

Effect of Financial Risk on Profitability of Small and Medium Enterprises in 26-June District in Hargeisa Somaliland

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Abstract: Small and medium enterprises are imperative for the growth of a striving economy because they cater for a huge level of manpower and vast resources. Therefore, it is crucial to guarantee their continuous performance in order to support Somaliland's economic development. The purpose of this study was to examine the effect of financial risks on profitability of SMEs in 26-June District in Hargeisa, Somaliland. The study used descriptive research design; using convenient non-probability sampling method, a suitable sample of 206 SME was selected from the population of study. Logistic regression model was used in this study since the dependent variable was binary. The study found out that credit risk and market risk are associated with profitability and are statistically significant. The odds ratio for credit risk and market risk indicates that every unit increase in credit risk and market risk respectively is associated with decrease in the odds of profitability in SMEs in June District as per the sample while liquidity risk was statistically insignificant with the odds ratio of liquidity risk indicating that every unit increase in liquidity risk is associated with increase in the odds of profitability in SMEs in June District as per the sample. The study recommends that the SMEs should put in a place system that can provide them with latest information about both credit risk sources which are suppliers and customer's hazards so as they can refine their collection process and improve their unstable cash flow. The study on market risk recommends that, to optimize earnings and mitigate financial damages, it is crucial for the SMEs to monitor market information regularly as to apply any modifications to its products or services so that they can reduce their exposure to market risk. The study further recommends creation of specialized training and development programs that are intended to help businesses increase their overall knowledge of the financial risks, as this aligns with Somaliland vision 2030 that seeks to create a well-developed private sector that provides investment, employment, sustained livelihoods and vital services to strengthen the economic foundation of peace.

Keywords: Financial risks, Credit Risk, Market Risk, Liquidity Risk, Profitability, Logistic Regression Model, Small Medium Enterprises (SMEs).

1. INTRODUCTION

1.1 Background of the Study

Small and medium-sized enterprises are the main source of economic development. These companies are the main mobility mechanism to create new jobs and increase GDP (Mura & Kljucnikov, 2018). In Somaliland, small and medium-sized enterprises (SMEs) play a crucial role in promoting socio-economic development (World Bank, 2013). 60 percent of the country's economic activity occurs in the SME sector, although firms in the sector operate under unspecified national regulation (Annual Report of Special Arrangements, 2018). Therefore, the survival and growth of SMEs in Somaliland is crucial to poverty alleviation and achieving sustainability, so effective assessment and application of financial risk management in their operations is very important for their long-term survival (Arif & Showket, 2015).

SMEs in Somaliland constitute an infinite number of businesses; they represent almost 95 percent of Somaliland's businesses and account for almost 89 percent of the country's GDP and more than 47 percent of all jobs (World Bank, 2020). Despite their strategic role and importance to Somaliland's economy, Somaliland's small and medium-sized enterprises continue to face many challenges that hinder their profitability, thus undermining their ability to effectively contribute to sustainable development (National Development Plan, 2017). The performance of SMEs worsened in 2017-2020. Their profits fell by 4.98%, solvency by 21.36% and cash flow weakened (SLCCIA, 2020). If SMEs can operate at their peak, sustainable economic development can be achieved quickly and fully. These constraints faced by SMEs limits the development of their activity in terms of employment, income and contribution to the economy (SNDP, 2011). Hence this study sought to determine the effect of financial risk on the profitability of SMEs in 26- June Hargeisa, Somaliland. The study used sales growth as an indicator to profitability as suggested by Santos & Brito, (2012) on the use of subjective indicators where objective measures are a bottleneck.

Small and medium-sized enterprises operate in conditions of economic uncertainty and low self-sufficiency; they are relatively exposed to a number of risks. In finance, risk refers to the degree of uncertainty and/or potential financial loss inherent in an investment decision (Azhar Susanto & Meiryani, 2018). Financial risk is the possibility of collapse when the financial composition of a company's capital structure has high debt and low cash balance (Fali, Terzungwe & Mustapha, 2020). Companies sooner or later face financial risks regardless of size and cannot be completely avoided (Bablenkov, 2009). Although SMEs undoubtedly seem to be the most flexible form of business and can quickly respond to changes in the economic system. Business activities and the flow of funds are limited by financial risks, which may affect the results of financial transactions and the financial performance of SMEs (Okřęglicka *et al.*, 2015; Belás *et al.*, 2016).

Financial risks faced by companies includes amongst others; credit risk, interest rate risk, investment risk, currency risk, operational risk, solvency risk, equity risk and liquidity risk (Bahramov & Gluhov, 2011). Moreover, when it comes to effective financial risk management, different authors evaluate this topic differently. Financial risk management typically focuses on liquidity, credit, currency, interest rate and commodity price risk (CPA Australia, 2009). In addition, the quantitative measurement of risk management usually focuses on how to improve the measurement and control of certain risks, such as liquidity, market and credit risk (Aebi, Sabato, & Schmid, 2012). In this study, the scope of financial risk was limited to the three main risks that constantly affect the operations of SMEs, which includes credit risk, market risk and liquidity risk.

Credit risk is the risk of loss due to a debtor's non-payment of a loan or other line of credit. When a business offers credit to its customers it incurs the hazard of non-payment, (Gao *et al.*, 2013). Credit risk in this context is defined as the inability of the customer to meet is or her obligation when they fall due. Market risk is the risk of an entity resulting from movements in market prices which include changes in foreign exchange rates and commodity prices (Muriithi, Muturi & Waweru, 2016; Ekinci, 2016). Liquidity risk signifies the ability of the business to pay loans; it's the risk that the business will have insufficient funds to meet its obligations in a timely manner (Juan & Martinez-Solano, 2007). Thus this study sought to determine the effect of financial risk on the profitability of SMEs in 26- June Hargeisa, Somaliland.

1.2 Statement of the Problem

Small and medium-sized enterprises are essential for the economy of many countries. Over the past 15 years, economic planners have realized the importance of the small business sector in achieving economic development (Gherghina *et al.*, 2020). SMEs have contributed significantly to Somaliland's post-war recovery and remain a key element of the country's private sector-led economy, dominating key sectors such as livestock, trade, real estate and construction, and agriculture production (National Development, 2015).

Despite the fact that SMEs play a crucial role in Somaliland's economy they often faced with a number of challenges. These challenges facing SMEs, which gradually lead to poor profitability of SMEs, are increasingly alarming because many of them die prematurely (National Development Plan, 2017). The obstacles and challenges faced by SMEs have reduced their expected role in the growth and development of the country's economy, so regardless of the immense role SMEs play in Somaliland economic growth, small and medium scale enterprise performance's role to the economy of the nation is not properly evaluated (Mohamed, 2014).

A number of studies have been carried out with regards to the subject matter (Ogujuiba, *et al.* (2014; Ekinci, 2016; Onsongo *et al.*, 2020) nonetheless they were conducted in developed countries whose economic environment is different with that of

Somaliland being among the developing countries. This is a noteworthy research gap that exists, that this study sought to fill. This study sought to determine the effect of financial risk on profitability of SMEs in 26-June District in Hargeisa, Somaliland.

1.3 General Objective of Study

The general objective of the study was to determine the effect of financial risk on the profitability of SMEs in 26- June Hargeisa, Somaliland.

1.3.1 Specific Objectives

1. To determine the effect of credit risk on the profitability of SMEs in 26- June District Hargeisa, Somaliland.
2. To establish the effect of market risk on the profitability of SMEs in 26- June District Hargeisa, Somaliland.
3. To examine the effect of liquidity risk on the profitability of SMEs in 26- June District Hargeisa, Somaliland.

1.4 Research Hypothesis

- (i) Credit risk has no significant effect on the profitability of SMEs in 26-June District Hargeisa, Somaliland.
- (ii) Market risk has no significant effect on the profitability of SMEs in 26-June District Hargeisa, Somaliland.
- (iii) Liquidity risk has no significant effect on the profitability of SMEs in 26-June District Hargeisa, Somaliland.

2. EMPIRICAL REVIEW

The pertinent empirical literature that supports the research problem is discussed in this section. By doing this, it is made sure that the study's subject matter is influenced by earlier research in the area.

2.1 Credit risk and Profitability

Numerous empirical researches have focused on evaluating the relationship between risk and profitability of firms to examine whether a high risk is responsible for high profitability. For instance, study by Mazen (2013) examined the effect of credit risk on profitability in the trade sector in French. Using a sample of 2,325 firms from 1999 to 2001 and found that higher credit risk could be detrimental to business profitability. Diby *et al.* (2019) implemented a study on a comparison between profitability and financial risk in non-financial firms in Morocco. They used a sample of 31 firms from 2000 to 2006. Their findings proved that a rise in credit risk led to a reduction in profitability.

Ekinci (2016) sought to investigate the effect of credit risk on the bank performance in Turkey for fourteen years using weekly data. In a view to unravel a better understanding on the forces of foreign exchange rate and credit risk on bank performance, they employed time series data and used generalized autoregressive conditional heteroscedastic approach in their analysis. The results indicated that credit risk rate had a positive and significant effect on the performance of banking sector in Turkey. This study was carried out in SMEs in Somaliland.

2.2 Market risk and Profitability

Darko and Kruger (2017) found that crude oil prices have positive and significant impact on the accounting returns (ROA, ROE, and EPS) of the reviewed firms. Their study was prompted by the fact that earlier investigations into the effect of crude oil fluctuations had been on country-by-country bases, and they demanded to ascertain how the result was when the major oil companies of the world, which would cut across countries, feel the effect of changes in the crude oil prices on their profitability. Their study covered top 20 oil and gas companies from 2012 to 2016 as was reported by Forbes annual reports of 2016, but panel data was collected from the 8 of the companies that reported their accounts on the IFRS formats. The data was analyzed using (OLS) panel regression model, random effect, and fixed effect estimation to establish the cause effect relationships between the explained and the explanatory variables.

Agubata and Odubuasi (2018) investigated the effect of exchange rate fluctuation on the financial performance of manufacturing firms in Nigeria, sampling the eight firms within the food, beverage, and tobacco sector of the economy. Ex post facto research design was employed, and time series data of the samples were collected from central Bank of Nigeria Statistical Bulletin and the financial statements of the firms which spanned from 2005 to 2014. Ordinary Least Square (OLS) multiple regression estimator was used, and the results indicate that exchange rate have positive effect on the financial performance of the firms in this sector.

In addition to that, Harley (2018) empirically examined the effect of exchange rate fluctuations on the performance of some firms listed on the Nigeria stock exchange market. The study used Ordinary Least Square (OLS) regression technique on the panel data generated from 2012 to 2016. They found that exchange rate fluctuation possesses a significant positive impact on the returns on investment of the firms sampled.

Risman, Salim, Sumiati and Indrawati (2017) evaluated the effect of commodity prices (crude oil, coal, crude palm oil, gold, nickel and tin), and exchange rate on the firms' value. The study covers a sample of 25 mining and agricultural firms listed on the Indonesian Stock Exchange spanning through 2010 to 2014 that gives a panel balanced data of 5 years, which generated 125 observations. A Path Analysis was developed which concurred with the regression model adopted for the study. The result obtained by applying common effect approach for panel data on the path analysis model indicate that oil prices and exchange rate affect the firms value either directly or indirectly through business risk as mediation variable.

2.3 Liquidity risk and Profitability

Onsongo *et al.* (2020) Sought to examine the effect of liquidity risk on financial performance of commercial and services on Nairobi securities exchange in Kenya. Explanatory research design was used in the study. The 14 companies listed on this section of the NSE were the target populations. For the years 2013 through 2017, secondary panel data from published annual reports was gathered. Based on the Hausman specification test, the panel regression model was employed with the random effect model. Results demonstrated that liquidity risk significantly harmed the financial performance of commercial and service companies listed on the NSE. The negative coefficients indicate that these businesses had significant liquidity issues during the study period because their current liabilities were greater than their current assets. Consequently, it can be said that these companies were unable to pay their full debt when it was due.

Muriithi and Waweru (2017) studied Liquidity Risk and Financial Performance of Commercial Banks in Kenya. The study adopted a descriptive research design. The target population for this study was 164 deposit taking Sacco societies licensed to undertake deposit-taking Sacco business in Kenya for the financial year ending 31st December 2016. The study adopted census and considered all the Deposit Taking Sacco's for study. Secondary data was collected from 135 deposit taking Sacco's audited financial statement which represented 82.32% success rate. Data was analyzed using both descriptive and inferential statistics. The result indicated that liquidity risk had a statistically significant negative effect on financial performance.

3. RESEARCH METHODOLOGY

3.1 Empirical Model

In order to examine the effect of financial risks on profitability of small and medium enterprises in 26-June District in Hargeisa Somaliland, the study used descriptive survey design which is a scientific method that involves observing and describing the behavior of a subject without influencing it in any way (Siedlecki, 2020). The study further employed logistic regression model which is the appropriate regression analysis to conduct when the dependent variable is binary. Logistic Regression was utilized to describe and to explain the association between the dependent binary variable and the independent variables (Peng, 2002). Transforming Y (1, 0) into a Logit (log of the odds of falling into the "1" category). The Logistic Regression model for the study is as follows;

$$\ln (P/1 - p) = \beta_0 + \beta_1 CR_i + \beta_2 MR_i + \beta_3 LR_i + e_i$$

Where:

P_i = Prob (P=1| X) = Probability to Profitability

β_0 =Constant

$\beta_1, \beta_2, \beta_3, \beta_4$ = Coefficient

e_i = Error term

CR =Credit Risk

MR= Market Risk

LR=Liquidity Risk

Table 1.1: Qualitative Measurement of Variables.

Category	Variable Name	Indicators	Measurement Tool
Independent Variable	Credit Risk	<ul style="list-style-type: none"> Customer Hazards Supplier Hazards 	5 point likert scale, and a composite of 10 items.
Independent Variable	Market Risk	<ul style="list-style-type: none"> Commodity Prices Exchange Rate 	5 point likert scale, and a composite of 9 items.
Independent Variable	Liquidity Risk	<ul style="list-style-type: none"> Cash Flow Volatility Cash Management 	5 point likert scale, and a composite of 10 items.
Dependent Variable	Profitability	<ul style="list-style-type: none"> Sales Growth 	Binary Response

Source: Literature review, 2023

4. RESULTS AND DISCUSSIONS

4.1 Descriptive Statistics

4.1.1 Descriptive Statistics on Credit Risk

To achieve this, the respondents were asked to give their response on a set of 10 statements formulated on 5-point Likert scale with their responses being one of strongly agree, agree, neutral, disagree, and strongly disagree. The results were then analyzed in terms of, mean, standard deviation, variance, skewness and kurtosis. The descriptive measures used for analysis included mean, standard error of estimate, Skewness and kurtosis. Mean is a measure of central tendency that is also referred to as the average. Standard error of mean is a statistical term that measures the accuracy of the results and it equal to the standard deviation of the population divided by the square root of the sample size calculated as: $SE = (SD \text{ of population}) / \text{square root } (n)$. Standard deviation (SD) shows how far the distribution is from the mean.

Kurtosis measure whether the data is peaked or flat relative to the normal distribution. The data can be heavy-tailed, and the peak can be flatter, almost like punching the distribution or squishing it. This is called negative kurtosis (Platykurtic). If the distribution is light-tailed and the top curve steeper, like pulling up the distribution, it is called positive kurtosis (Leptokurtic). The results are presented in Table 4.1 below.

Table 4.1: Descriptive Statistics on Credit Risk

Credit Risk	N	Mean	Std. Deviation	Variance	Skewness	Kurtosis		
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
My business maintains enough savings in case of an emergency	185	3.99	1.037	1.076	-.894	.179	.375	.355
I am well aware of various finance sources available for my business	185	4.43	.806	.649	-1.575	.179	2.507	.355
I purchase goods on credit from my suppliers with reasonable credit terms	185	3.77	1.218	1.484	-.840	.179	-.302	.355
Creditors are paid on time as the loans fall due	185	4.15	1.057	1.118	-1.032	.179	-.014	.355
I depend on borrowing loan for running my business	185	2.67	1.509	2.277	.278	.179	-1.441	.355
I collect money from customers in acceptable time period	185	3.54	1.184	1.402	-.541	.179	-.758	.355
My business only grant credit to customers after assessing their credit worthiness	185	3.66	1.178	1.387	-.694	.179	-.339	.355

A follow up through SMS is carried out, where customers are reminded to pay before due date	185	3.67	1.244	1.548	-.789	.179	-.369	.355
Customers do not take long to clear their accounts	185	3.35	1.251	1.566	-.355	.179	-.941	.355
If the customer fails to pay on time a phone call is made to remind them of the payment	185	4.13	.980	.961	-1.208	.179	.995	.355
Average Score	185	3.74	1.15	1.35	-0.76	0.18	-0.03	.360

Source: Researcher, 2023

The results shown in Table 4.1 above reveals that the overall mean score for statement on credit risk (M=3.74, SD=1.15). This implies that respondents were in strong agreement with the statements. Statement of their awareness of the various finance resources available for them had the highest mean score (M=4.43, SD=0.806). Followed by the statement on creditors are paid on time as the loans fall due with a mean score (M=4.15, SD=1.057). Statement I depend on borrowing loan for running my business had the lowest mean score (M=2.67, SD=1.509). Meanwhile the statement I am well aware of various finance sources available for my business had the lowest variation (V=0.649), while I depend on borrowing loan for running my business had the highest variation (V=2.277). This implies that there was slight dispersion or variation in the opinions of credit risk. While some were in agreement others were not. In terms of skewness, the study observed that the average score's recording was (-0.76) and approaching zero implying that the distribution is left skewed. Kurtosis values (-0.03) indicates that the distribution is platykurtic with a lighter tail than the normal distribution.

4.1.2 Descriptive Statistics on Market Risk

The study sought to establish the descriptive analysis of Market risk. The results are presented in Table 4.2 below.

Table 4.2: Descriptive Statistics on Market Risk

Market Risk	N	Mean	Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Currency fluctuations has a short-term effect on the payments received due to timing differences	185	3.99	1.292	1.668	-1.214	.179	.308	.355
Currency fluctuations affect business operations and performance	185	4.06	.876	.768	-.764	.179	.217	.355
Business has enough savings to overcome timing differences	185	3.58	1.231	1.516	-.557	.179	-.586	.355
There are sources of committed funds available as a buffer to accommodate short term fluctuations	185	3.36	1.396	1.950	-.282	.179	-1.224	.355
Variation in incomes affect my business	185	4.01	1.166	1.359	-1.020	.179	.158	.355
I understand how currency change affects the prices of my products.	185	4.04	1.285	1.650	-1.279	.179	.492	.355
I trade mix of products to offset price changes	185	3.94	1.190	1.415	-1.040	.179	.315	.355
I purchase in bulk from my suppliers to reduce cost of products.	185	3.72	1.240	1.538	-.845	.179	-.343	.355
I rarely import from international suppliers	185	3.57	1.570	2.464	-.595	.179	-1.248	.355
Average Score	185	3.81	1.25	1.59	-0.84	0.18	-0.21	0.36

Source: Researcher, 2023

The results shown in Table 4.2 above reveals that the overall mean score for statement on credit risk (M=3.81, SD=1.25). This implies that respondents were in strong agreement with the statements. Statement of currency fluctuations affect business operations and performance had the highest mean score (M=4.06, SD=0.876). Followed by the statement I understand how currency change affects the prices of my products with a mean score (M=4.04, SD=1.285). Statement There are sources of committed funds available as a buffer to accommodate short term fluctuations had the lowest mean score (M=3.36, SD=1.396). Meanwhile the statement currency fluctuations affect business operations and performance had the lowest (V=0.768), while i rarely import from international suppliers had the highest variation (V=2.464). This implies that there were slight dispersion or variations in the opinions of market risk. While some were in agreement others were not. In terms of Skewness, the study observed that the average score's recording was (-0.84) and approaching zero implying that the distribution is left skewed. Kurtosis values (-0.21) indicates that the distribution is platykurtic and near to zero with a lighter tail than the normal distribution.

4.1.3 Descriptive Statistics on Liquidity Risk

The study sought to establish the descriptive analysis of liquidity risk. The results are presented in Table 4.3 below.

Table 4.3: Descriptive Statistics on Liquidity Risk

Liquidity Risk	N	Mean	Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
There is day-to-day management and monitoring of cash in business	185	4.25	.985	.970	-1.311	.179	1.111	.355
Your business has a cash policy in place	185	4.03	1.083	1.173	-1.103	.179	.411	.355
There is a person in the business dedicated to approval of cash before payment is made.	185	4.28	1.092	1.192	-1.819	.179	2.834	.355
Staff in business are well trained for cash management	185	3.71	1.298	1.686	-.827	.179	-.306	.355
Additional funds can be obtained in case of an emergency	185	3.47	1.286	1.653	-.438	.179	-.807	.355
Late payments cause cash flow problems	185	3.80	1.363	1.857	-.922	.179	-.373	.355
All cash sales made in a day are deposited in a bank account everyday	185	3.80	1.151	1.324	-.531	.179	-.851	.355
My business has safe place where cash is kept for longer periods	185	3.65	1.251	1.566	-.637	.179	-.569	.355
My business has a cash forecast that is revised regularly	185	3.61	1.037	1.076	-.374	.179	-.335	.355
I often experience cash deficit in my business	185	2.83	1.411	1.992	.264	.179	-1.295	.355
Average Score	185	3.74	1.20	1.45	-0.77	0.18	-0.02	0.36

Source: Researcher, 2023

The results shown in Table 4.3 above reveals that the overall mean score for statement on credit risk (M=3.74, SD=1.20). This implies that respondents were in strong agreement with the statements. Statement of There is a person in the business dedicated to approval of cash before payment is made had the highest mean score (M=4.28, SD=1.2). Followed by the statement There is day-to-day management and monitoring of cash in business with a mean score (M=4.25, SD=0.985). Statement on i often experience cash deficit in my business had the lowest mean score (M=2.83, SD=1.411). Meanwhile the statement There is day-to-day management and monitoring of cash in business had the lowest variation (V=0.970), while i often experience cash deficit in my business had the highest variation (V=1.992). This implies that there were slight dispersion or variations in the opinions of liquidity risk. While some were in agreement others were not. In terms of Skewness, the study observed that the average score's recording was (-0.77) and approaching zero implying that the

distribution is left skewed. Kurtosis values (-0.02) indicates that the distribution is platykurtic and near to zero with a lighter tail than the normal distribution.

4.1.4 Descriptive Statistics on Profitability of SME’s

The study sought to establish the descriptive measures profitability of SMEs in 26-June district in Hargeisa, Somaliland. The results are presented in table 4.4 table below.

Table 4.4: Descriptive Statistics on Profitability of SME’s

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Revenue Growth	185	1	2	1.35	.479	.628	.179	-1.623	.355

Source: Researcher, 2023

The result from Table 4.4 shows the mean score, median, standard deviation, maximum, and minimum on the profitability of SMEs in 26-June District in Hargeisa, Somaliland. Responses from the study participants regarding if the SMEs meet their targeted revenue every year revealed that most of them fail to meet the forecasted revenue hence leading to low profitability. This is evident from the scored mean of 1.35 and standard deviation of 0.479, the data also yield a coefficient of skewness of 0.628 associated with standard error of 0.179. The skewness was analyzed to determine the significance and the normality of the data. On the other hand, the coefficient of the kurtosis was determined as -1.623 with a standard error of 0.355.

4.2 Diagnostic Tests Results

4.2.1 Normality Test Results

A normality test is employed to decide whether sample data has drawn from a normally distributed population. The study used Kolmogorov-Smirnov and Shapiro-Wilk test to test for normality distribution of the variables.

Table 4.5: Normality Test Outcome

Tests of Normality						
	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Profitability	.417	185	.000	.603	185	.000
Credit Risk	.149	185	.000	.945	185	.000
Market Risk	.088	185	.001	.959	185	.000
Liquidity Risk	.133	185	.000	.945	185	.000

Source: Researcher, 2023

As per the results in table 4.5, the study employed Kolmogorov-Smirnov and Shapiro-Wilk test of normality. The null hypothesis under this test was that the residuals were not significantly different from a normal distribution. Given that the $P = 0.000 < 0.05$ significant level for the residual, the null hypothesis was rejected. The study concluded that the residuals were not normally distributed. Going by the rule of the thumb, a sample size of 30 observations and more will usually result in a sampling distribution for mean that is very close to a normal distribution (Saunders, Lewis & Thornhill, 2009). In this case the researcher made an observation of 189 respondents which is way above a sample size of 30 observations.

4.2.2 Multicollinearity Test Results

Multicollinearity is a regression illness resulting from a violation of one of the classical linear regression assumptions, namely, that none of the independent variables in the model should be related to another (Halcoussis, 2005). One of the signals of multicollinearity is the correlation coefficient r , which measures the extent to which two variables move together. The coefficient r takes the values from -1 to $+1$. The closer r is to $+1$ or -1 , the more likely there is a serious problem of multicollinearity.

Table 4.6: Normality Test Outcome

Correlations		Credit Risk	Market Risk	Liquidity Risk
Credit Risk	Correlation Coefficient	1.000	.473**	-.676**
	Sig. (1-tailed)		.000	.000
	N	185	185	185
Market Risk	Correlation Coefficient	.473**	1.000	-.595**
	Sig. (1-tailed)	.000		.000
	N	185	185	185
Liquidity Risk	Correlation Coefficient	-.676**	-.595**	1.000
	Sig. (1-tailed)	.000	.000	
	N	185	185	185

** . Correlation is significant at the 0.05 level (1-tailed).

Note: The star (**.) in the correlation matrix indicates that the correlation coefficient (r) is significant at 5 per cent. The fact that all the correlation coefficients in the matrix were much lower than 0.80, which means that the model did not have serious multicollinearity issues.

4.2.3 Goodness of Fit Test Results

The Omnibus Test is Chi-Square goodness of fit test. It has the null hypothesis that intercept, and all coefficients are zero, implying that we can reject this null hypothesis. The Omnibus Test applies Chi-square test is used to determine if the model better fits the data compared to the baseline model with intercept only. Simply said, if the Model is significant, this shows that there is a significant improvement in fit as compared to the null model; hence, the model is showing a good fit. The results of the Model are presented in the table 4.7 below.

Table 4.7: Omnibus test of Model Coefficient

		Chi-square	df	Sig.
Step 1	Step	55.869	3	.000
	Block	55.869	3	.000
	Model	55.869	3	.000

Source: Researcher, 2023

The table 4.7 above indicates that the Omnibus test of the model is significant (p=.000, Chi-square =55.869). This demonstrates that the full model is an improvement of the baseline model.

4.2.4 Hosmer and Lemeshow Test Results

Table 4-8: Hosmer and Lemeshow Test

Step	Chi-square	df	Sig.
1	13.570	8	.094

Source: Researcher, 2023

The Hosmer and Lemeshow test is also a test of Model fit. The Hosmer-Lemeshow statistic indicates a poor fit if the significance value is less than 0.05. Here, the model adequately fits the data. Hence, there is no difference between the observed and predicted model. Table 4.8 Reveals that Homer-Lemeshow test is not significant (p=.094) implying that the model is a good fit for the data. However, this test is used with caution as it highly dependent on sample size and it may not be reliable in analyzing small samples.

4.3 Binary Logistic Regression Analysis

Binary logistic regression can be used to assess the effect of one of more predictor variables on the outcomes. Similarly, binary logistic analysis of financial risk on profitability was undertaken in this study. Binary Logistic analysis generates parameters used to measure the efficiency of the model in measuring the relationship between variables, in other words all predictor variables are tested in one block to assess their predictive ability while controlling for the effects of other predictors in the model.

4.4 Baseline Model

To see if the whole model's prediction ability improves over the baseline model, a baseline model is performed without the predictors or dependent variables. If a logistic model outperforms the baseline model, also known as the null model or Intercept only model provides a superior fit to the data. The predictions of the null model are only dependent on the data set where the variables occur most frequently.

Table 4.9: Baseline Model Equation

	B	S.E.	Wald	df	Sig.	Exp(B)
Step 0 Constant	-.613	.154	15.849	1	.000	.542

Source: Researcher, 2023

The constant only model shows that the variables are statistically significant ($\beta = -.613$, $X^2 = 15.849$, $p = .000$). The score test then sets out variables that are not in the baseline equation. The result is presented in the table 4.10 below.

Table 4.10: Variables not in the Equation

Step 0	Variables	Score	df	Sig.
	Credit Risk	39.657	1	.000
	Market Risk	38.004	1	.000
	Liquidity Risk	35.950	1	.000
	Overall Statistics	48.612	3	.000

Source: Researcher, 2023

The model predicts that at least one of the variables will be significant with a p-value of less than 0.05 in the null model and the overall model was significant. The baseline model is generated to be compared to the full model in order to assess any improvements and predictor contributions.

4.5 Logistic Regression Outcome

Table 4.11: Coefficient of Binary Logistic Regression

Step 1 ^a		B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I. for EXP(B)	
								Lower	Upper
	Credit Risk	-1.349	.499	7.309	1	.007	.260	.098	.690
	Market Risk	-.941	.354	7.058	1	.008	.390	.195	.781
	Liquidity Risk	.365	.501	.529	1	.467	1.440	.539	3.848
	Constant	7.072	3.142	5.067	1	.024	1178.059		

Source: Researcher, 2023

Variable(s) entered on step 1: Credit Risk, Market Risk and Liquidity Risk.

The predictors in the full model were credit risk, market risk, and liquidity risk. This is shown in table 4.11 above.

4.6 Inferential Analysis

4.6.1 Test of Hypothesis

H₀₁: Credit risk has no significant effect on the profitability of SMEs in 26-June District Hargeisa, Somaliland.

The first specific objective of the study sought to determine the effect of credit risk on profitability of SMEs in 26-june District Hargeisa, Somaliland. The outcomes are as presented in Table 4.11. To meet this objective, a null hypothesis that credit risk has no significant effect on profitability of SMEs in 26-june District Hargeisa, Somaliland was developed. In Table 4.11, the p-value ($\text{Exp}(B) = 0.260$, $P = 0.007$) shows that credit risk is statistically significant. Therefore, the null hypothesis that credit risk has no significant effect on profitability SMEs in 26-june District Hargeisa, Somaliland was rejected at 5% level of significance. This implies that credit risk coefficient is different from zero since the p value is less than 0.05. The odds ratio for credit risk indicates that every unit increase in credit risk is associated with a 74% decrease in the odds of profitability in SMEs in June District as per the sample. This further implies that customer and suppliers hazards are key pointers to credit risk that are associated with profitability of SMEs in Somaliland. The finding agrees with those of (Mazen, 2013 & Diby *et al.*, 2019).

H0₂ Market risk has no significant effect on the profitability of SMEs in 26-June District Hargeisa, Somaliland.

The second specific objective of the study sought to determine the effect of market risk on profitability of SMEs in 26-june District Hargeisa, Somaliland. The outcomes are as presented in Table 4.11. To meet this objective, a null hypothesis that market risk has no significant effect on profitability SMEs in 26-june District Hargeisa, Somaliland was developed. In Table 4.11, the p-value ($\text{Exp}(B) = 0.390, P=0.008$) shows that market risk is statistically significant. Therefore, the null hypothesis that market risk has no significant effect on profitability SMEs in 26-June District Hargeisa, Somaliland was rejected at 5% level of significance. This implies that market risk coefficient is different from zero since the p-value is less than 0.05. The odds ratio for market risk indicates that every unit increase in market risk is associated with a 61% decrease in the odds of profitability in SMEs in June District as per the sample. This further implies that commodity risk and exchange rate fluctuations are key pointers to market risk and that affect the profitability of SMEs in Somaliland. The study findings promptly support the study's conclusions by Darko and Kruger (2017) Agubata and Odubuasi (2018) study findings that concluded market risk as the key risk affecting the largest number of entrepreneurs and the performance of SMEs.

H0₃ Liquidity risk has no significant effect on the profitability of SMEs in 26-June District Hargeisa, Somaliland.

Third specific objective of the study sought to determine the effect of liquidity risk on profitability of SMEs in 26-june District Hargeisa, Somaliland. The outcomes are as presented in Table 4.11. To meet this objective, a null hypothesis that liquidity risk has no significant effect on profitability of SMEs in 26-june District Hargeisa, Somaliland was developed. In Table 4.11, the p-value ($\text{Exp}(B) = 1.440, P=0.467$) shows that liquidity risk is statistically insignificant. Therefore, the null hypothesis that liquidity risk has no significant effect on profitability SMEs in 26-June District Hargeisa, Somaliland was not rejected at 5% level of significance. This implies that liquidity risk coefficient is not different from zero since the p value is more than 0.05. The odds ratio for liquidity risk indicates that every unit increase in liquidity risk is associated with an increase in the odds of profitability in SMEs in June District as per the sample. The finding corroborates with those of (Muriithi and Waweru, 2017 & Onsongo *et al.*, 2020).

5. CONCLUSIONS AND RECOMMENDATIONS

Based on the findings, the study concluded that SMEs in Somaliland should ensure that they pay keen attention to financial risk since they are associated with profitability of the SMEs. The study further concluded that credit risk as measured by customer and supplier's hazards were the likely cause to reduced profitability in SMEs in Somaliland. Thus, the researcher recommends that the SMEs should put in a place system that can provide them with latest information about both credit risk sources which are suppliers and customers hazards so that they can refine their collection process and improve their unstable cash flow. The study concluded that market risk as measured by commodity prices and exchange rates were also the two key aspects that caused reduction on the profitability of the SMEs in Somaliland. The study on market risk it recommends that to optimize earnings and mitigate financial damages, it is crucial for the SMEs to monitor market information regularly as to apply any modifications to its products or services so they can reduce their exposure to market risk.

The study furthermore recommended that policymakers should explore the financial risks that SMEs encounter given the crucial role they play in boosting the overall economic growth of the country. Understanding this will help them create specialized or custom training and development programs that are intended to help entrepreneurs increase their overall knowledge of the financial risks and overcome their obstacles, since this aligns with Somaliland vision 2030 that seeks to create a well-developed private sector that provides investment, employment, sustained livelihoods and vital services to strengthen the economic foundation of peace" (Somaliland Vision, 2030).

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