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The evolution of Port merchants: An evolutionary analysis of the transformation of an economic sector (1700-1833)

Marc Jacquinet *

Resumo

No presente trabalho de investigação apresento uma descrição da transformação do comércio do vinho do Porto e dos seus actores – os mercadores britânicos, portugueses, hamburgueses e holandeses. Trata-se de um episódio de profunda transformação do sector comercial que entre finais do século XVII e meados do seguinte vê a emergência e a consolidação do domínio dos mercadores britânicos em detrimento da posição competitiva dos comerciantes de outras nacionalidades, incluindo os comerciantes portugueses. Neste período, a Inglaterra, o primeiro mercado importador de vinhos de então, distancia-se dos vinhos do Mediterrâneo e do Norte da Europa (*i. e.*, sobretudo, da Alemanha) para aproximar-se dos vinhos peninsulares, nomeadamente do chamado “vinho do Porto”.

O centro de gravidade do consumo desloca-se para Inglaterra e, a sua vez, a produção desloca-se; os fornecedores tradicionais do Mediterrâneo entram em decadência, são substituídos pelos concorrentes peninsulares, mormente pelos vinhos do Xerez e os do Douro. Além desta transformação geral, já estudada, é importante perceber melhor a própria dinâmica da emergência de novos comerciantes e a sua evolução até o período que precede a aparição dos flagelos da vinha e dos vinhos: o oídio e a filoxera, na segunda metade do século XIX.

O que me proponho estudar é, primeiro, a constituição, no sector do vinho do Porto, de um “núcleo duro” de negociantes britânicos no trato do vinho que vai evoluir e transformar-se, mantendo a sua posição adquirida e até.

O segundo ponto que realço na presente investigação é a transformação e renovação da população dos mercadores de vinho: tanto os de nacionalidade portuguesa como os de nacionalidade britânica.

Apresento um quadro de análise da população total do comércio do vinho do Porto, desde o início do século XVIII até meados do século XIX, numa perspectiva evolucionista, baseando-me em documentos de arquivos da Alfândega do Porto ou do Ministério das Obras Públicas assim como em outras fontes relevantes.

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Uma versão anterior mais limitada foi apresentada na conferência EAEPE de Bremen em Novembro de 2005 e na qual recebi comentários de vários participantes, os quais agradeço. Qualquer erro que possa subsistir é da minha inteira responsabilidade.

A primeira parte define o problema em estudo: a evolução do comércio e da população de mercados de vinho generoso do Douro do período posterior à Restauração até a guerra civil dos anos 1830.

Na segunda parte, desenvolvo os elementos teóricos – baseados no teoria da evolução e nos conceitos relativos ao estudo das populações – para poder proceder, numa terceira parte, a descrição da transformação deste sector comercial e permitir uma interpretação baseadas em diversos indicadores económicos, nomeadamente as quantidades exportadas por comerciantes e a estrutura do seu comércio, as tendências de mercado e a volatilidade do sector.

Finalmente, na conclusão avançarei um quadro comparativo entre a situação no início do período em apreço e a dos anos 1830.

Abstract

In the present research, I will describe the transformation of the Port wine trade and the very population of British, Portuguese, and other Foreign merchants. My purpose is to give a coherent account of a very profound change of this specific trade sector from the end of the 17th to the middle of the 19th century, i.e., from the Methuen Treaty to the following years of the lost of Brazil that corresponds to other big changes in the Portuguese economy and institutional setting (from the Restoration of the Portuguese monarchy to the civil war of the 1830s, following the French invasions of 1808-1812 and the advent of liberalism).

I present here a description of the transformation of the Port wine trade and its dynamics that are based on the evolution of the population of merchants of different nationalities (e.g., British, Dutch, Hamburger, and Portuguese) and endowed with asymmetric means, institutions and strategies.

This historical episode is one of a profound transformation of this trade sector that between the end of the 17th century and the middle of the following one, namely the emergence and strengthening of the position of the British merchants in detriment to the competitive position of the merchants of other nationalities, including the Portuguese. During this period, England, the first import market for wine, a market undergoing substantial changes, dissociating itself from the traditional European wine of the previous century: the German and Italian wine, and associating itself with the Iberian Peninsular wines such as the Sherry (Jerez) and Port (vinho do Porto). Of course, the French wines retain a central place in the present story but this will not be our focus here.

If the gravity center of consumption is dislocated to England, the production regions are also reorganized. The Iberian Peninsula is the rising side of the trade, directly competing with the French wines. Behind this change, there lies the emergence of a new population of wine merchants, especially in the case of the Port wine that I study in the present research.

If the overall transformation of the sector, on an aggregated level has already been done, there is still a need of a research based on more detailed information. In this respect, I will insist above all on the transformation and evolution of the population of Port shipper from 1700 to 1833, basing my argument on historical documents from the Portuguese and English customs and other regulatory entities in Portugal.

I will present the evolution of the population of wine merchants based on quantitative data (quantities exported) and qualitative data on Port shippers. I will focus the

constitution and evolution of the core British merchants that will obtain and maintain the dominance on the sector.

The second point of my research is the mechanism of transformation and renewal of the population of Port merchants of either group: British and non-British (as it is often referred to in the historical records).

The perspective I will adopt is straightforwardly evolutionary. In the first section I present the issue I will tackle: the evolution of trade and the population of Port shippers from roughly 1700 to 1833. In the second section, I will develop some basic theoretical concepts from evolutionary theory in order to adapt them to the present study. In the third part, I analyze the evolution of the population of wine merchants on quantitative data of exports, other economic and institutional indicators (market trends, regulation policy, market structure, etc.). I will finish with the presentation of a summary table that will compare the situation at the beginning of the period and the outcome of the evolutionary transformation of the sector at the end of the 1830s.

* * * * *

Introduction

The present analysis deals with the Modern origins (approximately from the second half of the 17th century) and the subsequent transformations of the Port wine sector, focusing on the population of shippers and evidencing the role of the big players in the Upper Douro and the city of Porto.¹ The available data do not permit us to go beyond the late 17th century, though the profound changes in the wine trade date back well into the beginning of the 16th century, with an accelerating pace, above all, from the middle of the seventeenth century with a diversification and internationalization of the commercial routes (Ferreira 1983).

The expansion of the wine trade and its first major technological transformations is closely related, first, to the expansion of the Dutch and, subsequently, the British, commercial empires, and, second, to the broadening of the consumer market for alcohol beverages at both ends: the low priced drinks (such as beer) and the top quality wines, such as the Port wine. A dichotomy that is still fundamental today in the strategy of Port shippers and wine or alcoholic beverage conglomerates.²

¹ I introduce the concept of repeat player as used in the sociology of law for characterizing the people that repeatedly go to court for forcing the other part of the contract to comply with the clauses. Here a repeat player is a rather big shipper or one that because of the high frequency of its trading acts, including export transactions, and because he can learn better and strive better for survival than a small or (almost) one-shot player. The routines of those repeat player get better ingrained in their business and augment their fitness potential.

² See the role of urbanization to the expansion of wine markets (Lachiver 1988, Unwin 1991).

Nevertheless, while it is usual to encounter both low and high quality wines, there is still lacking, for most of our period, a genuine mass market for wine, *i. e.*, a market for reasonable wines at a low price. In all probability, what approximates most the mass market in the 18th century is the local Porto wine market, in the taverns of the city and its outer limits.³ At the international level, this will be the revolution of the 20th century: the creation of a mass market for wine on a scale that was never found before. The British and the French markets were the first to enter that transformation. Before that period, the low quality wine was one of many markets with a rather low level of wine consumption (Simpson 2004). The creation of the mass market for wine is a rather complicated issue that has been understudied and probably part of the answer lies in the evolution of the low quality wine and the fact that by the end of the 19th century the technological factors were ready for a better conservation of cheap wines through the widening of what H. Paul has called the Pasteurian paradigm to almost all types of wines.

Therefore, the starting point at about 1680 gives us a partial view of the origins of the sector and its transformations under way around the end of the 17th and the beginning 18th centuries.

I will rely on the distinction of the two main groups in the Port wine sector: the traders, on the one hand, and the cultivators and winemakers, on the other.⁴ This distinction is quite old but has been increasingly blurred from the late 1860s onwards, following the phylloxera crisis and the transformation of the wine trade, especially around the changing patterns of capital investments and technological needs in the sector. Later, the new wave of internationalization of the sector, namely after World War II, triggers new investments from merchants and international corporations for alcoholic beverages in the vineyards and the wineries. The movement of globalization for all beverages has been increasing since the mid 1960s and has been paralleled by a pervasive technological change in the wine industry both on the production side and on the trade business.

³ The market of the city (*cidade do Porto e o seu termo*) is flooded by wines of a lower quality (*vinho de ramo*) than the wines for the British market (Factory wine).

⁴ Of course, another distinction should be made between the vine cultivator (*vigneron*) and the winemaker, the latter dedicated to the vinification and conservation of wine. See ... chapter 2 of the second part.

1. Structure of the market and characteristics of the population of shipping firms: A fundamental distinction

Two groups of actors dominate the wine business. On the one hand, we find the wine growers, cultivating the vineyards and very often making wine. Those making wines proper for exports are the ones that have reached a critical size. The big landowners and some medium-sized production units, often well integrated with the trading business, dominate the first group. On the other hand, the shipping industry consists of the traditional merchants, nationals and foreigners, and the speculators and capitalist investors. This group has passed through several important transformations.

This distinction is analytical and both sides of the picture are necessary to understand the dynamics and transformation of the wine sector. This very argument is not new: Henri Pirenne once said that “wine trade cannot be conceived without the viticulture” (Pirenne 1969: 26). The two sides of the production process – viticulture and vinification – did not receive the same attention through the last three centuries. This situation has complicated the study of the historical sources. The relation between the two groups (vignerons and winemakers, on the one hand, and Port shipper, on the other hand) has been, by moments, of complementarity, but, more often than not, of conflict and opposing interests.

<u>TRADERS AND SHIPPERS</u>	<u>CULTIVATORS, WINEMAKERS AND OTHERS</u>
- FOREIGN MERCHANTS (EXCEPT BRITISH); - BRITISH MERCHANTS; - PORTUGUESE MERCHANTS;	- <i>VINE-GROWERS</i> OR <i>VIGNERONS</i> ; ⁵ - <i>WINE-MAKERS</i> ; - <i>OTHERS</i> ; ⁶

Table n.º1: The categories of wine merchants, winegrowers and other professionals.

Through the ages, the Port shippers have evolved quite considerably. I distinguish two historical ideal-types: the merchant that corresponds to the trader of the

⁵ The word « winegrowers » is ambiguous because it does not distinguish the work in the vineyard (the treatment of the vine) by the vine-cultivators (*lavradores*) from the winemaking process in the winery and cellars (*adega*) which includes the work in the *lagar* (the wine press), the vinification proper and the treatment in the casks after that the process of fermentation has ended.

⁶ This include the professions that historically had their importance in the wine industry: the cask makers or coopers (*tanoeiros*), the Douro transporters with or without the rabelo boat (*barco rabelo*), etc. For references on coopers, see Lacerda (2000) and Veiga (1954).

first capitalist expansion, and the firm that is the transformation of the individual traders into corporations with distinct structure of ownership.

The merchant is the figure that dominates the wine trade until the early 18th century and is by then slowly but steadily substituted by the other figure: the shipping firm, which is a transformation of the individual merchant into a capitalist firm. The landmark of the merchant is his personality and his personal or family assets and relationships, whereas the firm is an association of investors (associates) that share some common purpose and that appear by the end of the 17th century and is profoundly transforming the trade business. The 18th century corresponds to the first clear expansion of trading firms beyond individual endeavors. The necessity of prominent capitals for the trading of wine and the simultaneous affirmation of the commercial companies in the Pombal era will transform the population of traders. Most of the shippers that will survive from 1763 to 1799 or even 1825 are associations of individuals referred to in the Portuguese customs' manuscripts as "e cpa.", "C^a" for *companhia*, corporation or company.

Finally, I could distinguish a third case, beyond the merchant and the firm, the corporation where the ownership is not in the hand of associates but are owned by other firms or important investors (Jacquinet 2006).

2. A typology of Port shippers, 1678-1995

	Merchants	Firms⁷	Corporations
Ownership	Individual	Associates	Investors and other corporations
Typical period	17th-18 th	19 th	20 th
Foundations of business	Individuality	Contract or convention of association (of merchants)	Capitalization
Capital distinction entity/owner	Not always clearly separated from the individual's private ownership	Limited liability	Limited and structured liability ⁸

Table n.º 2: Three types of shippers, two for the period under review (merchants and firms)

The figure of the merchant is still relevant in the early 19th century but disappears by the turn of the century with the rise of the shipping firms, some already gaining momentum in the late 18th century. The 20th century is the century of the transformation of the shipping firms into corporations, movement accentuated after World War II

If both sides are important, for reasons of time and space, but also because the information on the production of wine is more dispersed and limited, I will focus on the shippers rather than the winemakers, except for the technological side of the story presented in the previous chapter. Accordingly, I have given in the previous chapter first a brief description of the winegrowers and sketch a typology of their population. With regard to the shippers, I will rely on information from several archives.

In order to avoid a cumbersome exposition on the data, the annex of the thesis describes, archive by archive, the documents I have consulted.

⁷ The shipping firm during the period 1933-1974 is symptomatically called *firma (exportadora)* in the documents of the IVP, the regulating body of the Ministry of Agriculture. So, in a way when we talk about *firms* in the sector it has usually the meaning of a joint stock company that corresponds either to the two types of business endeavors I have distinguished: the firm and the corporation.

Between the firm and the corporation, there is an important difference. While the firm can have frequently a close relationship with the family that established the business some generations ago, e. g., the Ferreira, the Ramos Pinto, etc, the corporation, as a rule, does not maintain such a close relationship. The administration is not traditionally given to a member of the founding family. This does not mean that the family is not active in the corporation, quite the contrary. But its form is less pervasive and within stricter bounds of action and decision.

⁸ By structured liability I mean the structure of the portfolio of investments of a corporation in different business activities and the existence of cross-investments between related firms. The logic of this organization of investments goes beyond the logic of the Port wine sector, including global strategies of multinationals in alcoholic beverages or corporations that invest in the sector as a consequence of the strategy of diversification and search for prestige and distinctive units of production like a traditional wine producer or a quinta.

3. A proposal for an evolutionary analysis

First, we can consider each export as an action that positively influences the probability of survival. Second, this probability is not just influenced by the frequency of exports but also by the very level of exports. A firm with a higher quantity of pipes of wine per export increases its chances of success. The frequency and volume positively influence the probability of survival; and the firms that are still around today, albeit of a different type and structure, are those that became big and repeat players, frequently exporting large quantities of wine. Behind this mechanism there is a process of learning through repetition of a bunch of acts leading to export, mainly to the United Kingdom until well into the 20th century.

The Port wine is a rather well delimited sector composed – on the trade side – of a population of shippers, varying between 40 to 200 firms in the periods going roughly from the 1750s to the 1970s. This allows me to adopt an evolutionary analysis of the sector based on the population perspective of the shippers. I have gathered information on the companies from 1769 to 1970 that include the list of firms and the quantities exported in a respective year. Moreover, for the interpretation of the data I have relied on different documents coming from archives.

4. The structure of the market and its evolution

One of the central aspects of the sector is the relative concentration, with the trade being dominated by some five to twenty firms or merchants, at least the trade that matters in terms of mark-up or market share (Jacquinet 2006). I use the working hypothesis that the larger the market share the more difficult it gets to keep on going not just because of the competition of others but because of the erosion of the internal structure of the firms, the continuous change in the technological frontier and knowledge base. I will, in what follows, rely on some traditional measures of concentration like the market share, the concentration ratio (CR) and the Herfindahl index (HI), while making some adaptation to these statistics for the sake of clarity.

If we take the usual measures of concentration for the sector –the concentration ratio (CR, here in the table C_k) and the Herfindahl index (HI); we can see that the sector is far from the perfect competition paradigm. It is neither a perfect competition case nor

a very high concentration sector such as electricity in some countries of the current European Union.

In general, the study of the concentration cannot be limited to the indicators presented here; it must be taken into account some qualitative aspects that can give us a better interpretation and understanding of the structure of the sector and its level of concentration in particular.

Years	Number of firms	C1	C5	C10	C15	C20	H1	H5	H10	H15	H20	HI
1763												
1777	75 (69) ⁹	20,8	53,8	73,3	84,9	91,3	4,33	7,90	8,67	8,96	9,04	9,08
1786	88 (79)	25,7	54,1	78,5	88,6	94,4	6,60	8,81	10,01	10,23	10,29	10,32
1799	64	9,6	37,6	58,6	74,3	82,9	0,91	2,94	3,84	4,26	4,46	4,63
1833	91	12	39	57	69	77	1,36	3,37	4,05	4,23	4,39	4,62
1866	43 * ¹⁰	15	40,1	58	67,9	75	2,24	3,88	4,59	4,78	4,89	5,00
1875	91* ⁷¹	9,6	30,5	46,9	55,4	61,5	0,91	2,04	2,60	2,74	2,82	2,97
1948	80	8	25	39	49	59	0,65	1,38	1,76	2,00	2,19	2,62
1960	75	16	36	49	57	67	2,30	3,40	3,68	3,92	4,07	4,38
1972	59	13	40	55	66	76	1,60	3,97	4,41	4,68	4,88	5,12
1974	56	18	47	61	71	79	3,19	5,78	6,20	6,39	6,52	6,71

C_k – or concentration ratio – is the aggregated market share of all the firms from 1 to k, when all firms are ranked by size of quantities sold, C₁ is the market share of the biggest firm, C₂₀ is the market share of the 20 biggest firms;

H is the measure for concentration that is based on the calculations necessary for obtaining the Herfindahl index and adapted for the distribution of some selected groups of the 20 first firms. The HI is the Herfindahl index for measuring the concentration in the wine sector.

Table n.º 3. – Measures of concentration through the years 1777-1974.¹¹

The case of perfect competition gives us a market share of s_i for the firm i . The aggregation of the market shares of the firms ranked by size (measured by volume of sales, here the number of pipes or hectoliters exported and sold in Portugal) gives us the concentration ratio that is defined as the following:

⁹

¹⁰ The data, available at the Arquivo Histórico do Ministério dos Negócios Estrangeiros (AHMNE), are not complete. The small producers are aggregated into “others” and there is no way to know exactly how many they were. Therefore, I had to guess. So I added one third of the figures available in order to estimate the small shippers.

¹¹ The data come from the ANTT for the years 1763-1833, the AHMNE for the years 1866-1875, and, finally, for the years 1748-1974, from the series of the archives of the IVP at the Museu do Douro (physically located temporarily at the Arquivo Distrital do Porto). See the annex for the precise references about the different manuscripts and other primary sources.

$$C_k = \sum_{i=1}^k s_i, \text{ where } s_i \text{ is the market share of firm } i, s_i \in [0, 1] \text{ and } k \text{ the}$$

number of firms that are included in the ratio. The market share varies between 0 and 1; the extreme cases of perfect competition and monopoly. Other ways to express it, in percentage points, is possible but I will ignore it here given that the interpretation is the same. I proceed this way because of the facility of constructing the next indicator of concentration.

In the table, I have chosen the concentration ratio for the following five cases: the first firm, the fifth, the tenth, the fifteenth, and the twentieth.

An alternative to the concentration ratio is the Herfindahl-Hirschman index (HHI) that measures the overall concentration in a sector and can be expressed as follows:

$$H = \sum_{i=1}^n s_i^2, \text{ where } s_i \text{ is again the market share, } s_i \in [0, 1] \text{ and } n \text{ is the}$$

total number of firms.

One caution we have to have with this index is the definition of the relevant market. In our case, the Port wine is a good example of a correct definition of a market: the product is almost unique and defines a product coming from a demarcated area. Even if there is some fraud and in some countries some firms used the name Port, this problem is secondary for understanding the change in the internal structure of the sector. These considerations on the imitations of the product are of some value but discarded here for several reasons: feasibility, available data, and a rather good approximation with no other better substitute.

Because of the lack of data, I had to adapt or approximate the HHI by doing the following: take the idea behind the concentration ratio and transpose it to the Herfindahl-Hirschman index. I define an index that is expressed as the sum of the square of the market shares up to the last firm k that enters in the summation, but does not necessary goes to the last and smallest firm. I obtain the following:

$$H_k \equiv \sum_{i=1}^k s_i^2, \text{ where } k \text{ is the } k^{\text{th}} \text{ firm that enters into the index and this measure}$$

corresponds to the C_k , but expressed differently. In the table for the port shipper I give

the H_k for $k=1, 5, 10, 15$ and n , the last one is the true Herfindahl index as we can find in the last column of the table (HI).¹²

The Herfindahl index can reach a maximum value of 10.000, which is a case of monopoly, and often met in the energy sector in small and highly regulated economies like the Portuguese of the Greek cases. Of course, the values I obtain are far from this extreme case, but it is still a case of high concentration especially for the years 1777, 1866, 1972 and 1974. It is probably the case today, given that the acquisitions of firms like Sandeman by Sogrape, which also owns Ferreira, Hunt & Roope, etc. and other ones, acquisitioned in the last two decades, or even with a higher overall index.

First of all, the size of firms does not go over one hundred firms, a rather small number given the level of production in the sector. Except for the last 50 years, the British merchants or firms dominated the export market throughout the period, between one-third and one-half of the total population of shippers. Nevertheless, their concentration was also in the group of the biggest firms: Warre, Croft and others in the 18th and 19th centuries; Cockburn and Sandeman, during the last past two centuries. C1 for example is Sandeman from 1833 to 1974, a rather good score if compared to other big firms that entered the market much before George Sandeman in the 1810s.

Second, the concentration ratio, the adapted H_k indexes, and the Herfindahl index are measures of the intensity of the concentration in a given market of economic sector. But this does not take into account the total market size, in terms of volume, and the type of evolution the same market is undergoing, e. g., either expansion or recession. If we compare 1777 and 1786, the HI rises from 908 to circa 1032, revealing a higher concentration, and indeed the biggest firm rises from 21 to almost 26 percents of market share; but this happens in a period of stagnation in the market. If we compare the two years, a decrease of total exports is evident from about 30190 pipes in 1777 to 27234 pipes in 1786. Several firms and merchants disappear completely, even if the total number of traders has increased by 13. What makes the difference is the fusion or disappearance of some of the most important Portuguese and British merchants. If

¹² Another interesting statistic is the instability index, I , that measures the sum of the absolute value of the variation of the market shares. I will not use it here because the periods I have taken are not sufficient and this measure is sensitive to the interval of years between the observations and the intervals are irregular because of the non availability of most of the years between 1800 and 1975.

$$I \equiv \frac{1}{2} \sum_{i=1}^n |s_{i2} - s_{i1}|$$

Manuel Portugal Calhorda, that exported 205 pipes in 1777, ends its export activities in the meanwhile, this loss compensated by some new or more dynamic traders such as Manuel Francisco Guimarães, José Euletéro Barbosa de Lima, Pedro Marinho da Costa and the firm Rocha Ribeiro & C^a. The firm Thomas Lambert & C^a disappears and is substituted by another firm: the Lambert Kingston but the quantities exported by the new firm dropped from 2144,5 to 1328 pipes. The same happens to William Campion that is associated with Offley and Hesketh in a new company, but the new company of the associates exports just 2960 pipes in 1786 while William Campion exported 4926 pipes and Hesketh 938 pipes in 1777.

Another factor has to do with the fact that 1785 was a bad harvest year in quality even though in terms of quantity it was reasonable (Henrique David 1997).

Third, the HI index is not just a measure of concentration but also one of diversity, as currently used in biology, genetics and agronomy. If it was very close to one, there just a few species, at the lowest level just one, indicating that there is low or even no diversity at all. The interpretation is nevertheless not straightforward for most of the values of HI. In industrial organization studies, if the Herfindahl index is close to 10.000, we have just one firm and no diversity and if the HI index is zero, we have perfect competition; this is straightforward. But in practice and except the cases of very high concentration and monopoly, the index has values that oscillate between the two extremes.

Close to zero, we find an infinite possibility of more or less diversity, but in our case we are not close to zero, this does it mean that the diversity is low? On the basis of the number of firms, maybe but this is arguable. And this is exactly what we have here, an index that fluctuates between 262 and 1031,6.

In biology the index is usually expressed in decimals and when the index is close to one, there is very low or no diversity whereas if the index is close to zero, there are many different species.

5 Conclusions

Over the whole period under study, the merchants are basically the rising side of the sector and the cultivators, treating the vine and making wine are lagging behind because

of the lack of organization, political support and general lack of resources due to their economic, political, institutional and social isolation.

A first conclusion that results from the study of the various documents – from the Porto fiscal administration to the *Companhia Geral* – is the importance of the central players, i. e., those that can define and influence the rules of the game, such as the big port shippers. There is a clear concentration in the sector and it is continuously renewed through the centuries.¹³ As I have tried to show, the Herfindahl index has fluctuated as time went by, but not it has not much decreased substantially over the period, quite to the contrary.¹⁴

A second conclusion has to do with the high degree of renewal of the business. Most of the firms or individuals disappear or die, and even the absorption of one firm by another gives us firms that still bear the same name but are quite different from the time preceding the fusion or acquisition. In other words, there is a high instability of the sector, typical of a product like wine, influenced by many factors: climate, vine blights, wine diseases, war, political alliances, competition, state and regional regulation, etc. We see also the emergence of new firms and the growth of some, while others decline, almost inexorably, not to mention those very small traders that are a very high proportion of the total population, but that do not survive much time in the business, especially with exclusive dedication to wine trade. This is clear when we compare the list of exporters from generation to generation. This second point is of high relevance for our study.

Finally, the type of shipping firms has evolved historically from individual merchants, a characteristic of the 17th and 18th centuries; to trading firms still centered on family ties and the rising role of the partners, from the late 18th and the whole 19th centuries, and to the trading corporations of the 20th centuries, appearing in the Port wine sector after World War II.

¹³ See the documents of the AHMOP, MR 35, mf. 28, Mappa dos vinhos legaes de embarque ...; mf. 29, Mappa de exportadores ... 1792; mf. 30, vinho de ramo ... da Companhia Geral ... (1756-1788); and mf. 31, 1784. I have also used several years of the Books of registry of the Alfândega do Porto (ANTT, Alfândega do Porto, from 1769 to 1833. The documents of the IVP show a rather high concentration and an ever increasing one throughout the 20th century (Jacquinet 2006).

¹⁴ Although I have no precise quantitative data of the current market share in the sector, with the recent buyouts and absorptions in the last decade, the index could only have increased substantially.

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