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**DETERMINING FACTORS
IN THE QUANTITY OF
CHICKEN DEMANDED
IN THE NEIGHBORHOOD
OF MUATALA-CITY OF
NAMPULA (DURING
JUNE 25, 2022)**

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Abstract: This article aimed to analyze the determining factors in the quantity of chicken demanded, in the Muatala neighborhood (during June 25, 2022). It also focused on: i) identifying the determining factors in the quantity demanded of chicken by consumers in the same neighborhood, ii) presenting a univariate, bivariate and multivariate analysis, iii) Relate the determining factors in the quantity of chicken demanded through a multiple regression model. The literature used throughout the study points out that the factors that determine the demand for a particular good are the consumer's income, the price of the good, the price of the substitute and complementary good and the habits and tastes of individuals. Therefore, in the present study, we resorted to the use of three factors that are extremely relevant to explain the demand for chicken (income, the price of chicken and the price of beef). Methodologically, this is an exploratory study that adopted an approach with quantitative characteristics and cross-sectional series data. Thus, the results found in the research were in accordance with the theory used in the research and the independent variables (consumer income, price of chicken and beef) included in the model are statistically significant and determining the quantity of chickens demanded, during the June 25, 2022 in individuals residing in the Muatala neighborhood in the city of Nampula.

Keywords: chicken; price of the substitute good; consumer income; beef.

INTRODUCTION

The demand or demand for a specific good x (D_x) is generally given by the quantity of this good that individuals (buyers or consumers) wish to acquire for their consumption in a given period of time.

Studies on the determining factors of a good since antiquity have been of great

interest to researchers linked to the area (economists, marketing managers, among others), to such an extent that some authors suggest that there are several factors that determine the quantity of demand for goods. a good in society, for example, according to the postulates of Rossetti (2016), the quantity demanded of a good is determined by a series of factors, the most relevant of which are: the price of the good

x (p_x); Consumer income (Y); The price of substitute goods for good x (p_s); The price of goods complementary to good x (p_c) and consumer habits and preferences (H).

In this context, the present study began by selecting the variables or factors that are extremely determining for the demand for the quantity of chicken and for this purpose we used the variables presented in the literature used in the research and with the help of a questionnaire that were filled in different chicken consumers from the Muatala neighborhood who purchased chickens during the 25th of June of the current year in the city's main markets and which helped the researcher to obtain relevant information to obtain the data. In this sense, it is worth highlighting that the researcher selected the price of chicken, the income of the consumers surveyed and the price of beef as a substitute for chicken.

DELIMITATION AND FORMULATION OF STARTING QUESTION

In this research, the period chosen for the analysis corresponds to a strategic period for individuals to make their purchases during a national holiday period. Therefore, the choice of this interval was limited to the fact that it is a period in which the main suppliers of chicken (live and frozen) in the city of Nampula (Waresta, Mercado SPAR, Shoprite and Recheio) see a great demand for the quantity

of chicken that consumers want to purchase from their basic basket. However, it is worth noting that the size of the chicken chosen for the present study was 1.4kg, as it is the size most sought after by families on festive days.

However, looking at the Mozambican reality and particularly in the city of Nampula in their daily lives, especially on festive days, they face a great dilemma with regard to the type of preferred dish for their meals, such that, in some situations They are forced to make difficult choices due to several factors, for example, high prices and low income. Thus, during the festive period there is a great demand for chicken from consumers in the Muatala neighborhood in particular. In this sense, the researcher decided to find out what factors determine the quantity of chicken demanded on festive days by consumers. individuals from that area. Thus, the question or problem that was intended to be answered in the research was: What are the factors that determine the quantity of chicken demanded by consumers in the Muatala neighborhood, during June 25th of the current year?

Likewise, the objective was to analyze the factors determining the quantity of chicken demanded, in the Muatala neighborhood (during June 25, 2022). And as specific: i) identify the determining factors in the quantity demanded of chicken by consumers in the same neighborhood, ii) present a univariate, bivariate and multivariate analysis, iii) Relate the determining factors in the quantity demanded of chicken through a model multiple regression.

THEORETICAL CONTEXTUALIZATION

THE QUANTITY DEMANDED OF A GOOD

Rossetti (2016) and Blanchard (2011) state that generally the quantity demanded of a given good x (DX) in society is directly related to the quantities that individuals desire and are willing to acquire in a given period of time. Pindyck and Rubinfeld (2006) present their reflections and argue that there are several factors that are very important in determining the quantity demanded of a given good by individuals in society, namely:

The price of good x (px); Consumer income (Y); The price of the substitute good (ps); The price of complementary goods to good x (pc) and consumer habits and tastes (H). The price of good x (px): this is the most relevant variable (factor) regarding the demand for a given good x , as it seeks to show how much the individual desires in terms of the good; if the price of the good is considered low, then

This individual will probably acquire a greater quantity than in a contrary situation in which the price may be high (Garófalo, 2016). Consumer income (Y): consumer income is one of the very important variables in the quantity demanded of a given good and has a great impact on them, assuming that for any increase in consumer income (Y) it will acquire larger quantities of this good x , and while, if his income is reduced, he will probably reduce the quantities demanded of the same good x , even if px remains unchanged (Rossetti, 2016).

The price of substitutes for good the price of substitute goods, such as margarine. Therefore, the individual will naturally purchase larger quantities if the price of butter is low and, otherwise, he will purchase smaller quantities.

METHODOLOGY

Methodologically, this is an exploratory research with quantitative characteristics, which was based on data collection from a questionnaire carried out with a total of 37 consumers who purchased chicken on June 25, 2022 in different markets in the city. of Nampula at different prices, that is, 370Mt in the waresta market, 429Mt in the filling, 439Mt Shoprite and VIP SPAR simultaneously. Furthermore, the price of meat was also monitored in the markets referenced above at prices of 320Mt, 370Mt, 379Mt and 389Mt respectively. However, for data analysis and interpretation, the Ordinary Least Squares Method was used, using the STATA 12 computer program. Several significance tests were carried out throughout the research. However, it is worth highlighting that the analyzes were based on univariate, bivariate and multivariate variables involved in the model.

Likewise, regarding the description of the variables involved in the model, we can highlight the quantity demanded of chicken (dependent variable in the research), consumer income, the price of chicken and the price of beef (independent variables in the research). Therefore, the specification of the mathematical and econometric model was expressed as shown below:

$$\text{Mathematical specification: } Y = Q_0 + Q_1X_1 - Q_2X_2 + Q_3X_3$$

$$\text{Econometric specification: } Y = Q_0 + Q_1X_1 - Q_2X_2 + Q_3X_3 + U$$

Where:

Y – Demanded quantity of chickens

β_0 – Constant

X_1 – Consumer income

X_2 – Chicken price

X_3 – Beef price

U – Error term – represents all variables that were not included in the model

and that affect the quantity of chickens demanded (dependent variable).

PRESENTATION, ANALYSIS AND INTERPRETATION OF RESULTS

UNIVARIATE ANALYSIS

Variable	Obs	Mean	Std. Dev.	Min	Max
qtdadevdd	37	3.216216	1.511716	1	6
renday	37	19364.57	11747.37	5600	44000
pfrango	37	406.4595	32.48811	370	439
pcarne	37	359.7027	36.55959	320	419

Table 1: Summary of the main univariate data of the variables involved in the model

The average quantity of chicken demanded by residents of the Muatala neighborhood in the city of Nampula is 3.22kg chicken and the standard deviation is 1.5kg chicken. The smallest quantity of chickens demanded is 1 chicken and the maximum are 6 chickens.

The average income of chicken consumers in the Muatala neighborhood of the city of Nampula is 19,364.57MT and the standard deviation is 11,747.16MT. The lowest income is 5,600.00MT and the maximum is 44,000.00MT.

The average price of chicken sold in the main markets in the city of Nampula (Waresta, VIP, Shoprit and Recheio) is 406.46MT and the standard deviation is 32.49MT. The lowest price is 370MT and the maximum is 439MT.

The average price of beef sold in the main markets in the city of Nampula (Waresta, VIP, Shoprit and Recheio) is 359.7MT and the standard deviation is 36.56MT. The lowest price is 320MT and the maximum is 419MT.

BIVARIATE ANALYSIS

```
. corr qtdadevdd renday
(obs=37)
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	qtdade~d	renday
qtdadevdd	1.0000	
renday	0.5608	1.0000

Table 2: Correlation between the quantities of chicken demanded and consumer income

There is a positive and average relationship between the quantities of chicken demanded and consumers' income of 56.08%.

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. corr qtdadevdd pfrango
(obs=37)
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	qtdade~d	pfrango
qtdadevdd	1.0000	
pfrango	0.2134	1.0000

Table 3: Correlation between chicken quantity demanded and chicken price

There is a positive and weak relationship between chicken quantity demanded and chicken price of 21.34%.

```
. corr qtdadevdd pcarne
(obs=37)
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	qtdade~d	pcarne
qtdadevdd	1.0000	
pcarne	0.1464	1.0000

Table 4: Correlation between the quantities demanded of chicken and the price of beef

The association between the quantities of chicken sold and the price of beef is positive and very weak at 14.64%.

MULTIVARIATE ANALYSIS

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. reg qtdadevdd renday pfrango pcarne
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Source	SS	df	MS	Number of obs =	37
Model	33.0362233	3	11.0120744	F(3, 33) =	7.38
Residual	49.234047	33	1.49194082	Prob > F =	0.0006
				R-squared =	0.4016
				Adj R-squared =	0.3472
Total	82.2702703	36	2.28528529	Root MSE =	1.2215

qtdadevdd	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]
renday	.0000723	.0000178	4.06	0.000	.0000361 .0001086
pfrango	.0542295	.0247992	2.19	0.036	.003775 .1046839
pcarne	-.0458512	.0221001	-2.07	0.046	-.0908142 -.0008882
_cons	-3.733889	3.140847	-1.19	0.243	-10.12399 2.656211

MODEL SPECIFICATIONS

$$Y = -3.733889 + 0.0000723X_1 + 0.542295X_2 - 0.0458512X_3 + U$$

If consumers' income, chicken and beef prices do not change, the quantity of chicken demanded will be equal to -3.73kg of chickens.

t tests - All independent variables included in the model, that is, consumer income, chicken and beef prices were statistically significant in explaining the variations that occurred in the quantities of chicken demanded during June 25, 2022 in the Muatata neighborhood in the city of Nampula, keeping the rest constant, since the p-value ($p > |t|$) was lower than the 5% significance level.

The coefficient of determination or R-squared (R^2) - 40,06% The variations that occur in the quantities demanded of chicken by consumers in the Muatata neighborhood of the city of Nampula are explained by the variations that occur in consumers' income and in the price of chicken and beef, simultaneously.

ANALYSIS AND DISCUSSION OF RESEARCH RESULTS

Some results and signs of the variables included in the research were not in accordance with the literature, that is, the variables were significant and affected the quantity of chicken demanded, but the signs of some variables were not in accordance with the literature. For example, the theory consulted highlights that increases in income cause the quantity of demand for good x, in this case, chicken, to increase, which means that there is a positive relationship between these variables and this result was in accordance with the theory. On the other hand, throughout the research the results obtained illustrated a contrary situation in the sign of chicken prices, that is, the sign was positive, which means that for any increase in the price of chicken the quantity

demanded of chicken will increase, contrary to so the theory. Still, the signal for the price of beef was negative and significant, which means that any increase in beef prices leads to a reduction in the quantities of chicken demanded.

CONCLUSION

The present research, which had the fundamental objective of approaching an analysis of the factors determining the quantity demanded of chicken by consumers in the Muatala neighborhood during June 25, 2022, came to an end after a synthesized research. Thus, it could be seen that observing the determinants of chicken demand in particular, it appears that they all vary simultaneously, which makes it difficult to assess the impacts that each one has on demand, therefore, to overcome this problem, throughout the

research was based on the coeteris paribus premise.

However, it could also be seen from the individual statistics that the variables involved in the study are significant in explaining the variations that occur in the quantities of chicken demanded, as the value ($p > |t|$) was lower than the level of 5% significance for all variables. The coefficient of determination showed that 40.06% of the variations that occur in the quantities of chicken demanded in the main markets in the city of Nampula by consumers in the Muatala neighborhood are explained by the variations that occurred in the independent variables included in the study. The results of the bivariate analyzes showed that the relationship between the variables is positive, however, this relationship is very weak.

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