

Impact of income and social deprivation on meat consumption in Mexico

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Abstract

The consumption of meat is important for the human being, due to the protein benefits of high biological value that this food contains. In addition to income there are other variables such as social deprivation, which also determine the consumption of meat. Identifying meat consumers in economic groups will help to understand the relationship between income and social deprivation with the consumption of this good. In July of 2014, an exploratory survey was conducted with a sample of 429 Mexican families the data are of a mixed nature, supported by a questionnaire of 43 questions, of which 20 were designed under the methodology of multidimensional measurement of poverty of the CONEVAL, in order to detect the index of social deprivation of the consumers surveyed. An F test was applied to check homogeneity of variances in the weekly consumption of meat of the three economic groups detected (vulnerable due to social deprivation, moderate multidimensional poor and extreme multidimensional poor). Finally, the Student's T test was carried out to check whether there is a difference in meat consumption between the three economic groups. The results showed that there is indeed a difference in consumption for beef, pork and chicken between the vulnerable group due to social deprivation and extreme multidimensional poverty with a t of 2.8254, 2.686 and 2.2367 respectively. Therefore, it is concluded that, in effect, social deprivation and income directly influence the weekly consumption of meat.

Keywords: CONEVAL, multidimensional measurement, welfare.

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Introduction

The meat in general, have a great goodness because it is rich in proteins of high biological value, therefore, it contributes in the body of the individual for the formation of bones, teeth, muscles and also contains factors that will contribute to the increase of the index of hemoglobin. If the population does not consume meat in the proper proportion, it is prone to have low hemoglobin, and that translates into anemia, the individual pays less and can have health complications (Leon and Carrasco, 2012). The consequences of not consuming meat can produce long-term pathologies in the central nervous system, malnutrition and anemia. For the above reasons the individual should consume animal protein according to their weight, size and age. The normal is from 0.8 to 1 gram of daily protein per kilogram of weight.

The per capita consumption of bovine meat in Mexico has been reduced between 2007 and 2016, at an average annual rate of 2.1%, going from 18 to 14.8 kg. Meanwhile, the per capita consumption of chicken and pork meat show a different behavior, with an annual average growth rate of 2 and 3.3% respectively, during the aforementioned period. According to the agri-food panorama, it is expected that by 2017 the per capita consumption of beef will be 14.8 kg, that of pork in 19 kg and that of chicken in 33.8 kg.

The factors that limit the consumption of meat in Mexico are: the price of the good, the income, the tastes and preferences, the price of other related goods and the population. However, there are other factors that directly or indirectly influence the consumption dynamics of meat products. The family composition by sex and age of the members, influences qualitatively and quantitatively in their consumption patterns, on the other hand, the level of education of the household head is related to how spending is distributed according to the type of food of your nutritional or sensory preference. Carosio (2008) states that the social stratum to which a family belongs determines their eating habits. The socioeconomic characteristics reflect displacements in the expenses due to the life cycle, difference in the accessibility of the products, tastes, preferences and culture and infrastructure of the family.

In proportion to the income received, food purchase costs are higher in households with lower incomes. Urrego (2014), points out that income is linked to the food energy that enters a household and modifies the structure and proportions of consumption, since the higher the family income, the lower the percentage of it invested in food.

On the other hand, the number of households where the main economic provider (recognized as head of the family) has fixed employment is very low, which leads to the majority of Mexican families obtaining fluctuating income from the informal economy. As a consequence, of this fluctuation income does not allow access to the purchase of the basic food basket. More than a third of the economically active population has poverty of capacities, because the income is insufficient to acquire the food basket and cover the health and education expenses, even allocating the total income only for these purposes.

From 2012 to 2018, purchasing power registered an accumulated loss of 3.45%. Basically, the purchasing power has been damaged by the increase in prices in general, for example, if we consider the prices of food from January 1, 2013 to April 12, 2014 the price of the food basket

increased 7.62% contrasting 3.9% increase to the nominal daily minimum wage for the year 2014. This situation is distressing, since the behavior of the price per day of the food basket in 1987 was \$3.95 pesos per day, as of April 12, 2014, the price of the same was of \$184.96 pesos per day, that is to say during these 27 years of neoliberalism the cost of living and of the food basket has increased 4 582%. The purchasing power of the Mexican currency is undoubtedly the main factor that limits the consumer access to expensive products such as meat.

Social needs are other basic needs that influence the consumption of meat, due to the redistribution of family spending. If there is a social deficiency in the consumer's home, it will give priority to satisfying that lack by sacrificing their food. Boltvinik (2007) mentions that, the government has forgotten that in addition to economic well-being, social rights such as education, health services, social security, and basic housing services, directly or indirectly influence the diet of Mexicans.

On the contrary, if any of the inhabitants of the household receives some economic support from the federal government, this will allocate more income to the purchase of products that are difficult to access. However, according to (Moreno and Rojas, 2005) the adequate consumption of meat in our country is a subject that is not considered within the new food policies in Mexico there are data that confirm that eating protein is from rich, the countries with the highest GDP per capita are the ones that consume the most meat per inhabitant.

There are numerous studies related to the consumption of meat worldwide, several of these provide us with data of economic and social interest, an example of this is a study carried out by FAO (2014), in which said organization points out the following: meat consumption per capita in some industrialized countries is high, in developing countries a per capita consumption of meat below 10 kg should be considered insufficient and often causes undernutrition and malnutrition. Likewise, it is estimated that in the world more than 2 billion people suffer from deficiencies of essential vitamins and minerals, in particular vitamin A, iodine, iron and zinc. These deficiencies occur when people have limited access to foods rich in micronutrients such as meat, fish, fruits and vegetables. Most people with micronutrient deficiencies live in low-income countries and generally.

In Mexico, several studies have also been conducted regarding the consumption of meat, one of them mentions that in addition to income there are exogenous factors that likewise influence the consumption of meat. The social class is a powerful tool for segmenting markets, since people in a social group tend to have similar opportunities, live in similar types of housing, in the same area, buy similar products in the same type of business and generally have the same lifestyle the relationship that showed the level of income, occupation, type and housing tenure are closely related, since it could be observed that people who have a high income (V), it is because they also have a formal job and house own, likewise are characterized by consuming meat more than once a week and spend up to 30% of their income on the purchase of food (Arana *et al.*, 2012).

One of the main reasons why the consumption of meat in Mexico is regionalized is due to the gastronomic customs. Taddei *et al.* (2012) confirm this with the study that concluded that the characteristic profile of the population of northwestern Mexico, as a high consumer of beef, was corroborated with the information referring to foods that are used to eating out of home. The grilled

meat tacos stand out as the most requested type of food. According to the FAO (2014) the constant demographic growth and the increase of the income generate a greater demand of meat. These factors supposed to be determinant in the increase of consumption of meat products in general.

A study conducted by Del Carmen *et al.* (2015) mention the following: allowing the joint endogeneity in the determination of prices to the consumer of meats, the variables with the greatest impact on the consumer price of the main meats consumed in Mexico, were the quantity demanded, the price of their respective substitutes, the price lagged one period and the income. On the other hand Cortés *et al.* (2012) in their research conclude that consumers with low levels of consumption and low and medium income level, acquire mainly steak, pork chop, spine, solid, leg and other pieces of pork (popular cuts) and these products are purchased primarily in public markets and neighborhood butchers. In the same way, consumers with the aforementioned characteristics acquire essentially hot meat and to a lesser extent refrigerated meat; with a purchase demand of one to two products.

There are numerous studies regarding the consumption of meat, none of them considers social deprivation as determinant variables of consumption. This is the main reason why the present research uses a new methodology that in addition to considering income considers how social deficiencies affect the consumer. This method is based on the design of some questions under the methodology of the National Council for the Evaluation of Social Development Policy (CONEVAL, for its acronym in Spanish) (multidimensional measurement of poverty), in order to detect the number of deficiencies present in the households surveyed, in order to later perform Student T tests among the economic groups detected and know if the consumption of the three types of meat studied (beef, pork and chicken) varies among them.

According to the Engel Laws, income is the main variable that determines consumption, because when the consumer's disposable income changes, his demand for the goods is adjusted. That is, when the good is normal, the slope will be positive because an increase in income is accompanied by an increase in the demand for the good. Contrary to this, when the good is inferior, the slope will be negative since, when increasing the income, the consumer will prefer to reduce his demand for the good. So whatever the amount of income, day to day people every day define different strategies to adjust their consumption and spending to the amount of income. However, we must consider that income inequality is due to certain external factors such as income generating assets that people have such as health, education and food. Therefore, it is necessary to contemplate other factors such as social deprivation, which indirectly also determine the consumption of meat in Mexico.

The Ministry of Social Development (SEDESOL, for its acronym in Spanish), conceptualizes the income as the flow of inputs, not necessarily monetary (may include products received or available in kind, among others), which allow households to obtain the satisfactions they require, without diminishing the assets or assets they own (CONEVAL, 2012). But it includes the exercise of the individual of at least one of his rights for his full social development. Given the above, if the consumer's income is insufficient to acquire the goods and services required to meet their needs and has not guaranteed any of their social rights, the consumer is in multidimensional poverty.

According to the CONEVAL (2012), social rights are considered universal, interdependent and indivisible elements, which is why it is considered that a person is unable to exercise one or more rights when there is a lack in at least one of the six indicators indicated in the article 36 of the General Law of Social Development: educational lag, access to health services, access to social security, quality and spaces of housing, basic services in housing and access to food.

Materials

Based on the methodology proposed by Santoyo *et al.* (2002) on a rapid assessment, which is defined as a systematic and semi-structured activity to acquire information on some aspects of the population, the present study is exploratory and mixed (quantitative and qualitative), the intention was to analyze the impact of income and social deprivation on meat consumption. The above allowed to identify the main causes of decrease in the consumption of said products, and to know the reasons for the new consumption trend.

A questionnaire was applied to a sample of 429 consumers, located in 6 states of the Republic: Mexico City, Hidalgo, Puebla, Veracruz, Oaxaca and State of Mexico, trying to cover the states that make up the south and east central area, and including the state of Oaxaca for the marginality that this state has, which causes the migration of the population to Mexico City and the State of Mexico. The sample was calculated according to the following formula, to obtain the value of n the populations of the states under study, which are found in the Intercensus Survey of the National Institute of Statistics and Geography (INEGI, for its acronym in Spanish) and calculated for 2014, were considered. For the estimation of the population proportion, the following formula was used:

$$n = \frac{NZ^2 * p * q}{Nd^2 + Z^2 * p * q} = \frac{(47\ 603\ 589)(2.08)^2 * 0.5 * 0.5}{(47\ 603\ 589)(0.05)^2 + (2.08)^2 * 0.5 * 0.5} = 429$$

Where: in this equation; N= size of the study population; 47 603 589 inhabitants; Z= the assigned confidence level (96%); Z of tables= 2.08; p= the sample proportion that has the 50% study characteristic; q= the proportion that do not possess that characteristic; that is, 1-P (50%); d= the maximum permissible sampling error (5%). The selection criteria of the individuals were that they were willing to be interviewed and that they consumed meat.

The questionnaire included 43 questions, grouped into 3 sections. Section 1 collects information related to income and social deprivation (housing, income, education, basic services of housing, health, social security and food). The first 27 questions that make up section 1 were designed based on CONEVAL's multidimensional poverty methodology (2012). Section 2 made it possible to collect data regarding the consumer's purchasing habits. Section 3 collects information on the tastes and preferences of these actors.

With the information collected, the following variables were constructed:

Per capita income of the consumer
Lack in quality and spaces of housing
Lack of access to basic health services

Lack of access to food
 Lack of education
 Lack of basic housing services
 Lack of access to social security
 Weekly consumption per capita for each type of meat studied.

The analysis of the aforementioned variables allowed to reach the conclusions obtained.

Methods

The categorization of the type of well-being in the respondents was based on the type of population (urban or rural) belonging, the per capita income in the household and the price of the food and non-food basket according to the INEGI (2014) report for the month of July that was in which the information was collected.

The analysis of variables was done using the Excel 2013 computer program. To comply with the CONEVAL methodology (multidimensional measurement of poverty). First, based on the size of the population in which they reside, the interviewees were classified as rural or urban consumers, according to INEGI's proposal. Subsequently, according to the reported income and the price of the basic food and non-food basket for the month of July, it was determined if the income reported by the participants allowed them to acquire the basic basket, with the results obtained the interviewees were classified: welfare situation, minimum well-being, below the welfare line or above the welfare line, according to the CONEVAL proposal.

Once the consumers were categorized into one of the four quadrants of the welfare line, the gaps they faced (housing, income, education, basic housing services, health, social security and food) were analyzed and quantified. These deficiencies were measured with dichotomous variables contained in section 1 of the questionnaire. Having already obtained the type of welfare and the number of social deprivations present in each household, it was possible to categorize consumers into one of the 4 possible economic groups (moderate or extreme multidimensional poor, vulnerable due to social deprivation, vulnerable by income and not multidimensional poor and not vulnerable).

Finally, the average weekly consumption amounts for beef, pork and chicken were obtained by economic group, to apply F tests between the less poor group (vulnerable due to social deprivation) and the two poorest groups (poor multidimensional extreme and moderate multidimensional poor) and check homogeneity of variances, in order to perform the Student's T test.

Hartley's Fmax test

$$F_{\max} = \frac{\max(s_i^2)}{\min(s_i^2)}$$

Where: $i = 1, k$, with k equal to the number of samples. Once the variance homogeneity was verified, the respective Student T tests were carried out to find out if there were significant differences between the three economic groups detected, regarding the consumption of beef, pork and chicken.

Student's T test

$$T=1+\frac{(\bar{Y}_1-\bar{Y}_2)-0}{\hat{S}_{\bar{Y}_1-\bar{Y}_2}}; \text{ where: } \hat{S}_{\bar{Y}_1-\bar{Y}_2}=\sqrt{\frac{(n_1-1)\hat{S}_1^2+(n_2-1)\hat{S}_2^2}{n_1+n_2-2}\left[\frac{1}{n_1}+\frac{1}{n_2}\right]}$$

Where: \bar{Y}_1 and \bar{Y}_2 : means of samples 1 and 2; \hat{S}_1^2 and \hat{S}_2^2 : unbiased variants of samples 1 and 2; n_1 and n_2 : size of samples 1 and 2.

Results

The CONEVAL presents four quadrants of well-being in its methodology, this in order to categorize people based on their degree of well-being. For this categorization, the income and the number of social deprivations present in the individual were considered. All consumers were categorized in a line item of welfare, in order to comply with the methodology used for the grouping of economic groups. Below are the monthly averages of interest to study (Figure 1).

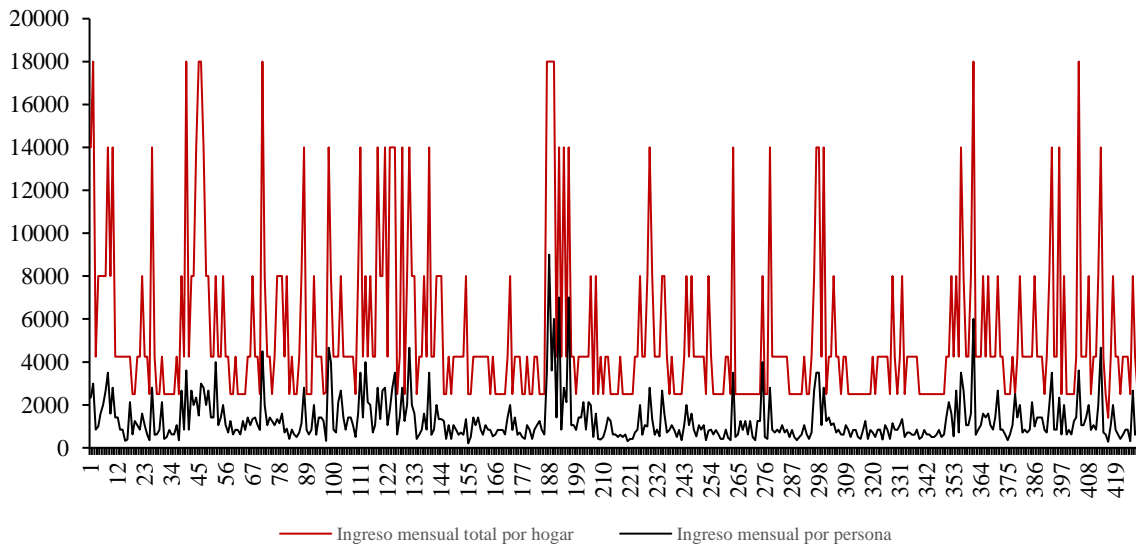


Figure 1. Total monthly income per household and monthly income per person.

On average, each family receives about \$5 300.00 per month. Income per person was found, ranging from \$416.00 (minimum) to \$ 4 600.00 (maximum).

Of the total of consumers, 34.5% were from the rural population and 65.5% from the urban population. According to data from the INEGI (2014), the price of the food basket for the month of July was \$ 860.00 and \$1 232.00 for the rural and urban population respectively. While the price of the food and non-food basket for the same month was \$1 603.00 for the rural population and \$2 526.00 for the urban population (Figure 2).

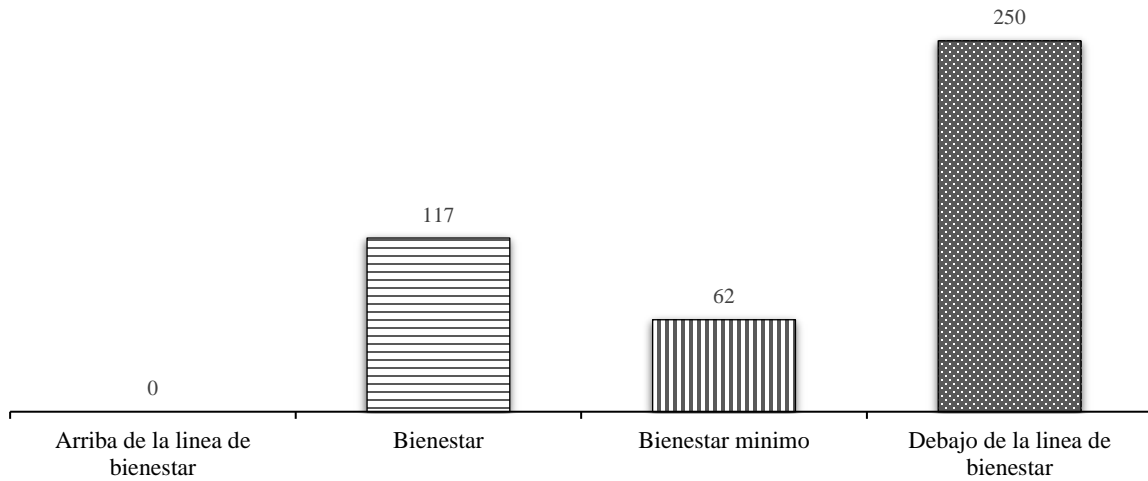


Figure 2. Number of consumers located in the CONEVAL welfare line.

Once the consumers in the quadrants of the welfare line were categorized, the number of social deprivations per household surveyed was obtained, in order to categorize the possible economic groups (Figure 3).

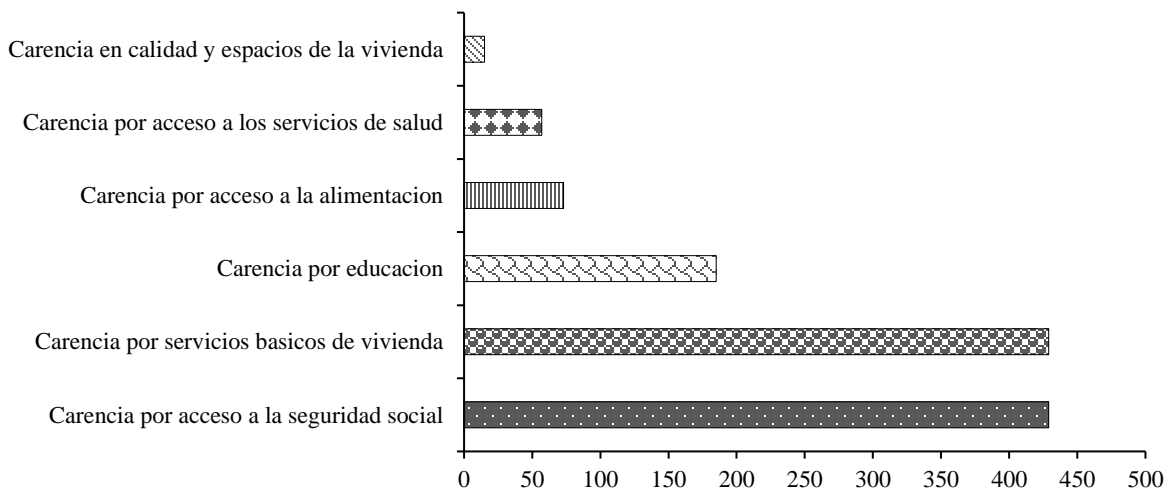


Figure 3. Social deficiencies present in the homes of the consumers surveyed.

In general, the presence of 2 to 4 social deficiencies was detected in the homes of the consumers; However, there were families in which up to five of the six existing gaps were counted. It should be noted that all families have at least two social needs. In Figure 4, the percentage of consumers belonging to each economic group detected is shown.

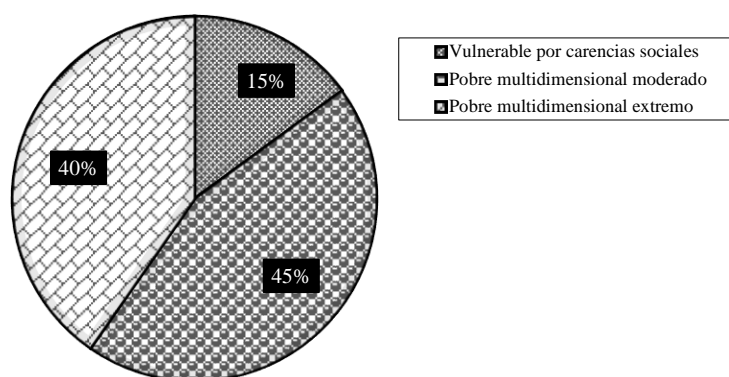


Figure 4. Categorization of consumers by economic group detected.

Of the four economic groups contemplated by the CONEVAL, only the presence of the two poorest quadrants and economic sub-quadrant was detected. Once the economic groups of consumers were obtained, the consumption of meat was obtained (Table 1).

Table 1. Average weekly consumption of beef, pork and chicken, by economic group detected.

| Economic group | Average weekly consumption of beef (g) | Average weekly consumption of pork (g) | Average weekly consumption of chicken meat (g) |
|-----------------------------------|--|--|--|
| Vulnerable for social deprivation | 277.37 | 258.43 | 378.54 |
| Moderate multidimensional poor | 276.84 | 230.14 | 392.32 |
| Poor multidimensional extremes | 252.36 | 185.44 | 324.65 |
| Total, of respondents | 268.86 | 224.67 | 365.17 |

Elaborated based on field information.

Once normality was found in the sample data, the F test was performed to find out if the population variances were homogeneous. Once the homogeneity of variances was verified, the Student's T test was applied to compare means with equal variances (Table 2).

Table 2. Consumption statistics.

| | Vul. by deficiencies soc. /beef | Poor mult. Mod. /beef | Poor mult. Ext. /beef | Vul. by deficiencies soc. /pork | Poor mult. Mod. /pork | Poor mult. Ext. /pork | Vul. by deficiencies soc. /chicken | Poor mult. Mod. /chicken | Poor mult. Ext. /chicken |
|--------------------|---------------------------------|-----------------------|-----------------------|---------------------------------|-----------------------|-----------------------|------------------------------------|--------------------------|--------------------------|
| Average | 317 | 293.6219 | 222.1630 | 318.0769 | 263.3655 | 218.9047 | 384.5555 | 352.5729 | 285.4251 |
| Variance | 56702.32 | 68790.16 | 40132.87 | 58485.95 | 52305.02 | 46787.78 | 111339.2 | 96813.49 | 81826.47 |
| Degrees of freedom | 55 | 163 | 137 | 51 | 144 | 125 | 62 | 184 | 166 |

| | Vul. by deficienci es soc. /beef | Poor mult. Mod. / beef | Poor mult. Ext. / beef | Vul. by deficienci es soc. / pork | Poor mult. Mod. / pork | Poor mult. Ext. / pork | Vul. by deficienci es soc. /chicken | Poor mult. Mod. / chicken | Poor mult. Ext. / chicken |
|------------------------------|---|---------------------------------|---------------------------------|--|---------------------------------|---------------------------------|--|------------------------------------|------------------------------------|
| Hypothesized Mean Difference | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Degrees of freedom | 218 | 218 | 192 | 195 | 195 | 176 | 246 | 246 | 228 |

Elaborated based on field information.

The values of F show that there is homogeneity of variances in all the comparisons made; in other words, the student's T test can be performed to determine if there is a difference in consumption among the three economic groups categorized (Table 3).

Table 3. Tests of F and T for the three economic groups detected.

| Tests | Consumption of beef | Consumption of pork | Consumption of chicken meat |
|---|---|---|---|
| Vulnerable for social deprivation/poor multidimensional moderate | Value of F= 0.8242 | Value of F= 1.1181 | Value of F= 1.1503 |
| | P(F<=f) a queue= 0.2051 | P(F<=f) a queue= 0.3006 | P(F<=f) a queue= 0.2377 |
| | Critical value of F for a queue= 0.6808 | Critical value of F for a queue= 1.4359 | Critical value of F for a queue= 1.3864 |
| | Pooled Variance= 65740.4796 | Pooled Variance= 53921.5760 | Pooled Variance= 100474.4505 |
| Vulnerable for extreme poverty/extreme multidimensional social/beef | Value of T= 0.5891 | Value of T= 1.4576 | Value of T= 0.6916 |
| | P(T<=t) a queue= 0.2781 | P(T<= t) a queue = 0.0732 | P(T<= t) a queue = 0.2448 |
| | Critical value of a queue= 1.6518 | Critical value of a queue= 1.6527 | Critical value of a queue=1.651 |
| | Pooled Variance= 44879.2842 | Pooled Variance= 50177.5940 | Pooled Variance= 89851.8704 |
| Vulnerable for extreme poverty/extreme multidimensional social/beef | Value of F= 1.4128 | Value of F= 1.2502 | Value of F= 1.3606 |
| | P(F<= f) a queue= 0.0554 | P(F<= f) a queue= 0.1601 | P(F<=f) a queue= 0.0637 |
| | Critical value of F for a queue= 1.4285 | Critical value of F for a queue= 1.4491 | Critical value of F for a queue= 1.3942 |
| | Value of T= 2.8254 | Value of T= 2.6860 | Value of T= 2.2367 |
| Vulnerable for extreme poverty/extreme multidimensional social/beef | P(T<= t) a queue= 0.0026 | P(T<= t) a queue= 0.0039 | P(T<=t) a queue= 0.0131 |
| | Critical value of a queue= 1.6528 | Critical value of a queue= 1.6535 | Critical value of a queue= 1.651 |

Elaborated with field data.

The results of the T test show that there is indeed a difference in consumption for the three types of meat, only between the less poor group (vulnerable due to social deprivation) and the poorest (extreme multidimensional poor).

Discussion

Income continues to be the main factor that directly influences the Mexican consumer of meat, due to its purchasing power. We observed in the results that the majority of consumers cannot even buy the food basket even making use of all their income and that consumers who have access to the food and non-food basket barely represent a little more than a quarter of the total consumers surveyed.

The monthly income received by Mexican families is insufficient to cover basic daily needs, which is why Mexicans have had to implement strategies to survive, one of which has been to reduce the consumption of high value-added products such as meat. This is confirmed by Duana and Benítez (2010) when mentioning that the lower income population developed at least two strategies to face the relative loss of their income: the more intensive use of their available labor force, through the increase of the working day of the head of the family and incorporating other members in informal activities or through the introduction of changes in the structure of the expenditure of non-basic and basic goods that together contributed to the deceleration of consumption through the sub-consumption route.

It should be noted that households with higher incomes maintain a constant proportion of spending on food and frequency of consumption. Contrary to this, households with low incomes are limited to a sub-consumption sacrificing quality by quantity. This is confirmed by Téllez *et al.* (2012) in their study when noting the following: beef is present at the table of Mexican families, which responds to factors related to the income and frequency of meat consumption. In a lower proportion, high-income consumers consume refrigerated meat and purchase in self-service markets with higher added value. The consumers of lower income and low consumption of meat acquire the non-refrigerated product, with lower added value (services) and in public markets and neighborhood butchers.

The continuous decrease in the consumption of beef in Mexico has turned this good into the most vulnerable meat of the three studied. The consumption of beef is extremely high in Argentina, its evolution is much less sensitive to changes in per capita income than in those countries that have a much lower consumption (Guadagni, 2015). The Mexican population has been affected by the rise in the overall price of meat in the market. Chicken meat is preferred by housewives because it is the most accessible and versatile meat. The buyers of chicken meat in the metropolitan area of the Valley of Mexico are mostly housewives who decide what is bought in food and meat; they demand mostly breast, leg and thigh, and to a lesser extent cheaper pieces like remnant, huacal and wings (Arenas *et al.*, 2010).

The number of social deprivations present in Mexican households indirectly influences the consumption of the three types of meat studied, since the deprivation of social rights indirectly influences the diet of Mexicans due to the existence of other factors that influence the dynamics of

meat consumption, for example, the age of the members determines the frequency of consumption for each type of meat, because for its organoleptic benefits the white meat is more consumed by children and the elderly, while the meat reds are the taste of adolescents and adults.

In spite of the above, it is the socioeconomic characteristics that define the expenditure allocated to each type of meat. According to Del Angel and Villagómez (2013) this assumption is confirmed, since they state in their publication that the data indicate the existence of four different socioeconomic levels in the households of the sample analyzed, where most of the households that make up these they are located in levels of multidimensional poverty, with food poverty and scarce means to improve it and access a better quality of life.

Continuing with the gastronomic traditions in some places is difficult when talking about meat, because the consumption of this good is affected in rural and urban areas, also due to the social deprivation of consumers. Torres (2003) confirms this assertion when affirming that the food pattern is not determined by the cultural mosaic of the regions, but by the social inequality and the factors proper to the external opening of the market.

On the other hand, the subsidies received from some government programs allow the unemployed population to access the energy provided by the meat. But this same fluctuation of income is what prevents the consumer from buying the basic basket, which is why almost 85% of consumers are below the welfare line. According to Damian (2016) the proposals and policies associated with social security will tend to reduce the disposable income of pensioners and their dependents. It is necessary to rethink the social protection system as a whole, through mechanisms such as the Right to Universal Citizen Income, which should be sufficient to achieve a dignified life regardless of the condition of activity, age or sex of the people.

The effects of not consuming lean meat are reflected in the risk of acquiring certain diseases or having limited cognitive development; extremely poor households face the counterpart of food sovereignty supported by certain ineffective social programs, Restrepo *et al.* (2016) confirm this when concluding the following: it is important to reflect on the implications of dietary habits and nutritional status in the aging process, because albeit at a given moment the alterations generated by degenerative processes or by the consumption of foods are not symptomatic, they can be aggravated and intensified over time making an important contribution to the process of fragility and dependence of the individual.

Conclusions

The aforementioned results show that the variation in consumption for beef, pork and chicken depends on the income received by the three economic groups found and the number of social deprivations each one presents. This variation is mainly found among the group of vulnerable consumers due to social deprivation and the consumers of the extreme multidimensional poor group; that is to say, the variation of consumption in the three types of meat is between the least poor and the poorest group of consumers surveyed.

The deficiencies that have greater presence in the consumption of beef are the basic services of housing, social security and food. This is mainly due to the increase in the price of beef, since most consumers in the extreme multidimensional poor economic group consider this food as a hard-to-access item that can only be eaten occasionally (two to four times a month). This is the reason why consumers who do not have extra income from a social program or pensions, who do not have gas as fuel for cooking and who do not eat at least three meals a day, hardly consume this type of meat. If it is expensive, the cooking is slower and the portions are insufficient to cover the daily diet of the consumers.

It is important to mention, the following other percentages that yielded the variables of interest, for example, the average weekly consumption of each member in the families surveyed for beef, pork and chicken was 268.86, 224.67 and 365.17 grams respectively. This shows that consumer households first consume more chicken meat because it is the most economical, beef is in second place of consumption, because although the taste is pleasant to the palate, its price has made it a good Hard access. The meat of less consumption is the meat of pig so much by his price as by the idea that has the consumer to be the meat less innocuous of the three.

It should be mentioned that the individual consumption weights for beef are greater than the consumption grammages for pork and chicken, for example, the daily portion of beef can go from 350 grams to 600 grams, while for chicken meat it is smaller. What influences variability is the frequency of consumption. The consumption of pork is affected not only by the lack of basic housing services and the lack of access to social security, but also the lack of health services, because the consumer still believes that meat is less harmless and consuming it can cause damage to health, so it is very risky to consume pork if there is no medical service available for any disease caused by the pig such as cysticercosis. The 58.27% of the consumers were located within the quadrant called below the minimum welfare, 37.27% in the quadrant of the minimum welfare and 14.45% in the quadrant of the welfare.

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