Red meat marketing systems in Turkey

Günes T.

in

Belhadj T. (ed.), Boutonnet J.P. (ed.), Di Giulio A. (ed.).
Filière des viandes rouges dans les pays méditerranéens

Zaragoza : CIHEAM
Options Méditerranéennes : Série A. Séminaires Méditerranéens; n. 35

1998
pages 179-186

Red meat marketing systems in Turkey

T. Günes
Department of Agricultural Economics, Faculty of Agriculture, University of Ankara,
06110 Diskapi, 06 Ankara, Turkey

SUMMARY - Domestic production of red meat was enough for consumption up to recent years. Imports started in the 1990's. The carcass weight is quite low because of the high percentage of native races in livestock population. About 65% of total red meat production is beef. The *per capita* red meat consumption is around 22 kg. A large number of people and institutions participate in the red meat marketing channel. However 45-50% of total slaughtering is accomplished in an uncontrolled way in those areas where there are no slaughterhouses and in rural areas. Approximately 50% of the retail price goes to producers due to the large number of middlemen participating in the marketing channel and high marketing costs. There are approximately 900 slaughterhouses with a total capacity of 2 million tons. This capacity covers 50-55% of total slaughtering.

Key words: Red meat, meat industry, marketing systems, Turkey.

RESUME - *"Systèmes de commercialisation des viandes rouges en Turquie". La production nationale de viandes rouges a été, jusque dans les années récentes, suffisante pour la consommation. Les importations ont commencé à partir de 1990. Le poids des carcasses est encore très bas à cause du pourcentage élevé de bovins de races locales dans le patrimoine bovin turc. Environ 65% de la production de viandes rouges appartient aux bovins. La consommation par tête est de 22 kg. Nombreux sont les acteurs de la filière. Par ailleurs, 45 à 50% de l'abattage se fait d'une manière non contrôlée, spécialement dans les zones rurales. Environ 50% du prix au détail de la viande revient aux éleveurs. Il y a environ 900 abattoirs d'une capacité de 2 millions de tonnes. Cette capacité de travail couvre 50 à 55% du total des abattages.*

Mots-clés : *Viandes rouges, filière, systèmes de commercialisation, Turquie.*

Production, foreign trade and domestic supply

Red meat is a produce of cow, sheep, goat and buffalo. Livestock farming is generally carried out in small size farms. Animal numbers report 2 million of cow, 35 million of sheep, 10 million of goat and 300 thousand of buffalo (DYE, 1995). Slaughtering rate is up to 44.5% in cows, 5l.0% in sheep and 39.0% in goats. Cow meat accounts 65.0% of total red meat production. There is approximately 1 million head of male calves and young bulls from local breed, crossbred and Red Anatolian Race. The lack of feed for livestock is an important bottleneck in red meat supply.

Changes in the number of local and cosmopolitan breeds has lowered red meat production. Total meat production in 1990 was up to 1,556,000 tons and red meat production was 1,141,000 tons (73.3%). Total meat production in 1995 decreased to 1,500,000 tons and red meat production to 1,000,000 tons.

Red meat production is not stable in Turkey because of fluctuation of livestock supply. This is mainly due to extensive breeding systems and difficulties to obtain feed. Cows and sheep have a marketing season, which goes from August to the end of October. Animals are in part taken to slaughterhouses or in some case to feedlots. The fattened animals are brought to slaughterhouses from February to April. Animal slaughtering is taking place in three type of slaughterhouses, such as State (central and local), private organizations and in house. The slaughtering in the State slaughterhouses is decreasing very fast. Slaughtering in Municipal slaughterhouses is usually stable; instead the one in private organization is increasing and in public hands is decreasing. The State slaughterhouses process about 4% of the total red meat production. This rate goes up to 36% in municipal slaughterhouses and to 10% in the private firms. However, only 50% of slaughtered animals are effectively controlled.

In 1994, Imports of red meat accounted 8,128 tons and exports were at 8,457 tons. For the same year, total domestic supply of red meat was almost 1,000,761 tons. Red meat production remains sensible to meat and feed price changes.

A national research showed those higher prices of red meat reduces the number of live animal sold in the same year, shitting up fattening practices. This will increase the amount of red meat supplied the following year. The supply elasticity is -0.65 in the first year and 0.18 in the second year. The same research also showed that higher red meat prices have an impact on carcass weight. In the country as a whole, 1% increase in red meat price brings about 0.63% of increase in average carcass weight (Koç, 1996).

Another research concerning cattle and sheep meat separately also shows the same tendency. According to this research, the production of beef is a function of meat prices, feed prices and the number of animals.

Cattle meat has a coefficient of 0.41 for the supply elasticity. The regression coefficient of feed price on cattle meat is -0.29. According to these figures, 1% of increase in cattle meat price effects on the increase of 0.4% of cattle meat production. On the contrary, 1% of increase in feed price effects on the decrease of 0.3% of meat production (Karkacýer, 1991).

Meat price has a strong effect on production by comparing it with the other variables. In fact, the research shows that, the price of cattle meat only explains 64% of the meat production by itself. According to this result, the cattle meat production is sensible to meat prices, but the same cannot be affirmed for the sheep breeding. Sheep meat merely is a function of the number of animals. This result explains why sheep breeding in Turkey is still practiced a traditional system (Karkacýer, 1991).

Processing

Red meat processing plants were about 245 during the years 1990-95. Some plants operate in an integrated way. Their number is 110. However, 19 operate with low capacities.

However, the number of firms slaughtering and processing (livestock and poultry) was 786 in 1992. They have a working capacity of 4,13,619 tons/year, but only 10% are used.

Working population in the meat-processing sector accounts units 9,224. Some of them have places in State and some in private plants. About 58.21% of them are working in private and 41.79% in State sector.

Red meat production in 1995 recorded at the slaughterhouses was 71,000 tons. The State and private firms have almost the same capacities. Beef and veal meat account 87.47% of total red meat production in these slaughterhouses. Table 1 shows the red meat production in larger slaughterhouses.

Red meat processed production equaled 26,496 tons in 1995. The private sector has up to 5.7% share of the production instead the State has 94.27%. The main types of meat processed products are Turkish and European types of sausages and salami. 42.41% processed product is Turkish type sausage, 28.21% of salami and 22.32% of European type sausage.

Meat processing plants have not much different kinds of physical units. A few firms have "rendering" and "completely automatic packaging system".

State and private meat processing plants have become dense in certain provinces such as Istanbul, Afyon, Ankara, Kayseri, Erzurum and Yzmir.

Production and sales values, assets, profit and loss situation of one State and one private larger meat processing firm is given in Table 2 and 3.

Table 1. Red meat production in larger slaughterhouses (tons)

Product	Ownership[†]	1990	1991	1992	1993	1994	1995
Beef and	S	42,428	46,818	51,917	49,060	45,257	33,201
veal meat	P	15,493	18,001	14,888	17,289	17,976	28,895
	T	57,921	64,819	66,805	66,349	63,233	62,096
Sheep, goat,	S	8,629	4,047	6,680	5,479	3,585	3,013
kid and lamb	P	2,228	2,847	2,754	324	3,747	5,880
meat	T	10,857	6,894	9,434	5,803	7,332	8,893
Water	S	-	-	-	-	-	-
buffalo	P	86	143	46	-	-	-
meat	T	86	143	46	-	-	-
Total red	S	51,057	50,865	58,597	57,539	48,842	36,214
meat	P	17,721	20,848	17,642	17,613	27,723	34,775
	T	68,778	71,713	76,229	72,152	70,565	70,989

[†]S: State; P: Private; T: Total

One of the larger meat processing firms is Pynar Integrated Meat Industry. This firm employed 496 workers and had 178 billion TL profit in 1995.

Turkish meat processing industry has the "possibility to work in competition" by considering to merger with other groups. Merger data shows that the first four largest firms in 45 number of processing meat firms have 29.9% of market share (accounted from sales) in 1985. This rate is 49.4% for the first largest eight firms (Koç, 1996).

Merger rate was between 21-30% in the largest four firms in 1990. This rate is between 41-50% in the largest eight firms. These figures explain that the market shares of these firms is quite stable, pricing is flexible, entering to the market is easy, the profit ratio is low and there is lack of connection among the firms (Koç, 1996). They couple the condition for "possible work in competition" in the Turkish meat processing industry.

Consumption of red meat and processed products

The average yearly per capita consumption in Turkey of red meat is 12 kg. Total meat consumption is little higher than 1 million ton. Total consumption of red meat processed products is 60,000 tons. The balance of production and consumption is not good because of low consumption level eventhough imports are low.

The cost of red meat is quite high in spite of the consumption level, which is low. In fact, the cost for red meat accounts for 1/3 of the average food expenditures per household.

Consumption of red meat changes very much from year to year depending upon the income and price changes. The price elasticity between 1979-91 was -0.91 for beef and veal and -0.35 for sheep and goat meat. The income elasticity for the same years was 1.65 for beef and 0.69 for sheep and goat meat (Koç, 1996).

The demand for red meat has increased by to 6-7% in last years due to the effect of population and income increase. Processed red meat consumption also shows an upward trend, and it is estimated on a yearly base to 0.5%.

Table 2. Incorporate company of meat and fish products (State) (ISO, 1996) (ICC) (1,000,000 TL)

Years	Production value (exc. VAD)	Sales value (exc. VAD)	Gross value added	Net worth	Net assets	Inventory profit (before tax)	Export value (1,000$)	Average number of production workers
1990	571,983	606,176	47,913	67,914	285,690	-17,718	329	5,515
1991	1,025,534	1,074,806	82,524	146,180	824,898	-54,905	180	6,773
1992	1,986,210	2,057,639	191,254	68,384	2,068,886	-187,168	149	6,086
1993	3,232,916	3,336,126	282,803	34,736	3,984,057	-350,532	78	5,765
1994	4,892,883	5,020,437	108,699	1,686,012	10,713,010	-832,803	32	5,173
1995	7,103,815	8,085,785	-9,582,214	-12,221,913	2,720,400	-14,148,484	29	4,178

Table 3. Pinar incorporate company of integrated meat and feed industry (Private) (ISO, 1996) (ICC) (1,000,000 TL)

Years	Production value (exc. VAD)	Sales value (exc.VAD)	Gross value added	Net worth	Net assets	Inventory profit (before tax)	Export value (1,000$)	Average number of production workers
1990	182,699	182,899	29,054	126,176	166,593	693	661	600
1991	336,368	338,543	63,729	164,867	238,746	11,379	121	609
1992	790,810	800,610	136,177	238,287	384,758	21,263	72	651
1993	972,323	1,025,496	205,341	334,849	53,562	65,401	95	451
1995	4,970,077	5,010,696	1,025,011	1,491,202	2,568,554	178,148	252	496

Market structure, marketing channels and middlemen

The market structure of live animals and red meat is analysed together because of the strong connection between the two markets.

Individual animal feeding and marketing is generally dominant in Turkey. Eventhough, there are some livestock feeding associations. They are not strong in the market. The number of procurement and marketing cooperative was 173 in 1989. The numbers of them are decreasing and they are not powerful in market.

Live animals are sold in local markets, livestock fairs, central livestock exchange markets by feeder and assembler. There are different ways of selling such practices by heads, live weights, net carcass weight and meat yield.

The animals raised by the farmers go directly to merchants, commissioners and/or to unlicensed slaughtering. The meat collected by wholesale butchers goes to the municipal slaughterhouses, to Meat and Fish Product Incorporation Company (State), to private slaughterhouses and then to the meat processing plants, to the retail markets and to the consumers.

A recent research shows that 85% of firms buy directly from other feeder or their own feed lots. Other firms are purchasing animals from assembler or from foreign markets.

The marketing channels and the middlemen role are given in Fig. 1.

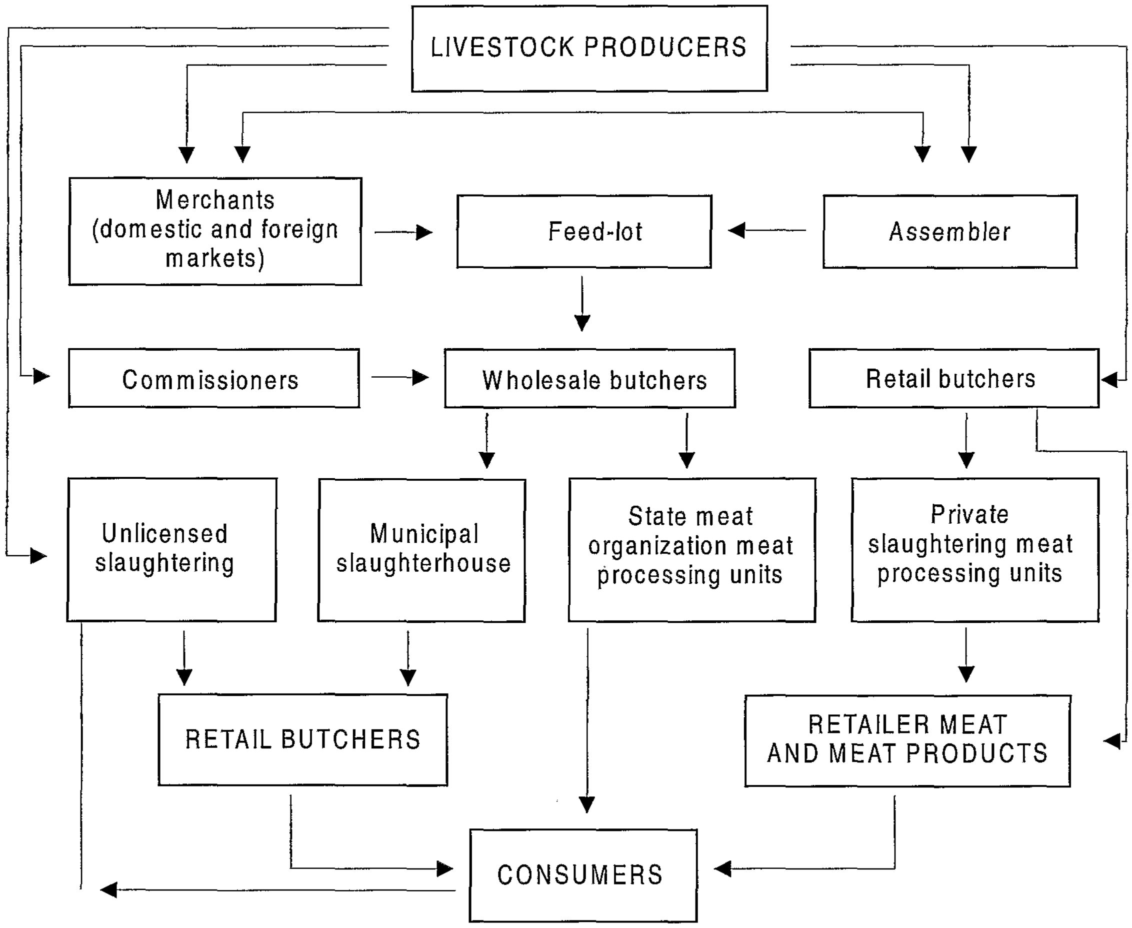

Fig. 1. Live animals, meat and processed meat marketing channels and the middlemen role.

There are many middlemen in the livestock and meat products market. Therefore, the share to the producer of the price paid by the consumer is decreasing. Only 35% of what the consumer pay goes to the producer. The wholesaler gets 40% and retailer gets 25% of the consumer retail price.

State slaughterhouse has an important place in marketing channels. The slaughtering capacity of these slaughterhouses is 175,000 tons a year. However the marketing share of State slaughterhouse is decreasing very fast by years since their privatization program. It is expected that all the establishment of State slaughterhouses and processing plants will be sold to the private companies in the next few years.

Undressing the animals, cutting and processing the meat, is done in municipal slaughterhouses and larger private slaughterhouses and processing plants. The number of these establishments was 781 in 1990. They had 1,860,185 tons/year establishment capacity, but they use only 45% of it.

Regulation for the livestock and meat market is made by the Ministry of Agriculture and local Municipal Administrations. The Power of Municipal authority is decreasing where live animals exchange market operates. However, local authorities have the power, the control, the flow of flocks from production areas to consumer centres.

The Ministries of Health and Environment also have duty for hygienic control and environment problems.

The monitoring of the livestock, meat and meat products markets shown some difficulties due to many organizations interferes to the same field. This is the cause for the duplication, disorder and confusing in the market organization.

Marketing functions

Procurement

Meat processing firms have an important bottleneck for purchasing the live animals, due to the lack of animals in the market and their fluctuation during the year. Contract farming (raising livestock) is developing for this reason. The processing plants have different ways of purchasing animals. They collect the animals from farmers, local assemblers, feeders or from their own feed lots. The small firms buy the animals by heads, larger firms by net weights, and the State Meat by meat yield.

Those difficulties in procurement contribute to increase production cost of processed meat.

Slaughtering and processing

Slaughtering and processing activities are not stable during the year. Cow feed lots usually supplies the animals between January and May, sheep feed lots supply animals between January and March. Extensive farms supply their animals to the market between August and November. Slaughterhouses and processing plants do not use their full capacities because of having difficulties to procure animals and meat.

The number of private slaughterhouses is increasing during the years. This affects processing activities.

The type of meat products did not change in quantities during the years. The main meat products produced are salami, Turkish and European types of sausages.

Grading and standardization

There are many standards (12) made for different kind and race of livestock concepts, and rules and meat products (40), but these standards are not enforced in the country. There are also standard for cooling, icing, protecting, carrying and thawing.

Slaughterhouses do give attention to the species and sex of the animals in their purchasing activities, but it has not been started to apply grading for the slaughtered animals. However, meat pieces are gradual in the retail market according the butcher preferences.

Packaging

Packaging of meat products is developing. Many processing meat plants have packaging units. About 59% of meat processing firm managers explain that their plants are in middle position with respect to package conditions. However, 28% of managers think that they are in disadvantage position considering to adapt themselves to package technological changes.

Storage and protection

Storage performances are strictly connected with hygienic condition of slaughtering animals. Those conditions are not good in small individual slaughterhouses. Large State and private slaughterhouses have hygienic conditions and storing facilities and they accomplish successfully this task.

The main storage facilities belong to the State, Municipal and private establishments. Particularly largest meat processing firms such as Pinar and Maret have developed storage and they store and protect the products in good conditions and help to stabilize the prices in the market.

Transportation

Live animals are transported by road and rail from producing areas to central markets. The loss in weight is quite high in both ways of transportation.

Meat and meat processed products are generally transported by trucks which are equipped with cooling systems. Particular attention is given to safety and hygienic conditions in this type of transportation.

Meat and processed meat products produced in small individual slaughterhouses. Meat is not transported in cool and hygienic conditions. The safety inspection services do not operate efficiently all over the country.

Pricing

Meat and meat processed products prices are formed completely in a free market condition. The State interference on this industry is completely lifted after the privatization of State Meat Enterprises.

Live animal prices change very much according to the season (flow of animals to the market), the import and export of livestock and meat. Prices do also change by months, season, and in relation to climatic conditions and supply of feed.

Live animal prices are usually the results of supply and demand balances in local and central markets including livestock exchange markets.

Prices are determined by carcass weight in State and private sector purchasing organization-slaughtering plants. Currently, there is a real development in product price determination considering the quality aspect.

Selling

Some producers sell their cattles in local or in central markets directly or through commissioners. Some of them have agreements with the private slaughterhouses and processing plants. Selling practices of live animal exchange market should be developed. Because of lack infrastructure of exchange markets, this type of marketing is not extended much. The meat is normally sold to wholesale butchers and retailers by the slaughterhouses. The large meat processing enterprises distribute their products to the supermarkets, hypermarkets or sell to their agencies in the retail markets.

Demand creation

Promotional activities are common in the large meat processing enterprises. These firms generally use the Municipal distribution systems or they publish advertisement in newspapers and magazines. Only a few of them uses television advertisement of national level.

References

DYE (1995). Ystatistik Ozetleri, Ankara.

ISO (ICC) (1996). Türkiye'nin 500 büyük kuruluþu, Yìl: 3l, Ozel sayý: 366, Ystanbul.

Karkacýer, O. (1991). *Türkiye'de kýrmýzý et üretim duyarlýlýôý üzerinde bir araþtýrma.* Cumhuriyet Universitesi Tokat Zir. Fak. Dergisi, cilt 7, Sayý: 2.

Koç, A. (1996). *Türkiye'de kýrmýzý et talep ve arzýnýn ekonometrik analizi ile kýrmýzý et sanayi yapýsý ve iþleyiþinin incelenmesi.* Ankara 1995.