

Application of discounted cash flow model valuation: Case study of Indian Power Generation & Distribution sector

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Abstract - India is the third-largest producer of electricity in the world. This research examines the application of the Discounted Cash Flow (DCF) model for valuing companies within the Indian power generation and distribution sector. The DCF model, a cornerstone of financial analysis, estimates a company's present value based on its projected future cash flows. This study evaluates the financial performance of the top five companies in the Indian power sector, ranked by market capitalization, using ratio analysis. The company with the strongest performance across key financial metrics was further analysed using the DCF methodology to estimate its intrinsic value, providing deeper insights into its valuation and investment potential. This research adds to the existing literature by demonstrating how DCF valuation can help investors and stakeholders make well-informed financial decisions in the Indian power sector. It is important to note that this research is intended for academic purposes only and does not constitute investment advice.

Key Words: Indian Power sector, Financial ratios, Terminal value, Weighted average cost of capital(WACC), Free cash flow to firm(FCFF), Discounted cash flow(DCF)

1.INTRODUCTION

Electricity is a key driver for the development and growth of any economy. All sectors, including agriculture, industry, trade, and services, rely heavily on electricity to expand and thrive. In India, the electricity sector initially grew under government control, with state electricity boards managing most of its development before 1975. However, that changed when the Electricity Act of 1948 was revised in 1975, giving the central government a larger role in building power generation infrastructure. This led to the creation of organizations like NTPC (National Thermal Power Corporation) and NHPC

(National Hydro-electric Power Corporation) to manage large-scale power generation projects.

In the 1990s, reforms opened the door for private investments in the power sector, boosting competition. These changes also encouraged the growth of renewable energy, especially from solar and wind sources, and efforts to improve electrification in rural areas. Today, India's power industry is one of the largest and most varied in the world, with a mix of coal, hydro, nuclear, and renewable energy sources.

Power Grid Corporation of India Limited (POWERGRID), is a Schedule 'A', 'Maharatna' Public Sector Enterprise of Govt. of India which was incorporated on 23rd Oct 1989 under the Company Act, 1956. POWERGRID is a listed Company, with 51.34% holding of Government of India and the balance is held by Institutional Investors and public. Power Grid Corporation of India Limited (POWERGRID) is recognized as India's largest electric power transmission utility, ensuring the transmission of electricity across the country. It has been a publicly listed company since 2007 and has consistently maintained a strong reputation for operational excellence. The company has been rated "Excellent" under the Memorandum of Understanding with the Ministry of Power every year since 1993-94, highlighting its adherence to performance benchmarks set by the government. POWERGRID has also achieved commendable credit ratings, both internationally and domestically. Its international ratings align with the Government of India's sovereign ratings, including BBB-(Outlook: Positive) from Standard & Poor's, BBB-(Outlook: Stable) from Fitch, and Baa3 (Outlook: Stable) from Moody's. Domestically, it holds the highest credit safety ratings, including CRISIL AAA/Stable, [ICRA] AAA/Stable, and CARE AAA, which signify the lowest credit risk and the highest level of financial safety.¹

Neil, Schaefer, and Bradbury (1991), provide a comprehensive review of the importance of cash flow data in financial decision-making, emphasizing its

¹ <https://www.powergrid.in/en/company-overview>

relevance to various stakeholders, including managers, investors, creditors, and analysts. The authors argue that cash flow information is more reliable than earnings data for predicting a company's future performance, as it reflects liquidity and solvency more accurately, being less influenced by accounting adjustments. Their study highlights how financial managers use cash flow forecasts to guide investment and operational decisions, while creditors rely on it to assess a company's ability to meet debt obligations.

Natalwala (2011), discusses the importance of business valuation for stakeholders. The paper reviews key valuation techniques, including the Discounted Cash Flow (DCF) method, market-based approaches, and asset-based models, explaining their applications and limitations. He emphasizes that the choice of valuation method depends on the business type, industry, and purpose of valuation, stressing the need for selecting the right approach to ensure accurate and reliable results.

Franck Bancel, ESCP Europe-Labex ReFi, and Usha R. Mittoo (2014), conducted a survey of 365 European finance practitioners to examine the gap between corporate valuation theory and practice. They analysed the most commonly used valuation models, including Discounted Cash Flow (DCF) and Relative Valuation (RV), and explored how practitioners estimate key inputs such as cost of capital, beta, and market risk premium. Their findings revealed significant variations in parameter estimation methods, leading to discrepancies in firm valuation. The study also assessed the impact of the 2007-2008 financial crisis on valuation practices, highlighting increased risk aversion and adjustments in market risk premium estimations. They emphasized the need for standardization in valuation techniques to reduce inconsistencies across financial professionals.

Dr. S.K. Khatik and Mr. Milind Patil (2018), conducted a valuation study of National Thermal Power Corporation (NTPC) using the Free Cash Flow to Firm (FCFF) method within the Discounted Cash Flow (DCF) framework. The study, based on secondary financial data from 2005 to 2015, estimated NTPC's intrinsic value by discounting future free cash flows at the Weighted Average Cost of Capital (WACC). The findings indicate fluctuating cash flows, substantial capital investments, and stable EBITDA margins. The intrinsic value per share was calculated at ₹135.59, compared to the market price of ₹147.40, suggesting NTPC was fairly valued. It emphasizes the importance of FCFF in firm valuation,

particularly in cases of high debt and capital-intensive industries (Khatik & Patil, 2018).

Riko Hendrawan, Rijikan, Hiro Tugiman (2019), applied the Discounted Cash Flow (DCF) model with the Free Cash Flow to Firm (FCFF) approach and Relative Valuation methods to assess the fair stock value of leading cement companies on the Indonesia Stock Exchange. Based on the findings the study recommends the, selling of Indocement Tunggal Prakarsa (INTP) as it was overvalued across all scenarios, and buying Holcim Indonesia (SMCB) and Semen Baturaja (SMBR) that appeared undervalued in moderate and optimistic settings, supporting growth potential consistent with undervalued stocks in emerging markets. This reflects DCF's value in actionable investment insights.

Afna Dalilah, Riko Hendrawan (2021), This paper evaluates the fair value of pharmaceutical companies listed on the Indonesia Stock Exchange (IDX) by employing a Discounted Cash Flow (DCF) approach based on Free Cash Flow to the Firm (FCFF) and a Relative Valuation method incorporating Price to Earnings Ratio (PER) and Price to Book Value (PBV) ratios. Using historical data from 2013-2020 to project values for 2021-2025, the study assesses four pharmaceutical firms—KAEF, KLBF, DVLA, and PYFA—across three scenarios: optimistic, moderate, and pessimistic. The DCF-FCFF analysis reveals that KAEF and PYFA stocks are consistently overvalued, while KLBF and DVLA are undervalued in all scenarios. Supporting these findings, the Relative Valuation method shows each company's PER and PBV ratios align within the 2020 industry range, further validating the strength of the DCF results.

Ashok Panigrahi, Kushal Vachhani, and Mohit Sisodia (2021), explore the application of the Discounted Cash Flow (DCF) model to value Exide Industries, a leading company in the battery manufacturing sector. He utilizes the DCF method to calculate Exide Industries' intrinsic value based on projected future cash flows, highlighting its importance as a key tool for evaluating long-term investment decisions by accounting for the time value of money. Through this analysis, the intrinsic value of Exide Industries is compared with its market value, enabling a deeper understanding of whether the stock is undervalued or overvalued. The research offers important insights for investors considering long-term investments in companies based on intrinsic value rather than market trends.

Cheng (2021) applied the Discounted Cash Flow (DCF) model to evaluate Johnson & Johnson's intrinsic value in the medical devices industry. Using the Free Cash Flow to Firm (FCFF) method, the study highlighted the significance of WACC estimation and the two-stage DCF approach. The findings showed that the stock was undervalued, reinforcing DCF's effectiveness in valuation. This study provides a relevant framework for applying DCF in different industries, including the Indian power sector.

Luyao Cheng (2021) evaluates the valuation of Johnson & Johnson in the medical devices industry using the Discounted Cash Flow (DCF) method, specifically the two-stage Free Cash Flow to Firm (FCFF) model. The study estimates intrinsic value by discounting future FCFF at the Weighted Average Cost of Capital (WACC), incorporating financial data such as interest expenses, dividends, and tax rates. Using historical data from 2016 to 2020 and forecasting up to 2025, the analysis finds that J&J's intrinsic share price (\$239.54) exceeds its market price (\$164.53), indicating potential for future growth.

Junliang Qian, Qinzhe Tang (2022), used the DCF model to estimate the intrinsic value of China Construction Bank's stock and concluded it is currently undervalued. The DCF model effectively estimates a stock's intrinsic value by discounting future dividends. The result indicates that the stock has long-term growth potential, making it a recommended buy for future gains.

Chen Huang's research (2023), utilizes a combination of the Discounted Cash Flow (DCF) model and qualitative analysis to assess the intrinsic value of Tesla Inc. By predicting Tesla's operating income growth over the next five years, the study employs the percentage of sales method alongside qualitative analysis to estimate the present value of Tesla's free cash flow. The research also calculates the present value of Tesla's future perpetuity, assuming the company's continued operation. These two components are combined to determine Tesla's intrinsic value. The findings reveal that Tesla's intrinsic value is lower than its market price, leading to the recommendation that investors refrain from purchasing the stock.

Nur'azmi Rifdah and Sylviana Maya Damayanti, conducted a valuation of PT Indika Energy (2023), focusing on the impact of coal price volatility on the company's financial performance over the past five years. The study uses various financial ratios, assess its intrinsic value through the Discounted Cash Flow to Firm (DCF-

FCFF) approach, and compare its valuation using the price-to-earnings (P/E) and Market to Book (M/B) ratios. The findings indicate that PT Indika Energy exhibits the weakest liquidity performance and is the least profitable among its peers. However, the company maintains the highest leverage ratio, reflecting its reliance on debt. The DCF valuation also suggests that the company is undervalued, relative to its industry peers.

MR Khanafi, Kaustar, RAS Paramita(2024), This paper aims to find the fair price of TRJA shares and compare it to the market price to help with investment decisions. The study uses a simple descriptive method by collecting historical data from 2018 to 2023, which is then used to make projections for 2024 to 2028 using a financial model for PT Transkon Jaya Tbk. The valuation is done using the discounted cash flow method, focusing on free cash flow to the company. The results show that the TRJA shares are overvalued. Based on this, investors should consider selling their TRJA shares if they already own them or wait for the price to drop to its real value before buying.

Dr. K. Jagannayaki, Dr. T. Vara Lakshmi, K. Mounila(2024), This study applies DCF to Margin Sentiment Advisorys Limited, modelling optimistic and pessimistic scenarios over the next five years. In the optimistic case, the company is expected to experience significant revenue growth and overall financial health. Conversely, the pessimistic scenario predicts reduced revenues, working capital constraints, and declining enterprise value. The findings highlight the importance of incorporating DCF analysis into financial forecasting as it offers a comprehensive understanding of potential financial trajectories.

Xi Le (2024) applied the Discounted Cash Flow (DCF) model to evaluate the intrinsic value of NVIDIA, integrating fundamental analysis with financial forecasting. The study highlighted the importance of accurately estimating Free Cash Flow to Firm (FCFF) and Weighted Average Cost of Capital (WACC) to determine intrinsic value. Sensitivity analysis revealed that NVIDIA's stock price was significantly overvalued compared to its DCF-derived valuation. The study provides insights into the adaptability of DCF across different industries.

Keeping in view the above literature, in the present paper an attempt is made to examine the performance of the power distribution companies using DCF model.

2. DATA SOURCE & METHODOLOGY

2.1 DATA SOURCE

For this paper the data related to five selected power companies such as NTPC, Power grid corp., Adani power, Tata power Co., JSW energy has been collected from various sources such as Annual report, website such as Moneycontrol.com, Screener.in for the financial year 2023-24, this for the purpose of ratio analysis. For risk free rate, Government of India bond (10 years) yield is taken into consideration. Further, For the purpose of DCF model the data related to various variables has been collected from the above mention sources for the financial year 2020 to 2024.

2.2 METHODOLOGY

The purpose of this paper is to analyse the application of the Discounted Cash Flow (DCF) model in valuing companies within the Indian Power Generation and Distribution sector, by conducting a detailed case study of major companies such as NTPC, Power grid corp., Adani power, Tata power co., JSW energy in this sector. The first step is to determine the company’s overall financial performance and compare it with other companies within the industry to assess the internal condition of the company.

The paper also makes use of return ratios such as ROA, ROE, ROCE, current ratio, Quick ratio, Debt to equity, etc. Ratio analysis is a great way to compare two companies that are different in size operations and management style. Ratio analysis can help investors understand a company’s current performance and future growth.

Further, paper also measures the stock valuation through the DCF valuation. DCF is the basic technique of valuation, also known as the intrinsic value approach, contrasts a firm’s inherent worth with the market price at which it is traded in order to arrive at an investment choice. Intrinsic value is a technique designed for cashflow generating asset. DCF is the value of the future cash flows generated by the company discounted at the required rate of return demanded by the investors.²

²Investment-Banking-Manual-CFI_2019, page no.:144

³ A basic definition of Free Cash Flow to the Firm (FCFF) is: “the amount of cash that a company has left over after it has paid all of its expenses, but before any payments or receipts of interest or dividends, before any payments to or from providers of capital and adjusting tax paid to what it would have been if the company had no cash or debt.”

DCF valuation techniques focus on free cash flow (FCF).³ There are five components in calculating FCFF: Earning Before Interest and Tax (EBIT), tax rates, projected depreciation, capital expenditure (capex), and changes in net working capital.⁴ These variables are carefully derived from the company’s projected financial statements.

$$FCFF = NOPAT + D\&A - \Delta WC - Capex \dots\dots\dots[1]$$

A FCFF DCF valuation will involve forecasting these cash flows over the visible cash flow period; cash flows post the visible cash flow period will be captured through a terminal value calculation.⁵ Subsequently, the terminal value is computed using a terminal growth rate of 4.85%, which aligns with India's GDP growth rate as reported on the RBI website, ensuring a realistic and sustainable valuation in line with broader economic expectations. These FCFF and Terminal value are discounted back to present value using an appropriate weighted average cost of capital (WACC).

WACC is the return required by all investors (including creditors, preferred shareholders, and common shareholders), and each year the company's capital structure may change.

$$WACC = \text{Cost of equity} \times \text{weight of equity} + \text{Cost of debt} \times \text{weight of debt} \dots[2]$$

Where,

$$\text{Cost of equity} = R_f + (R_m - R_f) \times \text{Beta}$$

$$\text{Cost of debt} = \text{Pre-tax cost of debt} \times (1 - \text{Tax rate})$$

By summing the present value of the projected FCFF and the present value of the terminal value, the enterprise value of the firm is derived.

$$\text{Enterprise value} = \text{PV of Cashflow} + \text{PV of terminal value} \dots\dots\dots[3]$$

$$= \sum_{t=1}^n \frac{FCFF_t}{[1 + WACC]^t} + \frac{FCFF_{n+1}}{WACC - g} \times \frac{1 + g}{[1 + WACC]^n}$$

⁴ MR Khanafi, Kaustar, RAS Paramita(2024) : Stock Valuation Analysis Using The Discounted Cash Flow(DCF) Method With The Free Cash Flow To Firm(FCFF): Study Case of PT Transkon Jaya Tbk.

⁵ Investment-Banking-Manual-CFI_2019 page no.: 152

Where,

FCFF = Free cashflow to firm

WACC = Weighted average cost of capital

g = Terminal growth rate

The valuation produces an implied enterprise value of the company. Which shows whether the stock is overvalued, undervalued or fair valued.

The paper has been divided in five section, in the section one introduction is given, in section two literature survey is done and the third section is about the data source and the methodology. Further, in section four the result has been analysed while section five conclude the study.

3. RESULT AND DISCUSSION

Analysis is done in two parts, part one examines the performance of the companies under the study on the basis of various ratio. Whereas the part two analysis the financial strength of the companies on the basis of DCF.

4. [A] RATIO ANALYSIS

Table-1: Profitability ratio (2023-24)

| Sr. No. | Name | ROA% | ROE% | ROCE% |
|---------|------------------|-------|-------|-------|
| 1. | NTPC | 4.58 | 13.46 | 10.47 |
| 2. | Power Grid corp. | 6.43 | 19 | 13.21 |
| 3. | Adani Power | 23.43 | 57.06 | 32.25 |
| 4. | Tata power co. | 2.99 | 11.28 | 11.13 |
| 5. | JSW Energy | 3.13 | 8.4 | 8.59 |

Source: Screener.in

Table-1, represents the Profitability ratio of five selected companies. Here, Among the companies analysed, Adani Power emerges as the best performer in terms of profitability, with the highest ROA (23.43%), ROE (57.06%), and ROCE (32.25%) in the year 2023-24. These figures demonstrate its strong efficiency in utilizing both assets and capital, while delivering substantial returns to shareholders. Power Grid Corporation also showing solid profitability ratio, ROA (6.43%), ROE (19%), and ROCE (13.21%), during 2023-24, which indicates good asset efficiency and decent

shareholder returns, although it falls short of Adani Power’s exceptional results. In contrast, JSW Energy has the weakest performance, with the lowest ROE (8.4%) and ROCE (8.59%), during the source time period, reflecting its challenges in generating sufficient returns from its capital and delivering comparatively lower returns to its shareholders.

Table-2: Leverage ratio (2023-24)

| Sr. No. | Name | Debt/Equity |
|---------|------------------|-------------|
| 1. | NTPC | 1.48 |
| 2. | Power Grid corp. | 1.42 |
| 3. | Adani Power | 0.8 |
| 4. | Tata power co. | 1.66 |
| 5. | JSW Energy | 1.52 |

Source: Screener.in

Table-2, depicts the Leverage ratio of five selected companies. Here, Adani Power stands out as the best based on the debt to equity ratio, as it uses significantly less debt compared to other companies (0.80), during 2023-24. This lower D/E ratio indicates less financial risk. On the other hand, Tata Power has the highest D/E ratio (1.66), during 2023-24. Indicating that it is the most leveraged and carries more risk.

Table-3: Liquidity ratio (2023-24)

| Sr. No. | Name | Current Ratio | Quick Ratio |
|---------|------------------|---------------|-------------|
| 1. | NTPC | 0.85 | 0.66 |
| 2. | Power Grid corp. | 0.6 | 0.57 |
| 3. | Adani Power | 1.6 | 1.33 |
| 4. | Tata power co. | 0.65 | 0.55 |
| 5. | JSW Energy | 1.04 | 0.93 |

Source: Screener.in

Table- 3, shows the Liquidity ratio of five selected companies. Here, in terms of liquidity, Adani Power is the best performer, with the highest Current Ratio (1.6) and Quick Ratio (1.33), indicating its strong ability to meet short-term liabilities with ample current and quick assets, during 2023-24. JSW Energy, as the second-best

performer, shows a Current Ratio of 1.04 and Quick Ratio of 0.93, suggesting it can comfortably manage its short-term obligations, though not as efficiently as Adani Power. Power Grid Corporation, the worst performer, has the lowest Current Ratio (0.6) and Quick Ratio (0.57) during the 2023-24 year, reflecting a weaker liquidity position and greater vulnerability in covering short-term liabilities.

Table-4: Multiples valuation ratio (2023-24)

| Sr. No. | Name | P/E Ratio | P/B Ratio |
|---------|------------------|-----------|-----------|
| 1. | NTPC | 19.13 | 2.55 |
| 2. | Power Grid corp. | 19.55 | 3.52 |
| 3. | Adani Power | 15.5 | 5.74 |
| 4. | Tata power co. | 40.13 | 4.55 |
| 5. | JSW Energy | 63.39 | 5.58 |

Source: Screener.in

Table-4, presents the Multiple valuation ratio of five selected companies. Here, NTPC is the best performer, offering a balanced valuation with its moderate P/E of 19.13 and P/B of 2.55 during 2023-24, making it reasonably priced relative to its earnings and assets. The second-best performer is Power Grid Corporation, with a P/E of 19.55 and a P/B of 3.52 during 2023-24. While its P/B ratio is slightly higher than NTPC's, it still reflects a relatively balanced valuation, indicating moderate growth expectations and a fair market value. On the other hand, JSW Energy remains the worst performer with an excessively high P/E of 63.39 and a P/B of 5.58, suggesting it is the most overvalued stock in the list during 2023-24.

Based on the analysis of these key financial ratios, Adani Power is the best performer, while Power Grid is the second-best performer. Adani power is the best overall due to its superior profitability, low leverage, strong liquidity, favourable valuation, and excellent financial stability. It consistently outperforms the other companies across multiple metrics, indicating that it is well-

managed, less financially risky, and more efficient in generating profits and handling debt.

3. [B] ANALYSIS OF DCF MODEL

Table – 5 : Weighted average cost of capital

| Company | Weighted average cost of capital (2023-24) |
|------------------|--|
| Adani Power | 14.39% |
| Power Grid corp. | 10.69% |

Source: Author’s Calculation

Table-5, shows weighted cost of capital (WACC) of Adani power for financial year 2023-24. It represents high weighted cost of capital (WACC) of Adani power (14.39%). Which leads to higher financing costs and reduces investor confidence. Where, weighted cost of capital (WACC) of Power grid reflects reduced financial and operational risk, leading to lower financing costs. This makes Power Grid a more attractive investment option due to its cost efficiency and operational stability.

After calculating the weighted cost of capital (WACC) for Adani Power (14.39%) and Power Grid Corporation of India (10.69%) during 2023-24, it was observed that Power Grid has a lower weighted cost of capital (WACC), with a difference of 3.70%. Therefore, the examinations are focused on Power Grid.

Table-6: Free cash flow to the firm (FCFF) (Power grid) (Rs. in cr.)

| | Mar-20 A | Mar-21 A | Mar-22 A | Mar-23 A | Mar-24 A | Mar-25 E | Mar-26 E | Mar-27 E | Mar-28 E | Mar-29 E |
|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| EBIT | 23,944.0 | 23,420.0 | 27,567.0 | 27,417.0 | 27,306.0 | 29,147.1 | 30,219.2 | 31,291.3 | 32,363.4 | 33,435.5 |

| Tax rate | 30% | 30% | 30% | 30% | 30% | 30% | 30% | 30% | 30% | 30% |
|-----------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| EBIT(1-T) | 16,760.8 | 16,394.0 | 19,296.9 | 19,191.9 | 19,114.2 | 20,403.0 | 21,153.4 | 21,903.9 | 22,654.4 | 23,404.9 |
| Add: D & A | 11,607.0 | 12,039.2 | 12,871.7 | 13,333.4 | 13,095.3 | 13,870.5 | 14,297.6 | 14,724.6 | 15,151.7 | 15,578.8 |
| Less: ΔWC | 2,815.7 | 632.8 | -1,450.3 | 9,220.0 | -3,894.4 | 14.9 | -468.4 | -951.7 | -1,435.0 | -1,918.3 |
| Less: Capex | 15,313.0 | 11,284.0 | 9,060.0 | 9,212.0 | 12,500.0 | 9,164.4 | 8,394.6 | 7,624.8 | 6,855.0 | 6,085.2 |
| FCFF | 10,239.1 | 16,516.4 | 24,558.8 | 14,093.3 | 23,603.8 | 25,094.2 | 27,524.8 | 29,955.4 | 32,386.0 | 34,816.7 |

Source: Author’s Calculation

Table-6, shows Power grid has registered an increasing trend in it’s Free cash flows from Rs. 10,239 Cr. in March 2020 to Rs. 24,559 Cr. in March 2022. This trend shows that the company has improved its profitability has reduced capital expenditure. (See, table-6)

It also depicts a continues rise in the free cash flows in the near future. Here, estimated cash flows increased from Rs. 25,094 Cr. in March 2025 to Rs. 34,617 Cr. during 2029.

Table-7: Intrinsic value

| | Mar-25 | Mar-26 | Mar-27 | Mar-28 | Mar-29 |
|------------------------------------|-----------|-----------|-----------|-----------|-------------|
| PV of FCFF | 22,654.40 | 22,432.81 | 22,040.17 | 21,511.83 | 20,877.88 |
| Terminal growth rate | | | | | 4.48% |
| Terminal cashflow | | | | | 6,17,136.93 |
| PV of terminal cashflow | | | | | 3,70,067.35 |
| Enterprise value | | | | | 4,79,584.44 |
| Less: Debt | | | | | 1,19,286.69 |
| Add : Cash and balance | | | | | 2,620.55 |
| Equity value | | | | | 3,62,918.30 |
| No. of shares | | | | | 930.92 |
| Target price per share(Rs.) | | | | | 389.85 |
| Current market price(Rs.) | | | | | 310.00 |

Source: Author’s Calculation

The Analysis of DCF (Table-7) indicates a target price per share is ₹396.99, while the stock is currently trading at ₹310.00, reflecting that the stock is undervalued, presenting a promising investment opportunity.

4. CONCLUSION

By analysing all financial ratios of Indian power sector companies such as NTPC, Power Grid Corp., Adani Power, Tata Power Co., and JSW Energy, it was identified that Adani Power is the best performer, while Power Grid is the second-best performer. It was observed that Power Grid has a lower WACC than Adani power, so we compute DCF of Power grid corporation of India. The target price per share, calculated using the DCF valuation method, came out to INR 396.99, while the current market price stands at INR 310.00. This indicates that the stock is undervalued by 0.78 times. As a result, the stock appears underpriced, and investors are advised to purchasing it. However, it is important to note that this recommendation is not definitive. While the DCF free cash flow model is a common tool for valuing publicly traded companies, many external factors can affect a company's operations, leading to uncertainties in future performance. Additionally, due to certain professional limitations and possible deviations in selecting parameters, some errors in the quantitative analysis are inevitable. Nonetheless, the findings of this paper offer useful guidance for investors seeking valuation insights.

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