

Analysis of Enterprise Valuation and Future Development of Nvidia

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Abstract:

In recent years, as artificial intelligence technology continues to advance, the development of science and technology cannot be separated from the support of a cross-generation company. As a leader in the artificial intelligence industry, Nvidia started with GPUs and has followed the trend of AI by continuously expanding its business contemporarily. However, at the same time, Nvidia's revenue and stock price have also surged in several months. With this in mind, to calculate the true value of Nvidia, this research paper mainly conducts financial analysis and forecasts of Nvidia's future development. To be specific, Pro Forma, the DCF model and intrinsic valuation method are adopted to value Nvidia. According to the analysis, Nvidia's actual intrinsic value after prediction is still higher than the market price. At the same time, in addition to quantitative analysis, there will also be a lot of uncertainty regarding to the enterprise valuation. Overall, these results offer some insights on Nvidia and relevant industry valuation analysis.

Keywords: Financial analysis; Nvidia; Intrinsic valuation method.

1. Introduction

In the rapidly evolving world of technology, Nvidia has emerged as the preeminent leader in graphics processing unit (GPU) development and is making historic changes in the field of artificial intelligence (AI). Since NVIDIA was founded in 1993, its impact on the industry has not been limited to GPU technology but has become an important force in many cutting-edge industries such as gaming, automobiles, data centers and artificial intelligence. This transformation has not only exponentially increased NVIDIA's revenue, but also repositioned it as a leading company and leader in cutting-edge technology on a global scale. With the advent of the third decade of the 21st century, the technology field is facing unprecedented changes due to the explosion of artificial intelligence and machine learning. Nvidia leverages its long-standing expertise in GPUs to drive continuous iterative advances in deep learning and artificial intelligence, while also responding to the rapidly changing landscape of the technology industry. In the past few years, Nvidia has taken artificial intelligence as its strategic focus, making large R&D investments and a few acquisitions to continuously consolidate its position at the forefront of artificial intelligence technology [1-3].

In addition, as Intel founder Gordon Moore once stated that The number of transistors that can be accommodated on an integrated circuit will double approximately every two years [4] and the same is true for artificial intelligence and GPU technology. From a market perspective, driven by the demand for more complex artificial intelligence applications, the global demand for high-computing GPUs will continue to grow exponentially. This need is especially evident in industries like gaming, where Nvidia's GPUs have long been the gold standard for hardware. Beyond gaming, Nvidia's technology is now the benchmark for applications in many industries, from self-driving cars to complex data analytics in healthcare and financial services. In addition, Nvidia is gradually expanding its cloud computing market, and this shift and the increasing popularity of artificial intelligence in multiple industries have further expanded the market for Nvidia products [5]. In analyzing Nvidia's financial situation, the focus is on its revenue growth, profitability, R&D investment, and market share. Over the past five years, NVIDIA has demonstrated excellent financial performance, sustained revenue growth and strong profit margins, demonstrating its efficient productivity and innovative products of the times. In addition, Nvidia's strategic investments in growth areas

within the technology industry, such as cloud computing and servers, further demonstrate its financial resilience and ample cash flow.

There are two main ways to calculate a company's value: intrinsic valuation and relative valuation. For a monopolistic technology giant like Nvidia, estimating its true value is not a simple matter, and many people in the industry hold completely different views. Sharma and Prashar have explained that when the target company's asset pricing in the market is not perfect, in other words, the market is not efficient enough, and its intrinsic value has relatively high uncertainty. In this case, the relative valuation method can be used to estimate the company's value more accurately [6]. However, on the contrary, Graham and Dodd, the fathers of security analysis, believed that the degree of homogeneity (subdivisions in the industry, revenue changes) between target and the comparable companies will greatly affect the accuracy of comparative analysis. For companies that dominant the market shares in the industry and have insurmountable technical barriers, their development trends may have a significant impact on other comparable companies in the industry. In this case, valuation using the intrinsic value valuation method will be more objective [7]. In summary, considering the potential shortcomings of the comparable company valuation method, the article will use the intrinsic valuation method to value Nvidia.

External economic factors must also be considered when using intrinsic valuation, such as the potential impact of global semiconductor supply chains, trade policy and competition within the technology industry on Nvidia's key growth rate forecasts. Among them, Hajdu analyzed that the impact of supply chain problems caused by the pandemic in 2020 on Nvidia cannot be underestimated, which has greatly consolidated the stability and autonomy of Nvidia's supply chain [8], so that in 2022 AI will When demand surges, Nvidia can still meet the needs of most customers. In addition, Cheng and Leong also laid out how Nvidia's products have been affected by severe supply delays from offshore semiconductor manufacturers and the ripple effects of U.S. Commerce Department sanctions. These challenges have exposed the weaknesses of the outsourcing business model of many semiconductor companies led by Nvidia and the fragility of the global semiconductor ecosystem [9]. The problems reflected by these incidents are quite serious. As Suosa said, Nvidia operates in a very competitive industry, not only with

many external factors, but also facing challenges from giants such as AMD and Intel, which are also looking to take advantage of the surge in demand for artificial intelligence and cloud computing solutions. To erode Nvidia's oligarchic position. Because the development of technology in the technology industry does not grow steadily but is explosive. Therefore, once Nvidia's R&D progress begins to fall behind, it will give giants in other industries the opportunity to surpass it [10]. Nvidia's ability to maintain its leadership in GPU technology and expand its presence in artificial intelligence solutions will be critical to its continued market success and have a significant impact on its valuation. This article aims to predict future financial conditions and analyze its reasonable intrinsic value by studying the international economic environment, Nvidia's market position, strategic initiatives, product development progress, etc.

2. Valuation Methodology and Data Collection

2.1 Financial Reports and Key Information

The financial data and key information for this analysis were collected from Mergent Online and Yahoo Finance. The financial data mainly includes Nvidia's income statement, balance sheet, and cash flow statement of 2020 to 2024 fiscal year. The key information collected by this article includes the company's operating status, corporate events, company news, competitors, supply chain, etc.

2.2 Pro Forma

To value a company comprehensively, pro forma is a relatively accurate model that incorporates many predictive factors. The model uses past five years' financial data and well-founded assumptions to extrapolate the company's financial performance of future five years. The financial data predicted in this pro forma is mainly driven by sales and revenue growth rate. Other financial data are derived from weighted averages of historical data, estimation of public market information, and the articulation of the financial report. In addition, to make the assets equal to liabilities and equity in the predicted balance sheet, this article only uses „debt plug“ and “cash plug” and does not consider setting other plugs such as „stock plug“. Then, Pro Forma will use the DCF model to discount all Nvidia's future cash flows to the release date of the 2024 fiscal year financial report, which is January 31, 2024, to

predict the intrinsic value of Nvidia on that base date. The valuation of Nvidia in this article does not involve any accounting standards such as GAAP, so it ignores all one-time costs that are not belongs to company's general operations and non-recurring transactions, such as M&A costs, declining in investment value, etc.

2.3 DCF Models

The DCF model is based on the company's future financial forecast and uses the financial forecast results to calculate the company's free cash flow (FCFF), and finally estimates the enterprise value on the base date. Among them, corporate free cash flow is the object that is discounted in the DCF model, and the calculation formula is as follows:

(1)

After obtaining the company's free cash flow, an appropriate discount rate is selected to discount the cash flow based on the characteristics of the company's industry and the comprehensive financial market circumstances. The discount rate is generally the weighted average cost of capital (WACC), which is a method of calculating the company's cost of capital based on the weighted average of the weights of various types of capital in the total capital sources. WACC comprehensively considers the company's equity and debt costs and can effectively evaluate the company's cash flow risk premium. The WACC calculation formula is as follows:

(2)

Here, r_e is the cost of Equity; r_d is the cost of debt; E is the market value of equity; D is the market value of debt and t is the tax rate. The cost of equity is generally calculated by using capital asset pricing model (CAPM):

(3)

Here r_e is the cost of Equity; β is the beta of Investment; r_f corresponds to risk-free rate; r_m is the expected return of the market. The cost of debt is mainly derived from the average bond interest rate of all companies with the same rating in the market and the average of all bonds currently issued by Nvidia. After discounting all future free cash flows, the enterprise value is obtained by summing the discounted cash flow values. The premise of valuing a company using the discounted cash flow method is to assume that the company will continue to operate, and the DCF forecast period of most companies are 5 years. However, it is worth noting that the longer the forecast period, the greater the subjectivity and uncertainty of the assumptions

in this article. For Nvidia, its oligopoly position in industry, excellent profitability and sufficient cash flow can be assumed to have the potential for sustainable growth. For companies with sustainable operations, it is necessary to calculate and discount the terminal value and sum it with the discounted cash flow's present value during the forecast period to obtain the present value of free cash flow under sustainable operations. Thus, this article can assume that free cash flow will grow at a constant growth rate every year after the forecast period, so the discounted free cash flow value after the forecast period can be obtained by the convergent geometric summation formula. The terminal value formula is as follows:

(4)

Here, TV is the terminal value; g is the long-term (perpetual) FCF Growth Rate; r is the discount Rate, WACC; FCF_5 is the year 5 FCF. After deriving all of the free cash flows for each future year, the DCF model will use the net present value (NPV) to discount all future cash flows to today using the WACC as the discount rate. The net present value model formula is as follows:

(5)

Here, R_t is the net cash inflow or outflow during period t ; r is the discount rate, WACC; t is the time period.

3. Results and Discussion

3.1 Evaluation Process

To predict the future financial status of the target company, Pro Forma first needs to determine the growth rate of key financial data, and then use the articulation in the financial statements to complete the prediction of the statements. In the entire financial forecasting process, the most important forecasting factor is the expected revenue growth rate, as most financial data are based on this ratio. Based on its weighted average growth over the past five years, the potential growth rate is determined by Nvidia's technology monopoly, potential market demand for its graphics cards and servers, and weight average growth rate of last five years. Thus, Nvidia has been given a comprehensive revenue growth rate of 46.68%. In addition, because costs of revenue and operating expenses has a positive relationship with sales growth, they are determined by the average proportion to total revenue over the past five years, which are 36.22% and 31.72% respectively. For other income, giving it a ratio of 0.12% of revenue as it does not grow continuously. The interest rate is calculated by calculating

Nvidia’s weighted average over the past five years. However, according to data, Nvidia has an interest expense of -0.58% in 2020, mainly due to the impact of covid-19. The company might wish to hold more cash and equivalents instead of borrowing debt to tide over difficult times as the operating activities may suffer during the pandemic if the company don’t have cash to turnover. Thus, moving

2020’s interest rate out of the calculation of interest rate. The interest expense is calculated by multiplying the predicted interest rate with the total debt for the year. The Effective tax rate can be calculated by the weighted average of Nvidia’s past tax rate. The remaining data are derived from the articulation with the data had already predicted above.

Table 1. Income Statement of Nvidia

Scale: Thousands	2025E	2026E	2027E	2028E	2029E
Revenue					
Total revenue	89,360,267	131,073,461	192,258,289	282,004,073	413,643,008
Costs and expenses					
Costs of revenue	32,364,935	47,472,822	69,633,040	102,137,604	149,815,232
Gross profit	56,995,332	83,600,639	122,625,249	179,866,469	263,827,776
Operating expenses	28,340,771	41,570,187	60,975,066	89,438,105	131,187,632
Income from operations	28,654,561	42,030,452	61,650,183	90,428,364	132,640,143
Interest expense	(298,497)	(328,453)	(372,392)	(436,841)	(531,375)
Other income, net	108,845	159,653	234,179	343,493	503,835
Total other income	117,956	173,017	253,781	372,245	546,009
Income before income tax	28,582,864	42,034,669	61,765,751	90,707,262	133,158,612
Income tax expense	1,857,886	2,732,254	4,014,774	5,895,972	8,655,310
Net income	26,724,977	39,302,416	57,750,977	84,811,290	124,503,303

In the balance sheet, most of the data is determined by the ratio to revenue, fixed amounts, and the articulation of financial report. But it is worth noting that total debt serves as a key plug in Pro Forma of balancing financial statements and measuring the company’s debt scale. The total debt is selecting the maximum number between the difference of total asset minus the sum of shareholders’ equity and liability except total debt plus the \$10,000,000 minimum cash balance and the total debt of previous year. The minimum cash balance is used to make sure the company will not have a negative cash balance in the forecasting period. The income statement and balance sheet projections for Nvidia are given in Table 1 and Table 2.

According to public data, Nvidia’s main debt is long-term debt, so the cost of long-term debt can be used to represent the company’s debt cost. Additionally, Moody’s latest rating for Nvidia is A1, which is in the upper medium grade. As of February 21, 2024, Nvidia had a total of eight outstanding long-term bonds in the bond market, with an effective yield of approximately 5.32% on the ICE BofA Single-A U.S. Corporate Index, which contains A1-rated bonds. Using a weighted combination of existing intrinsic instrument terms (weighted average of 1-year, 5-year, 15-year Nvidia bond YTM), Nvidia’s cost of debt is calculated to be 5.01%.

Table 2. Balance Sheet of Nvidia

Scale: Thousands	2025E	2026E	2027E	2028E	2029E
Current assets					
Cash & cash equivalents& Marketable securities	19,182,268	44,389,388	81,465,413	135,950,724	215,971,942
Accounts receivable, net	13,874,574	20,351,197	29,851,095	43,785,526	64,224,522

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Inventories	10,258,577	15,047,260	22,071,291	32,374,126	47,486,302
Prepaid expenses and other current assets	2,183,187	3,202,294	4,697,118	6,889,723	10,105,832
Total current assets	45,498,606	82,990,139	138,084,916	219,000,099	337,788,598
Total property and equipment, net	17,799,570	26,108,374	38,295,710	56,172,071	82,393,081
Accumulated depreciation & amortization - property & equipment	(7,242,043)	(10,622,614)	(15,581,229)	(22,854,515)	(33,522,957)
Operating lease assets	3,402,729	4,991,116	7,320,958	10,738,367	15,751,015
Goodwill	4,430,000	4,430,000	4,430,000	4,430,000	4,430,000
Intangible assets, net	1,112,000	1,112,000	1,112,000	1,112,000	1,112,000
Deferred income tax assets	6,081,000	6,081,000	6,081,000	6,081,000	6,081,000
Other assets	3,220,731	4,724,162	6,929,392	10,164,018	14,908,561
Total assets	74,302,593	119,814,177	186,672,748	284,843,040	428,941,299
Current liabilities					
Accounts payable	5,175,792	7,591,842	11,135,698	16,333,820	23,958,414
Accrued and other current liabilities	8,125,823	11,918,942	17,482,680	25,643,559	37,613,921
Short-term debt	1,833,497	2,689,370	3,944,763	5,786,171	8,487,144
Total current liabilities	17,473,539	25,630,152	37,594,256	55,143,179	80,883,904
Long-term operating lease liabilities	1,119,000	1,119,000	1,119,000	1,119,000	1,119,000
Long-term debt	6,695,000	6,695,000	6,695,000	6,695,000	6,695,000
Total debt	11,056,000	11,056,000	11,056,000	11,056,000	11,056,000
Total liabilities	25,476,616	31,685,783	40,793,378	54,152,379	73,747,335
Shareholders' equity	48,825,977	88,128,393	145,879,370	230,690,661	355,193,963

The CAPM model is used to evaluate the cost of equity within the forecast range, for which the risk-free rate, market rate of return, and beta are required. First, the best option for risk-free interest rate is the ten-year U.S. Treasury bond, mainly for the following reasons: First, the average maturity duration of Nvidia's eight long-term bonds is 12.125 years, and the ten-year U.S. Treasury bond can match it; Second, U.S. Treasury bonds are part of the U.S. sovereign debt and are generally considered to have little risk because they are credit guaranteed by the U.S. government; Third, the 10-year rate encapsulates market expectations about inflation and the economic outlook; Fourth, Risk free rate should match the tenor of the cash flow valued. For companies like Nvidia, it is appropriate to use 10-year or longer U.S. Treasury bonds. Therefore, 4.20% will be used as the risk-free rate. For consistency

purpose, the arithmetic average stock-T-bond return from 1974 to 2023 (5.95%) is used here as the risk premium. Because there are uncertainties in the calculation of beta value in public information and the data calculation caliber may be different, it is more accurate to calculate the beta value by collecting Nvidia's monthly returns and Nasdaq returns in the past five years and running a linear regression for the two variables. As the result, the beta is 1.6017. And Nvidia's cost of equity is 13.6% through the CAPM model. According to the financial report, as of January 31, 2024, the total market value of NVIDIA's equity is \$42,978,000 (in thousands), and the total market value of debt is \$11,056,000 (in thousands). From this, it can be calculated that 79.5% of Nvidia's financing comes from equity, and 20.5% comes from debt. And through the effective tax rate of the past five years, Nvidia's effective

tax rate will remain at 6.5% in the next five fiscal years. According to the formula, Nvidia's WACC is 11.80%.

Table 3. Free Cash Flow Calculation

Scale: Thousands	2025E	2026E	2027E	2028E	2029E
Profit after tax	26,724,977	39,302,416	57,750,977	84,811,290	124,503,303
Add back depreciation	7,242,043	10,622,614	15,581,229	22,854,515	33,522,957
Subtract increase in current assets	(7,955,337)	(12,284,413)	(18,018,753)	(26,429,871)	(38,767,281)
Add back increase in current liabilities	6,842,539	8,156,613	11,964,104	17,548,923	25,740,725
Subtract increase in fixed assets at cost	(2,364,729)	(1,588,387)	(2,329,843)	(3,417,409)	(5,012,648)
Add back after-tax interest on debt	279,095	307,104	348,186	408,446	496,836
Subtract after-tax interest on cash and mkt. securities	(383,645)	(887,788)	(1,629,308)	(2,719,014)	(4,319,439)
Free cash flow	30,384,943	43,628,158	63,666,592	93,056,881	136,164,452

According to the forecast in the Pro forma model, the free cash flow from 2025 to 2029 can be predict as shown in the Table 3. Then, discounting the free cash flow for the next five years to today, the terminal value needs to be calculated and discounted to the fifth year using NPV. In the process of calculating terminal value, in addition to requiring WACC as the discount rate and free cash flow of the fifth year, the formula also needs to calculate the long-term growth rate corresponding to Nvidia. The long-term growth rate is mainly composed of the long-term average inflation rate in the United States and the average growth rate of Nvidia's industry. Among them, the inflation rate is mainly determined by combining the changes in the average cpi in the United States over the past 30 years with the current monetary policy of the Federal Reserve to reach at a compound inflation rate that is consistent with the current situation. Besides, by analyzing the long-term growth rate of Nvidia and its comparable companies such as AMD, SMCI, and Intel, 7.88% will be determined

as the long-term growth rate for Nvidia terminal value prediction. After conducting the long-term growth rate, the terminal value is calculated as \$3,747,388,839.72 through the formula. Next, using the NPV model, the enterprise value is determined as \$2,390,629,559.78, which is the intrinsic value of Nvidia predict by the model on Jan 31, 2024. In addition, the share price corresponding to Nvidia's current intrinsic value can be obtained through further calculations. First, adding the cash and marketable securities in 2024 to get the asset value Nvidia had. Second, subtracting the market value of all debt that Nvidia still have to obtain the equity value of the firm. Finally, dividing the equity value by shares outstanding to conduct the exact share value of Nvidia on Jan 31, 2024, which is \$974.70. This model shows that the Nvidia is still undervalued by 36.88% compared to the price of Jan 31, 2024 (\$615.27). The results are summarized in Table 4 and Table 5.

Table 4. Enterprise Value of Nvidia.

Year	2024	2025E	2026E	2027E	2028E	2029E
FCF		30,384,943	43,628,158	63,666,592	93,056,881	136,164,452
Terminal value						3,747,388,840
Total		30,384,943	43,628,158	63,666,592	93,056,881	3,883,553,292

Enterprise Value	\$2,390,629,560				
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Table 5. Nvidia Share Price Prediction

Enterprise Value	\$2,390,629,560
Add 2024 cash and mkt. securities	25,984,000
Asset value in 2024	2,416,613,560
Subtract value of firm’s debt today	(11,056,000)
Equity value	2,405,557,560
Shares outstanding (in thousands)	2,468,000
Share Price	\$974.70

3.2 Scenario Analysis

In the process of development, enterprises face great uncertainty in the macro environment, such as economic recession, changes in fiscal or monetary policies, industry

cycles. When conducting business valuation, scenario analysis allows the model to better judge the potential risks and opportunities of the target company under different environments. In bear scenario, the macroeconomic environment is lower than expected, or Nvidia may face technological changes and challenges within the industry. In this case, it is assumed that the long-term growth rate, revenue growth rate, and cost of revenue are all lower than reasonable valuations. At this point Nvidia still has an intrinsic value of \$789.71. This proves that on Jan 31, 2024, even if the overall market environment is bad, Nvidia will reach this price within a certain period of time, and there is still a lot of profit margin compared to the real price at that time.

Table 6. Scenario Analysis

	Bear Scenario		Base Scenario		Bull Scenario	
Share Price Estimated	789.71		974.70		1317.83	
Condition Set	LT growth rate	6.88%	LT growth rate	7.88%	LT growth rate	8.88%
	growth rate	44.00%	growth rate	47.00%	growth rate	50.00%
	cost of revenue	33.00%	cost of revenue	36.00%	cost of revenue	39.00%

Seen from Table 6, in the bull scenario, the industry is most likely to expand rapidly and the macroeconomic are improving. At this time, Nvidia’s intrinsic value has reached \$1317.83, which is nearly double the profit margin compared to the price on the base day. But it is worth reminding that, as the oligopoly leading company in the AI industry, Nvidia may have the highest premium in the industry. Investors need to be careful about whether prices supported by such high growth rates are justified amid heightened market sentiment. Referring to the Internet revolution’s bull market in 2001, Cisco was hyped up to a very high price by investors without the support of financial performance, which far deviated from its actual intrinsic value. Although Nvidia’s valuation is more reasonable than Cisco’s valuation in 2001, it’s crucial to be wary of this phenomenon happening.

3.3 Sensitivity Analysis

Sensitivity analysis is an important analysis in business valuation. The model can analyze how the target company’s valuation is affected by expected revenue growth and cost of capital, thereby determining which combinations of variables are most beneficial. According to Table 7, it can be concluded that as the long-term growth rate increases, share prices generally show an upward trend. Furthermore, the sensitivity of price to changes in WACC is quite significant, with even small changes in WACC causing a huge price fluctuation. At lower WACC, prices are more sensitive to changes in long-term growth rates. At higher WACC, price becomes less sensitive to changes in LT growth rate, with smaller incremental changes in price as growth rate increases. And prices will reach the peak when WACC is lowest and long-term growth is highest,

indicating the most optimistic scenario of low financing costs and fast growth. On the contrary, if WACC is at the

highest and long-term growth rate is at a lower level, the stock price will be relatively depressed.

Table 7. Sensitivity Analysis

Price	WACC							
		8.80%	9.80%	10.80%	11.80%	12.80%	13.80%	14.80%
LT growth rate	4.88%	1,083.69	848.89	693.91	584.13	502.41	439.30	389.16
	5.88%	1,427.69	1,045.71	819.60	670.34	564.59	485.87	425.06
	6.88%	2,130.05	1,377.35	1,009.41	791.59	647.78	545.89	470.03
	7.88%	4,359.44	2,054.47	1,329.24	974.70	764.79	626.20	527.99
	8.88%	nmf	4,203.74	1,982.24	1,283.24	941.50	739.15	605.53
	9.88%	nmf	nmf	4,054.97	1,913.19	1,239.24	909.72	714.59
	10.88%	nmf	nmf	nmf	3,912.75	1,847.15	1,197.14	879.31

3.4 Limitations and Prospects

Although pro forma and DCF forecasting are important tools in financial analysis, they also have many limitations. Firstly, Financial forecasts are typically based on assumptions about future revenues, expenses, macroeconomic and other operating indicators. These assumptions are subjective expectations and are relatively weak in basis. They may lead to cognitive bias, resulting in large deviations between results and predicted values. Secondly, it's difficult for financial forecasts to use market and economic uncertainty as forecast variables, so it's impossible for Pro Forma to accurately predict how external environment can affect company, such as market fluctuations, liquidity crises, economic recession, or unexpected political events, etc. These are force majeure factors may have a significant impact on the company's actual financial performance. Among them, high-profile securities like Nvidia tend to have extremely high price inertia. Because the vast majority of investors are apathetic and lack of insight, they purchase securities based on reputation instead of analysis. Once they purchase, they will stick on these securities. This is why the prices of high-profile securities can remain stable or even hit historical highs with high premiums, even if the investment status of these securities is severely weakened [11]. This is also the market behavior that financial forecasts cannot reach. Thirdly, financial forecasts may omit some important non-recurring expenses and revenues, which may obscure the company's true financial condition. If the amount of these income and expenses is considerable, it can greatly affect the company's liquidity and financial condition. Fourth, the longer the

period of forecasting, the less accurate it will be. Because as the forecast time expands, uncertainty increases, and financial forecasts can contain fewer random events, market environment changes, technological innovations, etc.

4. Conclusion

In general, Nvidia's actual intrinsic value after prediction is still higher than the market price, which shows that there is still a lot of market space in the artificial intelligence industry, and Nvidia's production capacity has not been fully released. From a market perspective, Nvidia's stock price once reached the stock price predicted by this research paper, but then quickly fell back. This also confirms that the market is still within a relatively rational emotional range and does not have the overbought phenomenon caused by the „Internet Bubble“ in 2001. However, macroeconomic uncertainty, the common problems of the fragile supply chain in the semiconductor industry, and the rapid development of product technology are still difficult problems that Nvidia must solve on the road to development. Therefore, in addition to quantitative analysis, there will also be a lot of uncertainty. CEO Huang Jen-Hsun's fanatical pursuit of innovation and the company's innovative culture are also indispensable factors supporting Nvidia's market valuation.

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