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# INVESTIGATING THE FINANCIAL STRENGTH IN THE ENERGY SECTOR: A STUDY ON TGTDCL

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ABSTRACT

*This study presents a descriptive study analyzing the financial strength of Titas Gas Transmission and Distribution Company Limited (TGTDCL) in the energy sector. The study examines various financial aspects, including shareholding pattern, annual turnover, net assets value per share, liquidity ratios, profitability ratios, working capital ratios, capital structure ratios, contribution to the national exchequer, and system loss reduction. Employing a descriptive research design, the study utilizes purposive sampling to select TGTDCL. Data is collected from TGTDCL's annual reports spanning 2017-18 to 2020-21 and analyzed using Ms Excel, incorporating descriptive statistics and ratio analysis. Findings indicate that TGTDCL's operations are influenced by government control. Nevertheless, the company exhibits consistent growth in annual turnover, indicating effectiveness in capitalizing on market opportunities and meeting gas demand. The upward trend in net assets value per share reflects growth of assets, benefiting shareholders. Additionally, positive liquidity ratios highlight improved financial health and effective short-term obligation management. However, profitability ratios reveal a decline in profit generation and conversion of revenues to earnings. The study emphasizes inventory management, enhanced collection processes, and optimized payment cycles for financial strengthening. Capital structure ratios underscore the need for managing debt levels and improving cash flow generation. TGTDCL's contributions to the national exchequer demonstrate financial responsibility and positive impact on the economy. Efforts in system loss reduction enhance operational efficiency and cost management. The findings contribute to understanding the financial landscape of the TGTDCL and offer insights for policymakers, industry practitioners, and researchers. Future research should consider qualitative factors and detailed financial data to comprehensively assess financial position of industries in the energy sector.*



## INTRODUCTION

The energy sector in Bangladesh plays a vital role in driving economic growth and ensuring the sustainable development of the nation (Amin & Rahman, 2019). It is widely recognized that energy consumption is closely linked to the level of progress in modern societies (Mondal et al., 2010). In this context, the creation of SDG 7 in 2015 occurred at a time when the world was experiencing a serious energy crisis and energy development gaps, where more than 1 billion people still live without power and one-third of Bangladesh's population does not have access to electricity (Amin & Rahman, 2019). The energy sector encompasses natural gas, electricity, coal, liquid fuel, wind, solar, and other non-petroleum fuels. Within the diverse energy industry of Bangladesh, natural gas stands out as the most widely utilized energy source (Jahan, 2015). According to the Power System Master Plan 2016, the peak year for domestic gas production was 2017 in Bangladesh. Besides, the government is also working to import liquefied natural gases (LNGs) in order to fulfill the rising demand for natural gas

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(Islam & Khan, 2017).

Within this sector, companies involved in the transmission and distribution of natural gas hold significant importance in meeting the energy needs of industries, businesses, and households. Titas Gas Transmission and Distribution Company Limited (TGTDCL) is one of numerous gas transmission and distribution companies in Bangladesh, and it is also one of the largest (Suma, 2021). As the demand for energy continues to rise, it becomes imperative to assess the financial strength of companies like TGTDCL to gauge their contribution to the overall energy landscape. Understanding the financial strength of a company is crucial for various stakeholders, including investors, regulators, and policymakers (Jesover & Kirkpatrick, 2005). Financial analysis enables a complete evaluation of a company's financial performance, providing insights into its operational efficiency, liquidity, and solvency (Mavlutova et al., 2021). By delving into TGTDCL's financial indicators and ratios, a deeper understanding of its financial position could be gained and make informed assessments about its ability to withstand market fluctuations, capitalize on growth opportunities, and fulfill its financial obligations.

In addition to financial analysis, exploring the financial strength of TGTDCL can aid in identifying areas where improvements or interventions may be needed to ensure long-term sustainability, and promote competitiveness within the sector. This study can also serve as a valuable reference for benchmarking TGTDCL's financial performance against industry standards and best practices, facilitating knowledge-sharing and the adoption of measures that enhance financial stability and resilience. Literature in the field of financial analysis within the energy sector has highlighted the significance of evaluating the financial strength of companies operating in this domain (Savchina, 2021). Previous studies have emphasized the importance of various financial indicators and ratios in assessing the financial position of energy companies, including those involved in natural gas transmission and distribution (Eyüboglu & Çelik, 2016; Borodin et al., 2023). Additionally, the insights gained from the study can support as a scope for future studies, enabling further advancements in financial analysis methodologies.

Considering the importance of the energy sector and the significant role of natural gas transmission and distribution, it becomes crucial to measure the financial performance of TGTDCL. The subsequent sections of this study are divided into the literature review, methods and materials, results, discussion, and conclusion, culminating in comprehensive insights into TGTDCL's financial strength.

## LITERATURE REVIEW

It is difficult to define and even more challenging to measure financial strength. A company's financial health can be described in a variety of ways under the umbrella term "financial strength." Financial strength is the capacity of the financial system to maintain a healthy financial position by evaluating risks and to maintain its capacity to perform key functions over time through self-corrective processes. Most analysts focus on the financial system's risks and vulnerabilities since they are simpler to understand and quantify due to the imprecision of the broader perspective of financial system strength (Gadanecz & Jayaram, 2008; Ali et al., 2020; Ali et al., 2021; Nayeen et al., 2020; Nahar et al., 2021; Rahman et al., 2021a; Rahman et al., 2021b; Zayed et al., 2021b; Ahmed et al., 2022; Shayery et al., 2022). The evaluation of a company's financial strength is of great value to those who are interested in the growth of a company. Financial ratio investigation has proven to be particularly useful in identifying company strength and financial difficulties (Bei & Wijewardana, 2012). In this regard, financial performances are critical aspects of assessing the strength of companies in the any industry.

Financial performance analysis includes the general analysis performed to identify the strategic direction to be taken by identifying the potential financial risks that industries may experience (Argun & Altnoluk, 2022; Iqbal et al., 2021; Kader et al., 2019; Kader et al., 2021a; Kader et al., 2021b). Scholars have paid increased attention to the financial performance of energy corporations over time (Iovino & Tsitsianis, 2020; Chowdhury et al., 2020; Chowdhury et al., 2021a; S. Chowdhury et al., 2021b; Kabir et al., 2021). According to San Ong et al. (2015), excellent corporate governance practices increase transparency and boost a company's financial success. It involves establishing a balance between the interests of many parties, including shareholders, management, employees, customers, and the general public. While ownership patterns cannot offer an accurate picture of corporate governance, they are an important factor to examine. According to Shliefer and Vishny (1997), p. 773, the interaction between shareholders and the company's management is the main focus of corporate governance. An effective framework for financial supervision must include sound corporate governance (Mayes et al., 2001; Rubi et al., 2022; Zayed et al., 2021a).

The company's financial statements include a significant total revenue component. Specifically, the gas company recognizes revenue based on consumption, issuing invoices to customers (excluding domestic customers) at the end of each month for gas consumed. For domestic customers, revenue is recognized based on fixed rates. The oil and gas industry generates revenue through various mechanisms (Newell & Raimi, 2018). Additionally, gas prices play a crucial role in determining the revenues of gas producers and influencing both the supply and decisions of gas customers (Dopierała et al., 2022). On another note, the net asset value per share (NAVPS) is derived from the financial statements of companies listed on the stock exchange. NAVPS has an impact on determining the stock price (Irsath et al., 2015). It serves as a measure representing the total equity of a firm minus its debts. Comparatively, it is easier to compare the net asset value per share to the share price traded on the stock exchange rather than the total market value of the firm or its total net asset value (Mårtensson & Johansson, 2022).

Maintaining sufficient liquidity is crucial for a company as it directly influences profits, a portion of which is typically distributed to shareholders (Saleem & Rehman, 2011; Shahriar, 2021a; Shahriar, 2021b; Zayed et al., 2021a). Iovino and Migliaccio (2019) conducted an analysis of the financial performance of Italian energy companies between 2008 and 2014. Their study utilized two financial metrics, namely the quick ratio and financial leverage ratio, focusing on companies that survived the crisis. The analysis of liquidity ratios concentrated on the current ratio, quick ratio, and cash ratio (Ebimobowei et al., 2021; Al-Quraan et al., 2022; Faisal-E-Alam et al., 2022; Mia et al., 2022; Bhuiyan et al., 2022).

Short-term liquidity reflects operational efficiency, while long-term liquidity refers to the financial capacity to repay long-term debts in the energy sector companies (Ali, 2021). Previous literature has extensively reported that liquidity constraints play a significant role in hindering firms' performance (Afrifa, 2013). Research has found a statistically significant relationship between liquidity parameters and the performance of energy companies (Ramlan et al., 2019), indicating that changes in liquidity levels can have an impact on profitability.

Profitability ratios are utilized to assess a firm's performance and operational efficiency. These ratios can be categorized into various types, such as Returns on Capital Employed (ROCE), Return on Assets (ROA), Return on Total Assets (ROTA), Return on Equity (ROE), and Return on Sales, which can be measured through net profit percentage or gross profit percentage (Ebimobowei et al., 2021). According to the trade-off theory, highly profitable firms tend to target a higher debt ratio due to factors like tax savings, bankruptcy risk, and over-investment (Mohammed et al., 2020). Practitioners employ profitability ratios to forecast the future success of companies (Bhatt, 2012). Capece et al. (2013) conducted an analysis of 111 Italian gas companies from 2004 to 2009, focusing on financial, profitability, and liquidity indicators. They used specific metrics to categorize companies based on factors such as age, size, geographical location, and business diversification. Financial metrics like cash flow and leverage ratio were employed as capital indicators, while Return on Investment (ROI) and Return on Equity (ROE) were used as profitability indicators.

A comprehensive understanding of a company's financial structure incorporates both long-term (capital structure) and short-term (working capital structure) financing components. For energy companies, financial security is assessed through indicators such as EBIT margin, ROE, ROIC, ROA, cost, balance-sheet structure, debt, liquidity, and operational efficiency (Zając et al., 2023). The financial performance of companies is influenced by their practices in working capital management, which is a subset of the overall financial structure (Mandipa & Sibindi, 2022). Effective management of cash, receivables, inventory, and payables is all part of working capital management (Naser et al., 2013). According to Kwenda and Matanda (2015), effective working capital management is essential to maximize shareholders' wealth. Working capital management has received considerable attention in both theoretical and empirical studies due to its influence on a firm's profitability. The findings from studies conducted on public oil and gas companies can be utilized to evaluate, forecast, and implement measures to enhance the efficiency of working capital and assets in other companies (Shimko, 2020).

The stability of a company's capital structure in the energy sector relies on the stability of macroeconomic conditions and business activity (Rashid, 2013). While the Modigliani & Miller (M&M) Theorem argues that capital structure is irrelevant in determining a company's value, empirical evidence shows that capital structure choices can deviate from the M&M's Theorem (Foo et al., 2015). This has led to research demonstrating that capital structure does indeed impact a company's value and performance. Agnihotri (2014) suggests that depending on a firm's competitive strategies and market conditions, choosing an appropriate capital structure can result in lower cost of debt and enhance performance, regardless of whether the leverage is high or low. In essence, capital structure refers to a company's financing composition through a combination of equity and debt (Mujahid & Akhtar, 2014). Therefore, the parameters of capital structure are closely related to a firm's performance (Georgakopoulos et al., 2022). Recognizing this, Ravindra & Rao (2014) proposed the analysis of financial and capital structure within the gas industry.

In a research published in 2021, Kludacz-Alessandri and Cygaska studied the effects of corporate social responsibility (CSR) activities on the investment strategies of corporations in the energy industry and underlined the link between CSR efforts and financial success. Approximately half of the research undertaken revealed a favorable association between CSR and financial success (Margolis & Walsh, 2001). CSR initiatives provide the provision of high-quality products and services, a reliable supply chain, stable cash flow, loyal customer bases, positive social image, and overall top performance for stakeholders and three gas companies (Ngai et al., 2018). For instance, the Vietnam National Oil and Gas Group (PetroVietnam), with its diverse range of operations, contributes a significant amount of money to the national exchequer, thereby promoting sustainable business development (Hung & Tuan, 2018). However, it is important for state-owned corporations to achieve commercial success, as measured by their contribution to the national exchequer (Akram, 2003).

The transportation and distribution of gas unavoidably leads to gas losses, which are influenced by various factors such as the method and type of transportation, the quality of transport systems, the quality of gaseous fuel, and the calibration and quality of metering devices. Countries' experiences with gas consumption demonstrate that natural gas is among the safest energy products (Brkovic et al., 2014). Therefore, reducing losses in the distribution of natural gas is crucial as it enhances safety, ensures a regular supply, and contributes to the price reduction of natural gas for end-users. The financial performance analysis of the examined companies based on the dataset reveals that the transformation of energy is partially funded by energy consumers (Dopierała et al., 2022). Consequently, reducing system losses can yield significant financial advantages for energy companies, particularly gas providers, by reducing costs, increasing revenue, improving operational efficiency, complying with regulations, enhancing customer satisfaction, and gaining a competitive advantage.

Based on the literature mentioned above, it is evident that some researchers have utilized a limited number of components to evaluate financial performance, while the majority have focused on profitability and liquidity ratios as indicators of an organization's financial strength. Many researchers have relied on traditional tools, such as single ratio evaluation, for performance assessment, which may not provide an accurate representation of the actual scenario. However, no one has explored a composite performance measure for the energy sector, specifically TGTDCL. Consequently, this study stands out from existing research by analyzing the financial strength, which serves as a representation of TGTDCL's financial well-being and performance.

## MATERIALS AND METHODS

### Research Design

This study employed a descriptive research design to investigate the financial strength of TGTDCL in the energy sector. The study focused on analyzing the shareholding pattern, annual turnover, net assets value per share, liquidity ratios, profitability ratios, working capital ratios, capital structure ratios, contribution to national exchequer, and system loss reduction.

### Sampling Technique

The sampling technique used in this study is purposive sampling, where a sample of TGTDCL was selected based on availability and relevance to the study. Because, TGTDCL is a prominent player in the energy sector, specifically in the gas transmission and distribution industry. Purposive sampling allows for the selection of a specific case that can provide meaningful and relevant information within the available resources.

### Data Collection and Analysis

The data was collected using secondary sources, such as company reports and financial statements. The study collects data from TGTDCL's annual reports from the years 2017–18 to 2020–21. The data from the annual reports is analyzed using Ms Excel. The analysis includes descriptive statistics for calculating percentages and ratios to analyze the financial strength of TGTDCL. Data interpretation is performed by creating tables to present the data in a clear and concise manner.

### Ethical Considerations

The study adheres to ethical considerations such as obtaining permission from TGTDCL to use their annual reports and maintaining the confidentiality of the data collected.

## RESULTS

### Shareholding Pattern

The shareholding pattern is divided into two categories: Public and Government. Under the Public category, there are three subcategories: Individual & Joint, Institutions, and Foreign. The Government category consists of the shareholding held by Petrobangla, which represents the government's ownership. The table 1 below illustrates the shareholding pattern of TGTDCL over a four-year period, indicating the percentage distribution of shares among different categories of shareholders.

Table 1. Shareholding Pattern

| Category | | 2017-18 | 2018-19 | 2019-20 | 2020-21 |
|---|---|---|---|---|---|
| **Public** | Individual & Joint (%) | 9.42 | 8.97 | 8.79 | 9.57 |
| | Institutions (%) | 13.44 | 14.15 | 14.44 | 14.81 |
| | Foreign (%) | 2.14 | 1.88 | 1.77 | 0.63 |
| **Government** | Petrobangla (%) | 75 | 75 | 75 | 75 |

Note: The percentage values represent the shareholding percentages in each category for the respective years

Source: Annual reports of TGTDCL (2017-18 to 2020-21)

From table 1, the Petrobangla holds a consistent majority stake in TGTDCL, with a shareholding of 75% over the periods. The shareholding of institutional investors in TGTDCL showed a gradual increase over the specified period. So, institutional investors, including banks, insurance companies, mutual funds, and other financial institutions, have been progressively increasing their ownership stake in TGTDCL. The shareholding of individual and joint investors in TGTDCL experienced a slight decline from 9.42% in 2017-18 to 8.97% in 2018-19. However, it remained relatively stable at 8.79% in 2019-20 and slightly increased to 9.57% in 2020-21. The foreign shareholding in Titas Gas Transmission and Distribution Company Limited (TGTDCL) declined from 2.14% to 0.63% over the specified period, indicating a decreasing level of ownership by foreign investors in the company.

### Annual Turnover

TGTDCL is the major source of revenue for the government of Bangladesh under Petro Bangla. The revenue of TGTDCL includes revenues from two sources, including gas sales revenue and operating income. The gas customers are power, fertilizer, industrial zone, captive power, fed gas for CNG, domestic, and commercial users. The operating income includes the rent of the meter, the minimum charge, the heating charge, the charge for connection and reconnection, commission fees, penalties, and profit from stores' sales.

Table 2. Annual Turnover

| Category | 2017-18 | 2018-19 | 2019-2020 | 2020-2021 |
|---|---|---|---|---|
| **Annual Turnover (In Crore Tk.)** | 14289.93 | 13622.09 | 16950.41 | 17831.27 |

Source: Annual reports of TGTDCL (2017-18 to 2020-21)

From table 2, TGTDCL experienced lower annual turnover from the years 2017-18 to 2018-2019. The turnover increased from Tk. 13622.09 crores in 2018-19 to Tk. 17831.27 crores in 2020-2021. This indicates a positive trend of growth in revenue for the company over this period. The significant increase in annual turnover from 2018-19 to 2020-2021 suggests improved financial performance for the company.

### Net Assets Value (NAV) per share

The price per share at which an investor can purchase and sell shares is known as net assets value. It is determined for a business by deducting the value of liabilities from the value of assets. It displays the value of the corporation per share. The net assets value per share for the previous four years is displayed in the following table 3.

Table 3. Net Assets Value (NAV) per share

| Category | 2017-18 | 2018-19 | 2019-20 | 2020-21 |
|---|---|---|---|---|
| Net Assets Value (NAV) per share (Tk.) | 67.28 | 70.08 | 71.39 | 72.57 |

Source: Annual reports of TGTDCL (2017-18 to 2020-21)

The net assets value per share has shown a consistent upward trend over the years. It increased from Tk. 67.28 in 2017-18 to Tk. 72.57 in 2020-21 (see table 3). It reflects a positive financial performance and indicates that the company's assets are growing at a faster pace than its liabilities. The effective use of financial resources by the management aids in the company's rise in share value.

### Liquidity Ratios

The current ratio, quick ratio, and cash ratio are three liquidity ratios that provide information on TGTDCL's liquidity and short-term solvency. The current ratio gauges how well the business can use its current assets to pay its short-term debts. A current ratio of 1.5:1 or greater often means the business has enough short-term assets to meet its short-term liabilities. Inventory is excluded from current assets in the quick ratio, commonly referred to as the acid-test ratio, which is a stricter measure of liquidity. It focuses on the assets that are the most easily convertible into cash, marketable securities, and accounts receivable in order to determine the company's capacity to meet its immediate obligations. The cash ratio evaluates the company's capacity to fully fund its current liabilities from its cash and cash equivalents. A stronger capacity to satisfy short-term obligations with readily available cash is indicated by a larger cash ratio. Table 4 shows three liquidity ratios for TGTDCL over four consecutive years.

Table 4. Liquidity Ratios

| Category | 2017-18 | 2018-19 | 2019-20 | 2020-21 |
|---|---|---|---|---|
| Current Ratio | 1.21:1 | 1.31:1 | 1.47:1 | 1.61:1 |
| Quick Ratio | .68:1 | 0.77:1 | 0.95.1 | 1.01:1 |
| Cash Ratio | .11:1 | .18:1 | .24:1 | .28:1 |

Source: Annual reports of TGTDCL (2017-18 to 2020-21)

Over the analyzed period from 2017-18 to 2020-21, the TGTDCL's liquidity position showed consistent improvement. The current ratio, which indicates the company's ability to cover short-term obligations with its current assets, increased from 1.21:1 to 1.61:1. This upward trend suggests that the company had a stronger ability to meet its immediate financial obligations, reflecting improved liquidity management. Similarly, the quick ratio, which excludes inventory from current assets, experienced a gradual increase from 0.68:1 to 1.01:1, indicating an enhanced ability to cover short-term liabilities without relying heavily on inventory. Additionally, the cash ratio, reflecting the proportion of cash available to cover short-term obligations, grew from 0.11:1 to 0.28:1, indicating a strengthened cash position over time (see table 4).

### Profitability Ratios

The profitability ratios including EPS (Earnings Per Share), Net Margin Ratio, Return on Fixed Assets, Return on Capital Employed, and Return on Equity, provide insights into TGTDCL's profitability and efficiency. EPS measures the profit generated per share outstanding and provides an indication of the company's profitability on a per-share basis. The net margin ratio represents the percentage of each revenue taka that translates into profit after deducting all expenses, including taxes and interest. The return on fixed assets measures the efficiency and profitability of the company's utilization of its fixed assets. The return on capital employed measures the profitability generated from the capital invested in the business. The return on equity measures the profitability generated in relation to the shareholders' equity. The calculated data for these ratios is shown in table 5.

Table 5. Profitability Ratios

| Category | 2017-18 | 2018-19 | 2019-20 | 2020-21 |
|---|---|---|---|---|
| Earnings Per Share (EPS) (Tk.) | 3.43 | 4.70 | 3.64 | 3.50 |
| Net Margin Ratio (%) | 2.38 | 3.27 | 2.12 | 1.94 |
| Return on Fixed Assets (%) | 38.19 | 55.19 | 34.12 | 34.57 |
| Return on Capital Employed (%) | 6.63 | 6.46 | 4.80 | 4.61 |
| Return on Equity (%) | 5.1 | 6.7 | 5.1 | 4.8 |

Source: Annual reports of TGTDCL (2017-18 to 2020-21)

Starting with the earnings per share (EPS) of TGTDCL, we observe fluctuations in the company's per-share profitability. The EPS increased from Tk. 3.43 in 2017-18 to Tk. 4.70 in 2018-19, indicating improved profitability per share. However, it declined in subsequent years, reaching Tk. 3.50 in 2020-21 (see table 5).

Moving to the net margin ratio, we note that the company's profitability as a percentage of revenue showed a mixed trend. The ratio increased from 2.38% in 2017-18 to 3.27% in 2018-19, indicating improved profitability relative to revenue. However, it declined in the following years, reaching 1.94% in 2020-21 (see table 5).

Examining the company's returns on fixed assets and capital employed, we find that the return on fixed assets increased from 38.19% in 2017-18 to 55.19% in 2018-19, signifying improved efficiency and profitability in utilizing fixed assets. However, the ratio declined in subsequent years, settling at 34.57% in 2020-21. Similarly, the return on capital employed declined from 6.63% in 2017-18 to 4.61% in 2020-21, indicating a decrease in the company's ability to generate returns on the capital invested (see table 5).

Lastly, the return on equity remained relatively stable at 5.1% from 2017-18 to 2019-20, implying a consistent return for shareholders. However, it decreased to 4.8% in 2020-21, indicating a lower return on shareholders' equity (see table 5).

### Working Capital Ratios

The management of working capital entails effectively managing three primary components - inventory, accounts receivable, and accounts payable - in order to ensure that a business has sufficient resources to operate smoothly. The inventory ratio measures the number of times the company's inventory is sold and replaced during a given period. A higher inventory turnover ratio generally indicates efficient inventory management. The accounts receivable ratio measures the number of times the company's accounts receivable are collected during a given period. A higher accounts receivable ratio indicates timely collection of payments, adequate credit policies, or customers who may be creditworthy or financially stable. The accounts payable ratio measures the number of times the company's accounts payable are paid during a given period. A high accounts payable ratio indicates prompt payment to creditors and suppliers, while a low ratio implies a slower payment process for the company's obligations.

Table 6. Working Capital Ratios

| Category | 2017-18 | 2018-19 | 2019-20 | 2020-21 |
|---|---|---|---|---|
| **Inventory Turnover Ratio (Times)** | 92.37 | 74.74 | 85.12 | 94.91 |
| **Accounts Receivable Turnover Ratio (Times)** | 3.78 | 3.51 | 3.38 | 3.07 |
| **Accounts Payable Turnover Ratio (Times)** | 4.13 | 3.65 | 3.67 | 3.68 |

Source: Annual reports of TGTDCL (2017-18 to 2020-21)

The ratios of working capital are presented in table 6. First, the company experienced a decrease in inventory turnover ratio in 2018-19 from the previous year but then saw an increase in the following years, with the highest ratio recorded in 2020-21. TGTDCL's accounts receivable turnover ratio slightly decreases from 3.78 times in 2017-18 to 3.07 times in 2020-21. This suggests that, on average, the company takes longer to collect its accounts receivable. It could indicate slower collection of outstanding payments or changes in customer payment behavior. The accounts payable turnover ratio over the last three-year period has been relatively stable, ranging from 3.65 times to 3.68 times. This indicates that, on average, the company takes a similar amount of time to pay its suppliers, except for the period of 2017-18 where it takes less time to pay its suppliers than the following three years.

### Capital Structure Ratios

Capital structure ratios are financial indicators that evaluate the composition and proportion of a company's long-term sources of funding, which include both debt and equity. The debt-to-equity ratio, debt service ratio, and cash dividend are the measures that provide information on the financial leverage, risk profile, and stability of the organization. The debt-equity ratio calculates how much total debt a company has compared to total equity. It shows the degree of financial risk and leverage the firm has taken. The debt service ratio indicates the company's ability to cover its debt service payments, typically measured as the ratio of cash flow to debt service obligations. The cash dividend percentage represents the portion of profits that the company distributes to shareholders in the form of cash dividends.

Table 7. Capital Structure Ratios

| Category | 2017-18 | 2018-19 | 2019-20 | 2020-21 |
|---|---|---|---|---|
| **Debt-Equity Ratio** | 03.97 | 4.96 | 4.96 | 4.96 |
| **Debt Service Ratio** | 15.88:1 | 45.10:1 | 35.94:1 | 35.27:1 |
| **Cash Dividend (%)** | 25 | 26 | 26 | 22 |

Source: Annual reports of TGTDCL (2017-18 to 2020-21)

In 2017-18, the debt-equity ratio was 3.97. However, in 2018-19, 2019-20, and 2020-21, the debt-equity ratio increased and remained constant at 4.96, indicating that the company had approximately 4.96 units of debt for every unit of equity during the last three years. Moving to the debt service ratio, a significant increase from 15.88:1 in 2017-18 to 45.10:1 in 2018-19, implying a higher ability to service its debt obligations. However, the ratio then declined to 35.94:1 in 2019-20 and further to 35.27:1 in 2020-21. Regarding the cash dividend percentage, the company distributed dividends of 25% in 2017-18 and 26% both in 2018-19 and 2019-20. But, the dividend percentage decreased to 22% in 2020-21, suggesting a reduced distribution of profits to shareholders during that year (see table 7).

### Contribution to National Exchequer

Table 8 represents the contributions made by a company to the national economy in terms of dividend, corporate tax, DLS (Development Levy Surcharge), and CD/VAT (Customs Duty/VAT) for the years 2017-18 to 2020-21.

Table 8. Contribution to National Exchequer

| Category | 2017-18 | 2018-19 | 2019-20 | 2020-21 |
|---|---|---|---|---|
| | (In Crore Tk.) | (In Crore Tk.) | (In Crore Tk.) | (In Crore Tk.) |
| **Dividend** | 163.22 | 185.48 | 192.89 | 192.89 |
| **Corporate Tax** | 342.89 | 362.6 | 395.81 | 440.89 |
| **DLS** | 24.28 | 25.74 | 10.47 | 10.17 |

| | | | | |
|---|---|---|---|---|
| **CD/VAT** | 28.08 | 18.73 | 9.74 | 11.68 |
| **Total** | 558.47 | 592.55 | 608.91 | 655.63 |

Source: Annual reports of TGTDCL (2017-18 to 2020-21)

Over this period, the company's contributions to the exchequer varied across different categories. Dividends distributed to shareholders amounted to Tk. 163.22 crores in 2017-18, Tk. 185.48 crores in 2018-19, Tk. 192.89 crores in 2019-20, and remained the same at Tk. 192.89 crores in 2020-21. These dividend payments reflect the company's financial performance and its share of profits allocated to shareholders. In terms of corporate tax payments, the company paid Tk. 342.89 crores in 2017-18, Tk. 362.6 crores in 2018-19, Tk. 395.81 crores in 2019-20, and Tk. 440.89 crores in 2020-21, contributing to government revenue based on taxable profits. The company also made contributions in the form of DLS, with amounts of Tk. 24.28 crores in 2017-18, Tk. 25.74 crores in 2018-19, Tk. 10.47 crores in 2019-20, and Tk. 10.17 crores in 2020-21. Additionally, CD/VAT payments totaled Tk. 28.08 crores in 2017-18, Tk. 18.73 crores in 2018-19, Tk. 9.74 crores in 2019-20, and Tk. 11.68 crores in 2020-21, reflecting customs duties and value-added taxes paid on imports (see table 8).

**System Loss Reduction**

System loss reduction refers to the efforts made to minimize losses that occur during the generation, transmission, and distribution of energy. These losses can occur due to various factors such as technical inefficiencies, transmission line losses, theft, metering errors, and other operational challenges.

Table 9. System Loss Reduction

| **Financial year** | **Difference between Purchase and Sales (Total System Loss/Gain)** | |
|---|---|---|
| | In Volume (MMCM) | In Percentage (%) |
| **2017-18** | 201.19 | 1.17 |
| **2018-19** | 1003.83 | 5.71 |
| **2019-20** | 308.32 | 2.00 |
| **2020-21** | 323.64 | 2.00 |

Note: MMCM stands for "Million Cubic Meters" and is a unit of measurement used to quantify natural gas volume.
Source: Annual reports of TGTDCL (2017-18 to 2020-21)

Over the analyzed period, TGTDCL demonstrated a consistent effort to reduce system losses. The data shows that TGTDCL achieved a significant improvement in system loss reduction from 2017-18 to 2018-19, with a substantial reduction of 5.71% of the total volume. Although the subsequent years saw smaller reductions, TGTDCL maintained its focus on controlling and mitigating losses, achieving reductions of around 2.00% in system losses for both 2019-20 and 2020-21 (see table 9).

## DISCUSSIONS

TGTDCL has strong government influence and control over the company's operations, strategies, and decision-making processes. It may limit TGTDCL's ability to adapt to market changes. To ensure long-term success, TGTDCL may need to strike a balance between government control and private sector participation while maintaining a stable regulatory environment. On a positive note, the consistent growth in annual turnover specifies that the TGTDCL has been effective in capitalizing on market opportunities and meeting the growing demand for natural gas. Sustained revenue growth can instill confidence in existing shareholders and attract new investors, further strengthening the company's financial position and supporting future expansion plans. The consistent upward trend in net assets value per share implies that the company has been able to generate profits and accumulate assets, which can be seen as a positive indicator of financial strength and value creation for shareholders. Increasing net assets value per share is generally viewed favorably by investors as it reflects the company's ability to generate sustainable returns and build a solid foundation for future growth. The positive trends in liquidity ratios signify the company's improved financial health and its capacity to manage short-term obligations effectively. Moreover, the upward trend in current ratio, quick ratio, and cash ratio can inspire confidence in the company's stakeholders, including investors and creditors, as it indicates a reduced risk of defaulting on short-term payments and an overall stronger financial position.

Overall, the profitability ratios indicate that the company's ability to generate profits and convert revenues into earnings has decreased over the given periods. It would be important to analyze the underlying factors impacting profitability, such as cost management, revenue generation, and functioning efficiency, to understand the declining profitability. The company should focus on managing inventory levels effectively to avoid stockouts or excess inventory despite the high turnover ratio. Moreover, in spite of effective management of receivables, there are opportunities to enhance the collection process for better cash flow. On the other hand, the accounts payable turnover ratio indicates improvements in payment cycles could be explored. The results of capital structure ratios highlight the need for the company to carefully manage its debt levels, improve cash flow generation, and strike a balance between financial leverage and shareholder returns. Specifically, total contributions to national exchequer illustrate the company's financial responsibility and its significant role in contributing to government revenue and public funds. These implications emphasize the company's positive impact on the national economy and its role as a responsible corporate citizen. Finally, the information on system loss reduction over the periods demonstrates the TGTDCL is actively trying to improve its operations, infrastructure maintenance, and efficient gas distribution, ultimately benefiting its financial performance and overall reliability.

The study contributes to the literature on government-business relations. The study also contributes to our understanding of financial management practices in the energy sector. It sheds light on the various aspects of the company's financial performance in terms of revenue growth, accumulation of assets, liquidity, profitability, working capital management, and capital structure. The financial responsibility of TGTDCL signifies the business ethics and enhances its public image. TGTDCL's system losses reduction yields practical benefits for energy system planning and sustainability. In general, the findings provide valuable implications for policymakers, energy industry practitioners, and researchers interested in understanding the financial dynamics specific to the energy sector.

## CONCLUSIONS

TGTDCL's financial strength is influenced by government regulations and policies while the company's consistent revenue growth, asset accumulation, liquidity position, contributions to the national exchequer, and efforts in system loss reduction contribute to its overall financial strength in the energy sector. However, there are areas that require attention to enhance TGTDCL's financial position. Declining profitability and the need for effective working capital management should be addressed. It is crucial for the company to closely monitor its increasing leverage, improve its debt repayment capacity, and sustain the positive trajectory of increasing dividend percentages. Continued efforts in system loss reduction are essential to improve operational efficiency and cost management.

It is important to acknowledge the limitations of this study. Relying on publicly available financial statements and reports may introduce potential inaccuracies or omissions in the data used for analysis. Incorporating qualitative factors, such as the regulatory environment, geopolitical risks, and technological advancements, would provide an in-depth assessment of TGTDCL's financial strength in the energy sector. Future studies should consider integrating qualitative factors and obtaining more accurate and detailed financial data to enhance the understanding of TGTDCL's financial position. By addressing the identified concerns and expanding the scope of analysis, TGTDCL can further strengthen its financial position and ensure long-term success in the dynamic energy sector.

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