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Acknowledgement

„To God only wise, be glory through Jesus Christ for ever.”

Romans 16:27

Beside my family I would like to give a special thanks to the following people who have helped me to finish my thesis: Zsuzsanna Baranyi, Antonio Colom, Peter Csillag, Imre Fertő, Csaba Forgács, Attila Jámbor, Tamás Mizik, Tamara Szűcs, József Tóth.

1 Introduction

1.1 Theme

Agriculture and food production always had a significant role in national economies; it was the single most important sector everywhere up until the Industrial Revolution. Although through the global division of labour, the agriculture and food industry lost its eminent position, its strategic importance is beyond any doubt.

Based on the environmental conditions Hungary used to be an agricultural state, although until the peace treaties following the First and Second World Wars, it also had rich natural resources. History demonstrates that Hungary had a surplus in the trade of agricultural and food products: in the Habsburg Empire Hungary was effectively used as a pantry, while in the Socialist era, the sector had a great influence on the trade balance.

Agriculture is one of the most controlled fields of the European Union; the Common Agricultural Policy (CAP) consumes the largest share of the common budget and serves as a basis for serious debates. The objectives of the CAP have changed significantly over the years. Initially, the main goal was to provide sufficient food for people in Europe after the Second World War, thus the priority was quantity. In the 1980s, the growing EEA community had to face overproduction and several CAP reforms were performed. Since the 90s, the focus has shifted to food security and safety, instead of mass production.

The product quality policy of the European Union essentially has three pillars: products with geographical indications, traditional and special products, and organic products. Therefore, it is clear that EU decision-makers prefer the concept of role of origin, where the product gains its uniqueness from the relationship with the production area and its high quality is due to the accumulated know-how of the producing region.

High-quality Hungarian products are often called “hungaricum”, although this concept had no clear definition until the Hungaricum Act came into force in 2012.

Therefore, in this dissertation hungaricum is defined as products also recognized by the EU's geographical indication system.

Based on the above, this thesis aims to find a connection between competitiveness (profitability) and the advantages of the European geographical indication system

1.2 Research questions and hypotheses

The main objective of the thesis is to examine the role of origin-protection from an economic point of view; to find and characterize any connection between geographical indications and the competitiveness of products. Since both qualitative and quantitative research is needed in order to analyze the topic, a description of the legislative background and careful calculations of competitiveness will both be provided.

The main aim of the research is to analyse the economic influence of the geographical indications on agriculture and food production in the 21th century, especially in the case of Hungary. The main assumptions that this thesis is aiming to examine and prove are the following:

The protection provided by the legislative background ensures a direct competitive edge for those products that have geographical indications.

The above statement will be tested on both national and international levels, therefore the two main hypotheses are the following:

The level of profitability on the national level is higher among companies that produce products with geographical indications than among those companies that do not have the option of producing such products.

States with geographical indications protected products realise a revealed comparative advantage in international trade, compared to the states without such products.

Besides testing these hypotheses, the dissertation also focuses on the main dimensions of the EU's geographical indications system and takes a stand on the use of the term "hungaricum".

The primary focus is on the EU's geographical indications system, as the Hungarian products are part of this system. The subject of the quantitative research is the pálinka, the only Hungarian spirit with geographical indication, a product that realises significant success between 2000 and 2010, partly due to its legislative protection. Therefore the period this thesis focuses on is the last 20 years of the legislative and regulation background, and the period of 2008-2011 for the competitiveness calculations.

1.3 Thematic overview of related research

Although the connection between products and their production area can be traced back over several centuries, research in agribusiness has only devoted increasing attention to this topic in the last 20 years. Mostly those countries have made efforts to run research programmes on this topic that have a significant interest in the system of geographical indications (the Mediterranean states, Netherlands, UK, Germany, and Switzerland).

The framework programmes of the European Union also devote great attention to this topic, and it is mainly the above states that participate in these research projects – thus far the role of the new member states (including Hungary) is not remarkable. (The related EU projects are summarized in Appendix 1.)

The primary institution of agricultural economists in Europe is the EAAE (European Association of Agricultural Economists) that organises conferences and seminars in order to disseminate the most recent scientific findings. In the last 15 years, four seminar topics were directly related to the system of geographical indications (see Appendix 2).

The related research highlight the importance of the topic, and also underline the fact that Hungary is lagging behind in this field. Although several doctoral dissertations (Malota [2003], Pallóné [2003], Szabó [2006], Panyor [2007] and Popovics [2009]) dealt partially with this topic, the connection of origin and competitiveness remains mostly under-researched in Hungary. Therefore, the goal of this thesis is to fill this gap and uncover new connections.

1.4 The structure of the thesis

The framework of the thesis builds on a deductive structure: following a general description of several dimensions of the European system of geographical indications the Hungarian situation will be examined, while the last part of the thesis will present findings based on the competitiveness calculations of the pálinka sector.

The second chapter of this thesis will describe the role of geographical indications in Europe from four different aspects. First, the definition, characterization, and the legislative background of the system is explored. This will be followed by an analysis of the connection between origin-protected products and the local production system. The next section will present the role of geographical indications in rural development, while the final part of this chapter will describe consumer attitude towards such products. The objective of this chapter is to give a general overview of the European system of geographical indication and to demonstrate the connection between the system and the agriculture and food production sector.

In the third chapter, the term 'hungaricum' will be explained and the current Hungarian products within the EU's geographical indication system will also be introduced. The second part of this chapter then deals with the trademarks available in Hungary for agricultural and food products. The objective of this chapter is to highlight those products that could be considered as the geographical indications of Hungary, even in a broader international context.

The fourth chapter will start with the introduction of pálinka, the empirical subject of the quantitative research of the thesis. Following that, a detailed description of the EU's regulation for origin-protected spirits will be provided, and the chapter will conclude with presenting the market of pálinka. This chapter is aimed at examining the subject from a qualitative point of view.

In the fifth chapter, the quantitative calculations will be shown: following an introduction of the methodological literature on competitiveness, the case of pálinka will be examined from two points of view. First, the profitability level of the

Hungarian pálinka market will be studied, with a focus on origin-protection. This will be followed by a sector-level research; the revealed comparative advantages in international trade will be examined in order to compare pálinka with other regional fruit spirits with and without geographical indication. The objective of this last chapter is to provide quantitative data in support of the hypotheses of the dissertation.

2 The role of geographical indications in Europe

2.1 The definition, the characterization and the legislative background of geographical indications

„…whereas, however, there is diversity in the national practices for implementing registered designations or origin and geographical indications; whereas a Community approach should be envisaged; whereas a framework of Community rules on protection will permit the development of geographical indications and designations of origin since, by providing a more uniform approach, such a framework will ensure fair competition between the producers of products bearing such indications and enhance the credibility of the products in the consumers' eyes …"

Council Regulation (EEC) No 2081/92 of 14 July 1992

2.1.1 The definition and characterization of geographical indications

Appellations of origin already existed in the ancient ages; many products in international trade gained higher reputation due to their origin. Tea from China, grain from Egypt or cedar from Lebanon were products in demand thousands of years ago but some ancient products are still very famous among consumers (e.g. Brussels lace, porcelain from Meißen etc.). Among agricultural and food products the wines and spirits were the first product group with protection of origin and many such products are still well-known around the world (Tattay [2001]).

Therefore, we can say that the concept behind geographical indication is not a new idea but quite the contrary, the modern approach of geographical indications could be dated to the end of 19th century and the beginning of 20th century. According to Tattay (2001), it was an important milestone in this process that in many countries the legislative background of the trademarks was also set up in this time (e.g. France 1857, USA 1881, Hungary 1890). However these national regulations were very different and their diverse development was also observable, thus, there is no unified concept and definition that could be universally accepted. The EU's green paper

regarding the quality of agricultural products states that "A 'geographical indication' is a name describing an agricultural product or foodstuff that owes its characteristics or its reputation to the geographical area from which it originates."[1]

Based on the above definition, the European concept stands on three main pillars. First of all, a geographical indication can essentially be associated with agricultural and food products. Secondly, such products gain not only their physical characteristics but also their reputation from their production area. Third, these areas should be easily recognizable geographical territories. Therefore, the European concept of appellation of origin puts together both the tangible (product) and immaterial (reputation) characteristics into the same system. Since the importance of geographical indications is higher in the southern part of Europe, the European concept is also known as 'Catholic' (see Table 1).

As opposed to the European practice, the 'Protestant' concept – mainly in the US and Australia – holds that geographical indications are nothing more than a simple distinctive characteristic of a trademark. In these regions the geographical indications have not identified with the product and it is rather an additional information such as the name of the producer or an important ingredient.

The two concepts differ from each other significantly, and as it became clear during several WTO-rounds, countries with these different concepts also have non-harmoniseable legislative backgrounds. (The main differences are summarized in Table 1.)

In this thesis the European concept is analysed, therefore under the term of geographical indication the European approach should be understood.

[1] Commission of the European Communities [2008], p. 12.

Table 1 Comparison between catholic and protestant approaches of geographical indications

	Catholic conception and legal system	Protestant conception and legal system
Reputation	"Old country" perspective: geographically-linked products, well-known	"New country" perspective: geographically-linked products less well known than company-linked products (i.e. trademarks)
Definition of food quality	Quality as "taste", excellence	Quality as primarily safety, security, not taste/excellence/tradition Importance of regulation, control of product/production
Innovation vs. tradition	More distrust of change for the sake of change, stability-seeking, less confidence in science vs. traditional knowledge, customs	Greater acceptance of change as positive Strong reliance on science for decision-making
Role of the state	Hierarchical; state intervention more acceptable, strong state-led public welfare goals, progress linked to social solidarity	Distrust of hierarchy and state intervention, strong federalist tradition "Welfare" viewed as charity, emphasis on competition leading to progress
Legal principles	Legal reasoning based on fundamental principles, moral rights of individuals (enjoyment of quality)	Case law Deference to state/local law as departing principle (deference to national law on international scene) Reliance on trademark law and unfair competition law
Intellectual property conception	As historically agrarian countries, intellectual property value of place-linked products is more important, question of possible extension of appellations to crafts	Main concern with protecting intellectual property rights connected with new inventions and advanced technology
Definition of geographical indications	Geographical indication belongs to area, not individuals, protected by state, viewed as part of heritage and identity of a country/region. Regulation on geographic and human factors. Emphasis on non-deception of consumers relative to product origin	In the US geographical indications can be "owned" by a government, an association of producers, or even an individual Little regulation/recognition of geographic / human factors Preference for trademarks which recognises origin or source of products in relation to a specific enterprise, or (in the case of collective marks) an association and its members meeting certain requirements with respect to the production, manufacture or supply of the goods in question
Conflicts between geographical indications and trademarks		Conflicts over trademarks are usually (with a few exceptions for co-existence of identical or similar signs) resolved according to the priority indicated by "first in time, first in right", meaning that disputes over similar IPRs should be settled according to the concept of prior rights Co-existence of similar rights must be reserved for very exceptional circumstances, as it dilutes the principle of prior rights
Values linked to geographical indications	Use by state as development tool to promote marginalised rural areas	Ambivalence toward place attachment/identity (sentimental or nostalgic, looks to the past, can be divisive – fascism, territorially-based disputes, etc.)

Source: Barham (2001), p. 10.

In both approaches, from the definition of geographical indications it is clear that these systems are built upon a legislative framework and they cannot function without such a background. From a consumer point of view, such geographical indications and appellations of origin are to guarantee that the given product is produced in that particular area and is in full possession of the required characteristics. For the supply side, the system provides a kind of monopoly position, as the appellation and logos could be used only by firms that fulfil all of the required criteria. However, it is a mistake to restrict these systems only to paragraphs; many other aspects of geographical indications exist. (See Table 2)

Table 2 Legal and non-legal fields for policies concerning geographical indications

	Legal field	**Other fields**
Stakes	Consumer protection Fair competition	Development of rural areas, especially those which are marginal Existence of small-to-medium-sized firms in the agro-food supply chains Food diversity, cultural and gastronomic heritage Sustainable agriculture
Objectives	Highest level of protection for geographical indications against imitations and misuses	Increase of added value and income in origin labelled product's' (OLP) supply chains Support of food diversity by giving more OLPs market access opportunities Promotion of quality agro-products in relation with good and traditional agricultural practices required by codes of practices for registered OLPs
Means	Sui generis systems of registration and protection for geographical indications Implementation of multilateral agreements on the protection of geographical indications	Legislation on inter-professional bodies Financial, promotional, technical support brought by public organisms to professional and inter-professional bodies Requirements of the codes of practices for registered OLPs
Results	A growing number of products benefiting from an adequate protection of their geographical indication	Protection and maintenance of traditional practices, biodiversity and landscapes

Source: Barjolle - Sylvander (2003), p. 9.

2.1.2 International and multilateral agreements

As the international examples show, in general the concept of geographical indications are mostly regional issues. Beside the European system – which will be described later on – similar initiatives exist in the Andes Community and in the member states of the African Intellectual Property Organization. The objective of

these treaties is to protect the member states' products with geographical indications, based on the mutual recognition (Addor – Grazioli [2002]). However, such products are often subject to international trade, therefore it was necessary to increase the level of protection internationally.

Although in the EU the legal framework of geographical indications originated at the beginning of the 90s, several bi- and multilateral agreements deal with this topic. From these the thesis will present four important ones: Paris Convention (1883), Madrid Agreement (1891), Lisbon Agreement (1958), and the TRIPS Agreement (1994).

The Paris Convention[2] covering patents was signed on 20 March 1883 and it was modified seven times until 1979. The convention was ratified by 174 countries to date, and it does not define a general standard for geographical indications – it only makes some general statements regarding appellation of origin. According to this treaty, appellation of origin is a kind of intellectual property and its protection is to identify at the borders the products with non-genuine origin. Therefore, the Paris Convention established the protection of the industrial products' intellectual property right that are subject of international trade. This concept is the most broadly accepted one today.

The Madrid Agreement[3] also essentially deals with protection at the border. Still, the agreement, signed in 1879, goes further and attempts to stop not only fake but also misleading products.

It is important to mention that the Madrid Agreement is the first of its kind to give specific attention to wines from the agricultural and food products.

Among the above treaties, the Lisbon Agreement[4] is the first that aims to provide a full and global protection for registered products. Moreover, the Lisbon Agreement is the first to define the term of appellation of origin, which means "the geographical denomination of a country, region, or locality, which serves to designate a product originating therein, the quality or characteristics of which are due

[2] http://www.wipo.int/treaties/en/ip/paris/trtdocs_wo020.html [29.12.2012.]
[3] http://www.wipo.int/treaties/en/ip/madrid/trtdocs_wo032.html [29.12.2012.]
[4] http://www.wipo.int/lisbon/en/legal_texts/lisbon_agreement.html [29.12.2012.]

exclusively or essentially to the geographical environment, including natural and human factors." (Lisbon Agreement, article 2, paragraph 1)

Moreover, it provides protection against the usurpation and misuse of appellations even in if the real place of origin is also indicated (e.g. "-like", "sort", "kind" etc.). On the other hand, it is important to mention that the agreement did not live up to expectations and bring significant changes in the field of international regulation of geographical indications, party because only 27 countries signed it – mainly because of the poor instruments and possibilities offered by the system.

Up to this day, the most important agreement on the field of geographical indications and origin protection has been the TRIPS Agreement[5], which was signed as part of the Uruguay Round of WTO (GATT) in Marrakesh on 15 April, 1994. This treaty deals firstly with specified geographical indications, defining them "…as indications which identify a good as originating in the territory of a Member, or a region or locality in that territory, where a given quality, reputation or other characteristic of the good is essentially attributable to its geographical origin." (TRIPS Agreement, Article 22.1)

The TRIPS Agreement, in addition to the Lisbon Agreement, underlines the effect of geographical indications on the reputation of the products.

The 3rd section of the 2nd part of the agreement deals in three articles with geographical indications. The TRIPS Agreement provides a negative protection: prohibits the usage of the appellations of origin for the unauthorized, while giving the opportunity to set up a positive protection on the country-level (registration, authorities etc.). It is also important to highlight that wines and spirits are treated as a different product group with a different kind of protection. Whilst the protection of general geographical indication do not prohibit misleading labels, among wines and spirits this is also forbidden. In practice it means that "Roquefort cheese from Norway" is allowed but "Napa Valley wine from France" is not according to the TRIPS Agreement (Addor – Grazioli [2002]).

The above international treaties describe well the international development of the systems of the geographical indications (see Table 3). On the other hand, it is also

[5] http://www.wto.org/english/tratop_e/trips_e/t_agm0_e.htm [29.12.2012.]

visible that there is no unique and global regulation providing a wide protection for products. Moreover such products maintain their importance mostly on a regional level, like a common framework for the member states of the European Union.

Table 3 The most relevant international agreements regarding geographical indications

	Date	Connection to the food sector	Member states	Member states from the EU
Paris Convention	1883	none	174	27
Madrid Agreement	1891	none	35	13*
Lisbon Agreement	1958	wine	27	10**
TRIPS Agreement	1994	wine and spirit	153	27

*Bulgaria, Czech Republic, France, Germany, Hungary, Ireland, Italy, Poland, Portugal, Slovakia, Spain, Sweden, United Kingdom
** Bulgaria, Czech Republic, France, Greece, Hungary, Italy, Portugal, Romania, Slovakia, Spain

Source: author's own composition

Altogether, we can say that behind the systems of geographical indications there is a diversified legislative background. Thereinafter the thesis does not deal with the legal framework as it does not play a central role in the topic.

2.1.3 The regulation of geographical indications in the EU

As it is visible, not all EU member states have signed the same international agreements in the last centuries. The first unified regulation of the EU was set up at the beginning of the 90s, although the idea was already in the public's mind in the 80s. The Lisbon Agreement with the few signing countries did not offer a solution on the Community's level (Tattay [2001]).

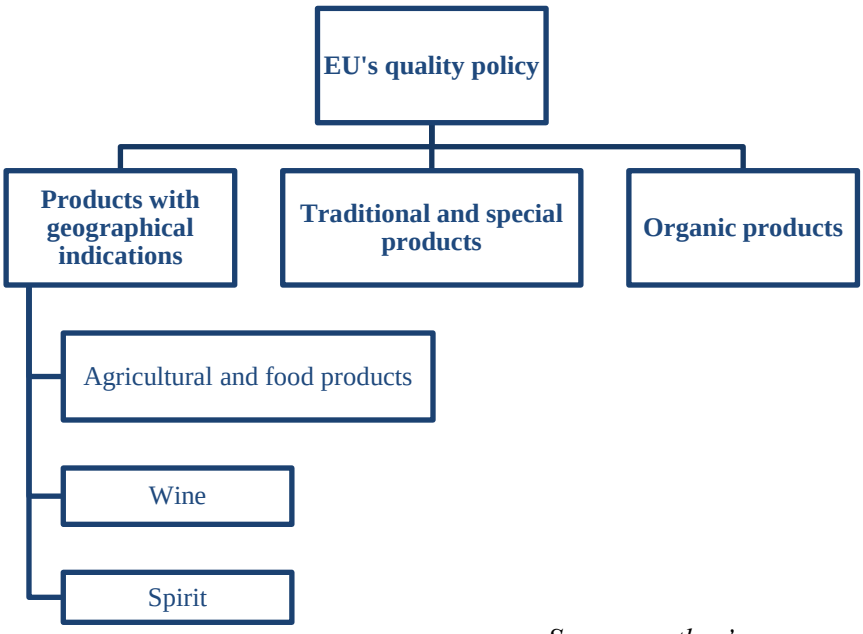
The food sector of the European Union is most influenced by the highly regulatory Common Agricultural Policy (CAP). CAP takes the highest share of the common budget and it is the most controversial field among the member states. The objectives of the CAP changed significantly over time. At the beginning – after World War II – it aimed to equilibrate the shortfall in supply caused by the war, therefore food security was the priority with quantity in the focus. From the 80s, the community had to face overproduction and responded with several reforms to the CAP. From the

90s, progress with quality in focus is observable, where instead of mass production the quality and food security is the issue.

The concept of geographical indication connects to the CAP through its quality policy. This field consists of three pillars (see Figure 1): products with geographical indications, traditional and special products, and organic products. (The latter two groups are not part of the geographical indications; therefore they are not examined in this thesis.)

Therefore, we can say that the European decision-makers prefer products that strongly connect to their area of production, and their higher quality (and the fulfilment of the food security requirements) is due to the local know-how of production – usually developed over centuries.

Figure 1 Schematic figure of the EU food and agricultire related quality policy



Source: author's own composition

Based on the above, in the European Union three different product groups can benefit from the advantages of geographical indications: agricultural and food products, wines and spirits.

2.1.4 Geographical indications of agricultural and food products

The regulation for agricultural and food products was born in 1992 (2081/92/EEC regulation), which was revised in 2006 and this is still in force (510/2006/EC regulation). Based on the regulation, there are two different types of protection: Protected Designation of Origin (PDO) and Protected Geographical Indication (PGI). It is common in the two types of regulation that the authorized producers are the only ones who can use the label with respect to the code of practice (Tattay [2001]). Together with the PDO and PGI products often mentioned the Traditional Specialities Guaranteed (TSG) products but in this latter group not the origin but the traditional production is distinctive, therefore these are not geographical indications (Mészáros [2004]). To become PDO or PGI, the product has to go through a registration process, where first the national authority monitors the fulfilment of all criteria and afterwards the product goes to the Community level (Zobor [2004]).

Protected Designation of Origin

Out of the two categories of geographical indications the PDO provides the more exclusive protection because in this case all steps of the production process have to be performed in the specific geographical area. Therefore, besides high quality the product is in a direct and inseparable connection with the territory.

In practice, the name of PDO products consists of the name of geographical area (a well defined landscape or place) and the name of the specific agricultural or food product.

Protected Geographical Indication

Compared to PDO the category of PGI is much wider because here the criteria is that the production or procession or preparation of the product is linked to the geographical area and therefore it is its main characteristic in terms of distinguishing it from other products. Therefore in the case of the PGI, not the entire production chain has to be performed in the specified region.

The common system of geographical indications in the European Union changed the previous regulations of the member states that were based on the Lisbon Agreement but were quite different. An important change was that geographical indications were taken from the field of industrial property to the scope of agricultural law. Moreover, in the long term the national regulations will be replaced by community-level regulations (Tattay [2001]).

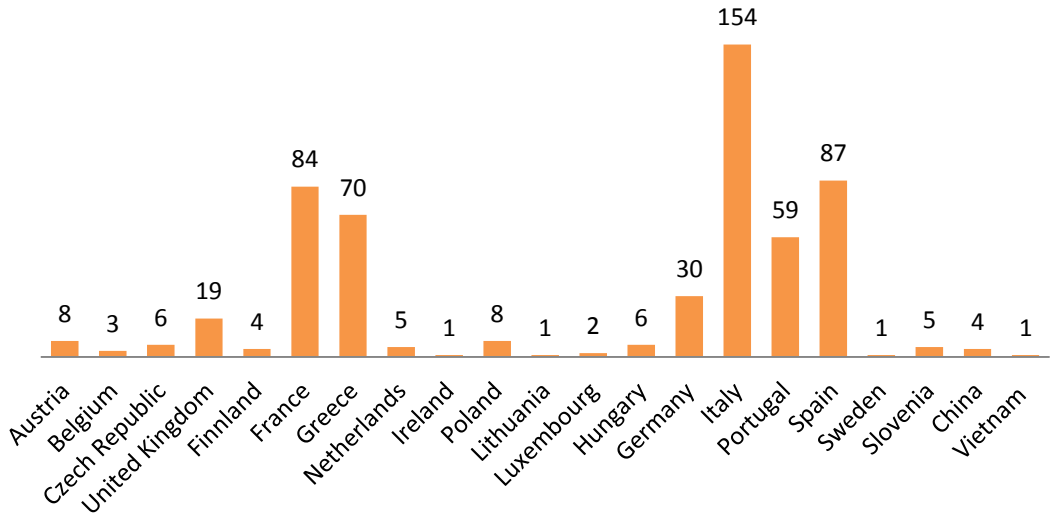
In order to understand the importance of geographical indications it is important to analyse the distribution of registered products. At the moment[6] there are 1,100 products in the system with almost similar distribution: 558 PDO and 542 PGI. The broadening list is available on the DOOR database[7] of the European Commission.

As far the regulation allows registering products from outside of the EU's territory several products in the system that are not from Europe (13 from China, India, Columbia and Vietnam) also benefit from the protection, but the vast majority of the products are from the 27 member states of the European Union.

As Figure 2 and 3 show, the distribution among member states is very unequal, both in the category of PDO and PGI. The vantage of the Mediterranean countries (first of all Spain, France and Italy) is significant, as more than half of the products coming from these countries with a share of 58% in PDO and 60% in PGI. The reason of this high share is historical; in the countries around the Mediterranean Sea there is a long history of systems of national origin protection and during the establishment of the EU's regulation system these products were automatically inserted into the new (common) system. Therefore, Southern European members had an advantage compared to countries without prior national regulation or countries joining to the EU at a later stage, as their products did not have to go through the registration procedure.

[6] 12.31.2012
[7] http://ec.europa.eu/agriculture/quality/door/list.html [12.31.2012]

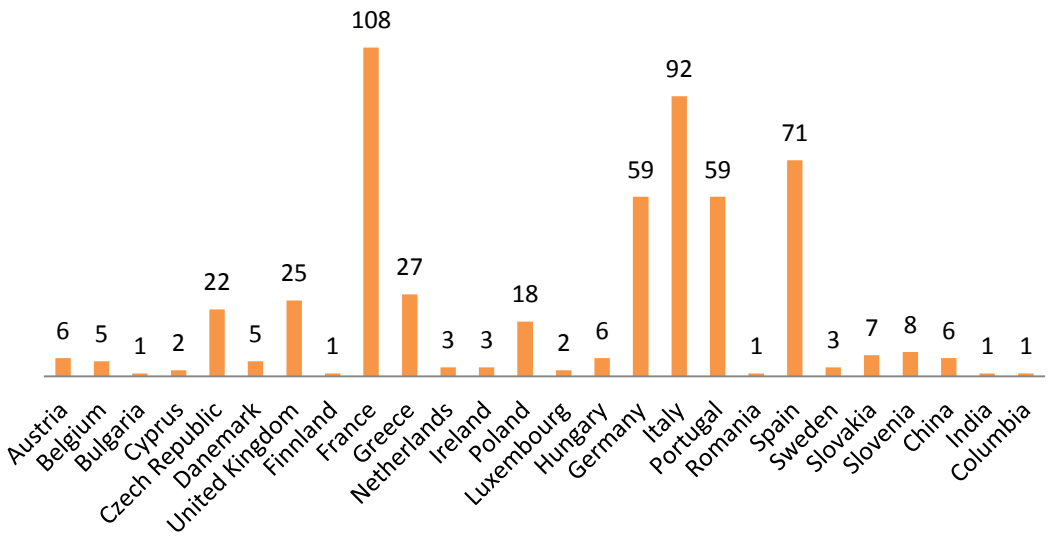
Figure 2 The origin countries of the PDO products



Source: own composition based on the DOOR database

The above lead of the Mediterranean states is very clear among the PDO products; the five Southern European countries have 454 products (81%) out of the 558 products. On the contrary, eight member states (Bulgaria, Cyprus, Danemark, Estonia, Latvia, Malta, Romania, and Slovakia) have no registered products, while in the middle ground we can find Germany (30) and the United Kingdom (8). Among the new member states Poland (8), Czech Republic and Hungary (6-6) have PDO products, while outside of Europe, China and Vietnam have registered products (tea, fruit and spice).

Figure 3 The origin countries of the PGI products



Source: own composition based on the DOOR database

Among the PGI products, Germany joins the Mediterranean states, with 59 products (overtaking even Greece). It should be mentioned that two of the new member states have high numbers (the Czech Republic 22, Poland 18), but on the other hand four of the newcomers (Estonia, Latvia, Lithuania and Malta) do not have any. Among the PGI, the presence of extra-EU states is higher, besides China (6), India and Columbia also have one registered product each.

Upon analysing the distribution and the number of registered PDO and PGI products, the dominance of the Mediterranean countries is obvious. On the other hand, several agricultural super-powers (Netherlands, Denmark) are not in the top of the list, mainly because their intensified agriculture does not prefer the production of traditional and origin-based products. Among the new member states joining the EU in 2004, the Central European countries (especially Poland, the Czech Republic, Hungary, and Slovakia) have growing numbers of registered products, but the Baltic states (Latvia, Lithuania, and Estonia) and the two southern islands (Malta and Cyprus) cannot benefit from the system at all.

2.1.5 Geographical indications of wines

In the last two decades several reforms of the wine market were performed and these changes often influenced the topic of origin protection. The current version of the regulation is the 479/2008/EC, which is mostly based on the previous regulations (e.g. 1493/1999/EC, 753/2002/EC, 1234/2007/EC) and is in line with the above 510/2006/EC regulation for agricultural and food products. Therefore, in the case of wines we can also distinguish PDO and PGI wines, for the latter group at least 85% of the wine has to be produced in the specific area while to be PDO all the raw materials have to be originated from the region.

The current list of wines protected by the EU's geographical indication system is available on the E-Bacchus[8] database. On 1 January, 2013 1,312 PDO wines were registered, 2 of which came from outside Europe (USA and Brazil). Registered PGI wines (570) are only from inside the EU. At the moment, a total of 1,182 registered wines benefit from the system. This high number of products is from the same product group; therefore for wines the exclusivity of the geographical indication is questionable. It is rather a minimum criterion, wines with geographical indications do not gain any advantage, only those products suffer a disadvantage that are not included in the system.

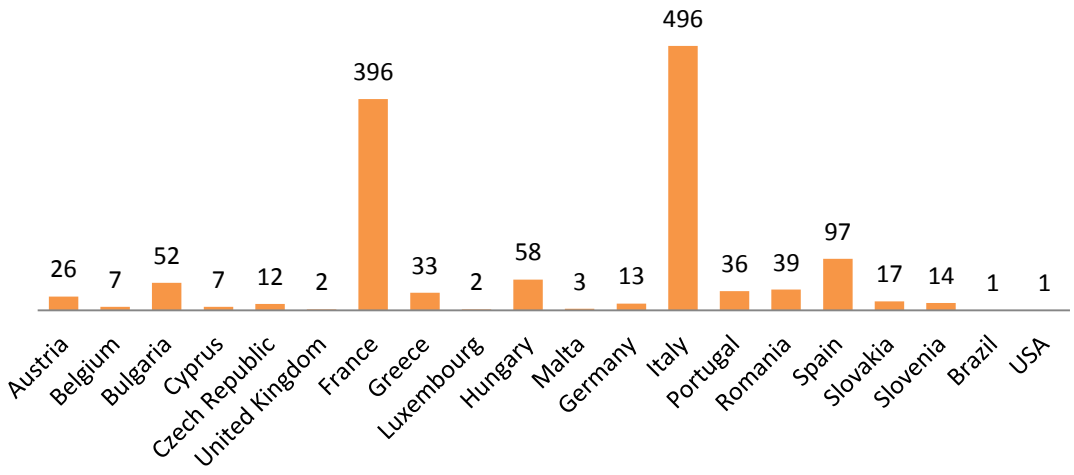
As Figure 4 and 5 show, similarly to agricultural and food products there is a high deviation in the number of registered products. The vantage of the southern countries is not only because of historical heritage, it is also due to climate factors. In the northern part of Europe significant wine production could not be developed because of geographical reasons; thus, in these regions alcoholic drinks from grain (e.g. beer) or spirits distilled from grains, fruits or vegetables (e.g. whisky, vodka) are more prevalent.

Therefore, it is not surprising that among PDO wines France and Italy are the leading countries, holding 68% of all registered products. Besides Spain and Portugal two new member states (Hungary and Bulgaria) are also relevant PDO wine producers with more than 50 registered products. The traditionally wine importing countries (e.g. the Baltic and Scandinavian states, Netherlands, Ireland, Poland) do not have

[8] http://ec.europa.eu/agriculture/markets/wine/e-bacchus/index.cfm?event=pwelcome&language=HU [12.31.2012]

any PDO wines. Outside of Europe, the US (Napa Valley) and Brazil (Vale dos Vinhedos) have one registered product in the European system.

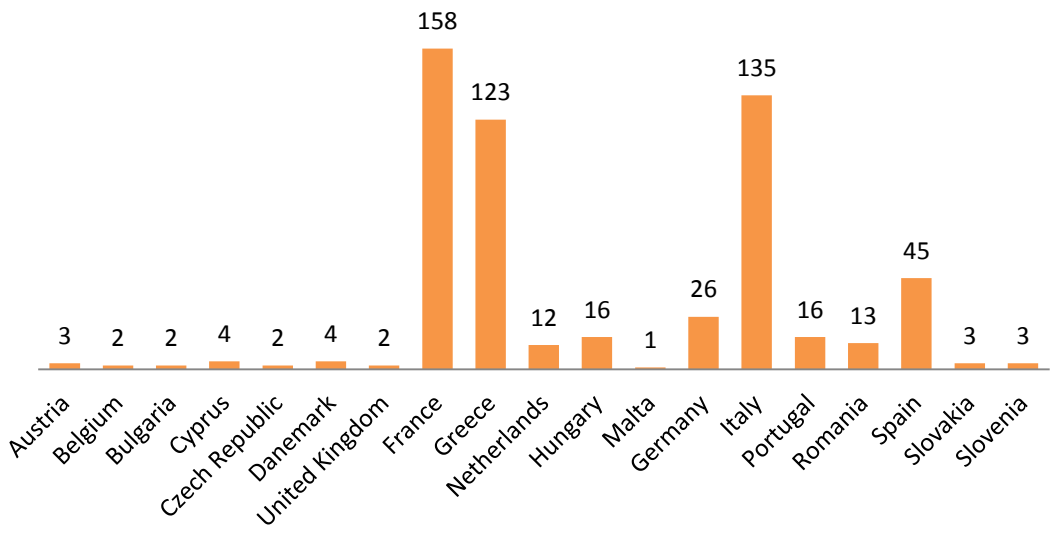
Figure 4 The origin countries of the PDO wines



Source: own composition based on the E-Bacchus database

PGI regulations for wine also set up a less strict regulation, therefore products of not traditionally wine producing countries (e.g. Netherlands) are also among other PGI producers. The vantage of France and Italy is also not significant, only 51% of the PGI wines are from the two leading countries. Spain and Greece are also relevant PGI wine producers, while among the new member states Romania and Hungary have a higher share. On the other hand, at the moment there is no PGI wine registered from outside Europe.

Figure 5 The origin countries of the PGI wines



Source: own composition based on the E-Bacchus database

Regarding the European wine system, we can say that the number of registered PDO and PGI wines exceeds the number of registered agricultural and food products with geographical indications. It also means less exclusivity and smaller opportunity in product differentiation based on geographical indication.

2.1.6 Geographical indications of spirits

The third pillar of the European geographical indication system is for spirits. While in the first and second pillar both PDO and PGI regulation was set up among spirits there is only a PGI category. The regulation for spirits is based on the 110/2008/EC, which was passed on 15 January, 2008 and came into force on 20 May, 2008, changing the 1576/89/EC regulation.

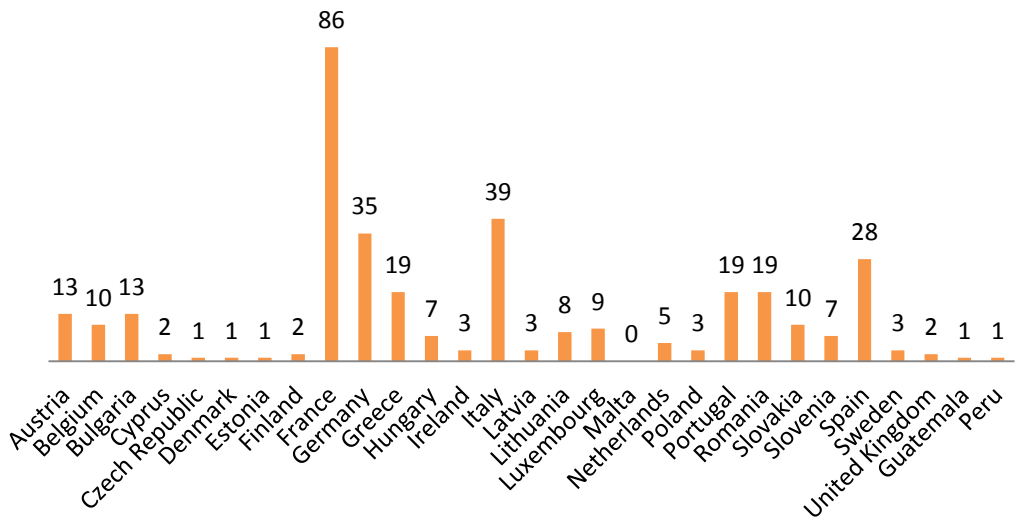
Currently, 333 products are registered, and this list is available in the E-Spirit-Drinks[9] database of the European Commission. In some cases, not only products but also product groups are protected: for instance, pálinka – the subject of this thesis – is protected as a product group but on the other hand several types of pálinka are also

[9] http://ec.europa.eu/agriculture/spirits/ [01.04.2013]

on the list (e.g. szatmári szilvapálinka). The same is true for corn, calvados, cognac, grappa, and ouzo.

Almost every European nation has its own national spirit; therefore all member states except Malta have at least one registered PGI product. Not surprisingly, France and Italy are among the first countries (see Figure 6) and from the new member states Bulgaria and Romania have a significant number of PGI spirits, while there are only two products from outside of Europe (Guatemala and Peru).

Figure 6 The origin countries of the PGI spirits



Source: own composition based on the E-Spirit-Drinks database

As the central topic of the thesis is the Hungarian PGI spirit (pálinka), a more detailed analysis of the European geographical indications for spirits will take place in the fourth chapter.

2.2 Geographical indications and local production systems

„… whereas the desire to protect agricultural products or foodstuff which have an identifiable geographical origin has led certain Member States to introduce 'registered designations of origin`; whereas these have proven successful with producers, who have secured higher incomes in return for a genuine effort to improve quality, and with consumers, who can purchase high quality products with guarantees as to the method of production and origin …"

Council Regulation (EEC) No 2081/92, 14 July 1992

2.2.1 Economic concepts of producing products with geographical indication

The traditional microeconomics does not often deal with the production of products with geographical indications, mainly because of the sub-optimal risks and the hazard of creating monopoly. On the other hand, several researchers oppose the optimum of the perfect competition (in terms of welfare and consumers prices) with the deterioration of quality caused by the liberalization of the international trade (Albisu [2001]). Some experts suggest that even the labelling and qualifying systems are reconcilable with liberal economics because of their positive influence to quality and diversity (Gozlan – Marette [2000]).

The theory of transaction costs explicates the contracts between the members of the value chains. One of the core assumptions of the geographical indications is the regulatory framework based on contractual relationships, therefore, in theory these contracts have to decrease the transaction costs in the supply chain of products with geographical indications. However, some experts (e.g. Sans – Chappuis [2000]) question the efficiency of a state-regulated system compared to a market-oriented regulation. Moreover, in the long term, the processes in international trade (based on bi- and multilateral agreements) are very unstable. The market power of origin labelled producers is often very low, therefore only some of the several value chains will have a sustainable market share (Barjolles – Sylvander [2000]) and these factors could undermine the vertical relationship in the value chains (Bouvoier [1998]).

Several conventionalist and evolutionist theories disagree with the opportunist concept but focus on the cultural embeddedness, the organizational and geographical proximity, the acceptance and loyalty toward the contracts. These approaches fit more to the characteristics of origin labelled products, because in the local production systems these have “local quality rent” for which the consumers are ready to pay (Torre [2000]).

Barjolles and Sylvander (2000) had a more management-oriented concept and according to them the establishment of origin-protected systems is influenced by the following five factors:

- market threat for the operation of classifying systems
- presence of technologies and long-term traditions for the production of special products
- need for market development of origin-protected products
- real market demand for quality products from the consumer side, who are ready to pay the premium price compared to mass-market products
- in the local production systems aligned management functions were developed due to the targeted initiatives of agricultural policy.

Altogether, it is clear that there is no universal scheme that fits the production systems of the products with geographical indications; the differing approaches of economics cannot deal with the high level of diversity in organization, frame, and size that is typically present here (Sans-Chappuis [2000]). The scope of producers in this sector is very heterogeneous: from artificers to quality-oriented mass producers, therefore the coordination of individual and cooperative strategies is important, especially in the case of products produced by both small producers and larger manufacturers. The role of the government/EU in this field is crucial, primarily in the use of the tools of community marketing, which have a positive impact on all players of the value chain (Laporte [2000]).

From a macroeconomic point of view, the production of origin-labelled products in local production systems is a new concept. Here, the quality-oriented, diversified and sometimes fragmented production chains are in the focus that are opposite to the resource-accumulating Fordist concept (Allaire-Boyer [1995]).

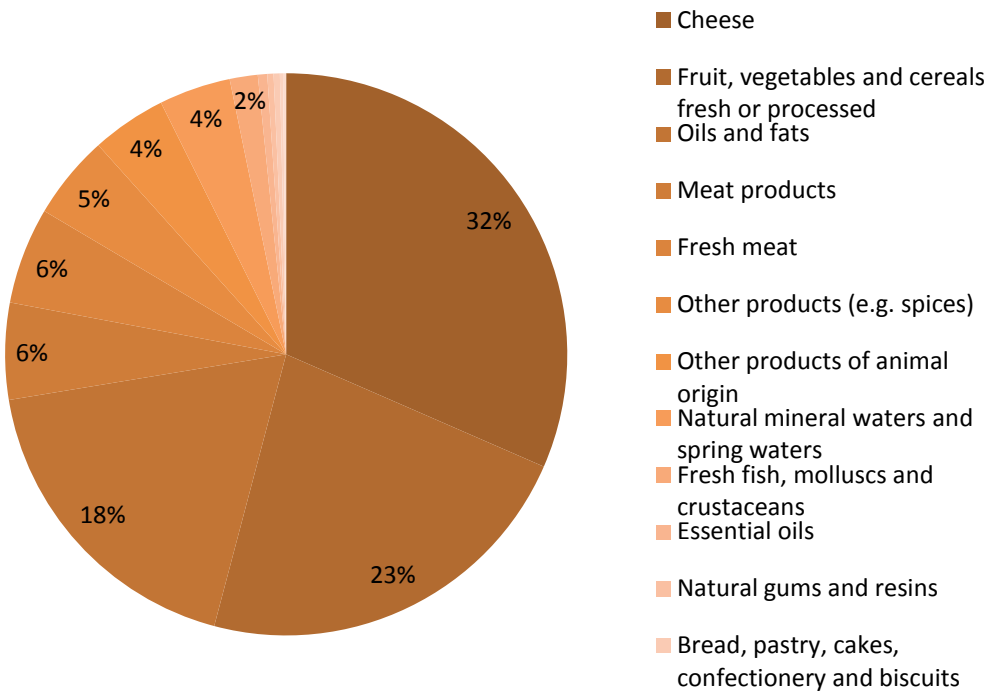
2.2.2 The most important characteristics of origin-labelled producers

For the beneficiaries of the Mediterranean geographical indication system – which was the forerunner of the European system – membership was important due to two main reasons: to protect their products from unfair competition and against fake products. Although these products had a long tradition and were well known among consumers, and were part (and beneficiary) of the geographical indication systems for decades, the market success of their products still highly depends on the product characteristics, market share, production method and supply chain management. The role of origin was important when the production area was also important in terms of cultural and economic power (Sylvander-Barjolle [2000]).

Therefore, the real beneficiaries of the common European system could be those producers who produce in sufficient quantity for market penetration and who find a market niche, which is the product differentiation in the case of geographical indications. Products with origin protection should base their strategy on diversifying from mass products in terms of authentic and special characteristics. Moreover, success could only be expected if consumers understand this higher level of value (Sylvander-Barjolle [2000], Belletti et al [2009]).

To analyse the producers of the European geographical indication system, it is important to examine the distribution of their products in several categories. According to the regulation of the European Commission products can be classified into 22 product groups.

Figure 7 Share of the most imprtant PDO product categories

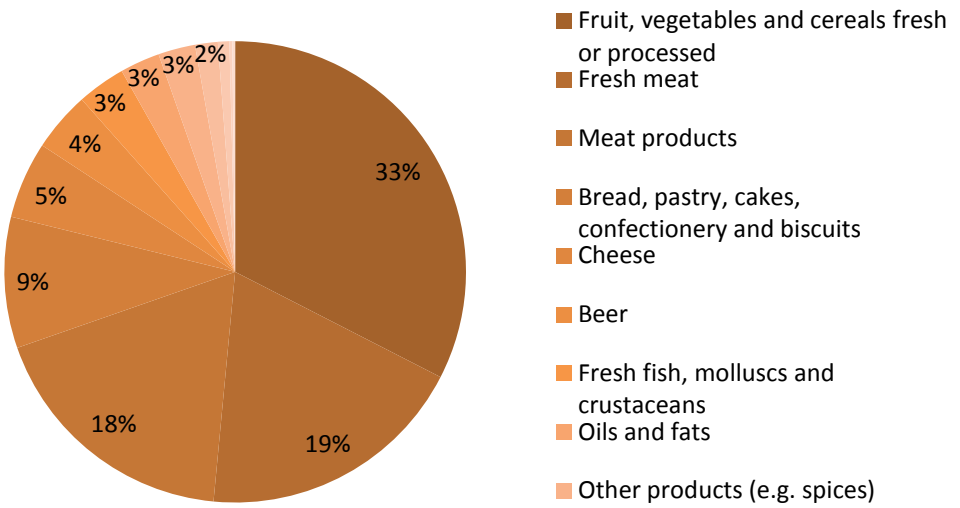


Source: own composition based on the DOOR database

From Figure 7 it is clearly visible that almost every third PDO product is a cheese but the share of the category "fruit, vegetables and cereals fresh or processed" and "oils and fats" is also high, around 20%. In the first three product groups the majority of the products are cheese from France and olive oils from the Mediterranean countries. Five other product categories with similar share are far behind the first ones, while in the other fourteen categories there is only few or no products at all.

Among PGI products the share of the first three product categories is also high (around 70%), here, the most common products are "fruit, vegetables and cereals fresh or processed" and meat products both prepared and fresh (see Figure 8).

Figure 8 Share of the most imprtant PGI product categories



Source: own composition based on the DOOR database

The reason of the distribution is the difference between the PDO and PGI regulation. While the requirements of PDO are very strict and prescribe full connection with the producing area, the PGI regulation is more flexible and these differences highly influence the strategy of the value chains. Difficulties such as lack of raw materials or strict regulations of the traditional production methods do not make it possible to produce high quantity with a homogeneous quality; therefore PDO products are rather produced for local markets in smaller quantity. On the other hand, the requirements of PGI allow a higher level of standardisation and with a more flexible connection to the producing area it is possible to penetrate even remote markets and the quantity limitations are also smaller. Therefore, we can say that the strategy of the European origin-labelled producers greatly depends on the regulations. On the other hand, the attributions of the system suggest that competition among PDO products is less likely than among PGI products. PGI products usually have to compete not only with other PGI products but also with (mass) products without geographical indications. Therefore, in general we can understand why in the product portfolio of the large international food chains only PGI products are available.

2.2.3 The marketing of products with geographical indication

The basis of marketing products with geographical indications is unquestionably the quality and the reputation, but it would be a mistake to assume that these products do not need a targeted and grounded marketing strategy. These strategies are obviously different from the strategies followed by standard food producers, mainly because the origin-labelled products are mostly artesian products with limited quantity. Therefore, the traditional 4P concept of marketing has to be modified for products with geographical indications (see Table 4).

Table 4 The main differences in marketing approaches for standard and origin-labelled food products

	Standard products	**Origin-labelled products**
Market segmentation	Market segmentation according to the results of panels and surveys	No previous market segmentation before product development
Methodology	Predominantly marketing PULL towards the selected segments	Predominantly marketing PUSH towards all the usual customers
Hierarchy of action's means	1. Product 2. Price 3. Promotion 4. Placement	1. Product 2. Placement 3. Promotion 4. Price

Source: Lassaut – Sylvander (1997) p. 241.

The biggest difference between the "What does the consumer need?" concept of the globalized mass production, in the marketing of the traditional products the point is to familiarise the consumers with the local value chain and not to count with the price sensitivity of the customers.

Although in the 20th century the "delocalisation" of food products is observable (Montanari [1994]), in the case of origin-labelled products the marketing concept has to underline geographical connection. According to Tregear et. al. (1997) for a successful marketing strategy three factors are necessary. First, the physical characteristics have to meet the consumer expectations for traditional products. On the other hand, it is important to associate a well-known symbol with the product, which could be the ground for the promotion activities. For PDO and PGI agricultural and food products such symbols are already available. Last but not least,

it can be stated that such products are in demand mostly through authentic marketing channels (e.g. local, smaller shops) rather than through the usual marketing channels of the standard products (usually large food chains).

2.2.4 Innovation among origin-labelled products

Lastly, it is important to mention the possibilities of innovation for the producers of origin labelled products. Innovation is crucial for competitiveness even for traditional products in local markets (Albert – Munoz [1997]). Innovation of origin labelled product is often led by larger companies with sufficient resources who are present not only at the local market but also aim to participate in international trade.

The traditional fields of innovation are the production, the product, and the organization. In the case of products with geographical indications the scope is quite limited because the products have to fulfil all criteria of the code of practice in order to remain origin-labelled. For PDO products innovation in the production method and in the product is almost impossible due to strict regulation, on the other hand, there is innovation potential for PGI products. Product innovation usually means something new in marketing (e.g. package), but any change in the know-how of production is usually taboo, producers are concerned that any change would mean the loss of tradition (Marty [1997]).

Organizational innovation is less technology-oriented; therefore it is more suitable for origin-labelled products. Development through cooperation of organizations is typical among origin-labelled producers; cooperation in the small producers dominated sector could provide the sufficient economic scale.

2.3 The role of geographical indication in rural development

„… whereas, as part of the adjustment of the common agricultural policy the diversification of agricultural production should be encouraged so as to achieve a better balance between supply and demand on the markets; whereas the promotion of products having certain characteristics could be of considerable benefit to the rural economy, in particular to less-favoured or remote areas, by improving the incomes of farmers and by retaining the rural population in these areas …"

Council Regulation (EEC) No 2081/92 of 14 July 1992

2.3.1 The new concept of rural development in the European Union

According to Madarász (2000) rural development is a concept and political effort to improve the living conditions and economic possibilities. Therefore, basically all nations have their own concept but the 20th century European rural development also has its community level approach.

Rural development is gaining a growing importance in the EU's common policy, from the middle of 80s it is a separate part of the common agricultural policy; highlighting multifunctional agriculture. After the CAP Reform of 1992 a new agricultural model is observable that pays attention to rural development (Ángyán [2001]).

This concept is also supported by the regulatory framework of geographical indications. Local products with high quality due to the connection of producing area could play an important role in the rural development of the regions (Marescotti [2003]).

Typical local products usually represent higher value and therefore these can support the traditions and the conditions of the rural area. In line with this these can help the agriculture to become multifunctional and could be tools in strategies for rural development (Panyor [2006]).

Rural development is the second pillar of the CAP and can be described with three main characteristics (Pacciani et al [2001]):

Endogenity. Rural development has to be based on local resources (natural resources and capabilities) with a bottom-up approach.

Integration. Rural development is not only an agricultural topic; it involves many other actors and factors (e.g. tourism, handicraft, services, local communities etc.).

Sustainability. The only acceptable strategy for rural development is to preserve resources (both natural and human) and ensure these also benefit future generations.

2.3.2 The role of local products in rural development

The importance of local products in rural development comes from the close connection between the product and producing area and it has an influence on the demand. Rural areas therefore need to handle such products as potential resources (Belletti et al [2002]).

The production and sometimes the entire value creating process are based on local factors that are unique and therefore it is difficult to mobilize them. These factors could be in material (special raw materials, ingredients) and immaterial (special production method, know-how of generations) form. Local products often play a role of "cultural marks" in the life of the regions (Ray [1998]). Beside traditional food products, a cultural mark could be the dialect spoken in the region, artificial and folklore traditions and many other factors.

The effects of local and special products on the development of the producing area may be different. Essentially, we can talk about these in two dimensions (Endrighi [1999]):

Economic dimension: the success of the product results in profit for the producing company and with the growing reputation among consumers the product pulls other actors with the local economy (e.g.: tourism, catering and handicraft).

Socio-cultural dimension: the success of the product can usually be achieved only with the involvement of the local population (e.g.: as labour), which results in social cohesion and a stronger identity.

Actors interested in the value creation of the local products may differ from each other significantly and all of them act in their own interest. Some actors are involved directly in production but others only play an indirect role, maybe even outside of the producing area. The interests of these different actors are influenced by the goals of the stakeholders and the role of the producing region (Pacciani et al [2001]).

Based on the objectives of the involved parties we can distinguish strategies focusing directly on the supply chain and strategies with extended territorial focus, where the local economy and society are targeted.

Supply chain strategy: the stakeholders (mainly market-oriented firms and their associations) consider the local products as basic tools to achieve profit.

Extended territorial strategy: the product itself does not have a central role, it is only an element of the region's typical basket of services and products, and therefore it has to function as a catalyst.

In this strategy the place of origin could be a simple quality sign or a set of attributes.

Quality sign: the indication of the producing area is a simple sign to help the consumer to distinguish the product from other similar products. In this case, the place of origin is to guarantee the quality.

Set of attributes: the producing area is a collective mark that represents all the baskets of services and products that are connected to the region. Besides the supply chain, the related sectors are also in focus and these together serve the region's interests.

Based on the above interests the following strategy-matrix could be set up regarding the impact of local and special products on rural development (see Table 5).

Table 5 The role of local products in the strategy of rural development

		Actors' focus	
		Supply chain	Extended
Role of the territory	Quality sign	Regulation of reputation	
	Set of attributes		Territorial quality

Source: Pacciani et al (2001), p. 7.

In general, the upper left and bottom right "clear" strategies are followed but obviously "mixed" strategies also exist (Belletti et al [2002]).

In the following these two, most commonly used strategies will be analysed.

2.3.3 The strategy of product reputation regulation

The precondition of such strategy to have a product with tradition and recognition based on the product could be distinguished from others. The main objective of this strategy is to keep the extra profit in the producing region, which comes from the consumers' recognition of speciality and distinctiveness. The support for this concept is that this distinctiveness is mainly (sometimes exclusively) due to the economic and cultural heritage of the region.

The name of the product usually refers to the geographical area; therefore it is an informative sign for the consumer. The local producers would like to transform their processing know-how into profit and this usually appears as a trademark with legislative protection that helps to realize extra profit.

Therefore, it is clearly visible that the strategy focusing on the supply chain only has an indirect effect on the rural development of the producing region. The success of high quality local products results in the success of the producers, but it also has a direct impact on employment and local incomes; moreover it helps to strengthen the economic power of the region, which could raise the general conditions of the region.

2.3.4 The strategy of territorial quality

As the previous strategy focuses on the economic success of certain products, the strategy of territorial quality focuses on the success of the whole producing area, preferring a basket of local products and services. The main concept here is to underline the historical and cultural heritage; the products are usually only simple tools that help strengthen the identity of local communities and promote the region to the world.

Therefore, in this strategy more actors are involved with different activities, even from outside the region. Beside local communities and several cooperatives educational institutions, public entities and market-oriented actors (catering and handcraft firms) are also interested in these strategies.

To achieve this strategy it is necessary to have a high level of support from society and the possibility to cooperate with local communities and enterprises – they are the actors who will implement and also benefit from the concept. On the other hand, it is also necessary to have a basket of products and services that is attractive to the local consumers of the region, because only successful short marketing chains could be extended to consumers outside of the region.

The result of this strategy is to offer the customers a collection of products and services that is unambiguously in connection with the region, therefore the success of the strategy depends on more than a single product.

In summary we can say that this latter strategy has a direct impact on the rural development of the region, it considers the products as the representative of all the resources of the geographical area.

The above strategies' most important characteristics are summarized and compared in Table 6.

Table 6 The role and problems of PDO/PGI within rural development strategies based on typical products

	Regulation of product reputation strategy	**Territorial quality strategy**
General objective	Management of product reputation rent connected to origin.	Territorial promotion, development of the global image of the rural area and contribution to the generation of the joint surplus.
Role of PDO/PGI	Central element of the strategy.	Secondary role, but often used when the strategy is built on a highly specific product.
Actors who take the initiative	Supply chain firms. Local public institutions may act as a mediator between opposite needs and interests.	Local associations. Local public institutions usually have a central role. Very often supply chain firms must be "stimulated" to take part actively to the initiative.
Inclusion/exclusion	Initiators tend to exclude other actors to maximise their rent, after reaching a minimum tradable quantity and presence on the market.	Initiators tend to include other actors to encourage the maximum level of participation, though safeguarding product identity.
Approach	Marketing channels and consumer requirements drive the choices: attention is focused on production costs OR on specification product/process characteristics on high levels.	Attention on "memory", history and culture if the typical product is a "cultural marker" for local community. Otherwise more room for scientific institutions and external "authorities" in case of a territorial marketing strategy (territory as name).
Central topics in Products Specifications	Product-oriented approach: focus on product and production process characteristics. Definition of the boundaries of the production area.	Extended Process-oriented approach: focus on production process characteristics and territorial externalities.
External actors' role	Supply chain actors have competences and know-how on product; external research institutes may help in validating choices or mediating contrasts on specific aspects of Product Specifications.	Actors who take the initiative are not directly involved in the supply chain of the typical product, and frequently rely on other actors outside the territory (research institute, public institutions) for Product Specifications definition.
Risk and causes of failure	Producers fail in coming to an agreement on Product Specifications. Producers may reduce product specificity to preserve price competitiveness. Focus on the exploitation of the rent of origin may cause lack in actions to improve and re-build product reputation.	Failure in convincing local supply chain firms in joining the initiative. Inter-sectorial co-operation between firms aiming at creating and regulating the exploitation of the joint territorial surplus may be difficult to reach.

Source: Pacciani et al (2001), p. 14.

2.3.5 Wine route as a complex approach for rural development

One of the most general examples of the integrated rural development concept is the idea of wine routes. In Europe the first wine routes appeared in Germany in the 30s and in the 50s it was also a general approach to help the marketing of the wine producing areas in France, mainly through creating new workplaces and increasing the incomes of the vineyards. It is important to mention that in other important wine producing countries (Portugal, Spain, and Italy) the importance of the wine routes was only recognized in the 90s (Gatti - Incerti [1997]).

Regarding origin protection, from the numerous definitions of wine route the following is the most exact: a route that guides the consumers only through a specified area (region, province or territorial scope of an origin labelled product), and the overall objective of the consumer is to get acquainted with the typical wine(s) of the territory and the activities connected to production.[10]

Thus, the consumers have the opportunity for the following activities:

- visit and get familiar with vineyards,
- taste wines,
- buy the previously tasted wines,
- visit the related institutions (e.g. museums),
- taste typical foods from the region,
- stay in local accommodation.

Therefore, it is clearly visible that a wine route is more complex than a simple marketing channel; it is rather a cultural destination that could play a central role in the tourism of the region (Gatti - Incerti [1997]).

From a strictly economic point of view, the wine route is a highly integrated supply chain (Arfini et al [2002]). Around wine – as the key product – many other products and services are also offered and it requires the strong cooperation of the local market players (farmers, food producers, craftsmen and tourism firms), public institutions and the non-governmental organizations.

[10] According to Centre National des Resources du Turisme en Espace Rural

The concept of wine routes is an example as to how the rural development of a region can be helped through the valorisation of a product that is linked to the territory. Many other cases show that besides wine other high value added products (e.g. ham, cheese) could be basis for similar initiatives (Arfini – Mora [1997]).

2.4 The link between origin labelled products and consumers

„… Whereas, moreover, it has been observed in recent years that consumers are tending to attach greater importance to the quality of foodstuffs rather than to quantity; whereas this quest for specific products generates a growing demand for agricultural products or foodstuffs with an identifiable geographical origin;

Whereas in view of the wide variety of products marketed and of the abundance of information concerning them provided, consumers must, in order to be able to make the best choice, be given clear and succinct information regarding the origin of the product …"

Council Regulation (EEC) No 2081/92 of 14 July 1992

2.4.1 The role of quality in consumers' food purchasing decisions

Consumer attitudes toward origin labelled products could be analysed from two points of view (Tregear [2001]). The sociologist/anthropologist approach (Fischler [1988] and Bourdieu [1979]) focuses on habits and on the need of nostalgia and natural root that is provided in products with geographical indications. According to the economic/marketing approach consumers make a quality-based list of preference, and based on it they can make decisions. In the next paragraphs the latter concept is described.

According to the concept of the European Union the products with geographical indication stand out from the other products with their higher quality. Therefore the relationship between consumers and origin labelled products should be analysed in the dimension of quality.

In a consumer society – where access to food is not limited – instead of food security the quality level of several food products is in the focus. Therefore the modern consumers seek the highest quality food which is allowed by their household budget (Marchesini et al [2007]). On the other hand, the definition of quality is very subjective and obviously there are other factors that consumers consider during their individual decision making process.

Quality has numerous dimensions, based on Marchesini et al (2007) and Cazes – Valette (2001), the following interpretations should be considered:

- Nutritional quality: the nutrition of the given product added to the consumer's dietary.
- Hygienic quality: there are no harmful and toxic elements in the given product, they contribute to the good health of the consumer.
- Functional quality: utility of the product in terms of purchase, transport and preparation.
- Perceptional quality: enjoyment derived from the purchase and consumption of the product.
- Social quality: social identity based on the purchase and consumption of the product.
- Symbolical quality: acceptability in terms of the cultural background of the consumer.
- Human quality: the production process is environmentally friendly or the producer sets a fair price for the product.

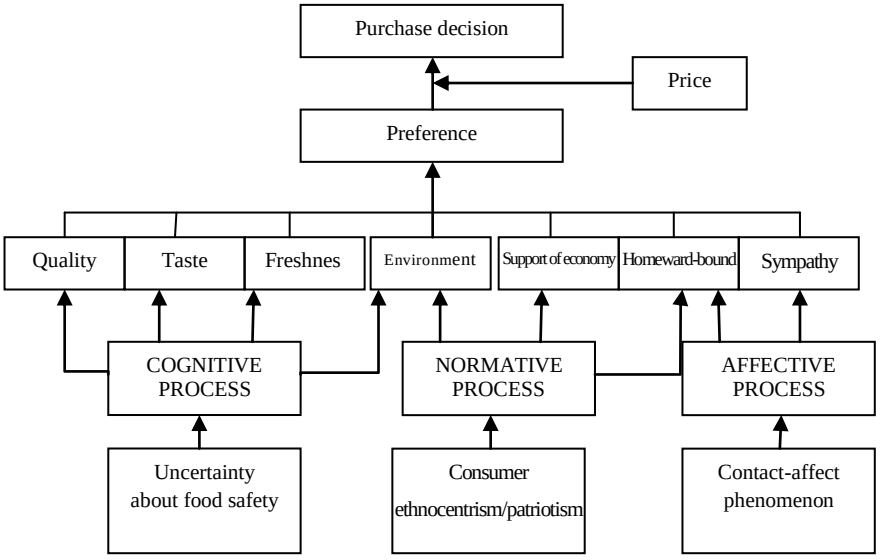
The registered products in the EU's geographical indication system suit mostly the above quality definition. The products often with centuries-long know-how are produced from traditional raw materials therefore their nutritional and hygienic role is without question; moreover, consumption of such products has a very deep social and cultural embeddedness. Therefore, European consumers associate origin-labelled products with a higher level of quality. On the contrary, in other parts of the world (especially in the United States) the link between origin protection and quality is not that obvious and it is also traceable in the legislative background (Hayes et al [2005]).

Origin-labelled products are linked to the geographical area not only because of their production, the consumers' need and their social embeddedness also originates from the given territory. In the EU's system there are many special products that are consumed only in the producing area as these products are unknown elsewhere and are only part of the local gastronomy and for strangers it does not provide any pleasure.

On the other hand, it was proven by several research projects that the perceived quality level of highly standardized products (like olive oil) differs significantly with the distance from the producing area. Scarpa and Del Giudice (2004) showed that a registered olive oil from Southern Italy was not that highly appreciated in Milan (Northern Italy) than in Rome (Central Italy) or in Naples (Southern Italy). Gil et al (2000) pointed out some similar results regarding regional differences. Their result showed that perceived quality level of Spanish bio products was much higher in the producing area (Navarra) than in their main market (Madrid). Therefore we can say that the place of origin and the place of consumption play an important role in the detection of quality level of the qualified products.

As Henselheit et al (2007) showed, the consumers of origin labelled products go through cognitive, normative and affective processes during their purchase decision making (see Figure 9). Cognitive factors relate to several food safety characteristics of the product such as quality, taste or freshness. Normative processes are the environmental effects, besides the support of (local) economy and ethnocentrism. The role of affective process is also important because the sympathy based on personal connections is often decisive for the consumers. The preference according to the above processes is usually influenced by the price of the product and the price-sensitivity of the consumers when the final decision is made.

Figure 9 Factors influencing consumers' purchase decision making process



Source: Henselheit et al. (2007), p. 67.

As higher quality usually results in higher prices, the price-sensitivity of the consumers of the products with geographical indications is very important. Borch and Roaldsen (2007) tested the Norwegian consumers and found that the traditional and quality products can be successful in the premium segment, even in such welfare countries as Norway. A sufficient market demand is crucial for the more expensive origin labelled products to become successful.

2.4.2 Consumer willingness to pay for origin labelled products

In terms of economics the success of products with geographical indications highly depends on the consumers' willingness to pay for the higher prices. So far, several studies have analysed this attitude towards origin labelled and high quality food products.

It is important to mention two basic principles regarding the willingness to pay for quality based certified products (e.g. geographical indications, bio, GMO-free certifications). First, the price premium of the certified products could be paid for only by the average consumer of the welfare countries (Henneberry [2004]), therefore the research scope of such projects is limited to North America and Europe. On the other hand in some of the developing countries (e.g. China) the origin labelled products gain a growing importance because of their prestige and status symbol (Heslop – Papadopulos [1993], Zhou – Hui [2003]). Second, there is a strong and positive correlation between the level of urbanization and the need for certification. According to Bureau and Valceschini (2002) the further the consumer lives from the producing area the higher the need is for the labels of quality certifications.

Several research underlined that even among organic products besides environmental consciousness the support of local economy (patriotism) is the most important factor in the decision making process (among others Richter et al. [2000], Lohr [2000] and Darby et al. [2006]). Therefore it is expected that the patriotic effect is even higher in the case of origin-labelled products.

According to a research made in the United States (Umberger et al. [2003]) the American consumers are ready to pay a 20% price premium for beef with

geographical indication. As the indications here (USA Guaranteed, Born and Raised in the US) certified only that the food comes from inside the country, it could be assumed that the role of patriotism is more important than the preference for higher quality.

Loureiro and McCluskey (2000) also tested beef in Spain. Their results showed that Spanish consumers were ready to pay more for the geographical indications only if the product also had other quality labels and certifications.

Focusing on the marketing chain of traditional and local products it is observable that the customers are ready to pay more for the same product if they bought it through a traditional (short) chain rather than in a supermarket (Mesisas et al. [1997]). It suggests that in the case of origin labelled products the consumers' willingness to pay is much higher in the traditional marketing chain and on the shelves of the international food companies they rather have to compete with their price than with their higher level of quality.

In analysing consumer decision it is also important to take a look at the trademarks. According to Han and Terpstra (1988) both place of origin and trademark are important in the quality-perception of the consumers but they think that the appellations of origin are more relevant in the purchase decisions. On the other hand, Boccaletti (1999) says that the brand creation initiatives of the supply side can result in that for the consumer the producer becomes more important that the origin even in terms of quality. This is also confirmed by Arfini (1999) who tested two world-wide known and also origin labelled products, Parmigiano Reggiano and Prosciutto di Parma. For both products it is common that their producers form cooperatives and also have their own trademarks. Based on the observations the products that only have the EU PDO/PGI label are sold for an average of 14% lower than those with their own trademark also on the package. This result therefore confirms that the reputation of a well-known trademark could be higher than the common marketing power of the EU's logo. In such cases the geographical indications rather serve to strengthen the monopoly position of producers than to help in product differentiation. However, among the thousands of products with geographical indications there is only a few in this situation.

2.4.3 The role of European geographical indications in practice

For the European consumers the geographical indications testify several positive characteristics: outstanding quality, environmentally friendly production methods and healthy food (Arfini [2003]). Although the origin label is a distinctive mark consumers are often confused about their exact meaning. In order to help the "marketing" of the European system there is a separate logo for PDO and PGI products (see Figure 10). The image of the symbol is the same in every member state with subtitles of the national language and the application is fixed in the 1898/2006/EC regulation.

Figure 10 PDO and PGI logos in English and Hungarian

Source: own composition based on DOOR database

In the every days consumers can meet with these unified symbols on the package of the products. The PDO and PGI logos – similarly to a trademark – try to give a visual help for the consumers to identify products and distinguish from others (Bauer and Berács [2006]). It is important to mention that the geographical origin can function as a quality mark only if the registration process requires a basic quality level, the symbols alone do not guarantee any surplus.

The reputation of the European geographical indications among the consumers is also an important issue. More studies show that although European consumers are getting more familiar with the common origin label system there are still contradictions in their mind regarding the conception (Meza et al. [2000]). This phenomenon is valid both for Southern and Northern European consumers; the only exception is the French national AOC label that is well known in France and in the French part of Switzerland. In practice it means that at the moment the brands of

companies and trademarks of producing associations are more popular than the symbols of the European system (Ittersum et al. [1999]).

2.4.4 The main characteristics of the consumers of products with geographical indications

There are numerous theories as to how to describe a typical consumer who buys origin labelled products. Based on the numbers of the registered products a significant difference between the north and the south is expected, but in practice there is no significant distinction between a Mediterranean and a Nordic consumer. Still it is an interesting phenomenon that while in North Europe a well separable and tight group of consumers[11] tends to buy such products, in the south the base of the consumers is wider. For the typical consumers of the origin labelled products the healthy dining and the environment play an important role (Tregear [2001]).

There are other common characteristics of the consumers of origin labelled products proven by several independent research projects (among others Ittersum [2002] and Oliver [1999]). These show that the share of regular consumers is high in the case of origin labelled products, therefore a similar connection to brand loyalty could be developed in most cases. Moreover, these consumers are ready to pay a higher price for their preferred products and they are typically price-inelastic. Unequivocally the key for consumer loyalty is in the perceived quality, the same that producers use for the product differentiation. On the other hand it is also important to underline that for these committed consumers the producing area is less important, instead of region-loyalty a quality-product-loyalty is evolved, as opposed to the concept of rural development. The surveys also pointed out that for these committed consumers the social and emotional aspects are also very important.

The above characteristics bring several practical consequences (Ittersum [2002]). First, because of heterogeneous producers it is very difficult to constantly produce high quality and homogeneous products, which is very dangerous for the loyalty of consumers. Second, the marketing of the production region should not replace the marketing of the products, as basically product-loyalty could be developed in the

[11] Mostly middle-aged, well educated consumers with higher level of income.

consumers. Third, the legislative background of the origin labelled products exceeds a simple legal production, because the image of these products in the consumers' mind is also due to market-oriented processes. Last but not least, the consumers' emotional connection to the products is not negligible, even marketing strategies could be built upon it.

3 Hungaricums

3.1 The definition of hungaricum

Although the use of the word hungaricum is quite common nowadays, the variety of the products, services, methods, and also sometimes people referred to with this term shows that the definition of hungaricum can not be easily clarified.

In the followings I am going to attempt to illsutrate the significance of this problem by collecting different kinds of definitions.

From a lexical prospective it is worth looking at the Latin form of this word. The originial word, hungaricum, spelled according to the rules of Latin language (in plural: Hungarica), stems from the word Hungaria (Hungary), and the adjective (hungaricus, hungaricum) originating from it means: Hungarian (Györkösy [2003]). According to the Encyclopedia of Révai the literal meaning of hungaricum is: „something that is Hungarian, or that is related to the Hungarians" (Révai [1989]). However, it is also mentioned here that it may refer to „any printed material, manuscript that is related to Hungary". Therefore, primarily written documents with a Hungarian origin. The Hungarian Encyclopedia (Élesztős [1999]) also emphasizes the immaterial features when defining this word: „the collective term for intellectual works and findings with Hungarian origin". The Hungarian Interpretive Dictionary (Pusztai [2003]) does not contain the word „hungaricum", however, the Dictionary of Foreign Words and Expressions (Bakos [1994]) combines all the above mentioned definitions saying: „intellectual works (book, document) historical or natural hictorical finding with relation to Hungary". Therefore, according to the dictionaries the general disciplines – the Agricultural Encyclopedia (Barna [1982]) does not contain the term „hungaricum" – consider that the definition of the word „hungaricum" primarily means intellectual works closely related to the Hungarian language and to the Hungarians.

In contrast, the agricultural literature gives a much more product-oriented definition. According to Andrásfalvy (2003) „hungaricums are a group of products and services that are closely related to the given local or regional culture of production; they are

unique, consequently, they may contribute to increase the attraction of a given region, and to promote the development of regional economy" [12]. Therefore, this definition narrows down the use of this word to products and services, and studies the questions in a much more complex way. The close relation to the location of production corresponds with the EU's conception of the protection of origin, as well as with the significant role of hungaricums in the economic development of a certain region.

Andrásfalvy elaborates on the term saying: „an animal or plant, or any food product made of them which are in connection with the culture of Hungarian production, science, and tradition evolved among the population living in the region throughout the years (including the ethnicities merging in, e.g. Germans, Slovaks etc.) and which the Hungarian population – or at least the communtiy of a smaller region considering their country – regards Hungarian, or finds characteristic of Hungary in them, and which the foreign world may recognize as something unique from Hungary". With this definition Andrásfalvy considerably broadened the group of products that are potentially regarded as hungaricum, since even the unique product of a small region could be defined as something true of the whole Hungarian population, just as well as the products of the Hungarians across the border. However, in order to avoid the irrationally huge number of products taken as hungaricums, Andrásfalvy also draws the line with respect to the hungaricums recognizing the advantages of exclusivity.

According to this, only those traditional products mentioned in the definitions above may be considered hungaricums that „shows something unique, outstanding in general; even means something that is widely-recognized; something that an outsider, for example, a foreigner recognizes as well, and accepts as a characteristic of Hungary".

When Glatz (2003) introduced the „Hungaricum-program" [13] in 2001 his definition referred to any plant and animal products from Hungary which deserve special

[12] Andrásfalvy (2003) p. 25.

[13] The Hungaricum-program was the aid-program of the scientific world led by the MTA (The Academy of Hungarian Science) for those involved in agriculture as an agricultural part of the National Strategical Research Program. The main priorities of the program are market research, product research, the clarification of the responsibilites of biodiversity in the Subcarpathian region, the research of the features of economic politics and the education of civics. (Glatz [2003])

attention since they may become competitive in the world market as well. Therefore, the maintenance of these products may be necessary to be susbsidised by the taxpayers' money. This definition is quite contorversial in itself since even those products which are successful in the world market cannot be financed by state support in order to sustain their existence even when considering the significantly support-dependant European agriculture. However, the following also reflects the approach of the agricultural literature: hungaricums are mainly products and services of the agriculture and food industry; briefly, some kinds of products.

The vast number of definitions and their different approach call for the need to officially regulate the use of the term which is quite widespread in common speech and which bears a relevant economic meaning. Before the introduction of the Hungaricum Act (the next chapter elaborates on the law) the definition of the term „hungaricum" was only indirect. The Law of CXL in 1997 about the providence of public libraries and public education defines the term and also uses it saying: „any document that was published in the territories that have ever belonged to Hungary, or any document that was created abroad in Hungarian language by a Hungarian author with a Hungarian content, irrespective of the fact whether they have ever been publicized or not." This definition, therefore, reflects the viewpoint of the above discussed dictionaries. In contrast, the 77/2008 Act of the Parliament (concerning the protection of hungaricums) states that „hungaricums are unique Hungarian products which show essential and outstanding characteristics of Hungary, and which also bear the features related to the country's nature, native species, traditions of production and breeding, thus, bearing the unique features of the recognized Hungarian products." This apporach certainly reflects the viewpoint of the agricultural literature, therefore the definition of the law and the act prove to be controversial.

It is also worth mentioning that the above mentioned decision of the Parliament ask the government on presidency to classify the hungaricums, as well as to work out the process of their conservation and their usage. Besides all this, the decision refers to products defined by the system of Traditions, Tastes and Regions.

In summary of the above mentioned definitions, it may be stated that the common point of all of them is the relevance of close relation to Hungary, however, the viewpoints concerning the regional features (whether it refers to the present area of Hungary, or the historical Hungary) and their objects (only products, or intellectual and other immaterial works) considerably differ. Consequently, the Hungaricum Act is both necessary and timely to define the usage of the term "hungaricum", as well as to clarify the contradictions and ambiguities of the usage.

3.2 The legal regulations of the nationally qualified food systems in Europe

3.2.1 The Hungaricum Act

As it has been discussed before, for decades there was an urgent need to define the usage of the word "hungaricum" in legal terms. The fact that the preparations of the law already started in 2010 reveal its complexity. After the professional preparation of the Hungaricum Workteam of the Parliament the law passed 2nd April 2012 (XXX. Law of 2012. about the Hungarian national values and hungaricums) derives the qualification from the constitution, and claims that "the widespread introduction of our national treasures both within and outside the country, our lingual, intellectual, cultural and economic achievements, the recognition of our natural and built treasures, as well as reinforcement of the trademark of our country are all considered to be of great importance."

According to the interpretation of the law the term "hungaricum" is a collective term which within the framework of a standard classification and registration indicates a value that characterizes the greatest accomplishments of Hungary reflecting the country's uniqueness, features and quality; achievements

- which are recognized as outstanding Hungarian treasures both within and outside the country, or
- which are protected natural treasures, or
- which are excellent national products, or

- which are qualified as hungaricum by the Hungaricum Committee according to the regulations defined in this law as a result of an individual examination of the product, or which is qualified as hungaricum according to the law."

Therefore, based on the definition the term hungaricum refers to any treasure besides products which the Hungaricum Committee qualifies as hungaricum. Consequently, two conclusions may be drawn from this definition. On one hand, the legal interpretation describes less strict criteria than the ones discussed above, since the word "treasure" is an utterly extensive term which may refer to various other, even intangible "things" besides the distinguished products. On the other hand, the law that created the Hungaricum Committee (HC) give it a special authority. Out of the 14 members of the HC 6 are delegated by different ministries; 2 members are from the Parliament, 3 are sent by the Constant Meeting of Hungary, and the Academy of Hungarian Science, as well as the Academy of Hungarian Arts represents themselves with 1-1 member. Although the law considerably offends the purely product-oriented approach, the presidentail and secretarial duties of the HC are carried out by the ministry of agriculture and rural development.
The system established by the law allows for the differentiation according to both territories and branches of the field, and consists of the so called "set of treasures".

The branches of field means the set of treasures according to different branches, where the treasures that have been examined by the ministers in charge of the different branches may be put. However, the system of the set of treasures based on territories is much more complex, since according to the law these set of treasures may be classsified according to different villages, geographical locations, counties, treasures related to Hungarians across the border, as well as the Hungarian Set of Treasure which combines all of these. The law states that the sets of treasures which are classified according to different territories from below collect the treasures in their own region which will be forwarded to a level higher.

The treasures collected this way make up the Hungarian Set of Treasures from which the ones qualified by the HC are declared hungaricum. Based on the decision of the HC the treasures declared hungaricum are enrolled in the Collection of Hungaricums, which will bear the trademark of "Hungaricum value".

Therefore, the law states than a certain part of the treasures that are related to the Hungarians may be called hungaricum, which are also eligible to use the trademark of „hungaricum". It is important to clarify in this thesis that based on this law those agricultural and food products, as well as wines and alchoholic drinks which are protected by the EU's geographical mark of goods will be automatically categorized as hungaricums.

Since the acceptance of this law is to happen soon, its effect cannot be analysed yet. However, some concerns may be predicted already in connection with the law. The category of potential hungaricums is quite wide, which may lead to the fact that as time goes by due to the high number of „treasures" the hungaricums will lose their distinguished feature that they were supposed to be characterized by. In addition, another question arises. If the treasures declared as hungaircums are not tangible, how can they benefit from the advantages that come along with the hungaricum trademark? With a product-oriented approach this problem could have been prevented. Moreover, the hungaricum products could have been provided with such a relevant support that could have meant real economic advantage. According to the law, it is also the HC's responsibility to ensure that the „Hungarian Set of Treasures would be a core part of the country-brand strategy. However, from my point of view, the role of a country-brand can not be fulfilled by a set of treasures that has only gone through a national filterisation, which is not objective enough. Since with the lack of international feedbacks and recognitions there may be a major concern that the hungaricums will remain a „world-famous products within Hungary".

However, in summary, it may be stated that the regulation which regards the production of food as well also determines the protection and the support of the food with outstanding quality. It is achieved within the framework of a newly established law which created with this particular reason, which proves to be unique phenomenon on European level. The Hungaricum Act – similarly to the Pálinka Act – provides a starting point to publicize those outstanding quality products which are closely related to Hungary and to make them recognized on a national and international level as well.

3.2.2 Other nationally qualified food products in Europe

In order to examine the Hungarian regulation and to interpret it in European context it is worth looking into the regulations of some other member states of the European Union. In the followings, the laws of Spain, France, Italy, and the UK regarding the protection of origin as well as the institutions in their background will be examined based on Lucatelli (2000).

Spain

In Spain besides the Spanish trademark law (1988) there is a seperate law regarding the products with geographical mark of goods, the origin of which law goes back long time in history. The first regulation in 1933 aimed primarily at wines, however, the law passed in 1970 concerns the protection of origin of other alcoholic beverages as well. This law set the main basis for the protection of origin of other agricultural and food products in Spain. According to this law, those Spanish products were eligible for geograpchical indications which economically and socially proved to be outstanding. The authority of the territorial limitation could spread from the regional level until the level of the local community in the case of certain products, the circle of which continuously expanded with the outstanding products of the Spanish food industry (e.g. cheese, ham, olive oil etc.), therefore, the wine-oriented approach which was true of the earlier time ceased to exist. An act of the ministry harmonized this law with the regulation of the EU introduced in 1992 regarding the protection of origin, as a result, the Spanish and the communal regulation perfectly adjust to each other.

The law[14] in 1970 set up the organisation called National Committee for the Protection of Origin (INDO), the main responsibility of which is to regulate and control the geographical indications. The leader of the organisation is appointed by the ministry of agriculture, however, among the members of the committee also the representatives of the producers and the processors take seat. INDO hands out the operative responsibilities to the Controlling Authorities which are in charge of both the protection and control of the products with geographical indications, as well as

[14] Estatuto de la Viña, del Vino y de los Alcooles

their promotion. The acceptance of the new Spanish constitution in 1978 led to significant changes in the system of origin protection. The local protection of origin went under the established 17 autonomous communities' own control, while INDO's responsibility became their coordination and the promotion of the Spanish origin labelled products around the world. Owing to these arrangements INDO, while its duties have remained the same, has been operating as one of the main departments of the agricultural ministry.

France

The first origin protected product was the Roquefort cheese, the regulation of which was already written in the 14th century. In addition, the law of 1905 considers the origin protection of agricultural products as one of the main responsibilities of the government in power. A seperate law in 1919 which regulated the names of origin provided extensive freedom for the usage of names, while also appointed the courts to be responsbile for their examination. Due to the unprecedently liberal regulation – basically anyone could declare any of their products as origin protected – and to the limited expertise in the field an unmanageable number of groups of products were created. The producers of those truly exclusive products, such as the above mentioned Roquefort cheese, or the Breese chicken, protected their product in a seperate law. The French expected the clarification of the system from the law passed in 1935, which similarly to that of the Spanish first only regulated the origin protection of the wine, but later with some extension covered the whole scale of food. This way the French AOC[15] system was created which still operates today. The 1992 law, which regulated the intellectual properietary right, deals with the mark of goods in a seperate chapter which allows the protection of use of some geographical indications as brands under certain conditions. The system of AOC was harmonized with the system of the EU in 1994.

The law in 1935 included the establishment of an organization that controls wines, which later became the leading organization of the AOC which is still operating today as the National Institute of Origin Designation (INAO). Therefore, the task of

[15] Appellation d'Origine Contrôlée

the INAO is the direction of the AOC, as well as its promotion on both a national and international level. The INAO consists of three national committees as well (wine and alcohol, dairy products, and the committee of other agricultural and food products), the members of which are producers, processors, the delegates of the government, tradesmen, and representatives of consumer groups. All three national committees consist of 22 representatives, which make up the directing authority of the INAO. Besides, the regional committees represent their own region, and also each protected designations have their own association which decided on the membership of the newly eligible ones.

Italy

In contrast to the formerly introduced two big southern agricultural powers, no law was concerned with the general origin protection of products in Italy. A law in 1954 established the organisation responsible for the origin protection of cheese, primarily for the sake of two significant cheese types, the Grana Padano and the Parmeggiano Reggiano. Much later, in 1992 a committee was similarly created with the similar purpose regarding olive oil.

The origin protection system of the EU is also used by the Italian producers, but there was no need for any harmonization here as there being no general regulation on a national level.

It is important to mention that the national committees only play a coordinating role in both cases, the operative job (control, deciding on new registry requests) is always done by local groups of producers.

The United Kingdom

The earlier laws of the United Kingdom only touched on the issue of origin protection (e.g. Trading Law (1968), Tradmark Law (1994)). Besides these one of the related unique components of the British custom is the so-called “passing-off”, which provides protection against the violation of certain intellectual proprietary rights (in this case, the name of the product). Within the United Kingdom only the

Scottish Whisky Law in 1988 may be regarded as similar to that of the laws of the formerly discussed countries. However, this law only states a minimal producing practice; there is no word about the geographical borders. Although the main part of the food production in the UK consists of generic products, the country also represents itself in the EU system of origin protection, the adaptation of which was the first comprehensive law dealing with origin protection in the UK.

As there had been no regulation by the law before, there was no intstitute to be connected to it either. However, in order to meet the expectations of the communal system, naturally in the UK as well an organization was established that qualified and controlled products as a depratment of the British agricultural ministry.

3.2.3 The interpretation of hungaricum in this thesis

One of the main questions of this thesis is the definition of the term „hungaricum". The definitions discussed earlier considerably differ from each other, and in my opinion, in order to resolve this disagreement the Hungaricum Act is not suitable. However, the significance of the law is undebatable, since it concerns the agricultural and food products (as well as other products) realted to the country in a seperate law which is unique in Europe.

According to the most important categorical principle all products that are closely and untearably related to Hungary (tangible products) are regarded as hungaricums. Although this principle is internationally recognized, it does not suit any classification. Therefore, the thesis is going to consider hungaricums those products which meet the requirements of the formerly set up criteria, which claimed that the products belong to a Hungarian geographical region and have a recognized geographical indications.

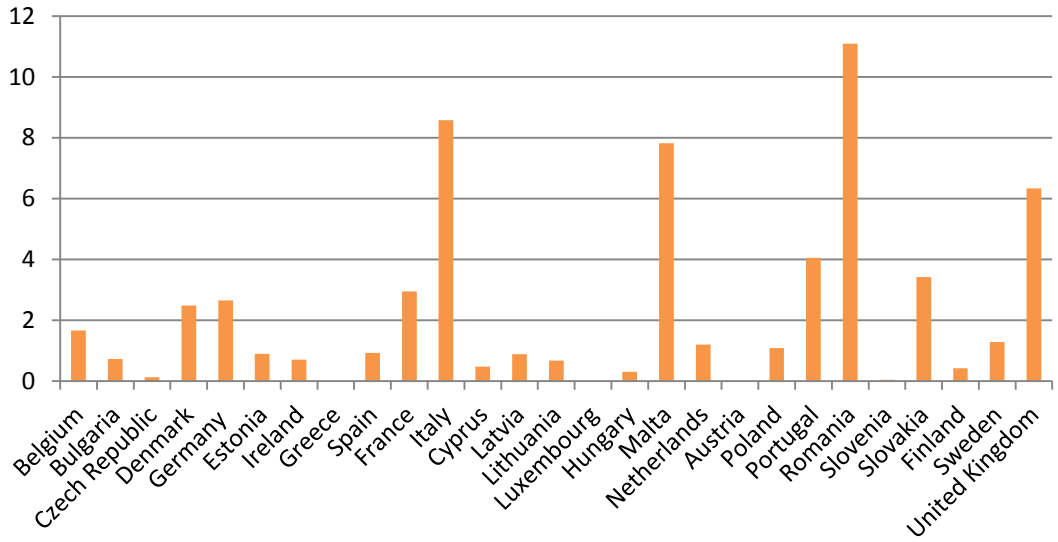
Therefore, the interpretation of hungaricum in this thesis is much narrower than the Hungaricum Act, as well is, in considering the other lexical approaches. It regards the name as a designation used only by a small group of elite, this way avoiding the discussion of those mass products that are „world-famous only in Hungary".

Based on the hungaricum definition of the thesis we may only talk about a few dozens of hungaricums including agricultural, food products and industrial products

as well. If only the number of agricultural and food products are examined, it will show that in Europe the number of products for one person, which have a geographical indicaiton usually moves between two and four (see Figure 11). Only the states with a small population (Luxemburg), or those with great traditions in the South (Greece and Portugal) are different, as well as the northern states and the islands with a few products.

If the above mentioned condition is considered as a system trying to find some kind of balance, then the duplication of those Hungarian agricultural and food products that have a geographical indication – which products in this thesis mean the hungaricums – may be expected on a long term. However, the expected 20-40 products will not offend the definition of the thesis for hungaricum, so it may stay valid on a long term, too.

Figure 11 Number of registered PDO/PGI products per million capita



Source: own composition based on the DOOR database and EUROSTAT

3.3 Hungarian products with geographical indication

In the origin protection system of the EU introduced above more Hungarian products can be found as well. These products are considred to be hungaricums not only according to the Hungaricum Act (based on the law those products that are under the protection of the EU are eligible for the name hungaricum), but also according to the interpretation of hungaricum, since these products are also recognized internationally, and also they are exclusively connected to Hungary. Based on all these factors the products are going to be enlisted in the followings.

Table 7 Hungarian products with geographical indication

Designation	Status	Type	Year of registration	Product category
Szegedi szalámi ; Szegedi téliszalámi	Registered	PDO	2007	Class 1.2. Meat products (cooked, salted, smoked, etc.)
Budapesti téliszalámi	Registered	PGI	2009	Class 1.2. Meat products (cooked, salted, smoked, etc.)
Hajdúsági torma	Registered	PDO	2009	Class 1.6. Fruit, vegetables and cereals fresh or processed
Makói vöröshagyma ; Makói hagyma	Registered	PDO	2009	Class 1.6. Fruit, vegetables and cereals fresh or processed
Csabai kolbász/Csabai vastagkolbász	Registered	PGI	2010	Class 1.2. Meat products (cooked, salted, smoked, etc.)
Gyulai kolbász / Gyulai pároskolbász	Registered	PGI	2010	Class 1.2. Meat products (cooked, salted, smoked, etc.)
Szegedi fűszerpaprika-őrlemény/Szegedi paprika	Registered	PGI	2010	Class 1.8. other products of Annex I of the Treaty (spices etc.)
Gönci kajszibarack	Registered	OFJ	2011	Class 1.6. Fruit, vegetables and cereals fresh or processed
Magyar szürkemarha hús	Registered	PGI	2011	Class 1.1. Fresh meat (and offal)
Alföldi kamillavirágzat	Registered	PDO	2012	Class 1.8. other products of Annex I of the Treaty (spices etc.)
Szőregi rózsató	Registered	PGI	2012	Class 3.5. Flowers and ornamental plants
Kalocsai fűszerpaprika őrlemény	Registered	PDO	2012	Class 1.8. other products of Annex I of the Treaty (spices etc.)
Szentesi paprika	Applied	PGI	-	Class 1.6. Fruit, vegetables and cereals fresh or processed

Source: own composition based on the DOOR database

As it can be seen on Table 7, currently there are twelve Hungarian products that are granted with a geographical indication on the level of the EU, and in the case of one product, the registration is already in process. Six of the products which are already registered are under the protection of the PDO which means a closer geographical

connection, while the other six products have PGI which means they are being examined for registration.

Among those agricultural and food products that have a geographical indication in Hungary the meat products, as well as the vegetables and fruits are clearly in dominance with four products in each group. Besides these products, there are also fresh meat and spices. In the followings the thesis is going to introduce certain registered products.

Besides the above introduced agricultural and food products there are several Hungarian wines and vineyard granted with the origin protection of the EU. Out of the altogether 47 geographical indications 34 means to be under the protected designation of the origin, and 13 under the protection of protected geographical indications (see Appendix 3). The table clearly presents that all the 22 Hungarian wine regions are represented in this considerably long list, with the addition of the classification of district of production which is not considered as a wine region (e.g. Western-Transdanubiuan, Tisza-side, Valley of the Tisza, etc.).

The description of products related to certain wines and places of origin – although the protection has already been in practice from July 31st 2009 – only had to be submitted by those eligible by December 31st 2011. These product descriptions – which the thesis is not going to detail due to their extensive length – include technological restrictions as well as determine the territorial borders (e.g. types of grapes which can be used, minimal level of alcohol etc.).

Besides the two categories presented above (agricultural and food products, including wines) Hungary also has products with geographical indications among the alcoholic beverages as well, which make up the third category of the EU system. Besides the pálinka and marc pálinka there are five other pálinka types under the protection of the EU, which will be introduced in the next chapter.

3.4 Other Hungarian quality trademarks

Beside the EU system that also includes the Hungarian products on an international level, there are several other national qualifying systems in Hungary which operate with taking quality as their main categorizing principle. In the case of the majority of those Hungarian systems that are based on the characteristically recognizable trademark the territorial borders means the whole area of the country, therefore, it does not connect outstanding quality with a specific geographical area. Furthermore, there are some trademarks for the quality of Hungarian food and agricultural products which only testify the quality of products from smaller regions (e.g. the trademark of "Living Tisza" for the catchment area of Tisza in Hungary).

Regarding my thesis the significance of the quality products in the case of the national qualifying systems lies in the fact that the products which later may be classified into the EU system of the origin protection are chosen from these products. Therefore the national qualifying systems may be regarded as a foreground of the EU system. Those products which have a reputation on a national level may apply for international recognition. Therefore, these factors make the brief introduction of the national systems necessary in the thesis.

Juhász and his collaborating authors (2010) in their study of analyzing different systems of qualification highlighted twelve different national systems of qualifications of the consumers. Several of these (e.g. the trademark of Healthy Egg and Heart-Friendly), however, does not apply any kind of territorial limitations.
In the followings those national systems will be enlisted which are geographically classified in some ways, which means that they can be interpreted with a kind of geographical indication[16].
As it can be seen above as well, in Hungary some of those national trademarks are also present which try to differentiate on the basis of quality (see Table 8).

[16] From a legal perspective these trademarks are can not be considered as geographical indications.

Table 7 Relevant Hungarian quality trademarks

Trademark	Year	Coordinator	Product profile	Number of products	Territorial specification
Quality Hungarian Food Products	1998	FVM/AMC/MT Plc	food products	approx 400	Hungary
Traditions-Flavours-Regions	1998	FVM/AMC/MT Plc	food products, animal and vegetable types	approx 300	Hungary
Certified Hungarian Poultry	2002	Poultry Association	products made from poultry	approx 150-160 thousand tons	Hungary
Hungarian Grey Cattle Products	2003	Associaton of the Hungarian Grey Catle Breeders	products made from Hungarian grey cattle	n.a.	Hungary
Premium Hungaricum	2004	Premium Hungaricum Association	food products	approx 80	Hungary
Districtus Hungaricus Controllatus Villány	2006	Association of the Villány Wine Region	wine	varying	Wine region of Villány
Hungarian Product	2006	Hungarian Product Nonprofit Ltd	food and industrial products	56 product groups	Hungary
Living Tisza	2006	Association for the Living Tisza	food and handicraft products	approx 200	Watershed of Tisza
Hungarian Quality Pork	2009	FVM/AMC	products made from pork	n.a.	Hungary
Pannon Wheat	2009	Association of the Grain Producers	products made from pannon wheat	n.a.	Hungary
Treasure of the Great Plain	2009	Agrarian Nonprofit Ltd of Csongrád County	vegetable	2	South-Plain
Quality local food products from Szekszárd	2013	ECO-SENSUS Nonprofit Ltd	food products	approx 40	Szekszárd and 25 settlments of Tolna county

Source: own composition

In contrast with the traditional practice of Southern-Europe, the Hungarian systems have only been worked out in the recent years, the earliest trademarks, KMÉ and HÍR have only existed for one and a half decades. Most of the Hungarian trademarks' territorial borders extend to the whole country, however, there are also some trademarks concerning smaller regions. The marked products considering their types and number are quite heterogeneous, especially if we also take their economic value into account. There are also trademark with little significance, however, the market share of the most significant marked products is only a fragment of the other, non-marked competitors.

Considering these various systems mainly KMÉ and HÍR are the ones whose products may be granted the protection of origin also on an international level due to their vast variety, product profile and embeddedness. This way these two systems would step into the narrow circle of those products which the EU also recognizes as characteristically Hungarian, and quality products (hungaricum). These two systems certainly do not represent an exclusive category, since there are several geographically indicated Hungarian products of the EU which were under the protection of one of the above mentioned system's national trademark, as it is also shown on Table 9. The trademark of the Hungarian Szürkemarha Products should also be highlighted as the Hungarian szürkemarha (grey cattle) meat – as it has already been mentioned – has been a PGI product since 2011 thanks to the work of the organization responsible for the trademark as well.

Table 8 Connection between quality trademarks and geographical indications

Quality trademark	Agricultural and food product	Wine	Spirit	Product example
Quality Hungarian Food Products	+	-	+	Sausage from Békéscsaba, plum pálinka from Szatmár
Traditions-Flavours-Regions	+	-	+	Paprika powder from Szeged, apricot pálinka from Kecskemét
Certified Hungarian Poultry	-	-	-	
Hungarian Grey Cattle Products	+	-	-	Hungarian grey cattle
Premium Hungaricum	+	+	-	Sausage from Békéscsaba, Somlói juhfark (wine)
Districtus Hungaricus Controllatus Villány	-	+	-	Villányi borok
Hungarian Product	-	-	-	
Living Tisza	+	+	+	Grey cattle sausage, wines from Csongrád, apple pálinka from Szabolcs
Hungarian Quality Pork	-	-	-	
Pannon Wheat	-	-	-	
Treasure of the Great Plain	-	-	-	
Quality local food products from Szekszárd	-	+	+	Wine from Szekszárd, Pálinka from Tolna county

Source: own composition

4 Pálinka

4.1 The history and social role of pálinka in Hungary

Pálinka – as well as before the appearance of the current name burnt alcoholic beverages – has significant traditions in Hungary both in production and in consumption. It was used as a form of medicine for a long time, which may be the reason why our first written description from the 14th century refers with the phrase "aqua vitae reginae Hungariae" most probably to the Rosemary spirit with the help of which the wife of Robert Carl, Queen Elizabeth was treated against gout (Kárpáti [1979]). The name "the water of life" was used for a long time as a reference to pálinka, and the Latin name can still be found in the description of some other countries burnt alcoholic beverages. The first written form of the term "pálinka" was only in 1630, which is still used nowadays (Balázs [1998]). The term pálinka most probably originates from the Slovak "palenka" word. Before this words referring to the production of pálinka were used (e.g. burnt wine, sublimata, etc.).

Considering the ingredients, pálinka was mainly produced from wine and cereal. The spread of what we consider today as pálinka production from fruit only started at the end of the 15th century. The drink referred to as pálinka spread quickly in the Middle Ages, its various types were consumed by almost everybody irrespective of social ranks or geographical locations. The spread of pálinka consumption was strongly promoted by different monasteries where the monks used it primarily as medicine adding herbs to the drink. Beside churches, the tradition of pálinka distillation evolved as well in different regions, in addition, cities also had the right and equipment to distill pálinka. The first distilleries were set up in the so-called "beer-making houses" since all the necessary technology was present here for distillation (Balázs [1998]). As time passed by, separate pálinka distilleries were set up with their own equipment mainly at the edge of the villages or cities. The quality distillation of pálinka started to spread in the 18th-19th century with the help of guilds, later with the appearance of the industrial improvements the first separate liquor factories were established as well. In 1851 105.129 alcohol-distilleries operated in the whole country, which shows that almost every region, city and village owned a

pálinka distillery (Sólyom-Nákovics [1983]). After the First World War the fast increase in the selection of pálinka stopped due to several reasons: the territory of the country was considerably cut, a short-term ban on alcohol in Hungary was introduced, as well as other state restrictions. The main fallback in the industry was, however, in 1949 when nationalization started to take place. The pálinka-distilleries under centralized supervision operated in the planned numbers as well, and the matter of qualification was considerably disregarded. Beside the nationalized pálinka making the level of "unauthorized" distillation grew as well degrading the quality of the consumed pálinka. Although a law in 1982 granted the permission for establishing alcohol-distilleries for individuals with the aim of non professional pálinka distillation (Békési-Pándi [2005]), at the time of the change of the regime in the country pálinka making was characterized by a low-quality, quantity-oriented system. In the 1990s the image of a low-quality drink with high alcohol level became apparent in the public's mind (see the expressions referring to pálinka as "fence-tearing drink", "squatter", etc.), which was more and more supplanted by the imported, high-quality alcoholic drinks. The change came with the beginning of the 21st century when more enterprises with a strong capital aimed to restore the production of high quality pálinka made of fruit, as well as to promote is. The initiative of the private sector was also welcomed by the government, and beside regulating the usage of the term "pálinka" several types of pálinka have come under the protection of the European geographical indication system.

The Hungarian quality pálinka – which has already proved its excellence at several international competitions – is inseperable from and has become a core part of the Hungarian culture. Customs evolved throughout the centuries (e.g. important family and social events are characterized by the consumption of pálinka) as well as social norms (e.g. greetings connected to drinking pálinka) indicate that pálinka has become the national alcoholic beverage of Hungary.

4.2 The legislative background of pálinka

The legal regulation of the production of pálinka as well as that of its consumption was almost introduced at the same time. Since this regulation is also an inseperable

part of obtaining the protection of the geographical indication, some of the most significant regulations are going to be discussed in the followings.

4.2.1 Earliest legal regulations

At the time of feudalism no unified legal regulations were in use in the case of pálinka distillation, since the regional regulations were determined by different squires and city privileges to a large extent. The first general regulation was established in 1836 which obliged villeins to pay tax, as well as declared their right to distill pálinka (except for the ones made of cereals) (Balázs [1998]). The introduction of the tax on alcohol also referred to the production of alcoholic drinks as a state monopoly and in order to keep these under control the customs police were in charge (Balázs [1998], Békési-Pándi [2005]). As a result, the state has earned a significant tax-income from the production of pálinka since the middle of the 19th century, and this factor still determines the relationship of the central government and the sector until these days.

In addition, the laws introduced further on were mainly concerned with the excise in connection with the machines measuring the alcohol the use of which is obligatory, or with the different taxation of wholesaler and the retailer. In 1949 almost all the significant alcohol factories were nationalized which had a considerable impact on the industry. Instead of quality production, quantity was more and more emphasized; although paradoxically it happened several times that there was a lack of pálinka in the country. From 1952 the so-called "half-distillation" was also allowed, which meant that half of the pálinka that was made for private purposes by a private person in a state-owned distillery was supposed to be granted for the state. Until the change of the regime the last significant legal regulation was the law mentioned above allowing privatization.

4.2.2 The Pálinka Decree

The decade following the change of regime in the case of pálinka meant the rebuild of the system. The main problem originated from the fact that pálinka had lost its former reputation, and the name pálinka could also refer to products in stores which

did not meet the requirements of a quality product (e.g. they contained aroma or alcohol distillated not from fruit). In order to regain the reputation of pálinka the name had to be clarified. In 2004 – parallelly with the first registration of the EU pálinkas with geographical indications – the unified decree of 148/2004. (X.1.) FVM-ESzCsM-GKM was passed, which regulated the use of the term "pálinka" and its production. According to the most important order of the decree "only those noble or wild fruit, grape marc can be used to make pálinka which were grown and produced in Hungary", in addition, "the word pálinka may only refer to the distillation of marc or fruit which were fermented, distillated, ripened and bottled in Hungary". As a result, the regulation of pálinka production and the territorial borders became clear promoting the quality increase of the product for the future.

Apart from the above discussed measures, the decree also restricts the parameters of different technologies (e.g. little caldron) as well as that of aging, therefore, clarifying the terms.

4.2.3 The Pálinka Act

After passing the above decree in 2008 the Parliament accepted the so-called Pálinka Act (LXXIII. law of 2008 of pálinka, marc pálinka and the National Committee of Pálinka) with a universal consensus. Besides the use of the term which was also concerned in the decree the act deals with the matter of protection of the geographical indication, the pálinka tax stamp, as well as the establishment of the National Pálinka Committee which was to set up the long-term strategies of pálinka.

In the case of territorial borders, in harmony with the decree of 110/2008/EC, regarding the distillation made of apricot it is also allowed to use the term in four counties of Austria. The law also gives a stricter description of the ingredients as apart from fruit, marc and water, only certain technological materials can be used for pálinka, therefore, products containing sugar (or even honey) cannot be called pálinka. The regulation also allows that the name of the fruit which is used as a basic ingredient could become part of the official name.

A novelty of the law is that there is also a requirement for the protection of the geographical indication which means that those pálinka which are granted origin

protection should meet the expectations of individual products, which expectations are sometimes stricter than the law, in order to have the product introduced into the market with the geographical indication.

In the case of those pálinka that are on the market in Hungary the so-called pálinka tax stamp may be used. This tax stamp is different in its colour than the tax stamp of other alcoholic products which are obliged for excise, this way differentiating pálinka from the other alcoholic beverages.

The Pálinka Act orders the establishment of the National Committee of the Pálinka which "promotes the unified regulation of pálinka production, and the protection of its origin, quality and origin protection and its achievement taking the Hungarian interest into consideration". In order to achieve this, the main responsibility of the committee is the National Strategy of Pálinka, and to elaborate marketing plans with different periods of time. From my thesis' perspective it is important to mention that the Committee "declares their professional opinion of the requests in connection with whether to grant the pálinkas the protection of the geographic indication", therefore, it filters the products that are submitted for application in the different states. Accordingly, the organization serves as a kind of professional supervisor of pálinka, and has a significant role in determining the future strategies of the industry.

The name of pálinka has been legally regulated and defined by the decree of 2004 and the act of 2008, and in contrast with the earlier legalizations, in these laws there is a quality-oriented approach. Quality production of pálinka may guarantee the long-term success of the industry since due to the growing requirements of food safety only the products with the highest quality may remain competitors on the more and more competitive market. However, these legal regulations are only the starting points of this process and cannot guarantee success.

4.3 The economic importance of pálinka

4.3.1 The supply side of the pálinka sector

Based on the related legizlations at the moment in Hungary there are three different legal ways of producing pálinka: in professional distilleries, in non professional distilleries, as well as by individual distillation.

Profesional distilleries are pálinka distilleries where all the products are sold on the market and the excise is fully paid after all the products which are verified with a tax stamp. Professional distilleries need to obtain a permission of tax warehouses. Their core activity is mainly pálinka distillation often times using prandial quality ingredients and creating continuously high quality products.

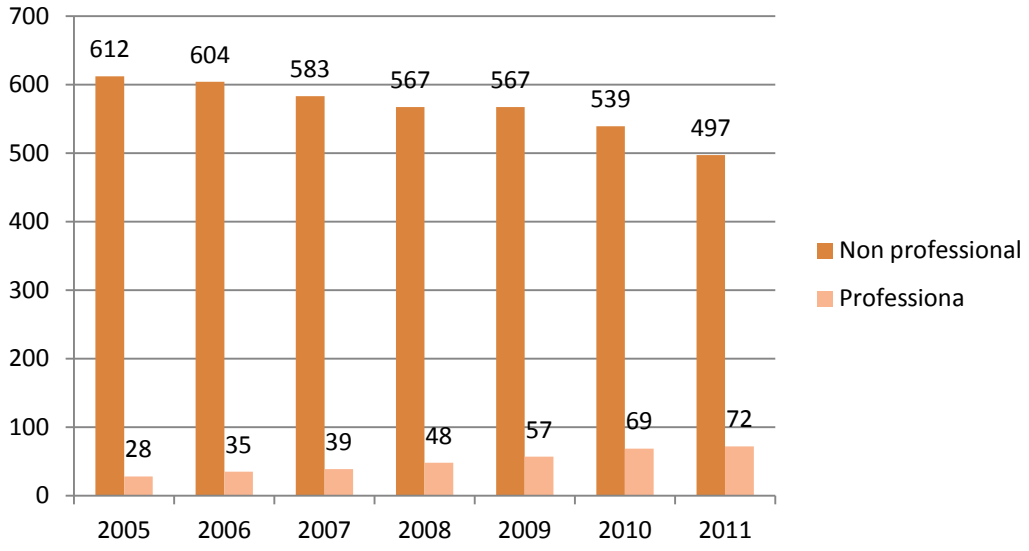
In the non professional distilleries the consumer usually uses their own or purchased fruit to make mash and delivers it to a person or entrepreneur who works with the appropriate technology and with the process of distillation can produce pálinka out of it. The non professional distilleries need to be registered at the appropriate authorities. The pálinka made in non professional distilleries is granted some tax discount until a specified quantity; the consumer is obliged to pay the excise and the technological expenses for the distillery. The authorities hold detailed information of the quantity and type of pálinka produced in the non professional distillery. The pálinka produced in a non professional distillery cannot be put on the market, there is exception only in certain cases after paying the full excise and placing the tax stamp. Pálinka created here are usually lower in quality than of those produced in professional distilleries, but they are considerably heterogeneous due to the diversity of the ingredients.

The idea of private distillation is quite new as there has only been possibility for it since 2010. According to the regulation trying to decrease the number of illegal distilleries and to clean the industry a private distiller is eligible for making 50 litres of distillation with 86 V/V% tax-free each year. This quantity may be produced with the private distiller's own distillation equipment of which they do not need to declare at any authority until 100 litres of capacity. Tax-free pálinka can only be used for their own purpose and cannot be released into the market. Above 50 litres of pálinka,

and if the pálinka was created in the determined conditions the excise fully has to be paid. The quality of pálinka made privately is similar to that of the non professional distilleties, and they are obviously each other's competitors, though within a given year a private distiller cannot use the services of a non professional distillery.

Since only products with tax stamp created by professional distilleries can leagally become commercially available, primarily this group of products are considered significant in my thesis. However, as table 12 shows, the number of non professional distilleries noticeably exceeds that of the professional distilleries. Moreover, the average distillation capacity of professional distilleries is usually considerably higher than the capacity of non professional distilleries, the amount of pálinka produced in the later one exceeds the production of professional distilleries on a large scale.

Figure 12 Number of non professional and professional distilleries (2005-2011)



Source: own composition

However, regarding the tendencies it can be clearly stated that there is a dynamic growth in professional distilleries since their number more than doubled between 2005 and 2011, which also reflects that the search for consumers who purchase quality products has created livelihood for more professional distilleries. In addition, its spread in the market may be expected in the near future. At the same time, the number of nonprofessional distilleries decreases by 20% in the examined time period. This may be explained by the move towards quality discussed above. The

number of non professional distilleries is still expected to decrease, as since 2010 the existing private distillation has also definitely led to the fall in the interest in non professional distilleries.

4.3.2 The raw materials of pálinka

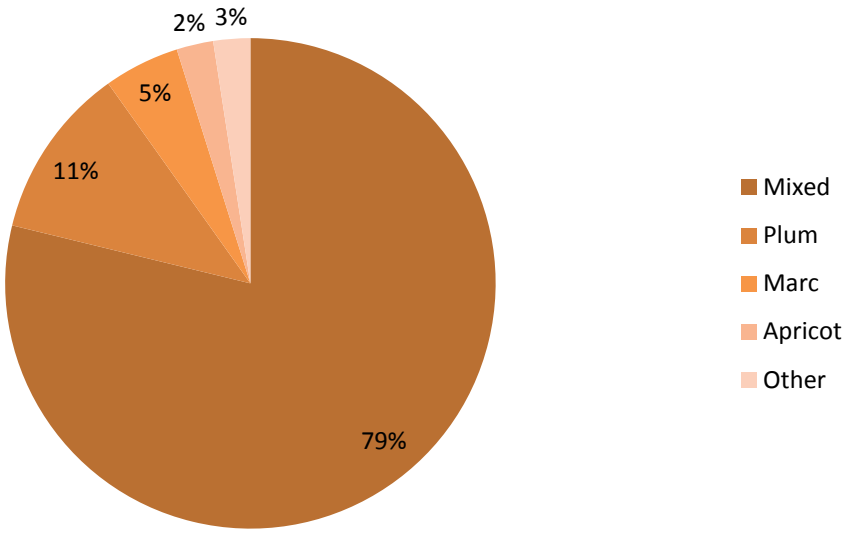
According to the legal regulations pálinka can only be produced from fruit grown in Hungary. In the Middle Ages this restriction did not exist, so distillations made from cereals were also refered to as pálinka, what is more, the word was mainly used for distillation from cereal. Based on the historical descriptions the production of alcoholic beverages from cereal reached such levels that in those years when the production of cereal was weak, there seemed to be lack of food due to the work of the distilleries. This is why it could happen several times (e.g. in 1606 in Besztercebánya, in 1695 in Kolozsvár, in 1743 in Miskolc) the production of pálinka made of cereal was legally banned (Balázs [1998]). This definitely proves that pálinka production gained major importance even in the Middle Ages, and sometimes may have led to lack of food supplies.

The pálinka production of the modern times is clearly based on fruit distillation which is also regulated by the law. Therefore, the sectors of pálinka and fruit production have definitely become dependent on each other. According to the regulation pálinka can only made of Hungarian fruit. Moreover, the territorial restrictions are even more severe in the case of certain pálinka with geographically indication, and only certain types of fruit can be used (it is detailed in the next chapter). These restrictions which aim to protect the reputation also entail significant risks since the release of fruit production means a considerable cycle (the freezing temperatures in spring could destroy the fruit production of whole regions in recent years), which generates fundamental uncertainty in the case of the input of the pálinka industry. When the national fruit supply cannot fulfill the needs of the pálinka distilleries, then there is no possibility for replacement from the import since pálinka made of foreign fruit cannot be sold as pálinka. This creates substantial uncertainty in the industry.

When considering the fruit serving as ingredients the traditional and special tastes are usually differentiated (Török [2010]). The former category contains fruit which is the highest quality product of the Hungarian fruit production and is produced in high quantity (apple, sweet cherry, apricot, pear, cherry and plum). These products are of outstanding significance in the production as well. Special tastes are considered those which reach the pálinka distilleries in considerably smaller quantity and less frequently (e.g. elderberry, quince, raspberry etc.). Usually the tastes of wild fruit are also considered to be special (e.g. sorb, hip, sloe, dogwood, etc.) which are exclusive because they are grown in even smaller quantity, and can only be harvested by hand giving even more way for handmade production.

About the types of pálinkas made by the Hungarian professional distilleries there is no comprehensive report, however, the tax authority annually gives an account of the different pálinkas made in non professional distilleries. The majority (79%) of the pálinkas made in non professional distilleries between 2005 and 2009 was mixed pálinka (see Table 13). This data also proves that those households that make pálinka of home-grown or bought fruit do not try to create a specific type of pálinka but mix the ingredients. The reason for this may be that the households mash and cook both the seasonally collected fruit and the fallen fruit together at the same time. Among our specific types of pálinkas the plum (11%) is outstanding, then far behind it is the marc (5%), apricot (2%) and other pálinkas (3%).

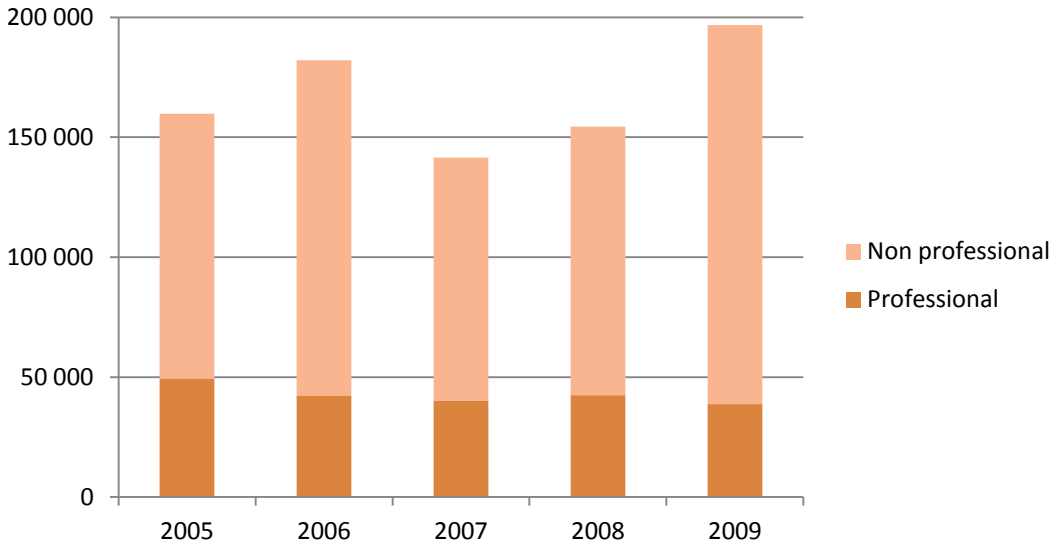
Figure 13 Type of pálinka produced in non professional distilleries (2005-2009)



Source: own composition based on the Hungarian Tax Authority

The essential ingredients of the pálinka sector generate demand in fruit. As the table shows it, between 2005 and 2009 pálinka was made of 150.000-200.000 tons of fruit on average taking into account the needs of both the professional and non professional distilleries (see Table 14). The fluctuation of the amount of fruit used in the distilleries follows the quantity of the given years fruit production, certain set-backs reflect the effects of different climate factors (e.g. damage because of ice, drought). In the years when there is little fruit grown in Hungary, there is less pálinka made since not only the professional but also the non professional distilleries are sensitive to the high prices which are a result of the low level of supply (sometimes even lack of supply). This may explain the reason why there is a wider fluctuation in the demand of non professional distilleries.

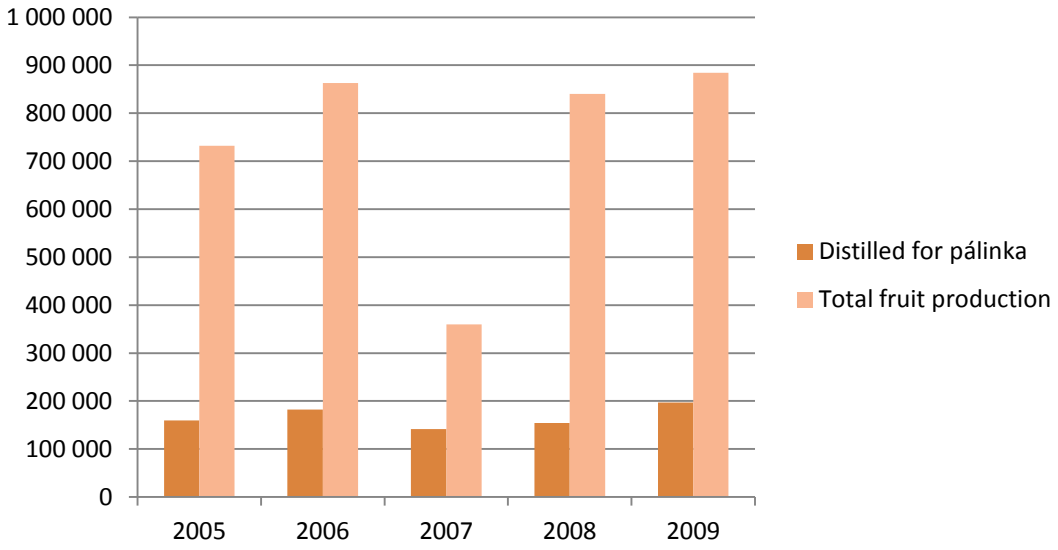
Figure 14 The raw material need of the pálinka sector (t, 2005-2009)



Source: own composition

Therefore, considering the amount of fruit production in Hungary the amount of fruit processed for fruit is significantly high (see Table 15). 20% of the Hungarian fruit production is normally provided for the pálinka sector, but sometimes this number may be doubled as it happened in 2007 as well. This year due to the freezing conditions in spring there was only one-third of the usual amount of the fruit grown, however, the amount of fruit processed by pálinka distilleries did not show such a significant decrease.

Figure 15 The raw material need of the pálinka sector and the total fruit production (t, 2005-2009)



Source: own composition

4.3.3 Location

The sector of pálinka is also important to be examined according to its location. The mutual dependence of the industry and the fruit production is obvious, therefore, it is not suprising that the main professional distilleries are located in the more significant fruit producing regions of the country (see Table 16). The county of Bács-Kiskun is usually referred to as the fruit pantry of the country. As a result, there are several pálinka distilleries in the surroundings of Kecskemét. There are notable fruit growing regions in the north-eastern part of the country as well where again there are more ditilleries operating.

As for the development of the rural areas it should definitely be emphasized that the pálinka distilleries are usually located at those areas of the country where the economic development of the country has fallen behind that of the average. The regions in South-Plain, North-Hungary and in North-Plain – where a relevant number of pálinka distilleries are operated – are all considered as economically underdeveloped regions. Pálinka – regarding its high added value – is a core part of the strategies to develope the rural areas; therefore, each pálinka distillery may serve as a catalyst within its own micro-region.

Figure 16 Location of the most important distillereies

Source: own composition

4.3.4 The demand for pálinka

The market research carried out per procuration of the Agrarian Marketing Centrum of Hungary (GFK [2008]) served as the basis of a campaign aiming to promote pálinka, and analyzed the demand for the product. According to this research the pálinka consumption of Hungarian households regarding their expenses on all the burnt alcoholic drinks was 11,8% in 2007. This number is, however, the total number of the market share of genuine pálinka (1,9%) and of the alcoholic beverages similar to pálinka (9,9%) added together, which clearly shows that those products which cannot be called as pálinka are still present in a significantly high number. Although the share of the similar products is continuously falling, the high number indicates the most important challenge of the national pálinka industry, which is that consumers should consider high quality, fruit based alcoholic beverages as pálinka as the law defines it as well.

Those buying pálinka usually live in cities, mainly in the capital, which may be due to the fact that those in the rural areas consume their own, home-made products, or those which are made in non professional distilleries. Furthermore, the higher price

of those pálinkas that are made in professional distilleries is usually affordable for the city-dwellers. Therefore, the pálinka distilleries tend to open their own shops in Budapest which serves as their own commercializing channel (Török [2010]).

The market research of GFK (2008) also highlighted that the typical consumers of pálinka are those 30-50 years old men who have generally gained a higher qualification of education. Based on the questionnaire the most common associations related to pálinka were traditional Hungarian expressions mainly used by men.

According to the research (GFK [2008]) plum is the most in demand which supports the structure of types in demand set up by the non professional distilleries, meaning that those who buy pálinka, buy a specific pálinka instead of mixed pálinkas, more specifically they buy plum pálinka.

The consumers usually buy pálinka at the retailers of international store-chains, but it is becoming more and more common to buy at certain pálinka distilleries' own shop. More pálinka distilleries consider it important to make the consumers "come down" to the location of production, and similarly to wine tourism create a kind of pálinka tourism. The traditional pálinka festivals are closely related to this both in the countryside (e.g. the pálinka festival in Gyula), and in the capital (e.g. pálinka festivals in spring and autumn). The participation in different pálinka competitions is also regarded as a notable event. HunDeszt, which is a country-wide competition whose mentor is the minister of agriculture in power according to the Law of Pálinka, is considered as an outstanding competition among the several regional ones.

4.3.5 The reputation of pálinka abroad

The reputation and recognition of pálinka abroad is hard to measure. Perhaps the best way to establish it is through the analysis of the export, and the results of the Hungarian pálinka distilleries in international competitions of alcoholic beverages.

As for the export, it may be claimed that the pálinka is traditionally considered as a product consumed by Hungarians. Torbágyi-Novák (1948) examining the pálinka export until the Second World War considered it negligible apart from the year 1945 when Hungary delivered a significant amount of wine distillation for the winner

countries (primarily to the Soviet Union) as a form of compensation. Considering the export into the EU which is regarded as the most important target market, while around the millennium Hungary had a significant surplus of the fruit-based alcoholic beverages, after Hungary joined the EU the amount of import exceeded the amount of export in each year. Based on these it may be stated that although there have been considerable fluctuations, besides the export of pálinka, Hungary imported a growing number of fruit-based alcoholic beverages from the other member countries of the EU, especially from Germany (Török-Jámbor [2011]).

While the figures of foreign commercial primarily examine pálinka from an economic point of view, different competitions characterize by quality requirements. Among the international competitions of alcoholic beverages the most considerable one is Destillata, which is held in Austria every year. Different distilleries from any country of the world can present their fruit-based spirits. During the competition the products are examined in a blind-trial of an international jury where the products are evaluated on the basis of a prepared 20-point-system. The products reaching the highest scores are presented with a medal. From each country the kitchen getting the most medals earns the title of the national winner.

Table 9 Results of Hungarian distilleries on Destillata (2006-2012)

Year	Hungarian distillereis	Total distilleries	Registered pálinka	Total registered spirits	Spirit of the year	Gold medal	Silver medal	Bronze medal	Total Hungarian medals	National winner
2006	9	142	70	1191	1	3	21	15	40	Agárdi Pálinkafőzde
2007	14	170	131	1446	4	9	55	29	97	Zimek Manufaktúra
2008	16	213	146	1682	3	8	50	46	107	Márton Pálinkafőzde
2009	19	188	138	1618	4	5	32	55	96	Agárdi Pálinkafőzde
2010	15	183	135	1602	2	3	33	39	77	Zimek Manufaktúra
2011	23	171	143	1573	1	10	44	65	120	Agárdi Pálinkafőzde
2012	26	187	149	1665	4	14	65	59	142	Agárdi Pálinkafőzde

Source: own composition

There are also participants outside Europe at these competitions but most of the distilleries are from Austria, German, Italy and Hungary. The Hungarian pálinkas are in the lead considering their results (see Table 10) which show that according to experts the Hungarian pálinka is also competitive on an international level due to its high quality.

4.4 The EU regulation on origin labelled spirits

4.4.1 The legal background of spirits with geographical indications

As it has already been mentioned, the regulation of origin labelled alcoholic beverages is under the control of a seperate statute. The statute of 110/2008/EC was signed on January 15th 2008, and was passed on May 20th replacing the 1576/89/EC committee decree which had been in force until that time. The decree emphasizes that the main reason for creating it was necessary since the industry of alcohol is of major importance to both the consumers and the producers, as well as, a significant branch of the whole food production industry.

The decree is in force in the whole area of the community, which means that it is to be applied to all the alcoholic beverages of the European Union irrespective of the fact whether the drink itself was produced in the Union, or in the area of a third country.

The decree which consists of thirty articles clarifies the definitions of what is meant by alcoholic beverages. According to this alcoholic drinks may exclusively contain ethanol that is of agricultural origin with concentration at least of 15% (V/V) [17].

The decree is equally in force in all the 27 members of the Union, and provides the opportunity for these countries to use stricter requirements than that of described in the statute in the case of alcoholic drinks produced in their own territory. This factor may play a significant role when considering the requests for the geographical indications.

The decree also holds three appendixes. The first one is concerned with technological definitions and requirements which serve as a guideline for the production of alcohol. The second appendix puts the alcoholic drinks in 46 categories also describing the exact criteria of each category. Finally, the third appendix which enlists those alcohiolic drinks in detail which are provided the geographical indication of the European Union.

[17] The only exception is the category of egg-nog where the minimal alcohol content is 14% (V/V).

4.4.2 The description of the geographic indications used with spirits

The protection provided by the geographical indications is primarily to distinguish products since it ensures legal defence for the products against their copies and for those products that try to decieve consumers. Therefore, it guarantees the products' protection in the market which may serve as a significant advantage in marketing.

Giving a record of the geographical indications is the Committee's responsiblity. It is the duty of the country where the drink originates from to submit a request for it. A considerable request should contain a technological documentation as well, on the basis of which the Committee may make their decision.

The most important parts of the technological document are the followings:

- the name of the spirit and its type
- the description of the spirit, and its main characteristics
- the location of the geographical area related to the spirit
- the description of the methodology used in production
- the proof of the direct relationship between the geographical environment and the origin

The Committee examines the requests 12 months the latest counting from the date of its submission, and if the product is found suitable, it is publicized in the Official Journal of the European Union within the C section. If there is no objection in connection with the requests in the next 6 months following the release, then the Committee enlists this request.

Besides, it is an important requirement that the supervision of the alcoholic beverages are in the charge of the countries, therefore, it is the duty of the given national authorities to examine whether the origin labelled products truly meet the expectations written in the technological documentaion.

4.4.3 The different categories of spirits in the European Union

The appendix number II of the relating decree differentiates between 46 types of categories of alcoholic beverages. The criteria of each category give an exact

discription of what requirements the products need to meet in order to be enlisted into a certain category. Beside determining the ingredients the descriptions usually regulate the minimum and maximum level of alcohol, the usual steps of the production, the form of savouring and colouring, and in certain cases the minimal level of volatile ingredients.

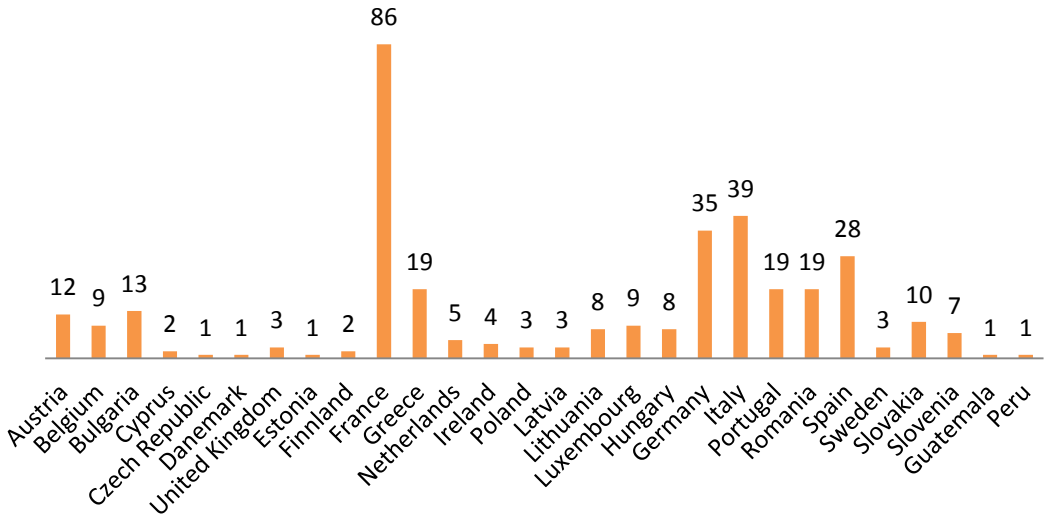
4.4.4 Origin labelled spirits in the European Union

At the moment there are altogether 333 different products and names enlisted as an alcoholic beverage. In certain cases not only products, but a level higher aggregated group of these are under seperate protection. Pálinka is a good example for this. As for its name, several types of pálinkas are enlisted as being under protection, therefore, for example the plum pálinka from Szatmár, is also protected by a geographical indication. The same is true of korn, calvados, cognac, grappa and ouzo.

The 333 geographical indications mentioned above are mainly from the area of the European Union (the regulation allows the enlistment of a product even from a third country), however, they are not in equal distribution among the countries. Although with the exception of Malta all the countries have at least one, traditional alcoholic drink that is enlisted, there is a significant difference among the registered products of the countries.

As the figure also shows it (see Figure 17), France has far the most alcoholic beverages with geographic indications, with exactly 86 products. After the French, the Italians, Germans and the Spanish can be proud to have more than the average number of products. These four countries give 54% of the registered alcoholic drinks.

Figure 17 The origin countries of registered PGI spirits



Source: own composition

An explanation for the figure may be that mainly those countries were in the lead considering their number of registered products which regarded it important to geographically indicate their special agricultural products and food (PDO and PGI products). Table 11 clearly shows that the four countries mentioned earlier are also in the lead in other areas concerning their geographical indications since in the other two categories they show an even higher share between 61-64%.

Table 10 Share of the leading countries in geographical indications

	PGI spirits	Share	PDO food products and	Share	PGI products	Share
France	86	24,71%	84	15,05%	108	19,93%
Italy	39	11,21%	154	27,60%	92	16,97%
Germany	35	10,06%	30	5,38%	59	10,89%
Spain	28	8,05%	87	15,59%	71	13,10%
Total	**188**	**54,02%**	**355**	**63,62%**	**330**	**60,89%**

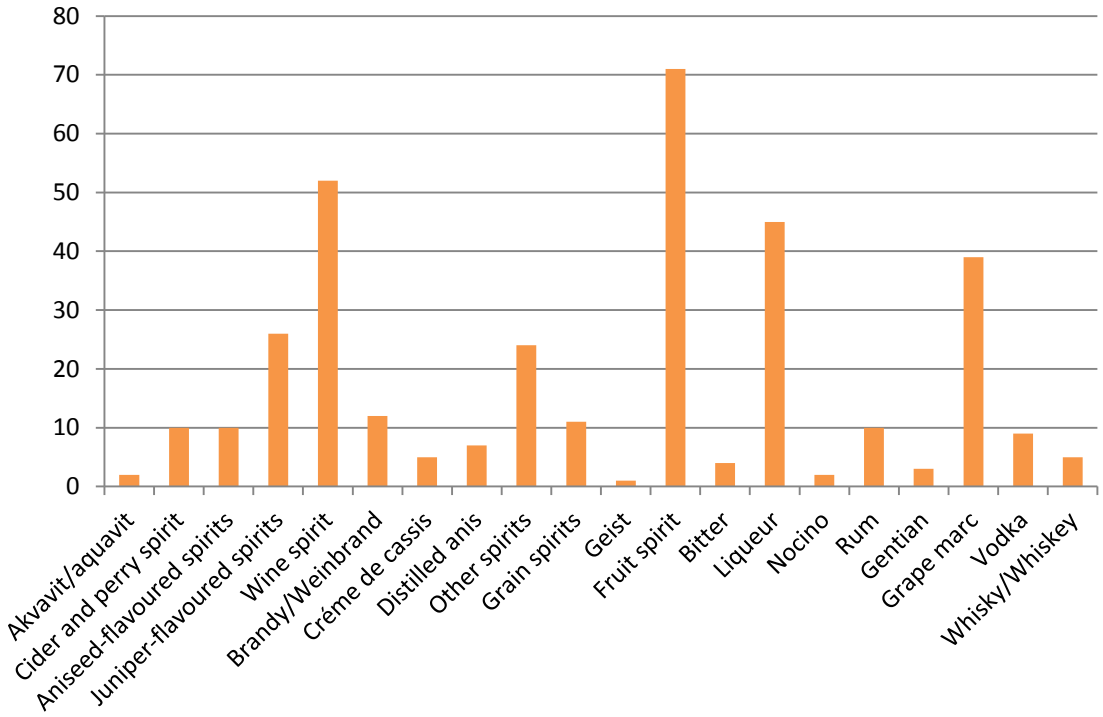
Source: own composition

The reason for the high number of PDO and PGI products in these areas is that in the Mediterranian countries even before the regulation of the European Union there had

been some national registries which distinguished the outstanding products. This meant that at the appearance of the common regulation they already had several product descriptions which could be handed over to the Union database immediately. In addition, another advantage these countries had was that the distinguished products already had a known market and the possible future consumers were already aware of the fact that these products were of outstanding quality.

Interesting conclusions may be drawn if we examine how the number of protected alcoholic beverages changed according to different categories. Most origin labelled alcohol in the European Union is a fruit spirit (see Figure 18), there are exactly 71 types. These are followed by the wine-distillations (52), liqours (39) and marc-distillations (45).

Figure 18 Number of origin labelled spirits of the product categories



Source: own composition

The variety of alcoholic beverages is also proven by the data in Table 12. Among the categories with the most products fruit-distillations originate from 11 different countries. As for the liqours, there are again more countries: 45 products originate

from 15 countries. Although some categories consist of less products, their variety is undebatable: 8 geographically indicated alcoholic drinks with the taste of juniper, while both brandy (weinbrand) and vodka come from 7 different countries.

Table 11 Origin labelled spirits in product categories

Spirit category	Number of products	Number of producing countries
Fruit spirit	71	11
Wine distillation	52	4
Liqueur	45	15
Marc	39	8

Source: own composition

All in all, it may be stated that although each country has their own, unique, national spirit, these are mainly liqours and fruit spirits.

While examining the origin labelled alcoholic drinks of the EU there is an interesting discovery regarding the origins. In certain cases not only one, but sometime more (two-four) countries are eligible for the production of a given alcoholic drink. 9 products like this can be found in the territory of the Community (see Table 13), and it may be stated that the possiblity for the production of these products are restricted to certain areas of the country. In some cases, the restriction even applies to an exact type of the product (e.g. pálinka).

Table 12 Origin labelled spirits with more than one producing countries

Product	Origin countries				Category
Korn/Kornbrand	Germany	Austria	Belgium		Grain spirit
Pálinka	Hungary	Austria[1]			Fruit spirit
Geniévre/Jenever/Genever	Belgium	Netherlands	France[2]	Germany[3]	Juniper-flavoured spirit drinks
Geniévre de grains, Graanjenever, Graangenever	Belgium	Netherlands	France[2]		Juniper-flavoured spirit drinks
Jonge jenever, jonge genever	Belgium	Netherlands			Juniper-flavoured spirit drinks
Oude jenever, oude genever	Belgium	Netherlands			Juniper-flavoured spirit drinks
Ouzo/Ούζο	Cyprus	Greece			Distilled anis
Génépi des Alpes/Genepé degli Alpi	France	Italy			Liqueur
Geniévre aux fruits/Vruchtenjenever/ Jenever met vruchten/ Fruchtgenever	Belgium	Netherlands	France[2]	Germany[3]	Other spirit

[1] only for apricot pálinka in the following counties: Lower Austria, Burgenland, Styria, Wien
[2] only in county of Nord and Pasde Calais
[3] only in county of North Rhine-Westphalia and Lower Saxony

Source: own composition

4.5 The origin labelled pálinkas

According to the decree of 110/2008/EC introduced in the previous chapter alcoholic beverages are under a seperate regulation of origin protection in the EU. From this perspective pálinka and marc-pálinka are considered as exclusive Hungarian products, and five different types of pálinka are granted the protection of the geographic indication. As a precedent of the communal system three other products are under national protections which are expected to receive the protection of the Union as well in the future.

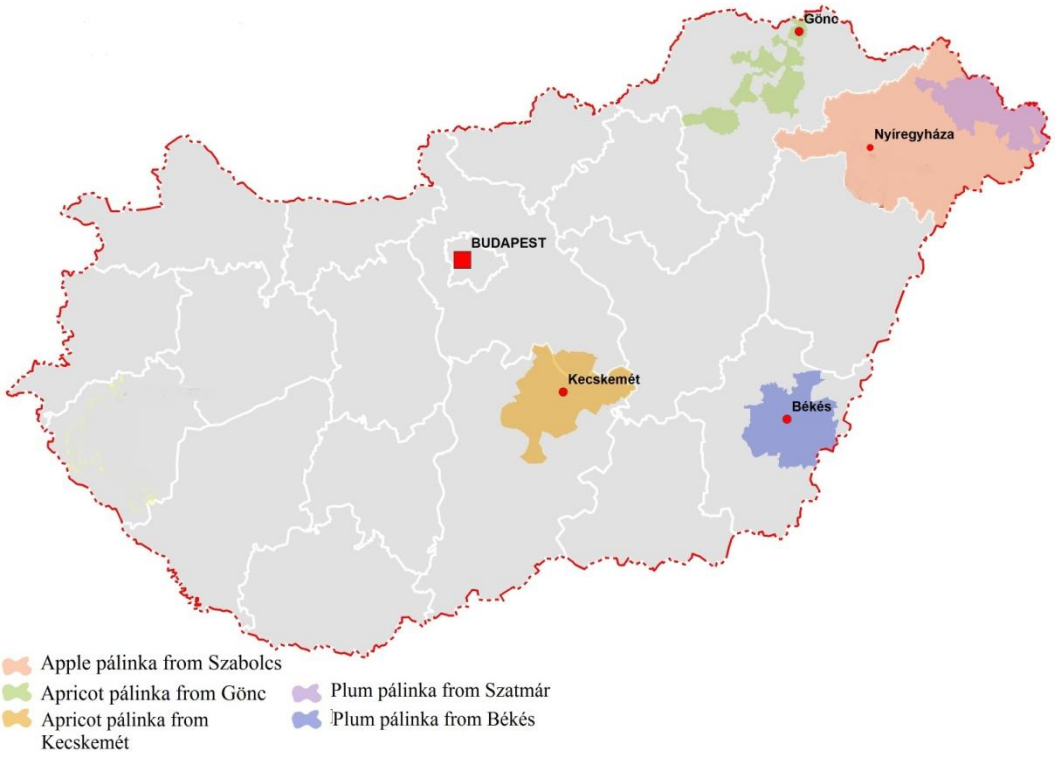
Table 13 Origin labelled pálinkas of Hungary

Appellation	The highest level of protection	Registration of national protection
Apricot pálinka from Kecskemét	EU's geographical indication	2000
Apple pálinka from Szabolcs	EU's geographical indication	2000
Plum pálinka from Szatmár	EU's geographical indication	2000
Plum pálinka from Békés	EU's geographical indication	2001
Apricot pálinka from Gönc	EU's geographical indication	2003
Sour cherry pálinka from Újfehértó	national protection	2007
Pear pálinka from Göcsej	national protection	2008
Marc pálinka from Pannonhalma	national protection	2010

Source: own composition

Figure 19 shows the locations of the pálinkas represented in Table 14 where pálinkas that received the geographic indication of the EU can be produced according to their product-description. In the followings these five products are going to be introduced.

Figure 19 Location of the origin labelled pálinkas' producing area



Source: own composition

4.5.1 Apricot pálinka from Kecskemét

In the area of the Kiskunsági Homokhátság the spread of fruit production started to boost after the vine-pest which damaged grapes; trees were primarily to stop the shifting sand. Meanwhile fruit-production in itself also became an important industry within the area where the favourable environmental circumstances were provided for the growth of apricot. Due to the high number of sunny hours the high termperature required by apricots is ensured throughout the growing season. The bristol stones which make up the structure of the soil in the region reflect the sunshine, therefore, there is continuous warm environment in the period of ripening for the fruit-trees which adds a unique flavour to the grown fruit.

Between the two World Wars the number of apricot trees already reached 356.000 which already satisfy the needs of the economic amount necessary for the process of fruit. In Kecskemét, although the first official alcohol distillery was only opened in 1796, based on documents pálinka distillation was already present in the region in

the 17th century. The real reputation of apricot pálinka was earned in 1935 by the visit of Edward VIII., heir to the English throne when according to the report of the Kecskeméti Közlöny (local journal) the heir said: „with soda it is better than whisky; in tea it is better than rum".

Only products made in the 24 distilleries within the surroundings of Kecskemét can be defined as the origin labelled apricot pálinka of Kecskemét. Altogether five types[18] of apricots can be used as ingredients which need to come from the areas of the above mentioned administrative divisions.

4.5.2 Apple pálinka from Szabolcs

A vast part of the Hungarian fruit production is provided by apple which has mainly spread in the north-eastern part of Hungary, since the sand soil in this territory is ideal for growing apples. The apple from Szabolcs has a huge reputation today which originates from the great apple plantations of the county of Szabolcs-Szatmár-Bereg. Beside the apple grown for consumption, a significant manufacture system relies on industrial apple production; there are several juice and concentrate factories operate in the area currently as well. The fruit grown in the region and also its by-products (the process of the latter is also permitted in the product description) provide excellent ingredients for the production of pálinka which has been practised for more than a hundred years.

The term „apple pálinka from Szabolcs" can only refer to pálinka made of the apple grown in the area of the county of Szabolcs-Szatmár Bereg. There is no particular restriction on the different types, however, mainly the old apple types (Jonatán), as well as the more modern ones (e.g. Red Delicious, Idared) typical in the region are distillated.

4.5.3 Plum pálinka from Szatmár

The main ingredient of the plum pálinka of Szatmár is the blue plum which is native in the Carpathian basin, and its dried fruit according to some written descriptions

[18] Magyar kajszi, Gönci magyar kajszi, Pannónia, Ceglédi bíborkajszi and Bergeron

from the 16-17th century was considered as a significant export product (Balázs [2008]). The production and mash of the fruit was regarded as a typical activity within households, as it was a usual practice of the farming families in Szatmár, while its distillation was done in distillateries from the very beginning in order to ensure supervision. The significance of the plum pálinka from Szatmár is indicated by the fact that it was granted national protection as one of the first pálinkas, and in 2004 this protection was expanded on a European scale as well. According to the legal regulations on product description the plum pálinka from Szatmár which is at least 40 degrees can only be produced of the plum grown in 64 determined territories of the county Szabolcs-Szatmár-Bereg, as long as the mashing, distillation and bottling are also done here. As for the ingredient, it may exclusively be made of blue plums, and the plums from Beszterce and Penyige should make up at least 80% in the process of mashing.

More initiatives are centered on plum as a leading product in t he region. The Equestrian Order of Pálinka[19] from Szatmár-Bereg was established in 2005, and its main aim was to promote the pálinkas made of the plums grown in Szatmár and apples grown in Szabolcs. The Equestrian Order organizes the so-called Plum Day every year; one of the most oustanding events of which is the pálinka competition. The League of the Plum Route[20] tries to reach consumers with more complex services offering more day-long programmes from those who are interested, one of the most significant part of which is the visit to famous distillations in the region.

4.5.4 Plum pálinka from Békés

In the county of Békés, in the valley of the Körös rivers favourable circumstances to grow plum have evolved in terms of the climate and the soil. The most widespread in the region is the red plum, which is not suitable for consumption since its tiny fruits are not possible to separate from its seeds. For this particular reason, the fruit quickly became popular as a pálinka ingredient, and already from the 19th century has been used in mainly small distilleries. In the county of Békés even today there are several

[19] http://www.szatmaripalinka.hu/ [17.04.2012.]
[20] http://www.szilvaut.hu/ [17.04.2012.]

bigger distillateries operating. In the region there are pálinka-festivals held in more cities as well (mainly in Gyula and Békés) which also attract foreigners.

The plum pálinka from Békés which is origin labelled can be produced of the plum grown in the city of Békés and 16 other villages surrounding it. When considering the different types, there is a restriction that at least a half of the mash has to consist of red plum, the rest could be done by other types as well (e.g. Besztercei, Agen, Stanley).

4.5.5 Apricot pálinka from Gönc

The apricot pálinka from Gönc is the only pálinka with a geographic indication which has an ingredient that is by itself also under the protection of the geographic indication. However, in the case of the pálinka the restriction on the type of fruit used is not strict, and allows the use of other types (e.g. Pannónia, Hungarian apricot from Gönc, etc.) beside the Hungarian apricot in the production, on condition that these other types were grown in 45 particular villages of the county of Borsod-Abaúj-Zemplén.

The spread and recognition of the apricot from Gönc can also be connected to the vine-pest. The apricot from Gönc and the pálinka made of it has been a widely-known trademark since the 1950-1960s.

4.5.6 The comparison of origin labelled pálinkas

The five pálinkas mentioned above which are under the protection of the EU – similarly to those 3 pálinkas which are only protected on a national level yet – share some common features. As the technology of pálinka distillation is a standardized process and the related regulations (e.g. Pálinka Act, Book of Food, etc.) do not permit any significant differences; the typical and characteristic features of the ingredient make the products unique. The unique climate and soil of the region contribute to the excellent quality of the fruit, the growth of which has been a major concern for local farmers for a long time.

However, several differences may be observed among the regulations of the geographically indicated pálinkas, as well as among the different product descriptions (see Table 15). Concerning the territorial borders, the plum pálinka from Békés and the apricot pálinka from Kecskemét are regarded as the stirctest ones since these can only be produced of fruit grown in 17, and 24 administrative divisons. The most lenient from this perspective is the apple pálinka from Szabolcs since it product description indicates the territory of the whole county. According to the used types of fruit, in some cases the minimal share is also defined. The product description of the apple pálinka from Szabolcs is again the most permissive since it allows the use of any type grown in the region. This fact clearly shows that there are significant differences in the restrictions of certain origin labelled pálinkas, while at the same time the regulations in each case ensure both the unique and special features of the given product.

Table 14 Special characteristics of the origin labelled pálinkas

Appellation	Territorial restriction	Species restriction
Apricot pálinka from Kecskemét	24 muncipalities arround Kecskemét	5 types of apricot
Apple pálinka from Szabolcs	Szabolcs-Szatmár-Bereg county	No restriction, mainly local species
Plum pálinka from Szatmár	64 muncipalities of Szabolcs-Szatmár-Bereg county	Penyigei plum and Besztercei plum, other species max. 20%, no red plum
Plum pálinka from Békés	17 muncipalities arround Békés	Red plum (min. 50%), Besztercei plum, Ageni plum, Stanley
Apricot pálinka from Gönc	45 muncipalities of Borsod-Abaúj-Zemplén county	Mainly Hungarian apricot but also other species

Source: own composition based on the codes of practices

5 The role of geographical indication – statistical evidences based on pálinka

In the previous chapters several topics were covered: regulation of the geographical indications system, effects of economic and social issues, products that can be considered as real hungaricums, and pálinka – the key subject of the thesis. The objective of this chapter is to summarize the related literature and to clarify the definitions, in order to test the hypothesis of the dissertation in the case of pálinka, that legislative protection provides direct competitive edge to origin labelled products. In the following, calculations will be made both on national and international level.

5.1 Definition and measurement of competitiveness

5.1.1 Definition of competitiveness

Although there is no exact and general definition and methodology, the term competitiveness became very popular in the 21st century, besides several disciplines it is used also in the common language. It is similar to the various concepts that competitiveness is related to a thriving economy therefore it is developing and there are positive signs in external trade (Török [1999]). According to Lengyel (2000) competitiveness can be measured on the level of companies, sectors, regions, nations and even above nations, the most important criteria is that the units could achieve a high level of income/added value in international environment. Freebairn's (1987) approach is cost-related and consumer-oriented and shows that competitiveness is to be profitable while the consumers' need is satisfied with a cost-efficient approach.

The factors influencing competitiveness could be sorted into three groups (Módos [2004]):

- comparative advantages (natural capabilities, technical and productivity differences)

- competitive capabilities (organizational and management capabilities, cost-profit-income levels)
- role of the state (macro environment, infrastructure, regulation)

Therefore, we can talk about competitiveness on several levels (firm – sector – economy) and in several factors (comparative advantage – competitive capabilities – role of the state).

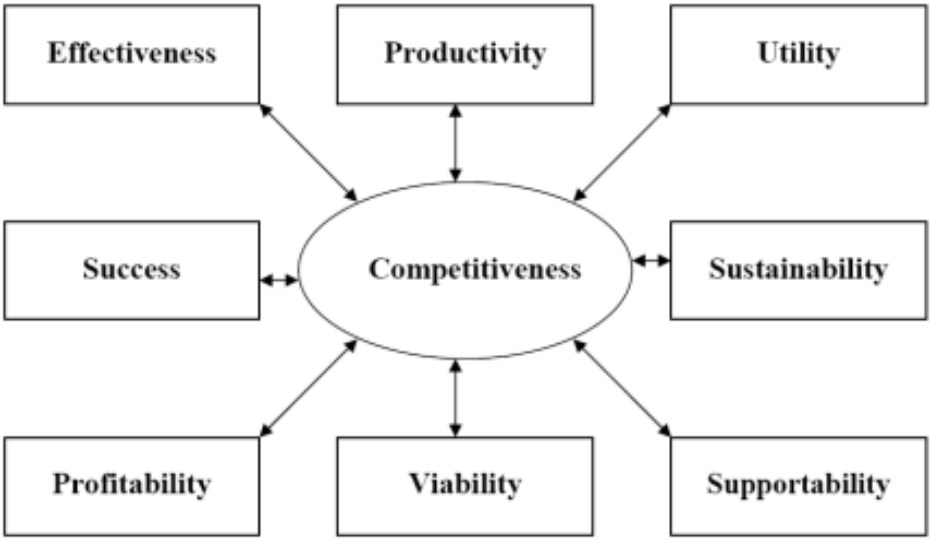
Porter (1990) in his company-related approach says that competitiveness should be measured on firm-level, as the companies are competing in the international market and a sector could be competitive only if its companies are competitive. Moreover, competitiveness and profitability are synonyms therefore a higher price due to higher quality or lower cost due to efficiency is required. Potori et al (2004) define competitiveness with the terms of tenability and viability. Mizik (2004) calculated both competitiveness and profitability and pointed out that based on financial ratios it is also possible to measure the competitiveness of companies.

Czakó and Chikán (2007) proposed to use the national economy level for competitiveness and said that there is competitiveness when the products and services of the national economy could be sold on the international market, while the increments of the producers' goods increase and this provides the welfare for the people in the country. Fertő (2003) also said that competitiveness could be measured among products but between countries, while among countries comparative advantages could be measures also in products.

Parallel with globalization, the geographical concentration also became an important factor (Krugman [1994]). Due to this geographical concentration the related companies (forming clusters) are more competitive than those that are located alone and sporadically (Porter [1998]).

Based on the above approaches we can say that there is no universal concept as to how to define competitiveness, it is individually used in every research. Moreover Jámbor (2008) also pointed out that many other concepts connect to these definitions and with only these together can competitiveness be understood (see Figure 20). Many of these related concepts are also another approach (e.g. efficiency, success) while others became important in the 21th century (e.g. sustainability).

Figure 20 Concepts related to competitiveness



Source: Jámbor (2008), p. 27.

5.1.2 The methodology of measuring competitiveness

As there are numerous approaches for competitiveness there are also various methods how to measure it. Based on the international literature we can talk about ex-ante/ex-post (Frohberg-Hartmann [1997], Pitts et al. [2001]), and qualitative/quantitative (Scheule [1999]) approaches.

For measuring competitiveness in agriculture and food production usually the ex-post quantitative approaches are used, the most often used methods are price-comparison, profitability calculation, price and cost structure analysis, unit cost calculation, growth measurement, market share analysis, trade analysis, level of self-sufficiency and resource indicators (Csillag [2005]). From the above methods the thesis will use the profitability calculation and the trade analysis.

Profitability calculation

Based on the cyclopaedia of economics (Brüll, [1987 p. 249]) profitability is "the result of the producing activity when income exceeds the expenditure". Besides the profit generating possibility profitability is also influenced by other factors like

management, product scale and business environment (Singh – Whittington [1968]), size and level of specialization (Porter [1993]), or the scale of capital/labour and output/production capacity (Champsaur [1990]).

On company level profitability should be calculated from several numbers of accountancy. The numerous ratios can be classified into several groups and in this thesis the profitability ratios of Bordáné (1989) and the asset and capital profitability ratios of Warren (1986) will be used.

Besides the general indicators (revenue, gross profit, profit before and after tax) profitability could be measured by the following ratios:

- ROS (return on sales): the quotient of profit after tax and revenue. One of the most popular ratios, it also well describes the efficiency of the company (cost/price relation).
- ROA (return on assets): the quotient of profit after tax and total assets. ROA is used for producing companies with high need of assets therefore it is useful in the agriculture.
- ROE (return on equities): the quotient of profit after tax and shareholders' equity. ROE is important for the owners regarding their return on invested capital but also useful for external stakeholders.

These ratios can be found in the previous research concerning the profitability of the Hungarian agriculture (e.g. Erdei [1962], Németi [1992], Alvincz [1997] and [2001], Tóth [2000], Borszéki [2003] etc.) therefore these are also a good basis for this thesis.

International trade models

The analysis of the share in international trade relates back to Adam Smith's absolute advantage conception, namely that countries export a product where they have absolute advantage and therefore the production cost is the smallest. Ricardo (1821) introduced the concept of relative advantage that is built upon the effective use of inputs and specialization. The endowment of resources (Heckscher [1919], Ohlin [1933]) shows a concept of the 21st century and its deficiency is pointed out by

Leontief (1954) with the Leontief paradox. Following these approaches many others tried to develop the concept of comparative advantages and international trade (e.g. Hirsch [1977], Posner [1978] etc.)

First Balassa (1965) used ratios of share in international trade in order to measure the comparative advantages, the Balassa index deals with export shares of selected product groups. In order to manage the deficiencies of this index Vollrath (1991) suggested several modified indices (RTA, ln RXA, RC)[21] and the RSCA[22] index (developed by Dalum at al [1998]) also solves the skewedness of the Balassa index.

According to Fertő (2003) the concept based on the above indices – with respect to their criticism – has a central role in the theory of international trade. Although recent theories of the international trade are based on economies of scale, the concept of comparative advantages still provides a valid background (Davis [1997]).

5.2 The economics of geographical indications – a European overview

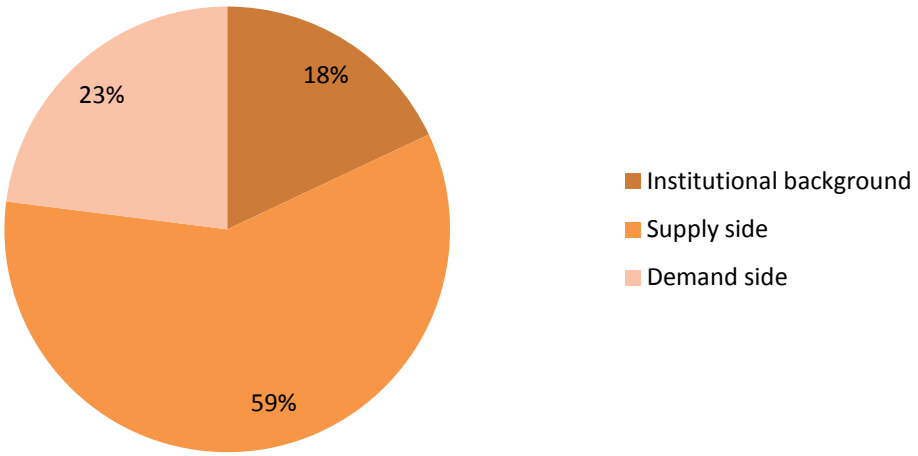
Before the empirical part of the thesis it is important to give a general overview of the literature regarding the economics of geographical indications. In this part of the thesis the methodologies and the research directions of the related research programmes and scientific forums (see Appendix 1 and 2) are summarized.

The scope of the related research could be classified into three main topics: institutional framework, analysis of the supply side and the analysis of the consumer attitude towards the concept of geographical institution. Based on the papers of three related EAAE seminars[23] we can say that international researchers focus on the supply side, while the institutional framework and the demand side are in the background (see Figure 21).

In the followings the literature will be summarized according to these focuses.

[21] RTA: Relative Trade Advantage, lnRXA: logarithm of Relative Export Advantage, RC: Revealed Competitiveness
[22] RSCA: Revealed Symmetric Comparative Advantage
[23] 52nd seminar in Parma, 83rd seminar in Chania and 105th seminar in Bologna. The proceedings of the seminar of Le Mans are not available.

Figure 21 Research focus of the 52nd, 83rd and 105th EAAE seminars



Source: author's own composition

5.2.1 Institutional framework

Since the systems of geographical indications are based on legislative regulations or national and EU directives, the analysis of institutional framework is crucial.

Berizzi (1997) underlined the possibilities provided by the EU's system introduced in 1992 and said that it is a new concept of quality assurance. Loseby (1997) also compared the regulation with the ISO systems and found that geographical indications should not be the certification used for mass production because it has to guarantee a higher level of added value.

Perretti (1997) used French, Italian and German cases in order to analyse the impacts of CAP on the origin labelled wines. The author criticized the quota system and found that in the frame of the geographical indication there is a place both for production of higher quality wines in smaller quantity (like in France) and for production of lower quality wines in higher quantity (like in Italy).

Schefer and Sylvander (1997) made an institutional analysis of the French origin labelling authority INAO. INAO is responsible not only for the certification of the French national quality labels but also manages and controls the EU's system in France. The research pointed out that the biggest challenge for such an institute is to

find the barrier between high-quality unique products and mass-market products. Following similar concepts but on an extended horizon (Spain, France and Italy) analysed Barjolle and Lehmann (1997) the several systems. After the study of the institutions they set up a marketing strategy to follow: they found that the perceived quality of local products connects rather to the producing process than to the product itself.

Based on the results of the above research we can say that the success of geographical indications highly depends on the system-oriented approach and on the regulatory framework.

5.2.2 The supply side

The analysis of the supply side could be much diversified; methodologies could be taken from the case study based lifecycle analysis towards international trade models.

Describing a product life cycle with a supply chain analysis was used by several authors, while the subject of these studies were quite different: Belgian endive salad (Taragola [1997]), spelt from Garfagnana (Rossi and Rovai [1997]), Toscan olive oil (Belletti and Marescotti [1997]), label rouge poultry (Raynaud and Valceschini [1997]), and several Greek cheeses (Vakrou et al [1997]). Canavari et al (2003) analysed the competitiveness of the balsamic vinegar with a more sophisticated methodology. The cluster analysis based on a Likert-scale survey showed that the more the producer focuses on the core product the smaller the possibility is for producing a higher value added product and selling it together with a service. According to the authors this contradiction is the biggest obstacle hampering growth in this sector. Maccarini and Zanoli (2003) compared the efficiency and economic performance of the Apulian PDO olive oils with olive oils from other parts of Italy. The research was constructed with the economic data of 72 companies and showed that the competitiveness of the Apulian producers does not exceed the performance of the others; in some indicators it is even worse.

Sanjuán and Albisu (2003) tested the origin labels of wines through Aragonian cases. They found that wines with higher prices only have a narrow market therefore the

producers are forced to sell a significant part of their production as mass product with a lower price. On the other hand, with this dual approach there is a possibility to benefit from the advantages of the geographical indications.

Esposito (1997) focused on the region of Parma and rejected the suspicion of cartel regarding the production quotas of the inter-branches. They found that to maintain a high level of quality it is necessary to limit the supply on optimal level. The region of Emilia-Romagna was the subject of many other research, and several product lines were analysed by Arfini and Mora (1997) focusing on Parma and by Castello et al (1997) focusing on a part of Parma region (Parco del Taro). Contó and Trasatti (1997) worked with the case of South-Italian territories; therefore we can say that the geographical focus of the researchers was mostly Italy.

Marty (1999) focused on the topic of innovation among origin labelled products and analyzed the difference between the regulation of PDO and PGI products. He found that the less strict specification of PGI products was prescribed, the higher is the innovative opportunity among these products.

Albert and Munoz (1997) tested the main fields of innovation (process, product and organizational innovation) and also found that because of the restrictions of the regulations there is opportunity for organizational innovation but the traditional producers are not really open for this.

Segale et al (1997) conducted a research Italy-wide. Beside the number of the registered PDO and PGI products of the regions they also took into consideration several socio-economic indicators (e.g. population density, money spent on food, agricultural added value etc.) and found that the economic importance of the origin labelled products is higher in the northern, industrialized region of Italy.

Fischer (2007) compared the international trade of five European countries with a specific focus on the relation between quality (described by unit values) and comparative advantage. On the whole, they found that among the examined product groups (meat products, cheese and wines) the presumed positive connection is not very clear.

Malorgio et al (2007) found that in the European wine market a high level of product differentiation is needed and the legal protection of the origin labelled products helps

to cover these extra costs. Seccia et al (2007) examined the Italian wine export with a gravity model and found that even in the case of high-quality Italian origin labelled wines it is worthy to differentiate among the target countries, in order to meet the growing demand for wines.

The analysis of the supply side shows that there is no clear connection between geographical indications and profitability; even among the most successful food products there are no statistically significant results.

5.2.3 The demand side

The relationship between consumers and origin labelled products is crucial because the consumers have to pay the higher price due to the quality differentiation, confirming the justification of the system. Therefore these researchers focus on the reputation of origin labelled products and the consumers' willingness to pay.

Lassaut and Sylvander (1997) argued that because of the more conscious consumers a "cognitive marketing" should be followed for origin labelled products.

Angulo et al (2003) analysed the consumers' willingness to pay focusing on certified (with quality or origin label) beef products right after the BSE crisis. The regression calculations showed that 75% of Spanish consumers do not want to pay a premium price for such certified products. The surprising results after the crisis was not expected and the authors argued that the main reason for this was that the overall reliance of consumers on beef products had decreased and even certifications could not help in this. Garcia and Zeballos (2003) also focused on the importance of origin of beef products. The survey was conducted in Aragonia, Spain among consumers and traders, and asked about the importance of traceability and origin. They found that consumers think that the origin labels include a kind of traceability, while according to traders, traceability is more important for profitability.

Giraud (2003) examined the perceptions of consumers toward origin labelled and organic food. The expert found that there is a strategic opportunity in the increasing level of urbanization, people living in big cities are looking for their identity and they prefer origin labelled products that have a traditional and cultural surplus.

Lunardo and Guerinet (2007) checked the effect of labels on young wine consumers. They found that in France the per capita wine consumption has dropped among young consumers in recent decades. On the other hand, the results showed that young consumers prefer wines with labels that suggest the product is authentic.

According to the above studies the role of origin has an increasing importance on consumer decision making, but the perceived level of quality is also very important.

5.2.4 The verification of the methodology of the thesis

Although the above selection of related studies is not representative, there are some research trends visible based on the experience of the last decades:

- Earlier studies concerned the institutional and legislative background while the recent papers are more market-oriented. This tendency is mainly due to the fact that the EU-level regulation was set up at the early 90s and the first impacts of the system were measured by the role of the framework.
- Studies analysing the supply side (but this is valid for the other two groups of research) used mainly case study based qualitative approaches. The majority of the papers did not use any "hard" methodology.
- Regarding the geographical focus, most of the case studies focused on Italian products and Parma was the most preferred region.
- Last but not least, it is an interesting phenomenon that wines are often the subjects of these studies while spirits quite neglected.

Therefore based on the previous studies and focusing on my hypotheses the empirical part of the thesis would like to follow the concept of two selected studies.

The Italian *Maccarini* and *Zanoli* (2003) attempted to analyse on a company level the impact of geographical indications on economic performance. The study focused on olive oil, of which there is 30 different origin labelled types in Italy. One of the most important olive oil producing regions is Apulia with a 36% share of the total Italian production in 2001.

The main concept of the research was to compare the producers of this region with other regions' producers (mainly without geographical indications) from an

economic point of view. The study had three objectives. First, the aim is to give a general overview of the Italian olive sector, in terms of the geographical location and the share of registered PDO/PGI products. Secondly, the financial ratios of the Apulian producers (the most important PDO olive oil producers in Italy) are compared with other Italian producers' numbers, in order to analyse the impact of geographical indications on companies' competitiveness. Finally, the efficiency of these producers is tested.

For the analysis data (balance sheet and income statement) of 72 selected companies[24] with more than one million euro income were used. Two groups were formed (Apulian – non Apulian) in the selected time period (1988-2001) and their medians were used to avoid the negative impacts of the outliers. The ratios calculated from the financial statements were: liquidity and depth ratios, profitability ratios (ROI, ROE, ROS), and the per capita ratios of these previous indicators.

Based on the comparison of the financial ratios, no significant difference was found between the two groups in liquidity. On the other hand, all three profitability ratios were lower among the Apulian producers in almost all of the selected years. The biggest difference was in ROI and ROE, where the Apulian numbers were half or third of the others. In the per capita ratios the Apulians were still much worse except the labour costs where no difference was found. According to the authors, the reason for the results is that the Apulian olive producers were mostly family run businesses with the only activity being oil production. Therefore, these producers were more defenceless against external trends influencing the olive oil sector, and because of their inflexibility the changes usually had a negative impact on their profitability. On the contrary, producers of other Italian regions were much bigger and had a wider product portfolio and therefore they were more flexible in reacting to the changes of the international market so their level of profitability was much higher.

To analyze efficiency, the authors involved several indicators: number of employees, the year of production, and the place of production (where Apulia was a dummy variable), while the level of output was defined by the fixed assets, the cost of labour and the cost of materials. In terms of efficiency, there was no difference between the regions as the related dummy variable was not significant. Regarding the

[24] In the sample 18 (25%) companies were Apulian the others were from other parts of Italy.

time period, a general increase of efficiency was visible in 1999, while a general decrease was present in 2001, compared to previous years. Moreover, the study confirmed the theory of the economy of scale in the Italian olive oil sector; the bigger companies could operate more efficiently than their smaller competitors.

Christian Fischer (2007) analysed the relationship between product quality and their role in export. The study focused on three product groups (cheese, meat products and wine) of five countries (Germany, United Kingdom, France, Spain and Italy) with relevant food industry. The scope of the research was the trade of these countries with EU and non-EU partners. The three main objectives were the synthesis of the literature regarding the international trade of quality products, the analysis of the role of quality in export, and the summary of these factors affecting the agriculture.

First, the author summarized the problems of defining quality and the difficulty of its measurement and accepted the "higher quality – higher price" concept. Therefore, to measure quality the price level was the best indicator, adopting the idea that among similar products quality is linked with price.

The unit values (EUR/kg) of the selected products are the quotient of the price and the quantity of the exported goods. It is a difficulty that the change of the average unit value is sometimes due to hidden factors such as change in the structure of the export. Moreover, it is also a limitation that static unit values cannot cope with the lag between the transaction and the physical delivery of the products. On the other hand, Fischer agreed with other researchers (e.g. Aiginger [1997], Gehlhar and Pick [2002]), that the models based on unit values were acceptable even with their limitations.

The study used the Balassa indices and the data are from EUROSTAT CN8 database with eight digit breakdown. The time horizon consisted of two periods: 1995-1999 and 2000-2007. The selected product groups have the highest added value in the EU's food industry: 66 cheese, 54 meat preparation and 70 wine[25] product groups were included in the research. The outliers[26] and the re-exported products (especially products that appeared in a country's export as re-export obviously

[25] As in the United Kingdom the export of wine is not relevant, this product group was excluded from the calcuations.
[26] E.g. duck and goose liver products that were exported in very small quantities on a very high price.

because of the geographical indications[27]) were excluded. The Balassa indices were tested by regression calculations with dummy variables involved.

The results of the study showed that the role of quality in export highly depends on the given product groups of the given country, is independent of the selected time period, and is only slightly influenced by the target of the export. The results of the different countries were surprising. In case of Italy, among cheeses and meat products the expectations were proven so the Balassa indices were higher for the products with higher quality (higher unit value), but for wines this was not true. The opposite was true for France, high quality wines' export performance was better, but it was not true for cheese and meat. Comparative advantages were calculated for the Spanish high-quality wines and meat products but for cheeses (especially exported to another European country) the indices were not clear. In the UK, there was no significant difference between the products with various quality levels, while in Germany a negative connection was observable in the case of all three selected product groups. This latter phenomenon could be explained by the fact that in the German export products with high unit values were not significant.

Based on the results of the research, we can argue that in the given countries the export of high quality products comes with revealed comparative advantages. On the other hand, this statement is not valid everywhere but in the case of the South European countries (with origin labelled high quality products) it is proven.

[27] E.g. Navarran red wines in the German and gorgonzola cheese in the Italian export.

5.3 The role of geographical indications on national level

To analyze the situation of origin labelled pálinka on national level it is worthy to make a research on the effect of geographical indications on distilleries' economic performance. Based on the previous chapter the scope of the research should be limited to the distilleries with production for commercial purposes because these distilleries operate as legal entities and their products are those high quality products that legally reach the consumers.

5.3.1 Previous research and assumptions

Measuring profitability and related factors was the topic of several studies. These studies mainly focused on three themes: the impact of EU accession, subvention and size/types of firms on profitability.

Mizik (2004) in his doctoral thesis proved the connection between profitability and competitiveness and showed that according to the Hungarian farm database larger companies had higher profitability, although there were also counter-examples. Regarding size Latruff et al (2011) and Bakucs et al (2012) both found that in Hungary larger companies with legal entity are better than the smaller ones in terms of both technical efficiency and profitability. On the other hand, Porter (1993) argued that the biggest largest firms are not automatically the most profitable ones because several other factors (e.g. lot size and specialisation) also have great influence.

Latruffe et al (2010) and Bojnec and Latruffe (2009) analysed the situation of several new member states (Hungary, Czech Republic, Slovenia, and Romania) before and after the EU accession and found that the subventions had a negative impact on the performance of several sectors.

The economic role of geographical indications was also analysed in several studies. Malorgio et al. (2007) focused on the influence of the European wines with protected denomination of origin on the world market and revealed that there was a growing consumer attention and interest towards these products, although these wines are usually sold at a higher price. Trevisan (2008) carried out research on the grappa industry in Trentino, Italy and concluded that local producers considered

geographical indication as one of the most important characteristics of the region. Trecho-Pech et al. (2010) examined the case of the mezcal, a Mexican spirit distilled from agave and suggested that success of this ancient local product was due to its protected denomination in 1995, according to which the producers could use the legal protection as a tool of product differentiation.

In this part of the thesis I would like to test the hypothesis as to whether the geographical indications have an impact on the profitability of the Hungarian distilleries. In the PGI pálinka's code of practice the geographical areas are clearly defined therefore it is easy to distinguish PGI distilleries from non-PGI distilleries. In my research first I will calculate the main basic economic indicators (revenue, total assets, profit before tax etc.) followed by testing the most important ratios (ROS, ROA, ROE etc.).

5.3.2 Methodology

After the descriptive statistical analysis the dataset will be tested with multivariable analysis. Cluster analysis is a widely used method for multivariable analysis. The available dataset (described later) requires a hierarchic cluster analysis (Hair et al [1998]); in this thesis the Ward cluster analysis will be used that separates the units to clusters according to the smallest variance-growth. Finally, correlations were calculated in order to test the dummy variables of the geographical indications as to whether these have any impact on profitability.

The time period is the four business years between 2008 and 2011. This horizon is selected because the Pálinka Act and the EC geographical indication regulation for spirits both came into force in 2008. On the other hand, in the first decade of the 21st century many new pálinka distilleries started their activity therefore their economic performance can be measured only from the second half of the decade. Last but not least the market of the pálinka has started to become saturated therefore between 2008 and 2011 the pálinka market could already be considered as a matured market.

For several statistical calculations the software STATA 12.0 was used.

5.3.3 Data

For the calculations, the financial data of 65 distilleries (see Appendix 4) were used; out of the 65 distilleries 20 were allowed to produce one of the five Hungarian PGI pálinka, while the other 45 were excluded because of their geographical positions. The size of the sample almost covers all distilleries although it is important to note that many of the distilleries started their professional activity during the selected time period. In order to distinguish the PGI – non PGI distilleries, the company copies of register were compared with the geographical locations therefore the selection was obvious. Data for calculations are from the financial statements (income statement, balance sheet, notes to the financial statement etc.) of the selected companies.

As the data are from the financial statements prepared by the companies themselves, these may not be fully representative entirely or factual, particularly in the case of the profit level. However, since there is no other available dataset that would be more reliable, the thesis utilises the data of these financial statements.

5.3.4 Results

As it was already mentioned the sample consists of 65 distilleries and could be divided into two groups (see Table 16): 20 distilleries (31%) that are allowed to produce origin labelled pálinka (PGI distillery) and 45 distilleries (69%) that are not allowed to produce origin labelled pálinka (non-PGI distillery)

Table 15 Basic characteristics of the distilleries

	Core activity is pálinka production (mean)	Year of foundation (median)	Share capital (median, 000 HUF)
PGI distilleries	80%	2004	5 750
Non-PGI distilleries	64%	2002	3 000

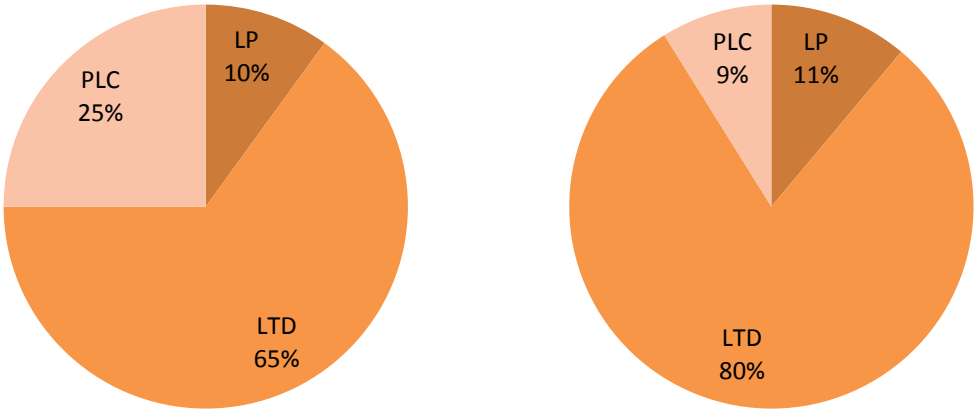
Source: own composition based on the financial statements of the distilleries

Based on the basic characteristics we can make several conclusions. Among PGI distilleries it is more often that the pálinka production is the core activity than among the non-PGI distilleries (80% and 64%). In practice, it means that PGI distilleries are focusing more on their pálinka production and it is not only a side-activity. Those

distilleries where the pálinka production is not the priority usually produce wine as core activity and distil their side-products and usually produce marc or grape pálinka.

On the other hand, the non-PGI distilleries are usually older but the difference is not too high. The level of share capital well describes the capital power of the distilleries; it is almost two times bigger among PGI producers. This latter phenomenon could be more sophisticatedly interpreted if we take a look at the types of the companies (see Figure 22). Although in both groups LTD is the most commonly chosen company type, among the PGI distilleries every fourth producer is a PLC (the share of LP is around 10% in both groups). Because of the Hungarian Company Law's regulation of the minimum level of share capital among PGI distilleries (with more PLCs) the average level is higher and it also indicates that the owners of these distilleries are planning to run larger businesses.

Figure 22 Company forms of the distilleries



Source: own composition based on the financial statements of the distilleries

After the general characteristics the most important economic indicators are calculated (see Table 17). There is a significant difference in the net revenue; in the case of PGI producers the average level is 50-150% higher than among the non-PGI producers. The difference in the growth of the revenues is even more eye-catching; however the share of export is higher among the non-PGI producers. While the PGI distilleries only realised 5-7% of their revenue from external markets, among the non-PGI producers this share is around 20%. This tendency suggests several

conclusions. First, origin labelled pálinka is bought by mainly Hungarian consumers, maybe because only they can make a distinction between the well known (and more expensive) PGI products and the non-PGI products. On the other hand, we can also say that in the pálinka export of Hungary the origin labelled products are in minority and usually the non-PGI (and cheaper) products are exported.

Table 16 Revenue and share of export of the distilleries

	Net revenue (median, 000 HUF)					Share of export (%)			
	2008	**2009**	**2010**	**2011**		**2008**	**2009**	**2010**	**2011**
PGI distilleries	41 654	68 152	67 601	110 251		5,34	5,19	6,09	6,44
Non-PGI distilleries	28 299	44 052	37 883	45 873		19,14	22,06	25,02	17,30

Source: own composition based on the financial statements of the distilleries

As pálinka production is an asset intensive activity, it is interesting to take a look at the value of the assets (see Table 18). Between 2008 and 2010 in both groups the level of fixed assets has increased a lot due to the direct subsidiaries[28] to the pálinka distilleries. After 2010 the growth stopped and among non-PGI distilleries even decrease was observable, as they did not make any additional investments in order to compensate amortization. The difference is even higher in the level of total assets, although during 2008-2010 a significant growth was observable due to the above reasons. Because of the lack of accumulation of profit (or negative results) the advantage of PGI distilleries remained high.

Table 17 Fixed assets and total assets of the distilleries

	Fixed assets (median, 000 HUF)					Total assets (median, 000 HUF)			
	2008	**2009**	**2010**	**2011**		**2008**	**2009**	**2010**	**2011**
PGI distilleries	51 080	70 772	80 054	82 977		109 198	168 332	179 144	179 978
Non-PGI distilleries	33 082	53 084	80 231	76 877		53 964	89 812	123 593	109 548

Source: own composition based on the financial statements of the distilleries

Except in 2010, the tendency of the profit before tax showed a dynamic growth and the profit level of the PGI producers was multiple compared to the non-PGI

[28] In this time period 43 pálinka distilleries got 3,2 billion HUF subsidiaries and from this amount 6,4 billion HUF of investment was carried out. (www.mvh.hu)

distilleries in every year (see Table 19). Regarding the number of employees we can say that a typical Hungarian distillery employs less than 10 people, although usually the level of employment was higher among the PGI distilleries.

Table 18 Profit before tax and number of employees of the distilleries

	Profit before tax (median, 000 HUF)					Number of employees (median)			
	2008	**2009**	**2010**	**2011**		**2008**	**2009**	**2010**	**2011**
PGI distilleries	1 369	6 190	3 854	7 369		8	8	6	9
Non-PGI distilleries	862	1 529	743	1 866		2	4	6	6

Source: own composition based on the financial statements of the distilleries

Based on the most important economic indicators we can say that there are significant differences between PGI and non-PGI distilleries, except the share of the export in every indicator PGI distilleries exceeded the non-PGI distilleries. In the following part, the profitability ratios will be calculated.

For profitability ratios the most commonly used indicators (ROE, ROA and ROS) were used in order to analyse the pálinka industry. Due to the wide variety of dividend and taxation policy in the Hungarian pálinka sector the formula was modified and the profit/loss before tax was used instead of profit/loss after tax and dividends in order to achieve more comparable results.

The profitability ratios still show the advantage of the PGI producers, during the selected time period all three ratios[29] were significantly higher for PGI distilleries (see Table 20). The most noticeable difference was in ROA where in certain years PGI producers had three to four times higher profitability level.

[29] The profitability level of the two groups was significantly different in almost all the cases. The results of the related t-tests are in Appendix 5.

Table 19 The profitability ratios of the distilleries

	ROE (median)					ROA (median)					ROS (median)			
	2008	**2009**	**2010**	**2011**		**2008**	**2009**	**2010**	**2011**		**2008**	**2009**	**2010**	**2011**
PGI distilleries	7,5%	18,6%	8,9%	20,4%		4,7%	4,0%	1,8%	4,8%		4,3%	7,1%	3,1%	5,7%
Non-PGI distilleries	3,5%	10,8%	7,4%	10,8%		0,8%	2,0%	0,8%	1,2%		2,3%	2,8%	1,4%	2,5%

Source: own composition based on the financial statements of the distilleries

The stability of the indicators was examined through the Markov chain analysis[30]. The results show that a distillery with positive profitability in one year has a high probability (80-81 percent) of remaining profitable in the following year as well, while for those with loss the chances of remaining in the negative is 48-60 percent. Regarding the change in categories to become profitable, there is a chance of 40-52 percent, while for the opposite change there is a probability of 19-20 percent, based on the results of the distilleries in the four selected years (see Table 21).

Table 20 The stability of the profitability ratios

	T					T					T		
T-1	**ROE**	negative	positive		T-1	**ROA**	negative	positive		T-1	**ROS**	negative	positive
	negative	47,76%	52,24%			negative	59,52%	40,48%			negative	59,52%	40,48%
	positive	18,75%	81,25%			positive	20,00%	80,00%			positive	20,00%	80,00%

Source: own composition based on the financial statements of the distilleries

As for the economic calculations, the 65 distilleries were divided into two groups based on their relationship to geographical indications. In the following the dataset will be analysed with a cluster analysis without any pre-conditions in order to show which distilleries are closest to each other in terms of economic performance. The cluster analysis was carried out for the 2010 data because the descriptive statistical data showed that the difference between PGI and non-PGI distilleries was the lowest in that year.

[30] The Markov chain analysis shows the stability of data in a time serie; in this case the probability of change in profitability level according to the three examined profitability ratios. For detailed calculations see Appendix 6.

According to the Duda-Hart and Calinski-Harabas tests four[31] clusters should be created with the Ward's linkage process[32]. Therefore basesd on economic performance four different groups of pálinka distilleries can be created (see Table 22).

Table 21 The outcome of the cluster analysis

	Number of distilleries	Revenue (mean, 000 HUF)	Profit before tax (mean, 000 HUF)	Total assets (mean, 000 HUF)	Employee (mean, person)
Cluster 1	15	65 874	- 22 862	222 151	8
Cluster 2	9	1 832 754	37 466	3 054 093	69
Cluster 3	24	148 144	- 5 429	240 630	7
Cluster 4	17	2 181 188	106 992	1 614 484	38

Source: own composition based on the financial statements of the distilleries

The first cluster ("small, loss-making") includes the smallest distilleries (approx. 65 million HUF revenue, 23 million HUF loss before tax and 8 employees). It is also an important characteristic of these producers that their share equity and total assets are the lowest, and usually these distilleries have been founded in recent years and try to keep afloat.

On the contrary, in the second cluster ("large PLCs") we can find the biggest distilleries with numerous employees and usually with a company form of PLC. Due to their high revenue, they have resources for their own investments.

In the third cluster ("striving") there are the small distilleries founded at the beginning of the previous decade due to the pálinka-boom in Hungary. They have growing numbers but are yet to reach their optimal profitability capabilities.

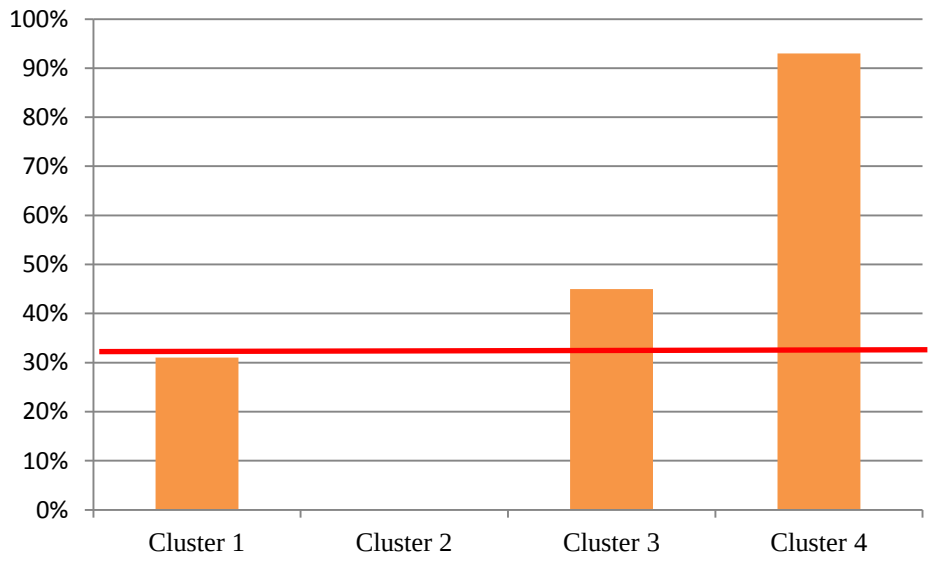
[31] Although there is no general rule to select the optimal number of clusters, the Duda-Hart and Calinski-Harabas tests help to choose it. In case of the Duda-Hart test high Je(2)/Je(1) values with low pseudo T, while in case of the Calinski-Harabas test the high pseudo F value indicates the optimal number of clusters to form. Based on the two tests 4 and 6 clusters are optimal to choose. Becaue of the size of the sample 4 clusters were formed. Fort he results of the tests see Table 7.

[32] To the Ward's linkage hierearchical cluster analysis the following variables were involved based on Maccarini and Zanoli (2003): net revenue, profit before tax, total assets, share capital, number of employees, pálinka destillation is the main activity (dummy variable), PGI distillery (dummy variable), company form is LTD (dummy variable), age, ROE, ROA, ROS

The fourth cluster ("dynamic and famous") represents the distilleries with the most dynamic growth with average size. Many of these distilleries are in the frontline of the world spirit production according to their results in several spirit competitions. Their revenues exceed even the income of the "big PLCs" and these also have many employees.

For the hypothesis it is worthy to take a look at the share of PGI producers in these clusters. In the full sample the share of PGI distilleries is 31 percent, among the "big PLCs" there is no PGI distillery, while almost every "dynamic and famous" distillery is with PGI. In the other two clusters the share is around or above the average. Altogether, we can say that among the successful distilleries (in terms of economic performance) the PGI distilleries are overrepresented but it is also clear that to be PGI alone does not guarantee success (see Figure 23).

Figure 23 The share of PGI disitilleries in the clusters



Source: own composition based on the financial statements of the distilleries

Finally the connection between the profitability ratios (ROE, ROA és ROS) and the PGI dummy variable was tested (see Table 23). The regression analysis on the panel data did not bring significant results[33] regarding the geographical indications. As for the relation between profitability ratios and the non economic characteristics (e.g.

[33] The results of the regression calculations are in the Appendix 8.

number of employees, age, main activity, PGI or non-PGI distillery) of the distilleries we can say that the PGI dummy is not significant. Regarding the other variables it is visble that the company form positively affects both ROE and ROA while export is negatively connected to ROE. These results can be explained by the fact that firms with a company form of LTD have the sufficient size that can be managed in an effective way and can be turned into a profitable enterprise; while, as it will be shown in the following part, the Hungarian distilleries usually export their low-priced products, therefore the role of export in profitability is not definitely favourable.

Because of the failure of the regression analysis, basic correlation calculations were also made in order to test the direction of the connections. Regarding the correlation coefficients, we can conclude that the connections are not particularly tight but that these are usually positive (except in the case of ROE in 2010 and 2011). This means that there was a positive correlation between profitability and geographical indications in most of the cases (see Table 23).

Table 22 Correlation coefficients between geographical indications and profitability ratios

	2008	2009	2010	2011
ROE	0,0856	0,1488	- 0,0320	- 0,0387
ROA	0,1826	0,1518	0,0864	0,0791
ROS	0,0969	0,1887	0,0991	0,1042

Source: own composition based on the financial statements of the distilleries

In general the first hypothesis of the dissertation – namely that the profitability level of the PGI distilleries is higher – can be accepted. Based on the data of the distilleries the economic performance of the PGI producers was higher in every case and the correlation coefficients also showed positive connection in most of the cases. However it is important to mention that the level of correlation is quite low therefore the profitability of the distilleries is also influenced by several other factors that the dissertation didn't focus on.

5.4 The role of geographical indications on international level

The effect of geographical indications on international level should be analyzed within the frame of international trade and with the indices of revealed comparative advantages. In practice it means that the whole Hungarian pálinka sector should be the subject of the calculations and compared with the regional competitiors in order to test whether there is any connection between geographical indications and competitiveness.

5.4.1 Previous research and assumptions

In the topic of sectoral level competitiveness analyses several research and doctoral dissertations were done during the previous years. In their thesis Csillag (2005) made a research on the Hungarian sugar industry while Fogarasi (2003) and Jámbor (2008) made competitiveness calculations in the Hungarian grain sector. There is a wide literature of the New Member States' sectoral competitiveness and several research came into similar conclusions (e.g. Banse et al. [1999], Eiteljörge-Hartmann [1999], Fertő [2004], Fertő – Hubbard [2003], Fertő [2008], Bojnec – Fertő [2008], Csáki – Jámbor [2010], Jámbor [2011] etc.). The three main statements ara the following. First, the level of competitiveness in the New Member States has decreased in the recent years. The main reason was the EU-accession; in the extended market the New Member states have lost their positions under the pressure of the increased level of competition. Second, there is a tendency observable that the competitiveness of the processed products and food was below of the raw materials. It is the main reason why the New Member States export raw materials and import processed products. Last but not least it is also important to mention that though there is a lot of a similarity among the New Member States, there are also many significant differences between them.

It is also important to mention that while there was no research on origin labelled products' (especially on spirits) competitiveness using international trade models. Related papers usually used qualitative approach and case study methodology. Therefore this thesis brings a new focus to this topic.

The thesis would like to test the effect of geographical indication on international level, staying within the paradigm of the previous research. My basic assumption is that Hungary has revealed comparative advantage of fruit spirits and it is in connection with the fact that the pálinka is a PGI spirit. As a benchmark three South-European origin labelled sipirts (brandy de jerez, calvados and grappa) are also tested with the same methodology for competitiveness, focusing on quality-competitiveness.

Similar to previous research the horizont of the calculation is extended. First, Hungary alone is not enough informative, therefore other New Member States also should be involved, with or without origin labelled products (see Appendix 8).

My previous paper (Török [2011]) underlined that among the New Member States there is significant fruit spirit production only in Central Europe, in the Baltic States (Estonia, Latvia and Lithuania) there is no enough raw material to distill fruit spirits while in the Southern islands (Malta and Cyprus) alcoholic products are rather wines than spirits.

Many researchers showed in their previous papers that the agricultural and food export of the New Member States goes to the older member states therefore an EU12-EU15 relation should be focused on in case of testing the international trade. The same is valid for fruit spirit trade, for New Member States the most important export countries are Germany, Austria and Italy while the import comes mainly from Germany and Italy (see Table 24).

Table 23 The concentration of the international fruit spirit trade between the selected Central-European countires and EU15 (%)

Export				Import			
2003		2011		2003		2011	
Country	Share	Country	Share	Country	Share	Country	Share
Germany	60	Austria	53	Germany	50	Germany	60
Austria	19	Italy	29	Spain	28	Italy	24
Italy	17	Germany	11	Italy	18	France	6

Source: Own calculations based on EUROSTAT

Therefore the calculations for comparative advantages were made for the trade between Central European countries and the old member states.

5.4.2 Methodology

The various methods elaborated around the theory of revealed comparative advantages provide the basis for this analysis. The original index of revealed comparative advantages was first published by Balassa in 1965 who defined the following (Balassa, 1965):

$$B_{ij} = \left(\frac{X_{ij}}{X_{it}} \right) \Big/ \left(\frac{X_{nj}}{X_{nt}} \right), \quad (1)$$

where *x* means export, *i* indicates a given country, *j* is for a given product, *t* stands for a group of products and *n* for a group of countries. It follows that revealed comparative advantage or disadvantage index of exports to reference countries can be calculated by comparing a given country's export share in its total export - in correlation with the focus country's export share in their total export. If B>1, a given country has a comparative advantage compared to focus countries - or, in contrast, a revealed comparative disadvantage.

The Balassa-index is especially criticized because it is seen as neglecting the different effects of agricultural policies and asymmetric values. Trade structure is distorted by different state interventions and trade limitations, while the asymmetric value of the B-index reveals that it extends from one to infinity if a country enjoys comparative advantage from a product, but in the case of comparative disadvantage, it varies between zero and one, which overestimates a sector's relative weight. This latter problem was partly solved by Hinloopen-van Marrewijk [2001] with their classification of the B-index:

- Category A: $0<B\leq1$
- Category B: $1<B\leq2$
- Category C: $2<B\leq4$
- Category D: $4<B$

Product groups pertaining to Category A show a lack of comparative advantage, while those in Category B show a weak comparative advantage, to Category C average and to Category D a strong comparative advantage.

Vollrath suggested three different specifications of revealed comparative advantages in order to eliminate the above disadvantages (Vollrath, 1991): relative trade advantage index, logarithm of relative export advantage and relative competitiveness. Relative trade advantage index (RTA) takes both exports and imports into account and is the difference between relative export advantage index (RXA) and the relative import advantage index (RMA).

Expressed pro forma:

$$RTA_{ij} = RXA_{ij} - RMA_{ij} \tag{2}$$

where $RXA_{ij} = B_{ij}$ és $RMA_{ij} = (m_{ij} / m_{it}) / (m_{nj} / m_{nt})$ (m means the import), that is,

$$RTA_{ij} = = \left(\frac{X_{ij}}{X_{it}}\right) \Big/ \left(\frac{X_{nj}}{X_{nt}}\right) - \left(\frac{M_{ij}}{M_{it}}\right) \Big/ \left(\frac{M_{nj}}{M_{nt}}\right) \tag{3}$$

If RTA > 0, this reveals that a given country has a comparative advantage compared to focus countries - or, in contrast, a revealed comparative disadvantage. This index takes into consideration effects of demand as well as those of supply therefore it is closer to the comparative advantages approach than indices based on exports. The higher the value, the more competitive the country is. Vollrath named this second index the logarithm of relative export advantages (lnRXA) and named the third index revealed competitiveness (RC), which is the difference between the logarithm of relative export advantages and that of relative import advantages:

$$RC_{ij} = \ln RXA_{ij} - \ln RMA_{ij} \tag{4}$$

Positive lnRXA and RC indices indicate a competitive advantage, while negative values indicate competitive disadvantage. A benefit from their use - compared to the first two indices - is that these are symmetric to the pole. Furthermore, these account for export- and import side trade distortions and are also able to manage intra-industry trade. This latter advantage is at the same time the disadvantage of the RC-index: if there is no intra-industry trade, the index cannot be interpreted.

International and national literature interlinks the model of revealed comparative advantages with new streams of trade theories, allowing the execution of even deeper

competitiveness analysis (Gehlhar-Pick, 2002, Fertő, 2004). This approach stresses that price and quality competition in two-way trade is worth separating. To achieve this goal, the literature introduced a new concept: unit value difference (UVD), which is the difference between export and import unit values, defined as follows:

$$UV^{x}_{ij} = X_{ij}/Q^{x}_{ij} \text{ and } UV^{m}_{ij} = M_{ij}/Q^{m}_{ij,} \text{ therefore } UVDij = UV^{x}_{ij} - UV^{m}_{ij} \quad (5)$$

where X means export, M means import, Q stands for quantity, i indicates products, and j indicates the partner-country. The formula above means that the difference of a product group's unit value can be defined (UVD) if import unit value (UVmij) is deducted from export unit value (UVxij); that is, export value achieved from a country's given product group (Xij) is divided by export quantity (Qxij), then divide import value (Mij) by import quantity (Qmij) and deduct the two values from each other. Trade balance (TB) can also be easily calculated from the formula above: (TBij = Xij - Mij), and is the difference between export and import values of a given product group running to/coming from the focus country.

By using the two new concepts (UVD and TB), the literature creates the following categories in order to separate price-quality competition (GP-index on the basis of Gehlhar-Pick, 2002):

- Category A (successful price competition): TBij > 0 and UVDi j< 0,
- Category B (unsuccessful price competition): TBij <0 and UVDij > 0,
- Category C (successful quality competition): TBij > 0 and UVDij > 0,
- Category D (unsuccessful quality competition): TBij < 0 and UVDij < 0

The four categories above are well able to separate what competitive position a country's product groups has from a price and quality point of view. It should not be forgotten that these categories implicitly refer to two-way and not one-way trade (the latter of which means just export or import from a product group).

5.4.3 Data

In order to calculate the various indices mentioned above, the thesis has used the EUROSTAT trade database (CN8) using eight digit breakdown, resulting in five categories for spirits distilled from fruits (see Appendix 9), and for the three benchmark products also five products groups was tested (see Appendix 10) in order to get a clear picture of the comparative advantages of the traditional fruit spirits.

In analysing the results it should be noted that while the CN8 database is a very detailed dataset there is no possibility in the database to distinguish the PGI products from non-PGI products. Therefore the thesis assumes that the aggregated dataset of international trade also contains the data of the origin labelled spirits.

The dataset is from 2001-2011 thus it is possibile to analyse the effect of the EU-accession of the New Member States. Due to the deficiencies of the database and the scope of the thesis the indices are calculated for Bulgaria, the Czech Republic, Hungary, Poland, Romania and Slovenia, besides the benchmarking three countries.

5.4.4 Results

In order to validate the methodology and to prove my second hypothesis the concept was tested on three Southern-European products[34]. the case of all three selected products, it was common that they were registered PGI products well known even outside the producing countries. My hypothesis was that in the case of these products the Balassa-indices would show revealed comparative advantages, while in the Gehlhar-Pick classification these products would be quality-competitive due to the differentiation and protection provided by the geographical indication.

[34] Spain: Brandy de Jerez, France: Calvados, Italy: grappa

Table 24 Revealed comparative advantages or disadvantages of selected South-European PGI spirits

	Average, 2001-2011				Variation, 2001-2011 (%)			
	B	RTA	lnRXA	RC	B	RTA	lnRXA	RC
Revealed comparative advantage, if:	>1	>0	>0	>0				
Brandy de Jerez	**4,04**	-40,92	**1,37**	-1,15	0,96	65,58	0,24	2,05
Calvados	**6,39**	-3,92	**1,85**	**0,86**	0,66	14,56	0,11	2,12
Grappa	**12,23**	-31,87	**2,50**	-1,08	1,30	26,14	0,11	0,74

Source: Own calculations based on EUROSTAT

As Table 25 clearly demonstrates, in the selected period all products had revealed comparative advantages. According to the Hinloopen-Marrewijk classification, the Spanish spirit had average, while calvados and grappa had strong comparative advantage.

Table 25 Gehlhar-Pick indicators of the selected South-European PGI spirits*

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Brandy de Jerez	A	A	A	A	A	A	A	A	A	A	A
Calvados	C	C	C	C	C	C	C	C	C	A	C
Grappa	A	A	C	C	C	C	C	C	C	C	C

* A: successful price competition, B: unsuccessful price competition, C: successful quality competition, D: unsuccessful quality competition

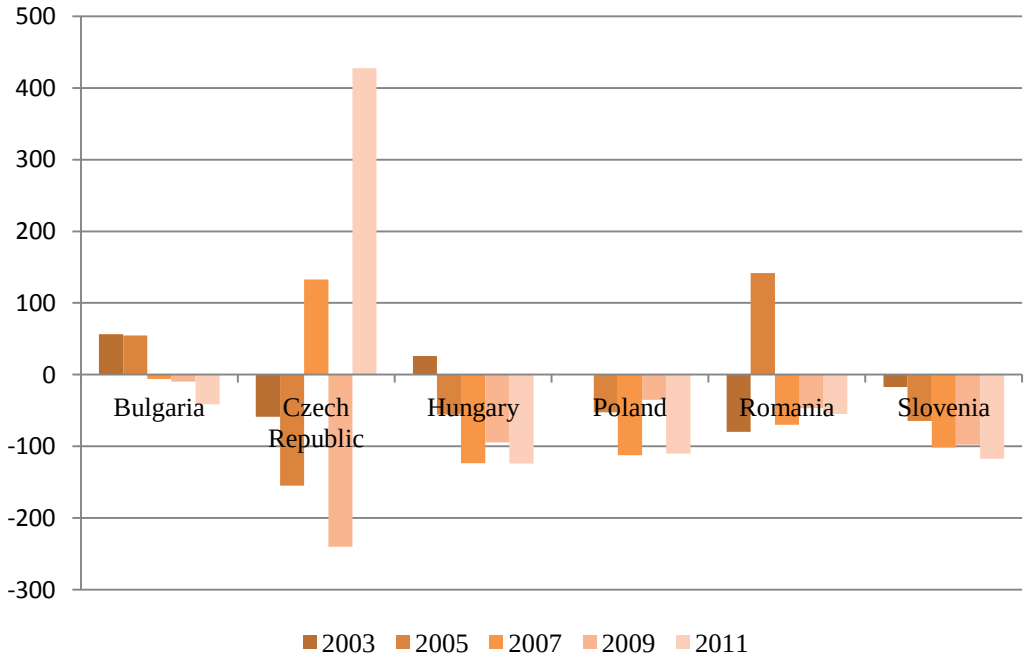
Source: Own calculations based on EUROSTAT

Regarding quality/price competitiveness Table 26 shows the results. The Brandy de Jerez was competitive with lower export unit prices while the French and Italian spirits were competitive with higher unit prices (except in some years), therefore these latter products had quality-competitiveness.

The previous results confirm the assumption that a traditional product with limited area of production could have comparative advantages in international markets. Moreover, in the case of calvados and grappa it can also be noted that higher quality that also appears in prices and in the quality advantages (partly due to origin protection) could be transormed into economic advantages.

There is a notable difference in the case of the origin labelled fruit spirits in the Central-European countries[35]. Figure 24 shows that in these countries the EU accession – similarly to many other products – had a negative impact on the trade balance of fruit spirits. Only the Czech Republic had a positive balance in several of the years that followed the accession, and all other countries – including Hungary with a former surplus – were usually in a net importer position. Due to the EU accession the trade balance of the sector has significantly worsened.

Figure 24 Fruit spirit trade-balances of the trade between Central-European countries and EU15 (000 EUR)



Source: Own calculations based on EUROSTAT

In light of the previous balances it is helpful to calculate the comparative advantages of these countries. The results show that only in Poland (a state without PGI spirit) had comparative disadvantage indicated by all four indices (see Table 27). In the case of Hungary the results are mixed, but on other hand the other countries with PGI spirits (Bulgaria, Romania and Slovenia) had a revealed comparative advantage indicated by all indices, with Romania having a distinctly strong advantage. Still, it

[35] As far there was no available data for Slovakia, this country was excluded from the research.

has to be considered that the Czech Republic (also a state without PGI spirit) had a stong comparative advantage during the examined period.

Table 26 Revealed comparative advantages or disadvantages of NMS fruit spirit trade on the EU15 beverages market, based on the average of the period 2001-2011

	Average, 2001-2011				Variation, 2001-2011 (%)			
	B	RTA	lnRXA	RC	B	RTA	lnRXA	RC
Revealed comparative advantage, if:	>1	>0	>0	>0				
Bulgaria	**2.84**	**2.64**	**0.52**	**2.39**	2.64	2.61	1.25	1.55
Czech Republic	**5.32**	**4.52**	**1.27**	**2.00**	4.77	4.57	0.99	1.09
Hungary	0.52	**0.15**	-0.98	**0.06**	0.46	0.73	0.87	1.82
Poland	0.09	-0.04	-3.75	-1.56	0.15	0.18	1.89	2.14
Romania	**6.08**	**5.43**	**0.38**	**1.16**	12.39	12.22	1.85	1.41
Slovenia	**3.20**	**2.40**	**0.52**	**0.84**	2.69	2.52	1.59	1.60

Source: Own calculations based on EUROSTAT

The calculations of price/quality competitiveness yielded similar results (see Table 28). According to the two-way fruit spirit trade the majority of the Central-European countries were not competitive, in terms of price and quality. A worsening tendency following the EU accession is also visible here.

Table 27 Fruit spirit trade between NMS and the EU15 by price and quality competition

(%)	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
One-way trade	0.00	0.09	0.09	0.00	0.00	0.18	0.00	0.00	0.00	0.00	0.00
Two-way trade	1.00	0.91	0.91	1.00	1.00	0.82	1.00	1.00	1.00	1.00	1.00
Category A: successful price competition	0.40	0.25	0.25	0.33	0.33	0.00	0.00	0.20	0.00	0.33	0.00
Category B: unsuccessful price competition	0.20	0.25	0.25	0.00	0.33	0.33	0.60	0.40	0.50	0.17	0.33
Category C: successful quality competition	0.20	0.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.17
Category D: unsuccessful quality competition	0.20	0.25	0.50	0.67	0.33	0.67	0.40	0.40	0.50	0.50	0.50

Source: Own calculations based on EUROSTAT

Still there is a significant difference between the performances of several countries (see Table 29). In certain years Bulgaria and the Czech Republic had price or quality competitiveness but other countries tended to not be competitive. Compared to 2011 – when half of the countries were price or quality competitive – in 2009 a significant change can be observed because all countries became non-competitive. By the end of the selected period, the Central European states were neither quality nor price competitive. As the most important reason, the EU-accession should also be mentioned again; the numbers clearly show that the surplus of fruit spirit trade turned into deficit, and products with lower unit price were subject to decreasing export, while mainly products with higher unit value were imported.

Table 28 GP-indices in the NMS fruit spirit two-way trade by countries and categories*

GP-index	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Bulgaria	D	D	A	A	A	B	D	A	D	A	D
Czech Republic	A	A	D	D	B	-	-	-	B	A	C
Hungary	C	-	-	A	B	-	B	B	D	B	B
Poland	-	-	-	D	D	-	B	D	B	D	D
Romania	B	C	B	D	A	D	B	B	B	D	B
Slovenia	A	B	D	D	D	D	D	D	D	D	D

* A: successful price competition, B: unsuccessful price competition, C: successful quality competition, D: unsuccessful quality competition

Source: Own calculations based on EUROSTAT

Based on the above, the second hypothesis of the thesis – countries with products protected by geographical indications realise a revealed comparative advantage in international trade – can be rejected. Opposing to the Southern European examples among the Central European origin-labelled products there was no connection between geographical indications and comparative advantages; in the selected product groups the possibility of the quality-based differentiation did not positively influence the positions in international trade.

6 Summary and conclusion

6.1 Summary

The main focus area of the dissertation was to analyse if products with geographical indications and their producers are more successful in terms of economic indicators than their competitors without geographical indications. This assumption was tested both on national and international level regarding Hungary, therefore two main hypotheses were set up.

Within the hungaricums the thesis focuses on pálinka, taking into consideration that from the beginning of the last decade the sector has prospered and received a specific attention from the side of producers, consumers and decision makers. The topic of the thesis is timely as the Hungaricum Act was accepted in 2012; therefore besides the analysis of the international processes the Hungarian case could also be introduced.

Several, mostly international studies and publications have dealt with the topic. Although in Hungary the geographical indications of agricultural and food products was chosen as topic for many studies; the thesis brings some new aspects regarding the methodology and the subject of the empirical research. Although spirits are the third pillar of the EU's geographical indications system since studies of this specific field are not common. The Pálinka Act was also accepted in recent times, therefore it is a great opportunity to analyse national and international regulations together.

After the introduction in the *second chapter* it is underlined that connecting products to their production area is nothing new, in the ancient ages this tool was already used to differentiate some products. The economic importance of several geographical indication systems is well indicated by the fact that a whole chapter in the WTO negotiations was about the harmonization of these different systems.

In a world-wide aspect the European system is the most important but American and African systems are also functioning parallel. During the time two concepts have developed, the "Catholic" approach in the South European countries and the

"Protestant" approach in the North European and American countries. The biggest difference is in the main idea of respect of the traditions (Catholic) and market orientation (Protestant). The system of the European Union tries to combine both approaches. The common system was set up in 1992 and in the first years the South European countries dominated the system as they already had their national systems and their registered products were transferred directly to the European system. This southern hegemony has decreased since the system was reformed in 2006 but they are sill dominant in this three-pillar system. The experience of the last two decades shows that the parallel regulation of PDO and PGI systems has found its equilibrium and the producers with different approaches have met their expectations.

Local production systems play an important role in the concept of geographical indications and they can be very different in many terms (size, product portfolio, know-how etc.). Therefore this topic can be analysed from various economic aspects, from the classical monopoly approach of the micro economy to the theory of local quality rent we can choose. Based on the experience of the European system we can say that those producers can benefit from the regulation that produce in a marketable quantity and could find the market niche with the help of the origin labels' differentiating power. The differentiating strategy of origin labelled products should be based on the speciality and authenticity compared to the mass-market products; and success could be expected only if the consumers understand these added values. Therefore origin labelled products usually follow a push marketing strategy which should also be combined with the speciality of the physical characteristics while it should be attached to well known symbols in the consumers' mind. In this last task the involvement of the state (EU) is needed and a good example for this is the common logo of the agricultural and food products. The role of innovation is very important in the food industry but because of the regulations PGI products are more suitable for innovation than PDO products.

One of the most important objectives of geographical indications is to help in rural development. Based on the main concept two different strategies could be followed. The strategy of regulation of product reputation focuses on a key product and tries to accumulate resources for the producing area with the export of the product. Therefore this concept supports rural development only in an indirect way; here "the

product goes to the consumers". On the contrary the extended focus tries to allocate all the aptitudes of the region and to bring the consumers to the region.

To reach consumers is also one of the most important factors in the value chain of the origin labelled foods. The globalizing food production is often affected by several food scandals therefore consumers appreciate quality more. Therefore, origin-labelled products have a strategically important competitive edge due to their traditions and authenticity. On the other hand the strong control of the code of practices is necessary in order to maintain the reputation of these products. The maintenance of this reputation is also profitable; several studies on willingness to pay proved that the price premium of these products is accepted by more and more consumers. At present patriotic consumers are overrepresented among these consumers but it is also proven that these consumers are more loyal to these products and many of them are returning.

In the *third chapter* the term of hungaricum is discussed. In order to get a clear view the definition was analysed from a lexical side, also using the approach of the literature and the regulation. Moreover it was also pointed out that the usage of this term in the Hungarian common language brings several discrepancies. The Hungaricum Act accepted in 2012 tries to solve this conflict and declares that only the most excellent products of the various set of treasures could be part of the set of Hungaricums. On the other hand, the legislation of the lawmakers became too soft: although the usage of the term is clearly defined, the treasure based concept is not concrete enough, bringing confusion in the mind of the consumers.

In the next part of the chapter the regulation of four other agricultural super powers is described in terms of their special national products. In Spain and France the legislative background for the protection of typical food products was already set up at the beginning of the 20th century, starting typically with the legislation for wines. These systems (e.g. the French AOC) are still in force and exist parallel with the European system providing double protection and distinction for their products. The other European examples show that in some countries only the protection of some product groups is set up (e.g. cheese and olive oil in Italy), or other regulations were modified in order to give protection to special local products (e.g. commercial and trademark laws in the United Kingdom).

Based on the Hungaricum Act and on the experiences of the international cases the thesis has developed an own hungaricum concept, as there is no classification that fits to the principle of that hungaricums should be products strongly related to Hungary that are well known also outside of Hungary. Therefore the thesis argues that only those products could be called hungaricums that fit this latter concept and became products with international geographical indication. Thus the hungaricum concept of the thesis is narrower than the Hungaricum Act and the definitions of several lexical approaches in order to have an appellation that could be used only by the real elite excluding the possibility to become products "world-wide known inside Hungary". According to this definition there are only a few dozens of hungaricum: twelve agricultural and food products, forty seven wines and five pálinkas. At the end of the chapter eleven Hungarian quality trademarks were described. These trademarks could be considered as the "hall of the hungaricums" and their products are expected to become hungaricum later.

The main objective of the *fourth chapter* is to introduce the empirical subject of the thesis both from cultural and economic aspects. Pálinka is the typical spirit of Hungary since the middle ages and its role changed significantly during the centuries, from the privilege of landlords pálinka distillation became a state monopoly and still source of significant amount of excise duties. Although the most important characteristics of the product did not change during the time the general level of quality has significantly decreased after the Second World War and this negative tendency has changed only at the beginning of the 21st century. The improvement of quality was mainly due to the regulation of the most important parameters of the product, which was controlled by legislative power that helped the sector renew.

Regarding the supply side of the pálinka industry it can be underlined that the quality improvement was in line with the increase of the number of the professional pálinka distilleries, while the number of non-professionals has significantly dropped. Moreover the pálinka sector is an important buyer of the Hungarian fruit production; therefore the distilleries are located mainly in the most important fruit producing areas.

Regarding the demand side we can say that the high quality pálinka products are sold usually in towns therefore it is a tendency that distilleries open retail units mainly in the capital. Parallel with this a pálinka-centred extended marketing strategy is also available: producers try to connect their products with other local activities (e.g. festivals, gastronomy etc.) in order to bring the consumers into the producing area.

The international reputation is well described by the fact that in Destillata (which can be considered as the world cup of spirits) the Hungarian pálinka distilleries win several medals every year. This process of internationalisation is also helped by the introduction of the EU-level geographical indication system in 2008: five different types of pálinka are registered among the European origin labelled spirits (another three pálinkas are protected by the national system). Although this number is not too high compared to the total of three hundred and thirty three products but in a regional comparison Hungary is outstanding. Similar to the other two pillars, among spirits the South European countries are the leading ones and Hungary tries to join to this elite.

The thesis ends with a methodological part in the *fifth chapter* with the analysis of the economic impact of the European regulation. After the summary of the various definitions of competitiveness the literature of economics of geographical indications is briefly introduced. According to the most important studies of this research area we can talk about three different focuses: institutional framework, supply side, and demand side.

Since the basis of geographical indications is set up by legislative frameworks and directives of the EU and the national authorities, the analysis of the institutional background is necessary. Several studies showed that the system of geographical indications is very similar to the system of quality assurance. Moreover it was also proved that it is necessary to set up a national institution that helps in coordination and to benefit from the advantages.

The analysis of the supply side showed that the most commonly used methodology for geographical indications is the case-study based approach. Numerous value chains were analysed with this method usually without any hard calculations. Another typical approach is to focus on a product group of a region – in many of the cases the geographical territory was in Italy (the most preferred region is Parma).

There are also studies focusing on Europe, analysing and comparing the performance of the several member states.

A recent hot topic of this research area is to analyse the demand side, especially focusing on the willingness to pay for the origin labelled products' price premium. In many cases the consumers were tested within the context of several market-distortion (e.g. BSE crisis) and the results do not prove without questions whether the consumers are paying for the price premium of the geographical indications.

The methodology of the thesis would like to fit to the line of the identified research-streams and would like to analyse the case of the Hungarian pálinka and the Central European fruit spirits with the methods of previous studies. Therefore the calculations were done both on national and on international level in order to verify the hypotheses.

Beyond the analysis on the national level there was an assumption that there was a significant difference between the profitability level of the PGI and non-PGI distilleries and that this difference can be connected to the geographical indications. The calculations were carried out on the economic data of 65 distilleries and showed that both in terms of basic characteristics (e.g. revenue, total assets etc.) and in terms of profitability (ROE, ROA and ROS) PGI producers exceed their non-PGI competitors. The results of the cluster analysis also proved that PGI producers belong to the more successful distilleries and the correlation coefficients showed that there is a small but positive connection between geographical indications and profitability.

The analysis on the international level tested the assumption that Central European countries with PGI spirits have revealed comparative advantages based on their international trade activities. Specific calculations were carried out to analyse the quality dimension of the competitiveness, assuming that origin labelled products were quality-competitive. Brandy de Jerez, calvados and grappa were involved as a control group and their case showed that Southern European countries usually have strong comparative advantages and that these products are often quality-competitive. On the other hand, the calculations for Central European trade with the EU15 show a completely different picture. First, the selected countries became net importers after the EU accession and this market-loss was very noticeable in Hungary. However, the indicators of the comparative advantages did not show similar results for other

Eastern European states: Poland without any PGI spirit (and therefore without any export of this product) was lacking comparative advantages based on all the indicators, while the Czech Republic (also without any PGI spirit) had a very good position. In the case of Hungary – one of the largest fruit spirit producer of the region – the indicators did not show a clear picture, therefore no relevant conclusion could be made on this basis. Regarding the price and quality competitiveness, the calculations showed a more universal result; the countries of the region were not quality nor price competitive in mostyears, regardless of geographical indications.

6.2 Conclusions

Based on the findings of the thesis, several conclusions can be made. First, it has to be underlined that the role of geographical indications in food production is more and more important. Although in Europe we can see national geographical indication systems with more than a hundred years of history, the community-level regulation was born in the last few decades. The role of time is unquestionable, as the case of the most important beneficiary, the Southern European countries shows, embeddedness and general acceptance of these systems are necessary for success. Moreover, the available resources also have a great importance as consumers need to understand and memorise the difference of these products. The practice of the EU contradicts this latter approach as community logo exists only for agricultural and food products, and there is no symbol for the origin labelled wines and spirits yet. The change of this mixed approach is necessary.

The European system is the most important geographical indication system in the world both in terms of its history and its current economic importance. The demand and, consequently, the recognition is highest in the case of these registered products, and the most important products are well known all over the world. Therefore, it is evident that for the new member states that joined to EU in 2004 and 2007 this system is decisive, as their most important trade partners also operate within this system. The number of registered Central European products is relatively low at the moment, but this time-lag could be compensated with a combination of national regulation.

One of these national regulations is the Hungaricum Act, which regulates the denomination of hungaricums and was accepted after great expectations in 2012. However, the regulation attempts to satisfy too many conditions, therefore it is to be feared that it can not provide exclusivity for those products that are most important to Hungary. Thus, this thesis suggests that hungaricums could only be products that are also well-known outside the country and have geographical indications. The Pálinka Act also showed that if quality standards are regulated, consumers (even the very price-sensitive Hungarian consumers) are willing to pay the premium price for this speciality. The concept of geographical indications could also be profitable as the case of the pálinka showed; providing an example for other products to follow.

Based on the two main hypotheses, it can be underlined that producing origin-labelled products could provide surplus for the producers even under the given recognition and market circumstances. There is a quality rent observable for the pálinka due to the specified quality standards and uniqueness. It is true for pálinka in Hungary and for some other well-known PGI spirit (e.g. calvados, grappa) in international trade – but it is not observable for Central European origin-labelled fruit spirits in international trade. At the moment, these products are well-known and demanded only in their producing countries, but still it is one of the best tools to become more popular and benefit from the possibilities of the geographical indications – as do their most important competitors.

The thesis answers the two main hypotheses and several other questions, but also highlights new research questions and directions. Central European countries are still at the beginning of the process that helps their typical national food products with the tools of geographical indications to become successful in the globalised food markets. As time passes, a longer period could be analysed to discover further tendencies.

Apart from the time period, the subject of the thesis should also be extended to also conductresearch on other products. The thesis focuses on only one product group of Hungary – in the future, other origin-labelled value chains should also be analysed – even with a similar methodology.

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Appendices

Appendix 1 Related EU financed research projects

Framework Programme	FP4	FP5	FP6	FP6
Name of the programme	Agriculture and Fisheries Programme	Quality of Life	SINER-GI	TRUEFOOD
Name of the project	PDO and PGI products : market, supply chains and institutions	Development of origin labbelled products: humanity, innovation and sustainibility	Strengthening International Research on Geographical Indications	Traditional United Europe Food WP1
Start of the project	01.04.1996	01.12.2000	01.05.2005	01.05.2006
Duration of the project	39 months	36 months	39 months	48 months
Budget	1 424 300 €	600 000 €	1 300 182 €	20 080 000 €
EU contribution	959 000 €	600 000 €	919 980 €	15 500 000 €
Number of participating countries	6	9	7	6
Partner countries	France, United Kingdom, Greece, Netherlands, Italy, Switzerland	France, United Kingdom, Spain, Finnland, Belgium, Germany, Italy, Portugal, Switzerland	France, United Kingdom, Switzerland, Netherlands, Latvia, Spain, Italy	Norway, Spain, France, Belgium, Poland, Italy

Source: own composition

Appendix 2 Related EAAE seminars

The seminar's			
number	**place**	**year**	**topic**
52.	Parma	1997	Typical and traditional products: rural effect and agro- industrial problems
67.	Le Mans	1999	Economics of origin in agrofood supply chains: Territories, co-ordination and institutions
83.	Chania	2003	Food Quality Products in the Advent of the 21st Century: Production, Demand and Public Policy
105.	Bologna	2007	International Marketing and International Trade of Quality Food Products

Source: own composition

Appendix 3 PDO/PGI Hungarian wines

Name of product/territory	PDO/PGI	Supplement
Alföldi	PGI	alone or with the name of smaller geographical territory
Badacsony	PDO	
Badacsonyi	PDO	
Balaton	PDO	
Balaton-felvidék	PDO	
Balaton-felvidéki	PDO	
Balatonboglár	PDO	
Balatonboglári	PDO	
Balatonfüred-Csopak	PDO	
Balatonfüred-Csopaki	PDO	
Balatoni	PDO	
Balatonmelléki	PGI	
Bükk	PDO	
Bükki	PDO	
Csongrád	PDO	
Csongrádi	PDO	
Debrői hárslevelű	PDO	
Dél-alföldi	PGI	
Dél-dunántúli	PGI	
Duna	PDO	
Dunai	PDO	
Duna melléki	PGI	
Dunántúl	PGI	
Dunántúli	PGI	
Duna-Tisza közi	PGI	
Eger	PDO	
Egri	PDO	
Egerszóláti olaszrizling	PDO	
Észak-dunántúli	PGI	
Etyek-Buda	PDO	
Etyek-Budai	PDO	
Felső-Hungary	PGI	
Felső-Hungaryi	PGI	
Hajós-Baja	PDO	
Izsáki Arany Sárfehér	PDO	
Káli	PDO	
Kunság	PDO	
Kunsági	PDO	
Káli	PDO	
Mátra	PDO	
Mátrai	PDO	
Mór	PDO	
Móri	PDO	
Nagy-Somló	PDO	
Nagy-Somlói	PDO	
Neszmély	PDO	
Neszmélyi	PDO	
Nyugat-dunántúli	PGI	

Pannon	PDO	
Pannonhalma	PDO	
Pannonhalmi	PDO	
Pécs	PDO	
Somlói Nászéjszakák Bora	PDO	
Somló	PDO	
Somlói	PDO	
Somlói Arany	PDO	
Sopron	PDO	
Soproni	PDO	
Szekszárd	PDO	
Szekszárdi	PDO	
Tihany	PDO	
Tihanyi	PDO	
Tisza-melléki	PGI	
Tisza-völgyi	PGI	
Tokaj	PDO	
Tokaji	PDO	
Tolna	PDO	
Tolnai	PDO	
Villány	PDO	
Villányi	PDO	
Villányi védett eredetű classicus	PDO	
Zala	PDO	
Zalai	PDO	
Zemplén	PGI	
Zempléni	PGI	

Source: own composition based on E-bacchus database

Appendix 4 The examined pálinka distilleries

	Name of the distillery	PGI distillery	If PGI distillery, which type?
1.	Agárdi Pálinkafőzde Ltd	no	
2.	Arany Kapu Plc	no	
3.	Bakonyi Íz és Párlat Ltd	no	
4.	Békési Pálinka Plc	yes	Plum pálinka from Békés
5.	Birkás Pálinka Ltd	no	
6.	Boldogkő-Fruit Ltd	yes	Apricot pálinka from Gönc
7.	Bolyhos és Fia Bt.	no	
8.	Brill Pálinkaház Ltd	no	
9.	CÁR-2002 Bt.	no	
10.	Csalló Ltd	no	
11.	D.K.P. Pálinkaház Ltd	no	
12.	Destillerie Schmitz Bt.	no	
13.	Éden Tó Bt.	yes	Plum pálinka from Békés
14.	Első Magyar Szilvapálinka Ltd	yes	Apple pálinka from Szabolcs
15.	Farkas Pálinka Ltd	no	
16.	Garden Fasorfenntartó Ltd	no	
17.	Gombosi Pálinkafőző Ltd	no	
18.	Grappa Ltd	no	
19.	Győri Likőrgyár Plc	no	
20.	Gyulai Pálinka Manufaktúra Ltd	yes	Plum pálinka from Békés
21.	Gyümölcspárlat Bt.	yes	Apple pálinka from Szabolcs
22.	Hilltop-Neszmély Plc	no	
23.	Hodászi Pálinkafőzde Ltd	no	
24.	Hungaricum Elizium Ltd	no	
25.	Johanna Ltd	yes	Apricot pálinka from Kecskemét
26.	Kecskeméti Likőripari Plc	yes	Apricot pálinka from Kecskemét
27.	Kisrét Manufaktúra Ltd	yes	Plum pálinka from Békés
28.	Kőkötő Ltd	no	
29.	Malus Rex Ltd	no	
30.	Márkházi Pálinkafőző Társaság Ltd	no	
31.	Matheus Pálinkaház Ltd	yes	Apple pálinka from Szabolcs
32.	Mátraszesz Ltd	no	
33.	Miskolci Likőrgyár Plc	yes	Apricot pálinka from Gönc
34.	Nap-Kori-Kum Ltd	yes	Apple pálinka from Szabolcs
35.	No. 1 Pálinkafőzde Ltd	no	
36.	Norma Ltd	no	
37.	Nyírségi Pálinkaház Ltd	yes	Apple pálinka from Szabolcs
38.	Pannon Pálinka Ltd	no	
39.	Panyolai Szilvórium Ltd	yes	Apple pálinka from Szabolcs and Plum pálinka from Szatmár

40.	Pap És Pap Ltd	no	
41.	Pelle Párlatház Ltd	no	
42.	Pogányvári Párlat Ltd	no	
43.	Rácz És Rácz Pálinka Manufaktúra Ltd	no	
44.	Sápi és Sápi Ltd	no	
45.	Savanya Pálinkaház Kfc.	no	
46.	Spirits-68 Ltd	no	
47.	Spiritus Primus Ltd	yes	Apricot pálinka from Kecskemét
48.	Szeszért Bt.	no	
49.	Szicsek Ltd	no	
50.	Szilvórium Bt.	no	
51.	Tarpa Manufaktúra Ltd	yes	Apple pálinka from Szabolcs and Plum pálinka from Szatmár
52.	Téti Pálinkafőzde Ltd	no	
53.	Tokaj Kereskedőház Plc	no	
54.	Tölgy-Csemete Ltd	no	
55.	Treffpunkt GAR 2000 Ltd	no	
56.	Várda-Drink Plc	yes	Apple pálinka from Szabolcs and Plum pálinka from Szatmár
57.	Vecse Komplex Ltd	no	
58.	Vinalko Ltd	yes	Apricot pálinka from Kecskemét
59.	Vinotrep Ltd	no	
60.	Vitalis Ltd	no	
61.	Wein-Berg Ltd	no	
62.	Zedon Ltd	no	
63.	Zwack Unicum Plc	yes	Apricot pálinka from Kecskemét
64.	Zsindelyes Pálinkafőzde Ltd	yes	Apple pálinka from Szabolcs
65.	Zsombos-Drink Ltd	no	

Appendix 5 T-test for the profitability ratios of PGI and non PGI distilleries

2008

```
. ttest roe, by(OFJ_palinka) unequal

Two-sample t test with unequal variances
```

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
0	45	-.0435634	.1613728	1.082521	-.3687889	.2816621
1	20	.1267003	.1340386	.5994387	-.1538457	.4072462
combined	65	.0088254	.1188791	.958434	-.2286629	.2463137
diff		-.1702637	.2097797		-.5899185	.2493912

```
    diff = mean(0) - mean(1)                                      t =  -0.8116
Ho: diff = 0                     Satterthwaite's degrees of freedom =  59.7712

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(T < t) = 0.2101         Pr(|T| > |t|) = 0.4202          Pr(T > t) = 0.7899
```

```
. . ttest roa, by(OFJ_palinka) unequal

Two-sample t test with unequal variances
```

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
0	45	-.0276905	.0434988	.2917991	-.1153566	.0599757
1	20	.0690838	.029164	.1304253	.0080429	.1301247
combined	65	.0020862	.0317719	.2561534	-.0613855	.0655579
diff		-.0967743	.0523707		-.2014294	.0078808

```
    diff = mean(0) - mean(1)                                      t =  -1.8479
Ho: diff = 0                     Satterthwaite's degrees of freedom =  62.9783

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(T < t) = 0.0347         Pr(|T| > |t|) = 0.0693          Pr(T > t) = 0.9653
```

```
. . ttest ros, by(OFJ_palinka) unequal

Two-sample t test with unequal variances
```

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
0	45	-7.735605	7.467607	50.09423	-22.78558	7.314367
1	20	.0997901	.0396955	.1775236	.0167065	.1828737
combined	65	-5.324714	5.171707	41.69563	-15.65639	5.006958
diff		-7.835395	7.467712		-22.88556	7.214766

```
    diff = mean(0) - mean(1)                                      t =  -1.0492
Ho: diff = 0                     Satterthwaite's degrees of freedom =  44.0025

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(T < t) = 0.1499         Pr(|T| > |t|) = 0.2998          Pr(T > t) = 0.8501
```

2009

```
. ttest roe, by(OFJ_palinka) unequal

Two-sample t test with unequal variances
```

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
0	45	-.0690351	.204654	1.372861	-.4814882	.343418
1	20	.3046588	.0838048	.3747863	.1292534	.4800641
combined	65	.0459476	.1450558	1.169477	-.2438346	.3357298
diff		-.3736939	.2211482		-.8166504	.0692626

```
    diff = mean(0) - mean(1)                                      t =  -1.6898
Ho: diff = 0                     Satterthwaite's degrees of freedom =  56.3258

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(T < t) = 0.0483         Pr(|T| > |t|) = 0.0966          Pr(T > t) = 0.9517
```

```
. ttest roa, by(OFJ_palinka) unequal

Two-sample t test with unequal variances
```

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
0	45	.0403103	.0226301	.1518073	-.0052977	.0859182
1	20	.088878	.0256695	.1147976	.0351511	.1426049
combined	65	.0552542	.0176576	.1423602	.019979	.0905293
diff		-.0485677	.0342205		-.1173878	.0202524

```
    diff = mean(0) - mean(1)                                      t =  -1.4193
Ho: diff = 0                     Satterthwaite's degrees of freedom =  47.5959

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(T < t) = 0.0812         Pr(|T| > |t|) = 0.1623          Pr(T > t) = 0.9188
```

```
. ttest ros, by(OFJ_palinka) unequal

Two-sample t test with unequal variances
```

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
0	45	-.6078574	.3269687	2.193373	-1.266819	.0511046
1	20	.1198215	.0332111	.1485247	.0503098	.1893332
combined	65	-.3839562	.2296683	1.851645	-.8427714	.074859
diff		-.7276789	.328651		-1.389656	-.0657017

```
    diff = mean(0) - mean(1)                                      t =  -2.2141
Ho: diff = 0                     Satterthwaite's degrees of freedom =  44.9015

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(T < t) = 0.0160         Pr(|T| > |t|) = 0.0319          Pr(T > t) = 0.9840
```

2010

```
. ttest roe, by(OFJ_palinka) unequal

Two-sample t test with unequal variances
```

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
0	45	.0095588	.3238881	2.172708	-.6431949	.6623125
1	20	-.1220986	.2414702	1.079887	-.6275014	.3833043
combined	65	-.0309512	.2351891	1.896156	-.5007955	.4388932
diff		.1316574	.4039943		-.6758933	.939208

```
    diff = mean(0) - mean(1)                                      t =   0.3259
Ho: diff = 0                     Satterthwaite's degrees of freedom =  62.0866

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(T < t) = 0.6272         Pr(|T| > |t|) = 0.7456          Pr(T > t) = 0.3728
```

```
. ttest roa, by(OFJ_palinka) unequal

Two-sample t test with unequal variances
```

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
0	45	-.0053824	.0222694	.1493878	-.0502635	.0394986
1	20	.0190738	.0187437	.0838245	-.0201573	.0583048
combined	65	.0021425	.0164355	.1325071	-.0306911	.0349762
diff		-.0244562	.0291076		-.0826923	.0337799

```
    diff = mean(0) - mean(1)                                      t =  -0.8402
Ho: diff = 0                     Satterthwaite's degrees of freedom =  59.3944

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(T < t) = 0.2021         Pr(|T| > |t|) = 0.4042          Pr(T > t) = 0.7979
```

```
. ttest ros, by(OFJ_palinka) unequal

Two-sample t test with unequal variances
```

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
0	45	-.2444862	.1422448	.9542074	-.5311619	.0421894
1	20	-.0866965	.1134478	.5073538	-.3241453	.1507524
combined	65	-.1959355	.1043501	.8412974	-.4043988	.0125278
diff		-.1577898	.181945		-.5216349	.2060554

```
    diff = mean(0) - mean(1)                                      t =  -0.8672
Ho: diff = 0                     Satterthwaite's degrees of freedom =   60.805

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(T < t) = 0.1946         Pr(|T| > |t|) = 0.3892          Pr(T > t) = 0.8054
```

2011

```
. ttest roe, by(OFJ_palinka) unequal

Two-sample t test with unequal variances
```

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
0	45	.1101866	.4825732	3.2372	-.8623759	1.082749
1	20	-.1196193	.2971351	1.328829	-.7415303	.5022917
combined	65	.0394771	.3450813	2.782135	-.6499021	.7288563
diff		.2298059	.5667153		-.9027592	1.362371

```
    diff = mean(0) - mean(1)                                      t =   0.4055
Ho: diff = 0                     Satterthwaite's degrees of freedom =  62.7877

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(T < t) = 0.6568         Pr(|T| > |t|) = 0.6865          Pr(T > t) = 0.3432
```

```
. ttest roa, by(OFJ_palinka) unequal

Two-sample t test with unequal variances
```

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
0	45	-.1994607	.1963822	1.317372	-.595243	.1963215
1	20	-.0146332	.0732903	.3277643	-.1680316	.1387653
combined	65	-.1425907	.1376963	1.110143	-.4176707	.1324893
diff		-.1848276	.2096126		-.6049602	.235305

```
    diff = mean(0) - mean(1)                                      t =  -0.8818
Ho: diff = 0                     Satterthwaite's degrees of freedom =  54.6549

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(T < t) = 0.1909         Pr(|T| > |t|) = 0.3818          Pr(T > t) = 0.8091
```

```
. ttest ros, by(OFJ_palinka) unequal

Two-sample t test with unequal variances
```

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
0	45	-.7396983	.472664	3.170727	-1.69229	.2128935
1	20	-.152845	.1989362	.8896695	-.5692231	.2635332
combined	65	-.559128	.3333115	2.687243	-1.224994	.1067382
diff		-.5868533	.5128225		-1.613826	.4401191

```
    diff = mean(0) - mean(1)                                      t =  -1.1444
Ho: diff = 0                     Satterthwaite's degrees of freedom =  56.8388

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(T < t) = 0.1286         Pr(|T| > |t|) = 0.2573          Pr(T > t) = 0.8714
```

Appendix 6 Outcome of the Markov chain analysis for the profitability ratios (ROE, ROA, ROS)

```
Markov chain analysis of ROE_poz
--------------------------------

Transition frequencies
----------------------

Number of transitions     259

          observed frequency
          expected frequency

_____________________________
previous |      ROE_poz
ROE_poz  |        0        1
_____________________________
       0 |       32       35
         |   17.591   49.409
         |
       1 |       36      156
         |   50.409  141.591
_____________________________

          Pearson chi2(1) =  21.5906   Pr = 0.000
 likelihood-ratio chi2(1) =  20.1583   Pr = 0.000

Transition probabilities
------------------------

P[2,2]
        0       1
0  0.4776  0.5224
1  0.1875  0.8125
```

Markov chain analysis of ROA_poz

Transition frequencies

Number of transitions 259

observed frequency
expected frequency

previous ROA_poz	ROA_poz 0	1
0	50 27.568	34 56.432
1	35 57.432	140 117.568

Pearson chi2(1) = 40.2130 Pr = 0.000
likelihood-ratio chi2(1) = 39.3117 Pr = 0.000

Transition probabilities

P[2,2]

	0	1
0	0.5952	0.4048
1	0.2000	0.8000

Markov chain analysis of ROS_poz

Transition frequencies

Number of transitions 259

observed frequency
expected frequency

previous ROS_poz	ROS_poz 0	1
0	50 27.568	34 56.432
1	35 57.432	140 117.568

Pearson chi2(1) = 40.2130 Pr = 0.000
likelihood-ratio chi2(1) = 39.3117 Pr = 0.000

Transition probabilities

P[2,2]

	0	1
0	0.5952	0.4048
1	0.2000	0.8000

Appendix 7 Outcome of the Duda-Hart and the Calinski-Harabasz tests

Number of clusters	Duda/Hart Je(2)/Je(1)	Duda/Hart pseudo T-squared
1	0.9527	2.73
2	0.9259	3.20
3	0.6758	8.63
4	0.9514	1.02
5	0.8853	1.68
6	0.9577	0.49
7	0.9606	0.25
8	0.7642	1.54
9	0.9566	0.18
10	0.9182	0.27
11	0.0000	.

Number of clusters	Calinski/ Harabasz pseudo-F
2	2.73
3	1.77
4	2.33
5	1.72
6	2.62
7	2.14
8	1.80
9	1.81
10	1.57
11	1.39
12	1.23

Appendix 8 Outcome of the regression calculations

```
. tsset id Ev, yearly
       panel variable:  id (strongly balanced)
        time variable:  Ev, 2008 to 2011
                delta:  1 year

. xtreg roe Alkalmazottak_szama Fotevekenyseg_palinkafozes OFJ_palinka Cegforma_kft Kor Export_

Random-effects GLS regression                   Number of obs      =       223
Group variable: id                              Number of groups   =        60

R-sq:  within  = 0.0094                         Obs per group: min =         1
       between = 0.0976                                        avg =       3.7
       overall = 0.0618                                        max =         4

                                                Wald chi2(6)       =      7.30
corr(u_i, X)   = 0 (assumed)                    Prob > chi2        =    0.2942
```

roe	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
Alkalmazottak_szama	.0082268	.0051779	1.59	0.112	-.0019218	.0183754
Fotevekenyseg_palinkafozes	-.2851254	.4179257	-0.68	0.495	-1.104245	.5339939
OFJ_palinka	.1263056	.4129969	0.31	0.760	-.6831534	.9357646
Cegforma_kft	1.198297	.4990201	2.40	0.016	.220235	2.176358
Kor	.0303972	.0311431	0.98	0.329	-.0306422	.0914366
Export_	-.2263236	.42109	-0.54	0.591	-1.051645	.5989976
_cons	-1.111724	.6577962	-1.69	0.091	-2.400981	.1775325
sigma_u	1.2178314					
sigma_e	1.5014873					
rho	.3968114	(fraction of variance due to u_i)				

```
. xtreg roa Alkalmazottak_szama Fotevekenyseg_palinkafozes OFJ_palinka Cegforma_kft Kor Export_

Random-effects GLS regression                   Number of obs      =       223
Group variable: id                              Number of groups   =        60

R-sq:  within  = 0.0334                         Obs per group: min =         1
       between = 0.1160                                        avg =       3.7
       overall = 0.0537                                        max =         4

                                                Wald chi2(6)       =     12.27
corr(u_i, X)   = 0 (assumed)                    Prob > chi2        =    0.0563
```

roa	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
Alkalmazottak_szama	.0033281	.0012248	2.72	0.007	.0009276	.0057287
Fotevekenyseg_palinkafozes	-.0370302	.0922004	-0.40	0.688	-.2177397	.1436793
OFJ_palinka	.0840257	.0895529	0.94	0.348	-.0914947	.2595461
Cegforma_kft	.1960574	.1085823	1.81	0.071	-.01676	.4088749
Kor	-.0066669	.0071552	-0.93	0.351	-.0206908	.007357
Export_	-.2631701	.1270389	-2.07	0.038	-.5121617	-.0141785
_cons	-.1219107	.1450722	-0.84	0.401	-.406247	.1624256
sigma_u	0					
sigma_e	.61051397					
rho	0	(fraction of variance due to u_i)				

```
. xtreg ros Alkalmazottak_szama Fotevekenyseg_palinkafozes OFJ_palinka Cegforma_kft Kor Export_

Random-effects GLS regression                   Number of obs      =       222
Group variable: id                              Number of groups   =        60

R-sq:  within  = 0.0101                         Obs per group: min =         1
       between = 0.0449                                        avg =       3.7
       overall = 0.0148                                        max =         4

                                                Wald chi2(6)       =      3.22
corr(u_i, X)   = 0 (assumed)                    Prob > chi2        =    0.7808
```

ros	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
Alkalmazottak_szama	-.0017843	.0453411	-0.04	0.969	-.0906513	.0870826
Fotevekenyseg_palinkafozes	-3.124389	3.415778	-0.91	0.360	-9.81919	3.570412
OFJ_palinka	3.300758	3.328264	0.99	0.321	-3.222519	9.824036
Cegforma_kft	-.5781536	4.021008	-0.14	0.886	-8.459184	7.302877
Kor	.3160162	.2654321	1.19	0.234	-.2042212	.8362535
Export_	.5134204	4.702843	0.11	0.913	-8.703982	9.730823
_cons	-3.492897	5.370389	-0.65	0.515	-14.01867	7.032872
sigma_u	0					
sigma_e	23.041302					
rho	0	(fraction of variance due to u_i)				

Appendix 9 PGI spirits in the New Member States

Spirit	Country of origin	Spirit	Country of origin
Plum pálinka from Szatmár (2003)	Hungary	Ţuică Zetea de Medieşu Aurit (2005)	Romania
Apricot pálinka from Kecskemét (2003)	Hungary	Ţuică de Valea Milcovului (2005)	Romania
Plum pálinka from Békés (2003)	Hungary	Ţuică de Buzău (2005)	Romania
Apple pálinka from Szabolcs (2003)	Hungary	Ţuică de Argeş (2005)	Romania
Apricot pálinka from Gönc (2008)	Hungary	Ţuică de Zalău (2005)	Romania
Pálinka (2008)	Hungary	Ţuică Ardelenească de Bistriţa (2005)	Romania
Bošácka slivovica (2003)	Slovakia	Horincă de Maramureş (2005)	Romania
Brinjevec (2008)	Slovenia	Horincă de Cămârzana (2005)	Romania
Doljenski Sadjevec (2008)	Slovenia	Horincă de Seini (2005)	Romania
Slivova rakya from Troyan (2005)	Bulgaria	Horincă de Chioar (2005)	Romania
Kaysieva rakya from Silistra (2005)	Bulgaria	Horincă de Lăpuş (2005)	Romania
Kaysieva rakya from Tervel (2005)	Bulgaria	Turţ de Oaş (2005)	Romania
Slivova rakya from Lovech (2005)	Bulgaria	Turţ de Maramureş (2005)	Romania
Pălincă (2008)	Romania		

Source: 110/2008 EC regulation

Appendix 10 Fruit spirit product groups in the CN8 database

Code	Name
22089033	Plum, pear or cherry spirit, in containers holding <= 2 l
22089038	Plum, pear or cherry spirit, in containers holding > 2 l
22089048	Spirits distilled from fruit, in containers holding <= 2 l (excl. plum, pear or cherry spirit and calvados)
22089051	Spirits distilled from fruit, in containers holding <= 2 l (excl. plum, pear or cherry)
22089071	Spirits distilled from fruit, in containers holding > 2 l (excl. spirits distilled from grape wine or marc, plum, pear or cherry)

Source: EUROSTAT

Appendix 11 Brandy de Jerez, calvados and grappa product groups in the CN8 database

Code	Name
22082027	Jerezi brandy, in containers holding <= 2 l
22082087	Jerezi brandy, in containers holding > 2 l
22089045	Calvados, in containers holding <= 2 l
22082026	Grappa, in containers holding <= 2 l
22082086	Grappa, in containers holding > 2 l

Source: EUROSTAT