Seasonal Consumption Cycle of Sheepmeat in The Tiaret Region, Algeria

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Abstract:

Our study focused on measuring the minor (infra-annual) cycle of consumption of sheepmeat to prevent household, or even producers' constraints. In this respect, a survey was conducted in the municipalities of Tiaret and Hamadia with 340 households in 2020. The data were introduced into the Keynesian psychological function of consumption along a microeconomic approach of the consumer in relation to the inner functioning of the market. The calculations have led to average expenditures allocated to sheepmeat of 13,195 DZD/inhabitant/year for Hamadia, and 13,579 DZD/inhabitants/year for Tiaret. The average quantities consumed were 13.37 kg/inhabitants/year (Hamadia) and 13.43 kg/inhabitants/year (Tiaret). More interesting, two types of infra-seasonal minor consumption cycles have alike been measured, each variable in the length of the phases and the amplitude of the fluctuations for a specified income, and for a particular expenditure. The infra-seasonal preferences explained the festive minor consumption cycle, and non-festive minor consumption cycle. The establishment of the model of infra-seasonal sensitivity facts allows to admit a principle of causality between climate, consumptions, and previous productions in the market, but to predict also the same future economic phenomena based on weather forecasts.

Keywords : Economic cycle; Food demand system; Endogenous functioning approach of market; Algeria.

I- Introduction.

In Algeria, human food constitutes around 47% of the gross domestic product, in which meat products compose an important part. Further, sheep farming, which was conducted in pastoral and agropastoral areas, has experienced a certain decline in previous years (Ouali et al., 2022, p. 109; ITELV, 2020). More to the point, amongst the potential regions of the red meat production, light should be shed on the municipality of Djelfa, with a production of 544,200 q, followed by that of El Bayadh with a quantity of 336,990 q; whilst third position is reserved for Tiaret with 302,572 q. In total, production ensures a food availability of red meat assessed to 14.4 kg/year/inhabitant in the country (MADRP, 2017).

In fact, of matter of demand, that for food products is not very elastic; nonetheless, this is not the case for luxury products, in respect such as fruits and some categories of meat, which have a higher elasticity coefficient (Ouali et al., 2022, p 105; Mankiw and Taylor, 2011, p. 121; Milhau, 1960, p. 527). Consequently, an unexpectedly substantial increase in production will not be purchased by households and will hence result in a price decrease.

Likewise, there exist other parameters that may cause prices to vary over the course of one year, separately from any climate fluctuations. Nevertheless, family celebrations, religious festivals and preferences would strongly alter demand within the good seasons. Besides, variations in sheepflesh consumption shall, within a year, result from the same phenomena, their intensity, and their random combinations. Within the same year, the levels of food expenditures and quantities absorbed in each household would not be the same, precisely because of preferences (Becker, 2022, p. 186; Belkhiri et al., 2015, p. 461; Milhau, 1960, p. 527).

Rightfully, how do preferences change according to seasons, drawing cycles of consumption of sheepmeat? Does this fluctuating consumption represent the result of certain categories of households and localities? Under such conditions, the analysis assumed that the observed meat consumption disparity would be in favour of the city compared to the countryside, but with a constant sub-seasonal food supply of the entire households in all locations and according to their budget and purchase expenditures. In other words, the measurement of the fluctuating intra-annual distribution of meat demand for a particular income and expenditure would represent a more interesting practice.

From this point on, the purpose of the paper to measure the regular minor changes or fluctuations over the time experienced in the consumption of mutton. However, the seasonality of such consumption is defined within an annual periodicity. Considering which, the design of this model of past sub-seasonal behaviour makes it possible to predict purchase and supply on the local market and the measures to be taken to this regard.

1. The theoretical framework of the study.

In the economic literature, there are few studies in the field of economic seasonal activities. (Becker, 2022, p 1 to 18; Ouali et al., 2022, p. 110; Faye and Fur, 2010, p. 537; Atchemdi, 2008, p. 29). However, its explanation would lead to understand, for example, the inner functioning of market for averting the disasters, which are specifically recurrent from 2006, for small farmers and poor households. This explains why this research problem under study exists, with the Tiaret region as experimental area.

1.1. The economic literature overviews.

If economists accept the seasonal nature of the agricultural production and consumption, studies conducted for the purpose of understanding or explaining seasonality are still marginal (Becker, 2022, p 42, 57, 60, 70; Faye and Fur, 2010, p. 540). Indeed, seasonality is the fact that the activity of an economic agent depends on the vagaries of events, specifically the different seasons. Consequently, the economic agent will then see his activity increases or decreases at the convenience of the seasons.

Having said that, the aspects of the seasonal activity learn that there exist seasonal and back-season productions, which are repeatedly involving price fluctuations, and they are accordingly linked to climate and biology. Besides, the characteristics of the consumption learn that they also depend on the seasons. However, the origins of the seasonality of prices and distinctively of consumption have yet to be sufficiently revealed. Likewise, the link between the seasonal production, and the cycle of consumption or of price on an agricultural market, is only slightly explored (Belkhiri et al., 2015, p 470; Atchemdi, 2008, p. 29)

In the light of the economic literature, economic activity has evolved through successive phases of expansion and slowdown called cycles, or alike known as business cycles (Cholette, 1983, p. 144). They were, at first, observed at the macroeconomic level before at the microeconomic. Burns and Mitchell (1946, p. 3) provide definition for the business cycle as a concept that describes fluctuations in economic activity by decomposing the same into a succession of clearly identifiable phases that recur over time in an orderly fashion: expansion phase, turnaround phase, recession phase, and finally recovery phase. In other words, Boughidene and Achouche (2017, p. 103) and Cholette (1983, p. 144) point out that the characterisation of the business cycle involves identifying peaks and troughs which determine turnaround points.

According to Burns and Mitchell (1946), the turnaround points are those opposite to the two phases: expansion, where an increase is over time recorded in phenomena, and recession characterised by a significant decrease; the peaks and troughs correspond to the entries and exits of recession. No matter the phase in first, all four phases are in orderly manner required to paint a complete cycle (Cholette, 1983, p. 144). With regards to consumption from an economic perspective, Cowell (2007, p. 31), suggests that it represents the fact of using or destructing, immediately or gradually, the products and services to satisfy a specific need, both in microeconomics and macroeconomics. On the macroeconomic front, the consumption formula refers to a hypothesis of Keynes (Keynes, 1936) which provides explanation for the fact that consumption represents the current income spent for this purpose. In other words, on average and frequently, households tend to increase their consumption as income increases, but to a lesser extent than the increase in income (Antonin, 2009, p. 15).

Under this hypothesis, household consumption in each period depends on income in the same period, which is the following formula: $Ct = f(Yt)$ where Ct is the final household consumption and Yt is the real disposable household income (Jaziri, 1999, p. 17). Besides, Ct represents a fundamental psychological law transcribed into the following formula: $Ct = c.Y + Co$ (Ct: total consumption, c: marginal propensity to consume, Y refers to the national income and Co: share of consumption that did not depend on income). In this respect, it shows that consumption is an increasing function of disposable income and increases in consumption have shown to be lower than increases in income (Mankiw and Taylor, 2011, p. 175).

The concept of Keynes's current income for consumption, and assimilating savings with a residual in the allocation of income, has been reconsidered by the life cycle theory developed in the 1960s by Albert Ando and Franco Modigliani, whilst Friedman has

introduced the permanent income (Antonin, 2009, p. 7; Jaziri, 1999, p. 20). Besides, they both share the idea that households envisage their consumption by considering both their current income and their anticipated income over more or less prolonged period, finite for the first and infinite for the second. In fact, these are their points of divergence, because the life cycle speaks of saving (the influence of wealth on consumption over time) for the purpose of financing demand during retirement. On the other hand, permanent income emphasises the importance of the desire to leave an inheritance in addition to future consumption (Antonin, 2009, p. 29). Furthermore, Modigliani (Modigliani and Ando, 1963) and Boughidene and Achouche (2017, p. 106) studied the behaviour of an agent using life cycle theory.

As applied in both macroeconomics and microeconomics, life-cycle theory has evolved, and it is nowadays considered as a theory of permanent income in the neoclassical view of inter-temporal income allocation. In addition, its basic assumption is that the level of household consumption remains stable over time, and that income keeps growing during the working life, and then decreases very considerably at the time of retirement. In other words, a household's lifetime consumption represents an almost constant proportion of the allocated income and refers to their rationality in adopting forward-looking optimisation behaviour.

It is ordered in 3 phases (Villieu, 2008, p. 42): the household consumes, saves, and accumulates according to its age and based on his rationality by evaluating the entire income that will be earned by the same during its life, and choosing the optimal way to consume maximising his utility (Cowell, 2007). Directly macroeconomic through aggregates, the life cycle theory states that the average savings rate of the households depends in first on the demographic variables. Subsequently, they distribute their consumption over the life course; further, this fact provides a theoretical explanation for the stability of the average propensity to consume overall, but it represents a major flaw in Keynesian theory. Beyond, the consumption of certain households may solely depend on current income, the fact, which occurs in macro-econometrics, but the elementary theory of the life cycle, whereat consumption depends only on cumulative income, had been in failure to generate it" (Charpin, 1988).

On the microeconomic level, in addition to the previous consumption formula, the neoclassicals had been assuming that consumption constitutes a microeconomic analysis. In this sense, they founded an approach that addressed methodological individualism. Further, it has been transcribed into a utility function (ordinal and cardinal) as a quantity of goods and services that makes possible a calculation related to a well-being or satisfaction of the moment through consumption or a profit pertaining to a product, especially in welfare economics (Cowell, 2007, p. 137).

In fact, this concept, used in models, measures different utilities based on the consumer choice (the possibility to buy any desired product, but mandatorily make choices between desired goods). Besides, it has been based on a main constraint that the applicant has a limited or assumed fixed budget to acquire all desired products. More to the point, the utility function shows that there is always a relationship of consumer preferences. As such, it constitutes a reformulation of consumer preferences (Mankiw and Taylor, 2011, p. 561, 564). In any case, the neoclassical analysis of an individual's consumption function (choice of consumption level and savings level over the course of his life) leads to distinguish the one contained in the Keynes' approach rather than to their rejection (Villieu, 2008, p. 46).

1.1.1. Consumption cycle and seasonality.

In the beginning, the cycle is assumed to be longer than a year, characterised by its 4 phases. Though, their length is variable, and the cycle lasts at least 16 months (Cholette, 1983, p. 146). Besides, "Juglar (1862) was the first to identify medium-period cycles, with a duration of 9 to 10 years, pertaining to activity and prices. Thus, subsequent works have identified other types of general cycles. In 1923, Kitchin identified minor cycles, of approximately 40 months duration, which extent inside the Juglar cycle. As early as the end of the 18th century, Kondratieff (1926) identified long cycles lasting between 50 and 60 years. In 1939, Schumpeter tried to explain long cycles by waves of innovation and proposed to combine the long cycle, the Juglar cycle and the Kitchin cycle" (Bentoglio et al., 2002),

Compared to cycle, the definition of seasonality is the set of infra-annual fluctuations that recur on annual basis with regularity under the influence of the season, a period of the year or a recurring calendar event. Thus, regularity and amplitude represent two concepts that characterise the same and, therefore, this definition does not include the existence of seasonality in annual series. Moreover, no seasonality shows in series intra-annual (Bathelot, 2020; Faye and Fur, 2010, p. 938).

More to the point, seasonality is further explained from a sequence of estimated phenomenon at regular intervals of time, is called a time series or a chronicle. For using the same in macroeconomic analysis, the series is often either observed every year or with a monthly or quarterly periodicity. Further, the decomposition of the chronicle into cycles, trends, seasonalities, days' rotation components and irregularity set up a graph requiring that their observed values be placed on the ordinate and the periodicity on the abscissa. In contrast, when dealing with the original series, the components are not observed, but measured (Cholette, 1983, p. 147).

1.2. The choice of study area with sampling model.

The Tiaret province is in the north-west of Algeria, which is covering a surface of 20,050 km² (ANDI, 2014). Administration-wise, it is divided into 14 departments and 42 municipalities. Besides, it has an agropastoral vocation and possesses a vast agricultural territory (80% of the total surface) in addition to a useful agricultural surface assessed to 705,650 ha, representing 44% of the total agricultural area (Figure 1). Furthermore, it distinguished by the importance of its cereal production, which represents more than 10% of the national production, along with a significant sheep production, which is developing (DSA, 2019).

Figure (1): Geographical location of the province of Tiaret

Source: Own production based on the data collected from the ANDI (2014)

In fact, the consumption data used in this study came from survey conducted during the summer of 2020 among 340 heads of households in the Tiaret province: 173 from the

urban municipality of Tiaret and 167 from the rural municipality of Hamadia. The questionnaires covered socio-demographic characteristics, income, meat purchase expenditures and their seasonality. In addition, a random sampling was preferred: every one of the individuals had the same probability of being chosen to be part of it; their probability was indeed a constant (Ouali et al., 2022, p. 113; Faye and Fur, 2010).

1.3. Definition of study variables: Measures of seasonality.

Even if seasonality is climatic, market or institutional in nature, it is expressed in two ways: as a percentage or as the number of units in the series (Cholette, 1983, p. 148).

1.3.1. Modelling the meat consumption cycle.

When it comes to the consumption of meat, it refers to the demand for this meat to rationally satisfy this need by withdrawing maximum utility. Besides, this is one of the first assumptions made in consumer theory: the rationality of the individual insists on the fact that the consumer seeks to maximise the satisfaction derived from a product within the constraints of his budget (Mankiw and Taylor, 2011, p.570). Further, several variables (factors) influence applicants: price, income, prices of related goods, preferences, expectations, and number of purchasers.

According to Hicks, an individual's income refers to what he can consume in a period without reducing the value of his wealth (Cowell, 2007, p. 63). There are many incomes, but it concerns the disposable income to be the most important concept for final household consumption. In addition, price is the monetary expression of the value of a product. Thus, it can indicate the scarcity of a product or service, alongside the state of a market. Increasingly, it plays a significant role in the regulation of market economies. Likewise, it is not only perceived as a mode of adjustment of economic quantities or operations but has alike a social dimension (Mankiw and Taylor, 2011, p. 3).

Thus, the applicant's anticipation is the anticipation of a future situation, hence preferences include taste, culinary habit, perception, and environment. On the other hand, consumption choices are motivated, according to economists, by the need of the moment or by preferences (Mankiw and Taylor, 2011, p. 564; Antonin, 2009, p. 44). In the light of the considerations above, this modelling of the meat consumption cycle has been conducted all the way through taking up the previous consumption function according to the neoclassical thinking based on the main microeconomic consumption hypotheses:

1st Hypothesis: It represents the rationality of the individual which insists that the consumer seeks to maximise the utility derived from a product within the constraints of his budget.

2nd Hypothesis: The main determinant of consumption is the current income. However, for current incomes, the interest rate has only a marginal influence, which calls into question the theories of earlier classical economists.

3rd Hypothesis: The average propensity to consume decreases as income increases.

4th Hypothesis: The marginal propensity to consume is between 0 and 1. Thus, it represents the share consumed of each additional unit of income $0 < dC/dY = c < 1$. Therefore, this is based on the fundamental psychological law.

5th Hypothesis: There exists an incompressible consumption when income is zero (dissaving).

The hypotheses thus recalled lead to retain the postulate of the neoclassicists that consumption constitutes a microeconomic analysis, hence the resumption of the Keynesian psychological function of consumption occurring on a local agricultural market with the own functioning thereof:

$$Ct = cYt + Co \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \quad (1)$$

Where C and Y represent consumption and disposable income respectively
c: Marginal propensity to consume, slope of the consumption function dC/dY.
Co: Incompressible consumption which exists even when income is zero.

2. The experimental framework for the study.

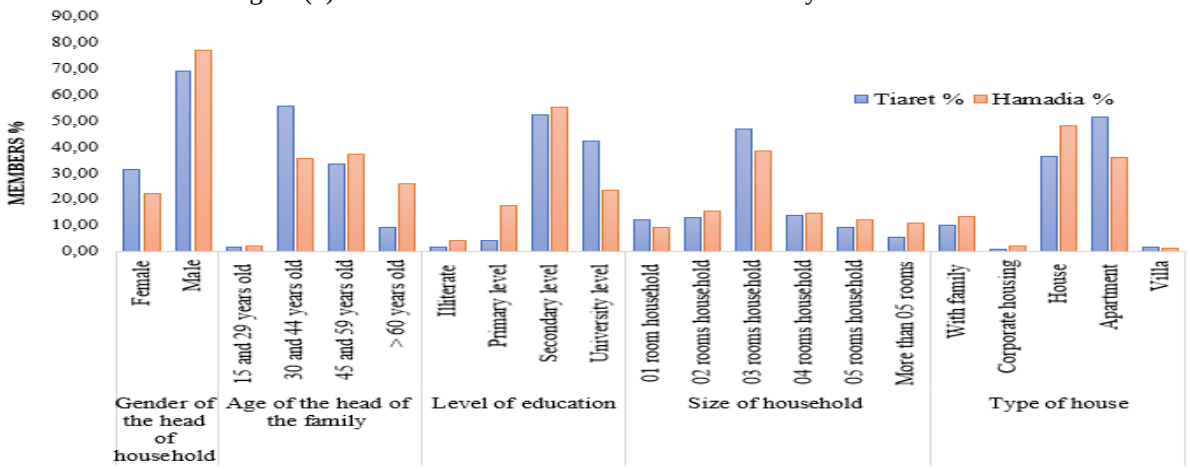
This point deals respectively with the descriptive and empirical results, and finally with the discussion of the same results.

2.1. Socioeconomic characteristics of households.

In both urban and rural areas, the socioeconomic variables did not show significant differences except for 4 characteristics. Therefore, for the gender of head of family, women were 31% in the city compared to 23% in the rural area, yet the percentage of the women was less than 30% for both municipalities. More people over sixty were found to be conducting households in the countryside.

The level of higher education has dominated in urban areas, due to the installation of higher education institutions, although the secondary levels were almost the same 52%, 55% (Tiaret and Hamadia). With regards to the type of houses, the survey revealed more flats in the city (51% and 36% Tiaret and Hamadia). Thus, this fact characterised the rural environment where there was less concentration of the population by nature, more space and whereat construction costs were lower with preferences for countryside houses or villas (figure 2).

Figure (2): Socioeconomic characteristics of the surveyed households

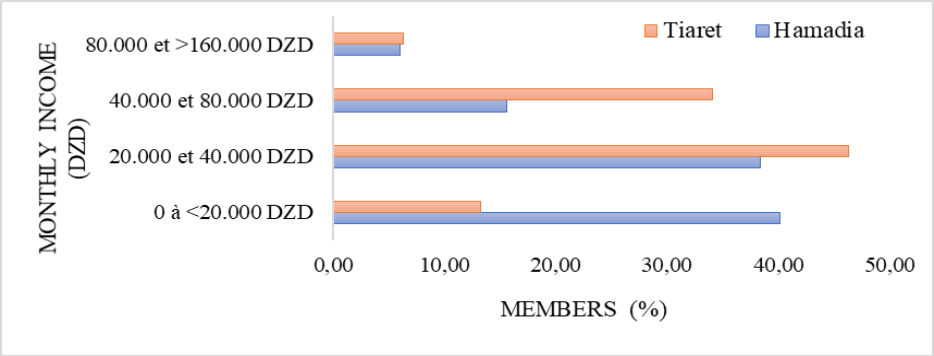


Source: Collected data from survey of 340 households conducted in the study area, 2020

2.1.1. Monthly income.

The monthly income brackets [20,000 – 40,000 DZD] and [40,000 – 80,000 DZD] (100 DZD, Algerian Dinar = 70 $) have showed the greatest trends (38% and 16% for the municipality of Hamadia, 46% and 34% for Tiaret). Nevertheless, a significant disparity existed between the two areas for the first three brackets: 0 to 80,000 DZD. Hence, Hamadia was particular by the importance of the lowest and an average of 5.5% of surveyed individuals in the two municipalities have equally received the highest incomes (80,000 and over 160,000 DZD) (figure 3).

Figure (3): Monthly income of households in Tiaret and Hamadia

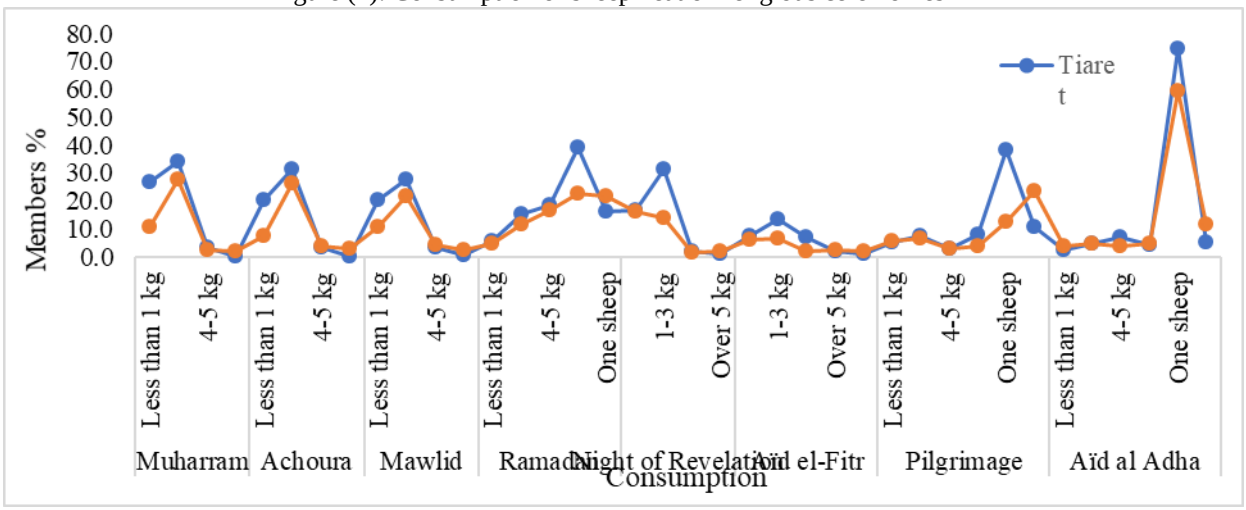


Source: Results from 340 sampled pastoralists in the 2 municipalities, 2020

2.2. Consumption of sheepmeat on religious ceremonies and other events.

Concerning the quantity of consumed meat on religious ceremonies, figure 4 shows that consumption was highest for Eid El Adha and Ramadan (87% and 77%) in Hamadia, whereas it was for Eid El Adha and the Pilgrimage (98% and 95%) in Tiaret. Therefore, this corresponded to 5kg until 2 heads of sheep (90kg on average) compared to 1kg to 3kg for the other festivals.

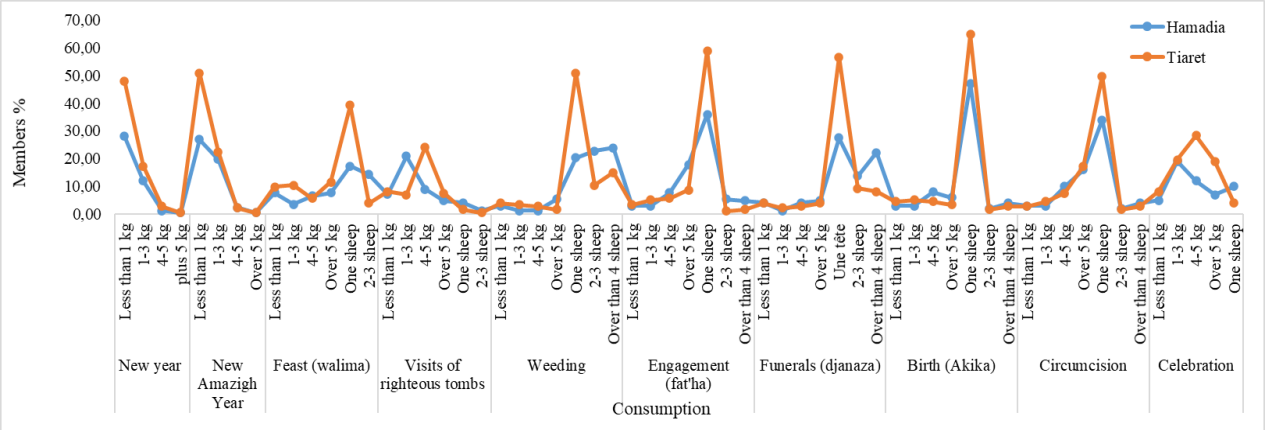
Figure (4): Consumption of sheepmeat on religious ceremonies



Source: Authors' Calculations from survey of 340 households carried out in Tiaret and Hamadia

As for the quantity of consumed meat on other than religious festivals, the results show wedding ceremonies (64% Hamadia and 76% Tiaret), circumcisions (40% Hamadia and 54% Tiaret) and engagements (36% Hamadia and 59% Tiaret), during which the households preferred to slaughter 1 to 4 sheep. On the other hand, they preferred to buy few kilograms for other festivities (figure 5).

Figure (5): Consumption of sheepmeat other than on religious ceremonies

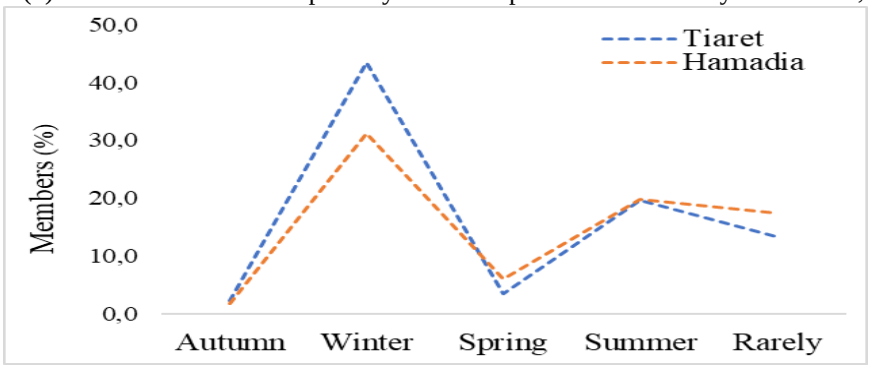


Source: Results from 340 sampled pastoralists in the 2 municipalities, 2020

2.2.1. Sub-seasonal consumption cycle of sheepmeat.

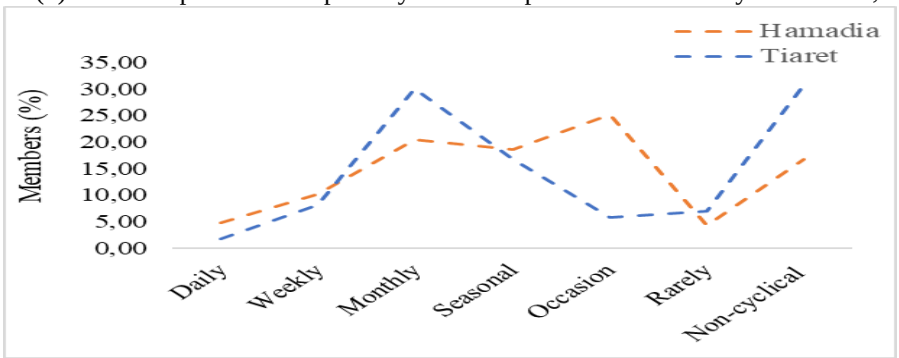
For intra-seasonal consumption cycle, figures 6 and 7 provide definition for the consumption cycles of mutton other than on the religious ceremonies. They show a higher monthly trend in Tiaret with 30% of responses. However, in Hamadia, the demand for sheepflesh has concerned the same period, with 25% of surveyed individuals. Besides, the preferred season for consuming sheepmeat was by far winter (the first peak of the cycle) for both municipalities, with 43% in Tiaret and 31% in Hamadia, according to the collected testimonies. Afterwards, it was followed by the summer (the second expansion phase of the year), whilst it breaks down in the spring (the first dip).

Figure (6): Infra-seasonal consumption cycle of sheepmeat established by the authors, 2020



Source: Authors' Calculations from survey of 340 households conducted in Tiaret and Hamadia

Figure (7): Inter-temporal consumption cycle of sheepmeat established by the authors, 2020



Source: Results from 340 sampled pastoralists in the 2 municipalities, 2020

2.2.2. Calculation of the sub-annual consumption cycle of sheepmeat.

The calculation of mutton consumption and its expenditure resulted in an average monthly expenditure of 1,099.58 DZD for one individual, i.e., 13,195 DZD/inhabitant/year allocated to meat products for the municipality of Hamadia. As for the municipality of Tiaret, the measurements indicated a monthly allocation of 1,131.58 DZD in mutton consumption per inhabitant, which reached 13,579 DZD/inhabitant/year.

i. Calculation of c and Co for Hamadia and Tiaret per inhabitant and per year.

Considering that:

$$\begin{cases} C_{t1} = c + CoY_{t1} \\ C_{t2} = c + CoY_{t2} \end{cases}$$

With

C_{t1}: Average of the minimum consumptions of an inhabitant/year.

C_{t2}: Average of the maximum consumptions of an inhabitant/year.

Y_{t1}: Average of the minimum incomes of an inhabitant/year.

Y_{t2}: Average of the maximum incomes of an inhabitant/year. Therefore:

* For the municipality of Hamadia (Figure 8), the consumption function of sheepmeat was:

$C_t = 0.00006Y_t + 12.33$

With $\Rightarrow C_0 = 12.33$ and $c = 0.000006$

transcribed into a quantity of 0.036 kg/inhabitant/day or 13.37 kg/inhabitant/year.

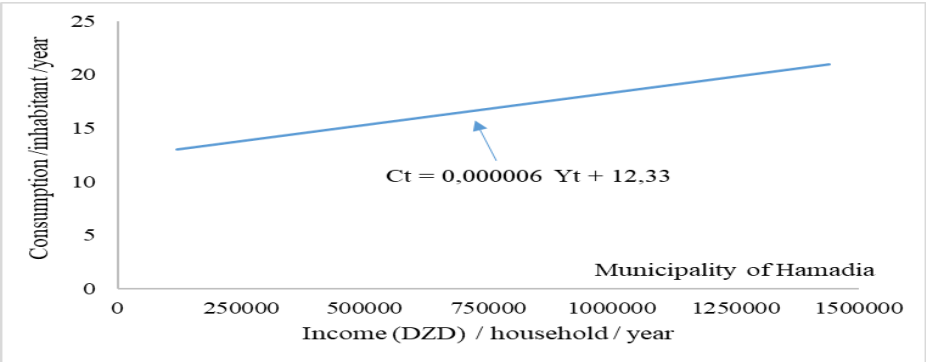
* For the municipality of Tiaret (Figure 9), the consumption function of mutton has been recorded:

$C_t = 0{,}000007Y_t + 8{,}9$

This gave the following values C0= 8.9 and c= 0.000007

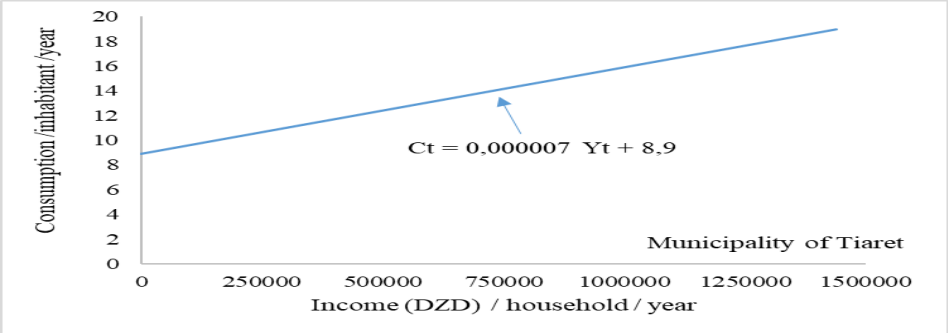
i.e., a quantity of 0.037 kg/inhabitant/day; subsequently, 13.43 kg/inhabitant/year.

Figure (8): Quantity of sheepmeat consumed in the municipality of Hamadia (kg/inhabitant/year), 2020



Source: Authors' Calculations from survey of 340 households carried out in Hamadia

Figure (9): Quantity of mutton consumed in the municipality of Tiaret (kg/inhabitant/year), 2020



Source: Authors' Calculations from survey of 340 households conducted in Tiaret

2.3. Discussion of the results

Mutton was consumed on all celebrations of social life in larger than usual quantities of households and individuals with sufficient income. In this respect, the celebration of Eid El-Nahre and the religious ceremonies involved the purchase and sacrifice of a sheep. Likewise, the average daily ingested quantity was greater in Tiaret, according to present calculations. Thus, this phenomenon can probably be explained by the concentration of the higher average monthly income bracket [40,000 – 80,000 DZD] in the city (34% versus 16%).

The average consumed quantities of 0.036 kg/inhabitant/day or 13.37 kg/inhabitant/year (Hamadia) and 0.037 kg/inhabitant/day or 13.43 kg/inhabitant/year (Tiaret) have shown to be exceedingly high in comparison with the national consumption of meat, which is assessed to 14.4 kg/inhabitant in the country (MADRP, 2017). Consequently, they concerned sheepflesh, the probable inclusion of other categories of meat, notably white meat, could obviously bring its volumes well above the domestic average.

As a fact of matter, this explanation originates from the fact that the study area always has been the third largest producer of this small ruminant across the country (MADRP, 2017). Nonetheless, other interpretative facts would pertain to the relatively moderate selling prices in the major producing regions and the liveliness of food and religious preferences in the interior regions of all countries in the world. In virtue of which, the peak phases corresponded to its seasons and its religious manifestations, whilst the others were outside of the same. Seasonal consumption cycle is nowadays not only a natural given, but a social and cultural construction (Becker, 2022, p. 15, 170, 171), which determines society and structures thought (Becker, 2022, p. 12, 100, 138).

The work has made it possible to determine 2 minor consumption cycles of sheepmeat, each of them seasonal and variable in the length of the phases and the amplitude of the infra-annual fluctuations (Ouali et al., 2022, p. 123; Bathelot, 2020). In fact, in the measurement, the seasonal factors were identified and expressed as a percentage of purchased quantities and as the value of the cycle in the region in 2020.

The sub-seasonal profile varied only slightly from year to year; consequently, the consumption cycle of sheepmeat in the region of Tiaret was systematically subject to similar seasonal variations each year. As a result, the sub-seasonal observation of meat consumption has confirmed that the distribution of meat demand for a defined income and expenditure was recognised as being of interest.

This was a minor festive consumption cycle caused by religious festivities, Aïd El Adha; the peak of the cycle, (92.56%), Ramadan (86.08%), then the return from Pilgrimage mentioned by 63.37% of households, but alike non-religious festivities, such as weddings (83.14%) and circumcision (79.35% of surveyed individuals). More to the point, the second was a minor non-festive consumption cycle; the peak of the cycle, (30% of Tiaret witnesses), or 25% for Hamadia and seasonal, has reached its peak in winter with 37.22% of households against 2.05% of surveyed individuals in autumn.

In the same way, mutton was more consumed in the winter season, indicating the highest peak phase, whilst a second lower peak was observed in the summer. In any case, a first explanation would relatively be the low prices charged by traders in the wholesale and retail marketplaces both in this season, and, at the time of supply difficulties of feed for livestock. Many studies conclude that prices are affordable for some budgets that are too limited in this circumstance to the detriment of the livestock farmers (Belkhiri et al., 2015, p. 472; Atchemdi, 2008, p. 34). More than ever when it comes to limited household budgets for which mutton is taken as a luxury product with a higher elasticity coefficient (Mankiw and Taylor, 2011, p.122).

The second would stem from the biologically seasonal reproductive cycle of sheep and the coincidence between this cycle and the preferences of individuals (Becker, 2022, p 37-42; Ouali et al., 2022, p. 125; Rabehi and Boukoufalla, 2017, p. 37; Milhau, 1960, p. 531). In other words, consumers have managed to adapt their preferences and their periods of civil celebrations to the biology of animals: for example, for 1 reproductive cycle/year (autumn cycle), the lactation, the maintenance of the ewes and the fattening of the lambs take place in winter, which favours the purchase. However, for 3 lambing cycles in 24 months widely adopted in the region (the first of which is alike the autumn cycle), corresponds to the previous explanation. Beyond, the rearing itineraries of the 2nd intermediate reproductive cycle take place, the fact of which coincides with the 2nd seasonal minor consumption cycle in summer preferred by households (Rabehi and Boukoufalla, 2017, p. 27).

Conclusion

The study of intra-annual minor consumption cycles involving the two municipalities of Tiaret and Hamadia opens a new way of understanding the phenomenon of the price instability of products and services. Likewise, it applies to the analysis of the organisation of food chains and the articulations between consumer preferences and food production and distribution. Besides, the criteria that could favour the seasonal consumption cycle of meat were a decrease in the meat price, a modernisation of the production and exchange between livestock farmer and consumer and a better quality of the product (less fat), with a natural given, a social and cultural construction.

In the light of the facts set out above, all these measured distinctions have made it possible to understand the articulations between supply and demand relative to the infra-seasonal consumption cycles of meat for a given income and for a given expenditure, which are recognised as being more relevant. In fact, they distinguished between what resulted from direct interactions between consumers and other actors in the sector (customers and suppliers in general) and what came from the professional and individual worlds of the latter.

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