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In terms of value added, olive oil is one of the most important agricultural commodities in Tunisia. It is also the most important agricultural export commodity. Tunisia ranks second to Spain in world olive oil exports. Currently, these exports account for about 20 percent of total export earnings of Tunisia. This is equivalent to about 40 percent of total agricultural export earnings. Tunisia is by far the largest olive oil producing country in North Africa and the Middle East and ranks sixth among the world's producers of olive oil.

Considering the adaptability of the olive tree to the climatic and soil conditions of Tunisia, olive culture is expected to maintain its importance in Tunisian agriculture. Programs to expand tree population and regeneration of the less productive trees should even increase the importance of the olive crop in Tunisia's agricultural sector. However, the economic benefits which could be derived from the olive oil sector will be directly affected by national policies regarding marketing and pricing of the commodity. In particular the role that prices play in providing necessary incentives to induce technological change in production and marketing should not be underestimated.

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The objective of this paper is to examine the development of olive oil pricing policies in Tunisia and certain key assumptions upon which it is based. This study outlines the principal ideas which may permit an evaluation of the efficiency of olive oil price policy with respect to its impact on production, consumption and export of this commodity.

Historically, government regulations which prescribe specific price level and marketing margins, which are not the outcome of free market criteria, are usually intended to achieve one or more of the following broad objectives:

(1) To regulate domestic utilization,

(2) To regulate production and market supplies,

(3) To maintain an export surplus,

(4) To extend commercial marketing,

(5) To enforce certain quality standards,

(6) To insure government revenue from marketing of the product.

As a part of agricultural development strategy, price policy must be considered within the context of these objectives. Price policy can be a tool to achieve development objectives and desired growth rates in production.

PRICE POLICY DEVELOPMENT FOR OLIVE OIL IN TUNISIA 1957-69

In order to evaluate existing olive oil price policy in Tunisia, it is important to consider the development of marketing and pricing practices in recent years. These developments were the outcome of difficulties experienced in satisfying domestic demand for edible oils at reasonable prices and at the same time maintaining an olive oil export surplus. Adverse trends in olive production and the continuous increase in domestic demand, as a result of rising income and growing population, have prevented the maintenance of self-sufficiency and an export surplus in this commodity.

Commercial marketing and pricing of olive oil, up to the early 1960's, were largely determined by the size of annual olive production and the export market situation. Domestic consumption averaged about 35 thousand metric tons a year. Imports of other soft edible oils were nil. Almost all edible oil consumption was satisfied through domestic olive oil supplies.

Government intervention in the pricing of olive oil was originally confined to the fixation of taxes on production and marketing. A government guaranteed floor price of 180 dinars per ton was established in 1959 for the purchase of super and extra oils. However, this scheme was little used since the floor price was considerably below the average wholesale price achieved in this period.

Nevertheless, Tunisian policy makers felt that several imperfections existed in the marketing and pricing practices of olive oil. It was argued that, as a result of imperfect competition, primary producers were being exploited by dealers, processors and exporters of the commodity. Aggregate supplies for domestic and export markets were allocated mainly by relatively few middlemen with financially strong bargaining power to purchase, process, transport, and store olive oil in large quantities. The share of the market in olive oil controlled by those few traders was believed to be high. This was in sharp contrast with the characteristics of the Tunisian olive growers where production was in the hands of a large number of small growers utilizing traditional processing and storage facilities and producing for home consumption as well as for the market.

Two distinctly separate markets existed, one for fresh olives as an intermediate product, and the other for olive oil as a final product. The majority of small and subsistance olive producers sold to dealers and processors while the olives were still on the tree (les opérations de Khdara). Apparently, the dealers and processors were, for various reasons,[1] able to pay very low prices to farmers at harvest time. For example, the average selling price of one ton oil-equivalent of fresh olives on the tree (assuming five tons of olives gives one ton oil) was approximately 104 dinars, by comparison with the average wholesale "bourse"[2] price realized of 230 dinars per ton. Even after subtracting a reasonable amount for the costs of harvesting, processing, handling and taxes which would amount to about 76 dinars per ton of oil, this would still leave about a 50 dinars margin at the wholesale level (Table 1) or the equivalent of about 50 percent on the purchase price of fresh olives. Such prices and profit margins were apparently maintained by the extreme institutional inequalities in bargaining power between the subsistance and commercial olive sectors.

As long as these conditions persisted, they resulted in a dual pricing system for essentially one product i.e., olive oil. Fresh olive prices

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[1] The more important cited were the producer's need for cash, credit repayments, the perishability of fresh olives and the oligopolistic nature of the large scale marketing and processing system. Advance sale of unharvested olives also provides some insurance against the risk of total loss from crop damage.

[2] Tunisian wholesale "bourse" price is comparable to market exchange price in the U. S.

Table 1. - Estimates of farm price and direct cost of processing olive oil, assuming oil yield of 20 percent of fresh olives crushed.

Production Factor	Cost Range 1 ton olives	Average Cost 1 ton olives	Average Cost 1 ton oil
	Tunisian Dinar		
Farmer Price (opération de Khdara)	18d000-25d000	20d900	104d500
Marketing costs			
Harvesting	6d200- 7d100	6d600	33d000
Tax on harvest 1/	2d100	2d100	10d500
Transportation	1d200- 1d500	1d400	7d000
Crushing	4d500- 7d000	5d000	25d000
Total Marketing Cost	14d000-17d700	15d100	75d500
Producer price of oil	32d000-42d700	36d000	180d000
Wholesale price (bourse)			230d000
Wholesale profit margin			50d000

1/ An additional recent tax on "grignon" (olive paste left after first pressing for olive oil extraction) of 1d412 dinar per ton is not considered. The grignon as a by-product of olive crushing represents about 33 percent of olives crushed. Processing of grignon oil for edible and industrial uses is usually carried out by separate crushing facilities still under private enterprises. Refined edible oil extracted from the grignon is sold to the government for mixing purposes at 160 dinars per ton.

Source: (1) Analyse de la Campagne Oléicole 1965/66

(2) Cost-Survey of olive oil processing in three modern and semi-modern olive crushers (June 1969)

(3) Union Centrale des Coopératives Oléicoles.

were usually determined locally depending on institutional considerations relating to the size of marketable harvest, its location and the olive grower's bargaining power. On the other hand, olive oil prices were internationally determined by commercial supply and demand conditions relating to domestic and foreign markets. In other words, the Tunisian olive oil market had all the appearance of monopoly price discrimination arising from institutional and traditional factors separating the two markets.

The first major change in this long established marketing system came in August 1962, when a presidential decree authorized the creation of the National Office of Oil (Office National de l'Huile). This independent government agency was placed under the Secretariat of State of Planning and National Economy. The new office was authorized to administer a new government policy regarding the edible oil economy of Tunisia, including olive oil. This development came at a time when it was realized that the Tunisian olive oil production was no longer adequate to satisfy increasing domestic demand, at a reasonable price, and to maintain a sizeable export surplus.

One of the principal objectives of the new agency was to facilitate and encourage the continuous and stable export of olive oil. Imports of other cheaper edible oils to satisfy domestic consumption were perceived as a means of maintaining or increasing exports of higher priced olive oil. This policy was made feasible by importing substantial quantities of soybean oil (at about half of the international price of olive oil) from the U.S. under concessional trade agreement.

Olive oil marketing and export continued to remain esentially "free" except that the exporter was obliged to deliver to the National Office of Oil 30 percent of the quantity of olive oil they exported (reduced to 20 percent after September 1966). Quantities received under this provision were used for blended oil sold in the domestic market[3/]. The producer's floor price for oil remained fixed at the previously established 1959 level of 180 dinar per ton for super and extra oil.

Heavy imports of soybean oil from the United States under the Food for Peace Program started in 1962/63. These imports have enabled Tunisia to increase its consumption of cheap soybean and other seed oils to an average of 31 thousand tons in 1962-68 compared with only one thousand ton in the preceding six years (Table 2). The new level of seed oil consumption now accounts for about 60 percent of total edible oils consumed in the country. However, as a result of low production Tunisia's olive oil exports did not increase but have actually declined by an average of 7 thousand metric tons in the 1962-68 period in comparison with earlier six years. Nevertheless, average olive oil exports as a percent of production have increased by about 5 percent. It is evident that in the absence of seed oil imports from the U.S., olive oil exports would have been considerably lower.

3/ Imported edible oils (and primarily soybean oil from the U.S.) are blended with the acquired olive oil. The Tunisian National Office of Oil controls the blending and marketing operations. Various blend proportions are used depending on the quantities available of each oil in any particular year. The oil blend is sold through retail outlets in urban centers at a fixed price of 200 millimes per liter. The implications of oil blending and pricing practices will be reviewed in later report.

Table 2. - Production, consumption and export of olive oil and seed oil in Tunisia, 1956/57 to 1967/68 1/.

Thousand Metric Tons

Season	Prod. olive oil	Consumpt. olive oil	Consumpt. seed oils	Consumpt. edible oils	Export olive oil	Export % of prod.
1956/57	90	34	1	35	30	33
1957/58	50	35	1	36	36	72
1958/59	132	36	1	37	70	53
1959/60	12	36	1	37	23	192
1960/61	125	40	1	41	42	34
1961/62	34	36	2	38	56	165
1962/63	45	18	24	42	29	64
1963/64	89	23	19	42	43	48
1964/65	95	25	19	44	53	56
1965/66	52	25	34	59	43	83
1966/67	20	15	48	63	18	90
1967/68	51	20	42	62	32	63
1956/57-1961/62 (average)	74	36	1	37	43	58
1962/63-1967/68 (average)	59	21	31	52	36	61
Average Change	-15	-15	+30	+15	-7	+5

1/ United States Public Law 480 shipment of soybean oil to Tunisia started in 1962/63.

Source: Union Centrale des Coopératives Oléicoles and other official sources.

In summary, apart from taxation[4/] and the nominal floor price and various other minor measures to encourage exports, government intervention in the pricing and marketing of olive oil was minimal during the early 1960's. Domestic and export marketing of olive oil essentially remained free. However, in response to olive oil production deficits of 1962/63 accompanied by greater demand for edible oil, the National Office of Oil was authorized to import cheaper oils in an effort to supply domestic oil consumption and to maintain the flow of olive oil exports. Imported oils blended with olive oil, at various proportions, were made available for local consumers at a considerably low price. As a result, olive oil exports were maintained at the 1960 levels despite some poor production years.

PRESENT PRICE POLICY (Beginning 1967)

In 1967 several new actions were taken by the National Office of Oil[5/] designed to improve the marketing system and to raise the producer's price. It was expressed that a first priority was to improve the olive oil marketing and pricing system in order to eliminate believed discrepancies in the market. Two important actions were taken to achieve this purpose. First, a fixed producer price (which is comparable to the wholesale price)

4/ These taxes were numerous and changed considerably over the years. In 1965/66, for example, the taxes on extra quality oil were as follows: olives production tax 10d500, jumelage 16d077, export taxes 4d227, exceptional taxes 25d617, olive oil fund 11d000. These taxes, in 1965/66, accounted for about 22 percent of the F.O.B. price of 300 dinars.

5/ As of August 1969, the Union Centrale de Coopérative Oléicole has replaced the National Office d'Huile as a regulatory agency as well as the producer's organization undertaking all commercial marketing of edible oils in Tunisia.

was to be announced by the government each marketing year in order to maintain a guaranteed price for producers (Table 3). The wholesale "bourse" price determined in the free market prior to June 1967 was replaced by a fixed producer price. Part of this price was to be paid to the producer as an advance at the beginning of the olive harvest season and then supplemented with the remaining price margin at the end of the marketing season. For example, a price advance of 270 dinars per ton was paid during 1967/68 for oil of 'extra' quality supplemented by additional 25 dinars paid at the end of the season. However, Table 3 also shows that an important price difference between Tunisian wholesale prices and international prices (trade price margin) existed throughout the 1960's. This margin remained significantly high even after the level of the domestic wholesale price was increased in 1967. The new price policy reduced the trade price margin to a level almost equivalent to total taxes levied on olive oil destined for export markets. The existence of such trade margins is an indication of the competitiveness of the Tunisian olive oil industry in comparison with other major olive oil producing countries in the Mediterranean region.

Second, and perhaps more important, the purchasing of fresh olives on the tree was made illegal. Presumably this new regulation was designed to eliminate inequitable pricing methods in the traditional olive growing sector. Also, the producer price was fixed at a somewhat higher level than the free wholesale market price achieved before regulation (Table 3).

Table 3. -Production of olive oil in Tunisia, domestic wholesale price, international price, and trade price margin, 1961/62-1968/69, extra quality oil of maximum 1 percent acidity.

Season	Production	Tunisian Dinars/ton		
		Wholesale Price "Bourse" 2/	International Price F.O.B. Spain	Trade Price Margin
	(1000 mt)			
1961/62	34	202	331	129
1962/63	45	295	457	162
1963/64	89	194	309	115
1964/65	96	226	348	122
1965/66	53	240	346	106
1966/67	20	286	362	76
1967/68 UCCO 1/	51	295	357	62
1968/69	55	270	355	85

1/ Domestic wholesale pricing of olive oil in Tunisia was taken over by Union Centrale des Coopératives Oléicoles as of June 1967. Wholesale price became producer price.

2/ The wholesale "bourse" price is comparable to market exchange price in the U.S.A.

Sources: 1) Union Centrale des Coopératives Oléicoles.

2) FAO Monthly Bulletin of Agricultural Economics and Statistics.

In summary, the policy changes of June 1967 were designed to promote a positive production response from producers by:

1. Assuring primary agricultural producers of olive oil a guaranteed minimum price. This is paid in the form of a price advance upon delivery of oil to the National Office of Oil. This could reduce the uncertainties regarding producer's income from olive production.
2. Eliminating fresh olive sales on the tree in an effort to integrate olive production with olive oil market prices and demand.
3. Increasing producer price to a level somewhat higher than prices achieved in earlier years.

The new price policy of fixing producer price was intended to help primary producers of olives as well as to exercise greater degree of control over wholesale pricing and commercial marketing of olive oil. The annually fixed producer price, which replaced the former free market wholesale price, is usually set at the beginning of the olives harvest season. The controlled retail prices of olive oil and blended oil remained unchanged.

BASIC ASSUMPTIONS OF PRICING AND MARKETING POLICIES

Various key assumptions on which edible oil pricing and marketing policies are based can be identified. An examination of these implicit assumptions, their validity and implications, is very critical in formulating appropriate pricing and marketing decisions for Tunisia.

First, the government decision to import cheaper edible oils, beginning 1962/63, for domestic consumption was apparently conceived as a temporary action which was taken to supplement deficits in domestic olive oil production. However, this idea was subsequently modified when the government adopted for the planned development of Central and Southern Tunisia the introduction of enterprises other than olive oil such as livestock, pistachio, almonds and apricots. Also, it is worth noting that the 1969-72 Development Plan forecasts the maintenance of some consumption of soft oil at least until 1980, either by imports or by the domestic production of oilseeds.

Second, it was assumed that the Tunisian consumer preference for olive oil in consumption utilization can not be drastically changed.[6]

This consideration was believed to be the base for the seed oil - olive oil blending practices. The National Office of Oil marketed oil locally, a blend, of which a part was olive oil, in order to supply consumers with an oil which at least retained in part an olive flavor. Experience showed, however, that it has been possible to accustom the Tunisian consumer to other oils and notably to soybean oil only lightly cut with olive oil. It is not impossible that in the future the consumption of pure soft oils could be introduced into Tunisia which would release further quantities of olive oil for export.

Third, market imperfections and inequalities were believed to exist between primary producers of olives and private traders of olive oil. This is considered as a principal factor which leads to overall marketing control and producer price fixing by the National Office of Oil. However, there is no solid evidence to support the theory of market exploitation and/or ineffi-cienies in the marketing of olive oil. Additional information about marketing channels, cost of processing and marketing services and price margins are needed to be able to confirm that the reduction in the wide margin since 1967 (Table 3) are not attributable to other factors.

[6] Prior to 1962-63 seed oils for edible uses were unknown to Tunisian Consumers.

The sizable difference, shown in this paper, between the prices paid to primary producers for olives on the tree and the wholesale price of olive oil produced may provide some evidence of imperfect competition and unequal bargaining power among producers and dealers of the commodity. The government, through its National Office of Oil or the Central Union of Olive Oil Cooperatives (UCCO) can eliminate such exploitation of producers. It should be recognized, however, that the UCCO is confronted with tne challenge of marketing olive oil efficiently. Otherwise, gains to producers may be lost through higher marketing costs. A distinction should be made in this respect between achieving the goal of economic efficiencies in marketing and income redistribution within the olive oil sector. The efficiency of market control has to be tested against that of the previously "free" market organization to determine the overall gains or losses to the industry.

PRICE POLICY IMPLICATIONS

Pricing and price policy are usually determined by various social, political as well as economic considerations. Since olive oil in Tunisia continues to be an important food item for domestic consumption and the principal export commodity, the effect of pricing policy must be closely considered. In particular, the possible impact of price fixing and government marketing control on production trends and market supplies of olive oil is important. Also, the effect of consumer pricing of edible oil on the quantities demanded and the rate of substitiution between olive oil and other lower priced imported oils should not be overlooked.

Price policy objectives must be defined first from both aspects of domestic self sufficiency in edible oils and potential olive oil export surplus. For example, one of the principal objectives of the National Office of Oil and the

UCCO was to facilitate and encourage a continuous and stable flow of olive oil exports. This has been difficult to achieve in face of the increasing domestic demand for edible oils and especially in low olive oil production years. However, olive oil generates far larger earnings as an export commodity than it does for domestic consumption, since the internal price of olive oil in Tunisia is significantly lower than the world price and, indeed, of the internal prices of most other producing countries. This study has shown that both freely determined and controlled wholesale prices of olive oil in Tunisia have been considerably lower than those in international markets. In this sense Tunisia has a distinct comparative advantage in the production and export of this commodity. This advantage could be further exploited by exporting maximum quantities of olive oil through raising the domestic price to or above the world price. On the other hand, the requirements for olive oil for domestic consumption, and the desire to maintain a reasonably low internal price level for such an important food commodity, limits such action. In other words, increased olive oil exports could have been achieved but only at the expense of a further decline in the domestic consumption of olive oil.

The large imports of soybean oil from the United States, under concessional trade agreements, have altered the above situation and brought significant changes in the edible oil economy of Tunisia. These imports were sold in the retail market as a new blended oil at a price equal to one half of that fixed for pure olive oil. Apparently this considerably lower price for edible oil has enabled large numbers of low income consumers to increase their individual consumption of total oils. This is particularly relevant among urban consumers to whom non-market supplies of olive oil have become largely unavailable. Consequently, total consumption of edible oils, including olive oil, has risen from an average of 37 thousand metric tons in 1956-61 period to 52 thousand metric tons in 1962-67 period. This was realized despite an average decline in olive oil production of 15 thousand metric tons during the same period. Hence, the increase in the use of imported oils not only offset this decline in domestic olive oil production but actually raised the level of total edible oil consumption by a further 15 thousand tons. Average per capita consumption of edible oil had increased from 9 kilos in the first half of the 1960's to 12 kilos in the last half. At the same time a reduction in average total consumption of olive oil has been achieved, which has permitted somewhat stable exports despite the production decrease of recent years.

The retail price relationship between blended oil and pure olive oil was fixed at a somewhat arbitrary basis. That is, it was not based on any firm knowledge of the nature of supply and demand for these interchangeable commodities. Prices were set, instead, at certain levels intended to separate the olive oil market from that of imported oils which were allocated for domestic consumption. On one hand blended oil price was set at a rather low level (200 millimes per liter). This resulted in almost doubling the total quantities of edible oil consumed over a ten year period. On the other hand, the retail price of pure olive oil was set at a significantly higher level than domestic wholesale and export prices (400 millimes per liter in sealed bottles). This price has effectively banished pure olive oil from the commercial retail outlets. It is estimated by the National Office of Oil that only 2 percent of total edible oils utilized in Tunisia is distributed from commercial retail outlets as pure olive oil. This indicates that almost all pure olive oil consumed domestically is marketed through unregulated producer and wholesale channels at lower prices. It is estimated that at least 60 percent of total olive oil consumed in Tunisia is marketed through these channels.[7] This situation calls for further examination of the effectiveness of retail and wholesale price fixing and its impact on consumption and export of edible oils in Tunisia.

The higher prices received by olive producers in recent years could provide a positive incentive to increase their production and commercial marketing of the commodity. However, a considerable margin still remains between producer and export prices due to the high level of government taxes on the production and marketing of olive oil. A reduction in these taxes and in marketing margins, and consequently a higher producer price, would assist in linking olive growing sector with actual price conditions in the domestic and foreign markets.

In summary, the price fixing developments outlined above have given the greatest benefit to low income consumers by providing them with low priced edible oil. This has been achieved through the importation of cheaper edible oils. It was thought that olive oil supplies could be easily released for the export market if the consumer price at the retail level is fixed at a considerably higher level. This was not realized since olive oil was available in the wholesale and unregulated retail market outlets at a considerably lower price. It is recognized that the basic direction of the Tunisian policies of increasing producer prices was appropriate. However, the price increase could have been higher taking into account the value of the commodity in the export market. Such higher producer prices may release more olive oil for commercial and export markets. Opportunities for increasing producer prices through the reduction of marketing margins, as well as of taxes and costs, are considerable.

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[7] The remainder is marketed as a blended oil which is sold only by the National Office of Oil.

CONCLUSIONS AND IMPLICATIONS FOR FURTHER RESEARCH

The objective of this paper has been to analyze Tunisian olive oil marketing and pricing practices and policies and to evaluate their possible impact on production, commercial marketing and exports of this commodity. The study describes the developments in the market operation and organization experienced in recent years. The implications of changes in market organization pricing of olive oil and imports of cheaper edible oils for domestic consumption are analyzed.

Although the merit of a price policy can only be judged within the context of the overall economic policy followed in the country, the general principles and factors which affect price determination are examined. The primary emphasis of current olive oil price policy has been on maintaining a higher degree of control over the olive oil economy in order to maintain the flow of olive oil exports and to supplement the domestic needs for edible oils.

While the basic direction of the Tunisian edible oil policies appears to be economically appropriate, the specific policies with regard to market organization and price levels are not likely to achieve further significant changes in the pattern of consumption and/or export surplus potentials particularly if olive oil production continues to be low. It appears that Tunisian olive oil pricing policies did not achieve any significant increase in the commercial marketing of the commodity. This could be explained by the retail-wholesale price relationship which maintained a considerable margin above what would seem a reasonable return for marketing services. As a result almost all olive oil consumed in Tunisia was apparently marketed through unregulated and largely unknown marketing channels. In order to assess the likelihood of alternative policies, we need to know more about the commodity's distribution channels, marketing margins and the response of both producers and consumers to market prices.

Indications are that Tunisia has a comparative advantage in olive oil production, as Tunisian producer prices remained considerably lower than export prices. This situation should allow the implementation of a favorable producer price policy without a great financial burden to the government.

Imports of cheaper seed oils as a substitute for olive oil in domestic comsumption appears to be a continuing feature of the Tunisian oil economy. In this case the need for an appropriate long term price policy for the two substitute commodities is urgent. That is, if domestic utilization and exports of olive oil are to be further manipulated there is need to establish price policies for seed oil, olive oil and seed oil/olive oil blends to achieve the desired objectives. Such a study could lead to the conclusion that further revision of the price fixing and oil blending practices is needed.

Finally, the potential conflict between price policy objectives must be recognized. This potential could be minimized by a skillful pricing and marketing technique based on principles of economic gains to the industry and to the nation.