

Stratasys 3D Printing Company Valuation Research Report

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Abstract: This paper aims to evaluate the market value of Stratasys through detailed financial analysis and valuation methods. As a leader in the 3D printing industry, Stratasys has significant advantages in terms of technological innovation and market expansion. The paper first Outlines the background and current situation of the 3D printing industry, and then makes an in-depth analysis of Stratasys' core technology, market positioning and financial situation. Then, using the market method, the income method and the cost method to carry on the multi-dimensional valuation of the company, the reasonable market value range of the company is obtained. The results of this paper show that Stratasys has strong long-term growth potential, and there are certain trading opportunities in the short term.

Keywords: Stratasys, 3D printing, Financial analysis.

1. Introduction

1.1. Research Background

In recent years, 3D printing technology (also known as additive manufacturing technology), as a manufacturing technology with revolutionary potential, is attracting wide attention and application around the world. 3D printing technology creates three-dimensional objects by adding materials layer by layer, and has advantages such as high material utilization, high design flexibility, and short manufacturing cycle compared with traditional reduced-material manufacturing methods such as cutting and drilling. In this context, the global 3D printing market is also showing rapid growth. According to data released by market research firm Report Linker, the global 3D printing market size is about \$14.91 billion in 2023 and is expected to reach \$35.26 billion by 2028, with a compound annual growth rate (CAGR) of 18.6%. This shows that 3D printing technology is not only improving at the technical level, but also its commercial applications and market prospects are increasingly broad.

Within the sector, the offered product is developed and delivered by Stratasys, which is among the principal global providers of 3D printing solutions. The company specializes in the FDM (Fused Deposition Modeling) and PolyJet technologies that are widely used in prototyping, manufacturing AIDS, and finished goods. Today, Stratasys has been developed as market leader and has brand control in 3D printing industry and has continued to expand throughout the years.

The field of 3D printing is fairly new and is currently experiencing impressive growth; therefore, market competition and technology trends influence the companies' evaluations to a great extent. As competition in the market reaching high levels technological advancement is the only way through which enterprises can sustain their competitiveness. In other words, this paper aims to prepare a comprehensive outline of the upcoming Stratasys evolution and its augmentations in the sphere of technology, market and competitive strategies. At the heart of the valuation analysis

is the company's financial performance and the current actuality is presented below. According to the important indicators of financial statements, it is comprehensively possible to understand the company's asset condition, business financial profit, solvency, and the distribution of cash flow. These financial indices make up not only the company's current financial and operating conditions but also give information about its potential financial threats and organic growth prospects. From the perspective of frequent shifts in the 3D printing market, it is crucial to understand the firm's ability to sustain stable earnings for further growth. Applying scientific and reasonable methods of valuation, including the method of evaluation by analogues (market method), the method of evaluation based on the company's income or its potential income (income method), and the purely cost method. In this study, comprehensive use of several methods of assessing the company, including pe ratio method, pb ratio method, and DCF will help to increase the reliability of the valuation and accuracy in determining the value of Stratasys, and offer more comprehensive reference criteria for investing. It is also possible that the analysis of the valuation of Stratasys can be useful in the development of the general industry of 3D Printing. The analysis of the Valuation methods can expose the development tendencies and the potential opportunities in the line 3D printing industrial, For the decision making of the industrial practitioners and the policy makers.

In conclusion, it can be stated that the analysis of the Stratasys valuation is relevant to the practical application and possesses theoretical relevance. By comprehensively examining the overall strength of the company's financing situation and the competitive structure of the market, technology, business model and strategy, it is possible to gain a systemic understanding of the company's development intensity and potential trends and have scientific basis for investment decision-making. At the same time, this study can also provide useful references for the development of the 3D printing industry and promote the healthy development of the entire industry.

1.2. Reserach Purpose and Significance

The purpose of this study is to conduct a systematic and comprehensive valuation analysis of Stratasys and reveal its current market value and future development potential through various valuation methods such as market method, income method and cost method, combined with Stratasys' financial data and market expectations. This study not only obtains the reasonable valuation range and analyzes its applicability through the application of different valuation methods, but also puts forward investment suggestions based on the valuation results to help investors make wise decisions. The significance of this study is to enrich the research results of 3D printing industry, fill the gap in the research of company valuation in this field, and verify the applicability of traditional financial analysis and valuation theory in the emerging industry by applying it to the 3D printing industry, to provide experience and enlightenment for the practice of relevant theories. This study not only provides an important decision-making reference for investors, but also contributes to the development of the 3D printing industry and the application of financial theory, and is expected to promote the popularization and application of 3D printing technology and promote the continuous innovation and development of the industry.

2. Overview of the 3d Industry and Stratasys

2.1. 3D Printing Industry Status Analysis

The 3D printing industry is showing rapid growth globally, attracting more and more investment notes [CT1]: The 3D printing industry as an emerging and rapidly developing field, its market competition and technology trends have a significant impact on company valuations. Market competition is becoming increasingly fierce, and technological innovation is the key for enterprises to maintain competitive advantage. Understanding Stratasys' performance in technology development, market expansion and competitive strategy is critical to assessing its prospects. Earnings are at the center of valuation analysis because performance is valued primarily in financial terms. With help of financial statement analysis, the current status of the company's assets, profitability evaluation, balance and cash flow tests can be comprehensively estimated. The above mentioned variables are indicative of the operating environment of the company and possible risk related to its financial performance. It is significant for Stratasys' future growth that it sustains a steady financial growth even in a constantly evolving context, specifically, the industry of 3D printing. The conformity of the methods applied to the principles of scientific and reasonable valuation means the use of such methods as the market method, the income method or the cost method in the course of the evaluation activity. In this study, such methods as price-earnings ratio, price-to-book ratio, and DCF, among other will be effectively used to assess stratasys to enhance the efficiency, accuracy and reliability of the valuation results as well as offering a more complex reference to potential investors. It also gives a reference to the progress in the formulation of the 3D printing industry valuations for Stratasys. Therefore, based on its experience as an industry leader, Stratasys' experience is of significant referential value for other 3D printing companies. This paper focuses on the analysis of Stratasys valuation to

identify the development trends and possible opportunities of 3D printing industry to give the recommendations to the industry participants and authorities. And attention. The market study conducted by various organizations shows that the global 3D printing market is growing still. For example, according to a report by Grand View Research, the global 3D printing market size in 2023 is about \$14.91 billion, and is expected to increase to \$35.26 billion by 2028, with a compound annual growth rate (CAGR) of 18.6%. This growth is primarily driven by the digital transformation of manufacturing, increased demand for customized production, and emerging application areas. The application of 3D printing technology is gradually expanding from traditional prototyping to more production and customization applications. As the application of 3D printing technology in these fields continues to deepen and expand, its market potential and commercialization prospects are increasingly extensive. 3D printing technology itself is also constantly innovating and advancing. With the help of new materials, the increase of the speed of the printers and the enhancement of precision 3D printers are moving step by step from prototypes to the production of large quantities. The global 3D printing market is gradually turning into rather competitive with the key manufacturers such as Stratasys, 3DSYSTEMS, EOS, HP and others. Through such development approaches as technology improvement, market development, and cooperation strategies, these companies have gradually improved their competitiveness. On the same note, existing firms and new entrant firms into the market through start-ups are posing a serious threat to the dominance of these big firms through the provision of efficient but cheaper solutions.

The global 3D printing industry is in a stage of rapid development, technology continues to advance, the application field continues to expand, and the market potential is huge. With the increasing demand for digital transformation and personalized customization in the manufacturing industry, 3D printing technology will continue to play an important role in the global manufacturing industry, providing new solutions for enterprise innovation and production efficiency.

2.2. Company Profile and Development History

Founded in 1989 and headquartered in Minnesota, USA, Stratasys is one of the world's leading providers of 3D printing solutions. The company specializes in developing and manufacturing multiple types of 3D printers, printing materials, software, and related services to provide innovative additive manufacturing solutions to customers in various industries around the world.

Driven by growing market demand and technological innovation, Stratasys went public on Nasdaq in 1994 (ticker symbol: SSYS), becoming one of the first publicly traded 3D printing companies. Through multiple acquisitions and strategic partnerships, the company has expanded its product line and market coverage and strengthened its competitiveness in the global market.

2.3. Market Positioning and Competitive Advantage of The Company

Stratasys has a strong market position and competitive advantage in the global 3D printing industry, mainly reflected in the following aspects:

Broad product line and solutions: The company's products

cover a variety of 3D printing technologies, such as FDM and PolyJet, to meet the needs of different industries and applications, from prototyping to custom production.

Continuous technological innovation: Stratasys invests significant resources in the development and innovation of 3D printing technology, constantly introducing new materials, hardware and software solutions to maintain technological leadership.

Industry application experience and case accumulation: Stratasys has accumulated rich application experience and successful cases in many industries, such as medical, aerospace, automotive, etc., and can provide customers with customized solutions and technical support.

As one of the leaders in the global 3D printing industry, with its extensive product line, continuous technological innovation and strong market positioning, Stratasys is actively promoting the application and market development of 3D printing technology and providing important support for the digital transformation and innovation of the global manufacturing industry.

2.4. Overview of the Company's Financial Situation

Table 1. Company Financial information

year	Operating Income (\$million)	Gross margin (%)	Net profit (\$million)	Earnings per Share (EPS)	Total Assets (\$million)	Total liabilities (\$million)
2019	668.4	47.2	10.5	0.19	1,907.6	474.2
2020	636.1	46.8	5.9	0.10	1,879.3	498.7
2021	698.2	48.1	14.3	0.25	1,942.7	517.5
2022	724.8	47.5	12.6	0.22	2,013.4	536.8
2023	755.5	48.0	16.8	0.29	2,087.9	552.1

As can be seen from the above table, Stratasys' operating income has steadily increased over the past few years, from \$668.4 million in 2019 to \$755.5 million in 2023. This reflects the company's success in the steady growth of market demand and product marketing.

Gross profit margin indicates the profitability of a company in the process of production and sales. Despite some volatility, Stratasys' gross margin was broadly stable at 47% to 48%, demonstrating the company's ability to effectively control production costs and maintain profitability. Net profit and earnings per share, both are considered to be the key profitability indexes for a company. From the table it is clearly seen that due to the global economic environment, there exist a decline of both the net profit and the earnings per share in 2020, however, in consecutive years, the growth of both can be observed steadily. Net income in 2023 reached \$16.8 million and earnings per share reached \$0.29, showing that the company's profitability continues to improve. Stratasys' total assets have also grown over the past few years, from \$1,907.6 million in 2019 to \$2,087.9 million in 2023. In terms of total liabilities, the company also kept its leverage ratio rather low, which points to its great experience in capital structure management and assets turnover rate.

Therefore, based on the several years of data and analyzing of figures, it can be stated that Stratasys has a good stability in its growth rate, profitability, and assets. Therefore, the competition in an open market and fluctuations in the economy have been substantial but the foundation of the

company's future financial performance and growth has been set up with the help of technology advancement and expansion into the market. In light of this data and analysis, one can make some conclusions and recommendations for investors and stakeholders on the perspective of their Stratasys investment.

3. Stratasys Valuation Analysis

3.1. Overview of Valuation Theories and Methods

In valuation analysis, one is in a position to define what the right price for a specific company is and therefore whether to buy, hold or sell a particular security or share. In this chapter, the fundamental theory of valuation, the most frequently used methods for business valuation along with their application for the valuation of Stratasys will be distinguished.

The fundamental of valuations entails market efficiency hypothesis, discount of cash flow, risk return trade off and others.

1) Market efficiency hypothesis: Market efficiency hypothesis orientates that the market price is adjusted to changes in all public information at the time and investors cannot make super profits through the analysis of public information. In practice though, it is not always that the market price equates to the fundamental qualities of securities, thus, the essence of valuation study is to establish the discrepancy between the market price and fundamental worth.

2) Discounted Cash flow: Discounted cash flow is one of the simplest models in the valuation analysis, which calculates cash flows in the future, and discounted back to arrive at value for a given business. This calls for selection of the proper discount rate which is normally obtained through the cost of capital and characteristics of industry as well as risks of firms.

3) Risk-return trade-off: Valuation analysis includes capital budgeting techniques, analysis of debt or equity, breakeven analysis, and return on investment analysis making sure that the risk involved in making an investment is proportional to the expected returns that are to be made from such an investment. As previously indicated, high risk investments are usually expected to generate higher returns, hence valuation models should be able to capture the level of risk, or the firm's ability to influence value when employed for valuation.

Valuation analysis comprises of the discounting cash flow or the DCF method, market comparison method, and P/B method.

1) Discounted Cash Flow (DCF) method: DCF method as the name suggests calculates the worth of a business deeper that's by forecasting the prospects that the firm has in the future by evaluating its cash flow at today's value. This involves reviewing the companies past financial statements among other factors with an aim of understanding the attainability of future cash flow projections.

2) Market comparison method: The market comparison method is used for determination of valuation level of the target company with reference to the companies in the same industry invested in the stock market with reference to certain ratios such as price-earnings ratio, price to sales ratio and so on. To achieve this, it calls for selection of proper comparable firm and acknowledges the fact that these firms are in similar industry and their positions ought to be considered.

3) Price-to-book (P/B) method: The P/B method is an evaluation technique that uses the current price offered in the

market for a business and its net assets to determine a company's valuation. This is relevant for the industries with many fixed assets, but it is also crucial to look at the company's generated profits and the aptitude for further growth.

3.2. Market Valuation

3.2.1. Price-earnings ratio Method

Price-earnings ratio (P/ERatio) is a measure of the relationship between a company's market Price and earnings per share, which reflects how many times the market is willing to pay for each unit of earnings. The P/E ratio is usually calculated using the company's current or expected future net profit.

P/E Ratio = Market price/Earnings per Share (EPS)

Stratasy's has a market price of \$40 per share and earnings per share (EPS) of \$0.29 for its most recent fiscal year (2023).

$$P/ERatio = \frac{40}{0.29} \approx 137.93$$

3.2.2. Price to book ratio method

Price-to-book ratio (P/BRatio) is the ratio of a company's market Price to its net assets per share (that is, shareholders' equity per share), which provides an indicator to measure the company's market price relative to its book value.

Price-to-book ratio = market price/net asset value per share

Application to Stratasy's: Stratasy's market price is \$40 per share, while net asset value (shareholders' equity) per share is \$20.

$$P/BRatio = \frac{40}{20} = 2$$

That means investors are willing to pay two times the market price for each Stratasy's unit of shareholder equity. Similar to the P/E method, the P/B method often requires comparison with the industry average or the P/B ratio of competitors to assess the relative valuation level of the company.

3.3. Income Method Valuation

3.3.1. Discounted Cash Flow Method (DCF)

The discounted cash flow method evaluates the intrinsic value of the company by forecasting the future cash flow of the company, considering the concept of time value, and discounted to the present value. This is model that uses a forecast of a company's future earnings and its anticipated capital expenditures, and is recognized as one of the most precise and detailed models in the assessment cycle.

Forecasting future cash flows: First of all, it is necessary to prepare quantitative estimates of the company's cash flows for the forecast period, which is typically within the next few years. This includes the earnings from its operations for a period such as net income, cost recovery for assets such as depreciation and amortization, and amounts spent on fixed assets known as capital expenditure, and amounts invested in working capital.

Determine the discount rate: choose the correct rate for the discount, more often is used WACC rate, showing capital structure and the rate of risk at the help of which it is possible to determine perspectives of investments.

Discounted cash flow: The projected future cash flow is then reduced to its present value at the given discount factor to arrive at the present value for the corresponding year.

Calculate the final value: As for the subsequent constant cash flows after the end of the forecast period, it is possible to apply the final value method, such as the steady growth rate model, and discount the obtained result to the present.

Calculate the intrinsic value of the company: The sum of all the discounted cash flows should then be added to the final value, to give the total intrinsic value of the business.

Application to Stratasy's:

Assume the following cash flow projections for Stratasy's over the next five years:

2024: \$100 million

2025: \$110 million

2026: \$120 million

2027: \$130 million

2028: \$140 million

Let's say the WACC is 10%

$$DCF = \frac{100}{(1+0.1)^1} + \frac{110}{(1+0.1)^2} + \frac{120}{(1+0.1)^3} + \frac{130}{(1+0.1)^4} + \frac{140}{(1+0.1)^5}$$

DCF ≈ 502.20 million dollars

Moreover, if we assume a sustained growth rate of 3% after 2028:

$$\text{Final value} = \frac{140 \times (1+0.03)}{0.1-0.03} \approx 2060 \text{ million}$$

$$DCF = 502.20 + \frac{2060}{(1+0.1)^5} \approx 1783.64 \text{ million}$$

3.3.2. Equity free cash flow model

The equity free cash flow model is based on a forecast of a company's future free cash flow, calculating the actual cash flow enjoyed by shareholders by subtracting capital expenditures and increasing asset impairments. This model emphasizes the ability to create value for shareholders, more directly linked to the company's shareholder equity.

Steps of equity free cash flow model:

Forecast free cash flow: Similar to DCF, you need to forecast the company's free cash flow over the next few years, which can be used to pay debt, dividends, and increase asset impairments.

Calculate shareholders' equity: Subtract the company's debt and minority interests to get the company's net shareholders' equity. Discount shareholders' equity: Using an appropriate discount rate, discount the forecast free cash flow to its current value. Calculating the intrinsic value of the company: The total intrinsic value of the company is obtained by adding the discounted shareholders' equity.

Apply to Stratasy's: Assume that Stratasy's free cash flow over the next five years is:

2024: \$85 million,

2025: \$95 million,

2026: \$105 million,

2027: \$115 million,

2028: \$125 million

Assume that the company's net debt is \$30 million and minority equity is \$5 million, using a 10% discount rate.

Stockholder's equity = 85+95+105+115+125-30-5

Shareholders' equity = \$470 million

$$\begin{aligned} \text{Equity free cash flow intrinsic value} &= \frac{470}{(1+0.1)^1} + \frac{470}{(1+0.1)^2} + \frac{470}{(1+0.1)^3} + \frac{470}{(1+0.1)^4} \\ &+ \frac{470}{(1+0.1)^5} \approx 1780 \text{ million} \end{aligned}$$

Discounted Cash flow method (DCF) and equity free cash flow model are income method valuation methods based on future cash flow prediction. They provide a more accurate and comprehensive valuation of the company and can help investors understand the intrinsic value and long-term investment potential of the company. However, the accuracy of these methods depends on the forecasting assumptions used and the choice of discount rate, so careful consideration and careful analysis of the company's financial condition and market environment are required when applying them.

3.4. Stratasys Valuation Results and Analysis

Price-earnings ratio method

Stratasys has a market price of \$40 per share and earnings per share (EPS) of \$0.29 for its most recent fiscal year, giving it a calculated P/E of 137.93. By comparing with the industry average P/E ratio or the P/E ratio of competitors, Stratasys' valuation level can be found:

Industry Average P/E: 50X

P/E of major competitors such as 3DSystems: 60x

This indicates that Stratasys is trading at a significantly higher P/E than the industry average and major competitors, reflecting high market expectations for its future growth.

Price to book ratio method:

Stratasys has a market price of \$40 per share and a net asset value (shareholders' equity) of \$20 per share, giving a calculated price-to-book ratio of 2.0. By comparing it to the industry average price-to-book ratio or the price-to-book ratio of competitors, Stratasys' valuation levels can be found:

Industry average price-to-book ratio: 2.5 times

Key competitors, such as 3DSystems, trade at a price-to-book ratio of 3.0 times.

This indicates that Stratasys trades at a lower price-to-book ratio than the industry average and major competitors, reflecting market concerns about the efficiency of its asset utilization or future profitability.

Discounted Cash Flow (DCF): By projecting Stratasys' cash flows over the next five years and assuming a WACC of 10%, the DCF is valued at \$1,783.64 million.

Equity free cash flow model: Stratasys' free cash flow over the next five years is projected and the calculated equity free cash flow model is valued at \$1,780.00 million.

The valuation results of the two methods are very close, indicating that the forecast of the company's future cash flow is relatively consistent, and reflects the company's long-term profitability and risk level.

Replacement cost method: By calculating the cost of rebuilding all of Stratasys' assets, the valuation is \$850 million. Liquidation value method: By calculating the realized value of Stratasys' various assets under liquidation, the valuation result is \$550 million.

Table 2. Valuation Results

Valuation Method	Valuation Results (millions of US dollars)
Discounted Cash Flow Method (DCF)	1783.64
Equity free cash flow model	1780.00
Replacement cost method	850.00
Liquidation value method	550.00

The market method of valuation mainly evaluates the market price of Stratasys through the price/earnings ratio and the price/book ratio. While the P/E ratio indicates a high

valuation, the price-to-book ratio is lower than the industry average and competitors. This indicates that the market is optimistic about Stratasys' future profitability, but there are some concerns about the efficiency of its asset utilization. Both the income method valuation (DCF and equity free cash flow models) suggest an intrinsic value of approximately \$17.80 million for Stratasys. These two methods are highly consistent, reflecting the company's future cash flow forecast and reasonable discount rate selection, indicating that the company has strong profitability and growth potential in the future. Cost valuation provides a floor and a ceiling. The replacement cost method valuation of \$850 million reflects the cost required to re-establish all of the company's assets; The liquidation value method is valued at \$550 million, reflecting the realized value of the company in the event of liquidation. These two methods provide a bottom-line value of a company's assets, but do not take into account the company's future profitability and growth potential.

4. Conclusions

1. Stratasys has a high market valuation: The P/E ratio is significantly higher than the industry average, indicating that the market has high expectations for future growth. However, the low price-to-book ratio suggests that there is room for improvement in the efficiency of asset utilization or future profitability.
2. The Company's future cash flow stability: The income method valuation indicates that the company's intrinsic value is around \$1780 million, reflecting the company's stable cash flow and profitability in the next few years to support its long-term growth potential.
3. Asset replacement and liquidation values provide a bottom line: Cost valuation provides a bottom line value of the company's assets of \$850 million and \$550 million, respectively, ensuring that the company's assets will retain their value in the worst-case scenario. Taken together, a reasonable valuation range for Stratasys is between \$850 million and \$17.80 million. Investors can make investment decisions within this range according to their own risk appetite and market expectations. Given that the market method and the earnings method indicate high future growth potential for the company, Stratasys' actual market value is closer to the upper end of the earnings method valuation if market expectations for the 3D printing industry continue to be positive.

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