The competitive advantage of the Tunisian palm date sector in the Mediterranean region

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Abstract

In Tunisia, date-palm cultivation and production are of clear strategic importance in terms of economic, social and environmental development. However, the globalization of markets has had a huge impact on the traditional concept of the comparative advantage enjoyed by Tunisia in date exports, highlighting the necessary determinants for competitiveness in the international scenario. In fact, an analysis of the competitive advantage of the Tunisian date industry in the Mediterranean area and Iran over the last 20 years shows that Tunisia is still the main supplier of dates to the EU. The Deglet-Nour variety, in particular, puts Tunisia ahead of traditional competitors such as Algeria and Iran, with average of competitiveness indices as BIS 6405.99, DI 17.38, CMS 41.04 and TBI 99.50 are more stable than those countries during the studied period. But it is currently facing new competitors like Israel and re-exporting countries like France. New business strategies (conditioning, new non-chemical treatments, packing, opening new markets, new distribution channels) would be positive responses to tackle current market limitations, the emergence of new producers and restrictive EU policies.

Additional key words: competitiveness indices; date-producing sector; varieties; export-import; Tunisia.

Abbreviations used: BIS (Balassa index of specialization); CMS (constant market share); CPI (competitive price index); CPIe (export competitive price index); DR (dependency ratio); EU (European Union); RC (revealed competitiveness); RCA (Balassa’s revealed comparative advantage index); TBI (trade balance index).


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Introduction

The foreign trade policy in Tunisia has been marked by two events: accession to membership of the World Trade Organization (WTO); and the Free Trade Agreement with the European Union (EU) in 1995. Within this context, the food industry has been facing new challenges arising from free trade and greater access of the Tunisian economy to the rest of the world. This has led companies in this sector to improve both their performance and competitiveness.

The agricultural and food policy in Tunisia has focused, on the one hand, on intensifying agriculture, improving irrigation, water infrastructure and water supplies and, on the other, on intensive use of inputs (equipment, chemical supplies, seeds and improved varieties, etc.). These efforts have focused on the maximization of production, thus agricultural activities were first carried out according to national guidelines and objectives of self-sufficiency in terms of food, and subsequently food safety, by supporting production prices and subsidizing most agricultural inputs (AfDB, 2012).

In their work Laajimi et al. (2012) explained that the approach to liberalization of the economy has not achieved the desired impact in either terms of institutions or behavior of the key characteristics of the Tunisian economy. Also, a simple analysis of export distribution shows that the main target is the Euro-Mediterranean area, especially the EU. In fact, more
than 3/4 of total Tunisian agricultural exports are desti-
tined to Italy, Spain, France and Germany. This situa-
tion has been achieved due to the multitude of trade
agreements signed by Tunisia (EU in 1995; WTO in
1994; Great Arab Free Trade Area (GAFTA) in 1995;
European Free Trade Association (EFTA) in 2005;
Agadir in 2007). Clear examples are the case of olive
oil, seafood and dates, which are considered strategic
sectors of the national economy.

Globalization has made companies worldwide more
competitive. Omorogie & Thomson (2001) informed
that competitiveness is a relative concept; therefore
there is a need for a measurement framework that will
help to systematically evaluate all comparable factors
thought to be relevant in the pertinent economic ac-
tivities. This concept can be analyzed through com-
petitive advantage, in this line; this work proposes to
study the competitive position of a strategic sector in
the Tunisian economy as palm date sector.

In 2011, seven million tons of dates were produced
worldwide (compared to 5 million in 1999) of which
2.5% correspond to Tunisia, where production reached
180,000 tons. This makes Tunisia the ninth largest
producer in the world, and the third in the Mediterra-
nean after Egypt (the largest producer in the world
with 25%), and Algeria.

The economic importance of date-growing in Tuni-
sia is reflected in the date-growing area, which covered
over 51,000 hectares in 2011 (Siddig et al., 2013). This
extension has been steadily increasing over the past 20
years, doubling between 1990 and 2010, and is the sixth
most widespread area in the world, after Saudi Arabia,
Algeria, Iran, Iraq and Morocco (Fig. 1a).

Date palm sector in Tunisia is of clear socio-eco-
nomical importance, as the sector forms an important
part of the food trade balance. It is also a source of
income for farmers in southern Tunisia and plays a
strategic social role in balancing production systems
in the oasis. In Tunisia, the date-growing sector ac-
counts for 4% of total agricultural production, 7% of
plant production and 12% of agricultural exports. There
are about 5.4 million date palm-trees and approxi-
mately 50,000 farmers are employed, spreading over
four production areas: Tozeur, Kebili, Gafsa and Gabès
(GL Fruit, 2008).

Tunisia is considered leader in the production and
export of cv. Deglet-Nour (APIA, 2008), which has
specific organoleptic characteristics (flavor, color,
texture...), with over 73% of its production, and over
85% of exports. This cultivar is par excellence the most
marketed in Europe, since about 90% of dates im-
ported to the EU are 'Deglet-Nour', and 90% of these
are imported from Tunisia and Algeria. The latter is
Tunisia’s main competitor, with the remaining 10% being supplied by Israel and the USA, emerging pro-
ducers of this variety.

APIA (2008) divides the competing countries of
Tunisia into three categories: (i) non-traditional produc-
ters that have developed an integrated agro-industry,
such as Israel, Palestine and the USA; (ii) re-exporters,
which add value to the low-cost imported product,
basically France, Italy, Spain, Netherlands, Germany,
United Kingdom and Switzerland; and (iii) traditional
producers of ‘Deglet-Nour’, like Algeria.

Tunisia is in the best position in terms of quantity
of exports and related income. But this is not so in
product valuation, as it is positioned after the re-ex-
porting countries, such as USA and Israel or Palestine
(APIA, 2008).

FAO (2000) reports that countries wishing to de-
velop their ‘Deglet-Nour’ exports to Europe come into
competition with well-established and strong suppli-
ers. As already mentioned Tunisia has the highest
market share and is the undisputed leader. Despite this
strong appearance, there are structural weaknesses,
including the disruption of its trading system and the
inconsistent quality of the packaged product, as well
as a high rate of product infestation (APIA, 2008;
Jenni et al., 2014).

This is noteworthy, given the importance of this
sector in the Tunisian economy in terms of export
incomes as dates represent the second flagship prod-
uct after the olive oil (FAO, 2000). However, it
should be noted that there are currently various tech-
nical problems including pests and diseases, which
are a major threat to the sector. The carob moth, Ectomyelois ceratoniae, is by far the most important
problem faced by Tunisian ‘Deglet-Nour’ production
and export. For decades, methyl bromide has been the
only fumigant for quarantine pests. Because of
its harmful effect on human health and the environ-
ment –identified as harmful to the ozone layer by the
Montreal Protocol (PNUMA, 1992)– its use is re-
stricted, thus there is an urgent need for new treat-
ments and alternative techniques (Ahmed, 2001;
Likhayo et al., 2014).

Given the importance of palm date sector in the
Tunisian economy and the different technical problems
that limit its trading system, we analyzed Tunisian
competitive position of this sector in relation to its
main competitors in the Euro-Mediterranean area and
Iran, insomuch as more than 88% of production and
70% of world trade take place there. This analysis
examines competitiveness in terms of price and com-
petitiveness not price, determined by the degree of
specialization and independence, trade balance, analysis
of market share, quality, national efforts and product
differentiation.
The competitive advantage of the Tunisian palm date sector in the Mediterranean region

Economic competitiveness indices:

- Balassa’s revealed comparative advantage index (RCA). Liesner (1958) was the first to use RCA, but it was Balassa (1965) who improved it, and its subsequent dissemination in 1989 made it the most commonly used and, thus, it became known as the “Balassa index”. This index basically measures normalized export shares of

Methodology

Asche et al. (2005) reported that on microeconomic theory one assumes that there exists a market constituted by a group of commodities. The commodities compete in the same market when the goods are substitutable for the consumer or the producer, which is the case of palm date fruit, in the Mediterranean area.

Figure 1. a) Evolution of dates harvested area; b) export performance of major countries; c) export competitive price index of dates in Mediterranean countries. Source: FAOSTAT (2014) (www.faostat.org).
a country $i$, compared to exports of the same industry in a group of reference countries. The concept of “revealed comparative advantage” is widely used to determine the weak and strong sectors of a country. Porter (1990) used a Balassa index $>1$ (100), in some cases reinforced with a Balassa index $>2$ (200), to identify the strongest sectors of a country’s economy. Meanwhile, Vollrath (1991) suggested three alternative ways of measuring the RCA of a country: (i) the relative trade advantage, which considers both imports and exports, (ii) the simple logarithm of the relative export advantage (lnRXA); and (iii) the revealed competitiveness (RC), defined as the difference between the lnRXA and the logarithm of the relative import advantage (Fertő & Hubbard, 2003).

Balassa (1965) defined the RCA or specialization index as the ratio between exports of certain product $j$ of a country and total exports of this country to the rest of the world (or the geographical area taken as a reference), and world exports (or geographical reference area) of the same product $j$ of the total world exports (or of the geographical reference area) (Vollrath, 1991; Bojnec, 2001). Among other studies, the RCA of Blázquez-Lidoy et al. (2006), is named the Balassa Index of Specialization (BIS), measuring the degree of specialization of country $i$ for product $j$.

In this research we used the classic model of Balassa, to analyze the commercial development of dates from the viewpoint of specialization through the comparative advantage in exporting. This decision is in accordance with Chudnovsky & Porta (1990), who recommend using it, simply as an indicator of an economy’s, specialization in international trade at any given time.

The Balassa RCA is defined as:

$$\text{RCA}_j \text{ or BIS}_j = \frac{x_j}{\sum x_j}$$

where $x_j$ represents exports from country $i$ for product $j$; $\Sigma x_j$ represents exports of all products of country $i$; $X_j$ represents exports of product $j$ in a reference area; and $\Sigma X_j$ represents exports of all products of the reference area.

This index varies between 0 and $+\infty$, values $<200$ indicate that country $i$ is relatively less specialized in the sector $j$ than the reference area, or is at a disadvantage compared to the reference area. For values $>200$, we can say that participation of the sector $j$ in the structure of exports from country $i$ is higher than that observed in the reference area, whereby one can state that the said country is strongly specialized in this sector.

— Dependency ratio (DR). Parallel to the BIS, the DR for the imports of sector $i$ from country $j$ is the ratio between the imports of this sector with respect to total imports, considering this relationship with the ratio between the imports of that sector and total imports of the reference area, also called the relative advantage of imports by Vollrath (1991).

Thus, one can compare the structure of imports of a country within the reference area. If it is $>100$ for sector $i$, one can say that participation in the said sector in the structure of imports of country $j$ is higher than that observed in the reference area.

$$DR_j = \left(\frac{m_{ij}}{\Sigma m_i} \right) \times 100$$

where $m_{ij}$ represents imports from country $i$ for product $j$; $\Sigma m_i$, represents imports of all products from country $i$; $M_j$, represents imports of product $j$ in the reference area; and $\Sigma M_j$, represents imports of all products from the reference area.

This index does not have to be correlated with the specialization index of RCA, since there is no relationship between the two indices (Martínez-Sánchez, 1994).

— Constant market share (CMS). Is an approach that analyzes trade patterns and trends in order to formulate policies, the technique identifies the factors underlying the results of comparative export of a country (Ahmadi-Esfahani, 2006). This method disaggregates trade data of the countries surveyed and compares trade flows around the world.

The traditional CMS model was first applied to studying international trade by Tyszynski (1951). Other studies continued using this model despite the well-documented problems (e.g., Richardson, 1971a,b; Jepma, 1986; Oldersma & Van Bergeijk, 1993).

$$CMS_j \text{ or PM}_j = \left(\frac{x_{ij}}{x_m} \right) \times 100$$

where $X_{ij}$ represents exports from country $j$ of product $i$; $X_m$, represents exports of the geographical area taken as a reference of a product $i$.

— Competitive price index (CPI). This index of price competitiveness and export performance, also known as the trade-weighted currency index, attempts to measure trends or competitiveness of product price from a particular country worldwide. These indices incorporate information on developments in domestic currency, price of the products exported by the country, as well as trends in the exchange rate.

Since these indices compare prices from one country to others, one must select the area for which they are
calculated. In general, it is advisable to select an area that is representative of the true competitors of the country.

The same index is applied to the prices paid to the farmer and is called the producer’s CPI, so the competitive price index of country \(i\) over a competitor \(j\) is defined as price, but in this study we only analyze the producer’s CPI:

\[
CPI_{ij} = \left( \frac{e_i}{e_j} \right) \times \left( \frac{PX_i}{PX_j} \right) \tag{4}
\]

where CPI\(_{ij}\), is the competitive price index of country \(i\) over competitor \(j\); \(e_i\), the exchange rate of country \(j\) to the US dollar; \(e_j\), the exchange rate of country \(i\) to the dollar; \(PX_i\), the price of reference country \(i\) of a product; and \(PX_j\), the price of the competing country \(j\) of the same product.

In this study, we work with data of updated FAO prices in a single currency (US$), from which the CPI are calculated from the producer and exporter price given by FAO, without applying the exchange rate. Thus is defined the:

— Export competitive price index (CPI\(_{ex}\)). Relating export price of the reference country to export prices of its competitors converted to a common currency and converted to 100 as the reference year.

Whereby, in this case, the above equation is reduced to the following equation:

\[
CPI_{exij} = \left( \frac{PX_i}{PX_j} \right) \tag{5}
\]

According to the formula used to construct the indices, an increase (or decrease) of the same indicates a real appreciation (or depreciation) of the currency of the country under study and, therefore, a deterioration (or improvement) of the said country’s external competitiveness with respect to the geographical area of reference.

This index of price competitiveness and export performance relates the export price of country \(i\) for a given product, with the export price of its competitors for the same product, but first converts these prices into a common currency and on the basis of 100 in a given year. To calculate this CPI\(_{ex}\), more countries must be included in the analysis, such as the re-exporting countries and non-producers.

— Trade balance index (TBI). It is employed to analyze whether a country has specialization in export (as net-exporter) or in import (as net-importer) for a specific group of products. Lafay (1992) used TBI to measure RCA. More recently, in 2010, TBI was used by Widodo (2009) as one of the crucial variables for analyzing the catching-up economies comparative advantage.

The TBI value indicates a qualitative structure of product export and import and trade flows. It is formulated as follows:

\[
TBI_{ij} = \left( \frac{X_i - M_j}{X_j + M_j} \right) \times 100 \tag{6}
\]

where \(X_i\) and \(M_j\) represent exports and imports, respectively, of country \(i\) for product \(j\).

The TBI value varies between –100 (if a country only imports) and 100 (if a country only exports). Any value within –100 and +100 implies that the country exports and imports a commodity simultaneously. A country is referred to as “net importer” in a specific group of product where the value of TBI is negative and as “net exporter where the value of TBI is positive.

### Data collection

Data on trade patterns, information on agricultural policies and trade regulations are necessary to analyze the competitiveness of the Tunisian date trade within the Mediterranean and Iran. The study was conducted for a group of 11 countries, 10 of which belong to the Mediterranean basin (Algeria, Egypt, Spain, France, Italy, Israel, Jordan, Morocco, Tunisia and Turkey), selected based on date palm export values over the past 20 years. We also included Iran in the study, even though it is not part of the Mediterranean, due to the weight of the date-trade sector, geographical proximity to the Mediterranean, and similarity of climatic and agronomic parameters.

The agricultural trade statistics in general and of dates, in particular, were taken from the FAO. They have been complemented and contrasted with data from the United Nations Commodity Trade Statistic Database (UN CONTRADE), from official records of national statistics for each country, such as the National Institute of Statistics of Tunisia, Israel Export Institute, and finally date export-import data missing in the sources consulted were estimated by linear interpolation using data from previous and subsequent years. The period analyzed was 20 years (1991-2010), divided in four sections, of five years each.

### Results and discussion

— Balassa’s revealed comparative advantage index (RCA or BIS). Table 1 show that Tunisia is the second most specialized country in date exports after Algeria. It presented specialization indices much higher than 200 throughout the study period, remaining more or less stable with a slight decline in the latter part of the study (BIS = 5390.84 in 2006-2010), exceeding the BIS of Egypt by 41 times on average during the study.
In international markets with its BIS descending in the last period, almost equal to the BIS of Tunisia. This is probably due to phytosanitary problems that affect levels of production and marketing of Algerian dates. Given this situation, Tunisia should seek to improve or at least maintain its competitive position in the future, solving the problem of dates. Moth mentioned above and considered the main threat of the date palm industry in Tunisia, and seek alternatives to chemical treatments to meet international and European standards, maintaining a low infestation rate and optimum product quality.

— Constant market share (CMS). Table 1 shows that Tunisia ranks first in the Mediterranean, and is ahead of Iran for the time studied, with a CMS average of 41%. This score remained more or less stable throughout the observation time, with small progressive increases in one time period to another, reaching a market share of 44% in the 2006-2010 period.

Iran ranked second in market share, which is considered important; however, it was unstable given the variation between one period and another, and with significant losses after 1996, dropping from 33% in the 1991-1995 period to an average of 24%, from 1996-2010. This probably reflects economic losses due to the progression of the red palm weevil in Iran.

### Table 1. Analysis of no-price competitiveness of dates in the Mediterranean and Iran

<table>
<thead>
<tr>
<th>Specialization index (RCA or BIS)</th>
<th>Tunisia</th>
<th>Iran</th>
<th>Israel</th>
<th>France</th>
<th>Egypt</th>
<th>Algeria</th>
<th>Italy</th>
<th>Jordan</th>
<th>Turkey</th>
<th>Morocco</th>
<th>Spain</th>
<th>Mediterranean</th>
</tr>
</thead>
<tbody>
<tr>
<td>1991-95</td>
<td>6193.70</td>
<td>2741.62</td>
<td>632.83</td>
<td>29.51</td>
<td>206.91</td>
<td>30213.42</td>
<td>1.54</td>
<td>138.75</td>
<td>1.61</td>
<td>44.57</td>
<td>3.09</td>
<td>100</td>
</tr>
<tr>
<td>1996-00</td>
<td>7345.41</td>
<td>2188.16</td>
<td>305.01</td>
<td>36.65</td>
<td>170.38</td>
<td>35330.78</td>
<td>2.79</td>
<td>60.37</td>
<td>6.57</td>
<td>4.55</td>
<td>2.81</td>
<td>100</td>
</tr>
<tr>
<td>2001-05</td>
<td>6693.99</td>
<td>1428.91</td>
<td>1127.40</td>
<td>26.43</td>
<td>77.58</td>
<td>13713.10</td>
<td>2.30</td>
<td>137.45</td>
<td>7.81</td>
<td>6.51</td>
<td>2.06</td>
<td>100</td>
</tr>
<tr>
<td>2006-10</td>
<td>5390.84</td>
<td>1260.25</td>
<td>1052.64</td>
<td>18.22</td>
<td>173.30</td>
<td>6720.16</td>
<td>5.12</td>
<td>149.14</td>
<td>8.52</td>
<td>1.17</td>
<td>2.20</td>
<td>100</td>
</tr>
<tr>
<td>Averages</td>
<td>6405.99</td>
<td>1904.74</td>
<td>779.47</td>
<td>27.70</td>
<td>157.04</td>
<td>21494.37</td>
<td>2.94</td>
<td>121.43</td>
<td>6.13</td>
<td>14.20</td>
<td>2.54</td>
<td>100</td>
</tr>
</tbody>
</table>

### Table 1. Analysis of no-price competitiveness of dates in the Mediterranean and Iran

<table>
<thead>
<tr>
<th>Dependency index (DI)</th>
<th>Tunisia</th>
<th>Iran</th>
<th>Israel</th>
<th>France</th>
<th>Egypt</th>
<th>Algeria</th>
<th>Italy</th>
<th>Jordan</th>
<th>Turkey</th>
<th>Morocco</th>
<th>Spain</th>
<th>Mediterranean</th>
</tr>
</thead>
<tbody>
<tr>
<td>1991-95</td>
<td>10.69</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>201.13</td>
<td>28.66</td>
<td>2.24</td>
<td>76.25</td>
<td>506.68</td>
<td>26.67</td>
<td>158.22</td>
<td>79.68</td>
</tr>
<tr>
<td>1996-00</td>
<td>17.51</td>
<td>0.00</td>
<td>0.02</td>
<td>189.01</td>
<td>7.49</td>
<td>0.15</td>
<td>71.98</td>
<td>379.33</td>
<td>38.53</td>
<td>373.25</td>
<td>99.39</td>
<td>100</td>
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<tr>
<td>2001-05</td>
<td>26.17</td>
<td>0.25</td>
<td>0.04</td>
<td>125.06</td>
<td>5.53</td>
<td>0.35</td>
<td>46.65</td>
<td>343.69</td>
<td>54.86</td>
<td>1877.56</td>
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<td>100</td>
</tr>
<tr>
<td>2006-10</td>
<td>15.16</td>
<td>0.00</td>
<td>0.43</td>
<td>105.47</td>
<td>14.52</td>
<td>0.03</td>
<td>42.87</td>
<td>304.99</td>
<td>77.38</td>
<td>1921.16</td>
<td>58.00</td>
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</tr>
<tr>
<td>Averages</td>
<td>17.38</td>
<td>0.06</td>
<td>0.12</td>
<td>155.17</td>
<td>14.05</td>
<td>0.69</td>
<td>59.44</td>
<td>383.67</td>
<td>49.36</td>
<td>1082.55</td>
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<table>
<thead>
<tr>
<th>Constant market share (CMS)</th>
<th>Tunisia</th>
<th>Iran</th>
<th>Israel</th>
<th>France</th>
<th>Egypt</th>
<th>Algeria</th>
<th>Italy</th>
<th>Jordan</th>
<th>Turkey</th>
<th>Morocco</th>
<th>Spain</th>
<th>Mediterranean</th>
</tr>
</thead>
<tbody>
<tr>
<td>1991-95</td>
<td>36.63</td>
<td>32.60</td>
<td>10.25</td>
<td>14.45</td>
<td>1.27</td>
<td>30.67</td>
<td>0.28</td>
<td>0.36</td>
<td>0.08</td>
<td>0.38</td>
<td>0.44</td>
<td>100</td>
</tr>
<tr>
<td>1996-00</td>
<td>40.12</td>
<td>26.95</td>
<td>4.27</td>
<td>16.33</td>
<td>1.07</td>
<td>22.77</td>
<td>0.53</td>
<td>0.23</td>
<td>0.35</td>
<td>0.04</td>
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<td>100</td>
</tr>
<tr>
<td>2001-05</td>
<td>43.44</td>
<td>21.24</td>
<td>13.40</td>
<td>10.66</td>
<td>0.75</td>
<td>8.26</td>
<td>0.48</td>
<td>0.66</td>
<td>0.41</td>
<td>0.06</td>
<td>0.42</td>
<td>100</td>
</tr>
<tr>
<td>2006-10</td>
<td>43.95</td>
<td>25.57</td>
<td>13.11</td>
<td>6.72</td>
<td>2.56</td>
<td>4.76</td>
<td>1.06</td>
<td>0.87</td>
<td>0.48</td>
<td>0.01</td>
<td>0.44</td>
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</tr>
<tr>
<td>Averages</td>
<td>41.04</td>
<td>26.59</td>
<td>10.26</td>
<td>12.04</td>
<td>1.41</td>
<td>16.62</td>
<td>0.59</td>
<td>0.53</td>
<td>0.33</td>
<td>0.12</td>
<td>0.45</td>
<td>100</td>
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</table>

<table>
<thead>
<tr>
<th>Trade balance index (TBI)</th>
<th>Tunisia</th>
<th>Iran</th>
<th>Israel</th>
<th>France</th>
<th>Egypt</th>
<th>Algeria</th>
<th>Italy</th>
<th>Jordan</th>
<th>Turkey</th>
<th>Morocco</th>
<th>Spain</th>
<th>Mediterranean</th>
</tr>
</thead>
<tbody>
<tr>
<td>1991-95</td>
<td>99.76</td>
<td>100</td>
<td>100</td>
<td>-35.05</td>
<td>46.58</td>
<td>99.76</td>
<td>-94.95</td>
<td>-72.78</td>
<td>-61.24</td>
<td>-50.90</td>
<td>-83.86</td>
<td>32.33</td>
</tr>
<tr>
<td>1996-00</td>
<td>99.47</td>
<td>100</td>
<td>100</td>
<td>-36.45</td>
<td>68.90</td>
<td>99.97</td>
<td>-91.67</td>
<td>-82.40</td>
<td>-47.13</td>
<td>-97.92</td>
<td>-89.25</td>
<td>19.19</td>
</tr>
<tr>
<td>2006-10</td>
<td>99.58</td>
<td>100</td>
<td>99.92</td>
<td>-40.11</td>
<td>74.34</td>
<td>99.97</td>
<td>-68.09</td>
<td>-42.98</td>
<td>-61.02</td>
<td>-99.90</td>
<td>-83.83</td>
<td>25.30</td>
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<tr>
<td>Averages</td>
<td>99.50</td>
<td>99.99</td>
<td>99.97</td>
<td>-37.80</td>
<td>65.42</td>
<td>99.88</td>
<td>-85.95</td>
<td>-64.15</td>
<td>-56.04</td>
<td>-87.05</td>
<td>-86.48</td>
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</table>
In the Mediterranean, Algeria began in second place in market share criterion, but has declined drastically, dropping from 30% in 1991-1995 to 4.76% in 2006-2010. It has lost more than 25% of its CMS probably due to the decline in French imports, its main destination.

The remaining countries have a negligible share, such as Egypt with an average CMS of 1.40%, over the observation period, or Italy, Jordan, Turkey, Morocco and Spain, with an average CMS <0.5%.

— Trade balance index (TBI). Economic development is probably the most important policy objective in less developed countries and exports are often seen as an engine for growth (Dawson, 2005). Results of TBI given in Table 1 confirm this concept and show that Tunisia is a net exporter of dates, with values greater than 0, and is very close to 100 (TBI average 99.59). Tunisia exports but does not import dates, or if it does so, in negligible quantities.

Likewise Iran, Israel and Algeria have TBI values that are equal or very close to 100, indicating a similar export structure and competitive advantage.

Egypt has an average TBI value of 65% during the study period, indicating that it is a net exporter. However, it also imports a significant amount of dates due to the large domestic demand, added to the fact that most of the varieties grown there are lacking in quality and are used for animal feed (Soliman et al., 2003).

— Export competitive price index (CPIex). The FAO (Liu, 2003) reports that the EU is the most important market for date exporters, and import mainly high-quality dates. In 1998-2000 the average unit value of imported dates ranged from between $1.7/kg and $2/kg in the EU, while the unit value worldwide was only $0.6/kg, indicating that greater value is placed on this fruit by the EU than the rest of the world.

The influence that prices have on a country’s competitive position is measured by the CPIex, calculated on the basis of export prices. The trend of these indices (Fig. 1c) reveals that, compared to all the countries studied, Tunisia is gaining a competitive position in date export prices. From 2001 to 2010, the CPIex was significantly reduced compared to the other countries studied, with the exception of Iran and Egypt, which have a very unstable CPIex, decreasing significantly after 2007. This could be explained by a combination of factors, which may have contributed to the reduction of the Tunisian CPIex, such as:

— Regularity of production: a steady increase in Tunisian date production, reaching 199,000 tons in 2013, of which 141,000 tons were ‘Deglet-Nour’.
— Export efforts: Tunisia is the first date exporter in the world in value but the seventh producer in quantity. Note that Tunisia currently exports about 60% of its total production, compared to 33% in 1999. This trend necessarily implies a special effort to avoid a decline in quality of the exported product, and a modification in export prices (APIA, 2008).
— Importance of variety, quality and presentation: Import prices can vary by up to ten times depending on the variety, origin, packaging and quality (Liu, 2003).

The recovery ratio calculated by APIA (2008) reveals that Tunisia sells its dates for 3.4 times more than the global average. The recovery ratio is very high for Israel, 6.3, due to the sale of ‘Deglet-Nour’ and cv. Medjool. France sells 4.2 times the average world price (they package and re-export ‘Deglet-Nour’), whereas Algeria has a coefficient of 2.7 with ‘Deglet-Nour’ predominating.

In conclusion, date industry is important in Tunisia, in terms of production and export, playing a key socio-economic role. Given the analysis of this sector’s competitiveness within the Mediterranean basin and Iran, we conclude that Tunisia has a highly important trade position compared to the Mediterranean area. Nonetheless, recent years have seen a decline in this comparative advantage due to declining competitiveness indices.

However, the market share indices (constant part of the market) are more stable, with a slight upward trend. This indicates that Tunisia is maintaining its market within the Mediterranean, and is well above the index of all competing countries throughout the period analyzed. This highlights the importance of the Tunisian date in the Mediterranean and Iran. Moreover, the Tunisian trade balance index remains stable, and close to 100 for the 20 years analyzed, reflecting it continues to be a net exporter of dates. Conversely, imports in this sector are negligible, as in Iran, Algeria and Israel (its main competitors). Regarding the analysis of the competitive price index (CPI), indices for Tunisia were very unstable from one country to another over the period analyzed. However, we can conclude that Tunisia is gaining a competitive position in terms of date export prices, since export CPI were significantly reduced compared to the other countries studied for the period 2001-2010, except for Iran and Egypt, which have had very variable export CPIs, with significant reductions since 2007.

References


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