Economic Fluctuations in Greece: 1844-1913

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1. Introduction

The rise and establishment of European capitalism was the main characteristic of the nineteenth century. Industrialisation, the growth of production on new grounds, the opening of new markets and trade expansion and finally increasing division of labour are the main characteristics of capitalist modernisation which not only brought economic prosperity but at the same time created forces which led to economic activity peaks and troughs.

Certainly crises were not unprecedented, as they had been observed even before the nineteenth century. However then they were not due to economic forces but to external factors, such as weather conditions, political situations, wars, etc. Such was the structure of the crisis that began in 1787 in France after a bad harvest and was extended by the political instability that followed, or of the crisis that started a few years later in England which, because of the Napoleonic blockade, found itself in such a difficult situation that the Bank of England stopped payments for precious metals (1797). But since 1815, when the first serious economic crisis of the nineteenth century emerged, the situation had changed. Crises were now caused by internal factors of the system which arose with more or less regular periodicity.

The object of this article*, however, is not a detailed examination of the phenomenon of economic fluctuations in the Greek economy. Nor is it a detailed examination of the business cycle in the Greek economy. The reason is very simple: a precapitalistic economic formation had developed in the Greek economy in the period 1840-1913 and it is not possible to search for fluctuations caused by the characteristics of the capitalistic system in such a formation.

Of course economic activity did experience fluctuations which may have had a regular character, in the sense that they appeared every few years and lasted for a certain number of years. These were due, first of all, to the size of the Greek economy, which was and still is quite small and therefore depends directly on fluctuations of foreign economies with which the Greek economy is connected, and second, to the dependence of the economy on the agrarian sector, which is subject to certain time fluctuations.

The main purpose of this article is to verify the hypothesis concerning the importation of fluctuations in economic activity into the Greek economy from abroad.

2. The size of the Greek economy

One of the main characteristics of the period we are examining was the expansion of international trade world-wide. Thus, for example, European exports increased 13 times [1] between 1810 and 1910. Even more impressive was the increase between 1840 and 1870. In the decade 1840-1850, the total bulk of international trade, compared to the previous decade, increased by 61.5%; during the following two decades the percentage was

* This article is based on a broader study entitled: "The Turning Points of the Greek Economy 1840 - 1913" which was accomplished for the research programme of the History Archive of the National Bank of Greece.

[1] Maria Sinarellis, "Greek Foreign Trade in the Nineteenth Century". "*Historica*" Issue 2 1984.

59.8% and 52.7% respectively. In the decade 1870-1880 the increase was 53.7%: the reduction was due to the great depression which started in 1873 and which became obvious in the decade 1880-1890 when the increase was only 43.4%.[2] The same tendency appeared in the development of British foreign trade. After an increase from £135.9 to £199.6 million sterling between 1860 and 1870, it reached £223.1 million sterling during 1880 and £263.5 in 1890.[3] This relative reduction of the rate of expansion of international trade coincided chronologically with the increase in capital exports to peripheral countries.[4] International trade experienced a new growth at the beginning of the twentieth century. British trade rose from £291.5 million sterling to £430.4 million sterling [5] between 1900 and 1910. Between 1851 (a year in which data become more reliable) and 1914 Greece recorded a 14-fold increase in the size of imports and exports. Using 1833 as a base year, imports increased 26 times and exports 32 times.[6] The bulk of Greek trade increased throughout the period up to 1890.

In the decade 1880-1890 there was an increase of 40% compared to the previous decade. The decade 1890-1900 was characterised by a small decline of 0.01% and the following decade by an increase of 19% (all sums in current values). The per capita value of Greece's foreign trade was relatively small. In 1856 with a 55 Dr per capita ratio, Greece remained behind Portugal whose ratio was 63.14 francs (1855 data).

According to 1857 data, the per capita value of foreign trade for Belgium was (worth) 350.92 francs, for Britain 296.58 and

[2] Simon Kuznets, *Contemporary Economic Development* Table 6.3. Kuznets used data from Michael Mulhall's "Dictionary of Statistics", changing current prices to fixed prices for the period 1865-85.

[3] Constantinos Tsoukalas, *Dependence and Reproduction*, Table 59.

[4] This phenomenon is not observed in Greece at least for direct investments (only 20-30 million francs during the nineteenth century).

[5] Constantinos Tsoukalas, *Dependence and Reproduction*, Table 59.

[6] Data for 1833 from Douglas Dakin, *Greek Unification 1770-1923*, 1984.

for France 147.86. The per capita value of the Ottoman Empire's foreign trade was worth 51.61 francs.[7]

In absolute terms, Greece's foreign trade was half as much as Portugal's during 1858 (1855 data), 14 times smaller than Belgium's (1857 data) 125 times smaller than England's (1857 data) and 19 times smaller than Turkey's (1856 data).[8]

Given that in the decade 1850-1860 UK trade represented 22.7% of world trade, at current rates,[9] we can assume that in the mid−1850s Greece's participation in world trade was approximately 0.18%. In 1913 total world trade represented a value of $ 40.5 million [10] (at current rates); the share of Greece's foreign trade in this was 0.14% with 297 million Dr.[11]

Another indicator of the relative importance of Greece's foreign trade is its comparison with trade in the largest ports of the East. Thus the Ismir trade, which was worth 50 m. francs in 1850, 100 m. or 120 m. in 1860, 200 m. in 1870 and between 100 m. and 250 m. francs in the decade 1890-1900, was constantly superior to total Greek foreign trade. Trebizond's trade was slightly smaller.[12] The small size of Greece's foreign trade as a proportion of total foreign trade is quite clear. Under these circumstances the importation of economic fluctuations into the Greek economy seems a quite logical assumption.

A trade deficit was a permanent situation in Greece throughout the examined period. We cannot be sure if this deficit was counter-balanced by other in-flows, since archive material of the time, i.e. the general tables of Greece's foreign trade, refer only to commercial transactions. There is no doubt, however, that after 1878 substantial sums were coming into the country from

[7] A. Mansolas, *Naturalisation Information About Greece* 1867, page 180. It is noted that the franc is equivalent to 1,116 Dr.

[8] A. Mansolas, *Naturalisation etc.*, op. cit., page 179.

[9] S. Kuznets, *Contemporary etc.*, op. cit. Table 6.3.

[10] S. Kuznets, *Contemporary etc.*, op. cit. Table 6.3 based on data of the League of Nations publication "Industrialisation and Foreign Trade".

[11] The exchange rate of 1 $ = 5.18 Dr was used for the exchange conversion.

[12] C. Tsoukalas, *Dependence...*, op. cit. pp. 312 and 343.

emigrant remittances,[13] shipping [14] and public loans from abroad. On the other hand, it has been proved that direct foreign investments played a very limited role. The trade deficit, nevertheless, did not seem to worry the Greek authorities. In 1867 A. Mansolas asserted that "the once dominant theory of the balance of trade has been proven wrong after detailed scientific examination",[15] while by 1859 "no importance is given to the balance of trade and surplus is something common worldwide".[16] Greek tariff policy, with its tariffs of 1857 and especially of 1867, followed the European orientation of the liberalisation of foreign trade.[17] Low import duties were justified by the fact that imported goods were mainly basic foodstuffs not produced in Greece. The tariff imposed by Trikoupis on agricultural products was due to an attempt to secure self-sufficiency in wheat, mainly after the annexation of Thessaly,[18] to limit the exchange outflows after the devaluation of the drachma and to confront the agricultural crisis.[19] But certainly Trikoupis' tariff, and all the ones before it, aimed mainly to benefit the treasury.[20] In spite of all the in flows from abroad and government indifference, a deficit did exist in Greece's external transactions as the gold and silver out flows indicate.[21]

[13] In 1914 remittances were sent directly from the U.S.A. to Greece to the value of 69,000,000 gold francs, C. Tsoukalas, *Dependence...* op. cit. Table 12. The year before Greece's trade budget deficit was 58,932,000 Dr. according to foreign trade tables. In 1914 the commercial deficit was Dr. 140,300,000 according to D. Dakin, *Greek Unification etc., op. cit.* 1984.

[14] According to the tables in 1873, while the commercial deficit was 24,657,000 Dr. Greece's mercantile marine profit was 20,000,000 Dr. according to C. Tsoukalas, *Dependence...*, op. cit. p. 343.

[15] A. Mansolas, *Naturalisation...*, op. cit. p. 178.

[16] *Greece's General Foreign Trade Table for the year 1859*, p. 8.

[17] A. Andreou, *Greece's Foreign Trade Policy 1830-1933*, 1933.

[18] This was not accomplished until 1956 and was at the expense of the cultivation of other crops.

[19] References to the Greek tarriff system are available in G. Dertilis, *Social Transformation and Military Intervention 1880-1909*, 1985, pp. 120-124, 127, 129, 161.

[20] As Prime Minister Trikoupis admitted about import tarriffs: "No tax exists which could burden all goods in the same way".

[21] In 1889, 4.78% of the value of exports came from gold and silver. After fluctua-

3. Foreign trade and the evolution of economic activity

To define Greece's position in the international economic system, we will have to attempt to calculate the share of foreign trade in the gross national product. If we accept the national income estimation of 1876 which brings it up to 250 to 300 million Dr, then the 140 million Dr or so which represented the year's total value of imports and exports made up 46.7% to 56% of national income. For the period 1887-1894, accepting the gross national product estimation which brings it up to an average annual rate of 600-650 million Dr, and having calculated the annual average value of foreign trade at 213,750,000 Dr, we conclude that the value of foreign trade represented 35.6 to 32.9% of the national product. These quite high percentages confirm the high degree of Greece's integration in the international economy.

The general principle which drives international economic fluctuations into a small national economy is obvious. In periods of international crises, demand for the latter's exports is drastically reduced. In the Greek case, this reduction is more immediate in raw materials, reflecting the shrinking of production. However, since in the period under consideration raw materials represented a relatively small percentage (13-26%) of Greek export trade, the effect of the international conjuncture on the latter is not particularly visible here. It is more visible in the fall in demand for agricultural and food products, which represented 60-79% of the total of Greek exports, and also for the few industrial products Greece exported (1-10% of the total); this was caused by the reduction of per-capita income abroad.[22] Every demand reduction for Greek exports was initially expressed as a fall in their prices. To this basic fall in the

tions this proportion rose to 5.54% in 1896. A. ANDREOU, *Foreign...* op. cit. p. 105. This is probably related to foreign debt repayments.

[22] M. SINARELLIS, *Greek Foreign Trade in the Nineteenth Century* in "Historica", no. 2, 1984, Table 3.

value of exports a fall in the production of exporting goods is added as an additional effect.

The realization of this process in the Greek case is particularly interesting. Generally it is taken for granted that agricultural production adapts to economic fluctuations much later than industrial production. A rise in the international price of Corinthian raisins will lead to a substantial increase in raisin production in Greece after 5 or 7 years, the period needed for new vines to grow. Correspondingly, a fall in the international price of this product will not lead to a fall in production. Obviously producers will not destroy their fixed capital (which is composed of vineyards) and turn to other cultivations unless the world market provides them with especially high prices for the products of these alternative cultivations [23] or if the offered price does not even cover the cultivation cost in the long term. On the other hand, the economic situation of small farmers does not permit them to reduce their production for as long as the crisis lasts. The exportation of Corinthian raisins needs a much more detailed examination, not only because it represented 41 to 53% of the value of Greek exports but also because it is the one and only case of a Greek quasi-monopoly. So in the case of the Corinthian raisin, supply started to increase after its emancipation from British demand. In this context, the international price of the raisin was formed as a consequence of its production conditions,[24] the tax burdens on the product in Greece and England [25] and lastly by international conditions. The crisis in

[23] Thus, during the period of extensive raisin demand (the 1870s) even the olive groves were changed into vineyards. G. DERTILIS, *Greek Economy and the Industrial Revolution*, 1984.

[24] Thus in the period 1852-1857 production fell because Greek vineyards were affected by fungus. The price rose from about 100 francs per kilolitre to over 400 francs, while the quantity fell from about 70 million kilolitres in 1851 to 8 million kilolitres in 1855. In 1857 it rose to 60 million kilolitres. The price rise was due to a fall in the available quantity. A classic case of a crisis caused by supply.

[25] In Greece the raisin was initially burdened by Governor I. Kapodistria's tariffs and also by the land tax. The new tariff system of 1857 anticipated the gradual eli-

raisin exports emerged as a result of falling demand; the only occasional outlet was France, where raisins were used as a raw material in distilleries. However French demand lasted only as long as the French vine disease lasted. After 1892, the fall of raisin exports to France was absolute while English demand remained quite stable.[26] The raisin crisis at the end of the nineteenth century had more to do with the fall in French demand and less with an international economic crisis.

Putting other crops with a shorter life cycle into a cyclical model presents no difficulties.

Periodisation of the value of Greek imports is based on the assumption that in periods of crisis and limited available income in Greece the demand for imported goods falls relatively. Greece is too small to export its economic fluctuations through its import fluctuations but, since the available income of Greek farmers and merchants is largely dependent on the country's ex-

mination of the 6% export tax. The land tax was maintained, initially in money and later in goods (retention), and became a subject of negotiation with England under the treaty of 1890. See A. ANDREOU, *The Foreign..., op. cit.* p. 95. The other burdening factor, the English tariffs, showed reduction tendencies, starting from an initial lowering to 15 shillings in 1844 with a 5% addition, which came to about 200 Dr. per kilolitre (a 133% tariff). In 1845 it was reduced to 7 shillings which meant 91.5 Dr. per kilolitre. Due to demand increase, the British government hoped to cover its loss of tax revenue from consumption increases. See Greece's 1858 and 1859 trade tables. With the 1890 treaty, England reduced the tariff from 7 to 2 shillings for the English hectolitre. See A. ANDREOU, *Foreign...*, op. cit. p. 95.

[26] Corinthian raisin export table in kilolitres.

Year	G. Britain	France
1878	128,745	19,235
1880	107,016	44,455
1882	130,585	61,990
1884	143,289	82,982
1886	113,317	95,265
1888	140,561	71,235
1890	136,812	94,626
1892	126,397	39,444
1893	152,462	30,747

Source: P. PIZANAS, *The Economic History of the Greek Raisin 1851-1912.* Institute of Research and Education of the Commercial Bank of Greece, 1988.

ports, the turning points of the import and export time lines usually coincide. With the use of time series which are related to Greece's main trade partners, Greek economic fluctuations are placed in their international context.

Even though the time series of the various categories which make up Greek imports and exports have not been statistically analysed so as to make an accurate comparison and contrast position possible, the value fluctuations in exported raw materials must more or less correspond to the fluctuations in the industrial production indicator of Greece's commercial partners, and the value fluctuations in exported goods (mainly because these are not basic goods) must correspond to the fluctuations in the wage indicator of the countries with which Greece maintained commercial relations.

4. Methodology

The methodology which follows in this section is intended to test the hypothesis about the importation of fluctuations in economic activity into the Greek economy.

Before we proceed, we should briefly refer to the method of elaboration for our empirical data. Usually, it is generally accepted that the fluctuations which are observed in the time series are caused by four specific factors: the long-term trend, the cyclical factor, the seasonal factor and the non-recurrent factor.

The trend factor is that which pushes size in a certain direction, rising or falling in the long term. Time series seasonal movements constitute a type of rhythmic fluctuation, which is repeated annually, connected to the seasons of the year and mainly caused by economic and social habits. For the Greek economy of the period, seasonality was largely due to agriculture, whose activities were tied to the seasons of the year.

Cyclical movements differ from seasonal ones in that their duration is longer than a year and in that they are not rhythmic-

al. Lastly, the non-recurrent movements of time series are due to various factors, such as extraordinary events (earthquakes, epidemics, strikes, etc.) and statistical errors. The analysis of the time series has been done in such a manner that the resulting cyclical factor is defined and shown.

Examination of the data has been carried out with a method of calculation which is characterised as neutral when related to the theoretical base which produces the data we are analysing. Hillinger's (1984) computation method presupposes certain articulating characteristics for the economy being analysed so that it can trace economic fluctuations in investments, stock, etc. On the other hand, the method we are using here, which was developed by the U.S.A.'s National Bureau of Economic Research, features a technique which can locate inflectional turning points in economic time series.

This programme was developed in the 1970s and was used with the help of the Athens University computer. It must be noted that the original empirical data analysis programme could not satisfy the specific needs of this study, which requires the elaboration of much longer time-seres of 60 to 80 years, for which no monthly data are available.This is due to the fact that the widely-used programmes have been produced mainly for analysing post-war time series, which do not cover more than 30-35 years. Thus, the question of widening the programme's capacity was raised. We therefore elaborated the same programme, aiming:

1. to extend the elaboration capacity to 75 years per time series;
2. to enable it to elaborate annual data.

After the elaboration of data, the verification of the hypothesis about importing fluctuations on an economic activity basis will be carried out in three different stages, as follows.

First of all domestic economic activity turning points will be compared to per capita export and import turning points. It is expected here that export turning points will precede or syn-

chronise with economic activity turning points, while per capita import turning points will synchronise with or follow economic activity turning points. Referring to the basic hypothesis verified at this stage, we will consider how and if exported economic activity fluctuations are related to or affect internal economic activity.

In the second stage we will analyse the relationship between the economic activity of foreign economies and their imports. In this way the relationship that exists between the emergence of economic fluctuations abroad and their transfer mechanisms, i.e. their importation, will be underlined. The economies of Britain and France are taken as representative, in this respect, because these were Greece's main trading partners.

Finally, in the third stage, we will examine the transfer mechanism. Here we will compare the turning points of Greek exports with the import turning points of Britain and France.

Economic activity turning points will be compared only in relation to depression points. Comparing them to peak points would make our examination more complicated, without adding anything essentially different to our conclusions. In order to present our conclusions more clearly, the tables which follow (numbers 1, 2, 3) are divided into 19 horizontal lines. They refer to 19 sub-periods which are distinguishable in all time-series analysed here. As expected, these sub-periods have an approximate four-year duration.

5. Greek foreign trade and Greek economic activity trends

The definition of Greek economic activity turning points has been accomplished under a broader and more general research of which this study is a part. The presentation of the related methodology would demand extensive analysis. It is, however, available to any one interested.

The conclusions of our research are set out in Table 1, where under the column "Economic Activity" the depression point of Greek economic activity is shown.

Table 1

THE DEPRESSION YEARS OF GREEK ECONOMIC ACTIVITY AND GREEK FOREIGN TRADE

a/a Period	Economic Activity	Per Capita Exports	Per Capita Imports
1	—	—	—
2	1844	—	—
3	1848	—	—
4	1851	1851	1851
5	1856	1856	1857
6	1860	1861	1860
7	1864	1864	1865
8	1867	1867	1868
9	1871	1869/1871	1871
10	1875	1875	1875
11	1878	1878	1879
12	1883	1883	1883
13	1887	1887	1887
14	1893	1893	1891
15	1897	—	1898
16	1900	1900	1901
17	1906	1906	—
18	1908	—	1908
19	—	1910	1911

In Table 1 we also see that of the 14 Greek export turning points, 12 of them synchronize with the economic activity turning points, while only 2 of them do not show the expected behaviour since they follow the respective inflectional points. By confronting the depression points we also see that 14 out of the 15 turning points show the expected behaviour, synchronizing with or following the economic activity depression points, while only one of them precedes them. Seven out of the 14 depression points synchronize with them and 7 follow them.

From the above we conclude that the crisis in exports forms a relative economic activity depression. A similar depression in imports in the same or following year appears as a result.

The data verify the dependence of domestic economic activity on exports. They do not, however, verify the hypothesis

concerning the importation of fluctuations in economic activity. This is because they do not cover the case of export fluctuations, that are due to problems related to the supply of exportable products and not to demand fluctuations as this hypothesis presupposes.

The testing of the hypothesis can only be completed through the last stage of our methodology, which follows.

6. The economic activity turning points and the foreign trade trends of foreign economies

A study of the economic activity fluctuations of foreign economies, and especially of Britain and France, would demand a

Table 2
ECONOMIC ACTIVITY DEPRESSION YEARS OF FOREIGN ECONOMIES AND THEIR IMPORTS

a/a Period	Economic Activity		Imports	
	Industrial Production Great Britain	Industrial Production France	Great Britain	France
1	1840	1840	1840	1841
2	1845	1845	1845	1846
3	1849	1849	1849	1850
4	1853	1853	1853	1853
5	1855	1856	1856	1856
6	1860	1860	1860	1861
7	1866	1864	1866	1863
8	1868	1868	1868	1868
9	1871	1872	1871	1871
10	1877	1875	1877	1876
11	1880	1881	1880	1880
12	1883	1883	1883	1883
13	1889	1889	1889	1889
14	1891	1892	1891	1892
15	1896	1897	1896	1898
16	1899	1900/1903	1900	1900/1903
17	1904	1907	1905	1907
18	1909	1909	1910	—
19	—	1912	1912	1912

detailed analysis which is beyond the scope of this study. Here we need only a satisfactory indication of the fluctuations in economic activity in these countries. To analyse the economic activity of these countries we have chosen the index of industrial production. It is well known that this indicator synchronizes with the general evolution of economic activity.

Table 2 shows the trends in economic activity of the two countries and also the evolution of their imports. The two indicators evolve normally as expected. Thus, for both countries the import depression points synchronize with or follow the economic activity depression points. This occurs with all the turning points for both countries, except for three years in France, where a one-year delay is observed. Generally we can admit that the economic activity alteration transfer mechanism functions regularly within these developed countries.

7. Verifying the hypothesis concerning the importation of fluctuations in economic activity

In the last stage of our testing process, we compare Greek export turning points to the import turning points of the two most important commercial partners of the Greek economy, Great Britain and France.

The hypothesis concerning the importation of fluctuations in economic activity will finally be accepted when it is proven that the depression points of the two foreign economies synchronize with or precede Greek exportation depression points. We will have to reject the hypothesis if the inflectional points are shown to be irregular.

From Table 3 we can see that we must certainly accept the hypothesis, as the importation depression points of one of the two countries synchronize with or precede by one year the exportation depression points.

Thus a clear alteration transfer mechanism is revealed, which transfers fluctuations from abroad to within the Greek eco-

Table 3
THE DEPRESSION YEARS OF GREEK EXPORTS AND FOREIGN IMPORTS

a/a Period	Greek Exports	Great Britain Imports	France Imports
3	1848	1847	—
4	1851	1849/1853	1850/1853
5	1856	1856	1856
6	1861	1860	1861
7	1864	—	1863
8	1867	1866	—
9	1869/1871	1868	1868/1871
10	1875	—	—
11	1878	1877/1880	1876/1880
12	1883	1883	1883
13	1887	1889	1886
14	1893	1891	1892
15	(1897)*	1896	1898
16	1900	1900	1900/1903
17	1906	1905	1907
18	—	—	—
19	1910	1910	—

* A domestic economic activity turning point of the time series.

nomy. This transfer mechanism comprises the following stages: the emergence of economic activity fluctuations in foreign economies, the transfer of these fluctuations to the foreign trade of these countries (imports) and from there to Greek foreign trade (exports). The fluctuations are then transferred to the country's domestic economic activity, which in turn influences Greek foreign trade (imports).

It is also seen that the evolution of Greek exports depends mainly on their demand and not on their supply.

The above conclusions verify the strong incorporation of the Greek economy into the world division of labour and its dependence on fluctuations in foreign economic activity. Certainly, such a conclusion was expected; however, this study showed in detail the alteration transfer mechanism in relation to the country's domestic economic activity.

8. Conclusions

This article traced the importation of fluctuations in economic activity from abroad into a small open economy, as the Greek economy was in the period 1844-1913.

The findings of this article showed the high correlation of domestic economic activity and foreign economic activity trends.

This conclusion should strongly affect our approach to general developments in small economies operating within the international economic system. The dependence intensity factor makes the internal development factors play a secondary role with international developments playing the primary role in the development process.