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Investigating eligible markets for Radicchio Rosso di Treviso PGI: the OMOI method

This paper contributes to the existing literature on geographical indications and, in particular, on the economic analysis of vegetables bearing a Protected Geographical Indication label. This study deals with the niche topic of methodologies that may be used to select ideal foreign markets for the Radicchio Rosso di Treviso. The aim is to suggest an adequate investigative methodology for identifying the foreign countries that are most suitable targets for promotional strategies. The specific analysis considers many variables, chosen with a view to selecting eligible markets, and ultimately draws up a consistent ranking of the five best nations. To determine the most promising country, the Overall Market Opportunity Index (OMOI) method has been used. This focuses on the most relevant indicators for each of the seven categories used to assess their appeal. The findings show that Denmark can be the best market for focusing the segmentation strategies of the Treviso Radicchio. After this, policy and business implications are addressed and opportunities for future research into emerging related issues are suggested. Strengthening the ranking analysis methodologies used for selecting target markets for the companies that produce Made in Italy luxury foods can also help improve such companies' competitive profile on international markets.

Keywords: PGI products, Made in Italy, foreign markets, OMOI method, ranking analysis

JEL classification: Q13

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Introduction

The Italian agri-food sector represents more than 15% of national GDP, and Italy ranks first among European countries in terms of value added. More than a billion people in the world consume Made-in-Italy food, with exports amounting to more 50 billion euros; the appeal in foreign markets is very strong and constantly growing (Istat, 2020).

Made-in-Italy food is defined as "the set of products recognised for their strong typical character, given their close link with the territory on which Italy enjoys comparative advantages related to the environment and production systems" (ISMEA, 2012). Italian food specialities consist of branded and typical products, whose strict link to their area of origin is what makes the difference in international markets. The commercial role of Made in Italy is realised through the analysis of the country's foreign trade, taking into consideration that after the breakeven reached in 2019, the agri-food trade balance becomes positive (+2.6 billion euros, 2020). This historic shift is significant, considering the chronic deficit of the Italian agri-food trade balance. Precisely, the strategy based on Made in Italy foods has enabled this goal to be achieved. Made in Italy can be certified with Protected Designation of Origin (DOP) and Protected Geographical Indication (PGI) labels, specifically defined as directly related to the territorial and geographical origin. Mediterranean EU countries (above all France and Italy) strongly dominate the domestic and external EU GI market (Török and Moir, 2018).

Török and Jambor (2013) recently investigated the impacts of EU expansion on the competitiveness of fruit spirits in six Central-Eastern European Countries (CEECs), concerning geographical indications, carrying out the theory of revealed comparative advantages. A recent study (Török *et al.,* 2020) highlights the crucial spill-over effects that are due to synergies among GI food, tourism, and handicraft businesses.

More than 73% of Italian food exports are designated as Made in Italy, an extremely significant amount in terms of both value and volume. These foods are high-end products and represent superior quality, both in terms of composition (organoleptic characteristics, raw materials, and processing system) and in terms of image (emotional aspects, brand, collective trademark, geographical origin). When all the requirements of consumer top demand are met, this reduces the relevance of price, making its curvature inelastic. The superior food quality of Made in Italy is confirmed worldwide.

In addition, vegetables and more consumed thanks to their nutritional benefits (Pasquali *et al.,* 2016; Migliore *et al.,* 2015; Schimmenti *et al.,* 2013). Users conceive food as a 'therapy', improving wellness and health (Fiore *et al.,* 2019), especially in the last two years of pandemic. This specificity is mostly appreciated by demanding customers who belong to the upper class (Alaimo *et al.,* 2021).

The link with territory is a foundational element for typical products. That of Treviso derives from the ample availability of resurgence water, which, together with the fertility of the land and a certain amount of imagination, made it possible for ancestors long ago to create a unique product. The authentic Radicchio "Tardivo" (i.e. Belated cultivar, Cichorium intybus) comes from the typical area and is obtained according to the traditional forcing-and-bleaching technique, during which bunches are filled with running spring water. This especially long and laborious process, in and out of soil, requires a significant labour force, which is often underremunerated.

Farming is possible only in 17 municipalities in the Treviso hinterland, and in another 7 in the neighbouring areas of Venice and Padua. The certified production covers

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about 500 hectares, of which more than 300 consist of "Tardivo" cultivar. The slogan "the flower you can eat" refers to the name given to the radicchio, or "winter flower". What consumers actually eat is the new sprout, blossomed in the spring water. This complex production process, which requires very high skills, rightly makes it the king of vegetables. About one hundred of the traditional family farms producing the cultivar are certified, and these farms in terms of size, ranging from small and very small, up to those of 15-20 hectares. Nevertheless, it features a good gross saleable production per hectare, which also reaches €20,000-25,000. The seed is 100% self-produced, and over the years the farms have evolved considerably, selecting varieties that accentuate the red colour, that increase the sugar content, and that are capable of adapting to recent climate changes. This innovation has coincided with the expansion of the surfaces and an increase in the mechanisation, specialisation, and qualification of production techniques. Nevertheless, the work time dedicated to Treviso Radicchio is about 700-800 hours/hectare. Alongside the professional farms, there are small family businesses, heirs to the legacy of the past, which are often managed part-time.

Some iconographic studies testify the presence of Radicchio in Treviso as early as the sixteenth century AD. It is worth noting that in the painting by Leandro Da Ponte 'The wedding at Cana' (1579-82), it is possible to glimpse two baskets inside which the cultivar can be seen. Also belonging to the Radicchio PGI category is the "Radicchio Precoce" (i.e. early cultivar). Although less valuable in terms of trade, it is rich in fibres and can be included in low calorie diets, which are being implemented more and more by younger and older consumers (Spada *et al.,* 2020; Chiara *et al.,* 2019; Defrancesco *et al.,* 2005). It is high in mineral salts, polyphenols, caffeic and chlorogenic acid, as well as flavonoids (Pasquali *et al.,* 2016; Koukounaras and Siomos, 2010). Above all, the geographical indication PGI label represents the most competitive product feature affecting profitability (Bellia *et al.,* 2017). Customers trust certified products, which they believe deliver higher quality and added value.

Using previous studies (D'evoli *et al.,* 2013; Bassi *et al.,* 2003) as starting point, the specific SWOT analysis displays its main characteristics below in Figure 1. This methodology shows how the businesses' threats may be overcome and is recognised as a key resource for strategic planning (Benzaghta *et al.,* 2021). Moreover, recent Chinese research also shows that the same method can be used to develop opportunities for agricultural product brands (Zhang *et al.,* 2019).

Its high premium price is justified by the long manufacturing process. Although the analysis deals with small countries far away from Italy, it is possible to satisfy foreign niche demand thanks to new preservation methods, reaching distant markets (Antonelli *et al*., 2017; Pasquali et al., 2016; Lucarini et al., 2012). The recent growing demand for Radicchio Rosso di Treviso PGI suggests that there is huge potential for the development of its niche market, whose main marketing lever is the territory it is associated with (Di Vita et al., 2021; Contò et al., 2016). In response to this rising demand, the supply is constantly growing (Figure 2).

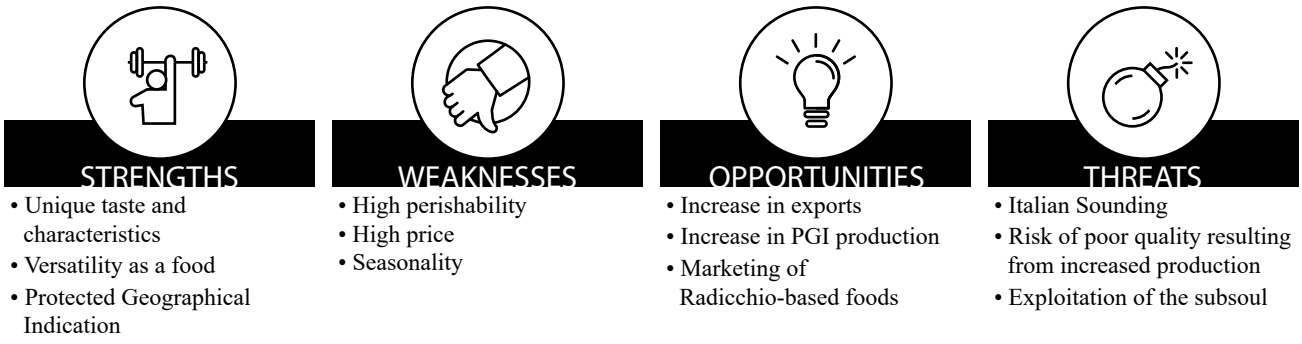

Figure 1: The SWOT analysis of the Radicchio Rosso di Treviso PGI.
Source: Own composition

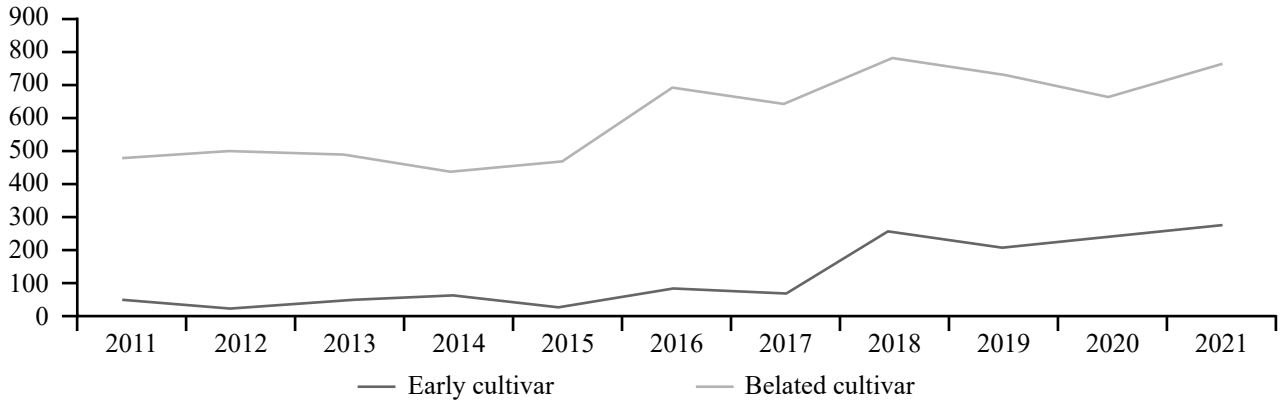

Figure 2: Production of Radicchio Rosso di Treviso PGI in tonnes, 2011-2020.
Source: IGP, 2021.

In Italy, the role of PDO and PGI labels is widely recognised. The research by Nomisma (2022) states that about 20% of the population is a habitual user (23% in central Italy; 19% in north and south). Statistically, women consume a larger quantity of food that is labelled in this way, and they do so more frequently than men (22%, against 18%), while those who are over 45 are more likely eat geographic label food (23%). The fact that the greatest propensity for consumption is by families with children highlights the important role such food plays in nutrition. The regular consumer is economically wealthy, is cultured, seeks quality, and loves healthy-tasty foods.

Dividing the characteristics of final consumers into three reference ranges, according to the type of food sought you can split the market into upmarket, mid-market and cost-conscious segments (Bellini and Ziliani, 2006). Treviso Radicchio falls within the upmarket range, where one may refer to "gourmet users", who have little time, have high incomes, and who buy luxury goods daily, or "healthy consumers", who regularly buy organic meat, fruit, and vegetables, and pay attention to their fitness.

Sadly, the market value of fake food and "pirate" goods has already reached the value of €100 billion globally (Francioni and Albanesi, 2017). The Radicchio PGI has been subject to several counterfeiting attempts, not only overseas, but also within Europe. The real problem lies in the unbranded red radicchio, which occupies the markets without legal recognition. We are talking about a vast market, considering that the branded product represents only 25% of the total, compromising the possibility of unitary management for marketing purposes. Since adherence to the certification process is carried out on a voluntary basis, a relevant legal requirement is lacking. As the protection of Made in Italy in the global market involves the completely legal framework of international trade, this ought to be a prerequisite for the success of any business.

Despite multiple limitations arising from the nature of the product, market barriers and information asymmetries, the increase in the quantity exported highlights a determination to increase international trade, which is viewed as the market with the highest potential for growth. Still, it is necessary to adjust international marketing strategies, identifying markets where it is best to focus one's strategic positioning based on demand segmentation. Here, the main role is no longer played by price. Identifying the most promising segments of niche demand remains a primary goal for the coming seasons.

Within this framework, the current paper aims at identifying the most suitable countries for focusing the promotion and commercial development of Radicchio di Treviso, whose PGI label confers an intangible strategic value (Bellia *et al.,* 2017). The paper proposes a selecting method to identify the most attractive and accessible countries by using OMOI methodology (Cavusgil, 1985, 1997; Cavusgil *et al.,* 2004). We analyse the distinctive factors of the selected nations, focusing on a complete and integrated data set, to delineate the ranking of areas with the highest potential for the enhancement of Treviso Radicchio PGI. The results are evaluated, and finally, the discussion section outlines some crucial lines of research that have the potential to be addressed.

Methods

A planned approach to international trade development requires an analysis of the different foreign markets so as to identify and select the countries that offer the best opportunities (Ozturk *et al.,* 2015; Rahman, 2003; Wood and Robertson, 2001; Robertson and Wood, 2000; Russow and Okoroafo, 1996). It may seem obvious, but a number of companies choose their foreign markets in a reactive, or even worse, random way, based on a few requests from local customers, or privileging criteria that do not assess the existence of an adequate level of potential demand (Albaum *et al.,* 2016; Górecka and Szałucka, 2013, Alesina *et al.,* 2003). The differences and similarities among alternative nations are crucial to determining the most suitable market. Over the years, many comparative methods have been presented to address the specific characteristics of each country and to identify the best business opportunities within them (Johansson, 2009; Craig and Douglas, 2005). The starting point for this analysis, which is included in the research hypothesis, is what makes a market attractive. Two complementary approaches for the evaluation and preliminary selection of the foreign market are clustering and ranking (Terpstra *et al,* 1967).

If used in combination, these two methods can be extremely effective, they will allow nations to be selected that demonstrably, through the examination of quantitative data, possess the characteristics to embrace and appreciate the product more than others. In the first, clustering technique, we put together a collection of countries that are more similar in terms of specific character. The first significant effort involving the clustering of countries was reported in the late 1960s (Terpstra *et al.,* 1967). The authors grouped the countries according to their similarity in terms of economic development. In our example, we selected the countries with a GDP per capita higher than that of Italy, which has been adopted as a benchmark. As the Radicchio can be considered a luxury good, it is appropriate to target consumers with higher incomes.

The ranking method then evaluates countries in terms of the overall attractiveness of their market, identifying, on several fronts, the nations with the greatest potential for Radicchio. Initially, the demographic, economic, political, territorial, cultural, and commercial variables are in focus, together with the efficiency of the transport and infrastructure. Next, we assess market accessibility, considering the extent of the entry barriers that would confront the introduction of Radicchio. We adopt a gradual selection model, which aims at removing at each step the countries showing unfavourable values for the indicators that are considered relevant.

Finally, to achieve the most correct ranking, an in-depth analysis of the stand-out nations is carried out, focusing in particular on consumption trends, agri-food sector development, political-commercial relations with Italy, and on the culture of business.

The ultimate ranking is the closing output of the report. To reach its goal, the paper makes significant use of subordinate data and sources, which refer both to government agencies, as well as to previous studies and research.

Attractiveness of countries

Many of the academic contributions that have aimed at developing methodologies to limit risks associated with the erroneous selection of a target market, emphasise the need to carry out an analysis of a country's attractiveness based on secondary data sources (Pellicelli, 2010; Valdani and Bertoli, 2006; Cavusgil *et al.,* 2004; Bradley, 2005).

In order to identify the most attractive countries, our analysis performs a series of successive screenings. These aim to show which country has the minimal score of acceptance with respect to the indicators selected, from time to time removing those who do not meet the requirements (Bellini and Ziliani, 2006; Gould, 2002). This selective process allows the sample elements to be reduced to the desired size. In line with the literature, the patterns of indicators are analysed under the following categories: demographic, economic, political, transport and infrastructure efficiency, territorial, cultural, trade, and accessibility.

Demographic indicators

The demographic indicators are selected to highlight specific phenomena, which may have an impact on the potential demand of niche markets. Among several relevant variables, we chose the six indicators considered most useful for our purpose. The knowledge of the total population, for instance, even if it is still used as a raw indicator, helps to estimate the absolute potential demand. Consequently, we exclude countries with fewer than 100,000 inhabitants, as the effort to plan exports and adapt the product for sale could lead to a rather small success (Table 1).

Economic indicators

Among others, we selected the six indicators we believed to be the best for detecting the prospective of the consumers to purchase the premium-price Radicchio, instead of substitutes. While per capita income has led to no exclusions, we deemed the Gini Index, as a measure of income dispersion, to be more discriminatory. The assumption is that the highest value of inequality (100% of Gini Index) is not in accordance with our marketing idea for Radicchio. Therefore, just for this reason we excluded the United States (Table 2).

Great prominence has been attributed to the Vegetable Price Index (world average = 100), assuming a positive correlation between high prices and the demand for top-of-the-range goods. Therefore, we decided to exclude all states with a value lower than 170. This index value is assumed to allow Radicchio to be competitive, despite the export and production costs. This selection significantly contracted our sample, excluding prominent European countries (e.g. Germany, France, the Netherlands, the United Kingdom), and other more distant markets (e.g. United Arab Emirates, Qatar, Singapore).

Table 1: Demographic indicators for selected countries, 2019.

Country	Total population	Urban population (%)	Population density (persons/km^2)	Population above 15 years (%)	Total employment (%)	Share of agriculture (%)
Switzerland	8,575,280	73.8	215.4	85.1	65.1	2.6
Norway	5,347,896	82.6	14.5	82.7	61.7	2.1
Ireland	4,934,040	63.4	70.6	78.8	57.7	4.4
Singapore	5,703,569	100.0	7,953.0	87.6	68.3	0.0
Qatar	2,832,067	99.1	242.1	86.4	86.7	1.1
United States	328,239,523	82.4	35.7	81.4	60.2	1.4
Denmark	5,814,422	87.9	144.8	83.6	59.1	2.2
Australia	25,365,745	86.1	3.2	80.7	62.5	2.5
Sweden	10,278,887	87.7	24.9	82.3	60.0	1.7
Netherlands	17,344,874	91.8	511.7	84.1	62.1	2.1
Austria	8,879,920	58.5	107.1	85.6	58.1	3.6
Finland	5,521,606	85.4	18.1	83.9	55.3	3.8
Hong Kong	7,507,400	100.0	7,096.1	87.6	58.1	0.2
Germany	83,092,962	77.3	237.2	86.2	59.3	1.2
Belgium	11,502,704	98.0	377.3	82.9	51.0	0.9
Canada	37,593,384	81.4	4.1	84.1	61.8	1.5
U. Ar. Emir.	9,770,529	86.7	135.6	85.2	80.1	1.4
United King.	66,836,327	83.6	274.7	82.3	60.6	1.1
New Zealand	4,979,300	86.6	18.3	80.4	66.7	5.8
Israel	9,054,000	92.5	410.4	72.1	61.2	0.9
France	67,055,854	80.7	122.3	82.2	50.3	2.5
Japan	126,264,931	91.7	347.1	87.4	60.8	3.4

Source: World Bank (2022)

Policy indicators

The six indicators chosen to represent the political situation of the different countries left report the opinions of citizens, public and private entrepreneurs, experts, and NGOs, on the quality of many aspects of governance. To define values, we have adopted a specific screening method. Initially, the most pertinent information from the various sources used was collected. The next phase consisted in the operation of values standardisation, in the range [0–1], depending on the positive, or negative statement regarding the indicator. Then, making use of the "Unobserved Components Model (UCM)" statistical tool, the previously standardised data are compared, assuming a standard normal distribution (with average [0], and a standard deviation [1]), on a scale ranging [-2.5–2.5], with higher values corresponding to better performance (Table 3).

Table 2: Economic indicators for selected countries, 2018.

Country	GDP per capita ($)	GNI per capita ($)	Gini index (%)	Imports (million $)	Food imports (%)	Vegetable price index
Luxembourg	124,590		35.61	24,175	12.41	147.57
Switzerland	72,376	73,620	33.19	279,528	4.38	243.55
Norway	70,006	70,330	28.23	866	9.22	249.20
Ireland	89,684	69,190	31.31	107,669	9.93	177.33
Singapore	101,649		35.00	370,881	3.62	161.71
Qatar	94,029		35.55	31,696	10.62	121.65
United States	65,298		41.17			
Denmark	62,090	62,120	27.26	102,605	13.56	175.54
Australia	53,381	50,540	34.53	235,386	6.52	208.06
Sweden	56,632	56,670	28.66	170,605	10.40	186.71
Netherlands	61,285		29.06	645,502	12.23	142.88
Austria	60,418	58,940	29.90	193,722	7.41	175.08
Finland	53,172	51,800	27.44	78,624	7.54	180.96
Hong Kong	62,496	65,240	39.38	626,616	4.67	174.82
Germany	57,530		33.57	1,284,353	7.76	149.13
Belgium	56,349		27.28	454,738	8.96	132.85
Canada	51,669	50,010	33.32	470,522	7.97	179.90
Un. Ar. Em.	70,089		32.58	261,538	7.31	128.14
Un. Kingdom	49,932		34.18	672,267	9.66	130.63
New Zealand	45,382	43,950	33.46	43,793	11.33	215.78
Israel	42,898		39.32	76,598	8.42	145.29
France	50,993		30.60	676,441	9.41	159.96
Japan	43,594	43,760	32.86	748,488	9.43	289.34

Source: World Bank (2022) and United Nations (2022)

Table 3: Policy indicators for selected countries, 2019.

Country	Voice and responsibility	Political stability absence of violence	Government effectiveness	Regulatory quality	Rule of law	Corruption control
Switzerland	1.53	1.34	1.95	1.66	1.91	1.98
Norway	1.69	1.19	1.86	1.80	1.98	2.07
Ireland	1.34	0.97	1.28	1.60	1.39	1.46
Denmark	1.58	1.01	1.94	1.57	1.90	2.11
Australia	1.32	1.09	1.57	1.87	1.73	1.81
Sweden	1.59	1.05	1.83	1.80	1.91	2.12
Austria	1.33	0.98	1.49	1.46	1.88	1.55
Finland	1.59	0.91	1.93	1.85	2.02	2.15
Hong Kong	0.21	-0.27				
Canada	1.46	1.03	1.73	1.72	1.76	1.77
New Zealand	1.57	1.51	1.67	1.88	1.88	2.17
Japan	0.96	1.04	1.59	1.33	1.54	1.48

Source: World Bank (2022)

It is essential for a correct implementation of commercial strategies abroad that each indicator has a value at least in line with the world standard. Therefore, as a result, we remove the countries with a negative performance. Thus, our sample is reduced to eleven nations.

Transport and infrastructure efficiency indicators

Nowadays, the efficiency of transport and infrastructure, and logistics in general, plays a fundamental role. We tried to identify the six indicators most relevant and able to provide a comprehensive picture about the remaining studied nations. The quantification of indicators results from an online survey among logistics, multinational shippers, and couriers. The responses are provided by companies of different sizes, the large companies - with 250 employees, or more - accounting for about 20% of the total. For the six fundamental components of logistics services, a score from [1] to [5], for best performance, is assigned (Table 4). The final value of each indicator is the average of the points scored, related to each nation. Avoiding giving more weight to one indicator rather than another, considered equally important, we made the sum of the six values referring to each state. In this case, we have decided not to exclude any competitor, given the similarity in the final score.

Territorial indicators

As regards the individualities of the territory, the indicators selected serve to highlight the relevance of agriculture in each country and the facility to reach the final consumer via internet network. However, most importantly, a relevant measure of distance, representing an eliminatory variable, resides in the remoteness of the foreign nation from the production place of Treviso (Table 5).

The importance of providing the final consumer with a fresh product is emphasised. The vegetable's consistency and taste are the strong points determining the quality of Radicchio, naturally preserved only for a limited time between harvest and consumption. Preserving the product's freshness when it is transported over long distances is an expensive

Table 4: Transport and infrastructure efficiency indicators for selected countries, 2018.

Country	Quality customs efficiency	Infrastructure quality	Shipments competition	Quality of logistics	Track trace shipments	Quality delivery time	Total
Switzerland	3.63	4.02	3.51	3.97	4.10	4.24	23.47
Norway	3.52	3.69	3.43	3.69	3.94	3.94	22.21
Ireland	3.36	3.29	3.42	3.60	3.62	3.76	21.05
Denmark	3.92	3.96	3.53	4.01	4.18	4.41	24.01
Australia	3.87	3.97	3.25	3.71	3.82	3.98	22.62
Sweden	4.05	4.24	3.92	3.98	3.88	4.28	24.35
Austria	3.71	4.18	3.88	4.08	4.09	4.25	24.19
Finland	3.82	4.00	3.56	3.89	4.32	4.28	23.87
Canada	3.60	3.75	3.38	3.90	3.81	3.96	22.41
New Zealand	3.71	3.99	3.43	4.02	3.92	4.26	23.33
Japan	3.99	4.25	3.59	4.09	4.05	4.25	24.22

Source: World Bank (2022)

Table 5: Territorial indicators for selected countries, 2018.

Country	Land area (km^2)	Agricultural land (%)	Arable land (%)	Chicory production (tonnes)	Internet users (% of population)	Distance from Treviso (kilometres)
Switzerland	41,290	38.21	10.07	59.069	93.15	390
Norway	385,207	2.70	2.19	26.576	98.00	1,585
Ireland	70,273	65.55	6.54	5.68	84.52	1,580
Denmark	43,094	65.80	59.80	23.52	98.05	1,110
Australia	7,692,024	46.66	4.02	133.525	86.55	16,240
Sweden	450,295	7.39	6.26	32.14	94.49	1,570
Austria	83,871	32.15	16.08	41.29	87.75	420
Finland	338,425	7.48	7.38	13.62	89.61	1,815
Canada	9,984,670	6.49	4.31	84.902	92.70	6,470
New Zealand	270,467	39.75	1.86	40.098	90.81	18,525
Japan	377,956	12.13	11.36	582.416	92.73	9,555

Source: World Bank, FAO, 2022

undertaking and is not without risks, as goods may be subjected to long waits for both shipment and commercialisation. For these reasons, we exclude those countries whose capital is far from Treviso. Consequently, we removed from the sample New Zealand, Australia, Japan, and Canada.

Cultural indicators

The cultural peculiarities of the target consumer are of key importance to defining the commercial potential of Radicchio, and developing a proper promotion campaign. In our case, the discriminating variable is the per capita consumption of vegetables, considered in kg per year, which certifies the real quantitative potential for the Radicchio. For this reason, we also remove Norway from the seven destinations left, which shows a relatively low propensity towards vegetables (Table 6).

Trade indicators

In the last phase, we analyse the commercial indicators of different categories of horticultural products, in addition to our chicory. This is how we try to capture the potential interest and the willingness to pay of each nation towards fresh and cut vegetables. Finland's low propensity to consume immediately emerges, making it the last excluded from the potential target markets (Table 7).

Thus, via a path of analysis that may appear in some ways tortuous and controversial, we have reached our previously set goal. Following the screening carried out from preceding research, the most attractive five nations for the marketing of Treviso Radicchio Rosso PGI are identified as Switzerland, Ireland, Denmark, Sweden, and Austria. These stand out in terms of their characteristics, indicating a higher potential for business development (Antonissen, 2020; Obrist *et al.,* 2019; Whitelock and Jobber, 2004).

Comparison of the examined countries

However, quantitative analysis based on macro-indicators does not seem to be an exhaustive way to understand a product's potential to penetrate a food market niche. Therefore, we now focus, for each country, on the purchasing habits of consumers and the different trends in consumption, on the importance of the agri-food sector, and on the exchange of foods with Italy. Subsequently, the political-commercial relations of each nation with Italy and the business culture are analysed more widely, with a view to obtaining economic indications that may point towards a correct commercial approach.

As a last step, to establish the most promising country for the marketing of Treviso Radicchio PGI, the five most suitable nations are compared using the Overall Market Opportunity Index (OMOI), developed by Tamer Cavusgil (Cavusgil, 1985, 1997; Cavusgil *et al.,* 2004). The OMOI method aims to attribute an order and a rank to the attractiveness of possible foreign markets. The method provides the standardisation of the values of the relevant indicators to determine the potential of a country by comparing variables with very different distributions. The system also delivers the attribution of a weight to each indicator, based on the prominence held for the purposes of selection.

Table 6: Cultural indicators for selected countries, 2020.

Country	Social globalization	Human development	Vegetable consumption kg/ pop.	Ethnical fractionation	Linguistic fractionation	Religious fractionation
Switzerland	90.79	0.96	92.82	0.53	0.54	0.61
Norway	85.47	0.96	71.36			
Ireland	85.54	0.96	86.73	0.12	0.03	0.16
Denmark	87.96	0.94	104.16	0.08	0.10	0.23
Sweden	89.44	0.95	83.21	0.06	0.20	0.23
Austria	88.56	0.92	87.70	0.11	0.15	0.41
Finland	87.70	0.94	83.73	0.13	0.14	0.25

Source: United Nations, FAO, 2022

Table 7: Trade indicators for selected countries, €, 2019.

Country	Import of fresh Italian vegetables	Import of Radicchio	Export of vegetables	Import of vegetables	Export of chicory	Import of chicory
Switzerland	86,543,200	3,334,100	7,085,390	522,711,673	564,459	49,585,144
Ireland	6,612,300	25,400	112,489,330	353,446,809	1,522,630	23,708,783
Denmark	33,805,100	526,200	161,384,292	446,102,190	8,455,420	34,467,944
Sweden	31,649,600	1,168,300	76,732,118	620,023,034	15,338,012	43,670,092
Austria	129,407,800	5,411,700	156,895,284	598,175,949	5,559,768	52,949,637
Finland	3,249,300	–	–	–	–	–

Source: Istat (2020), World Bank (2022)

Multiplying the weight of individual indicator with its value, we proceed with the sum of the resulting values for each nation. The final points allow making the comparison among different countries: the nation with the highest score is clearly preferred. The OMOI system emphasises the importance of focusing on the most relevant indicators. Of course, every weight attributed can be reviewed, lending to various kinds of simulations, based on the different goals to pursue. In our case, it is implemented so as to draw up the definitive ranking of the five most promising countries.

In a first step, for each of the seven categories used in assessing the attractiveness of each country is selected the indicator deemed most significant, among demographic, economic, political, transport and infrastructure efficiency, territorial, cultural as well as commercial indicators (Table 8).

Each indicator is given a fractional weight, based on the importance that has been subjectively assigned. This is multiplied by the ranking position that each value covers in the comparison among the five countries selected. In the case of equal values, the same position in the ranking is given. As to the first indicator (urban population), for instance, a weight of 9% is given. The highest mark takes five points in the ranking, the lowest one takes one point. The single score is given by multiplying the value in the ranking and the weight.

In addition, we added a further dimension of competitiveness, relating to the variable accessibility. Indeed, an appealing market must also be accessible for the companies. To evaluate this dimension, we chose some specific information concerning the competitive environment, such as the importance of the origin of the products (8), the presence of Italy among the top five food exporting countries (9), the relevance of healthy eating (10), the weight of local vegetable supply (11) and the attention to sustainability (12). To these we added two purely economic indicators, such as the incidence of tariff barriers (13) and product standards (14).

For these indicators a dichotomous qualitative evaluation is made. To every variable is assigned a maximum value of [2.5], in case of positive evidence; or [0], in the event of a negative assessment, or due to the presence of barriers. It should be noted, however, that the five countries differ only in specific assessments. Thus, while the relevance given to origin of foods, healthy eating, sustainability is everywhere high; Switzerland is characterised by the presence of barriers to trade. In Denmark, horticultural production is high, compared to Ireland, among the top five importers of Italian food. In the light of all these considerations, we proceeded to the addition of the values of all indicators used, until reaching the final score (Table 9).

Table 8: Comparison of the most significant indicators.

Indicator (Category)	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Country	**Urban population (%)**	**Vegetable price index**	**Rule of Law (Index)**	**Quality of Logistics (Index)**	**Distance (km)**	**Vegetable consumption (kg/ person)**	**Import of Radicchio (€)**
Austria	58.5	175.1	1.88	4.09	420	87.70	5,411,700
Denmark	88.1	175.5	1.90	4.18	1,110	104.16	526,200
Sweden	87.7	186.7	1.91	3.88	1,570	83.21	1,168,300
Ireland	63.4	177.3	1.39	3.60	1,580	86.73	25,400
Switzerland	73.8	243.5	1.91	3.97	390	92.82	3,334,100

Note: 1 = Demographic, 2 = Economic, 3 = Policy, 4 = Transport and infrastructure efficiency, 5 = Territorial, 6 = Cultural, 7 = Trade indicators.
Source: Own composition

Table 9: Summary of final scores.

Indicators	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**TOT**
Weight	**9%**	**9%**	**6%**	**6%**	**4%**	**9%**	**6%**	**4%**	**9%**	**6%**	**6%**	**4%**	**11%**	**11%**	**100%**
Ranking values															
Austria	1	1	2	4	4	3	5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	**37.5**
Denmark	5	2	3	5	3	5	2	2.5	2.5	2.5	0	2.5	2.5	2.5	**40.0**
Sweden	4	4	4	2	2	1	3	2.5	2.5	2.5	2.5	2.5	2.5	2.5	**37.5**
Ireland	2	3	1	1	1	2	1	2.5	0.0	2.5	2.5	2.5	2.5	2.5	**26.0**
Swiss	3	5	4	3	5	4	4	2.5	2.5	2.5	2.5	2.5	0.0	0.0	**40.5**
Final scores															
Austria	0.09	0.09	0.12	0.24	0.16	0.27	0.30	0.10	0.225	0.15	0.15	0.10	0.275	0.275	**2,545**
Denmark	0.45	0.18	0.18	0.3	0.12	0.45	0.12	0.10	0.225	0.15	0.00	0.10	0.275	0.275	**2,925**
Sweden	0.36	0.36	0.24	0.12	0.08	0.09	0.18	0.10	0.225	0.15	0.15	0.10	0.275	0.275	**2,705**
Ireland	0.18	0.27	0.06	0.06	0.04	0.18	0.06	0.10	0.000	0.15	0.15	0.10	0.275	0.275	**1,900**
Swiss	0.27	0.45	0.24	0.18	0.20	0.36	0.24	0.10	0.225	0.15	0.15	0.10	0.000	0.000	**2,665**

Note: 1 = Urban population, 2 = Vegetable price index, 3 = Rule of Law Index, 4 = Quality of Logistics Index, 5 = Distance, 6 = Vegetable consumption, 7 = Import of Radicchio, 8 = origin of the products, 9 = the presence of Italy among the top five food exporting countries, 10 = the relevance of healthy eating, 11 = the weight of local vegetable supply, 12 = attention to sustainability, 13 = incidence of tariff barriers, 14 = product standards.
Source: Own composition

The most promising country for the marketing of Treviso Radicchio PGI places Denmark first, followed by Sweden, Switzerland, and Austria. The last place of Ireland highlights a rather significant gap compared with the others.

In line with previous research and recent trends, Denmark's population appear increasingly conscious of healthy foods, evaluating production processes, preferring to purchase seasonal goods (Górecka and Szałucka, 2013). These favourable features are in line with the commercial expectations of Radicchio PGI. Considering the appreciation of Italian agri-food products in the country, and the presence of a considerable consumer share linked to vegetarian and vegan cuisine, it might be thought Radicchio becoming a viable dietary alternative.

Sweden, in second place in terms of importance, can rely on one population very informed on nutrition issues, and well-disposed to buy foreign food. Customers are very attentive to quality rather than price, characterised by the choice of healthy fresh food, and paying particular attention to the production process (Pekala, 2019). Switzerland, Austria, and Ireland, despite some limitations in terms of attractiveness, may in the future become very promising countries, as well as representing proximal outlets, for winning marketing strategies.

Conclusions

PGI certification implies the rationalisation of all phases of the supply chain, also for promotional strategies, which are now oriented towards foreign markets. Radicchio di Treviso, characterised by a geographically concentrated and limited production, cannot compete either in terms of volumes, or costs, with horticultural models from other countries. Consequently, by exploiting the opportunities offered today by the dynamics of consumption, the producers are examining the potential of placing Radicchio in the high-end of foreign markets. But which market is the most promising?

Far from being exhaustive, this paper tries to respond rationally to this question, making use of the original OMOI methodology. This sheds a different light and gives new insights on procedure for selecting those foreign markets where international commercial strategies are to be focused. The index allows new target markets to be recognised, unmet customer needs to be discovered, and firms' competitive advantages to be realised. Indeed, it is a flexible, effective and stable instrument for preliminary analysis of foreign market opportunities (Mullen and Sheng, 2006).

For Radicchio PGI, connoted by various export limitations that derive from its nature as a fresh cut vegetable, the strategic positioning can only be based on segmentation and concentration in specific niches, in which price no longer plays the major role. That is implicit for certified foods: the required strategy is one where the product competes on reputation. Due to the peculiarities of Radicchio PGI, which is distinguished by small volumes and a concentrated supply area, the ability to implement network strategies and collective marketing activities is of primary importance to reaching new business opportunities.

More generally, in terms of scientific research, the topic of study intends to focus attention on the methodologies used for selecting outlet markets, with a view to the widening of competition to an international scale. Just as the evaluation of the competitiveness of companies is based on ranking methodologies, the choice of markets can also be anchored similarly. The goal is to display new tools to face the challenges of global competition, based on specific scientific methodologies, capable of linking the selection of outlet markets with improvements in both the competitive profile of companies and Italy's position in international trade.

Referring to Radicchio PGI, right choices need to be made regarding the outlet markets, as given limited financial resources, the selection of where to focus commercial efforts becomes crucial. A precise direction that addresses the business implications of our results must therefore be followed. In support of Treviso Radicchio, there are specific trends observable today: behaviour is rapidly changing, nutritional needs are becoming increasingly urgent, and a growing multitude of young people is forecast to have unprecedented economic impacts on the demand for food. These factors are associated with the desire to taste typical Italian food, as well as with customs that are extremely receptive to modern marketing strategies, facilitated by new distribution technologies. Overall, the accelerated growth of consumption can drive the success of Radicchio PGI.

As regards economic theory, the new opportunities offered by the international trade require innovative interpretation tools to be proposed, which at the same time make it possible to identify the strategic variables that companies need to improve if they wish to increase market penetration. In practical terms, the results arrived at here can help the farms of Radicchio di Treviso PGI address their foreign market segmentation strategies, taking emerging consumer trends into consideration: the increased attention being paid to healthy foods, vegetarian/vegan cuisine, and production processes, but even more so the widening appreciation of Made in Italy luxury food.

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Appendix

Set of Indicators

Demographic indicators

Total population, Urban population (%), Population density (people per km2), Population over 15 years (%), Total employment (%), Employment in agriculture (%).

Policy indicators

Voice and responsibility index: the perception of the extent to which citizens can participate in the selection of their government, as well as freedom of expression, association, and media.

Political stability and absence of violence, or terrorism index: perception of the probability that the government is destabilized or assaulted by unconstitutional means, through political violence or terrorism.

Government effectiveness index: perceptions about the quality of public services, civil service and degree of its independence from political pressures, quality of formulation and implementation of internal policies and credibility of government entities by citizens.

Regulatory quality index: perception of government's ability to formulate and implement sound policies and regulations that enable and promote private sector development.

Rule of law index: perception of the extent to which the population has confidence and respects the rules of society, the capacity of the State to enforce the rules and property rights, the effectiveness of the police and the courts.

Corruption control index: perception of the extent to which public power is exercised for private gain is considered.

Transport and infrastructure efficiency indicators

Efficiency of customs and customs clearance: perception of the efficiency of the logistics processes and customs clearance of the goods, speed, simplicity and predictability.

Quality of trade and transport infrastructure: perception on the quality of trade based on the characteristics of infrastructure related to the transport, in particular ports, railways, roads and information technologies.

Easy organization of shipments at competitive price: perception of the ease of organizing shipments at competitive prices.

Competence and quality of logistics services: competence and quality of logistics services of transport operators and customs brokers.

Ability to track and trace shipments: possibility and ease of tracking and tracing international shipments.

Frequency with which shipments reach the recipients within the scheduled, or expected delivery times: probability that shipments reach the recipients within the scheduled delivery times.

Territorial indicators

Land area (km^2): total area, excluding areas under the main inland water bodies, national claims on the continental shelf and exclusive economic zones. The larger the territory the more important is to focus on areas with a greater concentration of population.

Agricultural land (%): arable land, under permanent crops, pasture.

Arable land (%): temporary crops, grassland for mowing, or grazing, vegetable gardens.

Lettuce and chicory production (tonnes): produce products substitutes to Radicchio lead the consumer to choose the latter, at the expense of Radicchio.

Internet users (% total population aged over 5 years).

Distance by air from Treviso to the capital of the foreign country (KM), distance index.

Cultural indicators

Social globalization index (0 = low; 100 = high): ability of a nation to share ideas and information with different countries, including topics such as education, culture, politics, trade. This cultural stream tends to flow from the most to the least developed countries. The macro-variables considered, with equal weight, are economic, social, political globalisation.

Human development index (0 = low; 1 = high): measures the quality of life (UNDP, 1990). Parallel to the index of social globalization, it allows to understand the social condition of the people of a nation. The key dimensions of human development, calculated by applying the geometric mean, for each of the three variables: health and life expectancy, level of education, quality standard of life.

Per capita vegetable consumption (kg/person per year).

Ethnical, linguistic and religious fractionation (0 = low; 1 = high): compares the characteristics of each people from the point of view of ethnic, linguistic and religious similarity. For the calculation of the value of each splitting category, the Herfindahl index is used. The final value reflects the probability that two randomly selected individuals from a population belong to different groups for ethnicity, language, and religion. High values herald high diversity. The formula used for the calculation of the fractionation is (Alesina *et al.,* 2003):

$$\mathrm{FRACT}_j = 1 - \sum_{i=1}^{N} s_{ij}^2$$

where s_{ij} is the share of group i ($i = 1 \ldots N$) in country j.

Trade indicators (euro)

Import of fresh Italian vegetables. Import of Radicchio and other Italian chicory. Export of edible vegetables, roots and tubers. Import of edible vegetables, roots and tubers. Export of fresh or chilled lettuce and chicory. Import of fresh or chilled lettuce and chicory.

Accessibility indicators

Importance given to the origin of the products. Italy among the top five exporting countries for food. Importance of a healthy eating. Relevance of local horticultural production. Attention to products sustainability. Tariff barriers. Non-tariff barriers.

Source: our composition based on the OMOI method (Cavusgil, 1997)