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Quarantine and Lazarettos in the 19th Century Greece: An Economic Perspective

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Abstract

This article presents the situation of public health in the 19th century Greece, with an emphasis on the financing of lazarettos. Due to "ignorance" and lack of therapeutic means and hospitals, isolation was the predominant practice for dealing with illness, both on the level of local society and also on the level of state intervention. The vast majority of the research data came from the study and the analysis-decomposition of the Annual National Reports and Annual National Budgets for the years 1822-1911. From the research findings it was unveiled that for the years up to 1863 spending on "Lazarettos and Quarantine Services" represented more than three-quarters of total health expenditures, whereas from 1864 on, due to the unfavourable financial situation, implementation of public health policy was seen to be lagging far behind. As the state became more effectively involved in the issues of health and social protection after the first decade of the 20th century, public health was not one of the top priorities of Greek governments throughout the 19th century.

JEL Classification: N33; I18

Keywords: 19th century; Greece; Public Health; Quarantine; Lazarettos; Diseases and epidemics; Public Health expenditure and financing of Lazarettos.

1. Introduction

After liberation from centuries of Ottoman rule and until the reign of King Otto ended in October 1862, Greece displayed the following general characteristics: a constant budget deficit and extensive external borrowing in order to service it, increased military spending, and low rates of public investment (Antoniou et all, 2006). In reality, these economic characteristics remained more or less predominant throughout the period (19th century) that we are investigating in this paper.

This period was characterised by piecemeal, isolated actions undertaken in an attempt to resolve the huge problems faced by the newly formed state. More specifically in relation to public health, during the first post-liberation years Greece, having remained for around 400 years at a distance from the sociocultural and scientific developments in the rest of Europe, was in a particularly poor situation in every aspect of day-to-day life, with a low level of living, nutrition and hygienic conditions (Polychronidis, 2010). In fact, the lack of organised efforts to create suitable sanitary services further exacerbated the existing situation. Especially with regard to communicable diseases and epidemics, during the first half of that period Greece lagged at least a century behind the other European countries in the organisation and effectiveness of preventive measures (Zavitsanos, 1977).

In this paper we will attempt to present the situation of public health in Greece during the 19th century, with an emphasis on the financing aspect of lazarettos (quarantine hospitals) as basic interventions to achieve isolation in an attempt to restrict the transmission of diseases. Finally, we will attempt an overall evaluation of public health interventions and in particular the effectiveness of the policy of isolation through the establishment and operation of quarantine hospitals (*lazarettos*).

2. The Macroeconomic Environment

In an adverse economic environment characterised by a debt that threatened to overwhelm the Greek economy, extensive foreign borrowing in an attempt to repay it, increased military spending and little public investment, it was only natural that serious problems arose regarding the management of public finances. Thus it came as no surprise that in September 1843 the country declared bankruptcy and stopped payments on its debts, whereas in 1848 a special monetary system was imposed (Sakellaropoulos, 1993; Kostelenos, 1995; Kostelenos et all, 2007). In the following years, after Otto's reign ended in 1862 and for a short time thereafter, the economic situation improved, since the ratio of tax revenue to total revenue was increasing. In fact, after the Ionian Islands became part of the Greek state in 1864, tax revenue increased by about 11% (Sideris, 2007). The period that followed the incorporation of the Ionian Islands was characterised by intense political confrontations, the most important events being the liberation movements in the Balkans and the so-called "Eastern Question". At the same time, the instability of the whole political, economic and social environment was compounded by the worldwide economic crisis of 1873-1896. Thus, following its painful defeat in the 1897 war against Turkey and its significant military, economic and territorial losses, Greece was forced to agree to the payment of exorbitant military reparations to Turkey and the imposition of international economic supervision, surrendering the management of the most important public revenues as a guarantee of repayment of the debt (Antoniou et all, 2006).

In conclusion, most public expenditures during the period under examination were directed at repaying the foreign debt and increasing military spending, as a result of the constant military conflicts and the unfavourable international economic environment (Kostelenos, 2003; Ithakisios and Vozikis, 2013). Nevertheless this was a rather homogeneous period as regards the basic characteristics of the economy and the possibility of studying the macroeconomic changes in the country (Antoniou et all, 2006; Kostelenos et all, 2007).

3. Public Health in Greece during the 19th Century

The first systematic initiatives regarding the organisation of the country's healthcare began during Otto's reign, and were mainly coordinated by the Bavarian doctor of the royal court, Dr. Witmer (Evaggelidis, 1893). The implementation of measures in the area of public health followed European models and in general had positive effects, laying the foundations for a sector that until then had not existed.

In 1833 the country's first sanitary service was established; it was known as the "Sanitary Department" (or "Sanitary Police") and was included as one of the six departments of the newly established Ministry of the Interior, with competence for the area of public health (Mastrogiannis, 1960; Zavitsanos, 1977). Alongside the Interior Ministry's health services, the Medical Council was established and came into operation in 1834 (by the Royal Decree of 13/25 May). The Council was the main consultative and advisory body of the state on health matters (Tsokopoulos, 1934).

The establishment of the Faculty of Medicine at the University of Athens in 1837, in conjunction with other measures to deal with epidemics, the sanitary offices and the lazarettos and the establishment of hospitals were important factors in the improvement of public health in the years that followed. In 1852 provincial doctors were appointed, and in 1857 a Royal Decree *"on cleansing of ships flying foreign flags"* and "*on localities considered to be unprotected"* was published and efforts were made to deal with malaria, smallpox, cholera and other communicable diseases (Pomonis, 1925).

In contrast with the preceding period, in the final decades of the 19th and the beginning of the 20th century (1864-1914) developments in the area of health came to a standstill, due to the social, political and economic instability at the time (Cheston, 1887: 41-61), but mainly due to the need to secure resources and manpower in order to form battle-worthy armed forces (Stasinopoulos, 1935: 55-60; Tzokas, 1999: 15-17; Makridis, 1933: 16). This need demanded that credits be cut in various sectors of state activity, one of which was the sensitive sector of public health. It is characteristic that while between 1859 and 1908 the budget increased sevenfold (from 19.4 to 134 million drachmas), public health expenditures decreased tenfold (from 400.00 to 326.00 drachmas or as a percentage from 2.06% of the 1859 budget to 0.24% of the 1908 budget) (Kostelenos and Vozikis, 2009; Polychronidis, 2010). The result was that many hospitals and health services suspended operations, despite the fact that in the same period the population's healthcare needs were many and urgent (Makridis, 1933: 16). Despite the impoverished state of the public health sector, during the same period, on the initiative and through the benevolence of wealthy Greeks who were mainly engaged in trade outside Greece, new hospitals were built and placed in operation. Among them were "Tzaneion" in Piraeus (1873) (Sapounaki-Drakaki, 2005), "Aiginiteio" (1875), "Evaggelismos" (1884), "Dromokaiteio" (1887), "Aretaieion" (1897, "Agia Sofia Children's Hospital" (1900), "Andreas Syggros" (1909), and others (Korasidou, 2002: 71-100; See also the respective websites of these hospitals).

Between 1894 and 1914, the central administrative body of the healthcare services was the "Department of Public Hygiene and Awareness" of the Ministry of the Interior, which was managed by a sanitary inspector and by the "Medical Council". In addition, there were healthcare competencies and services scattered throughout various ministries (Mastrogiannis, 1960), and series of laws and royal decrees pertaining to the health sector were issued (Vassiliou, 1914).

In any case, public health was not one of the top priorities of Greek governments throughout the whole 19th century. The state became more effectively involved in the

issues of health and social protection after the first decade of the 20th century (1914), when Greece became embroiled in the Balkan Wars and widespread disasters and movements of populations resulted. In fact, the passage of Law 346/1914 (01/11/1914) *"On Supervision of Public Health"* rendered the state responsible for the health of Greek citizens, and in parallel constituted an important step taken regarding public health on the national level.

4. Quarantine and Lazarettos

Etymologically the word quarantine is derived from the Italian word *quarantina* (or the French *quarantaine*), derived from the number *quaranta* or *quarante* respectively, which means forty and symbolizes the usual period of forty days that crews and passengers were required to wait before they were allowed to go ashore. The forty days (*quarantenaria*) were adopted not on the basis of epidemiological or other scientific criteria but because, according to certain beliefs, this was the length of the philosophical month of the alchemists (Diamantis, 2007: 63).

The history of the quarantine is closely linked with the history of non-scientific medicine used by less developed peoples, since the causes of diseases were not known and the role of intermediate hosts had not been understood. In fact, the English argued that "*the more a state is trained to rely on quarantine, the farther removed it becomes from the principles of public health.*" (Rosen, 1993: 312).

As early as the 14th century, lazarettos were places whose main purposes were to protect populations and prevent the spread of contagious diseases and epidemics, mainly the plague. The term lazaretto is believed to be derived from the first lazaretto (*lazaretto vecchio*) established in the early 15th century (1423), outside the city of Venice on the islet of *Santa Maria di Nazareth,* which was corrupted into *lazaretto,* where people coming from areas that were or were suspected of being infected were held for forty (*quarantina*) days, along with the goods being transported (Lountzis 2002: 31-32; Zois, 1963: v. A', 369-370). To others this etymology is not fully acceptable, since as early as the 13th century there existed isolation hospitals for contagious diseases in Europe, which were under the protection of St. Lazarus (Lazzaretten), in contrast to other hospitals, which were known as *Hospitalen* or *Ospedale* (Zois, 1963: v. A', 481; Komis, 2005; Plessa, 2011: 1088). Lazarettos were the infrastructure on which the quarantine measures were implemented. They were not healthcare institutions, but places for the control, monitoring and cleansing of a mobile portion of the population. Due to "ignorance" and lack of therapeutic means and hospitals, isolation was the predominant practice for dealing with illness, both on the level of local society and also on the level of state intervention.

In countries such as Greece, a country surrounded by sea where transport of people and goods was mainly by sea, most lazarettos were established in isolated locations outside ports or on small nearby islands (Poulakou-Rempelakou, 2007: 77-78). As a result of this policy, after the end of the 17th century ships wishing to put into any port in the Eastern Mediterranean had to present to the local quarantine service a certificate (of health) proving that they had undergone quarantine in the specialized installations of the lazarettos (Moschopoulos, 1992: 477; Plessa, 2011: 1087-1088).

5. Methods

The period examined in our study was judged to be appropriate and interesting from the viewpoint not only of the historian but also the economist, since it covers a time period when there were no available (published) reliable, systematic data on

expenditures for public health and more specifically for lazarettos. In addition, because this period has been shown to be quite homogeneous, the findings of this study may constitute an important tool in the study of the evolution of healthcare spending in Greece.

Despite the general impression that not enough data are available on the period being studied, our research revealed the existence of sufficient reliable data to allow us to create timelines of public expenditures for healthcare. Obviously we encountered significant difficulties, due to inherent problems of primary data, such as deficiencies, valuation in different monetary units, inconsistency in categorizing expenditures, etc. However, it must be stressed that almost all our data were taken from official documents, reports and publications of the Greek state (annual balance sheets, annual budgets, statistical reports, official statements and reports, etc.) as well as from publications, books and studies referring to the same period.

The vast majority of data came to us from the study of the Annual National Reports and Annual National Budgets for the years 1822-1911. An effort was also made to categorise/group the data in accordance with the System of Health Accounts, but this was not possible, due to restrictions in the recording of primary data (O.E.C.D., 2000). As already mentioned in a previous unit, health care and responsibility for public health had been undertaken by the Ministry of the Interior. As a result, all public spending on health appeared in annual reports under the heading of public health. We did not take into account other public expenditures on public health made by other ministries (such as public investments for health infrastructures, expenditures on healthcare of members of the military, etc.) since as a whole these had been recorded within the broad category/grouping of social expenditures. As regards expenditures for lazarettos, we created a separate integrated category/grouping entitled *Lazarettos-Quarantine Services*.

All the economic data appearing in our analysis have been adapted and are expressed in the new economic unit adopted after 1880, i.e. the Latin Monetary Unit (LMU) or New Drachma (Kostelenos, 1995; Antoniou et all, 2006). In addition, all figures were deflated using the 1914 GDP deflator, since it is considered to be the most reliable of the alternatives (i.e. the 1860 and 1887 deflators) and at the same time there is no special deflator for health expenditures (Kostelenos et all, 2007).

6. Results

Table 1, below shows expenditures for the category *Lazarettos-Quarantine Services,* total expenditures for public health, and the evolution over time of this category's share in total expenditures, for the whole period we are investigating.

Table 1. Total Public Health Expenditures and Expenditures for Lazarettos and Quarantine Services (1835-1911)

Year	Lazarettos & Quarantine Services Expenditures	Total Public Health Expenditures	Percentage of Total
1835	36603,13	68067,71	53,77%
1836	54493,79	98553,26	55,29%
1837	73806,12	162874,83	45,31%
1838	92902,71	138478,10	67,09%
1839	79168,92	109817,65	72,09%
1840	79476,85	116758,91	68,07%
1841	82005,38	113551,25	72,22%
1842	85559,27	115761,32	73,91%
1843	80667,61	107517,67	75,03%
1844	78697,78	106115,17	74,16%
1845	77681,85	101947,35	76,20%
1846	152542,38	176655,22	86,35%
1847	203878,21	253202,52	80,52%
1848	206088,38	279155,70	73,83%
1849	212520,08	271109,59	78,39%
1850	210099,28	272337,58	77,15%
1851	209627,73	275684,75	76,04%
1852	180469,66	238563,61	75,65%
1853	171921,50	225501,47	76,24%
1854	171347,27	235252,57	72,84%
1855	172601,67	346100,88	49,87%
1856	174628,90	273826,99	63,77%
1857	172588,51	261499,36	66,00%
1858	172813,19	274256,59	63,01%
1859	174525,91	271436,36	64,30%
1860	178337,10	274614,78	64,94%
1861	182148,29	277793,21	65,57%
1862	182899,30	277468,70	65,92%
1863	110272,26	175720,24	62,75%
1864	81254,10	166372,21	48,84%
1865	103273,51	318792,86	32,40%
1866	93654,61	259689,68	36,06%
1867	94795,88	214805,69	44,13%
1868	93203,30	215274,79	43,30%
1869	91504,62	200491,73	45,64%
1870	95218,95	192691,26	49,42%
1871	10728,50	151183,68	7,10%
1872	6642,74	108990,72	6,09%
1873	14760,08	165767,04	8,90%
1874	19461,35	155937,48	12,48%
1875	20150,74	142250,96	14,17%
1876	31532,45	148437,71	21,24%
1877	32389,50	139318,29	23,25%
1878	28037,46	171569,79	16,34%
1879	26955,52	211481,39	12,75%

(to be continued)

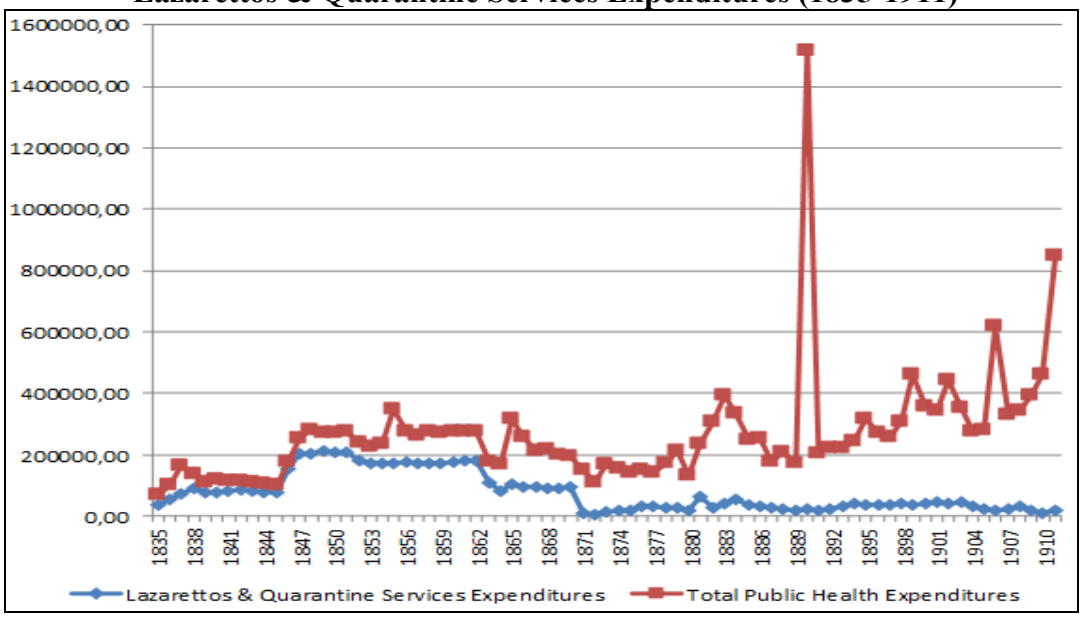
1880	20567,77	132469,75	15,53%
1881	62465,20	236127,03	26,45%
1882	27693,00	308299,80	8,98%
1883	42030,51	394331,50	10,66%
1884	53831,36	336201,89	16,01%
1885	37790,45	249152,50	15,17%
1886	34039,90	252480,92	13,48%
1887	28903,65	176448,84	16,38%
1888	24964,07	207023,92	12,06%
1889	19076,20	170670,51	11,18%
1890	21701,82	1517941,03	1,43%
1891	20348,95	201943,14	10,08%
1892	23187,77	221775,67	10,46%
1893	30543,47	219944,60	13,89%
1894	39856,54	244655,01	16,29%
1895	37717,29	318245,23	11,85%
1896	38008,85	271882,01	13,98%
1897	38277,70	258659,45	14,80%
1898	39822,06	306961,29	12,97%
1899	39007,89	461501,52	8,45%
1900	42848,49	358277,42	11,96%
1901	43985,55	345470,04	12,73%
1902	39690,71	443407,39	8,95%
1903	48143,10	352743,79	13,65%
1904	30602,77	277767,94	11,02%
1905	22989,10	280440,30	8,20%
1906	19790,59	618902,96	3,20%
1907	23235,76	329255,21	7,06%
1908	34588,08	343156,47	10,08%
1909	18414,12	391463,80	4,70%
1910	10369,13	462129,56	2,24%
1911	19422,85	850703,01	2,28%

Figure 1, below gives a graphical representation of the evolution of spending on Lazarettos and Quarantine Services and total spending on public health.

From the findings of our research shown in the table and diagram below, it is obvious that for the years up to and including 1870 spending on “Lazarettos and Quarantine Services” represented the biggest part of all public expenditures on health (more than three-quarters of expenditures for most of that time period).

The lower percentage of total expenditures after 1870 coincides with the period when a significant number of hospitals were being created (before 1870 there were 43 functioning hospitals, whereas from 1864 on, due to the unfavourable financial situation, implementation of public health policy was seen to be lagging far behind (if not retrogressing) (Liakos, 1993; Kostelenos and Vozikis, 2009).

Figure 1. Total Public Health Expenditures and Lazarettos & Quarantine Services Expenditures (1835-1911)



7. Conclusions

From the preceding analysis and description of Greece's healthcare organisation, one could reasonably wonder whether the Greek state, with the strict exclusionary measures it adopted - particularly with the above-mentioned 1845 Sanitary Law - achieved its basic goals, i.e. the protection of public health from contagious diseases and the safety of commercial and financial transactions linked to the development of a sanitary system.

In order to evaluate this system, we should take into account the political and economic context within which it functioned, the minimal (compared to nowadays) medical knowledge, the rudimentary or even non-existent means of diagnosing and curing illnesses, the lack of representative indicators expressing the degree of effectiveness, and the lack of comparable data from similar sanitary systems in other countries (Moutousis, 1922).

Numbers of cases of infectious diseases by category of communicable diseases are reported in various publications and reports from that time (Asclepius, 1858 and 1859), as well as later on (Poulakou-Rempelakou et all, 2006), allowing us to understand the extent of the impact of communicable diseases on mortality and morbidity.

It should be stressed that long-term cleansings involved high public and private expenditures along with dangers, because they would have been avoided by the poor, who could violate the sanitary regulations in places where the country was inadequately guarded (Brunetti, 1854).

The report of the Medical Council showed the Greek Sanitary System of the time to be successful. The only "black" points in the course of its operation were the 1854 cholera epidemic which broke out in the port of Piraeus and which - despite the measures taken in this regard - later spread to the neighbouring capital (Korassidou, 2002: 104-119). This major episode that killed one tenth of the population in the capital far from being a failure in the quarantine system, the outbreak was the result of the occupation of the two cities by British and French troops during the Crimean War.

In conclusion, throughout its centuries-long history quarantine was, both in earlier times and in the period under examination (19th century), the most common means of protecting the population from communicable diseases, which were one of the most basic causes of mortality, not only in the independent Greek state but in other countries as well (Evans, 1988).

Sanitary control practices were a product of a compromise between the protection of the interests of financial and commercial activities and the protection of public health, between dangers of economic isolation and fear of the catastrophic social and demographic consequences of communicable diseases (Anderson et all, 2001; Rosenberg, 1966; Vanzan-Marchini, 2002a).

Indeed, after the mid-19th century the first hospitals gradually came into being; they evolved considerably in the early 20th century, and state care for provision of services was transferred from the Ministry of the Interior to the Ministry of Hygiene (1914), when lazarettos took on a different role as their importance as the only means of protecting public health waned (Panzac, 1986; Castiglioni, 1961; Vanzan-Marchini, 2002b).

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