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THE BIRTH AND EVOLUTION OF THE BOTTLED WATER MARKET IN ITALY UNTIL THE WORLD WAR II

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Abstract

This paper presents the initial findings of an ongoing research project examining the birth and evolution of the Italian bottled water market until the WWII through an analysis of a variety of documentary sources. The study examines the development of the production and consumption of this fundamental commodity, with a particular focus on the economic, social and cultural variables that affected supply and demand. The paper reveals that the growth of the industry during the period under examination - which commenced at the inception of the country's overall developmental trajectory - was constrained by two key factors. Firstly, the prevailing inefficiency of the system - characterized by a fragmented market, small size enterprises and high production costs - limited the potential for expansion. Secondly, the gradual shift in consumer preferences, which was largely aligned with the traditional perception of mineral water as a medicinal product. Consequently, despite the undeniable expansion of the sector, the scale of production remained relatively limited, and the domestic consumption persisted at a modest level, failing to become a daily habit.

Keywords

Food History, Bottled Water Market, Development of Italian Industry 19th-20th Centuries

Introduction

1. Italy has an extraordinary wealth of mineral and thermal waters, the result of favorable geological conditions that facilitate the purification and mineralization of the subsoil, enabling the extraction of products with distinctive chemical and organic characteristics. The longstanding tradition of water exploitation has become an integral part of the Italian cultural heritage, and the substantial turnover associated with bottling has positioned Italians as one of the world's leading producers and consumers. However, the existing literature on the history of this subject remains limited. The only studies that have dealt with the theme as a whole are the fundamental ones by Paolo Raspadori (Raspadori 2002 and 2008) and Nicolas Marty (Marty, 2013), the latter mainly from a comparative European perspective. The other researches, although of great interest, have focused on individual realities or from a medical point of view, but little in the historical-economic field[i].

Two primary factors contribute to the dearth of studies in this area (Ciuffetti, 2007). First, there is a pervasive misconception that water is a trivial product, a commodity with a low unit value, essential for vital functions but of little economic interest. Second, there is a shortage of accounting data, as companies operating in the field, which are generally small, have often not kept records in their archives. In order to gain insight into the origins of the sector, it is necessary to gather information from a range of sources, including specialist literature, notes of observers, medical dissertations and commercial attachés' reports. As a matter of fact, quantitative data are scarce at the official level before the Second World War. In the industrial censuses, reports on mineral water were confused with that on beverages, and it was not until 1930 that the General Directorate of Industry and Mines of the Ministry of Industry began to print statistics on the actual volume of bottled water. Fortunately, as early as 1861, the Ministry of Finance published data on the "Movimento commerciale del Regno d'Italia" and, from 1899, the "Annuari d'Italia per l'esportazione e l'importazione". The books containing data on Italian exports and imports also include specific information on international trade in mineral waters, providing concrete and measurable evidence of the changes that occurred in the sector during the decades at the turn of the 19th and 20th centuries.

This paper presents the initial findings of an ongoing research project on the genesis and evolution of the Italian bottled water market. The investigation of how the production and consumption of this commodity developed and the variables that influenced its evolution is particularly interesting given the nature of the product and the structure of its industry. Unlike other foodstuffs, water is a public good, a fact that places it in a special position. In Italy water is considered a mineral product and as such part of the national heritage. Consequently, the exploitation of these resources is subject to public concessions. In addition, the industry exhibits a number of distinctive characteristics. Since the cost of the raw material is irrelevant, the most important expenditure for companies is that of packaging and shipping, which leads to the segmentation of the market into local submarkets. In fact, the cost of transportation has a significant impact on the final price, given the considerable logistical effort and the volume of the product, and it is only the limited distance from the source that makes the commodity competitive. Finally, there is the problem of the obligatory location of the companies, which must collect and bottle water directly at the source, a fact that limits the size of the plants and affects their development.

In short, water is a unique substance, yet it is still a food product. Despite its lack of caloric value, it is an indispensable component of the diet and lies at the base of the food pyramid. The present paper is situated within the historiographical framework that considers food and consumption habits as tools for understanding transformations in economic and social systems, a fundamental lesson derived from the interdisciplinary eclecticism of the "Annales" school. In recent years, there has been a notable increase in the number of academic studies in the field of food history, with a wide range of thematic and methodological approaches addressing issues that in the past had been overlooked. Yet, in the economic sphere, there is still much to be investigated, particularly with regard to the social and cultural variables that affect supply and demand, as well as the relationships that develop between the two forces. The role of market mechanisms is of great importance in understanding how people are attracted to the product, always divided between instinctive drives and logical behavior (Marty, 2008). The food market is a place where material goods are exchanged, but also symbols and economic rationality may not always be the primary determining factor (Sorcinelli, 1998 and Magagnoli, 2017). This is particularly relevant in the case of water, a natural element, which throughout history has sedimented sacred and mythological values like no other.

2. The Italian passion for mineral waters has ancient roots. Springs have historically been regarded as miraculous and cult places, with votive offerings often being thrown to promote fertility and regeneration, and shrines with ritual functions being constructed around the sources. In Roman society, frequenting *balnea* and *termae* was a common occurrence shared by all social classes because it was understood as a means of keeping the body and mind healthy. During the Middle Ages, the practice of bathing and drinking waters with curative properties declined due to the shift towards a more rural lifestyle and the evolution of hygienic habits within the population. It was only in modern times that the upper classes returned to thermal baths and a series of hydrotherapeutic treatises were published praising their virtues. In any case, the consumption of mineral water remained limited and always in a medical context.

Towards the end of the 18th century and especially during the 19th century, a new culture of water emerged in Europe and science redefined its role as an essential factor in the solution of many pathologies (Soresina, 2000). The spa experience was not just physical; the establishments were surrounded by leisure facilities that offered a diverse array of recreational and cultural services to enhance overall personal well-being. Indeed, water was almost an adjunct to the business that revolved around the spa's luxury and general vacation offerings. The rise in this type of consumption was a consequence of the spread of economic development in Europe, since it was linked to the increase in both the level of per capita income - which did not have to be spent entirely on primary goods - and the amount of leisure time available, a sort of precondition for the enjoyment of these types of services. Spa, Vichy, Bath, Montecatini, Baden-Baden were the centers of attraction for the aristocracy and the emerging bourgeoisie, who imitated the conduct of the *élite* and gradually spread the use of water with specific characteristics.

The bottled water industry has its origins in the desire to enjoy the benefits of spas at home. However, there was a trade in packaged waters well before the 19th century. In 1583, Henry II of France obtained the exclusive right to import Spa waters for his own consumption, and in the same year, a decree was issued in the Grand Duchy of Tuscany regulating the transport and sale of Montecatini water (Zanasi and Parola, 2013). In the 18th century, the practice of using the waters for therapeutic purposes became widespread, leading to the establishment of pharmacies and druggists' shops near the baths, which allowed those interested to continue their treatment at home by supplying them with the necessary products[ii]. The actual bottling process began around the 1820s, although it was only an adjunct to the business that revolved around the plant (Chambriard, 1998), except for water from some sources that were almost exclusively sold to pharmacies and hotels, such as the French Evian (Auby, 1994) and the German Selters, better known as Seltz (Weil, 2014).

With the industrial development of the 19th century, the bottling sector became increasingly independent from the spa activity. New technologies were employed in the production of glass, the automation of the filling and packaging process, and the introduction of the first mechanical capping machine (1840) led to a reduction in the price of water, a key factor in the consumption of a low-value-added commodity. Gradually, the demand for water

with special therapeutic qualities increased, especially among members of the middle class, who were inclined to emphasize the economic and social status achieved by consuming a good that symbolized distinction and prestige, according to the Veblenian model[iii]. Then again, bottled water is a luxury, but it is an easy luxury to afford. The smaller, individual or family-owned businesses that had previously been engaged in the exploitation of the resource were supplanted by larger, more financially robust entities with intricate business structures. At the same time, improved communications - which reduced costs and speeded transportation - and the opening of markets led to a transformation of the industry. From the 1850s onwards, bottled water production began on a manufacturing scale: in England in Malvern in 1850 thanks to the Schweppes family (Simmons, 1983), in France in Vichy in 1853 (Chambriard, 1999), in Vittel in 1855 (Rothiot, 2002), in Vergèze in 1863 (Marty, 2005) in Germany in Bad Neuenahr (Apollinaris) in 1873 and, on the other side of the Atlantic, in Saratoga in 1872 and Poland in 1876 (LaMoreaux, 2001).

3. For most of the 19th century, mineral water consumption in Italy was the privilege of a select few. Bottled waters were sold almost exclusively in pharmacies near the sources, and their fame did not extend beyond regional borders. The economic impact of the sector was negligible. Demand was low and failed to stimulate supply, which was backward, tied to traditional production processes and low capital. Some companies established a name within the industry (Pejo, Rabbi, Fratta, Sales)[iv], and expanded their operations to international scene, such as Recoaro[v], but the market was characterized by a prevalence of small companies with inadequate structural networks and the reduced consumption capacity of households also acted as a barrier to the consolidation of an articulated production system.

The situation, however, was not entirely static. In the 19th century, water for domestic use was supplied from wells and fountains without quality control, but thanks to the progress of science, particularly the study of bacteria, hygienist currents gained strength and promoted campaigns to raise public awareness of the importance of water for health. This phenomenon, combined with population growth and the process of urbanization, led to the construction of aqueducts and sewage treatment plants, which drew water from rivers and fed it into the city's supply network under pressure (Bigatti, 1997). This represented a significant advancement in the field of water management, although, paradoxically, it increased the likelihood of contamination in the absence of adequate sewage and filtration systems and contributed to the differentiation of spring waters, which were increasingly distinguished for their purity and therapeutic value.

The amplified interest of medical science in water stimulated the publication of studies that provide an estimate of the number and distribution of springs exploited in the pre-unification Italian states, but without any work summarizing the news in a concise picture[vi]. The situation changed with the creation of the Kingdom in 1861 as the government intended to take over the economic resources in the territory as a fundamental prerequisite for implementing policies to modernize the country. Finally, in 1868, a census of waters was produced that recorded 1,629 springs'[vii]. Of these, 304 were designated as "baths," 482 as "drink," 291 as "baths and drinks," 7 as "stoves," which were thermal rooms in which underground water vapors were harnessed to promote sweating and the remaining 545 springs were designated as "uncertain or dubious use". There was awareness of the vast number of existing waters, although from an economic point of view the impact of the sector was limited. In 1875, Plinio Schivardi - a doctor interested in hydrotherapy - listed twenty-eight brands and described the modest scale of the phenomenon (Schivardi, 1870, 452). The commercial success of some thermal establishment was not mirrored by corresponding sales figures. Indeed, numerous commentators have cautioned against the waste of a favourable economic chance for the entire country, citing an increasing demand that appeared unable to be met by an inadequate supply[viii].

The market for bottled water was relatively limited and in the absence of progress in business organization the unit costs of production and distribution remained high, which had an impact on the final price of the good. The lists of mineral waters on sale at A. Manzoni & C. of Milan and published in the "Gazzetta Medica Italiana. Lombardia" provide the prices and names of the waters that have been treated by this important pharmaceutical wholesale company (which was to become Italy's most relevant advertising concessionaire). These lists allow us to make some reflections. Firstly, the number and nationality of the brands traded, as well as their evolution over the years. From the initial listing in 1875 to the end of the century, the number of products on the list passed from 39 to 62. This is indicative of an increase in consumption, although the majority of products were sourced from the most renowned foreign companies, namely French, German, Hungarian, and Czech, which have risen from 21 to 39. In contrast, the number of national companies has only grown from 18 to 23 units. The Italian waters included in the lists are almost all from the north, demonstrating the division of the market into local segments, a consequence of the high impact of transport costs on the final price of the product. The second observation concerns the prices. Over the 25-year period for which data are available, prices have remained relatively stable, with a clear distinction between national and foreign waters. In 1889, the average cost of an Italian bottle of water was 0.77 lire, while foreign bottles costed 1.05 lire[ix]. Despite the fact that the average price was approximately one-third lower, Italian products were unable to gain a foothold in the market. Conversely, the cost was prohibitive for the majority of the population. In 1890, a liter of wine costed on average 0.62 lire, a liter of milk 0.30 lire, a kilo of bread 0.38 lire and

a kilo of potatoes 0.14 lire[x] and the average daily wage of a worker was approximately 1.70 lire and that of an agricultural laborer was about 1.60 lire (Raspadori, 2002, 346). This meant that the cost of two bottles of water was equivalent to the earnings of a day's work.

4. The growth of the mineral water sector in Italy started in the 1890s, a period when the country's broader industrialization process began as part of the upward phase of the international economic cycle. The hydromineral branch underwent an evolution from a family-run management structure to a model where entrepreneurs assumed control. This transition involved the establishment of specific companies, increased investments in production facilities, an expansion of the product range, and the stimulation of demand in accordance with Say's law. Enterprises created packaging rooms that mechanized key steps in the production process, such as rinsing empty containers, filling, capping and labelling. The automation of the processes was carried out gradually and was influenced by the size of firms, thus leading to the coexistence of modern and archaic elements in the system over a long period of time. In 1892, the crown cap was patented in the United States and introduced to complement the mechanical cork and guarantee the preservation of the organoleptic qualities of the water. Furthermore, the location and year of bottling were indicated on the labels, thereby ensuring the product's freshness and facilitating its traceability to the place of origin. The new packaging was also a factor in encouraging consumption. Following the French precedent, the traditional terracotta containers were replaced by glass bottles, which had previously been used only for wine and spirits, thus visually placing mineral water in the realm of luxury products. In addition, earthenware vessels posed practical problems in terms of controlling the purity of the liquid and the cleaning required to reuse the container, which glass did not present.

A considerable number of companies were established in rapid succession, first accompanying and then overtaking the previous leaders of the small Italian water market (Rabbi, Pejo, Sales, Fratta, Montecatini, S. Caterina). The precise date of the inception of industrial activity is difficult to ascertain, due to the incomplete nature of the available information and the fact that numerous sources indicate that bottling operations commenced well before the establishment of the specific exploitation company. A few examples of brands that are still in production include: Sangemini (1889), Gaudianello and Gaverina (1890), Lete (1893), Nocera Umbra and Ferrarelle (1894), San Pellegrino (1899), Galvanina (1901), Fonte Margherita, Boario and San Martino (1902), Fiuggi (1905), Bracca and Bognanco (Ausonia) (1906). In some cases, the spa plant had the effect of stifling the diffusion of the brand itself, as Montecatini, Chianciano, and Salsomaggiore. In other cases, such as San Pellegrino and Nocera Umbra, the spa supported the development of the brand unless it became ancillary to the bottling business. Finally, in other cases, the affirmation of the brand did not depend on the presence of spas, whose water was taken directly from the aquifer and transported by pipes to the factory (Ferrarelle, Fratta and Lete). The history of the first companies created shows that there was no single path to success. Rather, it was the result of a combination of factors: an entrepreneurial spirit to manage projects efficiently, optimize resources and reduce costs; a competitive advantage to differentiate the product from the other companies; cooperation with public institutions and access to bank financing; and, finally, a forward-looking vision to adapt the business strategy to market and industry changes[xi].

The early years of the 20th century were marked by considerable turbulence in the hydromineral sector, a phenomenon shared by the entire European continent (Marty 2013: 27-32 and 49-53). In 1875 there were 28 active companies (Schivardi, 1875), but by 1894, this number had risen to 57 (Tioli, 1894, 543-552), which increased to 115 in 1931[xii]. In 1939, a list of waters authorized for consumption was published, which showed that out of a total of 354 mineral waters, 136 were sold in bottles, but of these 14 were no longer in operation, 20 were sold only in pharmacies or at the spa and 5 did not have an establishment. This means that there were 97 brands with a real commercial turnover.

The market expanded and some brands established themselves in Italy and abroad. It remains difficult to provide accurate data on actual sales. According to a volume published by the Ministry of the Interior in 1907[xiii], San Pellegrino appears to be the leader with around two million bottles produced every year (it is no coincidence that in 1904 the company was listed on the Milan Stock Exchange), followed by Nocera umbra (1,000,000), Claudia (800,000), Uliveto (600,000), Cinciano and Fiuggi (500,000). In general, the supply structure consisted of small companies operating at the local level and distributed throughout the country, especially in central and northern Italy, although with less concentration than in other industries due to the forced location of the sources.

In their efforts to differentiate their offerings, companies often resorted to highlighting the unique qualities of their products that competitors could not match. This involved the insertion of advertisements in scientific magazines and newspapers, as well as the diffusion of studies and medical reports on the therapeutic effects of the waters. The *réclame*, a term which was frequently employed at the time to describe this strategy, included the use of brochures, postcards, illustrated posters, and a series of gadgets that were distributed in restaurants and bars, such as pencil holders, letter openers, and wallets, constituted an essential element of the marketing policy. These promotional materials served to transform the occasional consumer into a repeat buyer. Over time, the importance of this policy has grown, in part due to the emergence of innovative distribution channels. Indeed, commerce exerts a profound influence on the world of consumption, the quality and quantity of goods available on the market, and

the manner and timing of purchase. Consequently, pharmacies, which were the primary vendors, were gradually joined by wholesale and retail stores, restaurants, and cafeterias, resulting in an expansion of consumption opportunities that required stimulation[xiv].

Despite the undeniable development, Italy remained far from the positions achieved by other European nations. In 1909, Italy exported 4,402 tons of water compared to 28,924 tons for France, 33,989 tons for the Austro-Hungarian Empire[xv] and nearly 50,000 tons for Germany, the world's leading exporter at the time (Marty, 2013, 72). An interesting publication from 1911, which compiles the observations of Italian consuls abroad on the trade of mineral waters, provides a precise picture of the situation. Between 1907 and 1909 Italian waters represented 4.4% of total imports in Austria, 0.2% in France, 0.7% in Great Britain, 1.8% in Switzerland and 0.2% in Spain[xvi]. Italian exports exhibited a notable lag in performance in foreign markets, particularly in France, Germany, and the Austro-Hungarian Empire. However, there were exceptions, including Argentina and the United States, where the presence of Italian traders had a positive impact on sales, particularly within the emigrant communities. The export issues were not related to taxation, since trade with Britain, France, and Germany was duty-free, and taxes were reduced in other countries. The causes of Italy's economic underperformance can be attributed to a number of interconnected factors. Some of these are of a practical nature, such as the quality of caps and packaging that sometimes led to the loss of the product's organoleptic characteristics. Others are of an economic and managerial nature, such as the average size of firms, which was smaller than that of competitors, and the poor coordination of companies' promotional activities with the government. Another factor was the lack of price competitiveness. A 1905 list of the main brands reveals that the price range was from a minimum of 21 cents up to 1.15 lire per unit, with an average of 0.70 lire per bottle, a value similar to that previously found for the waters sold in 1889[xvii]. The expansion of production did not result in a reduction in costs, as companies did not increase their productivity, and the growing domestic demand kept prices at a high level.

5. In the absence of concrete data on mineral water production in Italy, which became available from the 1930s onwards, it is possible to gain insight into the quantitative evolution of the market by analysing statistics on import and export trade, which is presented annually in the tomes of the "Movimento commerciale del Regno d'Italia" published by the Ministry of Agriculture, Industry and Trade. These data are valuable because they provide certain information about the volume of trade and its direction since the unification of Italy in 1861. Table 1 presents a summary of exports, imports, and annual mineral water balances in physical terms, with a distinction between general balances and balances that exclude trade with colonies. Figures 1 and 2 represent the same variables in graphical form.

Year	Export	Import	Balance	Balance without colonies	Year	Export	Import	Balance	Balance without colonies
					1900	758	2.799	-2.041	-2.083
1861	34	174	-140	-140	1901	899	2.575	-1.676	-1.736
1862	63	182	-118	-118	1902	1.068	2.521	-1.454	-1.560
1863	39	228	-189	-189	1903	1.347	2.656	-1.309	-1.466
1864	51	240	-189	-189	1904	1.670	2.662	-992	-1.142
1865	39	289	-251	-251	1905	2.614	2.978	-364	-432
1866	24	150	-126	-126	1906	3.118	2.993	126	55
1867	137	298	-161	-161	1907	3.543	3.205	338	-610
1868	109	288	-179	-179	1908	4.231	3.294	938	876
1869	408	111	298	298	1909	4.402	3.588	814	511
1870	373	423	-49	-49	1910	6.134	3.859	2.275	2.200
1871	113	505	-392	-392	1911	7.198	3.983	3.215	2.505
1872	144	580	-435	-435	1912	14.138	3.670	10.468	5.902
1873	130	576	-446	-446	1913	11.223	3.936	7.288	3.506
1874	117	781	-664	-664	1914	7.263	3.173	4.090	2.148
1875	78	777	-699	-699	1915	4.474	1.160	3.314	2.112
1876	115	753	-638	-638	1916	5.275	292	4.983	4.662
1877	55	774	-720	-720	1917	3.086	110	2.977	2.592
1878	58	815	-757	-757	1918	1.187	35	1.152	1.241
1879	111	1.393	-1.282	-1.282	1919	2.469	105	2.364	1.987
1880	87	1.519	-1.432	-1.432	1920	3.005	185	2.820	2.597
1881	176	1.735	-1.559	-1.559	1921	-	-	-	-
1882	244	2.058	-1.814	-1.814	1922	1.731	574	1.157	1.494
1883	449	2.676	-2.227	-2.227	1923	2.577	406	2.171	1.942
1884	1.036	1.892	-856	-856	1924	2.942	522	2.420	1.856
1885	591	1.780	-1.189	-1.189	1925	2.679	547	2.132	1.710

1886	363	2.215	-1.852	-1.852	1926	3.042	446	2.596	2.010
1887	293	2.415	-2.122	-2.122	1927	3.414	375	3.039	2.014
1888	382	2.124	-1.743	-1.743	1928	2.884	407	2.477	1.851
1889	478	2.274	-1.796	-1.796	1929	3.017	399	2.617	2.123
1890	361	2.184	-1.823	-1.823	1930	2.383	360	2.024	1.287
1891	274	2.234	-1.960	-1.960	1931	1.819	305	1.514	864
1892	186	2.064	-1.877	-1.877	1932	1.251	264	986	490
1893	306	2.081	-1.774	-1.774	1933	1.056	265	791	230
1894	485	2.149	-1.664	-1.664	1934	1.055	284	771	209
1895	434	2.140	-1.707	-1.709	1935	5.681	177	5.503	434
1896	428	2.322	-1.894	-1.915	1936	9.319	118	9.200	222
1897	449	2.596	-2.147	-2.193	1937	9.329	171	9.158	1.028
1898	524	2.671	-2.147	-2.215	1938	7.660	104	7.556	477
1899	498	2.431	-1.933	-1.982	1939	5.355	104	5.251	345

Table 1 - Exports and imports of mineral waters in Italy 1861-1939 (in tons)
Source: Elaborated data collected in *Movimento commerciale del Regno d'Italia, ad annum.*

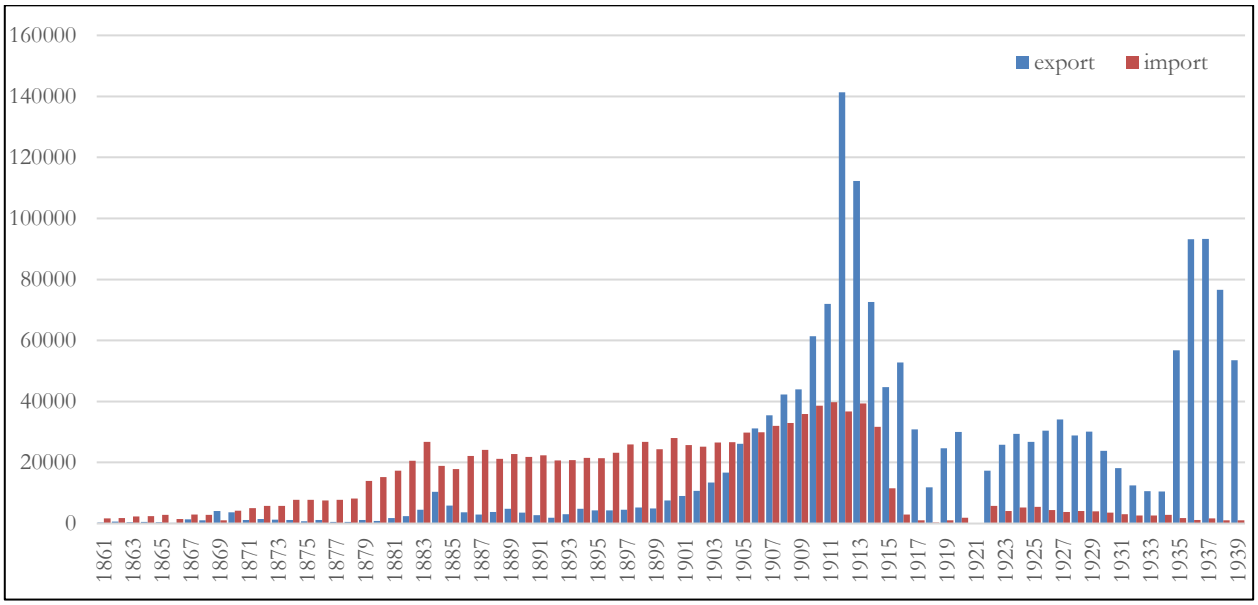

Figure 1 Exports and imports of mineral waters in Italy 1861-1939 (in tons)
Source: Elaborated data collected in *Movimento commerciale del Regno d'Italia, ad annum*

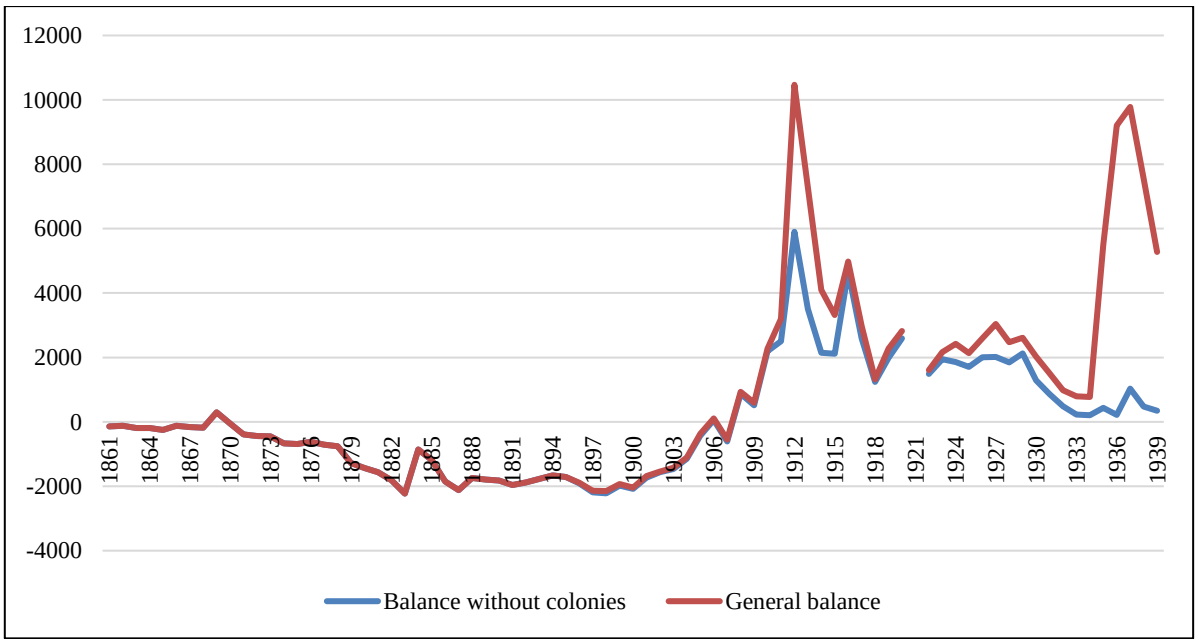

Figure 2 Balance of exports and imports of mineral waters in Italy 1861-1939 (in tons)
Source: Elaborated data collected in *Movimento commerciale del Regno d'Italia, ad annum*

The data demonstrate the gradual formation of the market in the 1880s and 1890s. This is evidenced by the significant growth of imports despite the challenges of initiating domestic production (a phenomenon that is well represented by the substantial stability of exports), leading to a remarkable expansion of the sector between 1896 and 1914. The growth was exponential. A comparison of the average figures for the years 1895-99 with those for the five-year period 1910-14 reveals that exports multiplied almost 20-fold (from 466 to 9,191 tons per year), while imports in the same time frame increased by slightly more than half (from 2,432 to 3,724 tons per year). Both production and consumption exhibited a general upward trend, reflecting the growth of international transactions that was characteristic of this historical phase. Indeed, a comparison of the average figures for total Italian trade over the five-year periods 1895-99 and 1910-1914 reveals an increase in the value of exports by 95% and imports by 160%[xviii].

This significant surge in water export values, with the peak in 1912 driven by the army's request for Italian troops engaged in the Libyan war, must be brought back to the appropriate measures. Despite the growth, the industry remained relatively modest compared to other foodstuffs. In 1914, the value of water exports amounted to 1,965,114 lire, while that of wine was over 60 million and that of olive oil over 72 million; water imports were 1,141,156 lire, against almost 2 million for wine, over 2 million for beer and almost 65 million for olive oil[xix]. Furthermore, it is essential to consider the outlet markets. Between 1861 and 1895, the few Italian exports were directed mainly to other European countries (especially France and the Austro-Hungarian Empire). From 1896, when the hydromineral industry began to flourish, sales to distant countries became increasingly important, namely the African colonies, Egypt and the American continent, where Italian emigrant communities created favorable conditions for the absorption of the products: United States, Brazil and, above all, Argentina, so much so that between 1896 and 1914, 52% of the total water exported landed in Buenos Aires.

The phenomenon in question was not simply the organic development of national companies that allowed them to conquer growing shares in foreign markets. Instead, the increase was concentrated among the few companies that possessed the requisite know-how and resources to sustain intercontinental trade, which was primarily confined to Argentina and, since the 1930s, the colonies. In Europe, Italy was unable to break through closed by foreign competing firms that maintained a dominant position. Tables 2 and 3 provide a detailed account of the evolution of the outlet markets between 1861 and 1939.

	1861-69	1870-79	1880-89	1890-99	1900-09	1910-19	1920-29	1930-39
Europe	91,4	113,6	412,8	190,5	220,9	329,6	160,7	126,5
Americas	-	8,7	14,0	144,1	1.580,4	3.978,7	1.626,9	435,3
Colonies	-	-	-	18,9	51,0	1.333,1	475,5	3.781,1
Other	9,1	11,3	10,6	40,8	365,3	609,0	533,7	206,3
Total	100,5	133,6	437,5	394,4	2.217,5	6.250,7	2.796,8	4.549,2

Table 2 - Destinations of mineral water exports in annual average absolute values (in tons) divided by decades (1861-1939)

Source: processing of data collected in *Movimento commerciale del Regno d'Italia*, *ad annum*

	1861-69	1870-79	1880-89	1890-99	1900-09	1910-19	1920-29	1930-39
Europe	90,9	85,1	94,4	48,3	10,0	5,3	5,7	2,8
Americas	-	6,5	3,2	36,6	71,3	63,7	58,2	9,6
Colonies	-	-	-	4,8	2,3	21,3	17,0	83,1
Other	9,1	8,4	2,4	10,3	16,5	9,7	19,1	4,5
Total	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0

Table 3 – Destinations of mineral water exports in percentages divided by decades (1861-1939)

Source: processing of data collected in *Movimento commerciale del Regno d'Italia*, *ad annum*

The World War I brought about a pause in the development of the sector and a radical transformation in international trade relations, as evidenced by the introduction of protectionist measures by various countries that restricted the movement of goods. In the case of Germany in the early 1920s, this manifested in the prohibition of the importation of water (Marty, 2013, 191). In Italy, the first organic law regulating hydromineral matters was issued during this phase. This was the Royal Decree of October 28th, 1919 n. 1,924, which approved the regulation for the execution of chapter IV of the law of July 16th, 1916 containing provisions on public health. In accordance with these rules, producers and importers were required to obtain State authorization to operate, and companies were obliged to adhere to specific guidelines for the protection of consumer health, including collection procedures, periodic analyses, labelling, machinery cleaning, and bottling (Calà, 2004).

Despite the economic and social disorder that characterized the post-war period, the number of companies operating in the Italian sector increased during the 1920s. However, the companies' privileged relationship with the local, at most regional, market continued. The production base expanded, although this did not result in an

enlargement in company size, nor in plant modernization and increased productivity, aspects that were shared by the majority of Italian agribusiness operators (Chiapparino and Covino, 2002, 83). Indeed, the period between the two world wars was marked by a series of events that had a detrimental impact on the development of the sector. The Great Depression and the economic policies of the fascist regime had a significant effect on the consumption of primary foodstuffs, although this was less pronounced in the case of luxury products, such as liqueurs and mineral waters, which were the preserve of the urban bourgeoisie and whose spending capacity was less affected by contingent hardships (Chiapparino, 1998 and Zamagni, 1998). Nevertheless, the conditions for expanding the consumer base were certainly not created.

The trend in the trade balance of mineral waters underlines the aforementioned issues. The average quantity exported in the 1920s was approximately half that of the previous decade. Even the surplus recorded between the two world wars was not derived from an expansion on the corporate market, both nationally and internationally. Rather, it resulted from the contraction of imports due to the difficulties encountered by foreign companies in complying with the rules imposed by the new Italian regulations. As is highlighted by the last column of Table 1 and by Figure 2, the growth of the trade surplus in the 1930s must also be significantly reduced because exports include those towards the African possessions, which between 1935 and 1939 represented on average 91.6% of the total. It is evident that the war necessitated a considerable increase in the goods required for the supply of troops engaged in the Horn of Africa. In the period 1935-39, the value of exports to the colonies in comparison to the total national foreign trade was equal to 22.9%, in contrast to an average of 3.4% in the previous five years[xx]. In the context of the intricate geopolitical situation of the 1930s, the colonies assumed a growing role for all European countries as outlet markets for national goods. For example, France observed a rise in the export of mineral waters to its colonial possessions from 30% in 1930 to 63% in 1934 (Marty, 2013, 191).

The data presented in Table 4 on mineral water production in Italy confirm that the 1930s was not a period of significant growth for the sector, like the broader national industrial structure, which felt the consequences of the 1929 economic crisis and the international sanctions that followed the Italian venture in Ethiopia. The period saw a decline in water production until 1935, when the military requirements in Africa led to an increase in pumping. Overall, the monetary value of the sector grew throughout the decade, allowing companies to expand their profit margins due to the low inflation rate during that period.

Year	Quantity tons	Quantity 1930=100	Value in lire	Value 1930=100
1930	49.625	100	13.856.041	100
1931	42.807	86	11.560.756	83
1932	30.994	62	15.288.463	110
1933	26.145	53	17.399.011	126
1934	27.309	55	12.882.800	93
1935	28.853	58	16.141.115	116
1936	38.610	78	16.980.905	123
1937	56.342	114	18.357.300	132
1938	34.242	69	17.734.420	128
1939	48.040	97	19.307.589	139

Table 4 - Bottled mineral water production in Italy (1930-1939)

Source: Elaborated data collected in Direzione generale dell'industria e delle miniere. Corpo delle miniere, *ad annum.*

6. The Italian mineral water market experienced modest growth between the end of the 19th century and the Second World War. This progress was limited in both scope and geographical extent. Consumers were concentrated in the wealthier classes of urban society, and transactions were largely confined to the local area. In contrast to certain French brands, such as Evian and Vittel, the majority of Italian companies lack vertical integration strategies, including the purchase or establishment of glass factories for water packaging. Consequently, there are a greater number of intermediary steps involved in the production process. These factors had a significant impact on the scale of production, which remains relatively limited, and on the overall efficiency of the sector, which has not undergone significant change. Indeed, between 1911 and 1937 - the years of publication of the industry censuses - the ratio between workers and horsepower of the machinery used to process water and soft drinks, an index of productivity in the sector, remained virtually unchanged (Raspadori, 2002, 367-369). This phase can be defined as one of "unfulfilled promises" at the European level, in which large companies experienced a reduction in their operational tempo (Marty, 2010). The development of production capacity was constrained by the general inefficiency of the system and the gradual shift in preferences, given that there is still a strong association with medicinal functions. Furthermore, the final price was high, which reduced the extent of demand. In 1938, a bottle of mineral water cost between 4 and 5 lire[xxi], a high price in comparison to other goods and services. For instance, a liter of wine costs 6.2 lire, a kilo of bread 2.1 lire, a kilo of potatoes 0.5 lire, and a liter of oil costs around 7.7 lire[xxii], and the monthly salary of a general worker is approximately 250 lire, while that of a medium-level

employee varies between 400 and 600 lire. In a nutshell, the typical consumer of mineral water in the 1930s could be classified into two categories: those who purchased the product in pharmacies to address health concerns and those who sought to consume spring water in a café or restaurant to demonstrate their affluence and refined tastes. Despite the expansion of the market, domestic consumption remained relatively limited and was not yet a daily habit for Italians.

The significant transformation in the mineral water industry occurred following the World War II. This historical period marked the beginning of Italy's economic and cultural revolution, laying the foundation for the establishment of a welfare society. In the hydromineral sector in particular, companies reduced production costs and adopted measures to expand the market geographically and socially. This, in conjunction with the increase in disposable household income and changing tastes, transformed water into a widely consumed good. From a constituent element of the universe, water becomes a mere commodity destined for *homo consumens* (Bauman, 2021), a metamorphosis that is not only semantically significant. It is, however, a particular good, unlike any other, which has never completely lost its connotation as a primordial element and still retains an aura of mystery worthy of closer reflection.

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[i] For a critical examination of historical-economic research on the topic of water see Mocarelli (2011).

[ii] Raynal (2004). Even in England in the 18th century there was a small trade in bottled water (McIntire, 1973).

[iii] On the social differentiation of food consumption, see Scholliers (2001).

[iv] Schivardi (1875, 35).

[v] In the mid-nineteenth century, between 450,000 and 500,000 bottles of Recoaro water were sold, primarily in northern Italy and the Tyrol, but also in Greece, Egypt and Germany (Chiminelli, 1865, 102-103).

[vi] In 1803 Giuseppe Colizzi identified 66 locations where springs were present (Colizzi, 1803) and few years later Francesco Bruni recorded 91 springs (Bruni, 1811).

[vii] *Statistiche del Regno d'Italia. Acque minerali* (1869).

[viii] Page 129 of the *Bollettino del Museo commerciale della Camera di Commercio di Milano* of September 1st, 1890 can be read: "Uno dei commerci più facili e relativamente più rimuneratori che cresce ogni anno di importanza è appunto quello delle acque minerali naturali. Esso aumenta di continuo non soltanto per uso degli infermi ma più ancora per uso di coloro che si immaginano di esserlo ed anche per l'abitudine invalsa nei sani di sostituire spesso a tavola talune di dette acque all'acqua comune".

[ix] *Gazzetta Medica Lombarda.* vol. XLVIII, s. IX, t. IL, (19), 1989. 199.

[x] Rey (1991, 189-193).

[xi] On the climate in which Italian entrepreneurs operate see Doria (1999).

[xii] *Classifica delle acque minerali italiane autorizzate a tutto il 31 dicembre 1939* (1940).

[xiii] Ministero dell'Interno, Direzione generale della sanità pubblica 1907.

[xiv] On the development of the advertising tool in this period see Farchione (2020).

[xv] Ministero di agricoltura, industria e commercio, Ispettorato generale dell'industria e del commercio (1911, 2-13).

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[xvii] *Annuario d'Italia per l'esportazione e l'importazione (*1905, 124).

[xviii] Rey (1991, 227).

[xix] *Movimento commerciale del Regno d'Italia (*1914, 33).

[xx] On the increase in commercial exchange with the colonies in this phase, see Federico et al. (2011).

[xxi] *L'Italia vinicola ed agraria. Periodico settimanale di enologia, commercio vinicolo, viticultura e agricoltura pratica*, 28, 347.

[xxii] Rey (1991, 189-193).