



**ANA CATARINA
GONÇALVES
MADALENO**

**A PROMOÇÃO DAS EXPORTAÇÕES DE PRODUTOS
AGROALIMENTARES LOCAIS ATRAVÉS DO
TURISMO INTERNACIONAL: O CASO DE
PORTUGAL**

**THE PROMOTION OF LOCAL AGRO-FOOD
PRODUCT EXPORTS THROUGH INTERNATIONAL
TOURISM: THE CASE OF PORTUGAL**



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TOURISM: THE CASE OF PORTUGAL**

Tese apresentada à Universidade de Aveiro para cumprimento dos requisitos necessários à obtenção do grau de Doutor em Turismo, realizada sob a orientação científica da Professora Doutora Celeste Eusébio, Professora Auxiliar do Departamento de Economia, Gestão, Engenharia Industrial e Turismo, da Universidade de Aveiro, e da Professora Doutora Celeste Varum, Professora Auxiliar do Departamento de Economia, Gestão, Engenharia Industrial e Turismo, da Universidade de Aveiro.

Dedico este trabalho aos meus Pais, à Sílvia, ao José

o júri

presidente

Prof. Doutor Carlos Manuel Martins da Costa
Professor Catedrático, Universidade de Aveiro

Prof. Doutor José António Cadima Ribeiro
Professor Catedrático, Universidade do Minho

Prof.^a Doutora Joana Inês Silva de Lima
Professora Auxiliar, Universidade de Évora

Prof.^a Doutora Maria João Aibéo Carneiro
Professora Auxiliar, Universidade de Aveiro

Prof.^a Doutora Maria Celeste de Aguiar Eusébio
Professora Auxiliar, Universidade de Aveiro (Orientadora)

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palavras-chave

Turismo internacional; exportações de produtos agroalimentares; cointegração; causalidade; análise de clusters; análise de regressão; consumo em turismo; Portugal.

resumo

O turismo é um dos mais importantes setores económicos mundiais e a sua relevância para as economias é atualmente reconhecida. Diversos estudos têm sido realizados para aferir os efeitos do turismo em termos de rendimento, riqueza e emprego em diversas áreas geográficas. O turismo internacional pode também contribuir para atenuar as barreiras informais e a assimetria de informação presentes no comércio internacional, potenciando novas oportunidades de consumo e de comércio. No entanto, a investigação quanto ao contributo do turismo internacional para a economia em termos de promoção do comércio internacional e das exportações em específico é reduzida. Assim, o principal objetivo desta tese é analisar o impacto do turismo recetor sobre as exportações de produtos agroalimentares. Atendendo ao objetivo principal, segue-se uma abordagem de investigação quantitativa. Os dados secundários e primários foram recolhidos especificamente para esse fim e o estudo empírico aplicou-se a Portugal. O estudo foi estruturado e dividido em duas partes distintas e complementares, combinando a abordagem macro e microeconómica. A primeira parte explora empiricamente a direção da causalidade entre o turismo recetor e as exportações de bens, recorrendo a dados secundários e às técnicas de cointegração e causalidade. Após validação desta relação geral, realizou-se uma análise complementar para diferentes: (i) mercados comerciais; e (ii) produtos agroalimentares locais. A relação entre o turismo recetor e as exportações de produtos agroalimentares foi confirmada para Portugal. No entanto, os resultados revelam que há diferenças consoante o parceiro comercial e o tipo de produto. Baseado nos dados primários recolhidos através do inquérito por questionário, na segunda parte da tese realizou-se uma análise de natureza microeconómica para compreender o comportamento dos visitantes internacionais em relação aos produtos agroalimentares locais durante e após a visita. Os resultados da regressão logística binária, realizada para aferir o impacto de vários determinantes na decisão de compra de produtos agroalimentares locais por parte dos visitantes durante a visita, destacam os factores relacionados com a interação com o destino e os produtos locais, embora existam diferenças consoante as características dos visitantes. Os resultados dos modelos de regressão multivariada sugerem que não só existem algumas diferenças entre os determinantes mais prováveis de afetar as intenções de consumo e recomendação a familiares e amigos quando os visitantes regressarem ao seu país de origem, como também sugerem que estes determinantes são específicos por tipo de produto. Finalmente, o estudo de segmentação do mercado de turismo internacional em Portugal concluiu que o mercado é heterogéneo em termos de comportamento futuro dos visitantes (intenção de consumir e recomendar os produtos alimentares locais portugueses) quando regressarem aos países de origem. Essa análise culmina com um conjunto de recomendações teóricas e práticas e implicações, não só no campo da economia do turismo, como também na área de marketing de destino turístico.

keywords

International tourism; exports of agro-food products; cointegration; causality; cluster analysis; regression analysis; tourism consumption; Portugal.

abstract

Tourism is one of the most important economic sectors in the world, and its importance to economies is now well-recognized. Numerous economic impact studies have been undertaken to determine the effects of tourism in a given geographic area on income, wealth and employment. However, international tourism may also be a mechanism to overcome informal barriers to international trade and asymmetric information, which are related to new trade and consumption opportunities. Given the scarcity of research into the contribution of international tourism on the economy through the promotion of local product exports, the main objective of this thesis is to analyse the impact of inbound tourism on exports of agro-food products. With consideration to the central purpose of this thesis, a quantitative research approach was adopted. Secondary and primary data were specifically collected for this purpose. The empirical study was carried out in Portugal. The research was structured and divided into two distinct and complementary parts, combining the macro and microeconomic approaches. The first part empirically explores the direction of the causality between inbound tourism and goods exports, using secondary data and cointegration and causality techniques. After validating this general relationship, a complementary analysis is performed for several: (i) trade markets; and (ii) local agro-food products. A relationship between inbound tourism and exports of agro-food products in Portugal was confirmed. However, the findings reveal that there are differences by country and according to the type of agro-food product. Based on primary data obtained through questionnaires, the second part of this thesis performed a microeconomic analysis to understand the behaviour of international visitors related to local agro-food products during and after their trip. The results of binary logistic regression, carried out to assess the impact of several determinants on visitors' decisions about whether or not to purchase local agro-food products during their visit, highlight factors related to interaction with the destination and local products, although there are differences between visitors' characteristics. The findings of the multivariate regression models suggest that not only are there some differences among the determinants most likely to affect intentions to consume and recommend to family and friends when visitors return to their home country, but they also suggest that determinants of behavioural intentions are product-specific. Finally, the segmentation study of Portugal's international tourism market concluded that the market is heterogeneous in terms of visitors' intentional behaviours regarding the consumption and recommendation of Portuguese local food products upon returning to their home countries. This analysis culminates in a set of theoretical and practical recommendations and implications, not only to the field of tourism economics but also to the area of tourism destination marketing.

Table of contents

| | | |
|-----------------------|--|-----------|
| Table of contents | | i |
| List of figures | | v |
| List of tables | | vi |
| List of abbreviations | | viii |
| CHAPTER 1 | Introduction | 3 |
| 1.1. | Relevance and objectives | 3 |
| 1.2. | Methodology of the empirical study | 8 |
| | 1.2.1. Data collection methods and data analysis | 9 |
| 1.3. | Structure of the thesis | 11 |
| CHAPTER 2 | Causal relationship between inbound tourism and exports of goods in Portugal: Evidence from cointegration and Granger causality tests | 15 |
| 2.1. | Introduction | 16 |
| 2.2. | Literature review | 17 |
| | 2.2.1. International tourism and international trade | 17 |
| | 2.2.2. International tourism and international trade: a review of recent research | 20 |
| 2.3. | Data and methodology | 24 |
| | 2.3.1. Data | 24 |
| | 2.3.2. Cointegration and causality | 27 |
| 2.4. | Empirical analysis and discussion of results | 30 |
| | 2.4.1. Stationarity tests | 30 |
| | 2.4.2. Testing for cointegration | 31 |
| | 2.4.3. Causal relationships | 32 |
| 2.5. | Conclusions | 34 |
| CHAPTER 3 | International tourism and exports of agro-food products: A causality analysis by markets | 37 |
| 3.1. | Introduction | 38 |
| 3.2. | Literature review | 40 |
| | 3.2.1. Inbound tourism and exports of goods: how they interact | 40 |
| 3.3. | Empirical evidence | 42 |

| | | |
|--------------------|--|-----------|
| 3.4. | Methodology | 45 |
| 3.5. | Results | 46 |
| | 3.5.1. The order of integration | 46 |
| | 3.5.2. Testing for cointegration | 48 |
| | 3.5.3. Granger causality test | 49 |
| 3.6. | Conclusion and implications | 51 |
| CHAPTER 4 | Exports and tourism: Testing the causality by local agro-food products | 53 |
| 4.1. | Introduction | 54 |
| 4.2. | Theoretical background | 56 |
| 4.3. | Methodology and results | 59 |
| | 4.3.1. Data | 59 |
| | 4.3.2. Empirical results | 61 |
| | 4.3.2.1. The order of integration | 61 |
| | 4.3.2.2. Testing for cointegration | 62 |
| | 4.3.2.3. Granger causality test | 63 |
| 4.4. | Discussion and conclusions | 65 |
| CHAPTER 5 | Purchase of local food products during trips by international visitors | 69 |
| 5.1. | Introduction | 70 |
| 5.2. | Literature review | 72 |
| | 5.2.1. Relevance of local food consumption in the context of tourism | 72 |
| | 5.2.2. Factors influencing local food purchases | 73 |
| 5.3. | Methodology | 78 |
| | 5.3.1. Sampling approach | 78 |
| | 5.3.2. Questionnaire | 78 |
| | 5.3.3. Data analysis | 79 |
| 5.4. | Discussion of results | 80 |
| | 5.4.1. Sample profile | 80 |
| | 5.4.2. Determinants influencing the consumption of local-food products | 84 |
| | 5.4.3. Determinants influencing international visitors' expenditures on local agro-food products | 87 |
| 5.5. | Discussion and conclusions | 91 |
| CHAPTER 6 | Determinants of visitors' intentions to consume and recommend local agro-food products | 95 |

| | | |
|--------------------|--|------------|
| 6.1. | Introduction | 96 |
| 6.2. | Literature background | 97 |
| 6.3. | Data collection and methodology | 104 |
| | 6.3.1. Data collection | 104 |
| | 6.3.2. Questionnaire | 104 |
| | 6.3.3. Econometric procedure | 105 |
| 6.4. | Results | 108 |
| | 6.4.1. Sample profile | 108 |
| | 6.4.2. Factors influencing visitors' intention to consume and to recommend local agro-food products | 113 |
| | 6.4.3. Factors influencing visitors' intention to consume and to recommend specific local agro-food products | 116 |
| 6.5. | Conclusions and implications | 119 |
| CHAPTER 7 | The promotion of local agro-food products through tourism: A segmentation analysis | 123 |
| 7.1. | Introduction | 124 |
| 7.2. | Literature review | 126 |
| | 7.2.1. The consumption of local food products in tourism | 126 |
| | 7.2.2. Tourists' behavioural intentions regarding local food products | 128 |
| | 7.2.3. Tourists' behavioural intentions regarding local food products as a segmentation base | 130 |
| 7.3. | Methodology | 132 |
| | 7.3.1. Data collection | 132 |
| | 7.3.2. Data analysis | 134 |
| 7.4. | Discussion of results | 134 |
| | 7.4.1. Identification of the clusters | 134 |
| | 7.4.2. Characteristics of the identified segments | 136 |
| 7.5. | Discussion and conclusions | 146 |
| CHAPTER 8 | Conclusions and implications | 151 |
| 8.1. | Discussion and results | 151 |
| 8.2. | Contributions and implications of the study | 155 |
| 8.3. | Limitations of the study | 158 |
| 8.4. | Suggestions for future research | 159 |
| REFERENCES | | 161 |
| APPENDICES | | |

| | | |
|------------|---|-----|
| Appendix 1 | Questionnaire for visitors - english version | 184 |
| Appendix 2 | Questionnaire for visitors - french version | 190 |
| Appendix 3 | Questionnaire for visitors - spanish version | 197 |
| Appendix 4 | Questionnaire for visitors - portuguese version | 204 |

List of figures

CHAPTER 2

| | | |
|------------|--|----|
| Figure 2.1 | Total number of overnight stays by foreign tourists in Portuguese accommodation establishments (millions) (2000-2012) | 25 |
| Figure 2.2 | Total trade, total exports of goods and total exports of agro-food products in Portugal (€ thousand million) (2000-2012) | 26 |
| Figure 2.3 | Total numbers of overnight stays by foreign tourists in Portuguese accommodation establishments (million) (2000m1-2012m12) | 26 |

CHAPTER 6

| | | |
|------------|--|----|
| Figure 6.1 | Visitors` motivation to consume local food | 99 |
|------------|--|----|

List of tables

CHAPTER 2

| | | |
|-----------|---|----|
| Table 2.1 | International tourism and international trade: a summary of published studies | 21 |
| Table 2.2 | Results of the unit root test | 30 |
| Table 2.3 | Johansen maximum likelihood cointegration tests | 32 |
| Table 2.4 | Results of Granger causality test: exports of goods and inbound tourism | 33 |
| Table 2.5 | Results of the VECM estimation: exports of agro-food products and inbound tourism | 34 |

CHAPTER 3

| | | |
|-----------|---|----|
| Table 3.1 | Causal relationship between international tourism and international trade: a summary of published studies | 43 |
| Table 3.2 | Results of the unit root test | 47 |
| Table 3.3 | Johansen maximum likelihood cointegration tests | 48 |
| Table 3.4 | Results of Granger causality test: exports of agro-food products and inbound tourism | 50 |

CHAPTER 4

| | | |
|-----------|---|----|
| Table 4.1 | Total exports (€ Million) of local agro-food products in Portugal (2000-2012) | 60 |
| Table 4.2 | Results of the unit root test | 61 |
| Table 4.3 | Johansen maximum likelihood cointegration tests | 62 |
| Table 4.4 | Results of Granger causality test | 64 |

CHAPTER 5

| | | |
|-----------|---|----|
| Table 5.1 | Factors influencing local products purchases | 74 |
| Table 5.2 | Socio-demographic and travel behaviour characteristics of respondents (N=422) | 81 |
| Table 5.3 | Motivational factors and food-related personality traits (N=422) | 82 |
| Table 5.4 | Evaluation of the attributes associated with the local food products (N=422) | 83 |
| Table 5.5 | Binary logistic regression assessing the determinants on the decision to purchase Portuguese agro-food products during the trip | 86 |
| Table 5.6 | Results of regression for visitors' expenditures on local agro-food products | 89 |

CHAPTER 6

| | | |
|-----------|--|-----|
| Table 6.1 | Determinants for the consumption of local products by visitors | 98 |
| Table 6.2 | Definition of the variables included in the multiple linear regression | 106 |
| Table 6.3 | Socio-demographic and travel behaviour characteristics of respondents (N=422) | 109 |
| Table 6.4 | Intention to buy/ recommend local agro-food products (N=422) | 110 |
| Table 6.5 | Motivational factors and food-related personality traits (N=422) | 111 |
| Table 6.6 | Evaluation of the attributes associated with the local food products (N=422) | 112 |
| Table 6.7 | Results of the regression analysis of total visitors' intention to search for and recommend agro-food products | 114 |
| Table 6.8 | Results of the regression analysis of total visitors' intention to search agro-food products: analysis by product | 117 |
| Table 6.9 | Results of the regression analysis of total visitors' intention to recommend agro-food products: analysis by product | 118 |

CHAPTER 7

| | | |
|-----------|---|-----|
| Table 7.1 | Clusters profile regarding future behaviour | 135 |
| Table 7.2 | Socio-demographic profile of the clusters identified (χ^2 test, ANOVA) | 137 |
| Table 7.3 | Scale to measure tourist motivation to consume local food products and food-related personality traits (ANOVA and Kruskal-Wallis tests) | 138 |
| Table 7.4 | Pre-trip behaviour of the clusters identified (χ^2 test) | 140 |
| Table 7.5 | Travel behaviour of the clusters identified (Kruskal-Wallis and χ^2 test) | 141 |
| Table 7.6 | Trip behaviour of the clusters identified: contact with and taste of PT agro-food (χ^2 test) | 142 |
| Table 7.7 | Trip behaviour of the clusters identified: purchase PT agro-food (ANOVA, χ^2 test) | 144 |
| Table 7.8 | Trip behaviour of the clusters identified: place of contact/ taste of PT agro-food (χ^2 test) | 145 |

List of abbreviations

| | |
|----------|--|
| EU | European Union |
| Eurostat | Statistical Office of the European Union |
| FIPA | Federação das Indústrias Portuguesas Agro-Alimentares |
| GDP | Gross Domestic Product |
| INE | Instituto Nacional de Estatística |
| OECD | Organisation for Economic Co-operation and Development |
| PwC | PricewaterhouseCoopers |
| SPSS | Statistical Package for the Social Sciences |
| Stata | Data Analysis and Statistical Software |
| UNWTO | United Nations World Tourism Organization |
| WTTC | World Travel & Tourism Council |

Chapter 1

Introduction

1.1. Relevance and objectives

Tourism is undoubtedly one of the most important economic sectors in the world, and its importance to economies is now well-recognized (WTTC, 2016a).

According to Mathieson and Wall (1990), the main economic benefits of tourism are related to its contribution to the balance of payments, the creation of income and jobs, with the improvement of the economic structure of the destinations and the increase of entrepreneurship. Numerous economic impact studies have been undertaken to determine the effects of tourism in a given geographic area on income, wealth and employment. They have been conducted for cities, counties, towns, states, provinces, nations and individual facilities and events (e.g. Archer, 1995; Archer & Fletcher, 1996; Dwyer & Forsyth, 1997; Fleischer & Freeman, 1997; Freeman & Sultan, 1997; Li, Blake, & Thomas, 2013; Pearce, 1999; Polo & Valle, 2008; Pratt, 2015; Wagner, 1997).

In addition to the effects enumerated above, international tourism may also have an impact on international trade. On the one hand, as has been well-documented in the literature, international tourism represents trade in services, thus contributing directly to the current account (services) of the balance of payments (Sinclair & Stabler, 1997). On the other hand, recent studies have focused on the question as to whether a link exists between international tourism and commercial relations between countries (e.g. Brau & Pinna, 2013; Fischer & Gil-Alana, 2009; Gil-Alana & Fischer, 2010; Katircioglu, 2009; Kulendran & Wilson, 2000a; Santana-Gallego, Ledesma-Rodríguez, & Pérez-Rodríguez, 2011a, 2011b, 2016).

With this insight as background, this thesis will focus mainly on the link between inbound tourism and goods exports. Although the relationship seems obvious with

respect to inbound business travel, international flows for leisure and recreation - for instance, holidays and visiting friends and relatives - or other purposes may also play an important role in promoting goods exports (Kulendran & Wilson, 2000a).

International economics literature has increasingly recognized the role of business and social networks in overcoming informal barriers to international trade (Gould, 1994; Rauch & Casella, 1998; Rauch, 2001). Following this line of argumentation, international tourism may be a mechanism to overcome informal barriers to international trade and asymmetric information, which are related to new trade and consumption opportunities (Aradhyula & Tronstad, 2003; Kulendran & Wilson, 2000a).

Inbound tourism might contribute to improving information about products produced in a specific tourism destination. This is because, during their stay, there is the possibility that visitors will come into direct contact with local producers and will taste some of these products, for instance, in restaurants and at gastronomic festivals (Gil-Alana & Fischer, 2010; Telfer, 2000). Once visitors return to their own countries, such experiences can eventually activate international demand (Bélisle, 1983; Scott & Shehata, 1980). Firstly, once visitors have returned, their consumption patterns may change as a consequence of being exposed to previously unknown foodstuffs and methods of preparation (Henderson, 2009). Exposure to certain foods tends to increase consumers' preference for these foods (Chang, Kivela, & Mak, 2010; Mak, Lumbers, Eves, & Chang, 2012; Mak, Lumbers, & Eves, 2012; Ryu & Jang, 2006; Tse & Crotts, 2005). Secondly, on returning home, visitors often spread these newly acquired tastes among their families and friends (Kim, Eves, & Scarles, 2009). Hence, tourism acts as a springboard for the promotion of domestic products in foreign markets (Reis & Varela, 2013), which ultimately expands exports (Fischer & Gil-Alana, 2009; Santana-Gallego et al., 2011a, 2011b; Telfer, 2000).

In spite of notable contributions to this research field, only very few studies have addressed the causal relationship between international tourism and the trade of specific products (Fischer & Gil-Alana, 2009; Gil-Alana & Fischer, 2010; Kavallari,

Maas, & Schmitz, 2011). There is, furthermore, a dearth of microeconomic models developed to specifically analyse the link between tourism and the trade of certain products, such as local food products (Fischer & Gil-Alana, 2009). Yet, the relationship between tourism and the international trade of local food products is likely to be a particularly important topic to address.

First, international tourism helps to create awareness and appreciation of specific types of local foods, and the knowledge and interest generated may induce increased consumption (Gil-Alana & Fischer, 2010; Kavallari et al., 2011). As a consequence of this interaction, international visitors learn about new products, and when they are back in their home countries, such knowledge can eventually stimulate international demand for these products (Bélisle, 1983), and may contribute to the creation of long-term customers (Bélisle, 1983; Fischer & Gil-Alana, 2009; Mitchell & Hall, 2004; Mynttinen, Logrén, Särkkä-Tirkkonen, & Rautiainen, 2015; Santana-Gallego et al., 2011a; 2011b; Telfer & Wall, 2000). Furthermore, visitors may transmit these newly acquired tastes to their friends and relatives (Henderson, 2009; Kim et al., 2009).

Second, an eventual spur in demand for local food products may have major implications for the economic, cultural and environmental sustainability of tourism destinations. As discussed in the existing literature, local food products can generate a multiplier effect that benefits the regional economy (Bessièrè, 1998; Skuras, Dimara, & Petrou, 2006; Tellstrom, Gustafsson, & Mossberg, 2005; Torres, 2002) and contributes to its development (Bessièrè, 1998; Tellstrom et al., 2005).

Supported by this theoretical background, and in order to fill some of the aforementioned research gaps, the main goal of this thesis is to explore the role of international tourism on the promotion of agro-food product exports, within a more general conceptual framework around the relationship between international tourism and trade. This global goal is structured around the following specific research objectives:

- test the relationship between inbound tourism and agro-food product exports in total, by the type of selected products and by major trade markets;
- identify the factors that are likely to affect visitors' purchase of local agro-food products during a trip;
- identify the factors that are likely to promote future exports, through post-visit purchase and recommendation to others;
- analyse the heterogeneity in inbound tourism regarding tourists' behavioural intentions to consume and recommend local agro-food products upon returning to their home countries.

The first part of this thesis empirically explores the direction of the causality between inbound tourism and goods exports, using secondary data and cointegration and causality techniques. After validating this general relationship, a complementary analysis is performed for several: (i) trade markets; and (ii) local agro-food products.

The second part of this thesis draws on primary data collected directly from inbound visitors in Portugal, with the purpose of understanding their perception of local products and their intentions with respect to the future acquisition of local agro-food products. The main aim was to identify not only the factors likely to affect visitors' purchase of local agro-food products during their trip, but also the factors likely to influence the purchase and recommendation of these products when visitors return home. Complementarily, the heterogeneity in inbound tourism regarding visitors' behavioural intentions to consume and recommend local agro-food products upon returning to their home countries is studied through a segmentation analysis. Visitors' knowledge of local agro-food products, which could be acquired or improved during their stay in Portugal, may influence their intentional behaviour when they return to their home country, and has a positive impact on future demand for these products.

The work undertaken in this thesis will contribute not only to the field of tourism economics but also to the area of tourism destination marketing. The results have implications not only for academia, but also for producers and for policymakers.

Firstly, this thesis, based on an analysis combining macro and microeconomic approaches, points out the importance of the tourism sector on the economy through the promotion of goods exports, which represents an as yet little explored research area. Second, due to the possibility of direct contact between visitors and local producers during their stay, producers may better understand how visitors perceive their products and what they could do to differentiate these products in the international market in terms of brand, quality and other attributes valued by consumers. Finally, the findings may support policymakers to design better marketing strategies to promote local agro-food products to visitors, as a way of inducing future demand.

Portugal was selected for the empirical analysis of this thesis. While the impact of tourism on the Portuguese economy has been studied (e.g. Antonakakis, Dragouni, & Filis, 2015; Eusébio, 2006; Eusébio, Castro, & Costa, 2013; Soukiazis & Proença, 2008), and its importance clearly recognized, the issue of the trade-tourism relationship has not been empirically explored so far in the Portuguese context. Moreover, both the tourism and agro-food sectors are considered strategic in boosting the national economy. On the one hand, the statistical data for the Portuguese economy show that in 2016, the total contribution of the *Travel and Tourism* industries to the GDP was 16.6% of the GDP (WTTC, 2016b). On the other hand, in 2014, the broad agro-food sector in Portugal accounted for 20% of the whole manufacturing industry, involving 10,807 companies, mostly small and medium-sized, and 104,315 employees, and representing a turnover of around €15 billion (FIPA, 2016).

The selection of cheese, olive oil, sausages, canned fish and wine as the local agro-food products for the empirical analysis was supported by two main reasons. First, they are well-known local Portuguese products linked to the agro-food sector. Second, they are traded internationally and recognized for their special characteristics linked to the local territory.

1.2. Methodology of the empirical study

Tourism research as a social science is conducted according to certain philosophical assumptions determining how research is undertaken and which research method(s) is/are appropriate for the development of knowledge (Bernard, 2013; Bryman, 2012; Creswell, 2007, 2014; Finn, Elliott-White, & Walton, 2000; Jennings, 2010; Neuman, 2014; Silverman, 2000; Veal, 2006). Over the last years, there has been an intense debate about appropriate methods for leisure and tourism research, namely the application of qualitative or quantitative methodologies (Jennings, 2010; Veal, 2006). These two research methodologies adopt different ontological (the way the researcher defines the truth and reality), epistemological (the process through which the researcher comes to know the truth and reality) and methodological (the method used when conducting the investigation) perspectives (Bryman, 2012; Creswell, 2014; Veal, 2006).

With the purpose of answering the research objectives formulated, this thesis essentially follows the assumptions of the quantitative research paradigm. This approach involves philosophical assumptions as well as distinct methods or procedures that emphasize quantification in data collection and analysis (Bernard, 2013; Bryman, 2012; Creswell, 2014; Jennings, 2010; Neuman, 2014; Veal, 2006).

The ontological position adopted asserts that social phenomena are considered objective and have an existence independent of social actors. Researchers try to remain as neutral as they can, and they attempt to avoid human bias whenever possible. In terms of the epistemological perspective, this study attempts to explain human behaviour through the facts of the situation and the inherent cause and effect relations which are independent of the researcher (this minimizes the influence of bias in the researcher when testing a hypothesis or theory) (Bernard, 2013; Bryman, 2012; Creswell, 2014; Jennings, 2010; Neuman, 2014; Veal, 2006).

With respect to the nature of the relationship between theory and research, there is a focus on deductive research. Supported by theoretical knowledge about a particular area, the hypotheses are deduced and then subjected to empirical analysis (Bryman, 2012; Creswell, 2014; Jennings, 2010; Veal, 2006).

The research methodology emphasizes the formulation of measurable and observable objectives based on the literature through a description of trends or the need for an explanation of the relationship between variables. The quantitative research approach primarily follows the confirmatory method because its focus is on hypothesis testing and theory testing (Bernard, 2013; Creswell, 2014; Jennings, 2010; Neuman, 2014; Veal, 2006).

The survey or questionnaire is administered to a small group of people (sample) to identify trends in the attitudes, opinions, behaviours or characteristics of a large group of people (population). Through individual items in a questionnaire, concepts can be clearly operationalized, objectivity can be ensured through the use of self-administered questionnaire, replication can be carried out using the same instrument in other social settings and causality can be established through path analysis and regression techniques (Bernard, 2013; Bryman, 2012; Creswell, 2014; Neuman, 2014).

In fact, the research relates variables using statistical analysis and interpreting results by comparing them with prior predictions and past research. The findings are written using standard, fixed structures and evaluation criteria (Bernard, 2013; Creswell, 2014; Jennings, 2010; Neuman, 2014; Veal, 2006).

1.2.1. Data collection methods and data analysis

The purpose of the various data collection techniques is to produce evidence that is relevant to the research question being asked. According to Pizam (1994), there are essentially three means of collecting data. First, data can be obtained by the researcher observing the phenomena. Second, data can be obtained by the researcher directly from the subjects. Third, data can be obtained from secondary sources.

Once the data collection techniques have been selected, the next step in the research process is to select those elements from which information is to be collected. One way of doing this would be through studying all elements within the population; another way would be to collect information from a portion of the

population by taking a sample of it. Sampling procedures can be divided into two major types: probability and nonprobability (Pizam, 1994). Data processing is an operation on the data to achieve a desired result, and the purpose of information analysis is to summarize the data collected in such a manner that it yields answers to the research questions (Pizam, 1994).

In order to fulfil the aims of the thesis, it was necessary to engage in two different, but complementary, empirical approaches. First, the tourism-trade relationship was analysed at the macroeconomic level, using secondary statistical data collected from public sources (National Statistics Institute). The data used consist of monthly figures for the number of nights spent by foreign tourists in accommodation establishments and exports according to the type of goods (Combined Nomenclature - CN8) (€) in the period from January 2000 to December 2012. The sample and the variables selected for the analysis were adjusted to the objectives formulated. *Stata - Data Analysis and Statistical Software - 12* (Adkins & Hill, 2008; StataCorp., 2011) was the software used to conduct the econometric treatment, specifically cointegration and causality tests.

Second, an in-depth microeconomic analysis was conducted based on the primary data obtained through questionnaires (the questionnaires used in this phase are presented in Appendices). The questionnaire was designed according to previous studies, particularly that of Chen & Lobo (2012) Dimara & Skuras (2003), Fields (2002), Hjalager & Richards (2002), Kim et al. (2009), Kim & Eves (2012), Mak, Lumbers, Eves, & Chang (2012), Paul & Rana (2012), Tarkiainen & Sundqvist (2005), and Zagata (2012). A self-administered questionnaire was filled out by international visitors over the age of 18 years and at the end of their holidays in three Portuguese cities (Lisbon, Oporto and Coimbra) between July 2015 and August 2015. A convenience sampling method was adopted because there was no information about the total number of visitors. A total of 500 valid responses were obtained.

SPSS - Version 23 was employed to analyse the information collected through the questionnaire-based survey. Several statistical and econometric techniques were

employed, namely binary logistic regression, multiple linear regression and cluster analysis.

Each of the chapters included in this thesis presents a detailed description of the data collection methods and the data analysis performed to confirm the objectives formulated.

1.3. Structure of the thesis

Apart from the introduction and conclusion, the thesis is structured into six chapters. They correspond to six papers developed with the purpose of replying to the specific objectives of the thesis. The six papers were submitted to peer-reviewed scientific journals; five papers were accepted and published as mentioned on footnotes.

The first group are macroeconomic studies that analyse the nature of the relationship between inbound tourism and goods exports based on secondary data taken from the National Statistics Institute. The analysis of the cointegrating properties of the variables was performed according to Johansen's maximum likelihood method (ML) and the Granger causality test was performed to observe the direction of the short-run causal relationship.

The chapter "Causal relationship between inbound tourism and exports of goods in Portugal: Evidence from cointegration and Granger causality tests"¹ analyses the short- and long-run relationship between inbound tourism and total goods exports in general, and exports of agro-food products in particular. Once the causal relationship is validated, the following focus was on inferring the nature of the relationship in consideration of different export markets and of the specific products exported.

¹ Madaleno, A., Eusébio, C., & Varum, C. (2016). Causal relationship between inbound tourism and exports of goods in Portugal: Evidence from cointegration and Granger causality tests. *Global Business and Economics Review*, 18(5), 567-586.

The chapter “International tourism and exports of agro-food products: A causality analysis by markets”² explores the relationship between inbound tourism and agro-food product exports with respect to Portugal and its major tourism and trade markets. Belgium, Brazil, France, Germany, Italy, the Netherlands, Spain and the United Kingdom are the countries selected, because they represent Portugal’s major tourism and trade markets. The cointegration and causality tests were performed for each country.

The chapter “Exports and tourism: Testing the causality by local agro-food products”³ focuses on the interaction between inbound tourism and local agro-food product exports. The cointegration and causality tests were performed separately for the five local products analysed (cheese, olive oil, sausages, canned fish and wine).

The second group corresponds to microeconomic studies based on primary data collected through a questionnaire-based survey in three Portuguese tourism destinations (Lisbon, Oporto and Coimbra).

The chapter “Purchase of local food products during trips by international visitors”⁴ analyses the determinants influencing the decision to purchase local food products by international visitors during their stay in Portugal. First, a binary logistic regression is carried out to assess the impact of each factor on the decision of whether or not to purchase the local agro-food products analysed. Second, a multiple regression analysis is used to identify the factors influencing the total expenditure made on these products. The purpose of understanding visitors’ behaviour with respect to local agro-food products during their trip is relevant

² Madaleno, A., Eusébio, C., & Varum, C. (2016). International tourism and exports of agro-food products: A causality analysis. *Anatolia: An International Journal of Tourism and Hospitality Research*, 27(2), 251-261.

³ Madaleno, A., Eusébio, C., & Varum, C. (2017). Exports and tourism: Testing the causality. *International Journal of Hospitality & Tourism Administration*, 18(4), 444-458.

⁴ Madaleno, A., Eusébio, C., & Varum, C. (2018). Purchase of local food products during trips by international visitors. *International Journal of Tourism Research*, 20(1), 115-125.

because it may influence their behavioural intentions towards this group of products after their trip.

The chapter “Determinants of visitors’ intentions to consume and recommend local agro-food products⁵” discusses the factors likely to affect the intentions of international visitors to consume and recommend local products encountered while on a trip to Portugal in future, using multiple regression analysis. This analysis not only contributed to reinforcing the importance of visitors’ contact with local agro-food products during their trip with respect to their future intentions towards these products following their return to their home country, but also to concluding whether the determinants are product-specific. This analysis by product had the purpose of enhancing the different perceptions that inbound tourism, as potential consumers, have about these Portuguese products; it also helped to identify some determinants with the potential to influence future purchases and recommendations of these products.

The chapter 7, entitled, “The promotion of local agro-food products through tourism: A segmentation analysis⁶” focuses on analysing the heterogeneity of the inbound tourism visiting Portugal, and presents a segmentation study of Portugal’s international tourism market based on visitors’ intentions to consume, and the likelihood of their recommending to friends and relatives, specific local products when they return to their home country. A hierarchical cluster analysis is carried out and the segments obtained are compared using segmentation variables (future purchase behaviour and intentions to recommend) and Kruskal-Wallis tests (internal validation of the clusters), since ANOVA assumptions are not fulfilled. Complementarily, the segments obtained are also compared with other variables mentioned in the literature review section as potential factors that may influence future consumption and recommendation behaviour.

⁵ Manuscript submitted at “*Journal of Food Products Marketing* (2018)”.

⁶ Madaleno, A., Eusébio, C., & Varum, C. (2017). The promotion of local agro-food products through tourism: A segmentation analysis. *Current Issues in Tourism*, 1-21. <http://dx.doi.org/10.1080/13683500.2017.1296417>.

Finally, in the last chapter, the main findings and the overall conclusions of the thesis are discussed. It also provides a review of the theoretical and managerial implications of the study, and finishes with a discussion of its limitations and suggestions for future research.

Chapter 2

Causal relationship between inbound tourism and exports of goods in Portugal: Evidence from cointegration and Granger causality tests⁷

Abstract: This chapter analyses the short- and long-run relationship between inbound tourism and total exports of goods in general, and exports of agro-food products in particular. An empirical study was conducted using monthly data on inbound tourism, total exports of goods, and exports of agro-food products for the period between 2000 and 2012, in Portugal. The results reveal that inbound tourism and exports of agro-food products are cointegrated. Therefore a long-run equilibrium relationship between the variables can be inferred. The Granger causality test results suggest that inbound tourism in Portugal stimulates growth of exports in general. Furthermore, exports of goods and exports of agro-food products also stimulate inbound tourism. Our empirical findings provide important policy implications concerning international tourism and trade.

Keywords: inbound tourism; exports; agro-food products; cointegration; causality; Portugal

⁷ This chapter has been published at “Madaleno, A., Eusébio, C., & Varum, C. (2016). Causal relationship between inbound tourism and exports of goods in Portugal: Evidence from cointegration and Granger causality tests. *Global Business and Economics Review*, 18(5), 567-586”.

2.1. Introduction

As we enter the second decade of the 21st century, achieving economic growth has become a primary goal for many economies and regions throughout the world. Within policy and academic circles, there is a widespread belief that inbound tourism and exports may enhance the growth prospects of an economy. Literature on this matter has already analysed extensively the economic effect of tourism, as well as of exports, upon economic growth (e.g. Balaguer & Cantavella-Jordá, 2001, 2002, 2004; Nowak, Sahli, & Cortés-Jiménez, 2007; Siliverstovs & Herzer, 2006). Considering their potential effects regarding growth, there has been strong interest in the determinants of international trade (e.g. Bahmani-Oskoosee, 1986; Warner & Kreinin, 1983) and international tourism (e.g. Crouch, 1995; Lim, 1999). Nevertheless, the potential relationship between international tourism and international trade has been relatively neglected in the literature and the studies that have been published in this domain reveal inconclusive results (Khan, Toh, & Chua, 2005; Kulendran & Wilson, 2000a). The lack of consistency in the results suggests a great variety in trading relationships. Thus, a generalisation of results across countries, products, travel and trading partners may be misleading and probably of little help to national policymakers.

In order to extend the literature in this field, this chapter investigates the relationship between inbound tourism and total exports of goods, within a more general conceptual framework on the relationship between international tourism and trade. This study contributes to the literature in two ways. First, the relationship between inbound tourism and exports is studied with reference to Portugal by using Johansen's maximum likelihood method and Granger causality test. Second, the study analyses the short- and long-run relationship between: (i) inbound tourism and total exports of goods; and (ii) inbound tourism and total exports of agro-food products.

The analysis of the causal relationship between inbound tourism and exports of agro-food products may make an important practical contribution to Portugal due to: (i) the excellent natural conditions of Portugal to produce this kind of products

(Fraga, Malheiro, Moutinho-Pereira, & Santos 2014); (ii) the great potential of inbound tourism for the promotion of these products abroad (Brau & Pinna, 2013; Gil-Alana & Fischer, 2010); and (iii) the increase of Portuguese exports of agro-food products over recent years (INE, 2000-2012a). Moreover, this issue has not been empirically explored so far in the Portuguese context.

The chapter is organised as follows. Section 2.2 reviews previous literature and presents our research propositions. Section 2.3 describes the data, the empirical strategy, and the models that were developed, while Section 2.4 presents the econometric findings. Finally, Section 2.5 concludes the chapter with some implications and suggestions for future research.

2.2. Literature review

2.2.1. International tourism and international trade

Within policy and academic circles, there is a widespread belief that inbound tourism and exports may enhance the growth prospects of an economy (e.g. Balaguer & Cantavella-Jordá, 2001, 2002, 2004; Naghshpour, 2012; Nowak et al., 2007; Siliverstovs & Herzer, 2006).

Economic theory suggests that exports can promote long-run growth via two main channels. First, exports are a source of foreign currency (McKinnon, 1964), financing the imports of capital goods which contribute to improving the level of capital formation [exports-capital goods imports-led growth (EKIG) hypothesis] (Siliverstovs & Herzer, 2006). Second, exports contribute to enhancing economy-wide efficiency and productivity [export-led growth (ELG) hypothesis] by increasing competition (Krueger, 1980), diffusing technical knowledge (Grossman & Helpman, 1991) and exploiting economies of scale (Helpman & Krugman, 1985).

Another set of studies has highlighted the importance of international tourism to economic growth, currently known as the tourism-led growth (TLG) hypothesis. As the ELG hypothesis postulates, international tourism, considered as an uncommon

type of export, can enhance efficiency by means of competition between firms, facilitating the exploitation of economies of scale, promoting the diffusion of technical knowledge, and contributing to the accumulation of human capital (Balaguer & Cantavella-Jordá, 2002). Alongside this perspective, tourism activities affect growth by generating income, additional demand for goods and services, and new employment opportunities (Balaguer & Cantavella-Jordá, 2002; Dritsakis, 2004). In contrast to the extensive literature on exports and growth (Giles & Williams, 2000a, 2000b), empirical studies focusing on TLG hypothesis are still scarce (Cortés-Jiménez & Pulina, 2010). Notwithstanding, the effect of tourism upon economic growth has also been addressed from a different perspective. Inbound tourism contributes to the accumulation of foreign exchange that can be used to import intermediate and capital goods necessary for the production of goods and services, which in turn leads to economic growth (EKIG hypothesis) (Nowak et al., 2007).

While the literature has already analysed the economic effect of inbound tourism, as well as of exports, upon economic growth, very few studies have considered the potential interactions between these two factors. Indeed, focusing solely on tourism or on exports may underestimate their effects on the economy. Studies carried out in this field suggest that a causal relationship between international tourism and trade may exist (Katircioglu, 2009; Kulendran & Wilson, 2000a).

The hypothesis that international tourism promotes international trade is directly related to the effects of international tourism on the balance of payments. In fact, international tourism flows affect the balance of payments in two ways. Firstly, there are direct effects that are registered in the current account - services (including travel and tourism) (Sinclair & Stabler, 1997) and, secondly, there might be indirect effects by means of interaction with the exports of goods (trade balance) (Brau & Pinna, 2013; Kulendran & Wilson, 2000a).

On the one hand, international tourism is part of trade in services. Tourism is an invisible export that creates a foreign currency flow into the economy, thus contributing directly to the current account - services of the balance of payments. On the other hand, inbound tourism for business and leisure purposes may have

an indirect impact on the trade balance account. For example, the purpose of international business travelling is to promote trade; hence, this type of tourism is likely to promote future exports and imports of goods (Belenkiy & Riker, 2012; Kulendran & Wilson, 2000a, 2000b; Turner & Witt, 2001). Concerning inbound tourism for leisure purposes, it may contribute to expanding the exports of goods in the visited country. These effects may occur in several ways. Firstly, inbound tourism comes into contact with products in the visited country, which improves information about the tourism destination, as well as its products (Gil-Alana & Fischer, 2010). Secondly, international visitors may identify new business opportunities that could lead to entrepreneurial activities and bilateral transactions in the future (Aradhyula & Tronstad, 2003; Kulendran & Wilson, 2000a; Shan & Wilson, 2001). In this sense, international tourism may be a mechanism to overcome informal barriers to international trade and asymmetric information related to new trade opportunities (Aradhyula & Tronstad, 2003; Cristea, 2011).

Regarding the possible effects of international trade upon inbound tourism, several explanations for this relationship might be provided. Firstly, international trade is an important determinant of business travel demand (Kulendran & Wilson, 2000b; Turner & Witt, 2001), but it could also enhance international tourism flows for other purposes (Eilat & Einav, 2004; Zhang & Jensen, 2007). Business travel is essential in negotiating new trade agreements between countries, but it may also induce other people, for example friends and relatives, to take holiday trips (Santana-Gallego et al., 2011a). Secondly, several infrastructures and services, such as transportation and communication systems, accommodation and restaurants, which are required to enhance and maintain international trade, are also fundamental for guaranteeing inbound tourism (Santana-Gallego et al., 2011a). Thirdly, international trade between countries increases the availability of products, which enables the offer to international visitors of some goods from their country of origin, thereby contributing to satisfying the visitors' needs (Kulendran & Wilson, 2000a).

2.2.2. International tourism and international trade: a review of recent research

The search, focused on the causal relationship between international tourism and international trade, was conducted on the Scopus database by using appropriate keywords (“international tourism” and “international trade”) and considering the papers published to date. From this research, 31 empirical studies were selected and reviewed (Table 2.1).

The studies presented in Table 2.1 can be categorised into three groups: (i) trade demand models; (ii) international tourism demand models; and (iii) models that analyse the relationship between international tourism and international trade.

The first group aggregates studies focusing on the effects of international tourism on international trade flows. Although little explored (Brau & Pinna, 2013) the empirical results confirm the positive impact of tourism upon the amount of trade flows according to theoretical expectations (Aradhyula & Tronstad, 2003; Belenkiy & Riker, 2012; Brau & Pinna, 2013; Nguyen & Jolly, 2013; Santana-Gallego, Ledesma-Rodríguez, Pérez-Rodríguez, & Cortés-Jiménez, 2010; Webster, 2002).

The second group of published studies analyses the determinants of international tourism demand. Some of the studies carried out in this field consider international trade as a determinant of total international tourism demand (e.g. Chang & Lai, 2011; Eilat & Einav, 2004; Eryigit, Kotil, & Eryigit, 2010; Fourie & Santana-Gallego, 2013; Goh & Law, 2003; Jensen & Zhang, 2013; Santana-Gallego et al., 2010; Zhang & Jensen; 2007) and as a determinant of international business tourism (e.g. Cristea, 2011; Kulendran & Wilson, 2000b; Turner & Witt, 2001). Overall, in the international tourism demand models analysed, the estimated coefficients of trade variables have statistical significance and the expected positive sign.

Table 2.1 - International tourism and international trade: a summary of published studies

| Study | Research theme | Data Frequency | Period analysed | Type of data | Region focused | International Tourism | | International Trade | | | Methods used |
|---------------------------------------|--|----------------|-----------------|---------------|---|-----------------------|-----|---------------------|-----|-----|---|
| | | | | | | In | Out | Total | Exp | Imp | |
| Kulendran & Wilson (2000a) | Relationship between trade and tourism | Q | 1982:01-1997:04 | Time series | Australia - USA, UK, New Zealand, Japan | X | | | X | X | Cointegration and causality test |
| Kulendran & Wilson (2000b) | Modelling business travel demand | Q | 1982:01-1996:04 | Time series | Australia - USA, UK, New Zealand, Japan | X | | X | | X | Cointegration test |
| Shan & Wilson (2001) | Causality between trade and tourism | M | 1987M1-1998M1 | Time series | China - USA, Japan, Australia, UK | X | | X | | | Causality test |
| Turner & Witt (2001) | Determinants of international tourism | Q | 1978-1997 | Time series | New Zealand - Australia, Japan, UK, USA | X | | | X | X | Structural equation modelling |
| Webster (2002) | Export demand model | A | 1997-1999 | Panel | Cyprus - 148 countries (importers of Cypriot goods) | X | | | X | | OLS regression |
| Aradhyula & Tronstad (2003) | Analyse if tourism promotes cross-border trade | A | 1997 | Cross-section | Arizona (US) - Sonora (Mexico) | X | | X | | | Simultaneous bivariate qualitative choice model |
| Goh & Law (2003) | Tourism demand analysis | A | 1985-2000 | Panel | Hong Kong - China, Taiwan, Japan, Korea, USA, UK, Australia, Singapore, Thailand, Philippines | X | | X | | | Rough sets approach |
| Eilat & Einav (2004) | Determinants of international tourism | A | 1985-1998 | Panel | All countries worldwide | X | X | X | | | Pooled logit regression |
| Khan, Toh, & Chua (2005) | Relationship between trade and tourism | Q | 1978:01-2000:03 | Time series | Singapore - ASEAN, USA, Japan, UK, Australia | X | | X | X | X | Cointegration and causality test |
| Nowak, Sahli, & Cortés-Jiménez (2007) | Relationship between tourism and capital goods imports | A | 1960-2003 | Time series | Spain | X | | | | X | Cointegration and causality test |
| Zhang & Jensen (2007) | International tourism flows | A | 1985-1999 | Panel | 133 countries (OLS); 101 countries (panel regression) | X | | X | | | OLS regression; Panel model |
| Fischer & Gil-Alana (2009) | Effect that tourism has on imports | M | 1998M1-2004M11 | Time series | Spain - Germany | X | | | | X | Long memory regression models |

Table 2.1 - International tourism and international trade: a summary of published studies (cont.)

| Study | Research theme | Data Frequency | Period analysed | Type of data | Region focused | International Tourism | | International Trade | | | Methods used |
|--|--|----------------|-----------------|--------------|--|-----------------------|-----|---------------------|-----|-----|---|
| | | | | | | In | Out | Total | Exp | Imp | |
| Katircioglu (2009) | Relationship between tourism, trade and income growth | A | 1960-2005 | Time series | Cyprus | X | | X | X | X | Cointegration and causality test |
| Eryigit, Kotil, & Eryigit (2010) | Tourism demand model | A | 1995-2005 | Panel | Turkey - 11countries | X | | X | | | Gravity equation model |
| Gil-Alana & Fischer (2010) | Effect that tourism has on exports | M | 1995M1-2006M7 | Time series | Spain - Germany | X | | | X | | Fractional vector autoregressive models |
| Fry, Saayman, & Saayman (2010) | Relationship between tourism and trade | M | 1992M1-2007M12 | Panel | South Africa - 40 countries | X | | X | | | Cointegration and causality test |
| | | | 1992M1-2006M6 | Time series | South Africa - 9 countries | | | | | | |
| Santana-Gallego, Ledesma-Rodríguez, Pérez-Rodríguez, & Cortés-Jiménez (2010) | Trade and tourism flows | A | 1995-2006 | Panel | 30 OECD countries as origins / 179 as tourism destinations | X | | X | | | Gravity equation model |
| Wong & Tang (2010) | Causality between tourism and openness to trade | Q | 1986:01-2008:02 | Time series | Singapore - Malaysia, China, USA, Japan, South Korea | X | | X | | | Causality test |
| | | | 1995:01-2008:02 | | | | | | | | |
| Chang & Lai (2011) | Determinants of travel and tourism service trade | A | 2000-2005 | Panel | 37 countries (Europe, Asia, North America) | X | | | X | | Gravity equation model |
| Cristea (2011) | Buyer-seller relationship in international trade | A | 1998-2003 | Panel | USA - 93 foreign destinations | | X | | X | | Gravity equation model |
| Keum (2011) | Causality between transnational goods and people flows | Q | 1995:01-2006:04 | Panel | South Korea - 21 worldwide partners | X | X | X | X | X | Causality test |
| Santana-Gallego, Ledesma-Rodríguez, & Pérez-Rodríguez (2011a) | Relationship between international trade and tourism | M | 1995M1-2007M3 | Time series | Canary Islands - Mainland Spain, Total international, Germany, UK, France, Netherlands, Sweden | X | | X | X | X | Cointegration and causality test |

Table 2.1 - International tourism and international trade: a summary of published studies (cont.)

| Study | Research theme | Data Frequency | Period analysed | Type of data | Region focused | International Tourism | | International Trade | | | Methods used |
|---|---|----------------|-----------------|--------------|--|-----------------------|-----|---------------------|-----|-----|---|
| | | | | | | In | Out | Total | Exp | Imp | |
| Santana-Gallego, Ledesma-Rodríguez, & Pérez-Rodríguez (2011b) | Relationship between international tourism and trade | A | 1980-2006 | Panel | OECD countries | X | X | X | X | X | Cointegration and causality test |
| Sarmidi & Salleh (2011) | Relationship between trade, economic growth and tourism | Q | 1997:01-2007:04 | Time series | Malaysia - Singapore, Thailand, Indonesia, Brunei Darussalam | X | | X | X | X | Cointegration and causality test |
| Belenkiy & Riker (2012) | The role of business travel in trade promotion | A | 1996-2009 | Panel | USA - 21 countries | | X | | X | | Dixit-Stiglitz monopolistic competition model |
| Lee (2012) | Relationship between exports, imports, international tourism, and economic growth | A | 1980-2007 | Time series | Singapore | X | | | X | X | Cointegration and causality test |
| Brau & Pinna (2013) | Effect of tourism flows on the exports | A | 1998-2009 | Panel | 25 EU countries | X | | | X | | Gravity equation model |
| Fourie & Santana-Gallego (2013) | Determinants of inbound tourism | A | 1995-2008 | Panel | 175 countries; 43 African countries | X | | X | | | Gravity equation model |
| Jensen & Zhang (2013) | Determinants of tourism flows | A | 1982-2006 | Panel | 190 countries | X | | X | | | Panel data analysis |
| Massidda & Mattana (2013) | Relationship between international tourism, GDP and trade | Q | 1987:01-2009:04 | Time series | Italy | X | | X | | | Cointegration and causality test |
| Nguyen & Jolly (2013) | Import demand model | A | 1976-2006 | Time series | Caribbean Countries | X | | | | X | Cointegration and causality test |

Note: A: Annual data; Q: Quarterly data; M: Monthly data; In: Inbound tourism; Out: Outbound tourism; Exp.: Total exports; Imp.: Total imports.

Source: Own construction based on literature.

The third group of papers study the causal relationship between international tourism and international trade, frequently using aggregated data and cointegration and causality techniques (e.g. Fry, Saayman, & Saayman, 2010; Khan et al., 2005; Kulendran & Wilson, 2000a; Santana-Gallego et al., 2011a, 2011b; Shan & Wilson, 2001). Although the majority of studies published in this field analyse the relationship between international tourism and international trade, a limited number of papers study the causal relationship between international tourism and trade of specific products (Fischer & Gil-Alana, 2009; Gil-Alana & Fischer, 2010), as well as the causal relationship between international tourism, international trade, and economic growth (Katircioglu, 2009; Lee, 2012; Massidda & Mattana, 2013; Sarmidi & Salleh, 2011). The empirical studies confirm the presence of a long-run equilibrium relationship between international tourism and trade (Fry et al., 2010; Katircioglu, 2009; Kulendran & Wilson, 2000a; Santana-Gallego et al., 2011a, 2011b). Concerning the short-run Granger causality test, the results suggest that there is bidirectional causality between international tourism and trade (Kulendran & Wilson, 2000a; Sarmidi & Salleh, 2011; Shan & Wilson, 2001).

2.3. Data and methodology

2.3.1. Data

This chapter analyses the short- and long-run relationship between: (i) inbound tourism and total exports of goods; and (ii) inbound tourism and exports of agro-food products with regard to Portugal, from January 2000 to December 2012, using data obtained from the National Statistics Institute.

The total numbers of nights spent by foreign tourists in accommodation establishments are the proxy used to measure inbound tourism. Figure 2.1 represents the total number (in millions) of overnight stays by foreign tourists in Portuguese accommodation establishments between 2000 and 2012. Although in

2000 foreign tourists accounted for 24.1 million overnight stays, 12 years afterwards non-residents contribute 27.3 million overnight stays, which represents 68.7% of total number of nights spent in Portuguese accommodation establishments.

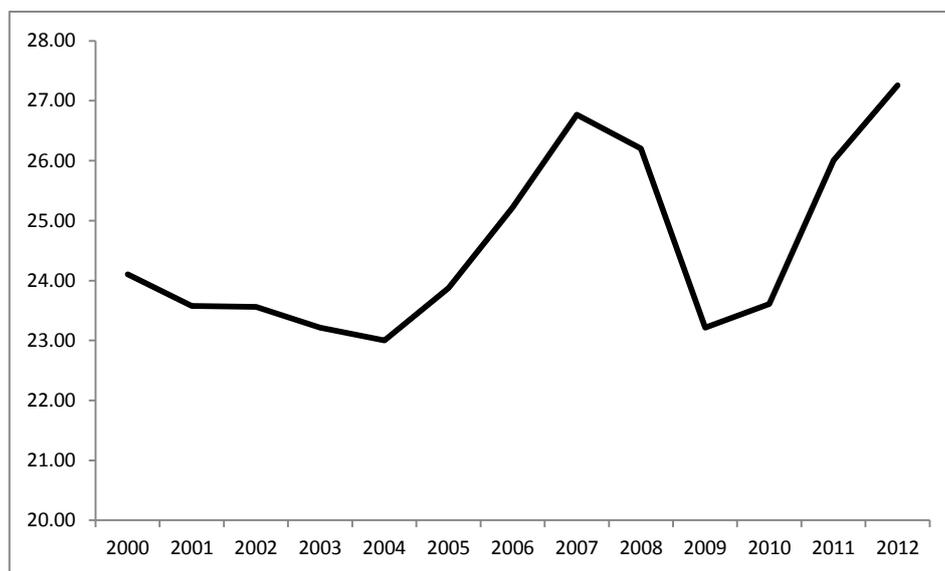


Figure 2.1 - Total number of overnight stays by foreign tourists in Portuguese accommodation establishments (millions) (2000-2012)

Source: Own construction based on INE (2000-2012b).

The exports of goods by type of goods (Combined Nomenclature - CN8) (€) and exports of agro-food products (chapters 01 to 24 of Combined Nomenclature - CN8) (€) are the proxies used for total exports of goods and exports of agro-food products, respectively.

Regarding total exports of goods, as shown in Figure 2.2, in 2012 €45.3 thousand million were registered, which represents an increase of 66.3% when compared with 2000 (€27.2 thousand million). Portuguese exports of agro-food products were €5.2 thousand million, corresponding to 11.5% of total exports of goods. In 2000, exports of agro-food products were only €2.0 thousand million, which represents 7.2% of total exports of goods.

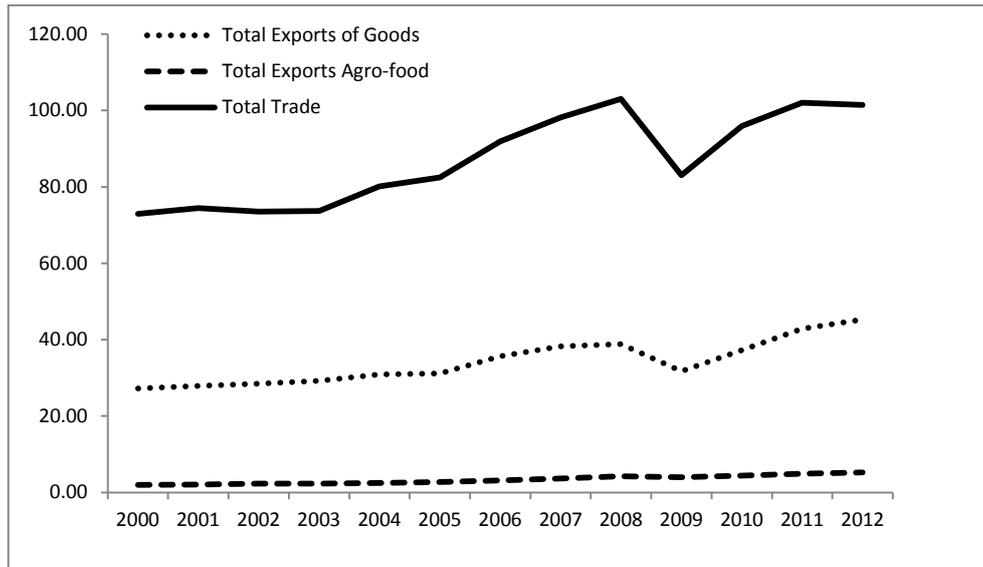


Figure 2.2 - Total trade, total exports of goods and total exports of agro-food products in Portugal (€ thousand million) (2000-2012)
Source: Own construction based on INE (2000-2012a).

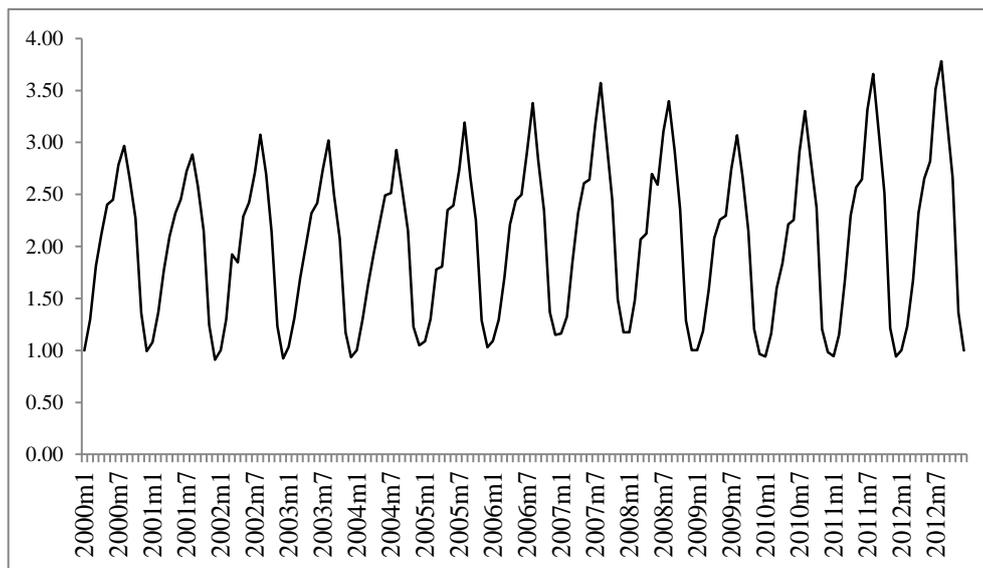


Figure 2.3 - Total numbers of overnight stays by foreign tourists in Portuguese accommodation establishments (million) (2000M1-2012M12)
Source: Own construction based on INE (2000-2012b).

Trade data are deflated by using the Portuguese monthly consumer price index (base year 2012). In order to estimate and remove the seasonal effects from tourism data (Figure 2.3), the X-12-ARIMA seasonal adjustment method (US

Census Bureau) is carried out (Keum, 2011; Khan et al., 2005). Finally, all series are expressed in logarithms so as to facilitate the interpretation of coefficients (Kulendran & Wilson, 2000a; Shan & Wilson, 2001). Regarding econometric estimation, package *Stata-Data Analysis and Statistical Software-12* is used (Baum, 2009; StataCorp., 2011).

2.3.2. Cointegration and causality

Before estimating cointegration and causality, it is required to examine whether variables are stationary or not. In this analysis, the Augmented Dickey-Fuller test (ADF test) (Dickey & Fuller, 1979), the test by Elliott, Rothenberg, and Stock (DF-GLS test) (Elliott, Rothenberg, & Stock, 1996) and the Kwiatkowski, Phillips, Schmidt, and Shin test (KPSS test) (Kwiatkowski, Phillips, Schmidt, & Shin, 1992) are conducted to investigate for the stationarity of the series. Different tests are performed to minimise the danger of erroneous inferences and the selection of both tests is in line with previous studies (Lee, 2012; Massidda & Mattana, 2013). The null hypothesis in the ADF test is that the time series has a unit root against the alternative hypothesis that the time series is stationary (Dickey & Fuller, 1979). The DF-GLS test is a modified Dickey-Fuller test for a unit root in which the time series is transformed via a generalised least squares regression before performing the test. Elliott et al. (1996) and later studies have shown that this test has significantly greater power than previous versions of the Dickey-Fuller test. The KPSS test differs from the previous tests by having a null hypothesis of stationarity against the alternative hypothesis that the time series is non-stationary (Kwiatkowski et al., 1992).

Considering that all variables are stationary at their first differences, the next step is to investigate the long-run equilibrium relationship by using Johansen's maximum likelihood method (ML) (Johansen, 1988, 1995; Johansen & Juselius, 1990), in consonance with the methodology adopted by Fry et al. (2010) and Santana-Gallego et al. (2011a). According to Engle and Granger (1987) and

Granger (1988), if two time-series variables are cointegrated, then at least one-directional Granger causation exists.

Finally, the third and final step is to determine the direction of causality of the two variables (Granger, 1969). On the one hand, when the hypothesis of non-cointegration is not rejected the Vector Autoregression Model (VAR) is carried out (Gujarati, 2003). The model can be written as follows:

- Relationship between total exports of goods and inbound tourism:

$$\Delta \ln X_t = \sum_{i=1}^p \varphi_{1i} \Delta \ln X_{t-i} + \sum_{i=1}^p \zeta_{1i} \Delta \ln \text{Tour}_{t-i} + u_{1t} \quad (1)$$

$$\Delta \ln \text{Tour}_t = \sum_{i=1}^p \varphi_{2i} \Delta \ln X_{t-i} + \sum_{i=1}^p \zeta_{2i} \Delta \ln \text{Tour}_{t-i} + u_{2t} \quad (2)$$

- Relationship between total exports of agro-food products and inbound tourism:

$$\Delta \ln X_{\text{agro}}_t = \sum_{i=1}^p \varphi_{1i} \Delta \ln X_{\text{agro}}_{t-i} + \sum_{i=1}^p \zeta_{1i} \Delta \ln \text{Tour}_{t-i} + u_{1t} \quad (3)$$

$$\Delta \ln \text{Tour}_t = \sum_{i=1}^p \varphi_{2i} \Delta \ln X_{\text{agro}}_{t-i} + \sum_{i=1}^p \zeta_{2i} \Delta \ln \text{Tour}_{t-i} + u_{2t} \quad (4)$$

where X_t is the proxy of total exports of goods; X_{agro}_t is the proxy of total exports of agro-food products and Tour_t is the proxy of inbound tourism, both endogenous variables and $I(1)$; p is the lag length; u_{1t} and u_{2t} are the residuals.

After fitting the VAR, the short-run Granger causality test is performed. This test consists of regress equation (1) on its own lagged values and on lagged values of variable Tour_t , and tests the null hypothesis that the coefficients estimated on the lagged values of inbound tourism (ζ_{1i}) are jointly zero. If the null hypothesis is not rejected this means that in the short-run inbound tourism does not Granger-cause total exports of goods. A similar testing procedure is applied to equations (2), (3) and (4) (Adkins & Hill, 2008; Gujarati, 2003; StataCorp., 2011).

On the other hand, since time series are cointegrated, the Vector Error Correction Model (VECM) is performed (Gujarati, 2003). Overall, the VECM can be written as follows:

- Relationship between total exports of goods and inbound tourism:

$$\Delta \ln X_t = \varphi_1 + \sum_{i=1}^p \alpha_{1i} \Delta \ln X_{t-i} + \sum_{i=1}^p \beta_{1i} \Delta \ln \text{Tour}_{t-i} + \gamma_1 \text{ECM}_{t-1} + u_{1t} \quad (5)$$

$$\Delta \ln \text{Tour}_t = \varphi_2 + \sum_{i=1}^p \alpha_{2i} \Delta \ln X_{t-i} + \sum_{i=1}^p \beta_{2i} \Delta \ln \text{Tour}_{t-i} + \gamma_2 \text{ECM}_{t-1} + u_{2t} \quad (6)$$

- Relationship between total exports of agro-food products and inbound tourism:

$$\Delta \ln \text{Xagro}_t = \varphi_1 + \sum_{i=1}^p \alpha_{1i} \Delta \ln \text{Xagro}_{t-i} + \sum_{i=1}^p \beta_{1i} \Delta \ln \text{Tour}_{t-i} + \gamma_1 \text{ECM}_{t-1} + u_{1t} \quad (7)$$

$$\Delta \ln \text{Tour}_t = \varphi_2 + \sum_{i=1}^p \alpha_{2i} \Delta \ln \text{Xagro}_{t-i} + \sum_{i=1}^p \beta_{2i} \Delta \ln \text{Tour}_{t-i} + \gamma_2 \text{ECM}_{t-1} + u_{2t} \quad (8)$$

where X_t is the proxy of total exports of goods; Xagro_t is the proxy of total exports of agro-food products and Tour_t is the proxy of inbound tourism, both endogenous variables and $I(1)$; p is the lag length; u_{1t} and u_{2t} are the residuals; φ_1 and φ_2 are the constants; α_{1i} , β_{1i} , α_{2i} , β_{2i} are the parameters to be estimated; γ_1 and γ_2 are the coefficients of error correction term (ECM).

The estimated coefficients (γ_1 and γ_2) of ECM measure the speed of adjustment to restore equilibrium in the dynamic model. Given a statistical significance of the ECM in a VECM, it suggests the existence of a long-run equilibrium relationship between the variables. The t -test for those coefficients provides the long-run Granger causality result. The coefficients of the lagged values (α_{1i} , β_{1i} , α_{2i} , β_{2i}) represent the short-run effects; thus the test of joint significance of the lagged terms for each variable provides the short-run Granger causality. Since the coefficients of β_{1i} are jointly significant in equation (5), the null hypothesis that inbound tourism does not Granger-cause total exports of goods is rejected. A similar testing procedure is applied to equations (6), (7) and (8) (Adkins & Hill, 2008; Gujarati, 2003; StataCorp., 2011).

2.4. Empirical analysis and discussion of results

2.4.1. Stationarity tests

Table 2.2 presents the results of the ADF test and KPSS test with regard to the time series. The results of the stationarity tests at levels show that the variables are non-stationary, but when the stationarity tests are applied to the first difference of the data series, the results reveal that the hypothesis of non-stationarity is rejected.

Table 2.2 - Results of the unit root test

| <i>Test</i> | <i>lnX_t</i> | <i>Lags</i> | <i>lnXagro_t</i> | <i>Lags</i> | <i>lnTour_t</i> | <i>Lags</i> |
|-------------------------|------------------------|-------------|----------------------------|-------------|---------------------------|-------------|
| <i>Level</i> | | | | | | |
| ADF | -3.145 (0.0959)** | [13] | -2.322 (0.4216) | [14] | -2.210 (0.2028) | [2] |
| KPSS | NS | [13] | NS | [13] | NS | [13] |
| <i>First difference</i> | | | | | | |
| ADF | -7.527 (0.0000)* | [10] | -2.818 (0.0557)** | [13] | -13.773 (0.0000)* | [1] |
| KPSS | S | [13] | NS | [13] | NS | [13] |

Note:

$\ln X_t$ is the proxy of total exports of goods; $\ln X_{agro_t}$ is the proxy of total exports of agro-food products; $\ln Tour_t$ is the proxy of inbound tourism. Hypotheses - ADF test: H_0 : Non-stationary series | H_a : Stationary series. KPSS test: H_0 : Stationary series | H_a : Non-stationary series.

ADF test: For time series $\ln X_t$ and $\ln X_{agro_t}$ the unit root tests were performed with trend and constant; lagged terms were eliminated until the last one becomes significant at the 5% level (Adkins & Hill, 2008); the values in brackets are MacKinnon approximate p-value for $Z(t)$; * and ** indicate rejection of a unit root hypothesis based on MacKinnon critical values at 5% and 10% level, respectively.

KPSS test: For time series $\ln X_t$ and $\ln X_{agro_t}$ the unit root tests were performed with trend; Maxlag = 13 chosen by Schwert criterion. NS - Non-stationary; S - Stationary.

Considering the time series at levels the results of the DF-GLS test (13 lags chosen by the Schwert criterion) show that: (i) for series “exports of goods” the null hypothesis of a unit root is not rejected for lags [3-8] and [11-12] at the 5% level; (ii) for the series “exports of agro-food products” the null hypothesis is not rejected for lags [10-13] at the 5% level; and (iii) for “inbound tourism” the null hypothesis is not rejected for lags [2-13] at the 5% level.

When the DF-GLS test is applied to the first difference of the time series it appears that: (i) for series “exports of goods” the null hypothesis of a unit root is rejected for lags [1-6] at the 5% level; (ii) for the series “exports of agro-food products” the null hypothesis is rejected for lags [1-11] at the 5% level; and (iii) for the series “inbound tourism” the null hypothesis is rejected for lags [1-7] at the 5% level.

Based on the results of the unit root tests it is possible to conclude that the variables used in this study are integrated of order one (I[1]) and the findings are consistent with those obtained by similar studies that used the same stationarity tests (Khan et al., 2005; Lee, 2012; Massidda & Mattana, 2013; Santana-Gallego et al., 2011a).

2.4.2. Testing for cointegration

The analysis of the cointegrating properties of the above set of variables is made according to Johansen’s maximum likelihood method (Johansen, 1988, 1995; Johansen & Juselius, 1990). Results are presented in Table 2.3.

Considering that the trace statistic at $r = 0$ is less than its critical value for inbound tourism and total exports of goods, the null hypothesis of non-cointegration is not rejected [Khan et al. (2005) in the case of the USA and Japan or Kulendran & Wilson (2000a) in the case of the UK also did not find cointegration relationships]. In opposition, because the trace statistic at $r = 1$ is less than its critical value for inbound tourism and total exports of agro-foods products, the hypothesis that there are one or fewer cointegrating relations is not rejected. In consequence, the results show that there is a long-run equilibrium relationship between inbound

tourism and total exports of agro-foods products. In the published papers reviewed in Section 2.2, this relationship has not been empirically explored; therefore, this result is interesting because it suggests that in the long-run the equilibrium relationship between inbound tourism and total exports is more evident for agro-food products in specific than for total goods in general.

Table 2.3 - Johansen maximum likelihood cointegration tests

| <i>Series</i> | <i>Lags</i> | <i>Maximum rank</i> | <i>Trace statistic</i> | <i>5% critical value</i> |
|--|-------------|---------------------|------------------------|--------------------------|
| $\ln X_t$ $\ln \text{Tour}_t$ | [13] | $r = 0$ | 14.7973* | 15.41 |
| $\ln X_{\text{agro}}_t$ $\ln \text{Tour}_t$ | [13] | $r = 1$ | 0.0749* | 3.76 |

Note:

* by the trace statistic indicates that this is the value of r selected by Johansen's multiple-trace test procedure; r is the number of cointegrating equations. Akaike Information Criterion (AIC) is used to select the lag length.

2.4.3. Causal relationships

First, due the non-cointegration between inbound tourism and total exports of goods, after fitting a VAR, the Granger causality test is performed in order to observe the direction of the short-run causal relationship. The results of the Granger causality test are reported in Table 2.4, and bidirectional short-run causality between inbound tourism and exports of goods can be inferred. The results obtained from this test are consistent with those obtained by Santana-Gallego et al. (2011a).

Table 2.4 - Results of Granger causality test: exports of goods and inbound tourism

| <i>Equation</i> | <i>Short-run coefficients</i> |
|----------------------------|-----------------------------------|
| $\Delta \ln X_t$ | $\chi^2(13) = 24.604$ (0.026)* |
| $\Delta \ln \text{Tour}_t$ | $\chi^2(13) = 64.153$ (0.000)* |

Note:

$\Delta \ln X_t$ - VAR model for total exports of goods; $\Delta \ln \text{Tour}_t$ - VAR model for inbound tourism.
Hypotheses: $\Delta \ln X_t$: $H_0: \zeta_{11} = \dots = \zeta_{1p} = 0$ Tourism does not Granger cause Exports / $H_a: \zeta_{11} = \dots = \zeta_{1p} \neq 0$ Tourism Granger cause Exports | $\Delta \ln \text{Tour}_t$: $H_0: \varphi_{21} = \dots = \varphi_{2p} = 0$ Exports does not Granger cause Tourism / $H_a: \varphi_{21} = \dots = \varphi_{2p} \neq 0$ Exports Granger cause Tourism.
Values in brackets correspond Prob > χ^2 ; * indicate significance at the 5% level. Akaike Information Criterion (AIC) is used to select the lag length.

Second, since a cointegration relationship between inbound tourism and total exports of agro-food products is confirmed, a VECM is carried out to detect long- and short-run causality (Adkins & Hill, 2008; Gujarati, 2003).

With respect to long-run causality, as seen in Table 2.5, the value of the ECM has a negative sign and it is significant in the model where total exports of agro-food products is the dependent variable, thus suggesting the existence of a long-run Granger causality from inbound tourism to exports of agro-food products. The negative value shows that whenever the exports of agro-food products move from equilibrium, the overall effect is to force it to converge back to the long-run equilibrium. In relation to inbound tourism equation, the coefficient of the ECM is statistically significant, suggesting the existence of a significant long-run Granger causality from exports of agro-food products to inbound tourism. The model is out of equilibrium, so inbound tourism is affected negatively (Gujarati, 2003).

The results of the short-run Granger causality test show that inbound tourism does not Granger-cause total exports of agro-food products and that there is a unidirectional causality running from total exports of agro-food products to inbound tourism. In the published papers reviewed in Section 2.2, this short-run

relationship has not been empirically tested, therefore the hypothesis that total exports of agro-food products may promote inbound tourism is original.

Table 2.5 - Results of the VECM estimation: exports of agro-food products and inbound tourism

| <i>Equation</i> | <i>Short-run coefficients</i> | <i>ECM_{t-1}</i> |
|-------------------------|--|---|
| $\Delta \ln X_{agro_t}$ | $\chi^2(12) = 12.44$ $Prob > \chi^2 = (0.4107)$ | $\gamma_1 = -0.024672$ $z = (-2.38)^*$ |
| $\Delta \ln Tour_t$ | $\chi^2(12) = 31.30$ $Prob > \chi^2 = (0.0018)^*$ | $\gamma_2 = 0.0214698$ $z = (3.17)^*$ |

Note:

$\Delta \ln X_{agro_t}$ - VEC model for total exports of agro-food products; $\Delta \ln Tour_t$ - VEC model for inbound tourism. Hypotheses for short-run Granger causality: $\Delta \ln X_{agro_t}$: $H_0: \beta_{11} - \dots - \beta_{1p} = 0$ Tourism does not Granger cause Exports of agro-food products / $H_a: \beta_{11} - \dots - \beta_{1p} \neq 0$ Tourism Granger cause Exports of agro-food products | $\Delta \ln Tour_t$: $H_0: \alpha_{21} - \dots - \alpha_{2p} = 0$ Exports of agro-food products does not Granger cause Tourism / $H_a: \alpha_{21} - \dots - \alpha_{2p} \neq 0$ Exports of agro-food products Granger cause Tourism. γ_1 and γ_2 estimated coefficients of error correction terms (ECM_{t-1}); $z = z$ test; Akaike Information Criterion (AIC) is used to select the lag length; * indicate significance at the 5% level.

2.5. Conclusions

This study analyses the nature of the relationship between international tourism and international trade. In contrast with previous studies with similar purposes, this study is distinguished by considering the relationships between inbound tourism and total exports of agro-food products.

The cointegration test suggests that there is a long-run equilibrium relationship between inbound tourism and exports of agro-food products in Portugal. This result is very interesting because not only has it not yet been confirmed in the published papers reviewed, but also it strengthens and complements the findings about the importance of taking advantage of the causal relationship between inbound tourism and total exports. On the one hand, international visitors may

identify business opportunities that could lead to further exports (Kulendran & Wilson, 2000a) and moreover, inbound tourism promotes feedback with local producers (Brau & Pinna, 2013) and positively affects exports of processed food products (Reed, 1994). On the other hand, exports of agro-food products may induce more inbound business travel and create interest amongst consumers about the source country of agro-food products and stimulate international tourism to Portugal [*Interest and Awareness* hypothesis formulated by Kulendran & Wilson (2000a)].

In the short-run, the Granger causality test results suggest that exports of agro-food products may promote inbound tourism and that there is bidirectional causality between inbound tourism and total exports of goods. Besides presenting new evidence on the relationship between inbound tourism and exports of goods with regard to Portugal, the results concerning total exports seem to be consistent with those previously found by Santana-Gallego et al. (2011a).

The findings obtained have theoretical and practical implications. On the one hand, this study makes an important theoretical contribution to the literature within the context of causal relationship between international tourism and trade due to: (i) the systematisation of a set of studies that have been published in this field; and (ii) new empirical developments in the context of causal relationship between inbound tourism and total exports of goods, mainly agro-food products.

On the other hand, considering that promoting international tourism and international trade may have far more relevant indirect effects on economic growth than usually conceived, the results may support business and government entities in implementing coordinated strategies.

In spite of the contribution of this study to improving knowledge in this area, some limitations may be indicated. First, inbound tourism also consumes goods and services that are not produced in the tourism destination and which consequently need to be imported. Second, although the empirical findings validate the impacts of inbound tourism on total exports of goods and agro-food products, they ignore whether the effects are also valid for the data disaggregated by product category.

Third, the results are sensitive to the selected country, sample period, cointegration and causality approach, and variables omitted in a model.

In order to improve knowledge in this field, further research about the tourism-trade relationship should proceed in several directions, namely: (i) causal relationship by markets; (ii) causal relationship by product category; and (iii) causal relationship by purpose of travel.

Chapter 3

International tourism and exports of agro-food products: A causality analysis by markets⁸

Abstract: This study analyses the relationship between inbound tourism and exports of agro-food products with respect to Portugal and its major tourism and trade markets by recurring cointegration and causality tests. The results confirm that there is a relationship between the variables in supporting the argument that international tourism may contribute to overcoming informal barriers to trade and promoting exports of agro-food. They also confirm that internationally sold products may act as a tourism marketing tool, stimulating curiosity in foreigners about such products' country of origin. The results reveal that the dynamics differ according to the partner that is analysed. This chapter ends with theoretical and empirical implications and a discussion of the potential factors that may contribute to these differences.

Keywords: international tourism; exports; agro-food products; informal barriers; causality; Portugal

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3.1. Introduction

Tourism and international trade are two dynamics of strategic importance for today's economies and both are at the centre of governments' policy agendas. While the link between tourism and trade is recognized in academic literature and policy circles, the process through which they exert their effect on each other is poorly understood, by both academic researchers and policymakers themselves (Fischer & Gil-Alana, 2009).

A number of researchers, who made notable contributions in this regard, confirm the relationship between tourism and trade (Fischer & Gil-Alana, 2009; Gil-Alana & Fischer, 2010; Katircioglu, 2009; Khan et al., 2005; Kulendran & Wilson, 2000a; Santana-Gallego et al., 2011a, 2011b; Shan & Wilson, 2001). They also highlight that further research is necessary and that future studies should be conducted at a more disaggregated level. Specifically, they argue that future research should go deeper and focus on the relationship between tourism and the trade of specific types of products (Brau & Pinna, 2013; Fischer & Gil-Alana, 2009; Gil-Alana & Fischer, 2010).

For example, tourism and the agro-food sector, which are two sectors of strategic interest for many governments, are not worlds apart. Among other potential linkages, a relationship between inbound tourism and exports of local agro-food products is likely to exist (Brau & Pinna, 2013). During their visit to foreign destinations, visitors are very likely to come into contact with local agro-food products and local producers. This contact might propel future consumption (Fischer & Gil-Alana, 2009; Gil-Alana & Fischer, 2010). Indeed, in general terms, international tourism may work as a mechanism to overcome informal barriers to international trade through face-to-face contact and experience (Aradhyula & Tronstad, 2003; Cristea, 2011; Khan et al., 2005; Kulendran & Wilson, 2000a). Local agro-food products that are sold in international markets may act as a marketing tool, stimulating foreigners' curiosity about the country of origin of these products and thus propelling tourism (Kulendran & Wilson, 2000a).

In this line of argument, this chapter analyses the causal relationship between inbound tourism and exports of agro-food products. In this category of products, agro-food products are perceived as authentic and linked to local culture and heritage. This may play a relevant role in the tourism experience, matching the visitor's desire for authenticity and search for traditional products that capture the distinct characteristics of the place (Sims, 2009). To do this, we use data from Portugal, a country where both tourism and agro-food sectors assume great importance economy-wide, making Portugal an ideal example for our enquiry. Tourism contributes directly and positively to the Portuguese economy, representing about 9.2% of its GDP. Inbound tourism consumption has been an important item, representing on average 56% of the total Tourism Consumption on the Economic Territory (INE, 2010). According to data from the World Tourism Organization, in 2012, Portugal occupied the 35th position in worldwide tourist arrivals and 28th position in terms of tourism revenue. Similarly, in the last decade, the agro-food sector (comprising both primary agricultural production and the food and drinks industries) has emerged as one of Portugal's fastest-growing export sectors, as well as a sector that creates more jobs. The turnover of agro-food in 2013 was €4.9 billion, representing 3% of GDP (Ribeiro, Martins, & Pereira, 2015). The long agricultural tradition associated with the adherence to the European Union in 1986 and specifically the CAP, contributed positively to the challenge, development, and modernization of the Portuguese agro-food sector (Vaz, 2008; Ventura-Lucas, Marques, Martins, & Fragoso, 2011). The main axes of maintenance and enhancement of the competitive ability of the tourism and agro-food sector include, among others, a sustainable strategy of internationalization that valorizes local resources (PortugalFoods, 2012; PwC, 2014). In spite of the relevance of both sectors, to date, there are no studies that analyse the relationship between the two.

The data in this study are from the period January 2000-December 2012, and the analysis is performed in relation to the most important Portuguese tourism and trade partners (Belgium, Brazil, France, Germany, Italy, the Netherlands, Spain, and the United Kingdom).

This chapter is organized as follows. Section 3.2 reviews previous literature about the relationship between international tourism and trade, and the relevance of international travel to overcoming informal barriers to international trade. Section 3.3 describes the methodology and Section 3.4 discusses the econometric findings. Finally, Section 3.5 concludes the chapter with some theoretical and practical implications and suggestions for future research.

3.2. Literature review

3.2.1. Inbound tourism and exports of goods: how they interact

Focusing on studies about the bidirectional causality between international tourism and international trade and, in particular, the relationship between inbound tourism and exports of goods, several theoretical explanations are proposed.

The first hypothesis is that exports of goods may induce inbound tourism. Empirical studies suggest that international trade is a determinant of business travel demand (Kulendran & Wilson, 2000b; Turner & Witt, 2001), and could also motivate international tourism flows for other purposes (Eilat & Einav, 2004; Zhang & Jensen, 2007). Inbound business travel is needed to maintain international trade and may also contribute to holidays and other travel when friends and relatives accompany business travellers (Khan et al., 2005; Kulendran & Wilson, 2000a; Santana-Gallego et al., 2011a). Transactions between countries may also generate an interest amongst consumers about the countries that produce the products. This stimulates business travel, as well as recreation and leisure travel to discover the culture, traditions, and history of the country (Kulendran & Wilson, 2000a; Santana-Gallego et al., 2011a). Finally, several infrastructures and services (e.g. transportation and communication systems, accommodation and restaurants) that are required to maintain international trade are also important to guarantee inbound tourism (Santana-Gallego et al., 2011a).

The second hypothesis is that inbound tourism might cause exports of goods (e.g. Brau & Pinna, 2013; Kulendran & Wilson, 2000a) for various reasons. In this context, business tourism may play an important role in the promotion of exports of agro-food products. This is because the main purpose of inbound business travel is to maintain existing partnerships, identify new trade opportunities and negotiate new contracts (Belenkiy & Riker, 2012; Cristea, 2011). Although the relationship seems obvious with respect to inbound business travel, international flows for leisure and recreation - for instance, holidays, visiting friends and relatives - or other purposes may also play an important role in promoting exports of goods (Kulendran & Wilson, 2000a).

Firstly, inbound tourism might contribute to improving information about the products that are produced in a specific tourism destination. This is because, during the stay, there is the possibility of direct contact with local producers and of tasting some of these products, for instance, in restaurants and gastronomic festivals (Gil-Alana & Fischer, 2010; Telfer, 2000). Processed agro-food products differ substantially in terms of their factor contents, quality attributes, and marketing features. For that reason, differences in brand, quality, and other attributes differentiate these products in international trade (Sarker & Surry, 2006). Incomplete information about product characteristics may lead to inefficiencies because consumers remain unfamiliar with the true value of the product. In the case of barriers to entry, which are created by an informational asymmetry between firms and consumers about the novelty and/or quality of a product (Farrell, 1986), international tourism may play an important role (Aradhyula & Tronstad, 2003; Cristea, 2011; Kulendran & Wilson, 2000a). Thus, it is assumed that when foreign visitors are back in their countries, they may eventually search for the products that they learnt about or tasted during their visit. They may also talk about them to friends and family (Brau & Pinna, 2013; Webster, 2002). Moreover, foreign tourists may identify new business opportunities that could lead to entrepreneurial activities and bilateral commercial transactions in the future (Aradhyula & Tronstad, 2003; Kulendran & Wilson, 2000a; Shan & Wilson, 2001).

Secondly, the importance of business and social networks in generating trade is becoming increasingly recognized in literature (Fischer, 2004; Portes & Rey, 2005;

Rauch, 1999; Rauch & Trindade, 2002). According to Rauch (2001), the business and social networks that operate across borders might help to alleviate some information problems, and thus promote trade. Evidence supporting such channels has been found for business groups operating across national borders (Belderbos & Sleuwaegen, 1998), immigrants and long-settled ethnic minorities that maintain co-ethnic business societies (Gould, 1994), and international tourism, especially business travel (Aradhyula & Tronstad, 2003; Cristea, 2011; Fischer, 2004).

3.3. Empirical evidence

Considering the purpose of this study, a literature review focused on the studies that explore the causality between international tourism and trade was performed. To accomplish this objective, a search on the Scopus database was carried out, which considered the papers published to date and highlighted some topics (sample, methodology, and main findings). The empirical literature addressing the relationship between international tourism and trade is scant and relatively recent (Table 3.1).

Regarding the approach that is adopted to understand the tourism-trade relationship, the papers analysed may be grouped as follows (Table 3.1): (i) studies that estimate the bidirectional causality between international tourism and trade using aggregated data (e.g. Kulendran & Wilson, 2000a; Santana-Gallego et al., 2011a, 2011b); (ii) studies that explore the relationship between international tourism and trade using disaggregated data (Fischer & Gil-Alana, 2009; Gil-Alana & Fischer, 2010); and (iii) studies that verify the bidirectional causality between international tourism, international trade, and economic growth using aggregated data (Katircioglu, 2009; Lee, 2012; Massidda & Mattana, 2013; Sarmidi & Salleh, 2011).

Table 3.1 - Causal relationship between international tourism and international trade: a summary of published studies

| Study | Data Frequency | Period analysed | Type of data | Markets analysed | International Tourism | | International Trade | | | |
|---|----------------|-----------------|--------------|--|-----------------------|----------|---------------------|-----|-----|-------------------------|
| | | | | | Inbound | Outbound | Exp+ Imp | Exp | Imp | Type of exports |
| Kulendran & Wilson (2000a) | Q | 1982:01-1997:04 | Time series | Australia - USA, UK, New Zealand, Japan | X | | | X | X | Total |
| Shan & Wilson (2001) | M | 1987M1-1998M1 | Time series | China - USA, Japan, Australia, UK | X | | X | | | Total |
| Khan, Toh, & Chua (2005) | Q | 1978:01-2000:03 | Time series | Singapore - ASEAN, USA, Japan, UK, Australia | X | | X | X | X | Total |
| Katircioglu (2009) | A | 1960-2005 | Time series | Cyprus | X | | X | X | X | Goods and services |
| Fischer & Gil-Alana (2009) | M | 1998M1-2004M11 | Time series | Spain - Germany | X | | | | X | Wine |
| Gil-Alana & Fischer (2010) | M | 1995M1-2006M7 | Time series | Spain - Germany | X | | | X | | Wine |
| Fry, Saayman, & Saayman (2010) | M | 1992M1-2007M12 | Panel | South Africa - 40 countries | | | | | | |
| | | 1992M1-2006M6 | Time series | South Africa - Argentina, Australia, France, Germany, UK, Japan, Mozambique, Netherlands, USA | X | | X | | | Total |
| Keum (2011) | Q | 1995:01-2006:04 | Panel | South Korea - 21 worldwide partners | X | X | X | X | X | Total |
| Santana-Gallego, Ledesma-Rodríguez, & Pérez-Rodríguez (2011a) | M | 1995M1-2007M3 | Time series | Canary Islands - Mainland Spain, Total international, Germany, UK, France, Netherlands, Sweden | X | | X | X | X | Goods |
| Santana-Gallego, Ledesma-Rodríguez & Pérez-Rodríguez (2011b) | A | 1980-2006 | Panel | OECD countries | X | X | X | X | X | Total |
| Sarmidi & Salleh (2011) | Q | 1997:01-2007:04 | Time series | Malaysia - Singapore, Thailand, Indonesia, Brunei Darussalam | X | | X | X | X | Goods and services |
| Lee (2012) | A | 1980-2007 | Time series | Singapore | X | | | X | X | Total |
| Massidda & Mattana (2013) | Q | 1987:01-2009:04 | Time series | Italy | X | | X | | | Commercial transactions |

Note: A: Annual data; Q: Quarterly data; M: Monthly data; Exp.: Total exports; Imp.: Total imports; Source: Own construction based on literature.

The relationship between international tourism and trade has been studied using several methodologies. The Augmented Dickey-Fuller test (ADF test) (e.g. Katircioglu, 2009; Lee, 2012; Santana-Gallego et al., 2011a; Shan & Wilson, 2001) and the Phillips-Perron test (e.g. Katircioglu, 2009; Massidda & Mattana, 2013; Sarmidi & Salleh, 2011) are the tests that are most often used to assess the stationarity of time series. Concerning the test for cointegration, the methodology proposed by Pesaran, Shin, and Smith (1999, 2001) (e.g. Katircioglu, 2009; Lee, 2012; Santana-Gallego et al., 2011b) and Johansen (1988, 1991, 1995) (Fry et al., 2010; Massidda & Mattana, 2013; Santana-Gallego et al., 2011a) are most often adopted. With respect to the causality test, the Vector Error Correction Model is the most prevalent (e.g. Katircioglu, 2009; Khan et al., 2005; Massidda & Mattana, 2013; Santana-Gallego et al., 2011b).

A few of these studies confirm a long-run equilibrium relationship between international tourism and international trade (Fry et al., 2010; Katircioglu, 2009; Kulendran & Wilson, 2000a; Massidda & Mattana, 2013; Santana-Gallego et al., 2011a, 2011b; Sarmidi & Salleh, 2011), as well as between inbound tourism and total exports (Katircioglu, 2009; Khan et al., 2005; Kulendran & Wilson, 2000a; Santana-Gallego et al., 2011a, 2011b). Nevertheless, with respect to short-run Granger causality, the results differ according to the pair of countries that are analysed. A limited number of studies have found a bidirectional short-run causality between international tourism and trade (Kulendran & Wilson, 2000a; Sarmidi & Salleh, 2011; Shan & Wilson, 2001) or between inbound tourism and total exports (Santana-Gallego et al., 2011a; Sarmidi & Salleh, 2011).

Although these studies represent an important contribution to research about the potential complementarity between international tourism and trade, further analyses need to be carried out to consolidate the results. For example, as Brau and Pinna (2013), Fischer and Gil-Alana (2009) and Gil-Alana and Fischer (2010) argue, future research should go deeper and focus on the relationship between tourism and the trade of specific types of products. As detailed next, in this chapter, we followed this perspective.

3.4. Methodology

This study analyses the causality between inbound tourism and total exports of agro-food products from January 2000 to December 2012 using statistical information from the National Statistics Institute. The analysis is carried out between Portugal and its major trade and tourism markets: Belgium, Brazil, France, Germany, Italy, the Netherlands, Spain, and the United Kingdom. The countries are selected based on two criteria: (i) main trade and tourism markets; and (ii) European and cultural/colonial links to Portugal.

The total number of nights spent by foreign tourists in accommodation establishments is the proxy that is used to measure inbound tourism by country. In 2012, 13.8 million guests were hosted in tourism accommodation establishments, 55.5% of those being inbound tourism, with a corresponding 39.7 million overnight stays (68.7% of those being inbound tourism). In 2012, these foreign tourists came mainly from the United Kingdom (26.9%), Germany (15.4%), Spain (12.9%), France (9.3%), and the Netherlands (8.9%) (INE, 2000-2012b).

Exports of agro-food products (€) are the proxy that is used for the total exports of agro-food products by country. In 2012, the total exports of goods registered €45.3 thousand million and Portuguese exports of agro-food products (€) were of €5.2 thousand million (11.5% of total exports of goods). Spain (36.9% of exports), France (9.4% of exports), and the United Kingdom (5.1% of exports) were the main European markets for Portuguese agro-food products (INE, 2000-2012a).

The total exports of agro-food products are deflated using the Portuguese monthly Consumer Price Index (base year 2012). Considering that tourism data exhibit a seasonal pattern (Gujarati, 2003), the X-12-ARIMA seasonal adjustment method (US Census Bureau) is used to remove seasonal effects (in line with the methodology followed by Keum (2011) and Khan et al. (2005)). As has often been adopted in similar studies, all of the series are expressed in logarithms. This is because this facilitates the interpretation of coefficients (e.g. Khan et al., 2005; Kulendran & Wilson, 2000a; Shan & Wilson, 2001).

The cointegration approach and Granger causality test are performed to estimate the causal relationship between inbound tourism and total exports of agro-food products (Katircioglu, 2009; Kulendran & Wilson, 2000a; Santana-Gallego et al., 2011a, 2011b). The analysis is made separately for each country selected. Empirical research is made using Package *Stata - Data Analysis and Statistical Software - 12* (Adkins & Hill, 2008; StataCorp, 2011).

3.5. Results

3.5.1. The order of integration

Before testing cointegration and causality between the time series, the stationarity properties of the data are examined through unit root tests on the series. Following previous studies (Lee, 2012; Massidda & Mattana, 2013), the Augmented Dickey-Fuller test (ADF test) (Dickey & Fuller, 1979) and the Kwiatkowski, Phillips, Schmidt, and Shin test (KPSS test) (Kwiatkowski et al., 1992) are used to test the integration level. Table 3.2 presents the results of the ADF and KPSS tests with regard to the following time series (in levels and first differences): (i) the number of nights spent by foreign tourists in accommodation establishments by country of origin; and (ii) the total exports of agro-food products by country.

The results of the stationarity tests applied to time series in levels show that the variables are non-stationary. When the tests are applied to the first differences of time series, the hypothesis of non-stationarity is rejected. The time series are integrated of order one (I[1]) and these results corroborate the results that were obtained by similar studies (e.g. Khan et al., 2005; Lee, 2012; Massidda & Mattana, 2013; Santana-Gallego et al., 2011a).

Table 3.2 - Results of the unit root test

| <i>Series</i> | <i>Tests</i> | <i>Belgium</i> | <i>Brazil</i> | <i>France</i> | <i>Germany</i> | <i>Italy</i> | <i>Netherlands</i> | <i>Spain</i> | <i>UK</i> | |
|----------------------------|------------------|----------------------------|---------------------|----------------------|---------------------|---------------------|---------------------|---------------------|---------------------|----------------------|
| <i>lnXagro_t</i> | ADF test | <i>Level</i> | -1.192 (0.6769) | -2.440 (0.3584) | -2.183 (0.4996) | -2.247 (0.4632) | -0.955 (0.9499) | -1.221 (0.6643) | -2.322 (0.4217) | -2.117 (0.2379) |
| | | <i>[Lags]</i> | [12] | [12] | [11] | [11] | [11] | [12] | [5] | [12] |
| | | <i>1st Dif.</i> | -6.478 (0.0000)* | -5.359 (0.0000)* | -8.895 (0.0000)* | -7.372 (0.0000)* | -5.312 (0.0000)* | -6.068 (0.0000)* | -6.643 (0.0000)* | -7.469 (0.0000)* |
| | | <i>[Lags]</i> | [11] | [11] | [10] | [10] | [10] | [11] | [10] | [11] |
| | KPSS test | <i>Level</i> | NS | NS | S | NS | NS | NS | NS | S |
| | | <i>1st Dif.</i> | S | S | S | S | S | S | S | S |
| <i>lnTour_t</i> | ADF test | <i>Level</i> | -3.053 (0.0302)* | -2.715 (0.2300) | -2.531 (0.3125) | -2.912 (0.0440)* | -1.762 (0.3996) | -1.845 (0.6827) | -1.945 (0.3113) | -2.310 (0.4284) |
| | | <i>[Lags]</i> | [3] | [2] | [2] | [9] | [4] | [7] | [3] | [1] |
| | | <i>1st Dif.</i> | -7.911 (0.0000)* | -13.534 (0.0000)* | -6.674 (0.0000)* | -5.809 (0.0000)* | -9.012 (0.0000)* | -7.900 (0.0000)* | -5.774 (0.0000)* | -15.008 (0.0000)* |
| | | <i>[Lags]</i> | [4] | [1] | [6] | [8] | [3] | [6] | [9] | [0] |
| | KPSS test | <i>Level</i> | NS | NS | NS | NS | NS | NS | NS | NS |
| | | <i>1st Dif.</i> | S | S | S | S | S | S | S | S |

Note: $\ln X_{agro_t}$ is the proxy of total exports of agro-food products; $\ln Tour_t$ is the proxy of inbound tourism. Hypotheses - ADF test: H_0 : Non-stationary series | H_a : Stationary series. KPSS test: H_0 : Stationary series | H_a : Non-stationary series. ADF test: regression with trend and constant; lagged terms were eliminated until the last one becomes significant at the 5% level (Adkins & Hill, 2008); the values in brackets are MacKinnon approximate p-value for $Z(t)$; * indicates rejection of a unit root hypothesis based on MacKinnon critical values at 5% level. KPSS test: Maxlag = 13 chosen by Schwert criterion. NS - Non-stationary; S - Stationary.

3.5.2. Testing for cointegration

The variables are integrated of the same order (order one) and the next procedure is to test the possibility of cointegration among the variables used. For this purpose, the study uses Johansen's maximum-likelihood method, which tests for the number of cointegrating relationships and estimates the parameters of those cointegrating relationships. A comprehensive description of estimating cointegrating vectors and testing the hypothesis can be found in Johansen (1988, 1991, 1995) and Johansen and Juselius (1990). The results of this test are reported in Table 3.3.

Table 3.3 - Johansen maximum likelihood cointegration tests

| r: number of cointegrating vectors (null hypothesis) | Lags | Trace Statistic | 5% critical value |
|--|------|-----------------|-------------------|
| Belgium | | | |
| H0: r = 0 | [12] | 12.6836* | 15.41 |
| H0: r ≤ 1 | | 1.5568 | 3.76 |
| Brazil | | | |
| H0: r = 0 | [13] | 6.5475* | 15.41 |
| H0: r ≤ 1 | | 0.0578 | 3.76 |
| France | | | |
| H0: r = 0 | [12] | 8.9775* | 15.41 |
| H0: r ≤ 1 | | 1.4689 | 3.76 |
| Germany | | | |
| H0: r = 0 | [12] | 14.8262* | 15.41 |
| H0: r ≤ 1 | | 0.6735 | 3.76 |
| Italy | | | |
| H0: r = 0 | [6] | 15.0372* | 15.41 |
| H0: r ≤ 1 | | 3.5885 | 3.76 |
| Netherlands | | | |
| H0: r = 0 | [13] | 11.1577* | 15.41 |
| H0: r ≤ 1 | | 1.4722 | 3.76 |
| Spain | | | |
| H0: r = 0 | [13] | 14.1820* | 15.41 |
| H0: r ≤ 1 | | 2.8312 | 3.76 |
| United Kingdom | | | |
| H0: r = 0 | [13] | 9.5348* | 15.41 |
| H0: r ≤ 1 | | 1.3675 | 3.76 |

Note:

* by the trace statistic indicates that this is the value of r selected by Johansen's multiple-trace test procedure. Akaike Information Criterion (AIC) is used to select the lag length.

The null hypothesis of non-cointegration is not rejected and the results of the trace statistic tests show that all of the series are non-cointegrated. Therefore, it is concluded that a long-run equilibrium did not exist between all of the series at the 5% critical values.

The same findings of non-cointegration between the series were obtained by: (i) Khan et al. (2005) in the case of the USA and Japan; (ii) Kulendran and Wilson (2000a) in the case of the United Kingdom; and (iii) Santana-Gallego et al. (2011a) in the case of mainland Spain, the United Kingdom, the Netherlands, and Sweden when they analysed the relationship between inbound tourism and total exports.

3.5.3. Granger causality test

The third and final step is to determine the direction of causality by means of a Vector Autoregressive Model (VAR) because there is non-cointegration among the variables (Granger, 1969; Gujarati, 2003). Overall, the VAR model can be written as follows:

$$\Delta \ln X_{agro_t} = \sum_{i=1}^p \varphi_{1i} \Delta \ln X_{agro_{t-i}} + \sum_{i=1}^p \zeta_{1i} \Delta \ln Tour_{t-i} + u_{1t} \quad (1)$$

$$\Delta \ln Tour_t = \sum_{i=1}^p \varphi_{2i} \Delta \ln X_{agro_{t-i}} + \sum_{i=1}^p \zeta_{2i} \Delta \ln Tour_{t-i} + u_{2t} \quad (2)$$

where X_{agro_t} is the proxy of total exports of agro-food products and $Tour_t$ is the proxy of inbound tourism, both endogenous variables and $I(1)$; p is the lag length; u_{1t} and u_{2t} are the error terms. The model is tested separately for each country selected.

After fitting a VAR, the Granger causality test is estimated. This statistical test consists of regressing the Equation (1) on its own lagged values of the first difference and on the lagged values of the first difference of the variable $Tour_t$, and testing the null hypothesis that the coefficients estimated on the lagged values of inbound tourism (ζ_{1i}) are jointly zero. If the null hypothesis is not rejected, this

means that in the short-run, inbound tourism does not Granger-cause total exports of agro-food products. A similar testing procedure is applied to Equation 2 (Adkins & Hill, 2008; Gujarati, 2003; StataCorp, 2011). The results of the Granger causality test are presented in Table 3.4.

Table 3.4 - Results of Granger causality test: exports of agro-food products and inbound tourism

| Countries | $\Delta \ln X_{\text{agro}_t}$ | $\Delta \ln \text{Tour}_t$ |
|----------------|------------------------------------|------------------------------------|
| | <i>Wald test</i> | |
| Belgium | $\chi^2(12) = 13.685 (0.321)$ | $\chi^2(12) = 10.767 (0.549)$ |
| Brazil | $\chi^2(13) = 28.478 (0.008)^*$ | $\chi^2(13) = 25.703 (0.019)^*$ |
| France | $\chi^2(12) = 21.797 (0.040)^*$ | $\chi^2(12) = 10.591 (0.564)$ |
| Germany | $\chi^2(12) = 8.402 (0.753)$ | $\chi^2(12) = 15.587 (0.211)$ |
| Italy | $\chi^2(6) = 7.0705 (0.314)$ | $\chi^2(6) = 5.5518 (0.475)$ |
| Netherlands | $\chi^2(13) = 20.807 (0.077)^{**}$ | $\chi^2(13) = 8.9568 (0.776)$ |
| Spain | $\chi^2(13) = 30.651 (0.004)^*$ | $\chi^2(13) = 26.732 (0.014)^*$ |
| United Kingdom | $\chi^2(13) = 12.671 (0.474)$ | $\chi^2(13) = 20.883 (0.075)^{**}$ |

Note:

$\Delta \ln X_{\text{agro}_t}$ - VAR model for total exports of agro-food products; $\Delta \ln \text{Tour}_t$ - VAR model for inbound tourism. Hypotheses: $\Delta \ln X_{\text{agro}_t$: $H_0: \zeta_{11} = \dots = \zeta_{1p} = 0$ "Tourism does not Granger-cause Exports" against H_a that at least one of the ζ_{1i} coefficients is statistically different than 0 | $\Delta \ln \text{Tour}_t$: $H_0: \varphi_{21} = \dots = \varphi_{2p} = 0$ "Exports do not Granger-cause Tourism" against H_a that at least one of the φ_{2i} coefficients is statistically different than 0. ζ_{1i} - estimated coefficients of the lagged values of inbound tourism; φ_{2i} - estimated coefficients of the lagged values of exports of agro-food products. Values in brackets correspond $\text{Prob} > \chi^2$; * and ** indicate significance at the 5% or 10% level, respectively. Akaike Information Criterion (AIC) is used to select the lag length.

The bidirectional short-run causality between inbound tourism and the total exports of agro-food products can be inferred in the case of Brazil and Spain. Additionally, the results suggest that there is unidirectional short-run causality from exports of

agro-food products to inbound tourism in the case of the United Kingdom and unidirectional short-run causality from inbound tourism to the total exports of agro-food products in the case of France and the Netherlands. Short-run Granger causality between inbound tourism and exports of agro-food products has not been empirically tested in the papers that have been reviewed. However, the findings of this study are interesting because they suggest that the total exports of agro-food products may promote inbound tourism and vice-versa, and that there are differences depending on the market selected.

3.6. Conclusion and implications

This chapter adds to the literature by exploring the tourism-exports relationship in the context of agro-food products, and by taking into account the differences between markets.

The results of the Granger causality test confirm the relationship between tourism and exports, but there are differences according to the country analysed. The differences might be related to different ties between Portugal and other economies. Intense historical relationships, due to either colonial ties or geographical proximity, are likely to justify the strong bidirectional short-run causality between inbound tourism and total exports of agro-food products in the case of Brazil and Spain. In the case of the United Kingdom, the commercial relationships developed over the centuries between Portugal and the United Kingdom might have induced tourism in a second stage, either for business purposes or for leisure. Finally, the unidirectional short-run causality from inbound tourism to the total exports of agro-food products in the case of France and the Netherlands might be explained, in the former case, by the importance of this country in total inbound tourism and in the second case, by the behaviour of the Dutch visitors who value culture and nature and have more probability of coming into contact with local agro-food products.

The results obtained have theoretical and practical implications. First, the empirical results improve the body of knowledge with respect to the possible

complementarity between international tourism and trade. Second, the results may support business and government entities in implementing coordinated strategies that are designed to maximize tourism-trade interdependence. Promoting international tourism and international trade may generate more indirect effects on the economy than are usually conceived. Moreover, the differences amongst countries justify the strategies and marketing campaigns that are adjusted to take advantage of each market.

Despite its contribution, this study has several limitations. Firstly, we are aware that inbound tourism may also induce imports of goods and services that are not produced in the tourism destination (Khan et al., 2005; Nguyen & Jolly, 2013; Shan & Wilson, 2001). However, this kind of relationship is not the focus of this research. Secondly, the potential causality between inbound tourism and exports of agro-food products may differ across product categories. The relationship may be more relevant for certain type of products than for others. Thirdly, the results are sensitive to the selected country and, although Portugal represents a good choice, the same analysis should be applied to other countries to reinforce the idea that the relationship between inbound tourism and agro-food exists. Finally, the results are sensitive to the sample period, cointegration and causality approach, and variables that are omitted in a model.

Within the theoretical framework of tourism-trade linkage, further research should be conducted. For example: (i) studies on whether or not the causal relationship differs across different purposes for travel or across different agro-food products would enrich the knowledge in the field; (ii) analysing the causality between international tourism and trade from a general viewpoint for a group of countries instead of focusing on a specific country (EU, OECD countries) recurring to dynamic heterogeneous panel cointegration techniques; (iii) other variables should be included in our model in order to check the results' robustness (for instance, imports of agro-food products, real exchange rates, real GDP); and (iv) research would benefit from studies about the behaviour and future intentions of foreign tourists concerning agro-foods after visiting a certain destination.

Chapter 4

Exports and tourism: Testing the causality by local agro-food products⁹

Abstract: This chapter analyses the interaction between exports of local processed agro-food products and inbound tourism. On the one hand, international tourism promotes the knowledge about local agro-food products and direct contact with them. On the other hand, the exports of these products, which are linked to the attractiveness and authenticity of the destination, may induce international tourism arrivals. The empirical research is conducted with respect to Portugal and some of the local agro-food products for which it is internationally known. Data for the period between 2000 and 2012 are analysed using Johansen's maximum likelihood method and the Granger causality test. The results of the Granger short-run causality test reveal that a relationship exists but the significance and direction of causality differs between the products.

Keywords: authenticity; exports; inbound tourism; local agro-food products; Portugal

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4.1. Introduction

Tourism and agro-food sectors are of particular strategic interest for many governments. Indeed, in the 28 European Union countries, tourism grew from 153 million international tourist arrivals in 1980 to 433 million in 2013. Furthermore, the international tourism receipts increased from US\$55 billion to US\$403 billion (UNWTO, 2014, p. 3). Similarly, in Europe, the food industry sector is one of the largest and most important manufacturing sectors. It is second in the manufacturing industry, with 14.5% of the total manufacturing turnover and employment representing about 14.0% of the total manufacturing sector (European Commission, 2004).

Albeit different, the tourism and agro-food sectors are not worlds apart. In fact, both sectors play an important role in the EU because of their economic and employment potential, as well as their social and environmental repercussions (European Commission, 2004; Eurostat, 2004). They affect landscapes and the environment like few other activities. They are relevant to rural development and provide jobs and incomes in remote regions (Hsieh & Chang, 2006; Montanari & Staniscia, 2009; Skuras et al., 2006). Due to the nature of these products (produced locally with local inputs), the leakages tend to be low and the backward economic linkages tend to be high (Telfer & Wall, 1996). Linkages are an important mechanism for stimulating local production, retaining tourism earnings in the region and improving the distribution of tourism benefits within the community (Torres, 2003). To maximize the economic impact of tourism, the tourism destination should attempt to increase the amount of connections between tourism and local businesses, rather than depend on imported goods and services (Britton, 1982; Walpole & Goodwin, 2000).

According to literature, there is evidence that inbound tourism is likely to affect the exports of agro-food products and vice-versa. On the one hand, the inflow of visitors reduces the costs of entering into foreign markets because tourism promotes direct contact between international consumers and local producers (Gil-Alana & Fischer, 2010; Telfer, 2000). This contact offers a very good opportunity

for visitors to purchase local food products. Moreover, local producers improve the quality of their own products or produce new goods that are more focused on tastes and the technical standards that visitors require (Marrocu & Paci, 2011). Furthermore, international visitors learn about and taste new products while traveling, and when they are back in their countries, they act as promoters of these products from abroad (Bélisle, 1983). Hence, tourism act as a springboard for the promotion of domestic products in foreign markets (Reis & Varela, 2013), which ultimately expands the exports (Fischer & Gil-Alana, 2009; Santana-Gallego et al., 2011a, 2011b; Telfer, 2000). On the other hand, agro-food products from a certain destination seem to have an impact on tourism flows (Bessièrè, 1998). Firstly, trade between countries may generate interest amongst consumers about the countries that produce the products. Not only does this stimulate business travel to negotiate new trade agreements in the future but also, recreation and leisure travel to discover the country's culture, traditions and history (Kulendran & Wilson, 2000a; Santana-Gallego et al., 2011a). Secondly, contact with the local agro-food products, for example, in restaurants, festivals, shops and local fairs, plays a major role in the way that visitors enjoy a destination. Some visitors even return to the same destination to experience its authentic products (Kim, Suh, & Eves, 2010).

The relationship between international tourism and local agro-food products has attracted attention from research and the issue has been addressed from several perspectives. Most of this literature discusses the importance of gastronomic tourism in the marketing strategy of tourism destinations (e.g. Getz, 2000; Hashimoto & Telfer, 2006; Okumus, Okumus, & McKercher, 2007) or conceptualizes the relationship between food consumption and the tourism experience (e.g. Chang, Kivela, & Mak, 2011; Kivela & Crofts, 2006, 2009; Quan & Wang, 2004). Along this approach, the tourism and agro-food sectors should cooperate to increase the contribution of food products in the tourism experience by creating distinct and authentic tourism products (Fields, 2002; Sims, 2009).

Bessièrè (1998) and Tellstrom et al. (2005) approached local food as a tourism attraction, which has significant impact on local development. Indeed, food consumption expenditure can constitute up to one third of the total tourism expenditure (Telfer & Wall, 2000). Therefore, the economic benefits that are

brought by visitor food consumption can significantly affect the economic viability and sustainable competitiveness of a destination.

Beyond these direct effects, there is evidence that tourism inflows may have an impact on the foreign demand of local agro-food products (Fischer & Gil-Alana, 2009; Gil-Alana & Fischer, 2010). Despite this evidence, the issue has remained relatively neglected in international business, economics and tourism literature.

This chapter explores the causality between inbound tourism and exports of local agro-food products with regard to Portugal. To do this, it uses Johansen's maximum likelihood method (Johansen, 1995) and a short-run Granger causality test (Gujarati, 2003). The local products that are used in the empirical analysis are: cheese, olive oil, sausages, canned fish, and wine. The choice of these local agro-food products was determined by the following reasons: (i) processed products based on sea and agricultural raw resources of high quality; (ii) regional economic relevance; (iii) special characteristics linked to local territory; (iv) traded internationally; (v) authenticity and tradition; and (vi) local brand.

This chapter is organized as follows: first the background literature is reviewed, followed by a description of the data and empirical tests along with the econometric findings. Finally, the chapter concludes with some implications and suggestions for future research.

4.2. Theoretical background

International economics literature has increasingly recognized the role of business and social networks in overcoming informal barriers to international trade (Gould, 1994; Rauch & Casella, 1998; Rauch, 2001). In this line of argumentation, international tourism may be a mechanism to overcome the informal barriers to international trade and asymmetric information, which are related to new opportunities of trade and consumption (Aradhyula & Tronstad, 2003; Kulendran & Wilson, 2000a). A set of empirical studies explored this issue and their results signal that there may be a positive relationship between international tourism and

international trade (e.g. Aradhyula & Tronstad, 2003; Katircioglu, 2009; Kulendran & Wilson, 2000a; Santana-Gallego et al., 2011a, 2011b; Shan & Wilson, 2001). Moreover, the results obtained by a restricted number of articles that studied the causal linkage between international tourism and trade of specific agro-food products confirm this relationship (Fischer & Gil-Alana, 2009; Gil-Alana & Fischer, 2010; Kavallari et al., 2011). For instance, Gil-Alana and Fischer (2010) showed that there is a connection between the Spanish wine exports to Germany and the German travellers to Spain. According to Kavallari et al. (2011), olive oil exports are positively related to direct marketing strategies and tourism.

Indeed, networks are less effective at creating trade for homogeneous goods, for which prices can convey the relevant information about the probability of trading the product, rather than for differentiated goods, for which a matching of buyers and sellers in characteristics space is necessary (Rauch, 1999). Hence, a relationship between tourism and international trade is likely to be particularly strong in the case of local agro-food products. The relationship from international tourism to trade occurs in a number of ways. Firstly, international visitors buy, taste, and make contact with the local products in the visited country. This improves the information about such tourism destinations, as well as its products, in international markets (Gil-Alana & Fischer, 2010). The face-to-face contact can lead to positive relationships with consumers, which may lead to both direct and indirect sales through positive word-of-mouth. Secondly, the direct contact increases consumer exposure to products and opportunities to sample products. Finally, producers can obtain feedback about their products from international consumers (Hall & Mitchell, 2001; Telfer & Wall, 1996; Telfer, 2000), which can help local producers improve the quality of their own products or produce new goods, which have been adapted to international tastes (Marrocu & Paci, 2011).

Once the visitors are back in their own countries, such experiences can eventually activate international demand (Bélisle, 1983; Scott & Shehata, 1980). Firstly, once the visitors have returned, their consumption patterns may change as a consequence of being exposed to previously unknown foodstuffs and methods of preparation (Henderson, 2009). The exposure to certain foods tends to increase the preference for these foods (Chang et al., 2010; Mak, Lumbers, Eves, & Chang,

2012; Mak, Lumbers, & Eves, 2012; Ryu & Jang, 2006; Tse & Crotts, 2005). Secondly, on returning home, visitors often spread these newly acquired tastes through families and friends (Kim et al., 2009). Along this line of reasoning, the direct contact between visitors and local producers could represent a way to promote the domestic supply of goods in international markets at lower costs, rather than simply activating international marketing activities. Buying and taking local products back home when returning from travel prolongs and reinforces the experience (Aho, 2001).

As expected, it is more likely that international tourism improves the exports of goods with which visitors are more likely to have contact with when traveling. As confirmed by Reed (1994), tourism significantly affects the exports of processed food products, but not those of agricultural raw commodities and intermediate products. Additionally, Brau and Pinna (2013) found a positive relationship between inbound tourism flows and exports of consumption goods. Based on these findings, it is expected that the closer a product is to consumers, and the higher its degree of processing, the greater the effects of international tourism. This effect is especially relevant for food products, where sanitary concerns are likely to be a binding constraint for tourism experimentation (Reis & Varela, 2013).

Regarding the possible effects of exports of agro-food products on inbound tourism, several explanations for this relationship can be provided. Firstly, previous studies have concluded that international trade is an important determinant of business travel demand (Kulendran & Wilson, 2000b; Turner & Witt, 2001). Furthermore, it could also enhance international tourism flows for other purposes (Santana-Gallego et al., 2010; Zhang & Jensen, 2007). Secondly, transactions between countries may create an interest amongst consumers about the source countries and stimulate international visits (Santana-Gallego et al., 2011a). Local products may affect how visitors experience a destination (Bessièrè, 1998; Kivela & Crotts, 2006) and represent the distinct place characteristics (Fields, 2002; Hjalager & Richards, 2002; Ryu & Jang, 2006; Sims, 2009). Therefore, tourism destinations should develop a range of food products that can be distinguished from other destinations and attract new and more visitors (Urry, 1995). Food tourism, agro-tourism, rural tourism, wine tourism, food and wine festivals,

consumer shows, food exhibitions, food festivals, gastronomic and wine routes, and restaurants can be used as vehicles by which food producers can add value to products, promote these products, enhance the local identity of a destination and enrich the tourism experience (e.g. Getz, 2000; Yuan, Cai, Morrison, & Linton, 2005).

Hence, taking the information-based argument, which has been raised by international economics and tourism literature, this study tests the relationship between inflows of tourism and exports for the specific case of agro-food products and for the case of Portugal.

4.3. Methodology and results

4.3.1. Data

This empirical research aims to estimate the relationship between inbound tourism and exports of local agro-food products, using cointegration and causality tests. It also aims to verify whether the direction of causality differs by the type of product. The Portuguese statistical data that are used in this chapter are monthly figures that cover the period from January 2000 to December 2012, and that were taken from the National Statistics Institute. For estimation, the package *Stata - Data Analysis and Statistical Software - 12* was used (Adkins & Hill, 2008; StataCorp., 2011).

The total number of nights spent by foreign tourists in accommodation establishments is the proxy that has been selected to measure inbound tourism (Tour). The data for inbound tourism in Portugal reveal a notable growth. In 2000, foreign tourists accounted for 24.1 million overnight stays. Twelve years later, nonresidents contribute to 27.3 million overnight stays, which represents 68.7% of the total number of nights spent in Portuguese accommodation establishments (INE, 2000-2012b).

The total exports by product (Combined Nomenclature - CN8; €) is the proxy that is used for the total exports of cheese, $X(\text{cheese})$; olive oil, $X(\text{olive oil})$; sausages, $X(\text{sausages})$; canned fish, $X(\text{canned fish})$; and wine, $X(\text{wine})$. In 2012, the total exports of agro-food products (Chapters 1-24 of Combined Nomenclature - CN8) reached €5.2 thousand million, accounting for 11.5% of Portugal's total exports of goods. As shown in Table 4.1, the total exports (€ million) of cheese, olive oil, sausages, canned fish, and wine registered a notable growth, reaching over 64% of total exports of agro-food products in 2012. It is worth highlighting the importance of wine and olive oil, which accounted for 35.9% and 13.4% of the total of exports of agro-food products in 2012, respectively (INE, 2000-2012a).

Table 4.1 - Total exports (€ million) of local agro-food products in Portugal (2000-2012)

| Local agro-food products | 2000 | | 2012 | | $\Delta\%$ (2000-2012) |
|--------------------------|------------------|---------------------------------|------------------|---------------------------------|------------------------|
| | Total (€million) | In % of total exports agro-food | Total (€million) | In % of total exports agro-food | |
| Cheese | 12.59 | 0.24 | 41.18 | 2.09 | 227.05 |
| Olive oil | 60.47 | 1.16 | 263.91 | 13.40 | 336.40 |
| Sausages | 14.29 | 0.27 | 74.79 | 3.80 | 423.50 |
| Canned fish | 86.99 | 1.67 | 178.65 | 9.07 | 105.37 |
| Wine | 519.40 | 9.95 | 706.20 | 35.86 | 35.97 |

Source: Own construction based on INE (2000-2012a).

For this study, export data are deflated by using the Portuguese monthly Consumer Price Index (base year 2012). Considering that tourism data based on monthly data exhibit a seasonal pattern (Gujarati, 2003), the X-12-ARIMA seasonal adjustment method is used in order to remove the seasonal effects from the time series data (similar to the methodology adopted by Keum, 2011; Khan et al., 2005). Additionally, as has often been used in similar studies, all of the series are expressed in logarithms to facilitate the interpretation of coefficients (e.g. Khan et al., 2005; Kulendran & Wilson, 2000a; Shan & Wilson, 2001).

4.3.2. Empirical results

4.3.2.1. The order of integration

In the first step of the econometric analysis the stationary properties of the data are examined by applying unit root tests to the series. The Augmented Dickey-Fuller test (ADF test) (Dickey & Fuller, 1979), and the Kwiatkowski, Phillips, Schmidt, and Shin test (KPSS test) (Kwiatkowski et al., 1992) are selected for this purpose. In the former, the null hypothesis is that a time series has a unit root against the alternative hypothesis that time series is stationary (Dickey & Fuller, 1979; Gujarati, 2003). The KPSS test (Kwiatkowski et al., 1992) differs by having a null hypothesis of stationarity against the alternative hypothesis that time series is non-stationary.

Table 4.2 - Results of the unit root test

| Series | ADF test | | | KPSS test | |
|-------------------------------|-------------------|------|-----------------------|-----------|----------------------|
| | Level | | 1 st Dif. | Level | 1 st Dif. |
| $\ln X(\text{cheese})_t$ | -2.412 (0.3730) | [13] | -8.266 (0.0000)* [10] | NS | S |
| $\ln X(\text{olive oil})_t$ | -2.163 (0.5104) | [11] | -8.205 (0.0000)* [10] | NS | S |
| $\ln X(\text{sausages})_t$ | -3.165 (0.0917)** | [5] | -5.999 (0.0000)* [10] | NS | S |
| $\ln X(\text{canned fish})_t$ | -2.128 (0.5302) | [11] | -8.760 (0.0000)* [10] | NS | S |
| $\ln X(\text{wine})_t$ | -2.116 (0.5373) | [13] | -4.606 (0.0001)* [12] | S | S |
| $\ln \text{Tour}_t$ | -2.210 (0.2028) | [2] | -13.773 (0.0000)* [1] | NS | S |

Note: $\ln X(\text{local product})_t$ is the proxy of exports for each local agro-food product; $\ln \text{Tour}_t$ is the proxy of inbound tourism. Hypotheses - ADF test: H_0 : Non-stationary series | H_a : Stationary series. KPSS test: H_0 : Stationary series | H_a : Non-stationary series. ADF test: for time series $\ln X(\text{local product})_t$ the unit root tests were performed with trend and constant; lagged terms were eliminated until the last one becomes significant at the 5% level (Adkins & Hill, 2008); the values in brackets are MacKinnon approximate p-value for $Z(t)$; * and ** indicate rejection of a unit root hypothesis based on MacKinnon critical values at 5% and 10% level, respectively. KPSS test: for time series $\ln X(\text{local product})_t$ the unit root tests were performed with trend; Maxlag = 13 chosen by Schwert criterion. NS - Non-stationary; S - Stationary.

The results for both tests with regard to the time series in levels and first differences are reported in Table 4.2. The results from the ADF test and KPSS test reveal that the variables are integrated order one (I[1]) because, when applied to the first differences of time series, the hypothesis of non-stationarity is rejected. It is worth highlighting that these results are consistent with those that have been obtained by previous studies using the ADF test (e.g. Khan et al., 2005; Massidda & Mattana, 2013; Santana-Gallego et al., 2011a) and the KPSS test (e.g. Lee, 2012).

4.3.2.2. Testing for cointegration

The variables are integrated in the same order (order one) and the next procedure is to test the possibility of cointegration among the variables that are used. For this purpose, the study uses Johansen's maximum likelihood method (ML), which tests the number of cointegrating relationships and estimates their parameters. A comprehensive description of estimating cointegrating vectors and testing hypothesis can be found in Johansen (1988, 1991, 1995) and Johansen and Juselius (1990).

Table 4.3 - Johansen maximum likelihood cointegration tests

| Series | | r: number of cointegrating vectors (null hypothesis) | Trace statistic | 5% critical value |
|--|------|---|--------------------|----------------------|
| $\ln X(\text{cheese})_t$ $\ln \text{Tour}_t$ | [13] | H0: $r = 0$ | 8.3487* | 15.41 |
| $\ln X(\text{olive oil})_t$ $\ln \text{Tour}_t$ | [3] | H0: $r = 0$ | 9.9967* | 15.41 |
| $\ln X(\text{sausages})_t$ $\ln \text{Tour}_t$ | [3] | H0: $r = 0$ | 10.8038* | 15.41 |
| $\ln X(\text{canned fish})_t$ $\ln \text{Tour}_t$ | [13] | H0: $r = 0$ | 7.1303* | 15.41 |
| $\ln X(\text{wine})_t$ $\ln \text{Tour}_t$ | [13] | H0: $r = 0$ | 6.4298* | 15.41 |

Note:

* by the trace statistic indicates that this is the value of r selected by Johansen's multiple-trace test procedure. Akaike Information Criterion (AIC) is used to select the lag length (values in 1st column in brackets).

The results of this test are reported in Table 4.3. The null hypothesis of non-cointegration is not rejected and the results of the trace statistic tests show that all of the series are non-cointegrated at the 5% critical values. These findings suggest that, between the series inbound tourism and exports of each agro-food that are analysed, there is no long-run causality.

4.3.2.3. Granger causality test

In the last step, the direction of the short-run Granger causality between inbound tourism and total exports of each local agro-food product is determined by performing the Granger causality test. When the variables are non-cointegrated, this test should be carried out under the Vector Autoregressive Model (VAR), which can be written as follows:

$$\Delta \ln X(\text{local product})_t = \sum_{i=1}^p \varphi_{1i} \Delta \ln X(\text{local product})_{t-i} + \sum_{i=1}^p \zeta_{1i} \Delta \ln \text{Tour}_{t-i} + u_{1t} \quad (1)$$

$$\Delta \ln \text{Tour}_t = \sum_{i=1}^p \varphi_{2i} \Delta \ln X(\text{local product})_{t-i} + \sum_{i=1}^p \zeta_{2i} \Delta \ln \text{Tour}_{t-i} + u_{2t} \quad (2)$$

Where $X(\text{local product})_t$ is the proxy of total exports by product and Tour_t is the proxy of inbound tourism, both endogenous variables and $I(1)$; p is the lag length; u_{1t} and u_{2t} are the error terms. The model is tested separately for the total exports of cheese, olive oil, sausages, canned fish, and wine.

After fitting a VAR, the Granger causality test is performed. This statistical test consists of regressing the Equation (1) on its own lagged values of the first difference and on the lagged values of the first difference of the variable Tour_t , and testing the null hypothesis that the coefficients that are estimated on the lagged values of inbound tourism (ζ_{1i}) are jointly zero. If the null hypothesis is rejected, this means that in the short-run inbound tourism Granger-cause the total exports

of agro-food products. The same procedure is applied to Equation 2 (Adkins & Hill, 2008; Gujarati, 2003; StataCorp, 2011).

Table 4.4 - Results of Granger causality test

| Equation | Wald test |
|--------------------------------------|------------------------------------|
| $\Delta \ln X(\text{cheese})_t$ | $\chi^2(13) = 12.462$ (0.490) |
| $\Delta \ln \text{Tour}_t$ | $\chi^2(13) = 60.406$ (0.000)* |
| $\Delta \ln X(\text{olive oil})_t$ | $\chi^2(3) = 4.6087$ (0.203) |
| $\Delta \ln \text{Tour}_t$ | $\chi^2(3) = 4.8675$ (0.182) |
| $\Delta \ln X(\text{sausages})_t$ | $\chi^2(3) = 3.0005$ (0.392) |
| $\Delta \ln \text{Tour}_t$ | $\chi^2(3) = 1.3866$ (0.709) |
| $\Delta \ln X(\text{canned fish})_t$ | $\chi^2(13) = 15.574$ (0.273) |
| $\Delta \ln \text{Tour}_t$ | $\chi^2(13) = 27.672$ (0.010)* |
| $\Delta \ln X(\text{wine})_t$ | $\chi^2(13) = 22.002$ (0.055)** |
| $\Delta \ln \text{Tour}_t$ | $\chi^2(13) = 46.757$ (0.000)* |

Note:

$\Delta \ln X(\text{local product})_t$ - VAR model for total exports of each local agro-food product; $\Delta \ln \text{Tour}_t$ - VAR model for inbound tourism. Hypotheses: $\Delta \ln X(\text{local product})_t$: $H_0: \zeta_{11} = \dots = \zeta_{1p} = 0$ "Tourism does not Granger-cause Exports" against H_a that at least one of the ζ_{1i} coefficients is statistically different than 0 | $\Delta \ln \text{Tour}_t$: $H_0: \varphi_{21} = \dots = \varphi_{2p} = 0$ "Exports do not Granger-cause Tourism" against H_a that at least one of the φ_{2i} coefficients is statistically different than 0. ζ_{1i} - estimated coefficients of the lagged values of inbound tourism; φ_{2i} - estimated coefficients of the lagged values of exports of agro-food products. Values in brackets correspond $\text{Prob} > \chi^2$; * and ** indicate significance at the 5% or 10% level, respectively. Akaike Information Criterion (AIC) is used to select the lag length.

The results of the Granger causality tests are presented in Table 4.4 and suggest a bidirectional short-run causality between inbound tourism and the total exports of wine, a unidirectional short-run causality running from the total exports of cheese and the total exports of canned fish to inbound tourism. For olive oil and sausages, we did not obtain a significant relationship. In published studies, the short-run

Granger causality between inbound tourism and the exports of specific products has not been empirically explored. However, these empirical results are in concordance with the results that have been previously obtained by literature for the causality between inbound tourism and the total exports of goods (Katircioglu, 2009; Khan et al., 2005; Santana-Gallego et al., 2011a, 2011b).

4.4. Discussion and conclusions

This chapter adds to the current literature by exploring the exports-tourism relationship in the context of agro-food products and by taking into account the differences between agro-food products.

The findings that have been obtained have theoretical and practical implications. First, the empirical results improve the body of knowledge, with respect to the possible relationship between international tourism and trade. Second, the results herein obtained reveal that there is space for cooperation between export and tourism promotion agencies, and between the stakeholders of both sectors. It is even more important to take advantage of this interdependence when the statistics show the relevance of these sectors to the national economy.

The results of the short-run Granger causality test suggest that the exports of some national agro-food products - namely wine, canned fish, cheese - and its presence in worldwide markets are likely to have had a positive impact on foreigners' interest in visiting Portugal. Hence, this study highlights another way through which the agro-food sector impacts the Portuguese economy, that is, by stimulating international tourism. Based on these results, it argues that policymakers should exploit new opportunities to promote tourism utilizing the reputation and image of the region of origin of local products. However, the effects of tourism on exports only seem to be significant in relation to wine. Therefore, it is expected that some inbound visitors may develop a preference for foreign agro-food products during their travels and would be willing to buy these goods when back home. For olive oil and sausages, we did not obtain a significant relationship. Although these processed food products have come under increased interest in

the last few years, composition (specific taste and flavour), inability to differentiate when there are other sources for these products and the limited knowledge of the consumer about the variety, quality, and uniqueness of the products may explain this result.

A bidirectional causality between inbound tourism and the total exports of wine confirm the relevance of this product to the Portuguese economy, and this is recognized internationally as a factor of attractiveness. A relationship between tourism and wine has been further highlighted by other studies in relation to other countries (Fischer, 2004; Fischer & Gil-Alana, 2009; Gil-Alana & Fischer, 2010). The comparative advantages of Portugal with regard to international trade in wine worldwide have been known since the famous example of David Ricardo and are still recognized today. Ricardo demonstrated that, even when a nation is more efficient than another at producing all goods, it should focus on the one for which it is internally most efficient and provides trade for the others. He showed this with his famous example of English and Portuguese cloth and wine production (Krugman & Obstfeld, 1997). Portugal has excellent local soil and climatic conditions. Historically, wine production holds a significant role in the Portuguese economy, with very relevant economic, environmental, and social impacts.

The development of a regional wine tourism strategy may contribute towards the opening of new markets for trade. However, actions should not be restricted to wine but broadened to other products. Efforts may include, for example, the use and promotion of local products in hotels. This encourages international hotel chains that are already operating in the country to work with producers and traders of traditional exportable food products and so forth. A further example includes organizing small-scale food exhibitions that can help build a trademark for domestic products and hence, internationally promote them through the tourism channel. Tourism can act as a platform to improve export performance because it facilitates learning by bringing a sample of the international market to the local economy. Given that tourism may act as an export promotion channel, a top priority is strengthening the domestic quality standards and product certification systems. This is especially relevant for food products, where sanitary concerns are

likely to be a binding constraint for experimentation of domestic products by visitors.

Although this chapter contributes to improving the knowledge of this research area, it suffers from a few limitations. Firstly, the results might be sensitive to the partner country as the effects of trade-tourism interdependence are conditioned by natural and legal barriers to international trade. Secondly, there is a distinct set of factors that may influence tourist food consumption behaviour and that policymakers cannot influence or change. Thirdly, the existence of economic leakages explains why tourism does not generate the desired level of local economic development in tourism destination. For example, due to: (i) the difficulties in including local agro-food products in the hospitality supply chain because local supply networks are little organized (Telfer & Wall, 1996); and (ii) inbound tourism also consumes goods and services that need to be imported (Nguyen & Jolly, 2013). Finally, the econometric methodology selected has its limitations and the study focuses on a limited set of products.

Further research about the tourism-trade relationship should proceed in several directions, namely to: (i) test the results against other methodologies; (ii) verify if there are differences between trade partners; and (iii) estimate the relationship for other products that are deemed relevant for analysis.

Chapter 5

Purchase of local food products during trips by international visitors¹⁰

Abstract: The contribution made by local products to local economic development has been recognized. While consuming local food products, visitors not only satisfy their vital needs, but also interact with local culture and support local development by stimulating demand. Despite this, the determinants of local food product consumption by international visitors have been relatively neglected. The results reveal that the determinants related to interaction with the destination and local products are stronger, but there are differences between visitors' characteristics. The findings contribute to a comprehensive understanding about the interaction of inbound tourism and local food product consumption.

Keywords: inbound tourism; local food consumption; Portugal

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5.1. Introduction

Although tourism can be seen as just another form of economic activity that creates employment and income, it is the richness of the interactions between visitors and local destinations that make the tourism industry unique (Cohen & Avieli, 2004; Hsieh & Chang, 2006; Quan & Wang, 2004; Skuras et al., 2006; Telfer & Wall, 1996).

Tourism impacts on local destinations in many ways, although, in recent years there has been growing interest in analysing the synergy between tourism and local food products (Bessière, 1998; Cohen & Avieli, 2004; Hjalager & Richards, 2002; Kivela & Crofts, 2006; Quan & Wang, 2004; Telfer & Wall, 2000). Local food products refer to products that are locally processed and regionally branded, have a local or regional identity (Enteleca Research and Consultancy, 2000; Kim et al., 2009; Nummedal & Hall, 2006; Sims, 2009) and are linked to the culture of a particular local community (Bessière, 1998).

The importance in studying international visitors' relation with local food is twofold. First, while buying local food products, visitors spur demand, thus contributing to local development (Bessière, 1998; Tellstrom et al., 2005). Second, local food can play an important role in visitors' destination choice, which provides a valuable opportunity for advertising the identity of a destination (Bessière, 1998; Boniface, 2003; Cohen & Avieli, 2004; Henderson, 2009; Hjalager & Richards, 2002). Moreover, contact with local food products is an essential part of the tourism experience (Hjalager & Corigliano, 2000; Hjalager & Richards, 2002; Kim, et al., 2009; Kivela & Crofts, 2006) and also plays an important role in introducing visitors to new tastes (Fields, 2002; Kivela & Crofts, 2006; Quan & Wang, 2004; Ryu & Jang, 2006; Sparks, 2007).

Despite the relevance of local food products in the tourism experience, the consumption of these products during a trip occurs with different grades of intensity. Whereas certain visitors travel expressly for gastronomic reasons (Bessière, 1998; Hjalager & Richards, 2002; Kivela & Crofts, 2006; Quan & Wang, 2004), others consider local food products as a cultural element of a tourism

destination with relevance to their tourism experience (Fields, 2002; Kim et al., 2009; Kim & Eves, 2012; Quan & Wang, 2004). There are others, however, who do not attribute a great deal of relevance to the consumption of local food products. Therefore, it is of the outmost relevance to increase the knowledge regarding visitors' demand for local food products and the factors that may influence this demand. The identification of these determinants is relevant due to the direct and indirect economic effects that the purchase of these products can generate for a tourism destination. On the one hand, the purchase of local products directly helps to stimulate local trade and employment, provide additional income to local communities and generate a multiplier effect that will benefit the local economy (Bessièrè, 1998; Hsieh & Chang, 2006; Sims, 2009; Skuras et al., 2006; Telfer & Wall, 1996). On the other hand, international visitors can learn about and taste new products while travelling, such that, when they return to their own country, they can act as promoters of these products from abroad (Adongo, Anuga, & Dayour, 2015; Brau & Pinna, 2013), which in turn could promote their export (Fischer & Gil-Alana, 2009; Gil-Alana & Fischer, 2010; Madaleno, Eusébio, & Varum, 2016b, 2017).

In order to fill this research gap, this study seeks to identify the determinants that influence the purchase of local food products during a trip. A questionnaire-based survey was undertaken, yielding a total of 500 valid responses, and logistic regression analysis and multiple linear regression analysis were used to identify these determinants.

The chapter is structured in five sections. Following this introduction is a literature review on the consumption local food products during a foreign trip and the factors that may influence this consumption. The subsequent sections describe the methodology used in the empirical study and the main findings obtained. Finally, conclusions and implications of the study and suggestions for future research are reported.

5.2. Literature review

5.2.1. Relevance of local food consumption in the context of tourism

Visitors' spending on food products can constitute up to one third of total visitor expenditure (Bélisle 1983), thereby improving the economic, cultural and environmental sustainability of a tourism destination (Boniface, 2003; Clark & Chabrel, 2007; Enteleca Research and Consultancy, 2000; Torres, 2002; Woodland & Acott, 2007). First, visitor consumption of local foods products can generate a direct and a multiplier effect, which will benefit the local economy (Enteleca Research and Consultancy, 2000; Sims, 2009; Torres, 2002). Considering that these products are produced locally with local inputs, the backward economic linkages tend to be high (Telfer & Wall, 1996). These linkages are an important mechanism for stimulating local production, retaining tourism earnings in the region and improving the distribution of tourism benefits within the region (Torres, 2002).

Second, local food experiences can be viewed as an opportunity to learn about local culture (Fields, 2002; Kim et al., 2009). Highlighting local food products from the viewpoint of the local culture of visited destinations also provide opportunities to promote not only different countries, but also regions and destinations within those countries through differentiation (Fields, 2002). Considering that tourism destinations are competing with each other to attract visitors, the destinations should design specific initiatives that are linked to local products in order to make distinctions between their offer and that of competitors and satisfy visitors' desire for authenticity within the tourism experience (Bessière, 1998; Hashimoto & Telfer, 2006; Sims, 2009; Woodland & Acott, 2007).

Third, local food products can improve the environmental sustainability of tourism destinations by encouraging sustainable agricultural practices, conserving traditional farming landscapes, and reducing the carbon footprint of the tourism industry (Boniface, 2003; Mitchell & Hall, 2003).

The arguments mentioned above clearly reveal that the consumption of local food products during a tourism trip is an important factor that influences simultaneously the tourism experience and the sustainable development of a tourism destination. In order to define strategies that positively influence the consumption of local food products during a tourism trip, it is of utmost relevance to identify the determinants influencing this consumption.

5.2.2. Factors influencing local food purchases

There has been limited research undertaken to systematically explore the factors affecting visitors' consumption of local food (Kastenholz, Eusébio, & Carneiro, 2016; Mak, Lumbers, Eves, & Chang, 2012; Skuras et al., 2006). By reviewing a number of studies in the literature on tourism and food, a number of factors influencing visitor food consumption can be identified (Aprile, Caputo, & Nayga, 2012, 2016; Fields, 2002; Frisvoll, Forbord, & Blekesaune, 2016; Kim et al., 2009; Kim & Eves, 2012; Kim, Eves, & Scarles, 2013; Mak, Lumbers, Eves, & Chang, 2012; Skuras et al., 2006; Zagata, 2012). One group involves factors related to visitors themselves, whereas a second group concerns visitor interactions with a destination and local food products during a trip (Table 5.1).

Visitors-related factors

According to the literature review, the factors related to visitors that may influence local food consumption in the context of tourism includes motivational factors of the visitor, food-related personality traits, and socio-demographic characteristics.

Table 5.1 - Factors influencing local products purchases

| | | | |
|--|--|---|--|
| Visitor-related factors | Motivational factors | Excitement, health concern, cultural experience, interpersonal relation, sensory appeal | Fields (2002); Kim et al. (2009, 2013); Kim & Eves (2012) |
| | Food-related personality traits | Food neophilia | Chang et al. (2011); Cohen & Avieli (2004); Fischler (1988); Kim et al. (2009, 2013); Mak, Lumbers, Eves, & Chang (2012); Quan & Wang (2004); Torres (2002) |
| | Socio-demographic factors | Age, gender, education, place of residence, income | Bélisle (1983); Cohen & Avieli (2004); Frisvoll et al. (2016); Kastenholz et al. (2016); Kim et al. (2009, 2013); Quan & Wang (2004); Skuras et al. (2006); Telfer (1996); Telfer & Wall (2000); Torres (2002); Tse & Crofts (2005) |
| Interaction with the destination and local food products | Travel behaviour | Number of previous visits, length of stay, travel group, activities | Frisvoll et al. (2016); Getz (2000); Hjalager & Corigliano (2000); Kastenholz et al. (2016); Quan & Wang (2004); Tse & Crofts (2005) |
| | Knowledge of local food products | Exposure effect, past experience, globalization | Cohen & Avieli (2004); Mak, Lumbers, & Eves (2012); Seo et al. (2013); Torres (2002) |
| | Evaluation of the attributes associated with the local food products | Quality, price, taste, appearance, authenticity | Aprile et al. (2012, 2016); Boniface (2003); Caputo et al. (2013); Carpio & Isengildina-Massa (2009); Dimara & Skuras (2003); Mynttinen et al. (2015); Schneider & Francis (2005); Sims (2009); Tregear et al. (1998); Youn & Kim (2017) |

Source: Own construction based on literature.

Based on the works of Fields (2002), Kim et al. (2009) and Kim and Eves (2012), five motivational dimensions of local food consumption have been identified: excitement, health concern, cultural experience, interpersonal relation, and sensory appeal. These five motivations, which were later empirically tested by Kim et al. (2013), can be applied to our context concerning the visitor consumption of local food products.

Following Kim et al. (2009) and Fields (2002), local food consumption can be motivated by the desire to escape from routine and have an exciting experience. As local food products are often considered healthier, their consumption could be

driven by a concern with well-being and health (Fields, 2002; Kim et al., 2009). The consumption of local products could be understood as a truly cultural experience, which facilitates contact with authentic aspects and awareness raising of the local culture (Fields, 2002; Getz, 2000; Kim et al., 2009; Kim & Eves, 2012). The consumption of local products can be motivated by interpersonal relation, namely, the desire to spend time with family and/or friends (togetherness) and/or for prestige (Fields, 2002; Fodness, 1994; Kim et al., 2009). Finally, sensory perceptions (smell, taste, and visual image) associated with local food products can play a crucial role in the appreciation of food and influence local food choice. Tasting local food on holiday is a kind of pleasurable sensory experience (Boniface, 2003; Kim et al., 2009; Kivela & Crofts, 2006).

Food-related personality features, namely, food neophilia, have been recognized as an important factor influencing the consumption of local food products (Cohen & Avieli, 2004; Kim et al., 2009; Kim et al., 2013; Mak, Lumbers, Eves, & Chang, 2012; Torres, 2002). A neophilic tendency is the inclination to seek out unusual and unfamiliar foods (Fischler, 1988) and explains visitors' inclination to pursue new food experiences when on holiday (Chang et al., 2011; Cohen & Avieli, 2004; Kim et al., 2013; Quan & Wang, 2004).

Finally, the tourism literature suggests that visitors' local food consumption is also influenced by several socio-demographic factors. The common aspects that are likely to have an affect are age, place of residence and nationality, gender, education and income (Cohen & Avieli, 2004; Frisvoll et al., 2016; Kastenholz et al., 2016; Kim et al., 2009; Skuras et al., 2006; Telfer & Wall, 2000; Torres, 2002; Tse & Crofts, 2005). Kim et al. (2009) found that older visitors tend to be more concerned about health and have a stronger desire to understand and experience foreign cultures through local food consumption. In the same way, Kastenholz et al. (2016) concluded that older visitors had a higher probability of buying local products. Nonetheless, Tse and Crofts (2005) found visitors' age negatively correlated with the diversity of food interests.

Visitor nationality is a key variable that influences visitors' culinary choice (Bélisle 1983; Cohen & Avieli, 2004; Quan & Wang, 2004; Telfer & Wall, 2000; Torres,

2002; Tse & Crofts, 2005) in terms of visitors' own food culture, particularly their different food habits and preferences.

In terms of gender, the findings of Kim et al.'s (2009) study revealed that women were especially interested in tasting local food and excited about local food while on holiday. The differences in attitude towards food consumption between men and women can explain these results. High income and higher educational levels among visitors can be important influencing factors in food choice (Kim et al., 2009, 2013; Skuras et al., 2006) because of their cultural interest in learning new knowledge.

Interaction with the destination and food products

Evidence from the literature suggests that the group of factors related to interaction with the destination and food products, which can influence food consumption in the context of tourism, comprises travel behaviour, knowledge of local food products and evaluating local food products (Aprile et al., 2012, 2016; Dimara & Skuras, 2003; Frisvoll et al., 2016; Getz, 2000; Ryu & Jang, 2006; Sims, 2009; Skuras et al., 2006; Tse & Crofts, 2005).

Several factors related to visitors' travel behaviour, such as the number of previous visits, length of stay, number of people included in their group, and activities carried out during the visit, can influence the consumption of local agro-food products. Tse and Crofts (2005) concluded that repeat visitors were positively correlated with both the number and variety of food experiences, whereas first-time visitors were negatively correlated. This behaviour can be explained by the fact that past experience may increase the level of familiarity with local food, such that visitors who have been to the destination before may likely be more adventurous and prefer greater varieties of food choices and experiences.

Frisvoll et al. (2016) and Tse and Crofts (2005) observed a clear tendency of an increased length of stay to increase the opportunities in which visitors will come into contact with and buy these products. Nonetheless, Kastenholtz et al. (2016)

verified a negative impact of duration of stay on the purchase decision, explained by the fact that some visitors with short stays try to extend their experience by purchasing local products to take home.

Frisvoll et al. (2016) found that visitors travelling with family, children, and friends are more inclined to buy local food products than visitors travelling alone. Some activities, such as food events and festivals, which provide visitors with an authentic lifestyle experience in a pleasant environment, can play an important role in introducing a visitor to new flavours and different traditions while on holiday (Getz, 2000; Hjalager & Corigliano, 2000; Quan & Wang, 2004).

The knowledge about local food products in visitors' home country is also identified as a determinant. More people have been exposed to foreign food products due to the influence of globalization, even before they begin an overseas trip, which means they have already had the opportunity to become familiar with a diversity of foreign food (Cohen & Avieli, 2004; Mak, Lumbers, & Eves, 2012; Seo, Kim, Oh, & Yun, 2013; Torres, 2002).

Finally, the interest demonstrated in relation to local food products could be based on a set of attributes that range from a concern for environmental and social sustainability through demands for food products that are safe, distinctive, and traceable (Boniface, 2003; Mynttinen et al., 2015; Zagata, 2012). The qualities associated with local products include being fresh, tasty, nutritious and healthy, and safe (Aprile et al., 2016). All these aspects could drive consumers' evaluation of local food products and encourage them to pay a price premium in this regard (Aprile et al., 2012; Caputo, Nayga, & Scarpa, 2013; Carpio & Isengildina-Massa, 2009; Schneider & Francis, 2005). Local food products are conceptualized as authentic products that symbolize a specific place and culture (Sims, 2009). Unfamiliar ingredients, unique food names, and stories about food origins increase consumers' perceptions of authenticity (Youn & Kim, 2017). Consumers recognize and value regionality in food products, and this feature appears to enhance aspects of territorial identity and cultural distinctiveness (Dimara & Skuras, 2003; Tregear, Kuznesof, & Moxey, 1998).

5.3. Methodology

In order to analyse the factors influencing local food consumption during tourism trips, an empirical study was carried out in Portugal. The main objectives of this empirical study were to identify (i) the determinants that influence the decision to purchase local food products by international visitors during their stay in Portugal; and (ii) the determinants that influence the total expenditure made in the purchase of local food products.

5.3.1. Sampling approach

The population of the empirical study comprised a group of international visitors over the age of 18 years, whereas data collection was carried out during the high season of 2015 (July and August) in three Portuguese cities (Lisbon, Oporto and Coimbra) through self-administered questionnaires. The reasons for choosing these cities were: (i) classification as UNESCO World Heritage Sites; and (ii) the proportion of foreign guests. The questionnaires were pretested and initially written in English, before being translated into Portuguese, French and Spanish. The selection of respondents was made using the convenience sampling method because the number of visitors visiting these cities was unknown at the time of the survey. A total of 500 responses with complete information was obtained. However, the empirical analysis only focuses on the respondents (nearly 84%) who referred to engagement with local agro-food products during their stay in Portugal.

5.3.2. Questionnaire

The questionnaire was developed based on an extensive literature review (Chen & Lobo, 2012; Dimara & Skuras, 2003; Fields, 2002; Hjalager & Richards, 2002; Kim et al., 2009, 2013; Kim & Eves, 2012; Mak, Lumbers, Eves, & Chang, 2012; Paul

& Rana, 2012; Tarkiainen & Sundqvist, 2005; Zagata, 2012) regarding the purchase of local food products during tourism trips and the factors influencing the purchase of these products. Therefore, two groups of questions were included in the questionnaire. The first group included questions to measure the consumption of local food products, namely: (i) whether the visitors purchased Portuguese agro-food products during their trip, measured using nominal scales; and (ii) the amount of money spent (€) on average, per person, on these local agro-food products. The second group included questions about the factors influencing local food purchases, as identified in Section 5.2.

The motivational factors for local food consumption while on holiday are based on the five dimensions (cultural experience, excitement, interpersonal relation, sensory appeal, and health concern) identified previously by Kim and Eves (2012). Each dimension was constructed according to a Likert-type scale from 1 (*strongly disagree*) to 5 (*strongly agree*). In relation to food-related personality traits, visitors' food neophilic tendency was measured with Likert-type scale from 1 (*strongly disagree*) to 5 (*strongly agree*). Respondents were asked to provide socio-demographic data, specifically their country of residence, age, gender, household income and education level.

As far as travel behaviour was concerned, visitors provided information about the number of previous visits, length of stay (in nights), number of people in their group, and number of tourism activities carried out during the trip. The knowledge of local agro-food products prior to visitors' stay in Portugal was measured on a nominal scale. Finally, the evaluation of the attributes associated with local food products, in terms of relation price-quality, taste, appearance and authenticity, was measured by a Likert-type scale from 1 (*very bad*) to 5 (*very good*).

5.3.3. Data analysis

SPSS - Version 23 was employed to estimate the determinants that may influence the purchase of local agro-food products during a trip, using two approaches. First, binary logistic regression was used to identify the factors influencing the decision

to purchase local agro-food products. Second, multiple regression analysis was used to identify the factors influencing the total expenditure in respect of local agro-food products purchased during a trip.

5.4. Discussion of results

5.4.1. Sample profile

In this data set (N=500), 84.4% of respondents stated that, during their stay in Portugal, they encountered local agro-food products, although only 77.7% (N=328) mentioned that they had bought these products. Each visitor who bought these products during their stay spent, on average, €69.56.

Broadly speaking, the socio-demographic differences between the group of visitors who bought agro-food products and the group who did not are insignificant. Both groups were younger (around 35 years old), and the majority were women and highly educated, with a university degree or above (Table 5.2). Regarding travel behaviour, 45.1% of visitors who bought agro-food products had previously visited Portugal, on average, about three times. The average length of stay of the group who bought agro-food products was almost 12 nights, compared to the other group whose average stay was nine nights.

Table 5.2 - Socio-demographic and travel behaviour characteristics of respondents
(N=422)

| | Visitors who bought local agro-food products (N=328) | | Visitors who did not buy local agro-food products (N=94) | |
|--|--|------------------|--|------------------|
| <i>Socio-demographic profile</i> | <i>Mean</i> | <i>Std. dev.</i> | <i>Mean</i> | <i>Std. dev.</i> |
| Age (n=420) | 34.6 | 11.4 | 35.2 | 12.1 |
| | <i>n</i> | <i>%</i> | <i>n</i> | <i>%</i> |
| Gender respondents (n=421) | | | | |
| Male | 141 | 43.1 | 37 | 39.4 |
| Female | 186 | 56.9 | 57 | 60.6 |
| Country of residence (n=420) | | | | |
| France | 110 | 33.6 | 34 | 36.6 |
| Spain | 57 | 17.4 | 32 | 34.4 |
| Other | 160 | 49.0 | 27 | 29.0 |
| Monthly income (n=399) | | | | |
| ≥€1,500.00 | 160 | 51.1 | 43 | 50.0 |
| <€1,500.00 | 153 | 48.9 | 43 | 50.0 |
| Education level (n=416) | | | | |
| Higher education | 262 | 80.9 | 72 | 78.3 |
| Less than higher education | 62 | 19.1 | 20 | 21.7 |
| <i>Travel behaviour</i> | | | | |
| | <i>n</i> | <i>%</i> | <i>n</i> | <i>%</i> |
| Had previously visited Portugal (n=419) | 147 | 45.1 | 37 | 39.8 |
| | <i>Mean</i> | <i>Std. dev.</i> | <i>Mean</i> | <i>Std. dev.</i> |
| Number of previous visits to Portugal (n=413) | 2.9 | 8.5 | 1.7 | 5.5 |
| Number of persons in the travel group (n=418) | 3.5 | 2.7 | 3.6 | 3.6 |
| Length of stay (in nights; n=417) | 12.5 | 13.0 | 8.7 | 6.1 |
| Number of cultural, historic, religious, sports, gastronomic, and social activities carried out during the visit (n=421) | 4.4 | 1.6 | 3.5 | 1.3 |

Table 5.3 - Motivational factors and food-related personality traits (N=422; Likert-type scale: 1 = *strongly disagree*; 5 = *strongly agree*)

| | Visitors who bought local agro-food products (N=328) | | | | | | | Visitors who did not buy local agro-food products (N=94) | | | | | | |
|--|---|------|------|------|------|------|--------------|---|------|------|------|------|------|--------------|
| | 1 | 2 | 3 | 4 | 5 | Mean | Std. dev. | 1 | 2 | 3 | 4 | 5 | Mean | Std. dev. |
| | % | | | | | | | % | | | | | | |
| » Motivational factors | | | | | | | | | | | | | | |
| Cultural experience | 4.2 | | | | | | | 3.9 | | | | | | |
| >Experiencing local products increase my knowledge about different cultures (n=422) | 1.8 | 2.4 | 10.7 | 32.6 | 52.4 | 4.3 | 0.9 | 1.1 | 8.5 | 19.1 | 41.5 | 29.8 | 3.9 | 1.0 |
| >Tasting local products in an original place is an authentic experience (n=420) | 1.8 | 4.6 | 13.5 | 33.6 | 46.5 | 4.2 | 1.0 | 4.3 | 5.4 | 20.4 | 39.8 | 30.1 | 3.9 | 1.0 |
| Sensory appeal | 4.2 | | | | | | | 4.1 | | | | | | |
| > It is important to me that the local products I eat on holiday looks nice/ tastes good (n=421) | 1.5 | 3.4 | 12.5 | 35.1 | 47.6 | 4.2 | 0.9 | 1.1 | 3.2 | 18.3 | 35.5 | 41.9 | 4.1 | 0.9 |
| Excitement | 4.0 | | | | | | | 3.9 | | | | | | |
| >Experiencing local products in its original place excites me (n=421) | 2.8 | 3.4 | 10.4 | 30.9 | 52.6 | 4.3 | 1.0 | 1.1 | 3.2 | 12.8 | 37.2 | 45.7 | 4.2 | 0.9 |
| >Tasting local products on holiday helps me to relax (n=420) | 5.2 | 7.1 | 23.0 | 32.2 | 32.5 | 3.8 | 1.1 | 6.4 | 7.4 | 25.5 | 40.4 | 20.2 | 3.6 | 1.1 |
| Health concern | 4.0 | | | | | | | 3.7 | | | | | | |
| > Local products contains a lot of fresh ingredients produced in a local area (n=416) | 3.1 | 3.4 | 20.6 | 40.3 | 32.6 | 4.0 | 1.0 | 4.4 | 6.6 | 28.6 | 36.3 | 24.2 | 3.7 | 1.1 |
| Interpersonal relation | 3.8 | | | | | | | 3.4 | | | | | | |
| >Tasting local products enables me to have an enjoyable time with friends/family (n=417) | 2.1 | 4.9 | 18.4 | 32.2 | 42.3 | 4.1 | 1.0 | 3.3 | 8.8 | 26.4 | 41.8 | 19.8 | 3.7 | 1.0 |
| > I like to talk to everybody about my local products experiences (n=417) | 4.3 | 12.6 | 24.9 | 33.2 | 24.9 | 3.6 | 1.1 | 7.6 | 12.0 | 33.7 | 32.6 | 14.1 | 3.3 | 1.1 |
| >I want to give advice about local products experiences to people who want to travel (n=420) | 4.3 | 12.6 | 27.6 | 32.5 | 23.0 | 3.6 | 1.1 | 9.6 | 13.8 | 28.7 | 36.2 | 11.7 | 3.3 | 1.1 |
| » Food-related personality traits | 3.6 | | | | | | | 3.1 | | | | | | |
| I am constantly sampling new and different food products (n=419) | 6.4 | 10.7 | 25.1 | 29.1 | 28.7 | 3.6 | 1.2 | 13.0 | 17.4 | 27.2 | 30.4 | 12.0 | 3.1 | 1.2 |

Note. Bold values represent the mean values for each group of variables.

Motivational factors for local food consumption on holiday and food-related personality traits

Local food consumption at a tourism destination may be affected by several motivational factors (cultural experience, excitement, interpersonal relation, sensory appeal, and health concern) and food-related personality traits (food neophilia) (Table 5.3). In the case of cultural experience, excitement and interpersonal relation, the mean value was considered.

The group who bought agro-food products revealed a greater degree of agreement with the five motivational factors. For this group, the motivations associated with cultural experience and sensory appeal recorded the highest mean (4.2 on the Likert-type scale); for the group who did not buy these products, however, sensory appeal was the most prominent. The group who bought the agro-food products revealed a slight tendency to try novel foods (food neophilia; mean equal to 3.6 on the Likert-type scale) (Chang et al., 2011; Kim et al., 2009, 2013; Kim & Eves, 2012).

Evaluation of the attributes associated with local food products

Table 5.4 - Evaluation of the attributes associated with the local food products (N=422)

| Attributes | Visitors who bought local agro-food products (N=328) | | Visitors who did not buy local agro-food products (N=94) | |
|--------------------------------|--|------------------|--|------------------|
| | <i>Mean</i> | <i>Std. dev.</i> | <i>Mean</i> | <i>Std. dev.</i> |
| Relation price-quality (n=419) | 4.0 | 0.7 | 3.7 | 0.7 |
| Taste (n=412) | 4.0 | 0.7 | 3.7 | 0.8 |
| Appearance (n=411) | 3.9 | 0.7 | 3.7 | 0.8 |
| Authenticity (n=406) | 3.9 | 0.8 | 3.6 | 0.9 |

Respondents were also invited to evaluate, on a Likert-type scale, four attributes (relation price-quality, taste, appearance and authenticity) associated with local agro-food products (Table 5.4). Comparatively, the visitors who bought local food

products attributed a better evaluation to each attribute in terms of the relation price-quality and taste (4.0 on average).

5.4.2. Determinants influencing the consumption of local food products

Binary logistic regression was carried out using backward elimination, based on the likelihood ratio, in order to assess the impact of each determinant on the decision about whether to purchase the local agro-food products analysed. This tool is used here, due to the nature of the dependent variable, namely, a binary variable (Hair, Anderson, Tatham, & Black, 1998) to distinguish between visitors who purchase local agro-food products during the trip (1; event) or those who do not (0).

$$\text{PROB}(\text{Purchase}) = \frac{1}{1+e^{-Z}} \quad (1)$$

$$\begin{aligned} Z = & \beta_0 + \beta_1 \text{EXCIT} + \beta_2 \text{HEALTH} + \beta_3 \text{CULTURAL} + \beta_4 \text{INTERP} + \beta_5 \text{SENSORY} + \beta_6 \text{TRAITS} \\ & + \beta_7 \text{AGE} + \beta_8 \text{FR} + \beta_9 \text{SP} + \beta_{10} \text{G} + \beta_{11} \text{EDU} + \beta_{12} \text{REND} + \beta_{13} \text{NPV} \\ & + \beta_{14} \text{DUR} + \beta_{15} \text{GROU} + \beta_{16} \text{ACTIV} + \beta_{17} \text{TASTE} + \beta_{18} \text{EV_QUAL} \\ & + \beta_{19} \text{EV_TASTE} + \beta_{20} \text{EV_APPEAR} + \beta_{21} \text{EV_AUTH} \end{aligned}$$

$\beta_0 \dots \beta_{21}$ = coefficients estimated from the data.

Where:

PURCHASE - Purchase of local agro-food products during the trip (1 = Purchased local products; 0 = did not purchase local products);

EXCIT - Motivational factor "excitement" (Likert-type scale: 1 [*strongly disagree*] to 5 [*strongly agree*]);

HEALTH - Motivational factor "health concern" (Likert-type scale: 1 [*strongly disagree*] to 5 [*strongly agree*]);

CULTURAL - Motivational factor "cultural experience" (Likert-type scale: 1 [*strongly disagree*] to 5 [*strongly agree*]);

INTERP - Motivational factor "interpersonal relation" (Likert-type scale: 1 [*strongly disagree*] to 5 [*strongly agree*]);

SENSORY - Motivational factor "sensory appeal" (Likert-type scale: 1 [*strongly disagree*] to 5 [*strongly agree*]);

TRAITS - Food neophilia (Likert-type scale: 1 [*strongly disagree*] to 5 [*strongly agree*]);

AGE - Age;

FR - Residence is France (1 = Country of residence is France; 0 = otherwise);

SP - Residence is Spain (1 = Country of residence is Spain; 0 = otherwise);

G - Gender (1 = Female; 0 = Male);

EDU - Education level (1 = Higher education; 0 = otherwise);

REND - Net monthly income per capita (1 = Income \geq €1,500.00; 0 = otherwise);

NPV - Number of previous visits to Portugal;

DUR - Length of stay (in nights);

GROUP - Number of persons in the travel group;

ACTIV - Number of tourism activities carried out during the trip;

TASTE - Knowledge of Portuguese local agro-food products before the trip (1 = Yes; 0 = No);

EV_QUAL - Relation price-quality (Likert-type scale: 1 [*very bad*] to 5 [*very good*]);

EV_TASTE - Taste (Likert-type scale: 1 [*very bad*] to 5 [*very good*]);

EV_APPEAR - Appearance (Likert-type scale: 1 [*very bad*] to 5 [*very good*]);

EV_AUTH - Authenticity (Likert-type scale: 1 [*very bad*] to 5 [*very good*]).

The model for agro-food products is a reasonably good fit as indicated by the summary statistics (Table 5.5). About 90% of the cases were correctly classified. The estimated β coefficients are measures of the changes in the odds ratio. A positive coefficient sign indicates increased probability of visitors' responses to purchase local food products and a negative sign to reject this probability. The degree of impact of the independent variables is reported by the so-called effect coefficient $\text{Exp}(\beta)$, which indicates the change in the odds ratio when the independent value increases for one unit. Nagelkerke's R^2 was used to assess the goodness of fit of the model, whereas the Wald test was used to determine the statistical significance of each estimated coefficient (Hair et al., 1998). Only the significant independent variables will be presented and discussed.

Table 5.5 - Binary logistic regression assessing the determinants on the decision to purchase Portuguese agro-food products during the trip

| Variables | β | SE | Wald | p | Exp(β) |
|---|---------|-------|--------|-------|----------------|
| Motivational factors for local food consumption on holiday | | | | | |
| EXCIT | -0.680 | 0.237 | 8.238 | 0.004 | 0.507 |
| <i>Food-related personality traits</i> | | | | | |
| TRAITS | 0.618 | 0.158 | 15.326 | 0.000 | 1.856 |
| <i>Socio-demographic characteristics</i> | | | | | |
| FR | 0.928 | 0.388 | 5.721 | 0.017 | 2.530 |
| SP | 1.705 | 0.447 | 14.558 | 0.000 | 5.501 |
| G | 0.765 | 0.340 | 5.045 | 0.025 | 2.148 |
| <i>Travel behaviour</i> | | | | | |
| ACTIV | 0.443 | 0.137 | 10.495 | 0.001 | 1.558 |
| <i>Knowledge of local food products</i> | | | | | |
| TASTE | -0.688 | 0.342 | 4.055 | 0.044 | 0.502 |
| <i>Evaluation of the attributes associated with local food products</i> | | | | | |
| EV_AUTH | 0.681 | 0.209 | 10.628 | 0.001 | 1.976 |

Note: N=340; Nagelkerke $R^2 = 0.321$; Hosmer and Lemeshow test = 8.674 ($p = 0.371$).

Results of the logistic regression show that the socio-demographic profile of the visitors had the most significant influence on the decision to purchase (or not) local agro-food products. The values of $\text{Exp}(\beta)$ show that the factor with the highest impact on the decision to purchase local products is residence in Spain followed by residence in France and gender. The results presented here corroborate the findings of (i) Cohen and Avieli (2004), Torres (2002) and Tse and Crofts (2005), who stated that visitors' country of origin and own food culture are factors associated with their food choice; and (ii) Kim et al. (2009), who suggested that women were especially interested in tasting and excited about local food products while on holiday.

Among the motivational factors, only excitement showed statistical significance and a negative impact on the decision to purchase these products. According to the literature, tasting local food products, which have not been eaten before, is one of the exciting experiences to enjoy while in a tourism destination, as it acts as an escape from routine (Kim et al., 2009, 2013; Kim & Eves, 2012). Therefore, this result should be confirmed by other studies. The variable associated with food-

related personality traits also has a significant positive impact on the decision to buy local food products, which is consistent with other studies in this domain (Chang et al., 2011; Kim et al., 2009). In other words, a trip may stimulate the neophilic tendency, which in turn motivates visitors to try novel and unusual food products.

The results reveal that the number of activities enjoyed by visitors during their stay in Portugal had an impact on their decision to purchase local agro-food products. In fact, some activities, such as food events and festivals, can play an important role in promoting new food experiences to visitors (Getz, 2000; Hjalager & Corigliano, 2000).

The positive impact of the attribute authenticity confirms the perception that the visitors have in relation to local food products (Sims, 2009). Finally, and contrary to expectations, previous knowledge of local agro-food products before the current stay in Portugal had a negative impact on purchase behaviour (although not as high as the aforementioned impacts). According to the literature, the exposure effect and past experience tend to increase familiarity of and preference for local food products (Cohen & Avieli, 2004; Mak, Lumbers, & Eves, 2012; Torres, 2002). This negative relation may be explained by the fact that the visitors in question already knew about these products, such that they had no interest in purchasing them or were perhaps more interested in finding out about other categories of products.

5.4.3. Determinants influencing international visitors' expenditures on local agro-food products

To identify the determinants that influence visitors' expenditure on local agro-food products during their stay, a multivariate regression model was carried out. In this context, a double logarithmic expenditure equation was employed.

The dependent variable included in the model is the expenditure on local agro-food products by visitors (EXPAgro), whereas the 21 independent variables are

the same of those for binary logistic regression. Both dependent and quantitative independent variables were transformed into logarithms. The theoretical framework and model specification used are represented by the following equation:

$$\begin{aligned} \text{EXP}Agro_i = f(\text{EXCIT}_i, \text{HEALTH}_i, \text{CULTURAL}_i, \text{INTERP}_i, \text{SENSORY}_i, \text{TRAITS}_i, \text{AGE}_i, \text{FR}_i, \\ \text{SP}_i, \text{G}_i, \text{EDU}_i, \text{REND}_i, \text{NPV}_i, \text{DUR}_i, \text{GROUP}_i, \text{ACT}_i, \\ \text{TASTE}_i, \text{EV_QUAL}_i, \text{EV_TASTE}_i, \text{EV_APPEAR}_i, \text{EV_AUTH}_i) \end{aligned} \quad (2)$$

Thus, the model specification used is represented by the following equation:

$$\begin{aligned} \ln\text{EXP}Agro_i = \alpha + \beta_1 \ln\text{EXCIT}_i + \beta_2 \ln\text{HEALTH}_i + \beta_3 \ln\text{CULTURAL}_i + \beta_4 \ln\text{INTERP}_i + \\ \beta_5 \ln\text{SENSORY}_i + \beta_6 \ln\text{TRAITS}_i + \beta_7 \ln\text{AGE}_i + \beta_8 \text{FR}_i + \beta_9 \text{SP}_i + \beta_{10} \text{G}_i + \\ \beta_{11} \text{EDU}_i + \beta_{12} \text{REND}_i + \beta_{13} \ln\text{NPV}_i + \beta_{14} \ln\text{DUR}_i + \beta_{15} \ln\text{GROUP}_i + \beta_{16} \ln\text{ACT}_i + \\ \beta_{17} \text{TASTE}_i + \beta_{18} \ln\text{EV_QUAL}_i + \beta_{19} \ln\text{EV_TASTE}_i + \beta_{20} \ln\text{EV_APPEAR}_i + \\ \beta_{21} \ln\text{EV_AUTH}_i + \varepsilon_i \end{aligned} \quad (3)$$

Where: $i = 1 \dots n$ - number of international visitors.

The ordinary least squares and enter regression procedure were used to estimate the regression model. Table 5.6 presents the results obtained and the model's diagnostics in terms of multivariate regression assumptions (normality of error term, homogeneity of variance, multicollinearity, and linearity) (Hair et al., 1998).

Table 5.6 - Results of regression for visitors' expenditures on local agro-food products

| Variables | <i>Standardized β and significance</i> |
|---|---|
| <i>Motivational factors for local food consumption on holiday</i> | |
| EXCIT | 0.063 |
| HEALTH | 0.006 |
| CULTURAL | -0.154* |
| INTERP | 0.059 |
| SENSORY | -0.032 |
| <i>Food-related personality traits</i> | |
| TRAITS | 0.110** |
| <i>Socio-demographic characteristics</i> | |
| AGE | 0.124* |
| FR | 0.029 |
| SP | -0.017 |
| G | 0.006 |
| EDU | -0.047 |
| REND | 0.011 |
| <i>Travel behaviour</i> | |
| NPV | -0.067 |
| DUR | 0.201* |
| GROUP | -0.460* |
| ACTIV | -0.040 |
| <i>Knowledge of local food products</i> | |
| TASTE | 0.091** |
| <i>Evaluation of the attributes associated with local food products</i> | |
| EV_QUAL | 0.078 |
| EV_TASTE | -0.135 |
| EV_APPEAR | 0.167* |
| EV_AUTH | -0.030 |
| <i>Model diagnostic</i> | |
| N | 304 |
| R | 0.560 |
| R ² | 0.314 |
| Standard error | 0.852 |
| F statistic (p -value) | 6.149 (0.000) |
| Normality: Kolmogoro-Sminorv test (p-value) | 0.041 (0.200) |
| Multicollinearity | |
| Tolerance (all variables) | ≥ 0.34 |
| VIF (all variables) | ≤ 2.96 |

Note: * p < 0.05; ** p < 0.10

As far as motivational factors for local food consumption on holiday are concerned, only the variable cultural experience had significance and a negative impact on visitors' expenditure on local agro-food products. This result should be validated by further exploration because, according to the literature, the experience of local food products on holiday is viewed as a cultural and authentic experience (Fields, 2002; Kim et al., 2009; Kim & Eves, 2012; Mak, Lumbers, Eves, & Chang, 2012). It suggests that more marketing efforts regarding a country's local food products included in the study should be pursued in order to emphasize the authentic experience they offer to visitors.

The impact of food-related personality traits, namely, food neophilia, on the purchase of local products is positive, which supports the argument that the psychological dimension is considered as a key element in food behaviour, in the sense that visitors tend to display more adventurous behaviour in terms of food experiences (Chang et al., 2011; Kim et al., 2009).

The variables linked to travel behaviour with significance in the model are the number of people in the respective travel group and the length of stay (in nights). The negative impact of the number of persons in the travel group contrasts with previous results, which suggests that visitors travelling with family, children, and friends are more inclined to buy local food products than visitors travelling alone (Frisvoll et al., 2016). It is expectable that longer stays increase the probability that visitors will buy local food products because there are more opportunities to come into contact with these products (Frisvoll et al., 2016).

As far as socio-demographics are concerned, only the age of visitors had explanatory power with regard to visitors' total expenditures on local agro-food products, given that older foreign visitors were found to spend more. The results are similar to other studies in this domain (Kastenholz et al., 2016; Kim et al., 2009) and confirm the hypothesis that older visitors have a higher probability of consuming and buying these products.

The findings show that knowledge of Portuguese agro-food before the trip, as expected, had a positive impact on visitors' expenditure on local agro-food products. As mentioned by several research studies, past experience and

increased exposure may intensify local food preferences and affect the consumption of local food products when visitors travel abroad (Chang et al., 2010; Cohen & Avieli, 2004; Ryu & Jang, 2006; Seo et al., 2013; Tse & Crofts, 2005). According to Skuras et al. (2006) expenditure on local food products depends on the attitudes of visitors towards and their familiarity with these products.

Finally, in relation to the attributes associated with local food products considered in the study, the results show that the attribute appearance had a significant positive impact on visitors' expenditures on local agro-food products. As suggested by the literature, the singularity of local food products tends to enhance their overall attractiveness and appeal to consumers (Skuras et al., 2006).

5.5. Discussion and conclusions

The purchase of local food products is relevant to the promotion of sustainable development in tourism destinations, given that these products are produced locally and generally involve local resources, thus resulting in a higher level of benefits for the local economy (Enteleca Research and Consultancy, 2000; Telfer & Wall, 1996; Torres, 2002). With regard to designing strategies to stimulate the consumption and purchase of local food products by international visitors during their stay, the determinants influencing visitors' behaviour should be better understood. However, the number of studies published on this topic is scarce (Kim et al., 2009; Skuras et al., 2006).

The present chapter addresses this gap in the literature by analysing the impact of several determinants on visitors' purchase of local products, namely, on the decision to buy (or not) local agro-food products during their trip and on the corresponding expenditure. This study is original because it is focused on the profile of international visitors and their perceptions about Portuguese local food products in terms of reinforcing the importance of the on-site experience. Theoretically, this study enhances the existing literature on international tourism and its relationship with local food products. According to the literature review in

the present study, a distinct set of potential determinants that may influence visitors' purchase behaviour in a tourism destination was identified. However, in opposition to some of the studies published, which only propose theoretical models, this study suggests and empirically estimates a model of visitors' purchase behaviour.

From a practical standpoint, the findings provide useful information for policymakers, advisers, entrepreneurs and researchers to better understand the behaviour of international visitors during a trip. The determinants that may explain visitors' behaviour were organized into two groups. The first focuses on the factors related to visitors' personality, motivations to consume, and socio-demographic profile; in other words, factors that are less likely to be influenced by policymakers. Conversely, the group of determinants related to destination and visitor interaction with local food products is of more direct relevance to policymakers, who wish to exploit the benefits of the relationship between tourism and these products.

In this context, the major challenge for policymakers is a definition of policies that promote local products without undermining their authenticity and the sustainability of the local community in question. Tourism destinations have clear advantages in terms of promoting niche markets or brands associated with local food products. Regional development entities and tourism planners are already recognizing the synergies between tourism and food products, as well as implementing niche marketing and development initiatives around local products that promote the respective tourism destinations as being of high quality.

The results show that knowledge about local food products acquired before and during a trip impact positively on purchasing behaviour (Frisvoll et al., 2016; Skuras et al., 2006; Torres, 2002). In this context, the actions related to promotional initiatives in visitors' country of origin or advertisements in tourism sites, as well as activities associated with local food products (e.g. food events, festivals, and gastronomic routes), which promote the identity and culture of tourism destinations and create an ideal opportunity for visitors to encounter local food products, should be boosted.

Visitors have shown a great deal of interest in and respect for local and authentic food products (Dimara & Skuras, 2003; Sim, 2009). The empirical results confirm that the attribute authenticity impacts purchasing decisions, whereas the attribute appearance impacts on visitors' expenditures. However, the other attributes discussed in this study do not have any statistical significance. In this context, policies oriented to the quality and certification of local food production should be a priority, not just in terms of protecting the regional denomination of certain products. When consumers recognize the unique qualities of local products, they can differentiate between them, which in turn highly influences their spending behaviour (Dimara & Skuras, 2003; Sims, 2009).

Although policy has a limited effect on visitor-related factors, the results of this study highlight the importance of food-related personality traits on purchasing behaviour. Cohen and Avieli (2004) suggested that visitors who take gastronomic experiences appear to display neophilic tendencies (i.e., a preference for novel food flavours), given that individuals with an intense relationship with food ought to be more inclined to seek out new food experiences.

Despite the noteworthy results obtained by this study, several limitations were found. The first drawback of this study is its generalizability. Even though data collection was performed in different Portuguese cities, given that accurate statistics on the number of visitors visiting these cities was unknown at the time of the survey, a convenience sampling method was adopted. Second, although this study attempted to cover all potential determinants that may influence visitors to purchase local food products, it is recognized that some aspects of relevant behaviour have been overlooked. Moreover, as the lack of studies about this topic means that the identification of potential determinants is less than reliable, the models should be more refined. Third, although this study highlights the contribution of tourism to local development through the sale and purchase of local food products, positive effects are conditioned by the participation of local producers in the supply chain. In fact, there are some difficulties in including local agro-food products in the hospitality supply chain because local supply networks are generally organized on a small scale (Telfer & Wall, 1996).

In future, due to the scarce number of studies in this field, there needs to be more focus on understanding, in detail, the reasons why visitors buy (or not) these products, as well as the reasons that determine how much is spent on them. First, apart from the potential determinants behind the purchase of local products considered here, other factors, such as the importance of the experience in the selection of tourism destinations, cultural or religious influences in the consumption of certain food products, and familiarity and satisfaction with the products purchased, should be considered. Second, a complementary study should be carried out to analyse whether the factors that influence the purchase of local food products differ according to the type of product on sale. Third, it would be appropriate to extend this study to other countries. Fourth, questions about the supply chain, skills, and service delivery should be explored because these will help to validate the effects of the tourism-food link. Finally, a gap in knowledge also exists in relation to the determinants that motivate visitors to consume local food products when they return home. It will be productive to analyse whether the purchase of local food products during a trip influences visitors' intentions to consume them, as well as the likelihood to recommend these products to friends and relatives when they return to their home country.

Chapter 6

Determinants of visitors' intentions to consume and recommend local agro-food products¹¹

Abstract: Although analysis of post-visit purchases and recommendation behaviour regarding local food products is rarely found in the literature, it is highly relevant because it may help to encourage future international demand, which in turn would positively impact the respective local economies.

The chapter addresses this gap by: (i) analysing factors, which are likely to affect intentions among international visitors to consume and recommend in the future local products that they have encountered while on a trip; and (ii) identifying whether the determinants are product-specific. The study, which draws on data collected in the course of a questionnaire survey among international visitors, is focused on the most internationally known Portuguese agro-food products. The results from the econometric analysis suggest that some differences among the models were observable. These findings suggest that policy actions, which promote interaction between visitors and agro-food products during a trip, should be reinforced.

Keywords: inbound tourism; exports; agro-food products; intentional behaviours; Portugal; determinants

¹¹ This chapter has been submitted at "*Journal of Food Products Marketing* (2018)".

6.1. Introduction

The statistical data for the Portuguese economy show that the tourism sector maintains a marked growth, with positive implications for consumption, value added and job creation (INE, 2016). While the immediate and direct benefits of tourism on the Portuguese economy have been analysed (INE, 2010), there is scant empirical evidence on dynamic and leverage effects (Fischer & Gil-Alana, 2009; Madaleno, Eusébio, & Varum, 2016a, 2016b; Santana-Gallego et al., 2011a; 2011b; Telfer & Wall, 2000). For example, the existing literature suggests that inbound tourism is likely to affect the exports of local food products, further increasing the overall impact of tourism on the national economy. If this is true, the relevance of tourism to economic growth is likely to be greater than has been typically estimated in economic impact studies (Fischer & Gil-Alana, 2009; Gil-Alana & Fischer, 2010).

Indeed, the small number of studies that have addressed this matter found evidence for a positive influence of international tourism on the exports of local products (Fischer & Gil-Alana, 2009; Gil-Alana & Fischer, 2010; Telfer, 2000). Once they have returned to their own home, international visitors may search for and buy, or even recommend to others, the products they encountered while on a trip, thereby acting as a promotional channel for the respective local products abroad (Adongo et al., 2015; Brau & Pinna, 2013). Such an effect is particularly important in the case of products, which are produced locally, generally using local inputs. The products considered in the study are products that are locally processed and regionally branded in order to evoke the culture and sustainability of the place of origin (Enteleca Research and Consultancy, 2000; Kim et al., 2009; Nummedal & Hall, 2006; Sims, 2009). Indeed, the promotion of local products is a particularly important measure for ensuring the sustainable development of tourism destinations (Bessière, 1998; Telfer & Wall, 1996; Tellstrom et al., 2005). By promoting the exports of such products, international tourism can bring higher benefits to local economies (Telfer & Wall, 1996).

The purpose of this study is to analyse the determinants of visitors' intentions behind purchasing and/or recommending in the future local products that they encountered during a trip. In addition, the study explores whether (and how) those determinants are product-specific. The analysis is based on data collected from among international visitors to Portugal (N=500). The study focuses on a selected group of local agro-food products, specifically, cheese, olive oil, sausages, canned fish and wine. The reasoning behind choosing these products was twofold. First, they are the most well-known local Portuguese products, which are recognized and traded internationally. Moreover, they are linked to the broad agro-food sector, which is also considered to be a strategic player in boosting the national economy. In 2014, the broad agro-food sector in Portugal accounted for 20% of all manufacturing industry, involving with 10,807 companies, mostly small and medium-sized, and 104,315 employees, while representing a turnover of around €15 billion (FIPA, 2016).

The chapter is structured according to five sections. Following the introduction, a review of the relevant literature is presented. The methodology is explained in Section 6.3, while the results are reported in the fourth section. Finally, the conclusions and implications of the study are discussed in Section 6.5.

6.2. Literature background

The literature on the relationship between tourism and local products, as well as the published work on local food consumption, represents important groundwork for understanding the link between tourism and exports of local products. Such literature provides notable contributions on the determinants of tourism consumption of local products, which are also likely to help to explain future interest when tourists return to their own home. Based on a review of this literature, the determinants can be grouped into six categories, as presented in Table 6.1. The determinants are explained in detail in the following.

Table 6.1 - Determinants for the consumption of local products by visitors

| Group of determinants | References |
|--|---|
| Motivational factors for local food consumption on holiday | Fields (2002); Kim et al. (2009); Kim & Eves (2012); Mak, Lumbers, Eves, & Chang (2012) |
| Food-related personality traits | Cohen & Avieli (2004); Kim et al. (2009); Quan & Wang (2004); Torres (2002) |
| Knowledge of local food products | Fields (2002); Mak, Lumbers, Eves, & Chang (2012); Ryu & Jang (2006); Skuras et al. (2006); Tse & Crotts (2005) |
| Evaluation of the attributes associated with local food products | Dimara & Skuras (2003); Mynttinen et al. (2015); Sims (2009); Skuras et al. (2006) |
| Travel behaviour | Cohen & Avieli (2004); Frisvoll et al. (2016); Hjalager & Richards (2002); Telfer & Wall (1996) |
| Socio-demographic characteristics | Chang et al. (2011); Cohen & Avieli (2004); Kastenholz et al. (2016); Kim et al. (2009, 2013); Skuras et al. (2006) |

Source: Own construction based on literature.

Motivational factors behind the consumption of local food products

The theoretical approach related to motivational factors influencing local food consumption in a tourism destination (Figure 6.1) can be found in the research developed by Fields (2002) and Kim et al. (2009). Fields (2002) adopts the typology of tourism motivators proposed by McIntosh, Goeldner, and Ritchie (1995) in order to define four motivators: physical, cultural, interpersonal, and status and prestige motivators. First, food can be considered as a physical motivator because the act of eating involves sensory perceptions enabling the appreciation of food. Second, food can also be a cultural motivator given that, when visitors are experiencing new local food products, they also engage with a new culture. Third, the meals consumed on holiday represent a social function, which can build new social relations and strengthen social bonds. Finally, local food products may represent a status and prestige motivator because eating food

while on holiday can allow visitors to differentiate themselves from others, as well as enjoy new experiences related to local products, which they or their friends would not find at home (Fields, 2002).

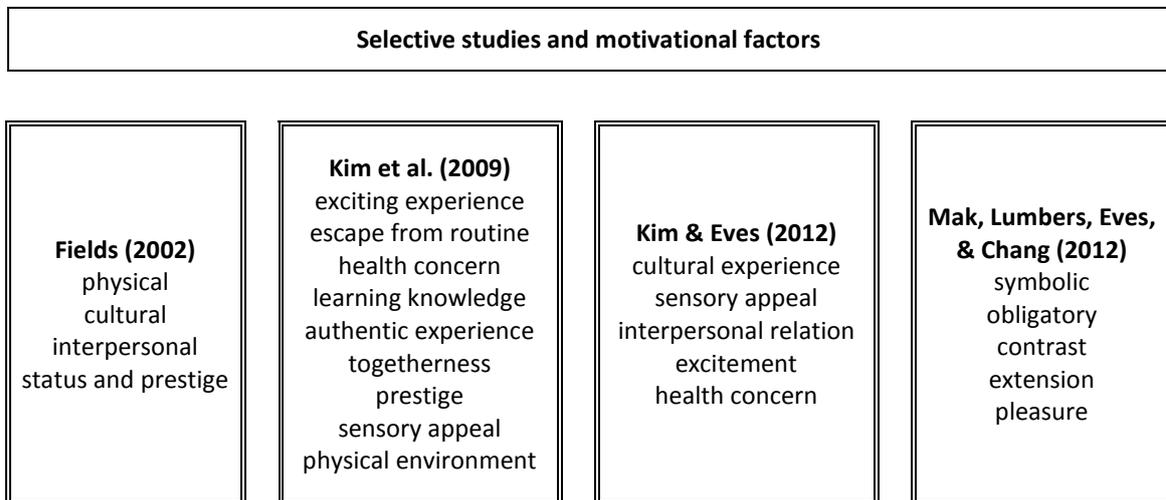


Figure 6.1 - Visitors' motivation to consume local food

Source: Own construction based on literature.

The subsequent work of Kim et al. (2009) found nine motivational factors influencing local food consumption: exciting experience, escape from routine, health concern, learning knowledge, authentic experience, togetherness, prestige, sensory appeal, and physical environment. Although Kim et al. (2009) did not classify these motivations into the four categories suggested by Fields (2002) some of them can be grouped under these four categories.

The empirical research conducted by Kim and Eves (2012) attempted to build a measure of visitors' motivation behind the consumption of local food based on the scales recommended by prior studies (Fields, 2002; Kim et al., 2009). The authors identified five motivational dimensions of local food consumption: cultural experience, sensory appeal, interpersonal relation, excitement, and health concern. The items relating to learning knowledge and authentic experience (Kim et al., 2009) were grouped with the cultural experience factor. Sensory appeal has been considered as a basic determinant of food choice because consumers pay attention to sensory characteristics in their search for new food experiences. The

dimension interpersonal relation, which was defined by combining the factors togetherness and prestige (Kim et al., 2009) represents the reciprocal, social and emotional interactions between people. The dimension excitement groups the factors exciting experience and escape from routine, as suggested in the work of Kim et al. (2009). The last dimension (health concern) is related to the healthy lifestyle orientation embraced by consumers during food consumption.

Following Fields (2002) and Kim et al. (2009), Mak, Lumbers, Eves, & Chang (2012) classified the motivational factors into five key dimensions: symbolic, obligatory, contrast, extension and pleasure. The first dimension signifies the symbolic meanings of food consumption to visitors and includes factors such as explore local culture, authentic experience, learning/education, prestige and status. The obligatory dimension includes factors such as health concerns and the physical need for sustenance. The contrast dimension includes factors, such as exciting experience and exploring new food, which break with routine, while the extension dimension includes food experiences that extend visitors' everyday experiences, such as core eating behaviour and familiar flavour. Finally, the pleasure dimension covers the motivations to seek pleasure from food experiences (sensory appeal and togetherness).

Food-related personality traits

Food-related personality traits refer to individual characteristics, which exert an influence on food-related behaviour and represent important psychological variables affecting tourists' food consumption. Food neophobia/neophilia and variety-seeking are two types of traits identified in the literature. Visitors who have a predisposition to be neophobic seem to be reluctant to eat exotic food (Kim et al., 2009; Torres, 2002). In some cases, these products can be an impediment, rather than an attraction, for many visitors (Cohen & Avieli, 2004). By contrast, the visitors who have a predisposition to be neophilic seek various dining experiences when on holiday (Chang et al., 2011). The tendency of visitors to seek diversity in the choice of goods can significantly affect food consumption in the tourism

context (Quan & Wang, 2004), which is one of the key attributes affecting visitors' evaluation of their food experience (Chang et al., 2011).

Knowledge of local food products

Visitors' exposure to local food products belonging to a particular destination increase the knowledge and the familiarity in relation to these products, potentially enhancing their preference towards it (Fields, 2002; Mak, Lumbers, Eves, & Chang, 2012; Ryu & Jang, 2006; Tse & Crofts, 2005). Some authors (e.g. Skuras et al., 2006; Tosun, Temizkan, Timothy, & Fyall, 2007) also claim that the purchase of local food products during the trip may help to reinforce the knowledge about local products and consequently induce the demand for these products in their own home region or country. Skuras et al. (2006) found that the level of spending increases among consumers who have already purchased the products on a previous trip or in their home region or country, which supports the argument that, when people who get to know the local food on holiday and search for it in their own country, this increases the demand for particular areas' local food products.

Evaluation of the attributes associated with local food products

Freshness and healthiness of local food products, as synonyms of high quality, together with traceability, sensory appeal and sustainability factors, have been highlighted in various studies on local food consumption by visitors (Mynttinen et al., 2015; Sims, 2009). Several studies also show that consumers view local food as authentic, pure and traditional, as well as simple and particular to the respective region (Dimara & Skuras, 2003; Sims, 2009).

The image of the region of origin and the specific product characteristics create a unique identity for food products, which in turn result in added value (Dimara & Skuras, 2003; van Ittersum, Candel, & Meulenberg, 2003). Thus, many local food

products have been traditionally associated with production in a particular geographic area (Bessièrè, 1998). Recently, many producers have successfully communicated the quality of their products to the market by emphasizing the geographic origin or the production location of critical ingredients found in the product (Dimara & Skuras, 2003; Thode & Maskulka, 1998; Tregear et al., 1998).

Travel behaviour

Accordingly to several authors (Bessièrè, 1998; Boniface, 2003; Cohen & Avieli, 2004; Hjalager & Richards, 2002), local food products have become an important aspect of visitors' travel experiences and motivation behind their decision to visit a particular destination (Kivela & Crofts, 2006). Furthermore, visitors' overall satisfaction with the local food experience during a trip has been found to be an important determinant in terms of revisiting a destination (Kivela & Crofts, 2006; Ryu & Jang, 2006).

According to Frisvoll et al. (2016), visitors travelling with family, children and friends are more inclined to buy local food products than visitors travelling alone. Additionally, long stays increase visitors' probability to buy local food products by increasing the opportunities to come into contact with local food. The attendance of certain local activities, such as food events, festivals and farmers' markets, are also likely to foster visitors' contact with and purchases of local products (Alonso, 2014; Getz, 2000; Hjalager & Corigliano, 2000; Telfer & Wall, 1996; Torres, 2002).

Socio-demographic characteristics

Research on food consumption reveals a number of socio-demographic factors, which are likely to explain food consumption in different contexts (e.g. Furst, Connors, Bisogni, Sobal, & Falk, 1996; Khan & Hackler, 1981; Randall & Sanjur, 1981; Steptoe, Pollard, & Wardle, 1995). Evidence from the tourism literature suggests that visitors' food consumption can also be influenced by socio-

demographic factors, such as age, gender, income, education, social class and nationality. However, the limited number of published papers exploring this theme inhibits any generalization of the results.

According with Kim et al. (2013), gender, age and annual income influence the consumption of local food products. Kim et al. (2009) also identified gender, age and education as three socio-demographic variables affecting visitors' local food consumption. In particular, females were found to be more interested in and excited about tasting local food products when on holiday. Elderly visitors or those with a higher level of education were found to have a stronger desire to understand and experience foreign cultures through consuming local food products. In the study by Skuras et al. (2006), among a range of socio-demographic factors, only marital status and level of education influenced the decision to purchase local food. Kastenholz et al. (2016) showed that age has a significant positive impact on the decision to buy local products.

There is also evidence that the difference between visitors' native food culture and the host food culture affects visitor food consumption. In some situations, visitors may avoid local food in the host destination, preferring to eat their own cuisine (Cohen & Avieli, 2004; Pizam & Sussmann, 1995; Sheldon & Fox, 1988). In particular, Chang et al. (2011) found that visitors' own food culture can exert a great deal of influence on their perceptions and evaluation of foreign food, particularly in terms of flavour and cooking method. Torres' (2002) study found discernible differences in food consumption and preferences among visitors of different nationalities, while Tse and Crofts (2005) suggested a link between visitors' culinary choice and their national culture.

From the literature mentioned above, a number of factors were derived that are likely to affect visitors' consumption of local products during a trip. This chapter investigates whether (and how) they are also likely to influence visitors' intentions regarding future purchases and/or recommendations to others about the local food products experienced. In addition, product specificities are also explored.

6.3. Data collection and methodology

6.3.1. Data collection

In order to meet the proposed objectives, a questionnaire-based survey was undertaken in three leading Portuguese tourism destinations (Lisbon, Oporto and Coimbra). Data collection was carried out between July 2015 and August 2015 during the peak holiday seasons in Portugal. Visitors over the age of 18 years, at the end of their holidays and near a heritage site (e.g. Chen & Chen, 2010) were selected to take part in the questionnaire-based survey. A convenience sampling method was adopted because an accurate set of statistics of the number of visitors visiting these cities was unknown. The questionnaire was tested and translated into four languages (Portuguese, English, French and Spanish).

6.3.2. Questionnaire

The questionnaire design was based on previous studies, particularly that of Chen & Lobo (2012), Dimara & Skuras (2003), Fields (2002), Hjalager & Richards (2002), Kim et al. (2009), Kim & Eves (2012), Mak, Lumbers, Eves, & Chang (2012), Paul & Rana (2012), Tarkiainen & Sundqvist (2005), and Zagata (2012). It included a group of questions specifically addressing visitors' intention to consume and/or recommend local agro-food products in the future following their visit to Portugal. Another set of questions addressed the factors that are likely to influence visitors' consumption behaviour in the future. As such, the study is guided by the group of determinants identified in Section 6.2: (i) motivations to consume local food products using the dimensions identified previously by Kim and Eves (2012) (cultural experience, excitement, interpersonal relation, sensory appeal and health concern); (ii) food-related personality traits, namely, food neophilia; (iii) knowledge of Portugal's local agro-food products; (iv) evaluation of the attributes associated

with local food products; (v) travel behaviour; and (vi) visitors' socio-demographic profile.

6.3.3. Econometric procedure

Multiple regression analysis is an appropriate technique to predict and explain a metric-dependent variable based on a set of other independent variables (Hair et al., 1998) and has been used widely in tourism research (Song & Li, 2008). A log-log linear regression model was used with the following shape:

$$\ln Y_i = \alpha + \beta_1 \ln EXCIT_i + \beta_2 \ln HEALTH_i + \beta_3 \ln CULTURAL_i + \beta_4 \ln INTERP_i + \beta_5 \ln SENSORY_i + \beta_6 \ln TRAITS_i + \beta_7 \ln TASTE_i + \beta_8 \ln TASTE_{trip_i} + \beta_9 \ln BUY_{trip_i} + \beta_{10} \ln BUY_{home_i} + \beta_{11} \ln EV_QUAL_i + \beta_{12} \ln EV_TASTE_i + \beta_{13} \ln EV_APPEAR_i + \beta_{14} \ln EV_AUTH_i + \beta_{15} \ln NPV_i + \beta_{16} \ln DUR_i + \beta_{17} \ln GROUP_i + \beta_{18} \ln ACT_i + \beta_{19} \ln AGE_i + \beta_{20} \ln FR_i + \beta_{21} \ln SP_i + \beta_{22} \ln G_i + \beta_{23} \ln EDU_i + \beta_{24} \ln REND_i + \varepsilon_i \quad (1)$$

Where: $i = 1 \dots n$ - number of international visitors

The equation (1) was applied to:

Intentions to search for and purchase local Portuguese agro-food products when visitors return home after visiting Portugal (Model 1);

Intentions to recommend local Portuguese agro-food products to family and friends after visiting Portugal (Model 2).

Table 6.2 - Definition of the variables included in the multiple linear regression

| Variable | Question | Measure |
|--|--|--|
| Dependent variable | | |
| Model 1: SEARCH | <i>I will search for and try to buy in my home country</i> | Likert-type scale: 1 (<i>very unlikely</i>) 5 (<i>very likely</i>) |
| Model 2: RECOM | <i>I will recommend to my family/ friends</i> | |
| Independent variables | | |
| <i>Motivational factors for local food consumption on holidays</i> | | |
| EXCIT | <i>Experiencing local products in its original place excites me</i> <i>Tasting local products on holiday helps me to relax</i> | Likert-type scale: 1 (<i>strongly disagree</i>) 5 (<i>strongly agree</i>) |
| HEALTH | <i>Local products contains a lot of fresh ingredients produced in a local area</i> | |
| CULTURAL | <i>Experiencing local products increase my knowledge about different cultures</i> <i>Tasting local products in an original place is an authentic experience</i> | |
| INTERP | <i>Tasting local products enables me to have an enjoyable time with friends/family</i> <i>I like to talk to everybody about my local products experiences</i> <i>I want to give advice about local products experiences to people who want to travel</i> | |
| SENSORY | <i>It is important to me that the local products I eat on holiday looks nice/ tastes good</i> | |
| <i>Food-related personality traits</i> | | |
| TRAITS | <i>I am constantly sampling new and different food products</i> | Likert-type scale: 1 (<i>strongly disagree</i>) 5 (<i>strongly agree</i>) |
| <i>Knowledge of local food products</i> | | |
| TASTE | <i>Before visiting Portugal have you tasted any Portuguese agro-food products?</i> | dummy (1 = Yes; 0 = otherwise) |
| TASTEtrip | <i>During your stay in Portugal did you taste any of these products?</i> | |
| BUYtrip | <i>During your stay in Portugal did you buy (or want to buy) any of these local agro-food products to taste during the visit?</i> | |
| BUYbome | <i>During your stay in Portugal did you buy (or want to buy) any of these local agro-food products to take home?</i> | |

Table 6.2 - Definition of the variables included in the multiple linear regression (cont.)

| Variable | Question | Measure |
|---|--|--|
| <i>Evaluation of the attributes associated with local food products</i> | | |
| EV_QUAL | Relation price-quality | |
| EV_TASTE | Taste | Likert-type scale: 1 (<i>very bad</i>) |
| EV_APPEAR | Appearance | 5 (<i>very good</i>) |
| EV_AUTH | Authenticity | |
| <i>Travel behaviour</i> | | |
| NPV | Number of previous visits to Portugal | Number |
| DUR | Length of stay (in nights) | Number |
| GROUP | Number of persons in the travel group | Number |
| ACTIV | Number of tourism activities carried out during the trip | Number |
| <i>Socio-demographic profile</i> | | |
| AGE | Age | Number |
| FR | Residence is France | dummy (1 = Country of residence is France; 0 = otherwise) |
| SP | Residence is Spain | dummy (1 = Country of residence is Spain; 0 = otherwise) |
| G | Gender | dummy (1 = Female; 0 = otherwise) |
| EDU | Education level | dummy (1 = Higher education; 0 = otherwise) |
| REND | Net monthly income per capita | dummy (1 = Income >= €1,500.00; 0 = otherwise) |

As a first step, the intention to buy and/or recommend any of the products under consideration was analysed. In a second step, the dependent variables in Models 1 and 2 were the intention to buy and/or recommend each of the five products considered in the study. Hence, in this step, 10 regressions were estimated. Data were analysed using *SPSS* - Version 23.

The explanatory variables are the same for all models and mostly based on the factors likely to affect visitors' consumption of local products (as reviewed in Section 6.2). The first group comprises motivational factors for local food consumption while on holiday (cultural experience, excitement, interpersonal relation, sensory appeal and health concern) and the second group is related to food-related personality traits, namely, food neophilia. The third and fourth groups consider visitors' knowledge of local food products and the evaluation of local food products. Travel behaviour and socio-demographic characteristics were also considered (Table 6.2).

6.4. Results

6.4.1. Sample profile

Out of the 500 visitors who participated, 84% (N=422) reported having encountered local agro-food products during their stay in Portugal. This is the group we have chosen for deeper analysis. The socio-demographic characteristics of the 422 visitors interviewed are described in Table 6.3. As reported, the sample is balanced in terms of gender. The average age of respondents is 35 years. A considerable number of visitors are educated to university level or above (80.3%). The majority of the visitors surveyed were visiting Portugal for the first time, travelling in groups of about three persons and staying in Portugal for approximately 12 nights on average.

Table 6.3 - Socio-demographic and travel behaviour characteristics of respondents (N=422)

| <i>Socio-demographic profile</i> | | |
|--|-------------|------------------|
| | <i>Mean</i> | <i>Std. dev.</i> |
| Age (n=420) | 34.7 | 11.5 |
| Gender respondents (n=421) | <i>n</i> | <i>%</i> |
| Male | 178 | 42.3 |
| Female | 243 | 57.7 |
| Country of residence (n=420) | | |
| France | 144 | 34.3 |
| Spain | 89 | 21.2 |
| Other | 187 | 44.5 |
| Monthly income (n=399) | | |
| ≥€1,500.00 | 203 | 50.9 |
| <€1,500.00 | 196 | 49.1 |
| Education level (n=416) | | |
| Higher education | 334 | 80.3 |
| Less than higher education | 82 | 19.7 |
| <i>Travel behaviour</i> | | |
| | <i>n</i> | <i>%</i> |
| Had previously visited Portugal (n=419) | 184 | 43.9 |
| | <i>Mean</i> | <i>Std. dev.</i> |
| Number of previous visits to Portugal (n=413) | 2.6 | 8.0 |
| Number of persons in the travel group (n=418) | 3.5 | 2.9 |
| Length of stay (in nights) (n=417) | 11.7 | 11.9 |
| Number of cultural, historic, religious, sports, gastronomic, and social activities carried out during the visit (n=421) | 4.2 | 1.6 |

Intention to purchase and recommend local agro-food products

Using a Likert-type scale from 1 to 5, the international visitors were questioned about their intention to purchase and/or recommend Portuguese agro-food products in the future following their staying in Portugal (Table 6.4).

Overall, the mean scores show that there are differences in the behaviour in terms of intentions to buy and/or recommend and the products analysed. On the one hand, the mean scores for intentions to recommend Portuguese agro-food products when visitors returned home are higher than the intentions to purchase. On the other hand, the intentions to buy and/or recommend are higher for wine

(between 33.4% and 36.8%, respectively), while sausages and canned fish received the lowest marks in terms of intention to buy and/or recommend. This result may be explained by the strong promotion of wine and related globalization processes compared with the other products included in the study.

Table 6.4 - Intention to buy and/or recommend local agro-food products (N=422; Likert-type scale: 1 = *very unlikely*; 5 = *very likely*)

| | 1 | 2 | 3 | 4 | 5 | Mean | Std. dev. |
|--|------|------|------|------|------|------|-----------|
| | % | | | | | | |
| <i>I will search for and try to buy in my home country</i> | | | | | | | |
| Wine (n=404) | 10.1 | 9.4 | 15.8 | 31.2 | 33.4 | 3.7 | 1.3 |
| Cheese (n=391) | 21.2 | 12.3 | 21.5 | 25.8 | 19.2 | 3.1 | 1.4 |
| Olive oil (n=367) | 18.3 | 16.6 | 24.3 | 21.0 | 19.9 | 3.1 | 1.4 |
| Canned fish (n=320) | 27.2 | 18.1 | 22.8 | 19.4 | 12.5 | 2.7 | 1.4 |
| Sausages (n=352) | 21.6 | 18.8 | 23.3 | 22.4 | 13.9 | 2.9 | 1.4 |
| <i>I will recommend to my family/friends</i> | | | | | | | |
| Wine (n=400) | 6.3 | 6.5 | 18.5 | 32.0 | 36.8 | 3.9 | 1.2 |
| Cheese (n=388) | 13.4 | 11.1 | 24.7 | 29.1 | 21.6 | 3.4 | 1.3 |
| Olive oil (n=363) | 13.2 | 14.6 | 24.0 | 24.5 | 23.7 | 3.3 | 1.3 |
| Sausages (n=349) | 16.6 | 17.8 | 28.1 | 20.1 | 17.5 | 3.0 | 1.3 |
| Canned fish (n=313) | 23.3 | 17.6 | 27.5 | 16.3 | 15.3 | 2.8 | 1.4 |

Motivational factors for local food consumption on holiday and food-related personality traits

This group comprises motivational factors for local food consumption on holiday using the five dimensions identified previously by Kim and Eves (2012) (cultural experience, excitement, interpersonal relation, sensory appeal and health concern). Each dimension was constructed and measured with Likert-type scale from 1 to 5. In the case of the dimensions cultural experience, excitement and interpersonal relation, the mean value was considered (Table 6.5).

Table 6.5 - Motivational factors and food-related personality traits (N=422; Likert-type scale: 1 = *strongly disagree*; 5 = *strongly agree*)

| | 1 | 2 | 3 | 4 | 5 | Mean | Std. dev. |
|--|-----|------|------|------|------|------------|------------|
| | % | | | | | | |
| Motivational factors | | | | | | | |
| Cultural experience | | | | | | 4.2 | 0.9 |
| <i>Experiencing local products increase my knowledge about different cultures (n=422)</i> | 1.7 | 3.8 | 12.6 | 34.6 | 47.4 | 4.2 | 0.9 |
| <i>Tasting local products in an original place is an authentic experience (n=420)</i> | 2.4 | 4.8 | 15.0 | 35.0 | 42.9 | 4.1 | 1.0 |
| Sensory appeal | | | | | | 4.2 | 0.9 |
| <i>It is important to me that the local products I eat on holiday looks nice/tastes good (n=421)</i> | 1.4 | 3.3 | 13.8 | 35.2 | 46.3 | 4.2 | 0.9 |
| Excitement | | | | | | 4.0 | 0.9 |
| <i>Experiencing local products in its original place excites me (n=421)</i> | 2.4 | 3.3 | 10.9 | 32.3 | 51.1 | 4.3 | 0.9 |
| <i>Tasting local products on holiday helps me to relax (n=420)</i> | 5.5 | 7.1 | 23.6 | 34.0 | 29.8 | 3.8 | 1.1 |
| Health concern | | | | | | 3.9 | 1.0 |
| <i>Local products contains a lot of fresh ingredients produced in a local area (n=416)</i> | 3.4 | 4.1 | 22.4 | 39.4 | 30.8 | 3.9 | 1.0 |
| Interpersonal relation | | | | | | 3.7 | 0.9 |
| <i>Tasting local products enables me to have an enjoyable time with friends/family (n=417)</i> | 2.4 | 5.8 | 20.1 | 34.3 | 37.4 | 4.0 | 1.0 |
| <i>I like to talk to everybody about my local products experiences (n=417)</i> | 5.0 | 12.5 | 26.9 | 33.1 | 22.5 | 3.6 | 1.1 |
| <i>I want to give advice about local products experiences to people who want to travel (n=420)</i> | 5.5 | 12.9 | 27.9 | 33.3 | 20.5 | 3.5 | 1.1 |
| Food-related personality traits | | | | | | | |
| <i>I am constantly sampling new and different food products (n=419)</i> | 7.9 | 12.2 | 25.5 | 29.4 | 25.1 | 3.5 | 1.2 |

Note. Bold values represent the mean values for each group of variables.

The motivations for local food consumption on holiday associated with cultural experience and sensory appeal revealed the greatest degree of agreement between the visitors who purchased agro-food products during their trip (mean equal to 4.2 on the Likert-type scale from 1 to 5). Conversely, the dimension linked to the interpersonal relation motivation revealed the smallest degree of agreement (mean equal to 3.7). The results also show that visitors were interested in experiencing new and different food products (mean equal to 3.5).

Evaluation of the attributes associated with local food products

With regard to the attributes associated with local food products included in this study (relation price-quality, taste, appearance and authenticity), the results confirm that wine was the local product with the best evaluation with regard to the four attributes (mean more or equal to 4.0 on the Likert-type scale from 1 to 5), followed by olive oil. Meanwhile, sausages received the worst rating (Table 6.6).

Table 6.6 - Evaluation of the attributes associated with the local food products (N=422; Likert-type scale: 1 = *very bad*; 5 = *very good*)

| | 1 | 2 | 3 | 4 | 5 | Mean | Std. dev. |
|-------------------------------|-----|-----|------|------|------|------|-----------|
| | % | | | | | | |
| Relation price-quality | | | | | | | |
| Wine (n=371) | 0.8 | 3.2 | 21.8 | 40.4 | 33.7 | 4.0 | 0.9 |
| Olive oil (n=298) | 0.3 | 3.0 | 24.5 | 38.3 | 33.9 | 4.0 | 0.9 |
| Canned fish (n=170) | 1.2 | 4.1 | 28.2 | 35.9 | 30.6 | 3.9 | 0.9 |
| Cheese (n=335) | 0.9 | 5.7 | 29.3 | 40.6 | 23.6 | 3.8 | 0.9 |
| Sausages (n=248) | 2.0 | 4.4 | 27.4 | 40.7 | 25.4 | 3.8 | 0.9 |
| Taste | | | | | | | |
| Wine (n=360) | 1.4 | 2.2 | 17.5 | 43.6 | 35.3 | 4.1 | 0.9 |
| Olive oil (n=286) | 1.7 | 3.5 | 25.2 | 33.6 | 36.0 | 4.0 | 1.0 |
| Cheese (n=325) | 3.4 | 6.2 | 24.6 | 38.8 | 27.1 | 3.8 | 1.0 |
| Canned fish (n=151) | 2.6 | 9.9 | 26.5 | 27.8 | 33.1 | 3.8 | 1.1 |
| Sausages (n=233) | 4.7 | 6.4 | 28.3 | 35.6 | 24.9 | 3.7 | 1.1 |
| Appearance | | | | | | | |
| Wine (n=365) | 1.4 | 1.6 | 21.1 | 39.2 | 36.7 | 4.1 | 0.9 |
| Olive oil (n=293) | 0.7 | 2.7 | 28.7 | 35.8 | 32.1 | 4.0 | 0.9 |
| Cheese (n=328) | 2.1 | 8.5 | 31.1 | 35.7 | 22.6 | 3.7 | 1.0 |
| Canned fish (n=168) | 3.6 | 9.5 | 31.0 | 26.8 | 29.2 | 3.7 | 1.1 |
| Sausages (n=244) | 4.1 | 7.8 | 33.6 | 32.8 | 21.7 | 3.6 | 1.0 |
| Authenticity | | | | | | | |
| Wine (n=361) | 0.8 | 3.6 | 22.4 | 34.9 | 38.2 | 4.1 | 0.9 |
| Olive oil (n=290) | 1.7 | 4.5 | 29.0 | 33.4 | 31.4 | 3.9 | 1.0 |
| Cheese (n=325) | 2.8 | 6.2 | 28.9 | 32.3 | 29.8 | 3.8 | 1.0 |
| Sausages (n=242) | 2.5 | 6.2 | 30.2 | 32.2 | 28.9 | 3.8 | 1.0 |
| Canned fish (n=170) | 3.5 | 4.1 | 32.4 | 29.4 | 30.6 | 3.8 | 1.0 |

6.4.2. Factors influencing visitors' intention to consume and to recommend local agro-food products

Ordinary least squares and enter regression procedures were used to estimate the regression model. Table 6.7 presents the obtained results and the models' diagnostic in terms of multivariate regression assumptions (normality of error term, homogeneity of variance, multicollinearity and linearity) (Hair et al., 1998).

The results obtained for both Model 1 (intentions to search for and purchase local Portuguese agro-food products when visitors return home after visiting Portugal) and Model 2 (intentions to recommend local Portuguese agro-food products to family and friends after visiting Portugal) are similar. In terms of motivational factors, the dimensions excitement and cultural experience emerge as two important factors, which influence the intention to consume and recommend agro-food products. The first dimension showed a positive impact, which may be related to the fact that encountering local food products can be regarded as an exciting experience and a way of escaping from daily routines (Kim et al., 2009; Kim & Eves, 2012). Meanwhile, the dimension cultural experience showed a negative effect, which is a result that deserves further exploration because, according to the literature, the experience of local food products on holiday is viewed as a cultural and authentic experience (Fields, 2002; Kim et al., 2009; Kim & Eves, 2012; Mak, Lumbers, Eves, & Chang, 2012). These findings may be explained in terms of the importance that visitors attribute to the experiences "on site", while the consumption of local food products in their own country is not recognized as an authentic and cultural experience.

Food-related personality traits were found to influence future behaviour, which sustains the argument that the psychological dimension is considered as a key element of food behaviour (Chang et al., 2011; Cohen & Avieli, 2004; Kim et al., 2009). The visitors who have a predisposition to be food neophilic reveal a greater tendency to search for and experience novel food products.

Table 6.7 - Results of the regression analysis of total visitors' intention to search for and recommend local agro-food products

| | Model 1 Search and purchase | Model 2 Recommend |
|---|--------------------------------|----------------------|
| Standardized β and significance | | |
| <i>Motivational factors for local food consumption on holiday</i> | | |
| EXCIT | 0.201* | 0.157* |
| HEALTH | -0.037 | 0.015 |
| CULTURAL | -0.156* | -0.172* |
| INTERP | 0.055 | -0.007 |
| SENSORY | -0.058 | -0.067 |
| <i>Food-related personality traits</i> | | |
| TRAITS | 0.170* | 0.143* |
| <i>Knowledge of local food products</i> | | |
| TASTE | 0.109* | 0.018 |
| TASTEtrip | -0.060 | -0.039 |
| BUYtrip | -0.005 | 0.023 |
| BUYhome | 0.126* | 0.101** |
| <i>Evaluation of the attributes associated with local food products</i> | | |
| EV_QUAL | -0.027 | -0.046 |
| EV_TASTE | 0.187* | 0.328* |
| EV_APPEAR | 0.244* | 0.060 |
| EV_AUTH | -0.030 | 0.187* |
| <i>Travel behaviour</i> | | |
| NPV | 0.017 | 0.044 |
| DUR | 0.107** | 0.120* |
| GROUP | -0.017 | 0.012 |
| ACTIV | 0.037 | -0.025 |
| <i>Socio-demographic characteristics</i> | | |
| AGE | 0.149* | 0.080 |
| FR | 0.013 | 0.001 |
| SP | 0.069 | 0.005 |
| G | 0.039 | 0.027 |
| EDU | -0.070 | -0.029 |
| REND | -0.040 | -0.096** |
| <i>Model diagnostic</i> | | |
| N | 345 | 340 |
| R | 0.552 | 0.568 |
| R ² | 0.305 | 0.323 |
| Standard error | 0.334 | 0.273 |
| F statistic (p-value) | 5.852 (0.000) | 6.264 (0.000) |
| Normality: Kolmogoro-Sminorv test (p-value) | 0.093 (0.000) | 0.119 (0.000) |
| <i>Multicollinearity</i> | | |
| Tolerance (all variables) | ≥ 0.31 | ≥ 0.31 |
| VIF (all variables) | ≤ 3.22 | ≤ 3.21 |

Note: * p < 0.05; ** p < 0.10

Increased exposure and familiarity affect not only the image of local food, but also its consumption (Fields, 2002; Mak, Lumbers, Eves, & Chang, 2012; Ryu & Jang, 2006; Seo et al., 2013; Tse & Crofts, 2005). The results show that the knowledge about local food products acquired by visitors, not only before but also during a trip, positively influences their future behaviour. When visitors buy local food products to take home, they may also contribute to promoting these products among friends and relatives.

This study demonstrates that visitors' perception with respect to certain attributes associated with local food products - namely, taste, appearance and authenticity - may positively affect future behaviour towards buying and/or recommending these specific products (Bessièrè, 1998; Skuras et al., 2006). The attribute relation price-quality showed no significance, which suggests that additional efforts need to be made by local authorities to better reinforce the quality features of these local products to international visitors during their stay in Portugal.

Regarding travel behaviour, statistical significance was found for the variable length of stay in both models. The results presented here corroborate the findings of Frisvoll et al. (2016) who suggested that longer stays result in more opportunities for visitors to come into contact with local food products, thereby improving their knowledge of them. Finally, in terms of socio-demographic characteristics, only the variables age and monthly income seem to affect future behaviour. The results show that older visitors are more likely to search for and buy local products when back home, which may be explained by the fact that this group, also reveals a stronger desire to experience foreign cultures through local food consumption while on holiday (Kim et al., 2009). The variable monthly income had a negative impact on the intention to recommend local food products to friends and relatives. Due to the scarcity of studies exploring this theme, this effect needs further exploration.

After analysing the determinants influencing international visitors' intentions to consume, as well as recommend to friends and relatives, the local food products that they encountered during their stay, a detailed study should be made to identify whether there are differences by types of product.

6.4.3. Factors influencing visitors' intention to consume and to recommend specific local agro-food products

The determinants that influence future intention to consume, as well as recommend to friends and relatives, the Portuguese agro-food products were tested separately for each local agro-food product, namely, cheese, olive oil, sausages, canned fish and wine. In the estimation, the same econometric procedure was adopted (Hair et al.,1998).

The results of the multivariate regression models show differences in terms of determinants by local food product and by intention to purchase and/or recommend these local products following a trip (Table 6.8 and Table 6.9).

On the one hand, regarding future purchase behaviour, the findings show that: (i) the dimensions excitement and cultural experience are significant for wine; (ii) olive oil, sausages and wine are affected by food-related personality traits; (iii) having tasted before the trip is relevant for olive oil and wine, while purchases made during a trip to take home show significance in all products with the exception of wine; (iv) the evaluation made by visitors about the attributes associated with the local products is important, although, in the case of olive oil, the attributes don't show statistical significance; (v) travel behaviour shows significance for wine (length of stay) and olive oil (number of persons in the travel group); and (vi) amongst the several socio-demographic factors, the variable age should be pointed out.

Table 6.8 - Results of the regression analysis of total visitors' intention to search local agro-food products: analysis by product

| | Model 1.1 Cheese | Model 1.2 Olive oil | Model 1.3 Sausages | Model 1.4 Canned fish | Model 1.5 Wine |
|---|---------------------|------------------------|-----------------------|--------------------------|-------------------|
| Standardized β and significance | | | | | |
| <i>Motivational factors for local food consumption on holiday</i> | | | | | |
| EXCIT | 0.124 | 0.149 | 0.075 | 0.105 | 0.231* |
| HEALTH | 0.020 | -0.100 | 0.050 | 0.050 | 0.008 |
| CULTURAL | -0.093 | -0.071 | -0.122 | -0.074 | -0.183* |
| INTERP | 0.072 | -0.066 | 0.075 | -0.158** | 0.021 |
| SENSORY | -0.039 | -0.101 | -0.035 | -0.017 | -0.076 |
| <i>Food-related personality traits</i> | | | | | |
| TRAITS | -0.101 | 0.131** | 0.159* | 0.140 | 0.214* |
| <i>Knowledge of local food products</i> | | | | | |
| TASTE | -0.047 | 0.119** | -0.045 | -0.006 | 0.127* |
| TASTEtrip | 0.003 | -0.085 | 0.045 | -0.018 | -0.049 |
| BUYtrip | -0.011 | 0.059 | 0.036 | 0.115 | 0.055 |
| BUYhome | 0.106** | 0.284* | 0.219* | 0.309* | 0.054 |
| <i>Evaluation of the attributes associated with local food products</i> | | | | | |
| EV_QUAL | 0.064 | 0.107 | 0.131 | -0.095 | 0.066 |
| EV_TASTE | 0.279* | 0.066 | 0.266* | 0.329* | -0.005 |
| EV_APPEAR | 0.174* | 0.023 | 0.080 | 0.192** | 0.303* |
| EV_AUTH | -0.062 | 0.047 | 0.066 | -0.013 | 0.144* |
| <i>Travel behaviour</i> | | | | | |
| NPV | -0.004 | 0.038 | -0.076 | 0.017 | -0.001 |
| DUR | 0.090 | 0.067 | -0.013 | 0.013 | 0.186* |
| GROUP | 0.063 | -0.105** | 0.060 | -0.085 | -0.050 |
| ACTIV | 0.035 | -0.024 | 0.103 | -0.021 | -0.042 |
| <i>Socio-demographic characteristics</i> | | | | | |
| AGE | 0.064 | 0.164* | 0.103 | 0.196* | 0.128* |
| FR | 0.055 | 0.006 | -0.012 | -0.115 | 0.003 |
| SP | 0.119** | -0.048 | 0.067 | -0.071 | 0.100 |
| G | -0.001 | -0.028 | 0.024 | -0.114 | 0.025 |
| EDU | -0.007 | 0.093 | -0.001 | 0.032 | -0.087** |
| REND | -0.0004 | -0.071 | -0.053 | -0.100 | -0.027 |
| <i>Model diagnostic</i> | | | | | |
| N | 279 | 239 | 198 | 136 | 302 |
| R | 0.509 | 0.495 | 0.619 | 0.625 | 0.622 |
| R ² | 0.259 | 0.245 | 0.383 | 0.391 | 0.387 |
| Standard error | 0.503 | 0.493 | 0.472 | 0.491 | 0.359 |
| F statistic (p-value) | 3.693 (0.000) | 2.898 (0.000) | 4.474 (0.000) | 2.971 (0.000) | 7.296 (0.000) |
| Normality: Kolmogoro-Sminorv test (p-value) | 0.132 (0.000) | 0.116 (0.000) | 0.116 (0.000) | 0.131 (0.000) | 0.103 (0.000) |
| <i>Multicollinearity</i> | | | | | |
| Tolerance (all variables) | ≥ 0.32 | ≥ 0.36 | ≥ 0.41 | ≥ 0.23 | ≥ 0.40 |
| VIF (all variables) | ≤ 3.10 | ≤ 2.81 | ≤ 2.43 | ≤ 4.28 | ≤ 2.49 |

Note: * p < 0.05; ** p < 0.10

Table 6.9 - Results of the regression analysis of total visitors' intention to recommend local agro-food products: analysis by product

| | Model 2.1 Cheese | Model 2.2 Olive oil | Model 2.3 Sausages | Model 2.4 Canned fish | Model 2.5 Wine |
|---|---------------------|------------------------|-----------------------|--------------------------|-------------------|
| Standardized β and significance | | | | | |
| <i>Motivational factors for local food consumption on holiday</i> | | | | | |
| EXCIT | 0.093 | 0.121 | 0.014 | 0.073 | 0.246* |
| HEALTH | 0.121** | -0.090 | 0.130** | 0.101 | -0.110** |
| CULTURAL | -0.171* | -0.046 | -0.084 | -0.002 | -0.108 |
| INTERP | 0.015 | -0.022 | -0.033 | -0.071 | -0.002 |
| SENSORY | -0.052 | -0.151* | -0.081 | -0.114 | -0.036 |
| <i>Food-related personality traits</i> | | | | | |
| TRAITS | -0.063 | 0.051 | 0.174* | 0.091 | 0.126* |
| <i>Knowledge of local food products</i> | | | | | |
| TASTE | -0.095** | -0.013 | -0.100 | -0.095 | 0.100** |
| TASTEtrip | 0.053 | -0.058 | 0.054 | -0.052 | 0.112* |
| BUYtrip | -0.015 | 0.064 | 0.108 | 0.193* | 0.040 |
| BUYhome | 0.111* | 0.239* | 0.167* | 0.338* | 0.080 |
| <i>Evaluation of the attributes associated with local food products</i> | | | | | |
| EV_QUAL | 0.014 | 0.086 | 0.169** | 0.049 | 0.139* |
| EV_TASTE | 0.324* | 0.065 | 0.284* | 0.016 | 0.111 |
| EV_APPEAR | 0.156* | 0.023 | -0.054 | 0.061 | 0.148* |
| EV_AUTH | 0.142* | 0.181* | 0.147** | 0.208** | 0.152* |
| <i>Travel behaviour</i> | | | | | |
| NPV | 0.091 | 0.079 | 0.007 | 0.024 | -0.054 |
| DUR | 0.104** | 0.112 | 0.019 | 0.040 | 0.204* |
| GROUP | 0.057 | 0.029 | 0.002 | -0.153** | -0.022 |
| ACTIV | 0.005 | -0.080 | 0.093 | -0.006 | -0.026 |
| <i>Socio-demographic characteristics</i> | | | | | |
| AGE | -0.013 | 0.061 | 0.030 | 0.159** | -0.017 |
| FR | 0.005 | -0.009 | -0.034 | -0.231* | -0.019 |
| SP | 0.042 | -0.143** | 0.037 | -0.113 | 0.165* |
| G | 0.031 | -0.094 | 0.002 | -0.105 | 0.000 |
| EDU | 0.001 | 0.118** | -0.098 | -0.049 | -0.072 |
| REND | -0.021 | -0.129** | 0.005 | -0.080 | -0.043 |
| <i>Model diagnostic</i> | | | | | |
| N | 276 | 238 | 196 | 136 | 296 |
| R | 0.616 | 0.518 | 0.598 | 0.629 | 0.616 |
| R ² | 0.380 | 0.268 | 0.357 | 0.395 | 0.379 |
| Standard error | 0.377 | 0.438 | 0.438 | 0.452 | 0.277 |
| F statistic (p-value) | 6.408 (0.000) | 3.250 (0.000) | 3.964 (0.000) | 3.021 (0.000) | 6.902 (0.000) |
| Normality: Kolmogoro-Sminorv test (p-value) | 0.131 (0.000) | 0.146 (0.000) | 0.125 (0.000) | 0.118 (0.000) | 0.120 (0.000) |
| <i>Multicollinearity</i> | | | | | |
| Tolerance (all variables) | ≥ 0.32 | ≥ 0.36 | ≥ 0.41 | ≥ 0.23 | ≥ 0.38 |
| VIF (all variables) | ≤ 3.14 | ≤ 2.80 | ≤ 2.43 | ≤ 4.28 | ≤ 2.60 |

Note: * p < 0.05; ** p < 0.10

On the other hand, regarding the intention to recommend to friends and relatives, the results reveal that: (i) the dimension health concern, among the motivational factors behind local food consumption on holiday, has an impact for cheese, sausages and wine; (ii) sausages and wine are affected by food-related personality traits; (iii) having tasted before the trip is relevant in the case of cheese and wine, while purchases made during a trip to take home show significance in all products with the exception of wine; (iv) the attribute authenticity in relation to local food products, is significant for all five products; (v) the length of stay and the number of persons in the travel group are the only variables related to travel behaviour with any statistical significance; and (vi) amongst the several socio-demographic characteristics included in the model, the variable resident in Spain has a positive impact for wine and a negative effect for olive oil.

The findings allow us to conclude that knowledge about local food products seems to be highly significant in terms of future behaviour, which corroborate with those in the literature concerning the relevance of the exposure and past experiences on visitors' consumption of food (Fields, 2002; Mak, Lumbers, Eves, & Chang, 2012; Ryu & Jang, 2006; Tse & Crotts, 2005). Specifically, it is interesting to note that the purchase of local food products during a stay with the intention of taking them home has a positive effect on future behaviour. Apart from the importance of encountering the product, the present study also highlights the importance of the positive evaluation made by international visitors with respect to these local food products. The intrinsic attributes (taste, appearance and authenticity) associated with these products contribute to their distinctiveness and differentiation in international markets (Bessi re, 1998; Sims, 2009; Skuras et al., 2006).

6.5. Conclusions and implications

This chapter analysed the determinants of future visitors' intentions to purchase and/or recommend local food products, which they had opportunity to encounter during a trip. Despite recognizing the relevance of international tourism on the

future demand of local food products when visitors return to their own home, no known studies have explored this research area in detail.

Theoretically, this study provides important insights into consumer behaviour in tourism by establishing a group of determinants, which could influence the consumption and recommendation of local food products after a trip. Based on the literature on the relationship between tourism and local products, as well as the published work on local food consumption, six groups of potential determinants were identified. Although the findings of the empirical study suggest that the determinants differ according to the behaviour (search and recommend) and the type of product, the following groups of variables should be enhanced: (i) the motivational factors for local food consumption on holiday; (ii) the food-related personality traits, namely, food neophilia; (iii) the importance of the exposure to and knowledge of local food products in the context of on-site experience; and (iv) the perception that visitors have with respect to certain attributes associated with local agro-food products, which explain their distinctness. These findings reinforce the importance of the direct contact between visitors and local food products during a trip in terms of facilitating better consumer knowledge and becoming acquainted with goods produced in another country, which in turn can help to promote these products in international markets (Brau & Pinna, 2013; Fischer & Gil-Alana, 2009; Gil-Alana & Fischer, 2010).

From a practical standpoint, this study could help destination managers and public decision makers to better understand the determinants that influence the future demand of local food products in international markets. If visitors develop their knowledge of foreign cuisine while in a tourism destination, as well as form a clear perception about the attributes that distinguish these local food products, they will be more motivated to try these products in their home region or country. Such data should be of considerable value when planning communication strategies for visitors with different profiles and perceptions about local food products.

Despite the noteworthy results obtained in this empirical study, the findings are limited to international visitors who visited Portugal and five local agro-food products. It is not possible to meet the requirements set for statistical

generalizations through convenience sampling. Moreover, the administration of the survey during the peak holiday season would perhaps be biased towards "mass tourists". Due to the scarcity of studies in this field, it would be appropriate to extend this study to other countries and other local food products in order to evaluate the consistency of the obtained results. In future studies, apart from the potential determinants of purchasing local products considered in the current study, other factors - such as familiarity with the destination and the products purchased, as well as satisfaction regarding the food experience - should also be explored in greater due to their potential influence on the interest in local products. In addition, in order to more comprehensively appreciate the impact of the purchase of local food products on tourism destinations, it would be appropriate to carry out studies to assess indirect and induced effects of these purchases in the future.

Chapter 7

The promotion of local agro-food products through tourism: A segmentation analysis¹²

Abstract: In order to analyse the role of inbound tourism in the promotion of future exports of agro-food products, this chapter presents a segmentation study of the international tourism market of Portugal, based on visitors' intentions to consume, and likelihood to recommend to friends and relatives, specific local products when they return to their home country. A questionnaire-based survey was conducted on a sample of inbound visitors and the responses were subjected to a hierarchical cluster analysis. From this analysis, three clusters were established and several statistical differences among them were identified concerning behavioural intentions regarding local food products, socio-demographic profile, consumption and purchase behaviour during and after the trip. The findings obtained have both theoretical and practical implications. On the one hand, this study analyses the importance of inbound tourism in the promotion of Portuguese exports of local food, an issue not previously explored. Additionally, this study applies as its basis of segmentation, variables that have so far been neglected in the literature: the visitors' intentions to consume and to recommend to friends and relatives. On the other hand, the findings provide relevant inputs for the development of better marketing strategies to promote the local products to various target groups.

Keywords: inbound tourism; exports; segmentation; Portugal; local food products

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7.1. Introduction

In recent years, there has been growing interest in analysing the relationship between international tourism and trade (e.g. Brau & Pinna, 2013; Fischer & Gil-Alana, 2009; Gil-Alana & Fischer, 2010; Katircioglu, 2009; Kulendran & Wilson, 2000a; Santana-Gallego et al., 2011a, 2011b, 2016). The majority of published studies in this field analyse the relationship between tourism and trade using aggregated data, cointegration and causality techniques. A main conclusion drawn by such studies is that an empirical nexus exists, such that tourism may stimulate closer trade relations between countries and vice-versa. However, only a limited number of papers study the causal relationship between international tourism and the trade of particular products (Fischer & Gil-Alana, 2009; Gil-Alana & Fischer, 2010; Kavallari et al., 2011), and there is a dearth of microeconomic models developed to specifically analyse the link between tourism and the trade of local food products (Fischer & Gil-Alana, 2009).

The consumption of local products during a trip to a tourism destination can generate direct, indirect and induced effects to the benefit of the local economy (Bessi re, 1998; Skuras et al., 2006; Tellstrom et al., 2005; Torres, 2002). However, beyond these effects, there is evidence that inbound tourism is likely to also influence the exports of local products (Fischer & Gil-Alana, 2009; Gil-Alana & Fischer, 2010; Kavallari et al., 2011). Inbound tourism might act as a springboard for the promotion of domestic products in foreign markets (Reis & Varela, 2013) and, eventually, the broader international market (B lisle, 1983; Fischer & Gil-Alana, 2009; Mitchell & Hall, 2004; Mynttinen et al., 2015). Despite this evidence, the issue has remained relatively neglected in international business, economics and tourism literature, and the research that does exist has overlooked the impact of tourism on exports of local food products when visitors return to their home country (Webster, 2002). Moreover, a knowledge gap exists in relation to the factors that motivate visitors to consume locally produced products when they return home (Mynttinen et al., 2015). Additionally, it is expected that heterogeneity

will be found in inbound tourism regarding future consumption behaviour and intentions to recommend (Mitchell & Hall, 2004).

Market segmentation is nowadays widely implemented in the tourism industry, being based on variables such as demographics, psychographics and travel behaviour (e.g. Eusébio, Carneiro, Kastenholz, & Alvelos, 2017; Frochot & Morrison, 2000; Kim, Duncan, & Jai, 2014; Kim, Duncan, & Chung, 2015; Laesser & Crouch, 2006; Mitchell & Hall, 2004). However, the analysis of post-visit consumer behaviour, namely post-visit purchase and recommendation of local food products, remains unexplored in the literature (Mitchell & Hall, 2004).

In order to fill some of the aforementioned research gaps, the main research purpose of this chapter is to analyse heterogeneity in inbound tourism regarding tourists' behavioural intentions to consume and recommend local food products upon return to their home countries. The findings obtained provide useful information for marketers in developing appropriated initiatives that promote knowledge of local food products and induce future demand.

Portugal was selected for the performance of this study because both the tourism and agro-food sectors assume great importance in its national economy (INE, 2014, 2015). The choice of agro-food products as the empirical study's subject is explained by the specificity of these products: (i) the high quality of processed products based on sea and agricultural raw resources; (ii) their regional economic relevance; and (iii) the fact that these products are traded internationally. Based on this reasoning, the products selected for analysis were cheese, olive oil, sausages, canned fish and wine.

The chapter is structured according to five sections. In the introduction is presented the relevance and objectives of the chapter. The second section reviews the background literature, covering the consumption of local food products in tourism, visitors' behavioural intentions regarding local food products and the segmentation analysis of inbound tourism based on visitors' behavioural intentions. The subsequent sections describe the methodology used in the empirical study designed to segment inbound tourism and indicate the main

findings. Finally, the chapter concludes with some theoretical and practical implications and suggestions for future research.

7.2. Literature review

7.2.1. The consumption of local food products in tourism

Local food products refer to products locally processed and regionally branded, that have a local or regional identity (Kim et al., 2009; Sims, 2009) and that reveal something about the culture of a local community and the gastronomic traditions of its inhabitants (Bessièrè, 1998). These local food products may have major implications for the economic, cultural and environmental sustainability of tourism destinations, with researchers arguing that a focus on locally sourced products can result in benefits for both hosts and guests (Boniface, 2003; Torres, 2002).

In previous studies, the synergy between tourism and local food was examined from a number of angles. Local food products can generate a multiplier effect that benefits the regional economy (Bessièrè, 1998; Skuras et al., 2006; Tellstrom et al., 2005; Torres, 2002) and contributes to its development (Bessièrè, 1998; Tellstrom et al., 2005), with the products becoming recognized as a part of the local culture (Kim et al., 2009; Kivela & Crofts, 2006; Quan & Wang, 2004), as important tourism attraction (Bessièrè, 1998; Cohen & Avieli, 2004; Hjalager & Richards, 2002) and elements of the tourism experience at any destination (Chang et al., 2011; Kivela & Crofts, 2006; Quan & Wang, 2004). Moreover, exposure to previously unknown food products may even change the consumption patterns of the visitors when they return home (Mynttinen et al., 2015), thus stimulating exports of these products (Bélisle, 1983; Gil-Alana & Fischer, 2010; Kavallari et al., 2011).

The inflow of visitors promotes direct contact with local producers and offers a very good opportunity for visitors to taste and purchase local food products. This direct contact between visitors and local food products could represent a way to promote

the products in the international markets, since a trip across borders can facilitate better consumer knowledge and familiarity with goods produced in another country (Brau & Pinna, 2013; Fischer & Gil-Alana, 2009; Gil-Alana & Fischer, 2010). Local food consumed on holiday plays an important role in introducing visitors to new flavours and different traditions (Fields, 2002; Ryu & Jang, 2006; Sparks, 2007). Through this local food socialization process, visitors may develop a more favourable attitude towards unfamiliar local foods and this may, in turn, influence their regular eating habits (Long, 2004). Newly acquired tastes, gained while travelling, may influence visitors' food consumption when they return home (Mitchell & Hall, 2004), as visitors' eating behaviours and attitudes toward local foods are regarded as subject to process of learning and adaptation (Long, 2004), especially when travelling to a new cultural environment (Chang et al., 2010).

International tourism helps to create awareness and appreciation of specific types of local foods, and the knowledge and interest generated may induce increased consumption (Gil-Alana & Fischer, 2010; Kavallari et al., 2011). As a consequence of this interaction, international visitors learn about new products, and when they are back in their home countries, such knowledge can eventually stimulate international demand for these products (Bélisle, 1983), and may contribute to the creation of long-term customers (Bélisle, 1983; Fischer & Gil-Alana, 2009; Mitchell & Hall, 2004; Mynttinen et al., 2015; Santana-Gallego et al., 2011a, 2011b; Telfer & Wall, 2000). Furthermore, visitors may transmit these newly acquired tastes to their friends and relatives (Henderson, 2009; Kim et al., 2009). It is expected to be more likely that inbound tourism stimulates the exports of goods with which visitors have direct contact while travelling (Brau & Pinna, 2013; Gil-Alana & Fischer, 2010; Reed, 1994). If increased tourism inflows have positive effects on exports of local products, then efforts to attract visitors are of interest not only to agents directly related to the tourism industry, but also to current or potential exporters (Reis & Varela, 2013). Maximizing the economic linkages between local producers and visitors is, therefore, of great importance not only to the promotion of local and regional food, but also to regional tourism development (Bessièrè, 1998; Telfer & Wall, 1996; Tellstrom et al., 2005).

7.2.2. Tourists' behavioural intentions regarding local food products

This study attempts to identify the factors that influence local food consumption when international visitors return to their home country. A literature review focusing on prior research confirmed that relatively little attention has been paid to identifying and exploring these factors (Mitchell & Hall, 2004), but the factors explaining the consumption of local food products while the visitor is at a tourism destination have been explored. This study thus adopts these factors in an attempt to explore visitors' post-trip local food consumption.

According to the literature in the context of hospitality, tourism and food choice, the most-cited factors that influence local food consumption by visitors at a destination are: cultural/ religious background, socio-demographic characteristics, food-related personality traits, exposure effect/past experience and motivational factors (Fields, 2002; Kim et al., 2009; Mak, Lumbers, Eves, & Chang, 2012).

The relevance of culture and religion to tourism food consumption has been recognized by a number of tourism studies. According to the literature, there is a link between food preferences on holiday and the national culture (Chang et al., 2010; Tse & Crofts, 2005), visitor nationality is a key variable that influences the amount of food consumed by visitors (Pizam & Sussmann, 1995; Telfer & Wall, 2000; Torres, 2002) and religious beliefs may determine the food consumption behaviour of certain visitors (Cohen & Avieli, 2004; Hassan & Hall, 2003).

Tourism food consumption may also be influenced by several socio-demographic factors, namely: age, gender, marital status, education level, occupation and household income. In terms of gender, Kim et al. (2009) found that women were especially interested in and excited about tasting local food on holiday. Tse and Crofts (2005) found that visitors' age was negatively correlated with the number and range foods they experienced. According to Kim et al. (2009), older visitors and visitors with higher education levels demonstrated greater concern regarding their health and had a desire to understand and experience foreign cultures through local food consumption.

Food-related personality traits have also been recognized as important psychological variables affecting tourism food consumption. In particular, two main types of traits can be identified from the tourism literature: food neophobia (Chang et al., 2011; Cohen & Avieli, 2004; Kim et al., 2009; Torres, 2002) and variety-seeking (Chang et al., 2011; Quan & Wang, 2004). Food neophobia denotes a relative preference for familiar over novel foods (Pliner & Hobden, 1992), and variety-seeking refers to a demand for diversity in one's choice of goods and services (Kahn, 1995).

The exposure effect and past experience factors are found to be important in affecting visitors' food consumption. Visitors' exposure to the local food of a destination (acquired, for example, on previous visits) can increase its familiarity and influence its image for the visitor (Cohen & Avieli, 2004; Hall & Mitchell, 2002; Mak, Lumbers, Eves, & Chang, 2012; Richards, 2002). Tse and Crofts (2005) found that repeat visitation is positively correlated with both the number and range of visitors' local food experiences, whereas first time visitation was negatively correlated with these measures. Ryu and Jang (2006) found that past experience is one of the more significant predictors of visitors' intentions to consume local food at tourism destinations. Complementarily, however, exposure to different local foods can still be achieved without travel, thanks to the globalization process and the attendant increase in availability of both ethnic restaurants in visitors' home countries and information sources regarding foreign food. This exposure can improve the potential visitor's knowledge before travelling to the destination where these products are produced (Mak, Lumbers, & Eves, 2012).

By reviewing available studies, it is possible to identify motivations likely to influence consumption of local food products in a tourism destination by visitors. Fields (2002) suggested that motivations for consuming food at a tourism destination can be conceptualized using four categories of motivation, provided by McIntosh et al. (1995): physical, cultural, interpersonal and status and prestige motivators. Mak, Lumbers, Eves, & Chang (2012) classified the motivational factors underlying tourism food consumption into five key dimensions: symbolic, obligatory, contrast, extension and pleasure. Kim et al. (2009) identified nine motivational factors underlying the consumption of local food: exciting experience,

escape from routine, health concern, learning knowledge, authentic experience, togetherness, prestige, sensory appeal and physical environment. A desire to taste foreign and unfamiliar local foods may come from a need for excitement (Kim et al., 2009), and the opportunity to try new foods is one of the key reasons for eating out during holidays (Sparks, Bowen, & Klag, 2003). Visitors interested in tasting local food as gastronomy tourists seek to escape daily routines or experience something different (Hjalager & Richards, 2002). Moreover, tasting local food in its natural environment may be seen to improve the visitor's health, either mentally or physically (Kim et al., 2009; Sparks et al., 2003). The cultural experience at a tourism destination is another factor that may influence the consumption of local food products. This kind of pursuit provides opportunities to gain knowledge (for example, regarding history and different countries) and to have an authentic experience (such as exploring traditional and unique cultures) (Fields, 2002; Getz, 2000; Hjalager & Corigliano, 2000). Tasting new foods during holidays also has the potential to aid in the building of personal relationships and strengthening of social bonds (Fields, 2002; Ignatov & Smith, 2006). A motivation related to self-esteem or self-enhancement can be understood in light of a desire for recognition and attention from others in the context of gastronomic tourism (Fields, 2002). Tasting new foods on holidays can allow visitors to differentiate themselves from others and share their preferences or tastes with other peoples (Fields, 2002; Pollard, Kirk, & Cade, 2002) as a pleasurable sensory experience (Boniface, 2003; Kim et al., 2009; Kivela & Crofts, 2006). Finally, a comfortable restaurant atmosphere attracts customers to consume local foods and can cultivate their intention to revisit (Yüksel & Yüksel, 2003).

7.2.3. Tourists' behavioural intentions regarding local food products as a segmentation base

Segmentation involves dividing a heterogeneous market into smaller groups with different needs, characteristics or behaviours (Kotler, Armstrong, Saunders, & Wong, 1999). Market segmentation is an important marketing tool and has been

implemented in several tourism studies (e.g. Dolnicar, 2004; Frochot & Morrison, 2000; Kastenholz, Davis, & Paul, 1999; Mitchell & Hall, 2004; Sarigöllü & Huang, 2005). Demographic characteristics, socioeconomic factors, geographic, behavioural, lifestyle, personality and benefits sought are some of the primary segmentation bases used in the tourism literature.

Increased tourism-related travel and the diversity of tourism products and consumers have stimulated the use of consumer segmentation as a strategic tool for responding to an increasingly competitive marketplace (Dolnicar & Grün, 2008; Frochot & Morrison, 2000). Through the use of consumer segmentation, the entities operating in the tourism sector can differentiate themselves from other competitors in the marketplace, for example, by design services and advertising campaigns directed to selected segments.

Although recognized as a strategic tool, a segmentation analysis of inbound tourism based on visitors' behavioural intentions regarding the consumption or recommendation of local food products in their home country has not been empirically explored. Mitchell and Hall (2004) study is one of the few that analyses some basic behavioural measures of post-visit consumer behaviour in the specific case of winery visitors - post-winery visit purchase, repeat visitation to the winery, positive word-of-mouth - and identifies some differences in the post-visit behaviour of the different segments. According to the empirical results, statistically significant differences were identified between national and international visitors, males and females and different levels of wine knowledge.

Based on the literature, inbound tourism might induce future exports of local foods products (Fischer & Gil-Alana, 2009; Gil-Alana & Fischer, 2010; Kavallari et al., 2011), and heterogeneity in visitors' post-visit behaviour with respect to the purchase and recommendation of local products (Mitchell & Hall, 2004) justifies the differentiation of marketing strategies. Although little explored by the literature, segmentation of inbound tourism by future intentions is a powerful marketing tool because it can contribute to identifying the strengths and opportunities of each market, and can support business and government entities in implementing

coordinated strategies that are designed to maximize tourism-trade interdependence.

7.3. Methodology

This chapter aims to analyse heterogeneity in the inbound tourism that visit Portugal, regarding visitors' intentions to consume and likelihood to recommend some Portuguese local agro-food products when they return to their home country. Based on the above-presented literature review, the specific objectives of this study are as follows: (i) to segment inbound tourism in terms of future behaviour and intention to recommend specific agro-food products; and (ii) to characterize the clusters identified. In order to characterize the clusters, statistical differences among them are analysed regarding: (i) socio-demographic profile; (ii) motivations to consume local food products and food-related personality; (iii) pre-trip behaviour; and (iv) travel behaviour.

7.3.1. Data collection

The population of the empirical study was composed of inbound tourism who visited Lisbon and the Norte and Centro regions of Portugal in the high season of 2015 (July and August). Lisbon, Oporto and Coimbra were the selected cities due the proportion of foreign holidaymakers that visit these tourism destinations. Visitors over the age of 18 years and just finished their tour of a heritage site (e.g. Chen & Chen, 2010) were invited to take part in the questionnaire-based survey. Since accurate statistics of the number of visitors visiting these cities was unknown at the time of the survey, a convenience sampling method was adopted. The survey was pretested and translated into four languages (Portuguese, English, French and Spanish) to ensure adequate coverage of the diverse international market present in these cities. The questionnaire-based survey was carried out and a total of 500 valid responses were obtained. Considering that just

less than 57% of the respondents mentioned future intentions to consume and recommend local agro-food products after staying in Portugal, the segmentation analysis is based on these respondents alone.

The questionnaire was designed based on a literature review (Chen & Lobo, 2012; Dimara & Skuras, 2003; Fields, 2002; Hjalager & Richards, 2002; Kim et al., 2009; Kim & Eves, 2012; Mak, Lumbers, Eves, & Chang, 2012; Paul & Rana, 2012; Tarkiainen & Sundqvist, 2005; Zagata, 2012) and included, among other questions, six groups of questions particularly crucial to this work: (i) knowledge of Portuguese local agro-food products prior to the visitor's visit to Portugal; (ii) travel behaviour; (iii) contact with or taste/purchase of cheese, olive oil, sausages, canned fish or wine during the trip; (iv) the visitor's intention to consume and recommend these products when they return to their home country; (v) food-related personality traits and motivations to consume local food products; and (vi) the visitor's socio-demographic profile. Knowledge of local agro-food products prior to the tourist's visit was measured on a nominal scale. Travel behaviour items were assessed using questions regarding the purpose of the visit, length of stay and activities carried out during the visit. Contact with and taste or purchase of cheese, olive oil, sausages, canned fish or wine during the trip were also measured on nominal scales. Visitors' intentions to consume and recommend these specific agro-food products were measured with a Likert-type scale from 1 (*very unlikely*) to 5 (*very likely*) (Chen & Lobo, 2012; Paul & Rana, 2012; Tarkiainen & Sundqvist, 2005). Food-related personality traits, religious beliefs and motivations (exciting experience, escape from routine, health concern, cultural experience, togetherness, prestige and sensory appeal) that may influence local food consumption were measured using 11 items with Likert-type scale from 1 (*strongly disagree*) to 5 (*strongly agree*) (Fields, 2002; Kim et al., 2009; Kim & Eves, 2012; Mak, Lumbers, Eves, & Chang, 2012). The final part of the questionnaire gathered respondent information regarding country of residence, nationality, age, gender, marital status, education level, occupation and monthly income.

7.3.2. Data analysis

Data were analysed using *SPSS - Version 23*. To test the objectives proposed a hierarchical cluster analysis (using the complete linkage method and the squared Euclidian distance) was carried out for the target Portuguese local food products (cheese, olive oil, sausages, canned fish and wine) based on: (i) purchase intention; and (ii) intention to recommend to friend and relatives. Ten variables were used as input variables in the segmentation analysis.

The segments obtained were compared using the segmentation variables (future purchase behaviour and intention to recommend) and Kruskal-Wallis tests (internal validation of the clusters), since ANOVA assumptions were not fulfilled. Complementarily, the segments obtained were also compared with regard to other variables mentioned in the literature review section as potential factors that may influence future consumption and recommendation, namely: previous knowledge of Portuguese local agro-food products; contact with and taste, purchase of specific agro-food products during the visit in Portugal; food-related personality traits and motivations and the socio-demographic profile of the visitor. Chi-square tests were used to compare the segments formed regarding qualitative variables, while ANOVA and Kruskal-Wallis tests (used whenever the ANOVA assumptions did not apply) were utilized to compare the clusters identified regarding quantitative variables.

7.4. Discussion of results

7.4.1. Identification of the clusters

A three-cluster solution was achieved by examining the agglomeration schedule and the dendrogram. The clusters were compared regarding future behaviour using Kruskal-Wallis tests. The results show statistically significant differences among the clusters in all future intentions (Table 7.1). Based on these differences,

the clusters were labelled as follows: cluster 1 - *Ambassador*; cluster 2 - *Enthusiast*; cluster 3 - *Indifferent*.

Table 7.1 - Clusters profile regarding future behaviour

| Clusters profile - Future Behaviour | Total Sample (N=284) | Cluster 1 | Cluster 2 | Cluster 3 | Kruskal-Wallis test χ^2 (p-value) |
|---|-------------------------|-------------|-------------|-----------|---|
| | | (N=170) | (N=36) | (N=78) | |
| | | Mean | | | |
| I will search for and try to buy in my home country - Cheese | 2.94 | 3.49 | 3.61 | 1.41 | 118.811(0.000) |
| I will search for and try to buy in my home country - Olive oil | 2.94 | 3.77 | 1.58 | 1.77 | 145.974(0.000) |
| I will search for and try to buy in my home country - Sausages | 2.74 | 3.45 | 1.94 | 1.58 | 120.575(0.000) |
| I will search for and try to buy in my home country - Canned fish | 2.64 | 3.14 | 2.69 | 1.53 | 78.439(0.000) |
| I will search for and try to buy in my home country - Wine | 3.66 | 4.19 | 4.22 | 2.23 | 105.156(0.000) |
| I will recommend to my family/ friends - Cheese | 3.20 | 3.67 | 3.81 | 1.88 | 97.313(0.000) |
| I will recommend to my family/ friends - Olive oil | 3.18 | 3.95 | 1.78 | 2.15 | 129.148(0.000) |
| I will recommend to my family/ friends - Sausages | 2.86 | 3.46 | 2.08 | 1.88 | 91.824(0.000) |
| I will recommend to my family/ friends - Canned fish | 2.70 | 3.21 | 2.67 | 1.63 | 76.255(0.000) |
| I will recommend to my family/ friends - Wine | 3.82 | 4.26 | 4.19 | 2.71 | 72.680(0.000) |

Note:

Bold values represent the highest mean values when the differences between the clusters' means are statistically significant.

Cluster 1 (*Ambassador*) corresponds to 59.86% of the sample. This group revealed great intention to consume or recommend olive oil, sausages, canned fish and wine (on a scale from 1 [*very unlikely*] to 5 [*very likely*], the mean of future consumption intentions analysed for this cluster was greater than three). Cluster 2 (*Enthusiast*) represents 12.68% of the sample and mentioned future intention to consume or recommend only two products of this study: cheese and wine. Cluster 3 (*Indifferent*) comprises 27.46% of the sample and displayed below-average intention to consume or recommend the target products (mean less than three). Thus, the intentions revealed by clusters 1 and 2, when taken together, represent

72.54% of the sample and demonstrate that international visitors learn about and try new products while travelling and are potential promoters of these products when they return to their home countries (Bélisle, 1983). In this way, tourism acts as a springboard for the promotion of national products in foreign markets (Reis & Varela, 2013), which ultimately increases the exports of local food products (Fischer & Gil-Alana, 2009; Santana-Gallego et al., 2011a; 2011b; Telfer & Wall, 2000).

7.4.2. Characteristics of the identified segments

The findings regarding the characteristics of the clusters identified in this research reveal statistically significant differences among the clusters in terms of: (i) marital status and economic status (Table 7.2); (ii) motivations to consume local food products and food-related personality traits (Table 7.3); (iii) having tried Portuguese agro-food pre-visit and finding these products in the visitors' home country (Table 7.4); (iv) participation in gastronomic routes during the visit and the length of stay (Table 7.5); (v) contact with the Portuguese agro-food analysed in this study (cheese, olive oil) and tasting these products (cheese, olive oil and sausages) during the visit (Table 7.6); (vi) purchase during the trip of agro-foods to take home (for the visitor's own consumption and to offer to others) and the amount of money spent on these products (Table 7.7); and (vii) location of the visitor's contact with or tasting of agro-food products, namely restaurants or the homes of friends or relatives (Table 7.8).

Table 7.2 - Socio-demographic profile of the clusters identified (χ^2 test, ANOVA)

| | Total sample (N=284) (100%) | Cluster 1 (N=170) (59.86%) | Cluster 2 (N=36) (12.68%) | Cluster 3 (N=78) (27.46%) | χ^2 test χ^2 (p-value) | ANOVA F (p-value) |
|---------------------------------|-----------------------------------|----------------------------------|---------------------------------|---------------------------------|-------------------------------------|----------------------|
| % by column | | | | | | |
| Gender | | | | | | |
| <i>Male</i> | 43.1% | 43.8% | 38.9% | 43.6% | 0.300(0.861) | |
| Marital Status | | | | | | |
| <i>Single</i> | 57.4% | 54.2% | 44.4% | 70.5% | 11.352(0.023) | |
| <i>Married</i> | 33.7% | 38.1% | 44.4% | 19.2% | | |
| Education level | | | | | | |
| <i>Primary</i> | 2.8% | 2.4% | 8.6% | 1.3% | 6.690a(0.153) | |
| <i>Secondary</i> | 17.1% | 18.5% | 20.0% | 12.8% | | |
| <i>Graduate or postgraduate</i> | 80.1% | 79.2% | 71.4% | 85.9% | | |
| Economic status | | | | | | |
| <i>Employed</i> | 70.7% | 71.4% | 66.7% | 71.1% | 11.759(0.019) | |
| <i>Student</i> | 22.5% | 24.4% | 13.9% | 22.4% | | |
| Net monthly income | | | | | | |
|]0-1500] | 45.8% | 42.7% | 54.3% | 48.6% | 6.262(0.180) | |
|]1500-3000] | 37.3% | 36.0% | 34.3% | 41.7% | | |
| +3000 | 17.0% | 21.3% | 11.4% | 9.7% | | |
| Country of residence | | | | | | |
| <i>Spain</i> | 19.8% | 18.9% | 27.8% | 17.9% | 1.700(0.791) | |
| <i>France</i> | 33.6% | 33.7% | 30.6% | 34.6% | | |
| Mean | | | | | | |
| Age | 34.79 | 35.00 | 37.50 | 33.05 | | 1.901(0.151) |

Note:

Bold values represent the highest mean values when the differences between the clusters' means are statistically significant.

a) The assumptions of Chi-square test were not observed.

Table 7.3 - Scale to measure tourist motivation to consume local food products and food-related personality traits (ANOVA and Kruskal-Wallis tests)

| Clusters profile - Motivation to consume local food products | | Total sample (N=284) (100%) | Cluster 1 (N=170) (59.86%) | Cluster 2 (N=36) (12.68%) | Cluster 3 (N=78) (27.46%) | ANOVA F (p-value) | Kruskal-Wallis test χ^2 (p-value) |
|--|---|-----------------------------------|----------------------------------|---------------------------------|---------------------------------|----------------------|--|
| | | Mean | | | | | |
| Exciting experience | <i>Experiencing local products in its original place excites me</i> | 4.25 | 4.33 | 4.50 | 3.96 | | 9.044(0.011) |
| Escape from routine | <i>Tasting local products on holiday helps me to relax</i> | 3.77 | 3.93 | 3.72 | 3.44 | 5.581(0.004) | |
| Health concern | <i>Local products contains a lot of fresh ingredients produced in a local area</i> | 3.96 | 4.02 | 4.14 | 3.72 | 3.160(0.044) | |
| | <i>Experiencing local products increase my knowledge about different cultures</i> | 4.26 | 4.32 | 4.42 | 4.05 | 3.220(0.041) | |
| Cultural experience | <i>Tasting local products in an original place is an authentic experience</i> | 4.12 | 4.18 | 4.28 | 3.92 | 2.327(0.099) | |
| | <i>Tasting local products enables me to have an enjoyable time with friends/family</i> | 4.01 | 4.13 | 4.14 | 3.70 | | 8.784(0.012) |
| Togetherness | <i>I like to talk to everybody about my local products experiences</i> | 3.57 | 3.77 | 3.69 | 3.08 | 11.667(0.000) | |
| | <i>I want to give advice about local products experiences to people who want to travel</i> | 3.51 | 3.66 | 3.56 | 3.18 | 4.924(0.008) | |
| Prestige | <i>It is important to me that the local products I eat on holiday looks nice/ tastes good</i> | 4.26 | 4.34 | 4.22 | 4.10 | 2.164(0.117) | |
| Sensory appeal | <i>My religious beliefs have an impact on food consumption</i> | 1.38 | 1.47 | 1.03 | 1.34 | | 5.530(0.063) |
| Religious beliefs | <i>I am constantly sampling new and different food products</i> | 3.55 | 3.73 | 3.53 | 3.14 | 6.904(0.001) | |
| Food-related personality traits | | | | | | | |

Note:

Bold values represent the highest mean values when the differences between the clusters' means are statistically significant.

Cluster 1 - *Ambassador*. In terms of socio-demographic profile, this group includes more employed people than others (Table 7.2). For these visitors, the main motivations to consume local food products are exciting experience, escape from routine, health concern, cultural experience, togetherness and prestige. The motivation cultural experience had the greatest degree of agreement (4.32), reinforcing the argument that tasting local food in its original location is one way to learn about and understand local culture (Fields, 2002; Getz, 2000; Kim et al., 2009) and have an authentic experience (Kim et al., 2009). With respect to food-related personality traits, this group is more inclined toward new food experiences and has a tendency to seek out and taste new local food (food neophiles) (Chang et al., 2011; Cohen & Avieli, 2004; Pliner & Hobden, 1992; Torres, 2002) (Table 7.3).

More than half of the visitors (51.8%) in cluster 1 mentioned having already tasted some Portuguese agro-food products before visiting Portugal and 94.1% indicated that these products can be found in their home country (Table 7.4). This previous knowledge is important because, according to the literature, exposure and past experience tends to increase preference for these foods, as familiarity increases with repeated exposure (Cohen & Avieli, 2004; Ryu & Jang, 2006; Tse & Crotts, 2005). Regarding travel behaviour, this cluster's visitors stayed longer in Portugal (14 nights) than did other clusters, increasing their opportunity for contact with local food products (Frisvoll et al., 2016). Although activities that promote more direct contact with local food products were little mentioned by the study participants, 37.6% of the respondents in this cluster participated in gastronomic routes during their trip, confirming their desire to experience local food and beverages on their holidays (e.g. Cohen & Avieli, 2004; Kim et al., 2009; Torres, 2002) (Table 7.5).

Considering the analysis disaggregated by agro-food products, the findings show that there are differences in terms of contact with the studied foods and the tasting, purchase and place of consumption of the products. The visitors of cluster 1 had more contact with cheese and olive oil and tasted more cheese, olive oil and sausages. The on-site experience with local food products plays an important role

in introducing visitors to new flavours (Fields, 2002; Ryu & Jang, 2006; Sparks, 2007) (Table 7.6). The main products bought in Portugal for the visitor's own consumption were cheese, olive oil, sausages, canned fish and wine and those purchased to offer to friends and relatives at home were cheese, olive oil and wine. The average expenditure on these local agro-food products was €83.50 (Table 7.7). The visitors had more contact with olive oil, sausages and canned fish in restaurants and with the five studied products in the homes of friends and relatives (Table 7.8). Although food events and festivals can play an important role in introducing a visitor to new local food (e.g. Getz, 2000; Hjalager & Corigliano, 2000), these results show that informal networks (friends and relatives) are privileged in terms of contact with and taste of agro-food products.

Table 7.4 - Pre-trip behaviour of the clusters identified (χ^2 test)

| Clusters profile - Pre-trip behaviour | Total sample (N=284) (100%) | Cluster 1 (N=170) (59.86%) | Cluster 2 (N=36) (12.68%) | Cluster 3 (N=78) (27.46%) | χ^2 test χ^2 (p-value) |
|---------------------------------------|-----------------------------------|----------------------------------|---------------------------------|---------------------------------|-------------------------------------|
| % by column | | | | | |
| Tasted PT agro-food* | 45.4% | 51.8% | 33.3% | 37.2% | 7.019(0.030) |
| Where tasted PT agro-food* | | | | | |
| <i>Home country</i> | 84.5% | 85.2% | 91.7% | 79.3% | 1.102a(0.576) |
| <i>Last visit to Portugal</i> | 35.7% | 37.5% | 25.0% | 34.5% | 0.742(0.690) |
| <i>Last visit to other country</i> | 3.1% | 4.5% | 0.0% | 0.0% | 1.923a(0.382) |
| Find PT agro-food in home country* | 91.2% | 94.1% | 80.6% | 89.7% | 7.090(0.029) |
| <i>Cheese</i> | 65.1% | 67.6% | 52.8% | 65.4% | 2.895(0.235) |
| <i>Olive oil</i> | 69.0% | 73.5% | 55.6% | 65.4% | 5.151(0.076) |
| <i>Sausages</i> | 54.2% | 57.6% | 36.1% | 55.1% | 5.586(0.061) |
| <i>Canned fish</i> | 64.4% | 66.5% | 58.3% | 62.8% | 0.981(0.612) |
| <i>Wine</i> | 88.7% | 90.0% | 83.3% | 88.5% | 1.329(0.515) |

Note:

Bold values represent the highest mean values when the differences between the clusters' means are statistically significant.

*only the values corresponding to people who said 'yes' are presented.

a) The assumptions of Chi-square test were not observed.

This cluster represents the largest group of those analysed and its members represent an important contribution to the promotion of national agro-food products abroad due not only to their contact with the target products during the stay in Portugal, but also to their reported future intention to purchase or recommend the products in their home country. Since these intentional behaviours will have an important impact on the exports of Portuguese local food products in the future, strategies of promotion of national local food products directed at this segment should not be overlooked.

Table 7.5 - Travel behaviour of the clusters identified (Kruskal-Wallis and χ^2 test)

| Clusters profile - Travel behaviour | Total sample (N=284) (100%) | Cluster 1 (N=170) (59.86%) | Cluster 2 (N=36) (12.68%) | Cluster 3 (N=78) (27.46%) | χ^2 test χ^2 (p-value) | Kruskal-Wallis test χ^2 (p-value) |
|--|-----------------------------|----------------------------|---------------------------|---------------------------|----------------------------------|--|
| % by column | | | | | | |
| Purpose | | | | | | |
| <i>Leisure, recreation and/or holiday</i> | 85.6% | 83.5% | 97.2% | 84.6% | 4.588(0.101) | |
| Accommodation | | | | | | |
| <i>Hotel Establishments</i> | 37.0% | 34.7% | 47.2% | 37.2% | 5.041(0.539) | |
| <i>Complementary means of accommodation</i> | 28.5% | 27.1% | 30.6% | 30.8% | | |
| <i>Private accommodation (e.g. Rented rooms in family + Accommodation provide without charge by friends and relatives)</i> | 14.8% | 17.6% | 5.6% | 12.8% | | |
| Activities* | | | | | | |
| <i>Visiting Historic Sites</i> | 83.1% | 84.1% | 88.9% | 78.2% | 2.315(0.314) | |
| <i>Going to the beach</i> | 76.1% | 76.5% | 72.2% | 76.9% | 0.339(0.844) | |
| <i>Gastronomic routes</i> | 30.3% | 37.6% | 22.2% | 17.9% | 11.095(0.004) | |
| <i>Participate in food and/or wine festivals / gastronomic events</i> | 18.3% | 18.8% | 16.7% | 17.9% | 0.102(0.950) | |
| <i>Visit friends and relatives</i> | 23.9% | 27.1% | 19.4% | 19.2% | 2.257(0.323) | |
| | | Mean | | | | |
| Length of stay | 12.22 | 13.99 | 10.17 | 9.27 | | 11.082(0.004) |

Note:

Bold values represent the highest mean values when the differences between the clusters' means are statistically significant.

*only the values corresponding to people who said 'yes' are presented.

Table 7.6 - Trip behaviour of the clusters identified: contact with and taste of PT agro-food
(χ^2 test)

| Clusters profile - Contact and taste | Total sample (N=284) (100%) | Cluster 1 (N=170) (59.86%) | Cluster 2 (N=36) (12.68%) | Cluster 3 (N=78) (27.46%) | χ^2 test χ^2 (p-value) |
|--------------------------------------|-----------------------------------|----------------------------------|---------------------------------|---------------------------------|-------------------------------------|
| % by column | | | | | |
| Contact with PT agro-food* | 99.6% | 100.0% | 100.0% | 98.7% | 2.650a(0.266) |
| <i>Cheese</i> | 80.3% | 81.8% | 94.4% | 70.5% | 9.500(0.009) |
| <i>Olive oil</i> | 77.8% | 84.7% | 58.3% | 71.8% | 14.229(0.001) |
| <i>Sausages</i> | 64.1% | 68.8% | 52.8% | 59.0% | 4.543(0.103) |
| <i>Canned fish</i> | 53.5% | 58.2% | 52.8% | 43.6% | 4.619(0.099) |
| <i>Wine</i> | 89.8% | 90.6% | 97.2% | 84.6% | 4.565(0.102) |
| Taste of PT agro-food* | 97.5% | 98.2% | 94.4% | 97.4% | 1.777a(0.411) |
| <i>Cheese</i> | 77.4% | 79.4% | 91.7% | 66.2% | 10.066(0.007) |
| <i>Olive oil</i> | 70.9% | 78.1% | 47.2% | 66.2% | 14.856(0.001) |
| <i>Sausages</i> | 56.2% | 62.4% | 44.4% | 48.1% | 6.712(0.035) |
| <i>Canned fish</i> | 40.3% | 44.7% | 36.1% | 32.5% | 3.598(0.165) |
| <i>Wine</i> | 84.1% | 84.7% | 88.9% | 80.5% | 1.402(0.496) |

Note:

Bold values represent the highest mean values when the differences between the clusters' means are statistically significant.

*only the values corresponding to people who said 'yes' are presented.

a) The assumptions of Chi-square test were not observed.

Cluster 2 - *Enthusiast*: This was the smallest group of visitors analysed (Table 7.1). The consumption of local food products as an exciting experience (mean equal to 4.50) was mentioned by this group as the main motivation to consume these kinds of products, followed by other factors such as cultural experience, health concern, togetherness and prestige (Table 7.3). Only 33.3% of the visitors in this group mentioned having tasted some Portuguese agro-food products before visiting Portugal, and the number of respondents that confirmed that they can find Portuguese local food products in their home country was below average (80.6%) (Table 7.4). During their stay in Portugal, this group had contact with and tasted cheese, primarily (Table 7.6). For their own consumption upon return to their home country, they bought wine, and they purchased wine and cheese to offer to friends

and relatives (Table 7.7). The results obtained show that the visitors of this segment are not interested in all the local foods under analysis, but have a particular interest in some specific agro-food products, such as cheese and wine. Although this group represent only 12.68% of the sample, their demonstrated knowledge and interest in relation to specific agro-food products should not be neglected. Marketing actions should be directed at this cluster, as it is likely that such investment would produce positive returns in the short-run.

Cluster 3 - *Indifferent*. This segment includes relatively more single and employed people (Table 7.2). On a scale from 1 (*strongly disagree*) to 5 (*strongly agree*), the findings sustained the relationship between food neophobia and the choice of local food (3.14) (Chang et al., 2010, 2011; Cohen & Avieli, 2004; Kim et al., 2009) and show that these visitors are not particularly motivated to consume local food products at the tourism destination (Table 7.3). Consequently, the disinterest demonstrated by this group in relation to local agro-food products may be associated with their food-related personality traits and the little importance they attribute to the consumption of local food at a tourism destination. When questioned about the agro-food products, 37.2% mentioned that, before visiting Portugal, they had already tried some Portuguese agro-food products and 89.7% indicated that they were able to find some of these products in their home country. Therefore, these kinds of products are not totally unknown to these visitors (Table 7.4). The visitors of this segment stayed fewer nights in Portugal and mentioned little participation in food and/or wine festivals, gastronomic events or gastronomic routes during their visit to Portugal (Table 7.5). The analysis disaggregated by agro-food products in terms of contact with and taste or purchase of cheese, olive oil, sausages, canned fish and wine during the visitor's trip shows that the replies of this group were below average and the average amount of money spent on these products was only €50.85 (Tables 7.6 and 7.7). Although this segment demonstrated some knowledge about the agro-food products, the findings confirmed that these visitors have very low intention to purchase and recommend the local agro-food product when they return to their countries of origin. In this context, the behaviour of this group requires special attention.

Table 7.7 - Trip behaviour of the clusters identified: purchase PT agro-food
(ANOVA, χ^2 test)

| Clusters profile - Purchase | Total sample (N=284) (100%) | Cluster 1 (N=170) (59.86%) | Cluster 2 (N=36) (12.68%) | Cluster 3 (N=78) (27.46%) | χ^2 test χ^2 (p-value) | Kruskal-Wallis test χ^2 (p-value) |
|---|-----------------------------------|----------------------------------|---------------------------------|---------------------------------|-------------------------------------|--|
| % by column | | | | | | |
| Purchase during the trip - PT agro-food* | 78.5% | 83.5% | 80.6% | 66.7% | 9.116(0.010) | |
| Cheese* | | | | | | |
| <i>To taste during the visit</i> | 67.0% | 66.2% | 82.8% | 60.4% | 4.347(0.114) | |
| <i>To take home-Own consumption</i> | 29.5% | 38.0% | 27.6% | 7.5% | 17.310(0.000) | |
| <i>To take home-Offer</i> | 13.4% | 15.5% | 20.7% | 3.8% | 6.099(0.047) | |
| Olive oil* | | | | | | |
| <i>To taste during the visit</i> | 57.0% | 56.3% | 44.8% | 65.4% | 3.269(0.195) | |
| <i>To take home-Own consumption</i> | 28.6% | 41.5% | 10.3% | 3.8% | 32.410(0.000) | |
| <i>To take home-Offer</i> | 14.7% | 20.4% | 10.3% | 1.9% | 11.066(0.004) | |
| Sausages* | | | | | | |
| <i>To taste during the visit</i> | 54.9% | 57.7% | 48.3% | 50.9% | 1.314(0.518) | |
| <i>To take home-Own consumption</i> | 19.7% | 27.0% | 6.9% | 7.5% | 12.624(0.002) | |
| <i>To take home-Offer</i> | 7.6% | 10.6% | 3.4% | 1.9% | 4.957a(0.084) | |
| Canned fish* | | | | | | |
| <i>To taste during the visit</i> | 39.7% | 42.3% | 27.6% | 39.6% | 2.164(0.339) | |
| <i>To take home-Own consumption</i> | 20.5% | 27.5% | 17.2% | 3.8% | 13.496(0.001) | |
| <i>To take home-Offer</i> | 12.5% | 15.5% | 13.8% | 3.8% | 4.897(0.086) | |
| Wine* | | | | | | |
| <i>To taste during the visit</i> | 68.8% | 66.9% | 75.9% | 69.8% | 0.936(0.626) | |
| <i>To take home-Own consumption</i> | 47.8% | 54.9% | 58.6% | 22.6% | 17.699(0.000) | |
| <i>To take home-Offer</i> | 46.9% | 50.0% | 62.1% | 30.2% | 9.171(0.010) | |
| | | Mean | | | | |
| <i>How much money did you spend on this trip (€)</i> | 612.74 | 693.79 | 526.11 | 487.66 | | 2.673(0.263) |
| <i>How much did you spend on these local agro-food products (€)</i> | 72.32 | 83.50 | 66.12 | 50.85 | | 11.183(0.004) |

Note:

Bold values represent the highest mean values when the differences between the clusters' means are statistically significant.

*only the values corresponding to people who said 'yes' are presented.

a) The assumptions of Chi-square test were not observed.

Table 7.8 - Trip behaviour of the clusters identified: place of contact/ taste of PT agro-food
(χ^2 test)

| Clusters profile - Place of contact/ taste | Total sample (N=284) (100%) | Cluster 1 (N=170) (59.86%) | Cluster 2 (N=36) (12.68%) | Cluster 3 (N=78) (27.46%) | χ^2 test $\chi^2(p\text{-value})$ |
|--|-----------------------------------|----------------------------------|---------------------------------|---------------------------------|---|
| % by column | | | | | |
| Restaurant* | | | | | |
| <i>Cheese</i> | 55.1% | 55.9% | 58.3% | 51.9% | 0.503(0.777) |
| <i>Olive oil</i> | 56.2% | 62.9% | 33.3% | 51.9% | 11.350(0.003) |
| <i>Sausages</i> | 43.5% | 49.4% | 27.8% | 37.7% | 7.107(0.029) |
| <i>Canned fish</i> | 25.4% | 30.6% | 19.4% | 16.9% | 6.030(0.049) |
| <i>Wine</i> | 70.3% | 71.2% | 72.2% | 67.5% | 0.409(0.815) |
| Hotels establishments* | | | | | |
| <i>Cheese</i> | 14.5% | 12.9% | 19.4% | 15.6% | 1.117(0.572) |
| <i>Olive oil</i> | 11.0% | 10.6% | 8.3% | 13.0% | 0.603(0.740) |
| <i>Sausages</i> | 7.8% | 5.9% | 8.3% | 11.7% | 2.510(0.285) |
| <i>Canned fish</i> | 6.0% | 6.5% | 0.0% | 7.8% | 2.800a(0.247) |
| <i>Wine</i> | 13.4% | 13.5% | 13.9% | 13.0% | 0.021(0.990) |
| Homes of friends and relatives* | | | | | |
| <i>Cheese</i> | 17.7% | 22.9% | 11.1% | 9.1% | 8.208(0.017) |
| <i>Olive oil</i> | 18.4% | 24.7% | 8.3% | 9.1% | 11.388(0.003) |
| <i>Sausages</i> | 16.6% | 21.8% | 8.3% | 9.1% | 8.185(0.017) |
| <i>Canned fish</i> | 13.8% | 18.2% | 11.1% | 5.2% | 7.832(0.020) |
| <i>Wine</i> | 19.8% | 26.5% | 11.1% | 9.1% | 12.042(0.002) |
| Gastronomic events* | | | | | |
| <i>Cheese</i> | 3.2% | 4.7% | 0.0% | 1.3% | 3.353a(0.187) |
| <i>Olive oil</i> | 1.1% | 1.8% | 0.0% | 0.0% | 2.015a(0.365) |
| <i>Sausages</i> | 2.1% | 3.5% | 0.0% | 0.0% | 4.075a(0.130) |
| <i>Canned fish</i> | 1.4% | 2.4% | 0.0% | 0.0% | 2.697a(0.260) |
| <i>Wine</i> | 6.0% | 7.1% | 2.8% | 5.2% | 1.088a(0.580) |
| Local fairs / Markets* | | | | | |
| <i>Cheese</i> | 10.2% | 10.6% | 13.9% | 7.8% | 1.045(0.593) |
| <i>Olive oil</i> | 5.3% | 6.5% | 2.8% | 3.9% | 1.223a(0.543) |
| <i>Sausages</i> | 8.1% | 9.4% | 8.3% | 5.2% | 1.265(0.531) |
| <i>Canned fish</i> | 6.4% | 7.1% | 8.3% | 3.9% | 1.160a(0.560) |
| <i>Wine</i> | 11.3% | 12.9% | 13.9% | 6.5% | 2.471(0.291) |

Note:

Bold values represent the highest mean values when the differences between the clusters' means are statistically significant

*only the values corresponding to people who said 'yes' are presented.

a) The assumptions of Chi-square test were not observed.

7.5. Discussion and conclusions

The present chapter analyses the heterogeneity of inbound visitors' behaviour regarding consumption and recommendation of Portuguese local food products upon return to their home countries.

Some of the factors that explain visitors' behaviour identified in this empirical analysis are consistent with those found by previous studies regarding visitors' local food consumption. This study suggested that a distinct set of motivational factors influence visitors' food preferences (Fields, 2002; Kim et al., 2009, 2013; Kim & Eves, 2012; Mak, Lumbers, Eves, & Chang, 2012) and that the relative preference for tasting novel local food products demonstrated by visitors shows that food-related personality traits are important psychological variables affecting local food consumption (Chang et al., 2011; Kim et al., 2009; Torres, 2002).

Contact with local food products before and during the visitor's visit contributes to improved knowledge about these products and, consequently, influences consumption. Moreover, the length of the visitor's stay affects their consumption of local food, as longer stays create more opportunities for contact with local food and local products (Frisvoll et al., 2016). These results regarding the effects of exposure and past experience corroborate the findings of earlier research (Chang et al., 2010; Mak, Lumbers, Eves, & Chang, 2012; Ryu & Jang, 2006; Tse & Crofts, 2005), which showed that when visitors are exposed to local food products and eat them regularly, they not only become familiar with and more likely to eat the foods in question, but are also more likely to try other novel local foods products. As a result, the exposure to unknown local food products on holidays may even change the consumption patterns of the visitor post-visit (Mynttinen et al., 2015).

In terms of the purchase during the visit of local foods to take home, the findings of this study are supported by prior research (Hjalager & Richards, 2002) that demonstrated these products are important souvenirs for visitors, which might be shared with friends and relatives in their home country. This sharing with others contributes positively to word-of-mouth (Beerli & Martin, 2004; Ryu & Jang, 2006)

and personal recommendations about these products (Adongo et al., 2015; Mynttinen et al., 2015).

The results also suggest that the level of spending increases for consumers who already purchased the products on previous trips or at home, confirming the conclusion of Skuras et al. (2006) that expenditure on local food products depends on visitors' attitudes towards and familiarity with these products. In this context, the promotion of local food products is crucial to increasing the pre-visit knowledge of visitors.

Finally, the results obtained did not confirm the hypothesis of previous studies, which found that food events and festivals can play an important role in introducing a visitor to new local foods during holidays (Getz, 2000; Hjalager & Corigliano, 2000). In fact, this study revealed that, in addition to restaurants, the homes of friends and relatives are privileged places for contact with and tasting of agro-food products. These results suggest that there are probably some gaps in the promotion of local food products or the food events directed specifically at inbound tourism.

These obtained findings have both theoretical and practical implications. On the one hand, this study offers an important theoretical contribution to the literature as the market segmentation was made on the basis of visitors' intentions to consume specific local food products and their likelihood to recommend these products to friends and relatives, variables that have been little applied in the literature. By combining literature on tourism and food research, this study identified a set of factors that might help to explain visitors' local food consumption post-visit. Given the lack of research in systematically examining visitors' consumption of local products, the multidisciplinary approach adopted in this study allows for a comprehensive understanding of the phenomenon, forming the basis for further research and conceptual elaboration. Moreover, empirical research using data disaggregated by local food product types has also been little explored.

On the other hand, in terms of their general practical and managerial implications, the findings provide useful information for tourism advertising and the management of local food products. Based on the future intentions expressed by

each market segment, marketers might design marketing strategies to motivate visitors to taste the local food during their holidays. For example, marketers should promote the local agro-food products in brochures and guidebooks used by the visitors, on booking sites, in the airport, and at main squares, restaurants and local markets or events frequented by international visitors. An increase of inbound tourism in Portugal could encourage Portuguese companies to enter new markets internationally and experience greater competitive intensity, which may result in greater innovation and productivity positively impacting the economy more broadly. If these producers are to enter international markets they must make investments to be competitive. These competitive pressures might not be felt if these producers are restricted to the domestic market. Investing in Portuguese tourism is about much more than strengthening the tourism sector alone.

Despite its relevant theoretical and practical contributions, the study is bound by a few limitations. First, the study is of limited scope due to the specific time period and three Portuguese cities in which the questionnaires were administered, exploring just five local agro-food products. It is not possible to meet the requirements set for statistical generalizations through convenience sampling.

Second, the theoretical approach of this study is based on literature regarding the factors that influence the consumption of local food products at a tourism destination (Fields, 2002; Kim et al., 2009) due the relative scarcity of studies regarding the factors influencing behavioural intentions for post-visit consumption and recommendation. Consequently, it is recognized that some motivations to consume local foods may have been overlooked. Therefore, future empirical research employing other variables (e.g. satisfaction, familiarity or cultural background) could complement the results obtained by this study. Additionally, the variables that explain visitors' future intentions regarding local foods could be also validated using demand models and other econometric techniques.

Finally, the current findings open paths for further research. First, the questionnaire based survey could be applied to a wider sample, collected on the streets, around local markets and restaurants, at tourism attractions and at international airports, for example. The differences between products can also be

deeper explored. Second, the results also highlight the necessity to further explore with more sophisticated econometric analysis, the relationships between socio-demographic, behavioural attitudes and on-site experience patterns. Third, the research herein conducted opens path for conducting studies at other destinations. All together, these efforts will contribute to understand better the relationship between tourism experience and post-visit behaviour specifically concerning agro-food products.

Chapter 8

Conclusions and implications

8.1. Discussion and results

Given the scarcity of research into the contribution of tourism towards promoting local product exports, the main objective of this thesis was to analyse the impact of inbound tourism on exports of agro-food products.

The first part of the thesis focused on the potential relationship between inbound tourism and product exports through cointegration using Johansen's maximum likelihood method and the Granger causality test. Although supported by the literature, these relationships have not been empirically explored by the papers reviewed in the scope of this thesis, so the findings open up many new possibilities for the discussion of this subject and strengthen the findings related to the importance of taking advantage of the tourism-trade causal relationship.

The cointegration tests confirmed that there is a long-run equilibrium relationship between inbound tourism and exports of agro-food products in Portugal. On the one hand, international visitors may identify business opportunities that could lead to further exports (Kulendran & Wilson, 2000a) and moreover, inbound tourism promotes feedback with local producers (Brau & Pinna, 2013) and positively affects exports of processed food products (Reed, 1994). On the other hand, exports of agro-food products may induce more inbound business travel and create interest amongst consumers about the source country of the agro-food products, thereby stimulating international tourism to Portugal (Kulendran & Wilson, 2000a).

However, when focusing on the relationship between inbound tourism and exports of agro-food products, the findings reveal that there are differences by country and the type of agro-food product.

On the one hand, the results of the Granger causality test show that a bidirectional short-run causality between inbound tourism and the total exports of agro-food products can be inferred in the case of Brazil and Spain. Additionally, the results suggest that there is unidirectional short-run causality from inbound tourism to the total exports of agro-food products in the case of France and the Netherlands. There are several likely explanations to justify this causality: (i) intense historical relationships, due to colonial ties in the case of Brazil; (ii) geographical proximity in the case of Spain; (iii) the influence of emigration and familiar and friendship relationships with Portuguese emigrants in the case of France; and (iv) the behaviour of Dutch visitors, who value culture and nature and who are more likely to come into contact with local agro-food products. On the other hand, the effects of inbound tourism on exports only seem to be significant in relation to wine, which confirms the relevance of this product to the Portuguese economy, and the fact that it is recognized internationally as a factor of attractiveness.

After confirming that there is a causal relationship between inbound tourism and agro-food product exports, the second part of this thesis performed a microeconomic analysis of the behaviour of international visitors related to the consumption of local agro-food products and intentional behaviours related to these products. The objectives of this analysis were: (i) to assess the impact of several determinants on visitors' decisions about whether or not to purchase local agro-food products during their visit; (ii) to identify the determinants most likely to affect post-visit purchases and recommendations of products with which visitors have come into contact during the trip; and (iii) to analyse the heterogeneity in inbound tourism in terms of tourists' behavioural intentions to consume and recommend local food products upon their return to their home countries, based on segmentation analysis. The scarcity of empirical models explaining visitors' consumption of local food products during and after their trip justified the relevance of the microeconomic analysis carried out in the second part of this thesis.

Out of the 500 visitors who participated in the questionnaire-based survey, 58.5% reported that they had never tasted Portuguese agro-food products before visiting Portugal and 90.2% indicated that at least one of the five products included in the study (cheese, olive oil, sausages, canned fish and wine) can be found in their home country.

According to the information collected, 84.4% of respondents stated that, during their stay in Portugal, they encountered local agro-food products, although only 77.7% mentioned that they had bought these products. The main product bought was wine (93.3%), while canned fish was the least purchased product by visitors (45.6%). Considering only visitors who bought local agro-food products during their stay in Portugal, the total average expenditure of each visitor on these products was €69.56. Restaurants and supermarket/food outlets were the main places at which contact with these products was made. Of the several activities carried out during the trip by visitors, 30.1% of them participated in at least one activity related to gastronomic routes and food and/or wine festivals/gastronomic events. Participation in activities such as these can play an important role in introducing a visitor to new local food products.

With respect to the attributes associated with local food products evaluated in this study (relation price-quality, taste, appearance and authenticity), the results confirm that wine was the best evaluated local product with regard to the four attributes (a mean value of more than or equal to 4.0 on the Likert-type scale from 1 to 5). Meanwhile, sausages and canned fish received the worst rating.

During their stay in Portugal, determinants with the potential to explain the consumption of local agro-food products were grouped into two groups. One group involves factors related to the visitors themselves (food-related personality traits, motivations to consume and socio-demographic profile), while the second group concerns visitor interactions with a destination and local food products during a trip (travel behaviour, knowledge of local food products and evaluation of local food products). The results reveal that determinants related to interaction with the destination and local products are stronger, but there are differences between visitors' characteristics.

This analysis is related to the next empirical study, which focused on the future behaviour of visitors (intention to consume and intention to recommend) with respect to the local food products that they have encountered while on their trip. Using a Likert-type scale from 1 to 5, international visitors who participated in the questionnaire-based survey and who were in contact with local agro-food products during their stay in Portugal were questioned about their intentions to purchase and/or recommend these products after returning to their home country. Overall, the mean scores show that there are differences in visitor behaviour in terms of their intentions to buy and/or recommend the products analysed. On the one hand, the mean scores for visitors' intentions to recommend Portuguese agro-food products on their return home are higher than their intentions to purchase. On the other hand, intentions to buy and/or recommend are higher for wine (between 33.4% and 36.8%, respectively), while sausages and canned fish received the lowest marks in terms of intentions to buy and/or recommend.

The findings of the multivariate regression models suggest that there are, on the one hand, some differences among the determinants most likely to affect intentions to consume and recommend to family and friends; on the other hand, they suggest that determinants of behavioural intentions are product-specific. Nevertheless, based on these results, certain determinants should be heightened: (i) motivational factors for local food consumption; (ii) food-related personality traits; (iii) exposure to and knowledge of local food products; and (iv) visitors' perceptions of certain attributes associated with local food products.

Finally, the segmentation study of Portugal's international tourism market concluded that the market is heterogeneous in terms of visitors' intentional behaviours regarding the consumption and recommendation of Portuguese local food products upon returning to their home countries. From this analysis, three clusters were identified, and several statistical differences among them were identified in terms of behavioural intentions regarding local food products. Cluster 1 (*Ambassador*) revealed high intentions to consume or recommend olive oil, sausages, canned fish and wine. Cluster 2 (*Enthusiast*) mentioned future intentions to consume or recommend only two products from this study (cheese and wine). Cluster 3 (*Indifferent*) displayed below-average intentions to consume

or recommend the target products. This analysis emphasized the importance of defining marketing strategies directed at each segment to potentiate the benefits of the tourism-trade synergy.

8.2. Contributions and implications of the study

The findings obtained have theoretical and practical implications. In the academic sphere, this study can serve as a reference to enrich a field of study that is yet incipient, filling a gap in the literature and providing a coherent framework for further research. Firstly, it makes a contribution to the body of knowledge both in the fields of international trade and tourism, by providing empirical evidence of the relationship between both areas of research. Secondly, this study provides a systematization of a set of studies that have been published in this field, as well as empirical developments in the context of the causal relationship between inbound tourism and total goods exports, mainly agro-food products. Thirdly, the empirical research was developed using secondary and primary data, and several quantitative techniques were applied to consolidate and complement the findings obtained. Fourthly, the causality between inbound tourism and products exports was tested separately for eight trade markets (Belgium, Brazil, France, Germany, Italy, the Netherlands, Spain and the United Kingdom), and five products (cheese, olive oil, sausages, canned fish and wine) were examined to highlight the specificity of the trade-tourism link. Fifthly, in opposition to some of the studies published, which only propose theoretical models, this study provides important insights into consumer behaviour in tourism by establishing a group of determinants with the potential to influence the consumption and recommendation of Portuguese local food products during and after a trip. Finally, this study offers an important contribution to the literature, as the market segmentation was made on the basis of visitors' intentions to consume specific local food products and their likelihood of recommending these products to friends and relatives. The use of variables related to intentional behaviour has been rarely applied in segmentation studies in the tourism literature. To sum up, these results contribute towards

consolidating knowledge of tourism economics and marketing within a little explored thematic area with a scarcity of empirical studies of tourism destinations.

The findings also have practical value for researchers and practitioners in the field of tourism, and thus have managerial implications. Business and government entities can benefit from a better understanding of the potential relationship between tourism and agro-food sectors. Considering the fact that future opportunities may emanate from these network relationships, the entities involved should pay more attention to how and with whom these relationships are established and managed. The analysis developed to respond to the specific objectives formulated in this thesis can suggest some recommendations to policymakers to potentiate the impact of tourism on local product exports.

The findings of the macroeconomic analysis revealed that the causality between inbound tourism and food exports has only been confirmed for some countries and local products. Therefore, the differences between countries and local products not only justify the definition of strategies adjusted to maximize the benefits of this link, but they mainly emphasize the need to define an action capable of creating relationships that were not confirmed by this study. The microeconomic studies also showed that some determinants related to visitors, and their interactions with a destination and its local food products, may influence the decision of international visitors to purchase local food products during and after their stay in Portugal. Far from being only theoretical, some of these determinants, namely those related with destination and visitor interaction with local food products, can be influenced by policymakers through promotion initiatives directed at visitors during the trip.

These actions should be defined in consideration of the fact that the perceptions and knowledge that international visitors have about Portuguese agro-food products are different and require the definition of policies promoting local products without undermining their authenticity or sustainability. An important step would be to improve visitors' awareness of local products during their stay at the tourism destination; by so doing, this would create opportunities for the development of these products in the wider marketplace. For example, it is

important to encourage international hotel chains already operating in the country to work with producers and traders of traditional exportable food products. A further example includes the organization of small-scale food exhibitions and the promotion of local agro-food products in brochures and guidebooks used by visitors, on booking sites and at airports, as well as in main squares, restaurants and local markets or events frequented by international visitors, because this can help to build a trademark for domestic products and hence to internationally promote them through the tourism channel. Tourism can act as a platform for the improvement of export performance because it facilitates learning by bringing a sample of the international market into the local economy.

Tourism destinations have clear advantages in terms of promoting niche markets or brands associated with local food products, because knowledge of local food products acquired during a trip have a positive impact on purchasing behaviour. Policymakers should understand that the consumption of local food can enrich visitor experiences by reinforcing a sense of unique regional identity and place. In this context, actions related to promotional initiatives in visitors' countries of origin, advertisements in tourism sites, as well as activities associated with local food products (e.g. food events, festivals or gastronomic routes) should be boosted. These promote the identity and culture of tourism destinations and create ideal opportunities for visitors to encounter local food products.

The actions of those involved in the internationalization of the agro-food sector are very important and should be potentiated via e-commerce activities. It will be essential for Portuguese firms linked to the agro-food sector to define strategies in order to take advantage of online commerce, because it will constitute an important tool in the sale of agro-food products to international visitors once they have returned to their home countries and, in some cases, will enable companies to overcome the limitations of small scale production.

8.3. Limitations of the study

Although this thesis contributes to improving knowledge in this research area, some limitations can be pointed out.

The results of studies analysing the nature of the relationship between inbound tourism and goods exports are sensitive to the trade markets selected, the agro-food products chosen, cointegration and causality techniques and the proxies selected to test the causality. Although based on valid arguments, the trade markets and the agro-food products selected may not be consensual. The cointegration and causality approach followed was a methodological option, although it is recognized that complementary techniques (e.g. the gravity model) may be performed to validate the results. The proxies used for the models - the total number of nights spent by foreign tourists in accommodation establishments and total goods exports by goods type (Combined Nomenclature - CN8) (€) - and the sample period of the database used (January 2000 - December 2012) was conditioned by secondary data available from the National Statistics Institute.

The length and scope of the survey developed to collect primary data was adjusted, because a survey too lengthy or one that asks many open-ended questions may discourage respondents from participating. The questionnaire-based survey was undertaken in three Portuguese cities and was confined to a period of two months during the summer season. It was difficult to identify the population of the study. Consequently, it is not possible to meet the requirements set for statistical generalizations through the convenience sampling approach. Furthermore, differences in visitor profile and behaviour according to the time of year are not reflected in this study.

The analyses undertaken in chapters 5, 6 and 7 were restricted to certain potential determinants identified through the literature review, which may influence visitors' consumption behaviour with respect to local food products during and after the trip. However, it is recognized that the proposed models do not incorporate all of the possible factors that will affect visitors' behaviour, and the study focuses on a limited set of products.

8.4. Suggestions for future research

In consideration of the outlined limitations, and in order to examine the ability to generalize the findings of this thesis to other contexts, further research would be desirable. Some important areas for future research are suggested below.

First, the causality tests were confined to just five local agro-food products and to the major Portuguese tourism and trade markets. It would be important to replicate the study with due consideration given to different local food products and other countries, because this would contribute to confirming the consistency of the results obtained.

Second, in future studies, apart from the determinants with the potential to influence the purchase of local products and to explain visitors' future intentions towards these products, other factors - such as familiarity with the destination and the products purchased, as well as satisfaction with the food experience - should also be explored.

Third, given the current lack of studies focusing on an examination of visitors' food consumption during and after their trip, a framework developed through a multidisciplinary approach might contribute to the body of knowledge in the research field. For instance, the development of studies using other research strategies, focused on qualitative methods, could be useful to complement the conclusions of this thesis.

Finally, this study was centred on the side of demand, so complementary studies should be undertaken with the purpose of understanding the supply chain side. The participation and involvement of the whole supply chain for the differentiation and promotion of local food is crucial to take advantage of the potential complementarity between visitors and local food products.

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APPENDICES

Appendix 1

Questionnaire for visitors, within the context of a PhD research project regarding:

“International tourism and local agro-food products: exploring the relationship”

University of Aveiro

Dear Visitor

This questionnaire is part of an academic research project which aims to evaluate the role that tourism may have in promoting exports of local agro-food products. In this questionnaire the expression “*local agro-food products*” refers to products from the Portuguese food industry associated with local agriculture and fishing and that have a local/regional identity.

Your participation is extremely important to carry out this research. All answers are confidential and will be used only for this research project.

Thank you very much for your help.

Before the trip to Portugal

1. Please look at the following table and indicate the characteristics that influence your decision when you buy food products. Please indicate with an X your choice; where 1=No influence and 5= Strong influence.

| Products | 1 | 2 | 3 | 4 | 5 | Products | 1 | 2 | 3 | 4 | 5 |
|--|---|---|---|---|---|--------------------------------|---|---|---|---|---|
| Brand of the product | | | | | | Origin of the product | | | | | |
| Price of the product | | | | | | Certification of the product | | | | | |
| Unique or special product | | | | | | Quality of the product | | | | | |
| Product's taste | | | | | | Trends and fashion | | | | | |
| Social responsibility and sustainable production | | | | | | Other. Please specify _____ | | | | | |

2. Before visiting Portugal have you tasted any Portuguese agro-food products?

a) Yes. Please specify the product(s) _____ b) No

If you answered *Yes*, please answer the following question. Otherwise please go to question 4.

3. Where did you taste these Portuguese agro-food products? Several possible answers.

a) In my home country b) Last visit to Portugal c) Last visit to other country

4. The previous knowledge about Portuguese local agro-food products influenced the selection of this country to travel? a) Yes b) No

During the trip to Portugal

5. What was the main purpose of your visit to Portugal? Indicate only one purpose.

- a) Leisure, recreation and/or holiday b) Visiting friends and relatives
 c) Health treatment d) Business and professional e) Religion/pilgrimages
 f) Other. Please specify _____

6. Have you been to this country before? a) Never b) About _____ times

7. In this trip which regions/cities did you visit / want to visit? _____

8. Which information sources were consulted to obtain information about this destination?

- a) Travel agency b) Books c) Internet d) Friends and relatives
 e) Word-of-mouth f) Previous visits g) Other. Please specify _____

| | |
|--|---|
| <p>9. How many people are included in your travel group? _____</p> | <p>10. How many nights do you stay in Portugal? From: __/__/2015 to: __/__/2015 (day/month/year)</p> |
|--|---|

11. Which was (will be) the main type of accommodation used in this trip? (Hotels establishments in city/ rural area, Flats, Rural Houses, Rented rooms in family home, Accommodation provide without charge by friends and relatives, Second homes, Camping, Other) _____

12. Please look at the following table and indicate the activities in which you participated (want to participate) during this visit. Please indicate with an X the activities that correspond to your choice. Several possible answers.

| Activities | Activities |
|---|---|
| Visiting monuments (e.g. theatres, churches, cathedrals, palaces, castles) | Attending cultural and recreation events (e.g. theatre, festivals, markets and exhibitions) |
| Practising Sports (e.g. hunting, fishing, bicycle riding, aquatic sports, walking trails, etc.) | Participate in food and/or wine festivals / gastronomic events |
| Visiting Historic Sites | Going to the beach |
| Visiting protected areas | Attending religion events |
| Attending meetings, conferences or | Participate in international fairs |
| Visiting gastronomic routes | Visit friends and relatives |
| Other. Please specify _____ | |

The local agro-food products considered in this study are:

| Cheese | Olive oil | Sausages | Canned fish | Wine |
|---|---|---|--|---|
|  |  |  |  |  |

13. Do you know if you can find some of these products in your home country? a) No

| | Cheese | Olive oil | Sausages | Canned fish | Wine | Other. Specify |
|----------------|--------|-----------|----------|-------------|------|----------------|
| b) Yes. Which? | | | | | | |

14. During your stay in Portugal did you learn about/ contact with any of these local agro-food products? a) No

| | Cheese | Olive oil | Sausages | Canned fish | Wine | Other. Specify |
|----------------|--------|-----------|----------|-------------|------|----------------|
| b) Yes. Which? | | | | | | |

If you answered *Yes* to the question, please answer the following questions. Otherwise please go to question 25.

| | |
|---|--|
| <p>15. During your stay in Portugal did you taste any of these products?</p> <p><input type="checkbox"/> a) No</p> <p><input type="checkbox"/> b) Yes. Please indicate the products</p> <p><input type="checkbox"/> Cheese <input type="checkbox"/> Sausages <input type="checkbox"/> Wine <input type="checkbox"/> Olive oil</p> <p><input type="checkbox"/> Canned fish <input type="checkbox"/> Other. Please specify _____</p> | <p>16. If No, indicate with an X the reason(s):</p> <p><input type="checkbox"/> a) Price <input type="checkbox"/> b) Unfamiliar flavour <input type="checkbox"/> c) Dislike</p> <p><input type="checkbox"/> d) Appearance <input type="checkbox"/> e) Health restrictions</p> <p><input type="checkbox"/> f) Cultural beliefs <input type="checkbox"/> g) Religious beliefs</p> <p><input type="checkbox"/> h) Not to know <input type="checkbox"/> i) Not to contact</p> <p><input type="checkbox"/> j) Other. Please specify _____</p> |
|---|--|

17. Where did you contact with / taste each of these local agro-food products? Please indicate with an X the products and the place.

| | Cheese | Olive oil | Sausages | Canned fish | Wine | Other. Specify |
|------------------------------|--------|-----------|----------|-------------|------|----------------|
| Restaurant | | | | | | |
| Hotels establishments | | | | | | |
| Supermarket /Food outlets | | | | | | |
| Friends and relatives' house | | | | | | |
| Gastronomic events | | | | | | |
| Local fairs / Markets | | | | | | |
| Local Producer | | | | | | |
| Other. Please specify _____ | | | | | | |

18. For the local agro-food products that you contacted with / tasted, how do you evaluate them? Please indicate with an X your choice; where 1=Very bad and 5= Very good.

| Products | Relation Price/ Quality | | | | | Taste | | | | | Appearance | | | | | Authenticity | | | | |
|-----------------------------------|----------------------------|---|---|---|---|-------|---|---|---|---|------------|---|---|---|---|--------------|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 |
| Cheese | | | | | | | | | | | | | | | | | | | | |
| Olive oil | | | | | | | | | | | | | | | | | | | | |
| Sausages | | | | | | | | | | | | | | | | | | | | |
| Canned fish | | | | | | | | | | | | | | | | | | | | |
| Wine | | | | | | | | | | | | | | | | | | | | |
| Other. Please specify _____ | | | | | | | | | | | | | | | | | | | | |

19. During your stay in Portugal did you buy (or want to buy) any of these local agro-food products? a) Yes b) No

20. If yes, for which purpose? Please indicate with an X the products and your intention. Several possible answers.

| Products | To taste during the visit | To take home | |
|--------------------------------|---------------------------|-----------------|----------------------------|
| | | Own consumption | Offer to relatives/friends |
| Cheese | | | |
| Olive oil | | | |
| Sausages | | | |
| Canned fish | | | |
| Wine | | | |
| Other. Please specify _____ | | | |

21. Approximately, how much money did you spend (or want to spend) on this trip? Amount of money spent for all members of the group that you are paying for. Indicate the currency. _____

22. Approximately, how much did you spend (or want to spend) on these local agro-food products? Amount of money spent for all members of the group that you are paying for. Indicate the currency. _____

23. After staying in Portugal which of these Portuguese local agro-food products would you like to purchase in your country / recommend to friends and relatives. Please indicate with an X your choice; where 1= Very unlikely and 5= Very likely

| Products | <i>I will search for and try to buy in my home country</i> | | | | | <i>I will recommend to my family/ friends</i> | | | | |
|-----------------------------|--|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 |
| Cheese | | | | | | | | | | |
| Olive oil | | | | | | | | | | |
| Sausages | | | | | | | | | | |
| Canned fish | | | | | | | | | | |
| Wine | | | | | | | | | | |
| Other. Please Specify _____ | | | | | | | | | | |

24. After staying in Portugal would you like promote business with these products in the future?

- a) Yes b) No

25. Indicate how much you agree or disagree with each statement. Please indicate with an X your choice; where 1=Strongly disagree and 5= Strongly agree

| | 1 | 2 | 3 | 4 | 5 |
|--|---|---|---|---|---|
| Experiencing local products in its original place excites me | | | | | |
| Tasting local products on holiday helps me to relax | | | | | |
| Local products contains a lot of fresh ingredients produced in a local area | | | | | |
| Experiencing local products increase my knowledge about different cultures | | | | | |
| Tasting local products in an original place is an authentic experience | | | | | |
| Tasting local products enables me to have an enjoyable time with friends/family | | | | | |
| I like to talk to everybody about my local products experiences | | | | | |
| I want to give advice about local products experiences to people who want to travel | | | | | |
| It is important to me that the local products I eat on holiday looks nice/ tastes good | | | | | |
| I am constantly sampling new and different food products | | | | | |
| My religious beliefs have an impact on food consumption | | | | | |

Personal information. (For statistical purpose)**26. Country of Residence**

27. Nationality

28. Year of birthday

29. Gender a) M b) F**30. Marital Status:** a) Single b) Married c) Widow d) Divorced**31. Your education level:** a) Basic level education b) Secondary education c) University/College Education d) Post-Graduation**32. Your current economic status:** a) Employed b) Unemployed c) Student d) Retired e) Other. Specify _____**33. If you are employed, what is your current job?** _____**34. What is your net monthly income per capita?** According to the currency you are using answer this question using one of the options (a), (b), (c)

| a) € (Euro) | b) GBP (£) – Pound Sterling | c) Other |
|--------------------------------------|---------------------------------------|--------------------------------|
| <input type="checkbox"/>]0-1500] | <input type="checkbox"/>]0-1040] | Income _____ Currency _____ |
| <input type="checkbox"/>]1500-3000] | <input type="checkbox"/>] 1040-2080] | |
| <input type="checkbox"/>]3000-6000] | <input type="checkbox"/>] 2080-4160] | |
| <input type="checkbox"/> + 6000 | <input type="checkbox"/> + 4160 | |

Thank you very much. Ana Madaleno

Date: __/__/2015 Place of fulfilment: _____

Appendix 2

Questionnaire se destinant aux visiteurs

dans le cadre d'un projet de recherche d'un Doctorat:

"Le tourisme international et les produits agro-alimentaires locaux: savoir explorer cette relation"

Universidade de Aveiro

Cher visiteur

Ce questionnaire fait partie d'un projet de recherche universitaire qui vise à évaluer l'importance et le rôle du tourisme du point de vue de la promotion des exportations des produits agro-alimentaires locaux. Sur ce questionnaire, l'expression «produits agro-alimentaires locaux» se rapporte aux produits de l'industrie agro-alimentaire portugaise liée à l'agriculture et à la pêche ayant une identité locale et régionale.

Votre participation, dans le cadre de cette recherche, est extrêmement importante! Toutes vos réponses sont bien évidemment, confidentielles et n'auront pour fin qu'une étude dans le cadre de cette recherche. Par avance, merci pour votre aimable collaboration!

Avant votre voyage au Portugal

1. Veuillez, s'il vous plaît consulter le tableau ci-dessous et veuillez indiquer les caractéristiques qui influencent votre décision lorsque vous achetez des produits alimentaires.

Merci de bien vouloir indiquer à l'aide d'une (X) votre choix; sur une échelle de 1 à 5; sachant que le numéaux 1 correspond à "pas d'influence" et le numéaux 5 "grande influence".

| Produits | 1 | 2 | 3 | 4 | 5 | Produits | 1 | 2 | 3 | 4 | 5 |
|--|---|---|---|---|---|---------------------------------|---|---|---|---|---|
| Marque du produit | | | | | | Origine du produit | | | | | |
| Prix du produit | | | | | | Certification du produit | | | | | |
| Produit unique ou de spécialité | | | | | | Qualité du produit | | | | | |
| Goût du produit | | | | | | Tendance et mode | | | | | |
| Responsabilité sociale et environnementale | | | | | | Autres. SVP spécifiez! _____ | | | | | |

2. Avant de visiter le Portugal aviez-vous déjà goûté des produits agro-alimentaires portugais?

a) Oui. SVP spécifiez le(s) produit(s) _____ b) Non

Si vous avez répondu *Oui*, veuillez s'il vous plaît répondez à la question suivante, sinon merci de passer à la question 4.

12. Veuillez s'il vous plaît, consulter le tableau ci-dessous et indiquer les activités auxquelles vous avez participé (ou souhaiteriez participer) au cours de cette visite. Indiquez s'il vous plaît, à l'aide d'une (X) les activités qui correspondent à votre choix. Plusieurs réponses sont possibles.

| Activités | Activités |
|--|---|
| Visiter des monuments d'intérêt historique (théâtres, églises, cathédrales, palais, châteaux) | Assister à des événements et activités d'ordre culturel (tels que théâtre, festivals, marchés et expositions) |
| Pratiquer des loisirs et des activités sportives (chasse, pêche, promenades en vélo, équitation, sports nautiques, randonnées pédestres) | Participer à des festivals de vin ou à des événements liés à la gastronomie |
| Visiter des sites historiques | Profiter de vacances à la plage |
| Visiter des zones protégées | Participer à des célébrations religieuses |
| Participer à des réunions, conférences ou à des | Participer à des foires internationales |
| Visiter des itinéraires gastronomiques | Visiter des amis ou des parents |
| Autres. Veuillez spécifier SVP | |

Les produits locaux agro-alimentaires qui font l'objet de cette étude sont les suivants:

| Fromage | Huile d'olive | Charcuterie | Conserves de poisson | Vins |
|---|---|---|--|---|
|  |  |  |  |  |

13. Savez-vous si vous pouvez trouver certains de ces produits dans votre pays d'origine?

a) Non

| | Fromage | Huile d'olive | Charcuterie | Conserves | Vins | Autres produits. Veuillez spécifier SVP! |
|----------------------|---------|---------------|-------------|-----------|------|--|
| b) Si oui. Lesquels? | | | | | | |

14. Pendant votre séjour au Portugal avez-vous découvert ces produits ou avez-vous contacté avec l'un de ces produits agro-alimentaires locaux? a) Non

| | Fromage | Huile d'olive | Charcuterie | Conserves | Vins | Autres produits. Veuillez spécifier SVP! |
|----------------------|---------|---------------|-------------|-----------|------|--|
| b) Si oui. Lesquels? | | | | | | |

Si vous avez répondu *Oui* à la question, répondez SVP aux questions suivantes, sinon SVP, passez à la question 25

| | |
|--|--|
| <p>15. Pendant votre séjour au Portugal avez-vous goûté l'un de ces produits?</p> <p><input type="checkbox"/> a) Non</p> <p><input type="checkbox"/> b) Oui. Veuillez SVP, indiquer les produits:</p> <p><input type="checkbox"/> Fromage <input type="checkbox"/> Charcuterie <input type="checkbox"/> Vins</p> <p><input type="checkbox"/> Huile d'olive <input type="checkbox"/> Conserves</p> <p><input type="checkbox"/> Autres Veuillez SVP spécifier _____</p> | <p>16. Si votre réponse est <i>Non</i>, veuillez indiquer à l'aide d'une (X) la ou les raison(s):</p> <p><input type="checkbox"/> a) Prix <input type="checkbox"/> b) Saveur inconnue <input type="checkbox"/> c) Aversion</p> <p><input type="checkbox"/> d) Apparence <input type="checkbox"/> e) Restrictions de santé</p> <p><input type="checkbox"/> f) Croyances culturelles <input type="checkbox"/> g) Croyances religieuses</p> <p><input type="checkbox"/> h) En raison de ne pas connaître</p> <p><input type="checkbox"/> i) Pour n'avoir pas contacté</p> <p><input type="checkbox"/> j) Autres Veuillez SVP spécifier _____</p> |
|--|--|

17. Où avez-vous contacté ou bien goûté chacun de ces produits agro-alimentaires locaux?

Veuillez s'il vous plaît indiquer à l'aide d'une (X) les produits et le lieu.

| | Fromage | Huile d'olive | Charcuterie | Conserves | Vins | Autres. Spécifiez! |
|---------------------------------|---------|---------------|-------------|-----------|------|--------------------|
| Restaurant | | | | | | |
| Établissement hôteliers | | | | | | |
| Supermarché / magasins | | | | | | |
| Maison d'amis ou de parents | | | | | | |
| Évènements gastronomiques | | | | | | |
| Foires locales / Marchés locaux | | | | | | |
| Producteur local | | | | | | |
| Autres. Spécifier | | | | | | |

18. Concernant les produits agro-alimentaires locaux découverts et dégustés, comment les évaluez-vous ?

Veuillez s'il vous plaît, indiquer à l'aide d'une (X) votre choix; sachant que 1 correspond à "très mauvais" et 5 "excellent".

| Produits | Rapport Prix/Qualité | | | | | Goût/Saveur | | | | | Apparence | | | | | Authenticité | | | | |
|-----------------------------|----------------------|---|---|---|---|-------------|---|---|---|---|-----------|---|---|---|---|--------------|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 |
| Fromage | | | | | | | | | | | | | | | | | | | | |
| Huile d'olive | | | | | | | | | | | | | | | | | | | | |
| Charcuterie | | | | | | | | | | | | | | | | | | | | |
| Conserves | | | | | | | | | | | | | | | | | | | | |
| Vins | | | | | | | | | | | | | | | | | | | | |
| Autres. Spécifier SVP _____ | | | | | | | | | | | | | | | | | | | | |

19. Pendant votre séjour au Portugal avez-vous acheté (ou voulez-vous acheter) l'un de ces produits agro-alimentaires locaux? a) Oui b) Non

20. Si votre réponse est *Oui*, à quel but? Veuillez s'il vous plaît indiquer à l'aide d'une (X), quels sont les produits et vos intentions à leur égard. Plusieurs réponses sont possibles.

| Produits | Pour goûter lors de ma visite | Pour ramener à la maison | |
|--------------------------------|-------------------------------|-------------------------------------|--|
| | | Pour votre consommation personnelle | Pour offrir à des amis ou à la famille |
| Fromage | | | |
| Huile d'olive | | | |
| Charcuterie | | | |
| Conserves | | | |
| Vins | | | |
| Autres. Spécifier SVP _____ | | | |

21. Environ, combien d'argent avez-vous dépensé (ou voulez-vous dépenser) lors de votre voyage? Indiquez la monnaie et le montante dépensé au total, par tous les membres du groupe par rapport auquel vous êtes responsable _____

22. Environ, combien d'argent avez-vous dépensé (ou voulez-vous dépenser) sur ces produits agro-alimentaires locaux? Indiquez la monnaie et le montante dépensé au total, par tous les membres du groupe par rapport auquel vous êtes responsable _____

23. Après votre séjour au Portugal lequel de ces produits portugais agro-alimentaires locaux aimeriez-vous acheter dans votre pays ou souhaiteriez-vous recommander à des amis ou à vos parents. Veuillez s'il vous plaît indiquer à l'aide d'une (X) votre choix; sachant que 1 correspond à "très improbable" et 5 à "certainement".

| Produits | <i>Je vais rechercher et essayer d'acheter dans mon pays d'origine</i> | | | | | <i>Je vais recommander à mes amis / famille</i> | | | | |
|-----------------------------|--|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 |
| Fromage | | | | | | | | | | |
| Huile d'olive | | | | | | | | | | |
| Charcuterie | | | | | | | | | | |
| Conserves | | | | | | | | | | |
| Vins | | | | | | | | | | |
| Autres. Spécifier SVP _____ | | | | | | | | | | |

24. Après un séjour au Portugal, envisagez-vous ou souhaitez-vous promouvoir dans l'avenir, des achats avec ces produits ?

- a) Oui b) Non

25. Veuillez indiquer au combien vous êtes en accord ou pas avec chacun des énoncés. Veuillez s'il vous plaît indiquer, à l'aide d'une (X) votre choix; sachant que 1 correspond à "fortement en désaccord" et 5 à "entièrement d'accord".

| | 1 | 2 | 3 | 4 | 5 |
|--|---|---|---|---|---|
| La rencontre de ces produits locaux à leur place d'origine m'est agréable | | | | | |
| La dégustation de produits locaux en vacances m'aide à me détendre | | | | | |
| Les produits locaux contiennent une importante quantité d'ingrédients frais, produits dans une région locale | | | | | |
| Expérimenter les produits locaux augmente mes connaissances concernant différentes cultures | | | | | |
| La dégustation de produits locaux en un lieu original est une expérience authentique sans précédent | | | | | |
| La dégustation de produits locaux me proportionne d'agréables moments en famille ou entre amis | | | | | |
| Je divulgue mes expériences personnelles au sujet de ces produits locaux | | | | | |
| Je souhaite donner des conseils concernant les produits locaux à tous ceux qui veulent voyager | | | | | |
| Il est important pour moi que les produits locaux que j'achète en vacances aient une bonne appréhension et dégustation | | | | | |
| Je suis constamment en quête d'échantillons de nouveaux et de différents produits alimentaires | | | | | |
| Mes croyances religieuses ont un impact important sur mes choix de consommation alimentaire | | | | | |

Renseignements personnels (à des fins statistiques).

26. Pays de résidence _____ **27. Nationalité** _____ **28. Année de naissance** _____ **29. Sexe** a) M b) F

30. État Civil: a) Célibataire b) Marié c) Veuf (ve) d) Divorcé/Séparé

31. Votre niveau scolaire:

- a) Enseignement primaire b) Enseignement Secondaire
 c) Enseignement Universitaire d) Après-Université

32. Votre statut économique actuel/ situation professionnelle:

- a) Employé (e) b) Au chômage
 c) Étudiant (e) d) Retraité (e)
 e) Autres. Spécifier SVP _____

33. Si vous êtes salarié, indiquez votre profession, SVP _____

34. Quel est votre revenu mensuel net *per capita*? En fonction de la monnaie que vous utilisez, veuillez SVP répondre à la question suivante en utilisant l'une des deux options (a) (b).

| a) € (Euro) | b) Autre |
|--|--|
| <input type="checkbox"/>]0-1500] <input type="checkbox"/>]1500-3000] <input type="checkbox"/>]3000-6000] <input type="checkbox"/> + 6000 | Revenu _____ Devise/monnaie _____ |

Merci beaucoup pour votre aimable collaboration! Ana Madaleno

Date: ____/____/2015

Lieu du questionnaire : _____

Appendix 3

Encuesta a los visitantes

Proyecto de investigación de Doctorado sobre el:

“Turismo internacional y los productos agroalimentarios locales: explorar la relación”

Universidade de Aveiro

Estimado Visitante

Esta encuesta es parte de un proyecto de investigación de Doctorado cuyo objetivo es evaluar la importancia del turismo en la promoción de productos agroalimentarios locales. En la encuesta la expresión “*productos agroalimentarios locales*” dice respecto a los productos de la industria alimentaria Portuguesa relacionados con la agricultura y pesca y que tienen una identidad local/regional.

Su participación es muy importante para realizar esta investigación. Todas las respuestas son confidenciales y serán utilizadas única y exclusivamente en este proyecto de investigación.

Gracias por su colaboración.

Antes del viaje a Portugal

1. Por favor, observe la tabla siguiente e indique las características que influyen su decisión en el momento de la compra de productos alimentarios. Indique con una X las características; donde 1=Ninguna influencia y 5= Mucha influencia.

| Productos | 1 | 2 | 3 | 4 | 5 | Productos | 1 | 2 | 3 | 4 | 5 |
|--|---|---|---|---|---|----------------------------|---|---|---|---|---|
| Marca del producto | | | | | | Origen del producto | | | | | |
| Precio del producto | | | | | | Certificación del producto | | | | | |
| Producto único / especial | | | | | | Calidad del producto | | | | | |
| El gusto del producto | | | | | | Tendencias y moda | | | | | |
| Responsabilidad social y producción sostenible | | | | | | Otras. ¿Cuales? _____ | | | | | |

2. ¿Antes de visitar Portugal, alguna vez ha probado productos agroalimentarios de origen Portuguesa? a) Si. ¿Cuales? _____ b) No

Si su respuesta es *Si* responda a la siguiente pregunta, si no pase directamente a la cuestión 4.

3. ¿Dónde ha probado estos productos agroalimentarios Portugueses? Varias respuestas posibles

- a) En mi país de origen b) Anterior visita a Portugal c) Anterior visita a otro país

4. ¿El conocimiento previo sobre productos agroalimentarios Portugueses ha influenciado en la selección de este país para viajar? a) Si b) No

Durante el viaje a Portugal

5. ¿Cuál es el principal motivo de su visita a Portugal? (1 respuesta)

- a) Placer/vacaciones b) Visitar familiares y amigos c) Salud
 d) Negocios o razones profesionales e) Religión y peregrinación f) Otro. ¿Cual? _____

6. ¿Cuántas veces ha visitado Portugal? a) Ninguna b) Alrededor de _____ veces

7. ¿Qué regiones/ciudades ha visitado o desea visitar durante el viaje?

8. ¿En la preparación del viaje, que fuentes de información utilizó para obtener información sobre este destino?

- a) Agencia de viajes b) Publicaciones c) Internet d) Experiencia personal e) Boca a boca
 f) Recomendaciones de familiares/amigos g) Otras. ¿Cuales? _____

| | |
|--|---|
| <p>9. ¿Cuántas personas están incluidas en su grupo de viaje? _____</p> | <p>10. ¿Cuántas noches queda en Portugal? de: __/__/2015 hasta: __/__/2015 (día/mes/año)</p> |
|--|---|

11. ¿Cuál es el tipo de alojamiento más utilizado en este viaje? (Hotel en la ciudad/ espacio rural, Apartamentos, *Turismo Rural*, Alojamiento en casas particulares (no gratuito), Alojamiento gratuito en casa de familiares y amigos, Alojamiento turístico en segunda residencia, Camping, Otros) _____

12. ¿Cuáles son las actividades que pretende practicar o que ya practicó durante su visita a este país? Indique con una X las actividades. Varias respuestas posibles

| Actividades | | Actividades | |
|---|--|---|--|
| Visitar monumentos de interés histórico (teatros, iglesias, catedrales, palacios, castillos) | | Participar en actividades culturales (teatro, festivales, ferias, exposiciones) | |
| Practicar actividades deportivas (caza, pesca deportiva, bicicleta, deportes acuáticos, paseos, etc.) | | Participar en festivales de gastronomía y/o vino / eventos gastronómicos | |
| Visitar Centros históricos | | Playa | |
| Visitar áreas naturales protegidas | | Participar en actividades religiosas | |
| Participar en Seminarios, Congresos, Conferencias | | Participar en ferias internacionales | |
| Visitar rutas gastronómicas | | Visitar amigos y familiares | |
| Otras – ¿Cuales? _____ | | | |

Los productos agroalimentarios locales analizados en este estudio son:

| Queso | Aceite de oliva | Embutidos | Conservas de pescado | Vino |
|--|--|--|---|--|
|  |  |  |  |  |

13. ¿Sabe si puede encontrar algunos de estos productos en su país de origen? a) No

| | Queso | Aceite de oliva | Embutidos | Conservas | Vino | Otros - ¿Cuales? |
|-----------------|-------|-----------------|-----------|-----------|------|------------------|
| b) Si. ¿Cuales? | | | | | | |

14. ¿Durante la visita a Portugal conoció / contactó con estos productos agroalimentarios?

a) No

| | Queso | Aceite de oliva | Embutidos | Conservas | Vino | Otros - ¿Cuales? |
|-----------------|-------|-----------------|-----------|-----------|------|------------------|
| b) Si. ¿Cuales? | | | | | | |

Si su respuesta es *Si* responda a las siguientes preguntas, si no pase directamente a la cuestión 25.

| | |
|---|--|
| <p>15. ¿Durante la visita a Portugal probó alguno de estos productos?</p> <p><input type="checkbox"/> a) No</p> <p><input type="checkbox"/> b) Si. Indique los productos</p> <p><input type="checkbox"/> Queso <input type="checkbox"/> Embutidos <input type="checkbox"/> Vino <input type="checkbox"/> Conservas</p> <p><input type="checkbox"/> Aceite de oliva <input type="checkbox"/> Otros. ¿Cuales?</p> <p>_____</p> | <p>16. Si No, indique con una X el (los) motivo(s) para no probar:</p> <p><input type="checkbox"/> a) Precio <input type="checkbox"/> b) Sabor desconocido <input type="checkbox"/> c) No gustar</p> <p><input type="checkbox"/> d) Apariencia <input type="checkbox"/> e) Restricciones de Salud</p> <p><input type="checkbox"/> f) Creencias culturales <input type="checkbox"/> g) Creencias religiosas</p> <p><input type="checkbox"/> h) No saber <input type="checkbox"/> i) No contactar</p> <p><input type="checkbox"/> j) Otras - ¿Cuales? _____</p> |
|---|--|

17. ¿Dónde ha conocido / probado estos productos agroalimentarios locales? Indique con una X los productos y el local.

| | Queso | Aceite de oliva | Embutidos | Conservas | Vino | Otros - ¿Cuales |
|--|-------|-----------------|-----------|-----------|------|-----------------|
| Restaurante | | | | | | |
| Hoteles | | | | | | |
| Supermercado / Puntos de venta de comida | | | | | | |
| Casa de amigos y familiares | | | | | | |
| Eventos gastronómicos | | | | | | |
| Ferias locales / Mercados | | | | | | |
| Productor local | | | | | | |
| Otros. ¿Cuales? _____ | | | | | | |

18. Como evalúa cada uno de los productos locales que ha conocido / probado. Indique con una X las opciones; donde 1= Muy Malo y 5= Muy Bueno.

| Productos | Relación Precio / Calidad | | | | | Sabor | | | | | Apariencia | | | | | Autenticidad | | | | |
|------------------------|---------------------------|---|---|---|---|-------|---|---|---|---|------------|---|---|---|---|--------------|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 |
| Queso | | | | | | | | | | | | | | | | | | | | |
| Aceite de oliva | | | | | | | | | | | | | | | | | | | | |
| Embutidos | | | | | | | | | | | | | | | | | | | | |
| Conservas | | | | | | | | | | | | | | | | | | | | |
| Vino | | | | | | | | | | | | | | | | | | | | |
| Otros - ¿Cuales? _____ | | | | | | | | | | | | | | | | | | | | |

19. ¿Durante la estadía en Portugal ha adquirido (o desea comprar) alguno de estos productos agroalimentarios locales? a) Si b) No

20. Si la respuesta es Si, indique la intención. Indique con una X los productos y la intención.

Varias respuestas posibles

| Productos | Para degustar durante la visita | Llevar para casa | |
|------------------------|---------------------------------|------------------|-------------------------------|
| | | Consumo propio | Ofrecer a familiares / amigos |
| Queso | | | |
| Aceite de oliva | | | |
| Embutidos | | | |
| Conservas | | | |
| Vino | | | |
| Otros - ¿Cuales? _____ | | | |

21. ¿Aproximadamente, cuanto ha gastado (o gastará) durante el viaje? Gastos efectuados para todas las personas que son parte del grupo de los cuales es responsable de los gastos. Indique la moneda.

22. ¿Aproximadamente, cuanto ha gastado (o gastará) en estos productos agroalimentarios locales? Gastos efectuados para todas las personas que son parte del grupo de los cuales es responsable de los gastos. Indique la moneda. _____

23. ¿Después de la visita a Portugal cuales productos agroalimentarios locales le gustaría comprar en su país / recomendar a amigos y familiares? Indique con una X las opciones; donde 1= Muy improbable y 5= Muy Probable

| Productos | <i>Buscar e intentar comprar en mi país de origen</i> | | | | | <i>Recomendar a mi familia / amigos</i> | | | | |
|-----------------------|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 |
| Queso | | | | | | | | | | |
| Aceite de oliva | | | | | | | | | | |
| Embutidos | | | | | | | | | | |
| Conservas | | | | | | | | | | |
| Vino | | | | | | | | | | |
| Otros. ¿Cuales? _____ | | | | | | | | | | |

24. ¿Después de la visita a Portugal le gustaría promover en el futuro un negocio con estos productos?

a) Si b) No

25. Indique su grado de concordancia con las siguientes afirmaciones. Indique con una X su opinión; donde 1 = Totalmente en desacuerdo y 5 = Totalmente de acuerdo

| | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| Experimentar productos locales en su lugar original me encanta | | | | | |
| Degustar productos locales en vacaciones me ayuda a relajar | | | | | |
| Los productos locales contienen una gran cantidad de ingredientes frescos producidos en la proximidad | | | | | |
| Experimentar productos locales mejora mi conocimiento sobre diferentes culturas | | | | | |
| Degustar productos locales en un lugar original es una experiencia auténtica | | | | | |
| Degustar productos locales me permite tener un momento agradable con amigos / familiares | | | | | |
| Me gusta hablar con otras personas sobre mi experiencia con productos locales | | | | | |
| Me gusta dar consejos sobre mi experiencia con productos locales a personas que desean viajar | | | | | |
| Es importante para mí que los productos locales que como en vacaciones tengan buena apariencia / buen sabor | | | | | |
| Procuro constantemente nuevos y diferentes productos alimentarios | | | | | |
| Mis creencias religiosas tienen un impacto en el consumo de productos alimentarios | | | | | |

Perfil del Visitante (Con fines estadísticos)

26. País de Residencia

27. Nacionalidad

28. Año de nacimiento

29. Género

a) M b) F

30. Estado Civil: a) Soltero b) Casado c) Viudo d) Divorciado/separado

31. Habilitaciones literarias (Estudios):

32. Situación Laboral

a) Con trabajo b) Paro

c) Estudiante d) Jubilado

e) Otra.¿Cual? _____

33. Si eligió la respuesta a) por favor indique su profesión _____

34. ¿Cuál es el valor líquido de sus ingresos mensuales per cápita? De acuerdo con la moneda responda usando una de las opciones (a) o (b).

| a) € (Euro) | b) Otra moneda |
|--------------------------------------|----------------|
| <input type="checkbox"/>]0-1500] | Ingreso _____ |
| <input type="checkbox"/>]1500-3000] | |
| <input type="checkbox"/>]3000-6000] | Moneda _____ |
| <input type="checkbox"/> + 6000 | |

Gracias por su colaboración. Ana Madaleno

Fecha ___/___/2015 Local de rellenado: _____

Appendix 4

Questionário aos visitantes, no âmbito de um projeto de investigação de doutoramento: “O turismo internacional e os produtos agroalimentares locais: explorar a relação”

Universidade de Aveiro

Caro Visitante

Este questionário faz parte de um projeto de investigação de Doutoramento que visa avaliar o papel do turismo na promoção das exportações de produtos locais do sector agroalimentar. Neste questionário a expressão “*produtos agroalimentares locais*” refere-se aos produtos da indústria alimentar Portuguesa associados com a agricultura local e pescas e que têm uma identidade local/regional.

A sua colaboração será sinceramente apreciada e terá uma grande influência nos resultados obtidos neste estudo. Todas as respostas são estritamente confidenciais e serão apenas utilizadas neste projeto de investigação.

Muito obrigada pela sua colaboração.

Antes da viagem a Portugal

1. Na tabela seguinte indique quais as características que influenciam a sua decisão no momento da compra de produtos alimentares. Assinale com X a sua escolha; onde 1=Sem importância e 5= Muita importância.

| Produtos | 1 | 2 | 3 | 4 | 5 | Produtos | 1 | 2 | 3 | 4 | 5 |
|--|---|---|---|---|---|-------------------------|---|---|---|---|---|
| Marca do produto | | | | | | Origem do produto | | | | | |
| Preço do produto | | | | | | Certificação do produto | | | | | |
| Produto único/especialidade | | | | | | Qualidade do produto | | | | | |
| Sabor do produto | | | | | | Tendências e moda | | | | | |
| Responsabilidade social e produção sustentável | | | | | | Outras. Quais? _____ | | | | | |

2. Antes de visitar Portugal já alguma vez provou produtos agroalimentares locais de origem Portuguesa? a) Sim. Quais o(s) produto(s) ? _____ b) Não

Se respondeu *Sim* à questão, responda à questão seguinte; senão passe para a questão 4.

3. Onde provou esses produtos agroalimentares de origem Portuguesa? Várias respostas possíveis.

a) No meu país de origem b) Visita anterior a Portugal c) Visita anterior a outro país

4. O conhecimento anterior sobre produtos agroalimentares de origem Portuguesa influenciou a seleção deste país para visitar? a) Sim b) Não

Durante a visita a Portugal

5. Qual o principal motivo da sua visita a Portugal? Indicar apenas um motivo.

- a) Lazer / férias b) Visita a familiares e amigos c) Saúde
 d) Negócios ou razões profissionais e) Religião e peregrinação f) Outro. Qual? _____

6. Quantas vezes já visitou Portugal? a) Nenhuma b) Cerca de _____ vezes

7. Nesta viagem quais as regiões/cidades que visitou ou deseja visitar? _____

8. Quais foram as fontes de informação que consultou para obter informação sobre este destino?

- a) Agências de viagens b) Publicações c) Internet d) Recomendações de familiares/amigos
 e) Ouvir falar deste destino f) Experiência pessoal g) Outras. Quais? _____

| | |
|---|---|
| 9. Quantas pessoas fazem parte do seu grupo de viagem? _____ | 10. Quantas noites esteve (estará) em Portugal? De __/__/2015 até: __/__/2015 (dia/mês/ano) |
|---|---|

11. Qual o principal meio de alojamento utilizado nesta viagem? (Estabelecimentos hoteleiros na cidade/ áreas rurais, Apartamentos, Turismo no Espaço Rural, Alojamento em casas particulares (não gratuito), Alojamento gratuito em casas de familiares e amigos, Segunda habitação, Parques de Campismo, Outros) _____

12. Quais das seguintes atividades praticou ou pretende praticar durante a sua estadia?

Assinale com X as actividades. Várias respostas possíveis.

| Atividades | Atividades |
|---|---|
| Visitar monumentos de interesse histórico (ex: teatros, igrejas, catedrais, palácios, | Participar em atividades culturais (ex: teatro, festivais, feiras e exposições, etc.) |
| Praticar atividades desportivas (ex: caça, pesca desportiva, passeios de bicicleta, desportos | Participar em festivais gastronomia e/ou vinho / eventos gastronómicos |
| Visitar centros históricos | Fazer praia |
| Visitar áreas protegidas | Participar em eventos religiosos |
| Participar em seminários, congressos e/ou conferências | Participar em feiras internacionais |
| Visitar roteiros gastronómicos | Visitar amigos e familiares |
| Outras. Quais? _____ | |

Os produtos agroalimentares locais analisados neste estudo são:



13. Sabe se é possível encontrar estes produtos no seu país? a) Não

| | Queijo | Azeite | Enchidos | Conservas | Vinho | Outros. Quais? |
|----------------|--------|--------|----------|-----------|-------|----------------|
| b) Sim. Quais? | | | | | | |

14. Durante a sua estadia em Portugal conheceu ou teve contacto com algum destes produtos agroalimentares locais? a) Não

| | Queijo | Azeite | Enchidos | Conservas | Vinho | Outros. Quais? |
|----------------|--------|--------|----------|-----------|-------|----------------|
| b) Sim. Quais? | | | | | | |

Se respondeu *Sim* à questão, responda às questões seguintes; senão passe para a questão 25.

| | |
|---|---|
| <p>15. Durante a sua estadia em Portugal provou algum destes produtos?</p> <p><input type="checkbox"/> a) Não</p> <p><input type="checkbox"/> b) Sim. Assinale os produtos</p> <p><input type="checkbox"/> Queijo <input type="checkbox"/> Enchidos <input type="checkbox"/> Vinho <input type="checkbox"/> Azeite</p> <p><input type="checkbox"/> Conservas <input type="checkbox"/> Outros. Quais? _____</p> | <p>16. Se <i>Não</i>, assinale com um X a(s) razão(ões):</p> <p><input type="checkbox"/> a) Preço <input type="checkbox"/> b) Sabor estranho <input type="checkbox"/> c) Não gostar</p> <p><input type="checkbox"/> d) Aparência <input type="checkbox"/> e) Restrições de saúde</p> <p><input type="checkbox"/> f) Crenças culturais <input type="checkbox"/> g) Crenças religiosas</p> <p><input type="checkbox"/> h) Não conhecer <input type="checkbox"/> i) Não contactar</p> <p><input type="checkbox"/> j) Outras. Quais? _____</p> |
|---|---|

17. Onde conheceu ou provou cada um destes produtos agroalimentares locais? Assinale com X os produtos e o local.

| | Queijo | Azeite | Enchidos | Conservas | Vinho | Outros. Quais? |
|--------------------------------|--------|--------|----------|-----------|-------|----------------|
| Restaurante | | | | | | |
| Estabelecimentos hoteleiros | | | | | | |
| Supermercado / Lojas de | | | | | | |
| Em casa de amigos e familiares | | | | | | |
| Eventos gastronómicos | | | | | | |
| Feiras locais / Mercados | | | | | | |
| Produtores locais | | | | | | |
| Outros. Quais? _____ | | | | | | |

18. Como avalia cada um dos produtos agroalimentares locais que conheceu / provou?

Assinale com X a sua escolha; onde 1= Muito Mau e 5= Muito Bom

| Produtos | Relação Preço/Qualidade | | | | | Sabor | | | | | Aparência | | | | | Autenticidade | | | | |
|----------------------|-------------------------|---|---|---|---|-------|---|---|---|---|-----------|---|---|---|---|---------------|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 |
| Queijo | | | | | | | | | | | | | | | | | | | | |
| Azeite | | | | | | | | | | | | | | | | | | | | |
| Enchidos | | | | | | | | | | | | | | | | | | | | |
| Conservas | | | | | | | | | | | | | | | | | | | | |
| Vinho | | | | | | | | | | | | | | | | | | | | |
| Outras. Quais? _____ | | | | | | | | | | | | | | | | | | | | |

19. Durante a sua estadia em Portugal comprou (ou deseja comprar) alguns destes produtos agroalimentares locais? a) Sim b) Não

20. Se Sim, qual é a finalidade? Assinale com X os produtos e a sua intenção. Várias respostas possíveis.

| Produtos | Para provar durante a visita | Para levar para casa | |
|----------------------|------------------------------|----------------------|-------------------------------|
| | | Consumo próprio | Oferecer a familiares /amigos |
| Queijo | | | |
| Azeite | | | |
| Enchidos | | | |
| Conservas | | | |
| Vinho | | | |
| Outros. Quais? _____ | | | |

21. Aproximadamente, qual o montante que gastou (ou pretende gastar) durante esta viagem? Montante gasto com todas as pessoas de que é responsável pelas despesas. Indicar a moeda.

22. Aproximadamente, qual o montante que gastou (ou pretende gastar) nestes produtos agroalimentares? Montante gasto com todas as pessoas de que é responsável pelas despesas. Indicar a moeda. _____

23. Depois da sua estadia em Portugal quais destes produtos agroalimentares locais de origem Portuguesa gostaria de comprar no seu país / recomendar a amigos e familiares. Assinale com X a sua escolha; onde 1= Muito improvável e 5= Muito provável

| Produtos | <i>Irei procurar e tentar comprar estes produtos no meu país de origem</i> | | | | | <i>Irei recomendar estes produtos a familiares/ amigos</i> | | | | |
|----------------------|--|---|---|---|---|--|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 |
| Queijo | | | | | | | | | | |
| Azeite | | | | | | | | | | |
| Enchidos | | | | | | | | | | |
| Conservas | | | | | | | | | | |
| Vinho | | | | | | | | | | |
| Outras. Quais? _____ | | | | | | | | | | |

24. Depois da sua estadia em Portugal gostaria de promover negócios com estes produtos no futuro? a) Sim b) Não

25. Indique o grau de concordância com as seguintes afirmações. Assinale com X a sua escolha; onde 1=totalmente em desacordo e 5= totalmente de acordo

| | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| Experimentar produtos locais no seu espaço original entusiasma-me | | | | | |
| Degustar produtos locais em férias ajuda-me a relaxar | | | | | |
| Os produtos locais contêm ingredientes frescos produzidos na área | | | | | |
| Experimentar produtos locais melhora o meu conhecimento sobre diferentes culturas | | | | | |
| Degustar produtos locais no seu espaço original é uma experiência autêntica | | | | | |
| Degustar produtos locais permite passar um momento agradável com amigos e/ou familiares | | | | | |
| Gosto de partilhar as minhas experiências com produtos locais | | | | | |
| Gosto de dar conselhos sobre as experiências com produtos locais às pessoas que desejam viajar | | | | | |
| É importante para mim que os produtos locais que consumo em férias tenham boa aparência/bom sabor | | | | | |
| Procuo regularmente produtos alimentares novos e diferentes | | | | | |
| As minhas crenças religiosas têm impacto no consumo de produtos alimentares | | | | | |

Caracterização do visitante (para fins estatísticos)**26. País de Residência**

27. Nacionalidade

28. Ano de nascimento

29. Sexo a) M b) F**30. Estado Civil** a) Solteiro b) Casado c) Viúvo d) Divorciado/separado**31. Habilitações literárias**

- a) Ensino básico b) Ensino Secundário
 c) Licenciatura d) Mestrado/Doutoramento

32. Situação perante o trabalho:

- a) Empregado b) Desempregado
 c) Estudante d) Reformado
 e) Outra. Qual? _____

33. Se está empregado, indique a sua profissão? _____**34. Qual o valor médio do rendimento líquido mensal *per capita*?** De acordo com a moeda responda a esta questão usando uma das opções (a) ou (b).

| a) € (Euro) | b) Outra moeda |
|--------------------------------------|---------------------------------|
| <input type="checkbox"/>]0-1500] | Rendimento _____ Moeda _____ |
| <input type="checkbox"/>]1500-3000] | |
| <input type="checkbox"/>]3000-6000] | |
| <input type="checkbox"/> + 6000 | |

Muito obrigada pela sua colaboração. Ana Madaleno

Data: __/__/2015 Local de preenchimento: _____