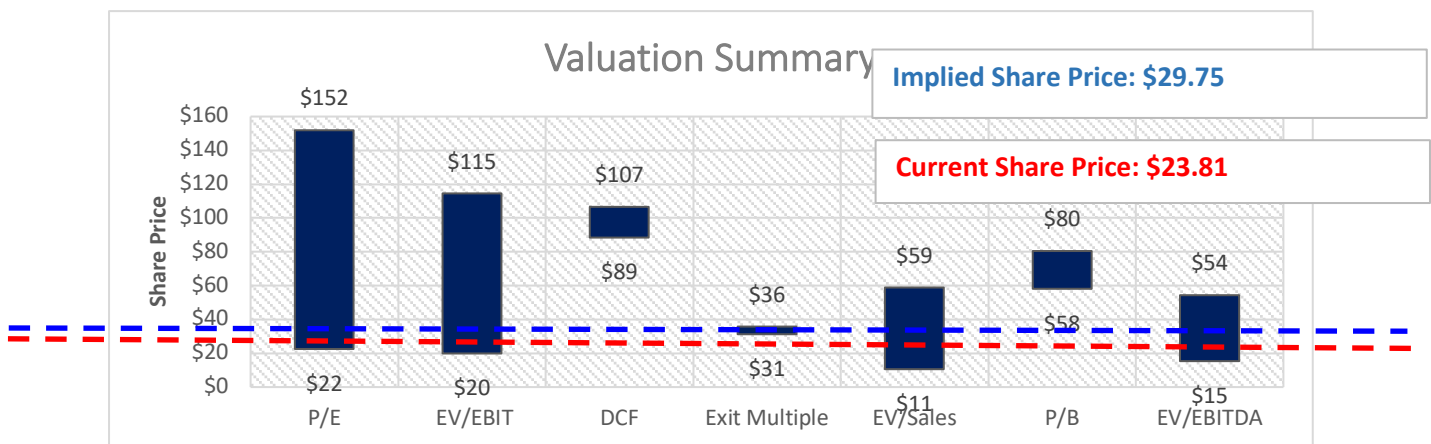
company growth as well as that of their equity growth. The improvement in earnings also goes a long way to show this.

There are a few main ratios that highlights U.S. Steel companies Inc in relation to other companies in their industry. These ratios include the sales growth, income growth, return on assets and return on equity. U.S. Steel having a lower sales growth ratio in 2021 as compared to the industry, which could show that the demand for their product was lower compared to their competitors. Decrease in their income growth also goes to show that U.S. Steel wasn't efficient with their cost as compared to the competitors. On the other hand, their Return on assets and their return on equity was higher than that of the industry. This could prove to be very useful for U.S. Steel as it allows for the undertaking of more investment projects. U.S. Steel had a current ratio that was lower than that of the industry average, U.S. Steel most likely did not have cash on hand to meet an excess of any short-term obligations that may have popped up unexpectedly.

Summary

Football Field Valuation Chart

After looking at the information provided by the football field Valuation chart, analysis can be used to provide insight into all the methodologies and their implied share price value. All possible multiple methods were able to be of use in order to try and provide the most accurate valuation possible.



Method	Valuation	Weight	Weighted value
P/B	\$ 31.38	0.11	\$ 3.59
Trailing P/E	\$ 54.21	0.20	\$ 10.73
EV/EBIT	\$ 20.26	0.07	\$ 1.50
EV/Sales	\$ 25.55	0.09	\$ 2.38
EV/EBITDA	\$ 26.80	0.10	\$ 2.62
Exit Multiples	\$ 33.44	0.12	\$ 4.08
DCF	\$ 96.70	0.05	\$ 4.83
TOTAL	\$ 288.34		\$ 29.75

The recommendations for any potential investment that is to be sought out by investors, would be to take a long position with the intention of holding onto them for at least 5 years.

Investment Recommendation

With the help of the analysis provided, the intrinsic value of U.S Steel's stock is overvalued as of 30th April 2022. There is room for market growth and these values are all assumptions, and all assumptions point towards U.S Steel being undervalued. Under current market conditions and an implied share price value of \$23.81, U.S Steel. is currently undervalued by \$5.94.

It must be in the mind of the investors to know that the more the stock value of U.S Steel Inc. becomes, the farther the potential of growth falls. Potential investors should look for growth opportunities when deciding to buy the stock. There are two recommendations for any potential investment that is to be sought out by investors, which would be to take a short position in the hope of selling the shares back to repurchase them in expectance of a short term price drop, but immediately buy back as the stock will be projected to rise. The second would be for any potential investors that are looking for a long-position within a growth-oriented company like U.S Steel, that has potential for stock price rises.

Exhibits/Appendices (Extra)

in Billions of USD		As of 12/31/2021									
Company Name	Market Cap	EV	EV/Sales	EV/EBITDA	P/E	P/Book	Sales	EBITDA	Earnings	Book Value of Equity	Net Debt
Cleveland Cliffs	\$10.89	\$16.20	\$3.03	\$11.37	5.61	2.72	\$5.35	\$1.42	\$1.94	\$4.00	\$5.31
Ternium	\$8.54	\$8.60	\$1.99	\$5.27	2.35	0.88	\$4.32	\$1.63	\$3.63	\$9.70	\$0.06
Steel Dynamics	\$12.10	\$14.08	\$2.65	\$9.34	5.63	2.16	\$5.31	\$1.51	\$2.15	\$5.60	\$1.98
Nucor Corp.	\$44.43	\$47.50	\$1.30	\$4.64	7.14	3.17	\$36.54	\$10.24	\$6.22	\$14.02	\$3.07
Reliance Steel	\$12.03	\$13.60	\$0.97	\$6.01	8.84	1.98	\$14.02	\$2.26	\$1.36	\$6.08	\$1.57
U.S. Steel (X)	\$9.65	\$11.21	\$0.55	\$2.06	2.49	1.07	\$20.38	\$5.44	\$3.88	\$9.02	\$1.56
Current price	\$34.52										
Shares Outstanding	\$0.28										
										0.128497409	
Median			2.0	6.0	5.6	2.2					
Enterprise Value			\$40.56	\$32.70							
Total Equity Value			\$39.00	\$31.14	\$21.82	\$19.48					
Equity value per share			\$139.52	\$111.42	\$78.06	\$69.69					
Valuation			Over	Over	Over	Over					
Mean			2.0	7.3	5.9	2.2					
Enterprise Value			\$40.52	\$39.87							
Total Equity Value			\$38.96	\$38.31	\$22.92	\$19.68					
Equity value per share			\$139.38	\$137.04	\$82.00	\$70.40					
Valuation			Over	Over	Over	Over					
Multiples											
High			3.0	11.4	8.8	3.2					
Average			2.0	7.3	5.9	2.2					
Median			2.0	6.0	5.6	2.2					
Low			1.0	4.6	2.4	0.9					
Equity Value											
High			\$273.62	\$274.15	\$155.72	\$129.95					
Average			\$177.09	\$174.12	\$104.18	\$89.45					
Median			\$177.27	\$141.57	\$99.18	\$88.55					
Low			\$82.77	\$107.68	\$41.40	\$36.07					

FINANCIAL RATIO COMPARABLES										
United States Steel (X)										
	Dec. 31, 2021		Dec. 31, 2020		Dec. 31, 2019		Dec. 31, 2018		Dec. 31, 2017	
	U.S Steel (X)	Industry	U.S Steel (X)	Industry	U.S Steel (X)	Industry	U.S Steel (X)	Industry	U.S Steel (X)	Industry
Growth Ratios										
Sales Growth	20.85%	71.79%	-15.34%	-13.78%	-16.62%	-7.28%	12.65%	18.16%	16%	17.95%
Income Growth	2081.63%	7598.84%	-84.92%	-26.85%	-157.00%	-36.38%	272.33%	124.13%	-458%	381.25%
Asset Growth	19.03%	11.84%	-42.09%	-12.01%	25.07%	35.06%	98.22%	60.57%	2%	4.58%