

Research Article

A Study on Credit Rating Factors of Readymade Garments in Bangladesh

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Abstract

This study was conducted to identify the primary financial determinants influencing the credit rating process for readymade garment (RMG) factories in Bangladesh based on seven commonly reported financial factors found in various credit rating reports. The data used in this study were collected from secondary sources, specifically from credit rating reports. These reports were gathered from 50 readymade garment (RMG) factories. This study measures the correlation between credit ratings and the seven common financial determinants through quantitative analysis using the bivariate (Pearson) correlation method. Additionally, a Boolean search technique was employed to collect related studies. In terms of data design, numerical values and positive/negative modifiers from long-term credit ratings (e.g., AAA1, AAA2, BBB1, BBB+, and BBB-) were removed for a better clarity. Data and findings are presented through graphical figures and statistics. The study reveals that rating agencies heavily rely on sales volume when assigning credit ratings to RMG factories in Bangladesh [Sales: $r(48) = -.66$ (long-term rating rank), $p < .05$; $-.59$ (short-term rating rank), $p < .05$]. Furthermore, the study shows that the majority of RMG factories have received a “ST-3” rating for the short term and a “BBB” rating for the long term. This exploratory study adds value as factory management can directly benefit from its insights, enabling them to understand the strategies needed to enhance their credit ratings. In addition, credit rating agencies will benefit from this study by adopting a more comprehensive framework for assigning credit ratings to RMG factories in Bangladesh.

Keywords

Credit Rating, Credit Rating Inflation, Speculative Rating Grades, Non-Speculative Rating Grades, Readymade Garment, Trade off Reputation, Sustainable Supply Chain

1. Introduction

Credit rating agencies in Bangladesh play a crucial role for readymade garment (RMG) factories by assessing their creditworthiness of long- and short-term loans. Additionally, many international brands and apparel customers consider factories' credit ratings before placing orders. A credit rating agency (CRA) is an independent third party that assigns credit ratings to entities based on their financial performance. It

plays a significant role in the processing of short-term and long-term loans and helps lenders understand their clients' creditworthiness [1]. CRA considers financial factors, an entity's loan repayment behavior, and qualitative aspects before determining a credit rating for any corporate or small and medium enterprises (SMEs). Managing credit in relation to credit availability, related risk, aligned returns, and pay-

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Received: 22 April 2025; **Accepted:** 3 September 2025; **Published:** 26 September 2025



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ment default of customers availing loans is a crucial responsibility of lending parties [1]. Moreover, the financial world has experienced stiffer financial regulations, including the assessment of the creditworthiness of related customers, since the financial crisis of 2008 [2]. Since 2008 Basel framework has become prominent to reduce financial risk and rating agencies has played a crucial role to minimize risk. According to Basel frameworks, the ratings assigned by CRAs are mainly used to measure the risk weight assigned to a bank's assets, ensuring that the amount of capital a bank must hold for the amount of loans sanctioned for an entity.

In line with international regulations, CRISL was established in 1995 as the first credit rating agency in Bangladesh. It was established in collaboration with the Rating Agency Malaysia, JCR-VIS Credit Rating Company of Pakistan, and several financial institutions and professionals in Bangladesh. However, the company registered with SECB to operate in the capital market in April 2002 [3]. The total number of credit rating agencies has increased to eight, and the market competition among these rating agencies has also increased since 2002.

The garment industry, which contributes 11% to 12% of the total GDP of Bangladesh [4], is the largest sector in the country, and the country's economic growth is highly dependent on this sector. The industry began its journey in the 1980s as pioneers such as Nurool Quader Khan and Reazuddin came forward to put their footprints in the RMG business [5]. However, Mr. Reazuddin became the first exporter of readymade garments in Bangladesh by exporting 10,000 pieces of Reaz Shirts to France [6]. The industry has experienced immense growth since the 1980s. As this is a major sector in Bangladesh, this industry was selected to understand the financial factors that affect the credit rating process. Due to the dearth of data availability & different criteria of analysis in all the credit rating reports, I have considered seven common financial factors viz. sales, net profit margin%, cash flow from operation, current ratio, debt%, cash conversion cycle and debt service coverage ratio to conduct this exploratory study.

The short-term demand in the following months forms the basis of RMG factories' operations; hence, they do not borrow a large amount of loans while still making a good profit at the end of the year [7]. In contrast, RMG factories in Bangladesh always face a long cash conversion cycle (on an average 90 days, and sometimes it crosses 120 days in more severe cases) due to long inventory processing cycles and poor payment terms, and they depend heavily on external creditors to manage their net working capital. Therefore, credit-rating assessment is a crucial part of these factories to determine their creditworthiness.

The data set, collected from credit rating reports (secondary sources), used in this study represents FY 2020 (July) to 2021 (June) [This further denotes as "21" such as NM-21: Net profit margin of FY 202-21 in this study]. This study aimed to gauge the most significant factors among the seven financial

determinants that affect the credit ratings of RMG factories.

2. Literature Review

In Bangladesh, credit ratings have become an integral part of issuing corporate loans since 2006 because of the mandatory ordinance issued by the Bangladesh Bank (country's central bank), which obligates banks to use such ratings. As garment factories' working capital is mostly managed through external finance or creditors, the effect of credit rating agencies has increased significantly for RMG factories during this period.

Garment factory rating reports delineate the business performance of RMG factories in several ways. These rating reports describe past business performance, major financial ratios, the amount of loans taken, and the factory's overall size, based on its production capacity. Therefore, factory management must understand the financial determinants that play a crucial role in providing credit ratings before requesting a better rating. A study conducted by Gupta on Indian companies suggests that rating agencies generally use their judgement and experience to determine important information in assigning a rating and that companies' size, profitability, and leverage have a significant relationship with corporate credit ratings [8]. Another study based on a comprehensive analysis of 99 empirical studies found that financial, non-financial, and economic factors are three broad factors influencing corporate credit rating; however, financial factors have been extensively used, whereas non-financial parameters are yet to gain full importance [9].

A CEO's skills also affect the firm's credit rating. A study (conducted by Ma et al., 2021) found a strong link between a CEO's general skills and the credit rating of a company. The study found that generalist CEOs are associated with poor credit ratings, as these types of CEOs are likely to take more risks, leading to more volatile performance and higher borrowing costs [10]. This ensures that the presence of generalist CEOs acts as a crucial credit-rating factor [10]. The political ideologies of a CEO also affect the credit rating of an organization; however, this correlation is more evident in firms with high financial distress and poor corporate governance [11].

On the other hand, the RMG sector in Bangladesh faces many obstacles and challenges regarding working conditions, labor unrest, technological upgrading, stiff competition from competitor countries, and pressure related to improvement in compliance issues [12]. These challenges cause the industry to sacrifice a major portion of its profitability for compliance issues. However, an actual comparison of how much money has been spent on improvements in compliance issues and the relative outcome is not always considered when awarding credit ratings to RMG factories.

In addition, the supply chain mechanism plays a crucial role in credit rating assessment, as a firm's supply chain information is beneficial for assessing and predicting its credit risk [13]. The RMG industry in Bangladesh is a focal point in

supply chain management. However, this industry faces enormous sustainability challenges due to high resource competition, environmental impacts, and vulnerability to supply chain disruptions [14]. Therefore, garment factory owners should be more strategic in creating a sustainable supply chain management system that supports a robust framework for supplying finished goods and raw materials. These results will bring a positive outlook to the credit ratings assigned by various agencies.

In line with the Sustainable Development Goals (SDGs) 2030 agenda set by UN (United Nations) member states, environmental, social, and governance (ESG) should be important determinants, while rating agencies assign credit ratings for RMG factories in Bangladesh. A study conducted by Roy (2023) suggests that integrating ESG with financial measures helps identify sustainable borrowers for sustainable investments. An ESG-based credit rating model that prioritizes a firm's ESG performance, along with financial parameters, can identify long-term sustainable borrowers with 84.31% accuracy [15]. However, In Bangladesh, Credit rating agencies are yet to consider the full-scale determinants of ESG when assigning credit ratings to RMG factories, as this industry is yet to become familiar with full-fledged ESG mechanisms. In addition, there is a lack of coordination between ESG strategies and plans laid out by major apparel brands [16]. The significance of ESG content in economic development is growing in importance in advanced economies, but decreases in emerging markets [17]. However, RMG is an established and reputed industry in Bangladesh. Therefore, credit rating agencies in Bangladesh should initiate an ESG-based framework to address Greenhouse Gas (GHG) emissions from the RMG and Textile industry in Bangladesh.

According to another study conducted by Barua et al. (2018), which further signifies the role of rating agencies, garment factories face multiple risks in Bangladesh, such as political, technological, financial, operational, supply chain, environmental, logistics, transportation, and compliance risks [18]. The other current capricious factors, viz. Covid'19 and the Ukraine War, have also reduced the cash flow of the RMG. Hence, credit rating quality and its ability to measure risk have become crucial in this risky business. However, it has been reported by the prime national newspaper, the daily Prothom Alo, that rating agencies have lost ground as a source for measuring risk and information providers [19].

Another vital fact is that rating agencies have agency-agency competition to attract more entities under their umbrellas. Rating agencies (RA) act as prime catalysts of subprime crises, as RAs trade-off reputation (future income) and rating inflation (current income-RA wants more income today) [20]. A study conducted by Camanho et al. (2022) suggests that alleviating entry barriers of low-reputed credit RA might increase the level of rating inflation and reduce welfare. The same study also mentioned that more competi-

tion deteriorates rating quality, as it decreases RAs' future profits when the ratings' market size is fixed [20]. Bangladesh currently has eight credit rating agencies. Therefore, it is crucial to avoid lax entry barriers for new and low-quality credit rating agencies in Bangladesh to maintain robust welfare of rating agencies. If more agencies are approved in the future, rating quality will be hampered, which will further deteriorate the qualitative credit score of RMG factories in Bangladesh.

The rating agencies also do not consider the data on salary payment behavior (delays in payment/on time) of recent months for a particular factory before assigning ratings; however, this parameter is one of the main reasons behind labor unrest in the RMG sector, as workers have long-standing grievances with management [21]. It is also challenging for rating agencies to obtain such data, as there is a lack of disclosure from the management level when this information is asked for before assigning a credit rating for the long and short term.

Irrespective of all criticisms, rating agencies are still valuable in availing long-term and short-term loans. Moreover, credit rating quality, ranging from high grade to low grade, has a significant impact on RMGs' debt costs. Paying on-time installments during an economic crisis is always a challenging issue for RMGs, and credit ratings affect the measurement of debt costs. Generally, entities with low credit ratings pay higher interest rates than do those with high credit scores [22]. Therefore, understanding the factors affecting credit ratings is crucial for factory owners and management. They will not be able to improve it unless they know the process involved in assigning a credit rating, either short-term or long-term, for any RMG factory.

3. Methods

The data used in this study were collected from secondary sources (i.e., credit rating reports). Related credit rating reports (soft or hard copies) are collected from various factories. Due to the limited availability of data in the credit rating reports of 50 randomly selected RMG factories, seven financial factors were selected: sales, net profit margin%, cash flow from operation, current ratio, debt%, cash conversion cycle, and debt service coverage ratio. This study measured the findings based on quantitative analysis using both graphs and bivariate correlation methods to obtain coherent observations. The numeric figure "21" mentioned with various figures indicates the financial data for FY 20-21 in this analysis. In addition, a Boolean search technique was used to gather related studies. Bivariate (Pearson) correlation was used to measure the correlation between credit ratings and seven financial determinants.

Bivariate (Pearson) correlation:

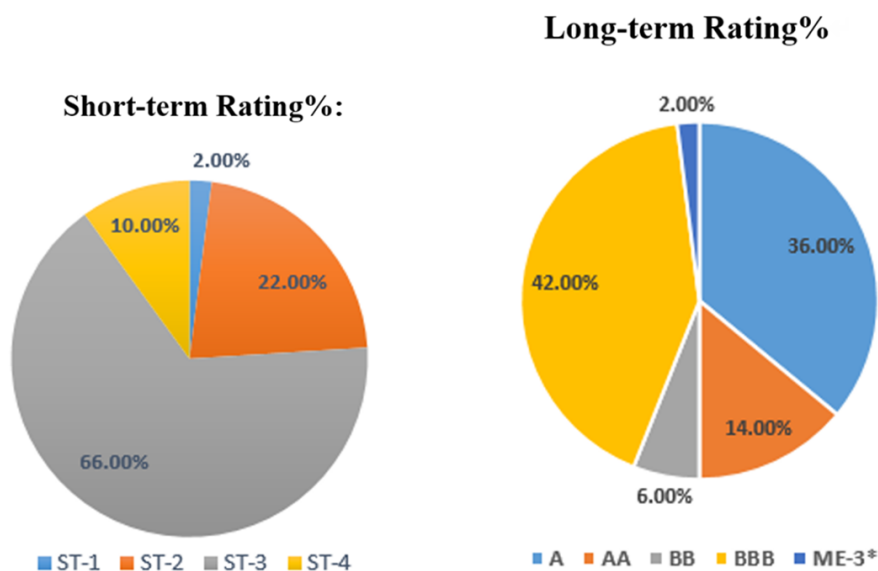
$$r = [n \sum xy - (\sum x)(\sum y)] \div \sqrt{[n \sum x^2 - (\sum x)^2][n \sum y^2 - (\sum y)^2]}$$

Here, x = credit rating rank (short-term or long term) y = one of the seven determinants chosen for this study (such as sales and net profit margin). Correlations “ r ” were defined between -1: perfectly negative and +1: perfectly positive linear

relationships. Each determinant was individually tested.

IBM SPSS 30.0 has been used to find the bivariate (Pearson) correlation. Graphical representation was also conducted using the same software.

4. Results



Source: Author own work

Figure 1. Short-term & long-term rating summary from sample dataset.

Table 1. Correlation between financial determinants & Credit rating rank.

Financial Determinants		Rating Rank (Long-Term)	Rating Rank (Short-Term)
Sales-21	Pearson Correlation	-.664**	-.587**
	Sig. (2-tailed)	<.001	<.001
	N	50	50
Net Profit Margin (NM-21) [21: FY 2020-2021]	Pearson Correlation	-.140	-.116
	Sig. (2-tailed)	.331	.423
	N	50	50
(Cash flow from Operations) CF-21	Pearson Correlation	.036	.202
	Sig. (2-tailed)	.827	.212
	N	40	40
Current Ratio (CR-21)	Pearson Correlation	.125	.042
	Sig. (2-tailed)	.387	.771
	N	50	50
Debt%-21	Pearson Correlation	.311*	.269
	Sig. (2-tailed)	.028	.059
	N	50	50

Financial Determinants		Rating Rank (Long-Term)	Rating Rank (Short-Term)
Cash conversion cycle (CC-21)	Pearson Correlation	.261	.369*
	Sig. (2-tailed)	.095	.016
	N	42	42
Debt service coverage ratio (DSCR-21)	Pearson Correlation	-.109	-.191
	Sig. (2-tailed)	.566	.312
	N	30	30

**Correlation is significant at the 0.01 level; *Correlation is significant at the 0.05 level.

Source: Author own work

5. Discussion on Findings

5.1. Rating Summary from the Dataset

Based on financial and loan performance, rating agencies in Bangladesh assign various grades for short-term and long-term loans. After observing the information from the credit rating reports (derived from secondary data sources) of 50 different RMG factories, I simplified the data by eliminating numerical modifiers and set their ranks according to the rating definitions to ensure coherence in this study. A summary of the rating grades is provided below:

Table 2. Long-term Rating Grades & Ranks.

Rating (Long Term)*	Rank	Remarks
AAA	1	Non-Speculative Grades
AA	2	Non-Speculative Grades
A	3	Non-Speculative Grades
BBB	4	Non-Speculative Grades
BB	5	Speculative Grades
B	6	Speculative Grades
CCC	7	Speculative Grades
CC	8	Speculative Grades
C	9	Speculative Grades
D	10	Speculative Grades

*Numerical modifiers (1, 2, and 3) from the grades were excluded for better understanding of the data presentation. Sources: Rating reports (Hard copies/soft copies) from various credit rating agencies in Bangladesh viz. CRAB / CRISL / NCR / ARGUS / ALPHA/ BDRAL/ EMERGING.

Source: Author own work.

Table 3. Short-term Rating Grades & Ranks.

Rating (Short Term)	Rank	Remarks
ST-1	1	Non-Speculative Grades
ST-2	2	Non-Speculative Grades
ST-3	3	Non-Speculative Grades
ST-4	4	Speculative Grades
ST-5	5	Speculative Grades
ST-6	6	Speculative Grades

Sources: Rating reports from

CRAB/CRISL/NCR/ARGUS/ALPHA/BDRAL/EMERGING

Source: Author own work.

5.1.1. Short-Term Rating Summary from Analyzed Data

This section presents a summary of short-term rating data taken from the credit rating reports of 50 readymade garment factories. This dataset covers seven rating agencies that operate in Bangladesh. The short-term rating ranks are listed in Table 3.

Table 4. Short-term rating% of the assessed factories.

Rating	Rank	Count	Percent
ST-1	1	1	2.0%
ST-2	2	11	22.0%
ST-3	3	33	66.0%
ST-4	4	5	10.0%

Source: Author own work

In terms of short-term ratings (vide Table 4), most RMG

factories availed the ST-3 rating, which was 66% of the total dataset. It is worth mentioning that ST-3 is the last safe harbor considering short-term credit facilities. In addition, 22% of the chosen factories had ST-2 ratings, indicating the strong loan repayment capacity of the entities with such ratings. Only 10% of the chosen factories availed the ST-4 rating, which is speculative grade in terms of short-term loan facilities. ST-1, the supreme short-term credit rating, is not very common in the context of RMG business in Bangladesh [Figure 1].

5.1.2. Long Term Rating Summary from Analyzed Data

Table 5. Long-term rating% of the assessed factories.

Rating	Rank	Count	Percentage
AA	2	7	14.00%
A	3	18	36.00%
BBB	4	21	42.00%
BB	5	3	6.00%
ME-3*	3	1	2.00%

*In Bangladesh, ME-3 is applied only to medium-sized enterprises, based on business volume and no employees.

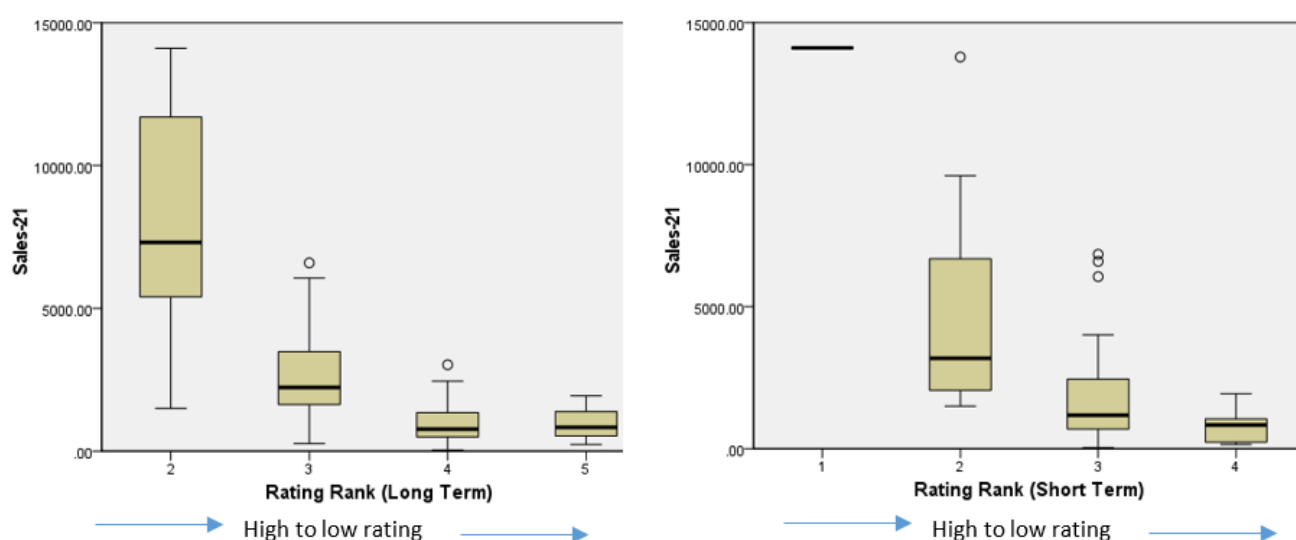
Source: Author own work

Considering the long-term rating from our dataset (vide Table 5), it is likely that most garment factories have availed “BBB” grade ratings, which are 42% of the given dataset. Moreover, 36% of the analyzed factories had a rating grade of “A,” which ranked *three*. Hence, after analyzing the data, we can deduce that most of the RMG factories have an average long-term rating of “BBB,” while a few factories have below-average ratings, which is 6% of the total dataset. Factories with grade “AA,” the second highest long-term grade, accounted for 14% of the total analyzed factories. In addition, no factories have availed the highest long-term credit rating grade “AAA” from my chosen samples, indicating that such a supreme long term credit rating is quite rare in the context of RMG business in Bangladesh [Figure 1]. The long-term rating ranks are listed in Table 2.

5.2. Rating Dependency on Chosen Financial Factors

5.2.1. Sale Vs Credit Rating Rank

Sale is a key financial factor for any business, and it is the prime factor on which credit rating agencies depend, mostly when they assign ratings for any entity. My study also finds that sales have the strongest relationship among the seven chosen factors when the ratings are awarded. Among the chosen data sets, it is evident that availing a good quality rating rank (*Long term 1: Top rank to 10: Worst rank & Short term 1: Top rank to 6: Worst rank*) is highly contingent on strong sales volume. The sales values are stated in BDT million.



Source: Author own work

Figure 2. Represents relationship between sales and credit rating rank.

Figure 2, given above, shows the relationship between rating ranks and sales volume. If sales decrease, rating quality also likely to decrease and vice-versa.

Table 6. Correlation between sales & rating rank.

Correlations		Sales-21	Rating Rank (Long Term)	Rating Rank (Short Term)
Sales-21	Pearson Correlation	1	-.664**	-.587**
	Sig. (2-tailed)		<.001	<.001
	N	50	50	50

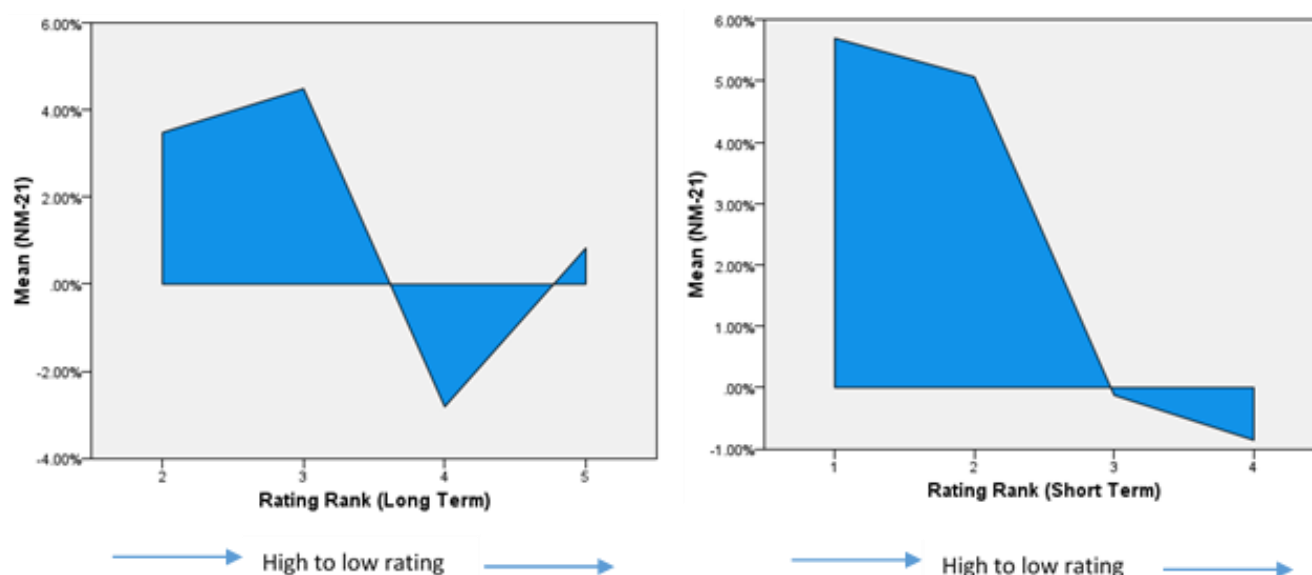
**Correlation is significant at the 0.01 level (2-tailed).

Source: Author own work

Based on bivariate correlations (see Table 6), we deduced that the numerical values of sales and rating ranks (1, 2, 3, ..., 4, 5) have slightly higher negative correlations. If the sales volume decreases, the rating rank's numerical value tends to increase, indicating a poor rating, and vice versa, and the

results are statistically significant ($p < .05$). [Sales data are available for all 50 factories]. According to our findings, this is the most significant factor, and it substantially impacts the credit rating quality of any RMG.

5.2.2. Net Profit Margin (NM) vs. Credit Rating Rank



Source: Author own work

Figure 3. Represents relationship between Net Profit Margin and credit rating rank.

Data on net profit margin% are available in credit rating reports for all the selected factories, and this study, based on bivariate correlations, finds that net profit margin has very little effect on assigned credit ratings for both short-term and long-term facilities. Graphical representations [vide Figure 3] also show an asymmetric effect between the net margin and rating rank.

The data reveal that the correlation (vide Table 7) between the net profit margin and long-term rating rank is (negative)

0.140, and the correlation between the net profit margin and short-term rating rank is (negative) 0.116. The net profit margin has a very small effect, which is negatively correlated with the assigned credit ratings. If the net profit margin falls, the rating quality of short-term ratings tends to be affected (poor rating based on poor margin) more than that of the long-term, except in a few cases. However, these correlations are not statistically significant ($p > .05$) [Net Margin data are available for all 50 factories].

Table 7. Correlation between net margin & rating rank.

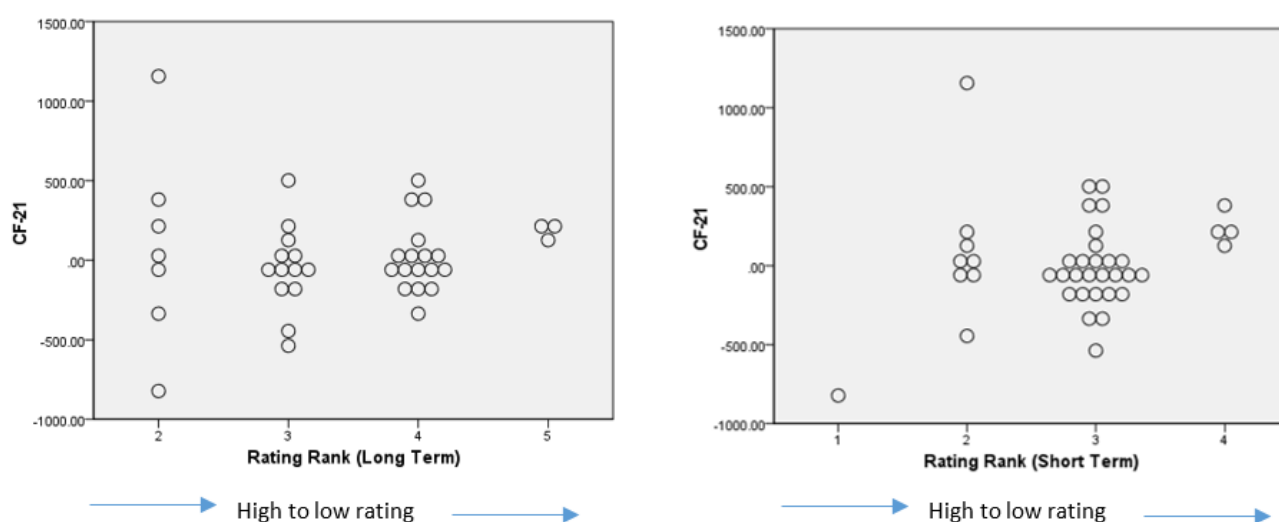
Correlations	NM-21	Rating Rank (Long Term)	Rating Rank (Short Term)
Pearson Correlation	1	-.140	-.116
NM-21 Sig. (2-tailed)		.331	.423
N	50	50	50

Source: Author own work

5.2.3. Cash Flow from Operations vs. Credit Rating Rank

Cash Flow (CF) from operations indicates how much cash a business generates from its operational activities in an FY.

Managing cash flow in RMG factories is very difficult because of delayed payments from buyers and weak buyer payment terms. Therefore, it is important to understand the effect of cash flow from operations on credit rating assessments.



Source: Author own work

Figure 4. Represents relationship between CFO and credit rating rank.

Based on the analysis, we observe that cash flow from operations does not significantly affect assigned credit ratings. The graphical presentation [Figure 4], for both the short- and

long-term rating ranks, shows that ratings are not likely to change significantly upon changes in cash flow from operations.

Table 8. Correlation between cash flow from operation & rating rank.

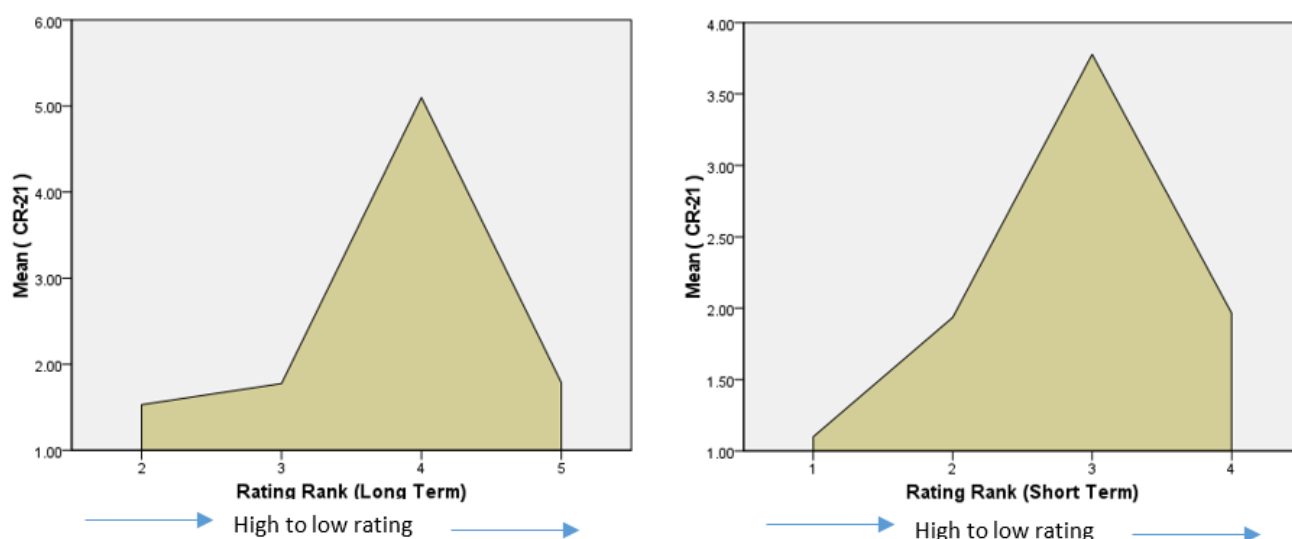
Correlations	CF-21	Rating Rank (Long Term)	Rating Rank (Short Term)
Pearson Correlation	1	.036	.202
CF-21 Sig. (2-tailed)		.827	.212
N	40	40	40

Source: Author own work

Conducting bivariate correlation analysis (vide Table 8) further implies that the correlation between cash flow from operations and long-term rating rank is 0.036, whereas that between CFO and short-term rating rank is 0.202. These findings indicate that cash flow and assigned ratings are not strongly correlated. In addition, the correlations are not statistically significant ($p > .05$). [Cash flow from operational data is available for 40 of the 50 factories].

5.2.4. Current Ratio (Times) vs. Credit Rating Rank

The current ratio (CR) is a prime factor for understanding the liquidity status of an entity. Garment factories struggle to maintain a strong current ratio because of poor payment terms, long inventory cycles, and a poor structure in managing liquidity. Using graphical representations and a correlation model, the relationship between the current ratio and the credit rating rank was observed.



Source: Author own work

Figure 5. The relationship between current ratio and credit rating rank.

Analyzing the data [vide Figure 5], it is clear that the current ratio does not play a vital role in determining credit ratings (both short-term and long-term) for RMG factories,

as the graphical lines do not exhibit any continuous pattern. This factor must be prioritized when assessing the ratings of RMG factories.

Table 9. Correlation between current ratio & rating rank.

Correlations		CR-21	Rating Rank (Long Term)	Rating Rank (Short Term)
CR-21	Pearson Correlation	1	.125	.042
	Sig. (2-tailed)		.387	.771
	N	50	50	50

Source: Author own work

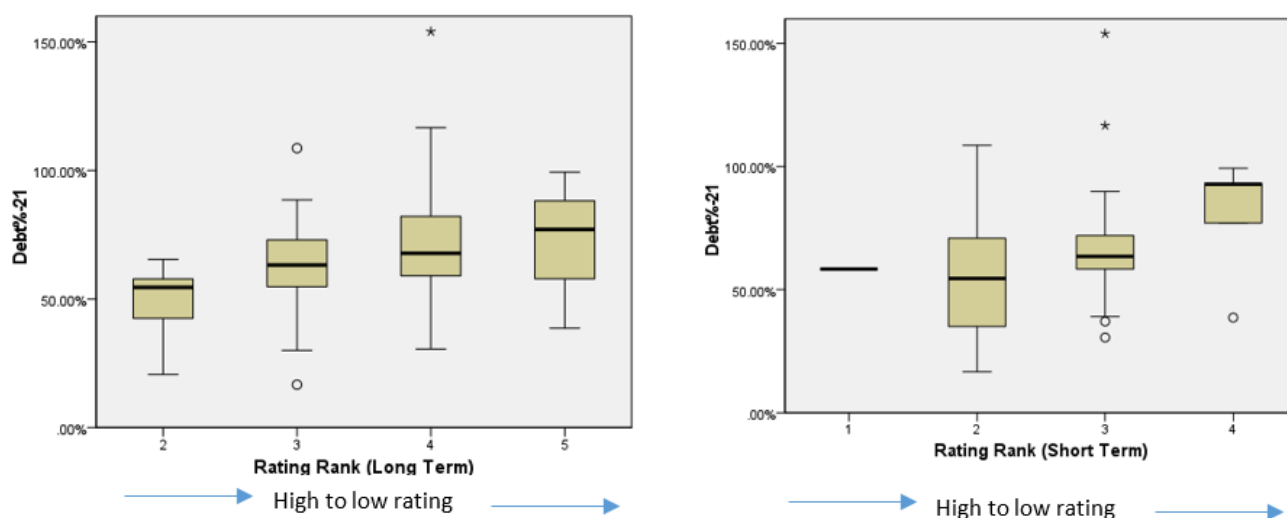
The bivariate correlation analysis (vide Table 9) also shows that the relationship between the current ratio and the long-term and short-term rating ranks is positive and not statistically significant ($p > .05$). The correlation between CR and long-term rating rank was 0.125, while the correlation between CR and short-term rating rank was 0.042. [CR data available for all 50 factories].

5.2.5. Debt% vs. Credit Rating Rank

Debt% underscores an entity's dependency on external financing or creditors. The higher the debt% is, the lower the equity% is. Moreover, equity indicates the amount of money a company has in its capital structure. My study finds that debt% has a considerable relationship with assigned credit ratings.

The graphs [Figure 6] presented below indicate that RMG factories are most likely to receive poor ratings if their debt increases to an unsustainable level. In fact, the debt% of the

total capital structure of a firm has a relation in terms of ratings assigned by credit rating agencies.



Source: Author own work

Figure 6. Represents relationship between debt% and credit rating rank.

Moreover, the correlation analysis also finds a positive correlation between debt% and the numerical value of the rating rank. If debt% increases, the rating ranks' numerical

value tends to increase, indicating a poor rating; however, if debt% decreases, the rating ranks' numerical value tends to decrease, indicating a good rating.

Table 10. Correlation between debt & rating rank.

Correlations	Debt%-21	Rating Rank (Long Term)	Rating Rank (Short Term)
Pearson Correlation	1	.311*	.269
Sig. (2-tailed)		.028	.059
N	50	50	50

*Correlation is significant at the 0.05 level (2-tailed).

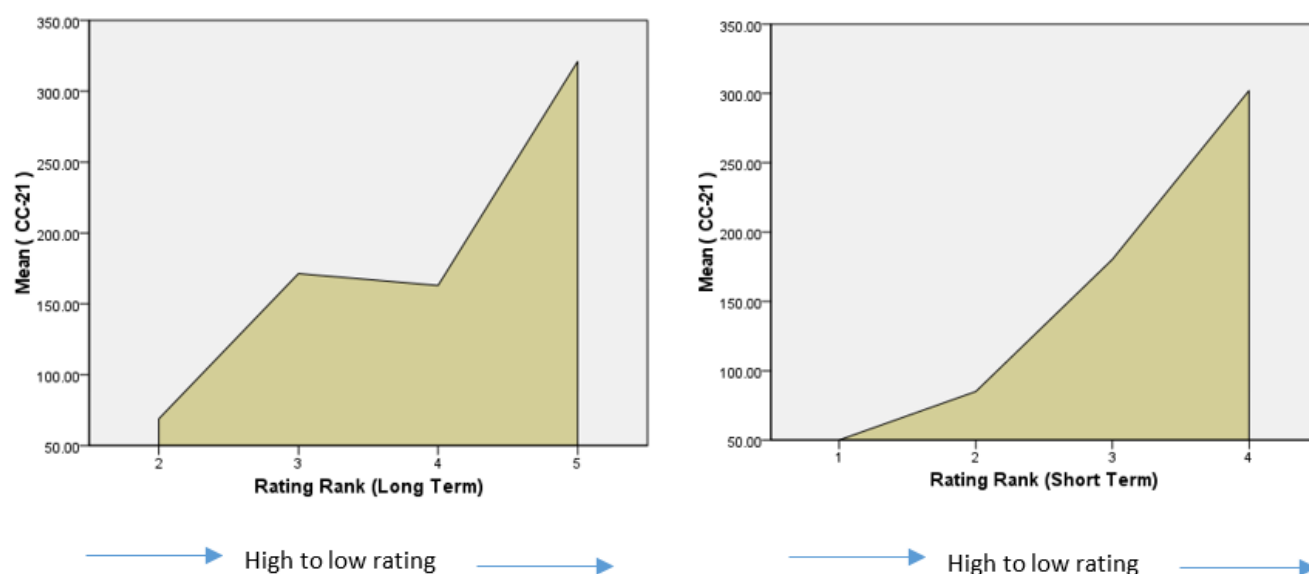
Source: Author own work

The correlation (vide Table 10) between debt% and the long-term rating rank is 0.311, whereas the correlation between debt% and short-term rating rank is 0.269. Moreover, the results were statistically significant ($p < .05$ for long term rating; $p < .05$ for short term rating) [Debt% data are available for all 50 factories].

5.2.6. CC (Cash Conversion) Cycle vs Credit Rating Rank

Cash conversion (CC) cycle is a crucial indicator for ac-

curately measuring a factory's liquidity. CC is an important component of working capital management, which shows a non-linear relationship with credit ratings; in fact, deviation from optimal working capital adversely affects credit rating [23]. Therefore, a long cash cycle indicates poor capability to manage a factory's liquidity. This study finds that, on average, an RMG factory has 90 days of cash cycle, which is primarily a ramification of poor inventory turnover and longer receivable periods (based on buyer payment terms) over the year.



Source: Author own work

Figure 7. Represents relationship between CC cycle (in days) and credit rating rank.

The cash conversion cycle is the number of days a company converts its investment in inventories into cash flow from sales. This factor has significant ramifications in the RMG business in Bangladesh, as cash flows are not strong because

of poor inventory turnover, AR receivable turnover, and absence of regular chasing of due payments. Moreover, this study [vide Figure 7] also finds that the CC cycle affects assigned credit ratings, especially short-term ratings.

Table 11. Correlation between CC Cycle & rating rank.

Correlations		CC-21	Rating Rank (Long Term)	Rating Rank (Short Term)
CC-21	Pearson Correlation	1	.261	.369*
	Sig. (2-tailed)		.095	.016
	N	42	42	42

*Correlation is significant at the 0.05 level (2-tailed).

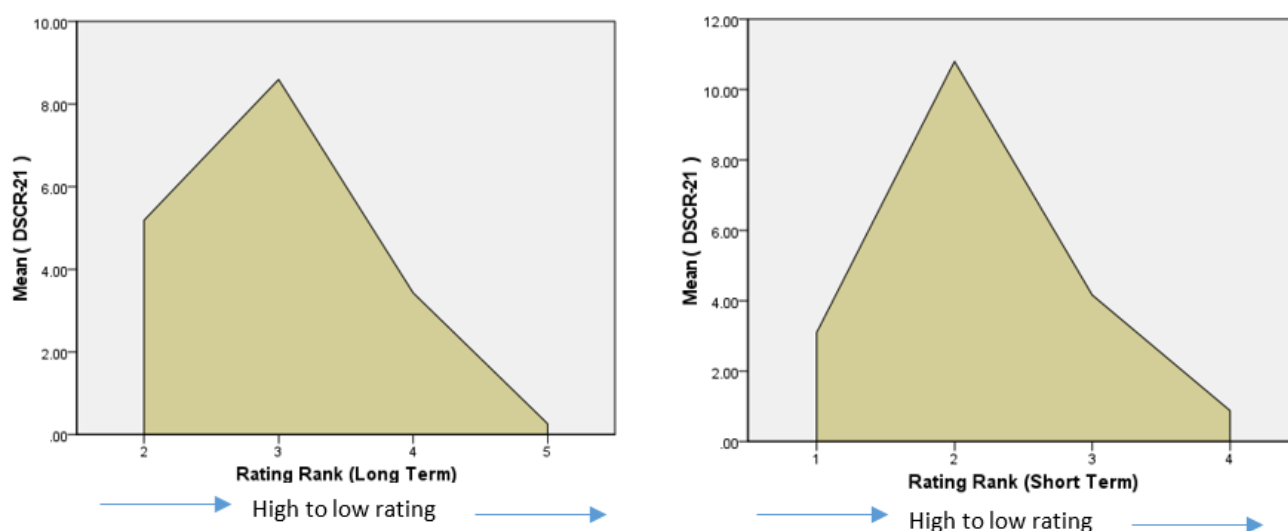
Source: Author own work

The long-term rating rank correlation (vide Table 11) with the CC cycle was not statistically significant ($p > .05$); however, the correlation between CC cycle and short-term rating rank was 0.369, which was statistically significant ($p < .05$). If an RMG factory records a higher cash conversion cycle, it is likely to have a greater numeric value for the short-term rating rank, suggesting poor rating quality. However, if an RMG factory records a lower cash conversion cycle, it is likely to have a lower numeric value for the short-term rating rank, indicating a good rating. [CC cycle data available for

42 of the 50 factories].

5.2.7. Debt Service Coverage (DSCR) Vs Credit Rating Ranks

Credit rating analysts calculate coverage ratios to obtain a scenario for a firm's ability to service debt obligations. In short, this indicates a firm's available cash flow to pay its current debt obligations. A high debt service coverage ratio indicates that the firm is likely to repay its debt over time.



Source: Author own work

Figure 8. Represents relationship between DSCR and credit rating rank.

As per my data analysis, I found that the debt service coverage ratio does not have a symmetric relationship with the credit rating rank [Figure 8]. Moreover, the correlation indicates that this relationship is not significant.

Table 12. Correlation between DSCR & rating rank.

Correlations		DSCR-21	Rating Rank (Long Term)	Rating Rank (Short Term)
DSCR-21	Pearson Correlation	1	-.109	-.191
	Sig. (2-tailed)		.566	.312
	N	30	30	30

Bivariate correlation analysis (vide Table 12) showed that rating rank was not statistically significant. Hence, it is likely that the short-term and long-term ratings of RMG factories are not contingent on DSCR. According to the analysis, the correlation between the DSCR and long-term rating rank was -0.109, and the correlation between the DSCR and short-term rating rank was -0.191. [DSCR data are available for 30 of the 50 factories]. It is evident from the dataset that Bangladeshi rating agencies do not consider the Debt Service Coverage Ratio (DSCR) significantly ($p > .05$), while they assign ratings to RMG factories.

6. Conclusion

Among all the factors analyzed (see Table 1) in this study, sales have the highest correlations (both for the short-and long-term ratings), although it is negative, with the short-term and long-term rating ranks. Therefore, we can contend that the rating is highly contingent on sales volume as it plays the most crucial part, while a rating agency assigns ratings for RMG factories. If any RMG factory in-

creases its sales over a period of time, they are most likely to get a better rating. Considering the significance level of correlations, the second most important factor is the debt% (for the long-term rating), followed by cash conversion cycle (for the short-term rating).

Moreover, it's good to observe that most of the factories which are covered in this study avail "BBB" rating which is a non-speculative grade in terms of the long term loan facilities. Basing the short term rating, most of the factories avail "ST-3" rating which is also non-speculative grade. However, both "BBB" and "ST-3" are the last safe harbors for making investment decisions. As credit ratings have a significant correlation with sales volume, factory management should focus on increasing revenue, which in turn will result in a high-quality rating unless there are any severe issues in loan repayments.

Since rating agencies calculate multiple ratio analyses during their assessment period, it is highly recommended to consider other financial factors, mainly the current ratio, profitability margin, and debt service coverage ratio, to improve the credit rating process for the RMG industry. In

addition, rating agencies should begin assessing the supply chain framework, ESG framework, and salary payment behavior of management employees and workers before assigning ratings (long- and short-term).

7. Research Limitations

Selecting more parameters from rating reports is challenging because not all rating agencies maintain common formats for reporting. As this study compares only seven common factors available in all credit rating reports, a further inclusive study is required to obtain a granular analysis.

Abbreviations

RMG	Readymade Garment
SMEs	Small and Medium Enterprises
CRA	Credit Rating Agency
SDG	Sustainable Development Goals
ESG	Environmental, Social and Governance
SECB	Security Exchange Commission of Bangladesh
CF	Cash Flow (Operation)
CR	Current Ratio
CC	Cash Conversion
DSCR	Debt Service Coverage Ratio

Acknowledgments

Collecting credit rating reports from various garment factories was a very difficult job while I conducted this study, and I would like to thank my colleagues from PDS Ltd for their cooperation in this regard. This report would not have been completed without their support and cooperation. I cannot but thank my mother for her flawless motivation towards me, since she is my all-time catalyst for striving to achieve the best.

Moreover, I would like to take this opportunity to acknowledge the support of my university professors in completing this task. Their comments, suggestions, and inspiring words encouraged me to complete the study.

Finally, I thank Allah for giving me the strength and patience to conduct this study.

Author Contributions

Anarus Sadat is the sole author. The author read and approved the final manuscript.

Originality of the Study

Studies on RMG have focused on compliance, ethical issues, and environmental, social, and governance (ESG). However, existing core financial factors impacting the credit rating process for RMG factories in Bangladesh have not

been addressed. This study has shed light on the credit rating process of RMG factories in Bangladesh by analyzing common financial factors available in credit rating reports.

Ethical Compliance

This study did not include any data related to human participants or animals.

Funding

No sponsorship or funding has been received for this study.

Data Availability Statement

The data used in this study are available upon request.

Conflicts of Interest

The author declares no conflicts of interest.

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