

*Full Length Research Paper*

## **An Assessment of Financial Risk of Food Vendors in Calabar Metropolis, Cross River, Nigeria**

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### **Abstract**

**This study assessed the financial risk of food vendors in Calabar Metropolis. It specifically sought to identify the types of financial risk in the study area, the level of financial risk, the effect of financial risk factors on vendor's sales and strategies used to manage financial risk. The study used random sampling technique to select 120 restaurants in Calabar metropolis. Data were obtained from primary source using structured questionnaire and analyzed using descriptive and inferential statistics. The results showed that interest rate risk was the most common type of financial risk in the study area at 46.7%. The result also revealed that the mean financial risk level was 34.93%. Three variables were statistically significant in influencing sales and these were taxation, variable cost and financial risk. The result further revealed that savings was the most common financial risk management technique at 37.2%. The study therefore, recommends that food vendors should insure their businesses to reduce the effects of financial risk. Food vendors should maintain a balance with lending institutions to curtail financial risk for their viability and sustainability.**

**Keywords:** Financial Risk; Food Vendors; Risk Management; Calabar Metropolis.

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### **INTRODUCTION**

Risk and economic activity are inseparable, every business decision and entrepreneurial act is connected with risk, and this applies to all businesses from small, medium to large scale. In a real business environment with market imperfection, there is need to manage those risks in order to secure business continuity as well as add value by avoiding or reducing transaction costs and cost of financial distress (Hendricks, 1996; Lopez and Saidenberg 2000).

Financial risk is a challenge for most business firms. This is often due to the lack of necessary resources, with regards to manpower, databases and specialty of knowledge to perform a standardized and structured risk management (Kupiec 1998). Smaller firms do not

perform sufficient analysis to identify their risk and some other firms are not even aware of risk emanating activities (i.e informal business sectors). This is due to lack of literature on effective methods of risk identification and management especially in small and medium enterprises (SMEs), (Diermeier 2001; Umuze and Ohen 2001).

The food industry plays an important role in cities and towns of many developing countries, both economically and in meeting food demand of city dwellers. It is estimated that street food contributes up to 40% of the daily diet of urban consumers in developing countries International Monetary Fund (IMF) (1998). This global phenomenon is not uncommon in Nigeria, with estimate of employment generated by this sector between 6 – 20%, National Bureau of Statistics, (2010) The food vending sector is a major contributor to the Nigerian economy, with an estimated annual revenue of N230 billion and taxes in excess of a billion naira (FAO 2004,

Sanni 2003). There are basically two groups of food vendors; the formal and informal food vendors. The formal are those that are monitored, protected and taxed by the government whereas the later are those that are not under government regulation. The food sector whether monitored by the government or not, faces the challenges of financial risks and these risks must be effectively identified, monitored and managed if the business must survive. (Glasserman, Heidelberg and Suahadudden 2002). Food vending in Nigeria and indeed Calabar is faced with a variety of challenges including security, exchange rate, inflation, interest rates.

These challenges are aggravated by the level of neglect from government as well as corporate financial institutions' strangulated policies on credit. This has led to high risk exposures of this sector and in severe cases, the folding up of some of these formal food vending firms, either as a result of taxation or unfriendly policies. This paper therefore seeks to assess the various financial risks faced by food vendors in Calabar metropolis as well as proffer ways to manage such risks for sustainability of the business firms.

**Objectives of the Study**

The main objective of this study is to assess the financial risk of food vendors in Calabar metropolis Cross river State Nigeria. The specific objectives are to:

- i). Identify the types of financial risk faced by food vendors in Calabar metropolis.
- ii). Analyze the level of the financial risk of food vendor in Calabar metropolis.
- iii). Determine the factors that affect food vendor sales, and
- iv). Ascertain strategies used to manage financial risk by the food vendors.

**RESEARCH HYPOTHESIS**

The research is guided by the following null hypothesis. Financial risk variables have no significant effect on food vendor sales/business.

**MATERIALS AND METHODS**

**Study Area**

This study was carried out in Calabar metropolis, the

capital of Cross River State, Nigeria. Calabar metropolis is divided into Calabar Municipality and Calabar South Local Government Areas for administrative purposes. Calabar lies between latitude 40281 and 60 551 of the equator and longitude 80 001 and 90 001 East of Greenwich Meridian and is about 105 feet (32m) above sea level (NBS, 2016). It has a mean yearly rainfall averaging just less than 3,000 millimeters.

Temperatures are relatively constant throughout the year, with average temperatures usually ranging from 250C – 280C. Calabar has a topography that is predominantly flat with an area of about 406km2 (157 m2). It has a population of about 3,371,022 people according to the 2006 National Census.(NPC. 2006). Calabar Metropolis is selected for this study due to the presence of a good number of registered restaurants in Calabar South and Calabar Municipal.

**SAMPLING PROCEDURE AND SAMPLE SIZE**

The different restaurants to work with were selected using the random sampling technique. This selection was done in proportion to size of the registered restaurants in the study area. A structured questionnaire was used to elicit relevant information from the persons running the restaurants at the different locations in the study area.

The population consists of about 150 registered micro and semi micro restaurants in Calabar Metropolis. Of this, (120) restaurants were proportionately selected at 10% giving a total of 80% coverage level of precision using the method of determining sample size according to Yamane (1967), in Eboh (2009), stated as:

$$n = \frac{N}{1 + N(e^2)}$$

Where n = Sample size  
 N = Population size,  
 e = Level of precision

**DATA ANALYSIS / MODEL**

Data obtained were analyzed with the use of frequency distribution, percentages and multiple regression analysis. Financial risk was analyzed using a formula as given by Barry, Hopkin and Baker (1983): stated as:

$$CV = \frac{\delta}{\bar{g}}$$

Where CV is the coefficient of variation expressed as the relative risk for a given level of leverage;  $\sigma_{\bar{g}}$ , the standard deviation of the expected growth of equity capital and  $\bar{g}$  is the expected rate of growth under risk.  $\bar{g}$  is in turn expressed as:

$$\bar{g} = (\bar{r} p_a - i p_r) k$$

Where  $\bar{g}$  is as defined.

$$k = (1 - t) (1 - c)$$

$r$  = average net rate of return, except for interest (i) and taxes (t), on total assets owned by the firm.

$i$  = the average interest rate paid on debt

$t$  = the average rate of income taxation

$c$  = the average of withdrawals for family consumption

$p_a$  = the ratio (or proportion) of assets to equity

$p_r$  = the ratio (or proportion) of debt to equity.

To determine financial risk effect on business growth, proxies by sales volume, multiple regression model was used and specified as follows:

$$Y = B + B_1 X_1 + B_2 X_2 + B_3 X_3 + B_4 X_4$$

Where

$Y$  = Sales (Naira)

$X_1$  = Taxes (Naira)

$X_2$  = Variable cost (Naira)

$X_3$  = Consumer preference (Quantity consumed in K9)

$X_4$  = Financial risk (Percentage)

## RESULTS AND DISCUSSION

### A). Common types of financial risk faced by respondents

Financial risk arises from the financial claims on the firm. These risks are further increased by unanticipated variations in interest rates, credit availability and other changes in loan terms (Barry et al, 1983). Accordingly table 1, shows that 46.7% of the respondents incurred interest rate risk, while 20% incurred credit availability risk and 33.3% of the respondents incurred both interest rate and credit risk.

It can therefore be said that interest rate risk is the most common financial risk among food vendors in Calabar Metropolis. Again, financial risk distribution of respondents showed that interest rate was the most prevalent at 46.7%. Increase in sales lead to more profit and growth of the business. This, in turn increase

investors claims in terms of debt and dividend warrant. In other words, if more profit is made, there is the likelihood of the business to increase its financial rates in terms of debt payment.

### B). Financial risk levels faced by food vendors in Calabar metropolis

From table 2, about 60% of the respondents in the study area had a financial risk level of between 31 – 40%, while 18.3% of the respondents had a financial risk level of between 21 – 30%. Moreover, 16.7% had a financial risk level of between 41 – 50% and only 5% had a financial risk level of between 11 – 20%. The maximum level of financial risk was 49.8%, while the minimum level of financial risk was 13.8%. The mean level of financial risk was 34.9%; implying that majority of the restaurants in Calabar metropolis are high risk.

### C). Effect of financial risk on vendors' sales

The variables that influence food vendors' sales are shown in the table 3. Four (4) functional forms of linear, semi-log, exponential and double log were tried and the linear function was found to be the lead equation. This is because it gave the best fit in terms of coefficient of determination ( $R^2$ ), the number of significant variables (x) and the expected signs of the regression coefficient.

The value of the coefficient of determination ( $R^2$ ) which measures the overall goodness of fit of the entire regression was 0.819. It reveals that the independent variable accounted for about 82% of the total variation of the dependent variable. This means that the variables included in the model were major determinants of food vendors' sales which proxies for business growth rate.

The f-ratio was 62.350 and significant at 1% level implying that the joint effect of the entire variables in the model was significant. The parameters are discussed below (table 3).

**Taxation (X1):** had a direct relationship with sales or business growth. This implies that the higher the sales, the higher the taxes. This agrees with the a priori expectation and is significant at 1% level.

**Variable cost (X2):** had a direct relationship with sales. This implies also that an increase in variable cost could lead to an increase in sales. This is against a priori expectation and work by Enimu, Edet and Ofem (2016) which states that increase variable cost will lead to decrease in sales. This will lead to high cost of production thereby reducing profit.

**Table 1.** Distribution of respondents based on types of financial risks

Types of financial risk	Frequency	Percentage (%)
Credit availability	24	20
Interest rates	56	46.7
Credit availability and interest rates	40	33.3
<b>Total</b>	<b>120</b>	<b>100</b>

**Source:** Field survey, 2016

**Table 2: Distribution of respondents based on financial risk level**

Mean Value	Frequency	Percentage (%)
11 – 20	6	5
21 – 30	22	18.3
31 – 40	72	60
41 – 50	20	16.7
$\bar{x}$ = 34.93		
Max = 49.76		
Min = 13.79		
<b>Total</b>	<b>120</b>	<b>100</b>

**Source:** Field survey, 2016

**Table 3.** Regression analysis of factors affecting sales of food vendor in Calabar Metropolis

Functional Forms	Predictor	Estimated	T-ratio	F-Stat	R <sup>2</sup>	Adjusted R <sup>2</sup>
<b>Linear</b>	Constant	-17769.823	-3.300			
	X <sub>1</sub>	0.361	4.047***			
	X <sub>2</sub>	0.118	7.613***	62.350	0.819	0.806
	X <sub>3</sub>	-67.550	-0.155			
<b>Semilog</b>	X <sub>4</sub>	875.259	6.409***			
	Constant	9.000	65.575			
	X <sub>1</sub>	3.231E-006	1.421			
	X <sub>2</sub>	2.109E-006	5.338***			
	X <sub>3</sub>	0.018	1.616	40.780	0.748	0.730
<b>Double log</b>	X <sub>4</sub>	0.027	7.890***			
	Constant	1.942	1.968			
	X <sub>1</sub>	0.112	2.872*			
	X <sub>2</sub>	0.396	4.882**	28.931	0.678	0.654
	X <sub>3</sub>	0.032	0.769			
<b>Exponential</b>	X <sub>4</sub>	0775	6.304***			
	Constant	-392656.642	-8.195			
	X <sub>1</sub>	7089.883	3.739**			
	X <sub>2</sub>	23799.549	6.041***	25.156	0.647	0.621
	X <sub>3</sub>	-2116.498	-1.053			
	X <sub>4</sub>	24061.332	<b>4.033**</b>			

**Source:** Data analysis, 2016.  
 \* = Significant at 1 percent level  
 \*\* = Significant at 5 percent level  
 \*\*\* = Significant at 10 percent level

### Financial risk management strategies

**Table 4.** Distribution of respondents according risk management strategies adopted

Risk Management Strategies	Frequency	Percentage (%)
Other business	43	17.8
Insurance	10	3.9
Savings	96	37.2
Cooperative membership	54	20.9
Contract sales	52	20.2
<b>Total</b>	<b>258*</b>	<b>100</b>

**Financial risk(X4):** had a direct relationship with sales and it is significant at 1% level, this implies that the more the sales, the higher the financial risks and vice versa. This conforms to a priori expectations. This is particularly true with taxation as more sales will lead to higher taxes as changes in taxes modify financial risks. The result revealed that the most common risk management strategy among food vendors in Calabar metropolis was savings with 37.2% cooperative membership at 20.9%, contract sales at 20.2% other business at 17.8% and insurance at 3.9%, which was the least risk management strategy used. The possible reason why most of the respondents practiced savings was because of the difficulty in securing credit from formal and informal sectors.

### CONCLUSION

Risk in business cannot be completely eliminated. In most financial cases, a business has to incur a high level of risk in order to increase its sales and profitability. However, there are several risk management strategies which have been introduced over the years and have been adopted by many businesses to reduce risk. The study therefore concludes that financial risk is a key factor influencing the growth of food vending in Calabar metropolis and must be put into consideration in the running of the business.

Based on the findings of the study, it was recommended that: Food vendor firms should insure their business, financial institutions should reduce their interest rate to food vendors by formulating a system of daily loan repayment which is suitable for the business, government policies on taxation should be convenient and flexible and food vendors should monitor their asset allocation strategies in line with market conditions.

### REFERENCES

- Barry, P.J.; Hopkin J.A and Baker C.B (1983). Concept of finance for capital using. *Agricultural Economics*. 51 (5): 1055 – 1065.
- Diermeier, J. and Solnik B. (2001). Global Pricing of Equity. *Financial Analysis journal*. 57, 37 – 47.
- Eboh, E.C. (2009). *Social and Economic Research: Principles and Methods*. (2nd ed). African Institute for Applied Economics. Enugu. 20 – 23.
- Enimu, S.; Edet, G.O. and Ofem U.I (2016). Profitability Analysis of Cassava Production in Cross River State, Nigeria. *Int. Journal of Human Resources and Social Science*. 3(8): 210 – 224.
- Food and Agricultural Organization (FAO), (2004). *Quarterly Bulletin Statistics*, FAO, Rome, 1 (2); 125 – 132.
- Glasserman, P., Heldelberger P. and Shahabuddin P. (2002). Portfolio value-at-risk with heavy-tailed risk factors. *Mathematical finance*, 12: 239 – 269.
- Hendricks, D. (1996), Evaluation of value –at-risk models using historical data. *Econ, Policy Review*, Federal Reserve Bank of New York 2, 39 – 69.
- International Monetary Fund (1998). *World Economic Outlook May*. IMF Washington, DC.
- Kohls, R.L. and Uhl, J.N. (1990), *Marketing of Agricultural Product*. 7th ed. Macmillan, U.K London.
- Kupiec, P. (1998). Stress testing in a value risk framework. *Journal of Derivative*. 6, 7 – 14.
- Lopez, J. and Saidenberg, M. (2000), Evaluating Credit Risk Models. *Journal of Banking and Finance*. 24, 151 – 165.
- National Bureau of Statistics (2010), *National Manpower Shock and Employment Generation Survey, Household and Micro Enterprises*. www.nbs.org.ng 21st August, 2016.
- National Population Commission (NPC) (2006), *Population of Cross River State*, National Population Commission of Nigeria, Abuja.
- Sanni, L.O. (2003). Challenges facing the food industries in Nigeria. The role of food technologists. 2nd International workshop on food based approaches for a healthy nutrition. Quagadougou.
- Umeze, G.E. and Ohen, S.B. (2014). Performance of micro restaurant enterprises in Cross-River State, Nigeria. *Journal of Agricultural Science*. 6 (11): 75 – 81.