



## Inward Processing Regime Promotion System in Vegetable Oil Industry: A Case Study of Turkey

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### ABSTRACT

This study was conducted to determine applicability of the Inward Processing Regime (IPR) in enterprises which are vegetable oil producers and exporters. The data was obtained from 26 vegetable oil producer and exporter enterprises by using survey method. Frequency tables, indices, and percentage calculating were used to analyse Data. Also, SWOT analysis was used to determine the strengths, weaknesses, opportunities and threats in the sector, and relationship among some variables were examined with correlation coefficient. According to research findings, 25 of the enterprises (96%) utilised the IPR. Since the enterprises started to use that system; availability of cheap raw material, rate of capacity utilisation, market share, and export value all have increased. In addition, raw material was found as an important expense item, and the most important problems were qualified as raw material inadequacy and high input prices.

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## Dâhilde İşleme Rejimi Teşvik Sisteminin Bitkisel Yağ Endüstrisinde Uygulanması: Türkiye Örneği

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### ÖZET

Bu çalışma, bitkisel yağ üretimi ve dış ticareti yapan işletmelerde dâhilde işleme rejiminin uygulanabilirliği ve etkilerinin araştırılması amacıyla yapılmıştır. Bu amaçla 26 bitkisel yağ işletmesine yüz yüze ve/veya posta yoluyla anket uygulanmıştır. Anket çalışmasının yanında yağlı tohum ve bitkisel yağlara ait üretim, ihracat ve ithalat verileri yardımcı veri olarak kullanılmıştır. Verilerin analizinde frekans tabloları, yüzde oranlar kullanılmıştır. Ayrıca sektörün güçlü ve zayıf yönleri ile sektördeki fırsat ve tehditlerin belirlenmesi amacıyla GZTF analizi ve bazı değişkenler arasındaki ilişkileri belirlemek amacıyla korelasyon analizi kullanılmıştır. Ankete katılan 25 işletmenin (%96) dâhilde işleme rejiminden faydalandığı belirlenmiştir. Dâhilde işleme rejiminin uygulanmasıyla birlikte işletmelerin hammaddeyi kolay ve ucuz temin eder olduğu, kapasite kullanım oranının arttığı, pazar payı ve ihracat değerlerinin arttığı belirlenmiştir. Ayrıca, bitkisel yağ sanayindeki önemli gider kalemlerinden biri hammadde olup, en önemli sorunların hammaddenin kalite ve miktarındaki yetersizlik ve girdi fiyatlarındaki yükseklik olduğu tespit edilmiştir.

## Introduction

Due to vegetable oil being the most consumed oil among others, vegetable oil and oil seed production have become important (Çökmez, 2004). Until 20 years ago, Turkey was one of the largest vegetable oil producers in the World. However, Turkey has become an importer in the vegetable oil industry due to the increase of domestic consumption based on population growth, and the lack of consistent agricultural planning in oil crop plant production (Haras, 2006; Onurlubaş, 2006). In order to decrease vegetable oil importation and provide added value, there is a promotion program in the vegetable oil industry in Turkey. Vegetable oil importation is allowed within the inward processing regime (IPR) to provide easy and cheap raw material, to meet domestic consumption and to increase the capacity usage ratio in the vegetable oil industry (Anonymous, 2008). Inward processing is the importation of raw materials without taxes and exportation of the final product after being processed (Anonymous, 2012a). International trading companies, sectoral foreign trade companies, and manufacturer-exporters can benefit from IPR only if 51% of the capital belongs to the manufacturer (Anonymous, 2012b).

IPR was founded by the Customs Union as an export promotion system for the liberalisation of foreign trade that is eligible in General Agreement on Trade and Tariffs (GATT) and International Trade Union Confederation (ITUC) norms (Mali, 2004). IPR went into operation on 1.1.1996 with the Customs Union's agreement which was signed by Turkey and the European Union (Namlı, 2007).

Between 2009 and 2013, approximately 42% of total exportation, 40% of agricultural product exportation, 14% of total importation, and 29% of agricultural product importation occurred within the IPR in Turkey (Anonymous, 2014). In 2012, approximately 12% of exportation and 14% of importation occurred within the IPR in European Union (Dolenc, 2014).

In this study, production and commercial building of exportation enterprises which were active in the vegetable oil industry, their utilization level from IPR, advantages and disadvantages of the system and problems of the vegetable oil industry from the IPR were examined.

## Material and Method

### *Material*

The main material of this study consists of primary data from 26 vegetable oil enterprises, which were processing oily seeds such as; sun flower, soybean, canola, and corn within the IPR promotion system. Data was obtained by using the face-to-face survey method. Literature about the topic, and statistics from the Food and Agriculture Organization of the United Nations (FAO) and the Turkish Statistical Institute (TSI) were used as secondary data.

### *Method*

In order to obtain Data, 38 producer and exporter enterprises were chosen that were active in 2013, and all of them were included in the research as samples. The face-to-face interview method was conducted with 16 of them, the mail survey method was conducted with 6 of

them, and an email survey was conducted with 4 of them. The other 12 enterprises rejected answering the surveys due to different reasons (restricted information, unwillingness to interview, etc.). The share of enterprises that conducted the survey was 68.42% in total. Data obtained from the surveys was analyzed by means of frequency tables and percentage calculating.

In addition, correlation coefficient was calculated to determine relationships and the level of relationship among some variables. Correlation coefficient that is approaching +1 indicates a positive and strong relationship, 0 correlation coefficient indicates that there is no relationship, and approaching -1 indicates a negative and strong relationship (Akbaş et al., 2005). Finally, SWOT analysis was used to determine the strengths, weaknesses, opportunities and threats in the sector.

## Results and Discussions

### *Socio-economic Structure of Vegetable Oil Producer and Exporter Enterprises*

In the study, surveys were conducted with 26 vegetable oil enterprises which were processing and exporting oil seeds (sun flower, soybean, canola, and corn) within the IPR promotion system.

Company representatives were chosen intentionally from the enterprises' foreign trade department to conduct the surveys. Since enterprises' foreign trade activities were carried out by customs consultants, it was observed that most of the enterprises did not develop foreign trade departments. Therefore, only 12 of the 26 enterprises' representatives were working in the foreign trade department. A similar study was carried out by Akça (2011), and it was found that enterprises were not able to institutionalize due to the absence of foreign trade departments.

The majority of company representatives (88%) graduated from university. 70% of the representatives were from 30 to 40 years old, and representatives' age average was found to be 35 (Table 1). As an overall assessment, 81% of the representatives were under 40 years old, and it could be said that company representatives were mostly young and highly educated.

Representatives' average sector experience was approximately 10 years and their average experience in the enterprise was 8 years. These findings prove that representatives worked in their enterprises long term. Furthermore, it could also be said that the capability of problem solving has increased along with the managers have worked experience in that sector or in that enterprise.

In Turkey, small and medium size enterprises are categorised according to their employment situation and yearly net sales profit. Classification according to the number of workers is as follows: between 0 and 9 is micro, between 10 and 49 is small, and between 50 and 249 is described as medium (Anonymous, 2012c). According to the number of workers, 88% (23) of the enterprises consisted of small and medium size enterprises. The average number of workers was 147, the smallest employment number in an enterprise was 22, and the largest employment number in an enterprise was 304

(Table 1). In a study that was carried out by Aktürk (2001) in Afyon among export companies, it was observed that all of the enterprises consisted of small and medium size enterprises.

According to the export value, 21 of the enterprises that exported vegetable oil; which included olive oil, reached over 1 million dollars in 2013, and 2 of the companies were exporting vegetable oil worth over 100 million dollars.

Enterprises were asked if they were utilising the promotion systems, and 25 of the enterprises were found to be utilising at least one of the following promotions: the KOSGEB (Small and Medium Enterprises Development Organization) promotion, the Eximbank loan, the abroad expo promotion, and the state promotion. All of the 25 enterprises were also utilising the IPR promotion system, and 24 of these enterprises stated that the IPR was a useful export promotion regime (Table 2). This result proves that the IPR is an important system. In a similar study, Görg (2000) examined the effects of the inward processing regime in 12 countries, and found that positive effects were limited to leather and textile industries in some countries.

Oil seeds and raw vegetable oil are allowed to be imported within the IPR (Anonymous, 2011). Among 25 of the enterprises which were utilising the IPR, 8% were importing oil seed, 60% were importing raw vegetable oil, and 32% were importing both oil seed and raw vegetable oil. In terms of the usage purpose of raw material (oil seed and raw vegetable oil) that was imported; 20 of the enterprises (80%) were using it in refined vegetable oil production, and 5 of the enterprises (20%) were using it in both refined vegetable oil and margarine production.

Raw olive oil is not allowed to be imported within the IPR. Some of the reasons for this restriction are: negative effects on producers in terms of in-country product and production prices, the risk of tarnishing Turkey's image by importing low quality olive and olive oil, use in domestic production and exportation as a made in Turkey product, and deteriorations due to difficulties in olive and

olive oil storage (Anonymous, 2012d). Half of the enterprises stated that olive oil was unsuitable to be included in the IPR (Table 2). In addition, 3 of the 4 olive oil exporters stated negative opinions about the matter. However, 80% of the European Union's raw olive oil importation is met from Tunisia, Turkey, Morocco and Syria within the inward processing regime (Vaz et al., 2009).

In terms of vegetable oil variation, all of the enterprises stated that they were exporting sunflower seed oil. In addition to that, 5 enterprises stated that they were exporting corn oil, and 2 enterprises were exporting corn, soybean, and canola oil. In terms of brand variety that were used by the enterprises, 20 enterprises were only using their company brand, 4 enterprises were using both their company and intermediary firm brands, 1 of them was using both company and consumer brands, and 1 of them was only using a co-brand. Under the study, it was found that 9 of the 26 enterprises were using road transportation, 1 of them was using marine transportation and 6 of them stated they were using road, marine, and railway transportation. According to this result, it was found that except for one of the companies, all of them were using road transportation to market their products. In terms of expense items, most of the enterprises (23 enterprises, 88%) stated that raw material was their most important expense item, and 1 of the enterprises stated labour cost as an expense item. In a study that was carried out by Teoh (2010), according to the World Bank report, financing and financial management problems were affecting big investments negatively in the palm oil industry.

Correlation coefficient was calculated to determine relationships and the level of relationship among export value, number of workers and enterprise capacity variables. It was determined that the relations between the variables examined were weak but statistically significant at the level of 5%. The findings show that there is no relationship between the enterprise capacity and export value (Table 3).

Table 1 Summary statistics about enterprises and enterprise representatives

| Variables                                 | Average    | Minimum | Maximum     |
|---|------------|---------|-------------|
| Representative's age                      | 35         | 23      | 51          |
| Representative's sector experience (year) | 10         | 1       | 30          |
| Present enterprise experience (year)      | 8          | 0.2     | 30          |
| Education level (year)                    | 14.54      | 11      | 17          |
| The number of workers                     | 147        | 22      | 304         |
| Daily oil processing capacity (ton)       | 264        | 80      | 1000        |
| Export value (USD/year)*                  | 31.263.664 | 112.981 | 136.000.000 |
| Import value (USD/year)**                 | 27.064.229 | 0       | 165.000.000 |
| Enterprise age                            | 22         | 4       | 59          |

\* Including export value from olive oil in 2013, \*\* Due to business' restricted information, some of the enterprises did not declare their import value.

Table 2 Questions about implementation of the IPR promotion system

| Question  | Yes | No | Unknown | Total |
|---|-----|----|---------|-------|
| Do you utilize any promotions?                            | 25  | 1  | -       | 26    |
| Have you utilized the IPR?                                | 25  | 1  | -       | 26    |
| Do you think the IPR is useful?                           | 24* | -  | 2       | 26    |
| Did the IPR effect the enterprise's foundation decision** | 1   | 12 | -       | 13    |
| Will you find it useful if IPR includes olive oil?        | 6   | 13 | 7       | 26    |

\*Yes option includes also answers that are partly yes, \*\* This question was only asked for enterprises which were founded in 1996 (effective date of IPR) and later.

Table 3 Correlation coefficient between variables and their distribution according to level of significance

| Variable              |                       | Export Value | The Number of Workers | Enterprise Capacity |
|-----------------------|-----------------------|--------------|-----------------------|---------------------|
| Export Value          | Correlation           | 1            | 0.420                 | 0.430               |
|                       | level of significance |              | 0.033                 | 0.028               |
| The Number of Workers | Correlation           | 0.420        | 1                     | 0.406               |
|                       | level of significance | 0.033        |                       | 0.040               |
| Enterprise Capacity   | Correlation           | 0.430        | 0.406                 | 1                   |
|                       | level of significance | 0.028        | 0.040                 |                     |

Table 4 Advantages and disadvantages of IPR according to the enterprises

| Advantages                                 | n  |     | Disadvantages                  | n  |     |
|--|----|-----|--------------------------------|----|-----|
|  | n  | %   |                                | n  | %   |
| Enlarged Export Market                     | 8  | 31  | Restricted Raw Material Import | 9  | 35  |
| Picture, fee and Value-added tax Exemption | 7  | 26  | Short Processing Period        | 6  | 23  |
| Easy and Cheap Raw Material Supply         | 5  | 19  | Complicated Regime             | 4  | 15  |
| More Foreign Currency Inflow               | 2  | 8   | Severe Penalties               | 2  | 8   |
| Increase of Capacity Usage Rate            | 1  | 4   | Tight Supervision              | 1  | 4   |
| Trade Policy Exemption                     | 1  | 4   | Unanswered                     | 4  | 15  |
| Unanswered                                 | 2  | 8   |                                |    |     |
| Total                                      | 26 | 100 | Total                          | 26 | 100 |

n: The number of business

Table 5 Problems encountered in the vegetable oil industry

| Problems                                     | n  | %   |
|--|----|-----|
| Raw Material Quality and Quantity Inadequacy | 12 | 46  |
| High Input Prices                            | 7  | 26  |
| Undercapitalisation                          | 2  | 8   |
| Problems in Finding Markets                  | 2  | 8   |
| High Labour Costs                            | 1  | 4   |
| Unanswered                                   | 2  | 8   |
| Total  | 26 | 100 |

#### *Opinions about Inward Processing Regime*

There are some advantages and disadvantages in the IPR promotion system in terms of businesses. These advantage and disadvantages according to the enterprises are presented in Table 4.

According to the Data that was obtained; it can be said that the system that is based on promoting spare capacity usage by means of foreign trade has achieved the goal (Table 4). In a study that was carried out by Snyder (1999), it was concluded that inward processing in the European Union was promoting a global economy web.

The points which are considered disadvantages by the enterprises are important in terms of system applicability and durability. The system might prove to be insufficient if these applications are not fulfilled. Ultimately, the purpose of the system to ensure production continuity by means of spare capacity usage during the time when raw material is not supplied. In a study that were carried out by Radziukynas (2007), it was concluded that products that are imported within the inward processing procedure did not belong to the EU; therefore, the disadvantage of the system was that there had to be a customs repayment after the final produced exportation.

Some of the vegetable oil enterprises are not active in foreign trade. Therefore, it is necessary to assess sector problems and the IPR system separately. When vegetable

oil industry problems are examined; raw material quality and quantity inadequacy, (46%) and high input prices (26%) come to the forefront (Table 5). In a study that was carried out by Çınaroğlu (2007), raw material quality and quantity were also found to be inadequate.

#### *SWOT Analysis*

Under this study SWOT analysis was carried out to determine strengths and weaknesses, and to identify both the opportunities and the threats in the vegetable oil sector (Table 6). SWOT analysis is used frequently by enterprises to define market, moreover it is also used to develop various projects (Anonymous, 2012a).

The following goals were pursued due to the results from the analysis;

- Taking more advantage of strengths, and limiting or eliminating the effects of weaknesses
- Getting the most benefit from opportunities, and developing strategies to eliminate threats

#### **Conclusion and Recommendations**

The general profile of vegetable oil exporter enterprises in Turkey were examined in this study, the conclusion and recommendations are presented below.

Table 6 SWOT analysis about vegetable oil enterprises utilizing IPR

|               |  |
|---------------|--|
| Strengths     | <ul style="list-style-type: none"> <li>• High branding rate in the sector</li> <li>• Production capability in all seasons of the year</li> <li>• Enlarged export market due to IPR</li> <li>• High production capacity</li> </ul>  |
| Opportunities | <ul style="list-style-type: none"> <li>• Easy and Cheap Raw Material Supply within IPR</li> <li>• Utilising spare capacity with raw material supplied by IPR</li> <li>• Geographically being close to the EU, Middle Eastern and African markets</li> <li>• Increase in consumer brand awareness</li> <li>• Picture, fee, and tax exemptions</li> <li>• Unrecorded production in the sector</li> </ul> |
| Weaknesses    | <ul style="list-style-type: none"> <li>• Low profit margins</li> <li>• Inadequacy in raw material quality and quantity</li> <li>• - Inability of institutionalization in the sector</li> <li>• High Input Prices</li> </ul>  |
| Threats       | <ul style="list-style-type: none"> <li>• Lack of qualified employees</li> <li>• Restrictions on importation within IPR</li> <li>• Short raw material processing period in IPR</li> <li>• Excessive procedures and bureaucratic obstacles</li> </ul>  |

Company representatives under the research were found to be young (an average age of 35), university graduates (88%) and had 10 years experience in the sector on average. Enterprise size depended on the number of workers, and mostly consisted of small and medium enterpriser (88%). The average export value was around 30.000.000 US \$. Almost all of the enterprises (92%) were raw vegetable oil importers, and nearly half of the enterprises (40%) were oil seed importers within the IPR. In addition, sunflower seed oil, soybean oil, canola oil and corn oil were exported.

The most important advantages of the IPR system are: enlarged export market, picture, fee, and KDV (value-added tax) exemption, and easy and cheap raw material supply. The disadvantages are: restricted raw material import, short processing period, and a complicated regime. The points seen as disadvantages by enterprises are important in terms of system practicability and sustainability. Otherwise, the system could prove to be insufficient. Ultimately, the purpose of the system has ensured production continuity by means of spare capacity usage during the time when raw material is not supplied from internal production.

Inadequacy in raw material quality and quantity is the most important problem in the vegetable oil industry. Accordingly, marginal capacity usage is one of the important problems. IPR could be seen as a method to find solutions for raw material inadequacy in the sector, and the findings in the research back up this theory.

One of the strengths that a high branding rate will provide is to establish a foreign market presence easily. Capability of production in all seasons will contribute to the national income by increasing both business income and employment. In terms of geographical position, Turkey's close proximity to all of the EU, Middle East, and Africa is a good opportunity to achieve the IPR's purpose.

Business capacity could be used more efficiently by making sufficient use of the strengths and opportunities.

Inadequate raw material in terms of quality and quantity will cause a weak enterprise capacity utilisation rate; accordingly, it will cause a decrease in product quality.

Picture, fee and tax exemption is an attractive application for enterprises to increase their profit margin. Continuity of this application will be beneficial for the system's permanency.

Restrictions in import, and a short raw material processing period in the IPR could be considered as a control mechanism to provide continuity in the system's operation. Also, excessive procedures and bureaucratic obstacles could cause deceleration in system operations and loss in attractiveness; therefore, eliminating excessive procedures and bureaucratic obstacles could dynamise the IPR system.

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