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TALES OF A CURRENCY DURING THE
19th AND THE EARLY 20th CENTURY

Sophia Lazaretou



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Sophia Lazaretou
Bank of Greece, Economic Research Department

ABSTRACT

Fixed exchange rate regimes can be regarded as a “rule with escape clauses”, allowing the monetary authorities to temporarily suspend convertibility and enact a discretionary policy only under well-understood contingencies, such as wartime emergencies and financial panics. Seen from this perspective, adherence to the specie convertibility rule enables peripheral countries to establish credibility of the nation’s economic policy and, thus, to obtain access to the core countries’ capital markets. The evidence assembled in the paper, both historical and empirical, supports the conclusion that Greece seems to have tried very hard to adhere to “good housekeeping rules”.

Keywords: specie standards, foreign borrowing, peripheral country.

JEL Classification: F33; N23.

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Correspondence:

Sophia Lazaretou
Economic Research Department
Bank of Greece, 21 E. Venizelos Ave.,
102 50 Athens, Greece,
Tel. +30210-320.2992
Fax +30210-323.3025
Email: slazaretou@bankofgreece.gr

1. Introduction

During the 1990s Greece put in much effort to meet the Maastricht Criteria so as to join the euro zone by 2001. Greek economic policy was dominated by the principles of fiscal prudence and monetary discipline in an attempt to achieve price and exchange rate stability. Following these efforts, Greece met the Maastricht Criteria and the drachma successfully entered the euro area in January 2001. The attempt to enter the euro area is not the only example in the country's modern monetary history of joining a monetary stability club. In the past, Greece tried many times to end histories of macroeconomic instability through participation in the prevailing international monetary system.

Bordo and Kydland (1995) have considered metallic monetary regimes as a "contingent rule" or a "rule with escape clauses" allowing the monetary authorities to temporarily suspend convertibility of the domestic currency into metallic or foreign exchange and enact a discretionary policy only under well-understood contingencies, such as wartime emergencies and financial panics. Strict adherence to the specie convertibility rule enables peripheral countries to establish the credibility of the nation's economic policy and, thus, to obtain access to the core countries' capital markets and reduce the costs of borrowing. Bordo and Rockoff (1996, see also Bordo, Edelstein and Rockoff, 1999) find that adherence to gold standard rules acted as a "seal of approval" for sovereign debt. The papers by Eichengreen and Flandreau (1998), Sussman and Yafeh (2000) and, more recently, by Meissner (2002) and Obstfeld and Taylor (2003) address this question and present cross-country supporting evidence on the driving forces behind the timing of a country's decision to adhere to a monetary rule. Countries with poor records of adherence were charged considerably more for borrowing (see Gallarotti, 1995 and Einaudi, 2000). Through institutional arrangements, countries could lower borrowing costs on global capital markets and this was a strong incentive to adopt quickly the gold standard rule.

Additionally, the establishment of the gold unit as a standard might facilitate trade and, thus, it might explain the emergence of the international gold standard. Membership in a currency union or a fixed exchange rate regime is associated with greater trade integration since monetary uniformity reduces considerably the transaction costs of trade. The papers by Flandreau (1996), Eichengreen (1996), Lopez-Cordova and Meissner (2003), Flandreau and Maurel (2001) and Obstfeld and

Rogoff (2001) test the hypotheses put forward in the recent research on why countries adopted gold. These studies find substantial evidence that countries with heavy trade links with other gold countries enjoyed higher levels of bilateral trade due to low costs of trade and network externalities exhibited by the use of a common standard of value. This circumstance helps explain the earlier adoption of gold by such countries compared with those whose trade links were mainly with countries on bimetallism or silver.

We consider Greece of the 19th and the early 20th centuries to be a typical example of the system's peripheral country. The story of the Greek drachma is a case rich with defaults, multiple switches to and off metallic standards and political or military events. This paper attempts to examine whether Greece can be considered as an example of a country that followed a fixed exchange rate regime with the accepted "escape clauses" for war and financial emergencies. The following questions are addressed. First, under what circumstances did the government chose to "escape"? Second, how aggressively did the Greek government try to return to a fixed exchange rate regime? In the light of the gold standard contingent rule literature, we try to find evidence suggestive of the factors that led the country to adopt metallic monetary regimes and explain the timing of the transition. As is well known, various hypotheses regard the determinants of the cost of foreign capital, namely institutions (North, 1991), the monetary regime and political and military factors (Sussman and Yafeh, 2000). By using the hypothesis that the gold standard served as a "seal of approval" for sovereign debt, we explore for the first time the history of Greek borrowing and provide evidence that might shed light on why a peripheral, developing and inflation-prone economy, like that of Greece at the time, was intended by the government to adhere, even temporarily, to the specie convertibility rule. Would adherence to the rule enable the country to derive important benefits in the form of long-term foreign borrowing? The existence of a time series for market yields on Greek bonds provides an opportunity to corroborate previous evidence based on case studies.

The rest of the paper is organised as follows. In Section 2 we briefly analyse the concept of the metallic monetary regimes. We distinguish core from peripheral countries and explain why we consider Greece a typical example of a nation in the less-developed periphery. By exploring the history of Greek borrowing and considering monetary institutions, *inter alia*, a determinant of the cost of foreign capital, in Section 3 we attempt, first, to explain the government's intention to adhere

to the specie convertibility rule and, second, to identify the benefits for the national economy. Section 4 concludes.

2. The Specie Standard Rule as a Contingent Rule

By the term “metallic monetary regimes” we mean those regimes in which some precious metal, such as gold or/and silver, is used as *numeraire*, that is, a standard by which the value of all other currencies is determined. Specie standards could be viewed as a credible commitment mechanism to prevent governments from following time inconsistent fiscal and monetary policies. In other words, the monetary authorities of the country on gold should pursue a “gold standard contingent rule” or a “rule with escape clauses” - a policy rule that was adjusted depending on time contingencies.

Specifically, when faced with a monetary equivalent of an “emergency”, the monetary authorities could suspend convertibility and issue paper currency to meet excess borrowing requirements. Such emergencies are considered to be only well-understood contingencies, such as war, threat of war or financial and bank panics (due to feared suspensions). For example, wars often cause a boom in spending and their start and end are not known in advance. However, the convertibility rule can be suspended only temporarily. Under the rules of the game of the gold standard, once the reasons for suspension are no longer in effect, the monetary authorities were expected to act a disinflationary policy so that, at some future date, convertibility at the initial parity could be restored. Under fixed exchange rates, the government can finance increased spending *via* taxes or debt issue, and, in that case, it will maintain its reputation as a debtor in the domestic or foreign capital markets.

Since there is no mechanism committing the government’s actions, the latter will try at some future time to erode an ever-increasing percentage of the debt value, by causing an inflation surprise.¹ In this way, the need to impose a tax in future periods is considerably reduced. At the same time, however, it strengthens public expectations that such a policy will be repeated in the future, negatively affecting the price of government securities.

¹ This occurs, however, only in the case of a nominal debt issue and an inflation surprise and when the debt is long-term and not short-term. The expected inflation rate is incorporated in the interest rate of government bonds, increasing the real value of expenditure on the servicing of debt.

The time inconsistency problem may be resolved by establishing rules or laws imposing a commitment mechanism on the government. In wartime emergency, the government suspends specie payments, committing to revert to convertibility once the war is over. The temporary suspension of convertibility provides the government with the opportunity to finance wartime spending by paper money creation or/and debt issue (Lucas and Stokey, 1983; Bordo and Schwartz, 1994). Private agents are willing to hold government bonds in their portfolio, since they expect that the suspension of convertibility will last just as long as the war, and after the war or when spending becomes moderate again, the government will adopt measures of fiscal consolidation and monetary restraint that will allow metallic flows to be resumed and the debt to be repaid either in metallic or domestic currency at the initial parity. If the government does not adhere to the rule, economic agents will be totally different in the case of a future war. They are bound to consider the government unreliable in its promise for a resumption of gold convertibility once the war is over, and consequently, they are likely to be reluctant to hold government bonds in their portfolio, thus making the financing of new wartime spending more difficult.

For a peripheral country, adherence to gold was expected to enhance market credibility. This is because the linking of a weak currency to the prevailing international monetary system might be regarded by foreign creditors as a credible signal of a promise to maintain stable exchange rates and not to pursue a policy of persistent inflation. A sound fiscal and monetary policy enforced by a gold standard contingent rule could ensure that the debt would be ultimately paid back and the country would not default. Thus, such countries could gain cheaper capital market access.

It is clear that participating countries are divided into “core” and “peripheral” according to their faithfulness to specie rules. The core countries almost always adhered strictly to the convertibility rule. They set the tune for the rest of the world; they were the leading financial centres and world bankers and their national currencies were used as the “monetary anchor” for the other currencies². By contrast,

² Great Britain with the pound sterling in the gold standard, France with the franc in the Latin Monetary Union and the USA with the dollar in Bretton Woods. See, Giovannini (1989), Eichengreen (1990), Kindlerberger (1993) and Bordo and Kydland (1995). The core countries were the United Kingdom, France, Germany and the United States (after the turn of the 19th century). However, small economies, such as Belgium, Denmark, Switzerland, Netherlands, Sweden, Norway, Australia, New Zealand and Canada followed the gold standard rules much more rigorously than other countries (for example, Iberia or the Latin American countries). The peripheral countries were the developing European and

the peripheral countries only temporarily maintained fixed exchange rates. Whenever they faced pressing financial needs or imbalances in the external sector, they abandoned the rule.³

Historically speaking, this is the case of nominal debt issue. Core countries were able to issue bonds, denominated in their own currency, though the bonds might entail some exchange rate risk (even for countries with credible gold standard commitment). By contrast, peripheral countries suffered from “original sin” (see Eichengreen and Hausman, 1999).⁴ As they had a poor reputation as borrowers, they were unable to issue debt denominated in their domestic currency. They usually issued bonds in specie or in hard currency that were supposedly payable in the currency of denomination, regardless of the regime *du jour* (Bordo and Flandreau, 2001). Furthermore, even in the case that they issued bonds payable in domestic currency, the bonds contained gold clauses or exchange clauses which would protect creditors if the debtor devalued, since the yields of the bonds were payable in specie or in hard currency. However, depreciation actually increased government’s liabilities compared to its assets, and created balance sheet problems. Consequently, default risk was higher and creditors lent at a higher rate.

non-European world, such as Spain, Portugal, Italy, Austria-Hungary, Finland, Greece, Argentina, Brazil, Chile, Mexico, South Africa, Egypt, Ottoman Empire (Turkey), Japan, India and Uruguay.

³ There is abundant historical and empirical evidence on the operation of metallic monetary regimes in the 19th and the early 20th centuries as a specie standard contingent rule. Bordo and White (1991) provide historical evidence that Britain, unlike France, pursued a gold standard contingent rule during the Napoleonic Wars. It seems that such a policy was pursued not only by the core countries but also by the countries on the periphery of the system (see Bordo and Schwartz, 1994; Giovannini, 1993). For a discussion of the various national stories, see, for example, Flandreau, Le-Cacheux and Zumer (1998), Della Paolera and Taylor (2001) on Argentina, Fratianni and Spinelli (1997) on Italy, Reis (2000) on Portugal, Acena (2000) on Spain, Fritsch and Franco (2000) on Brazil and Lazaretou (1995) on Greece.

2.1 Greece as a Peripheral Country: Typical Features

There are three typical features that place Greece of the 19th and the early 20th centuries among peripheral countries.⁵ First, the exceptionally large number of alternations of periods of fixed and flexible exchange rates.

Second, the frequent alternations between metallic and paper currency standards, as well as the adoption of the prevailing international monetary system for a very short period of time underlie the governments' inability to maintain fixed exchange rates. The causes of the suspension of convertibility were not only the emergence of some sudden event, such as war, but also the government's inability to pursue fiscal and monetary policies compatible with its commitment to ensure fixed rates. According to Meissner (2002, p.14), "under the gold standard, spendthrift governments and/or poorly-designed, badly-regulated banking systems could thwart convertibility or bring on a costly financial crisis if convertibility was enacted". Greece had persistent budget deficits and a high debt to GDP ratio throughout the last quarter of the 19th century. Hence, she had to effect, before adopting a fixed rate regime, major institutional changes concerning public finances. These changes concerned the power, the credibility and the bureaucratic capacity to tax sufficiently to cover the government's expenditures and to undertake budgetary reform, i.e. the "...manufacture of a politically difficult reform to eliminate fiscal excess..." (Meissner, 2002, p.15; see also Bordo and Vegh, 1998 and Eichengreen, 1999). The necessity of establishing a sound financial system and the difficulty of finding and maintaining gold reserves as well as restoring public confidence in the convertibility rule might delay the adoption of gold by a fiat currency country.

Greece credibly adopted gold in 1910 and after a twelve-year period of financial austerity and debt re-scheduling had passed. As explained in the following section, the establishment of the International Committee for Greek debt management in 1898 provided the legal framework to enable the country to enjoy fiscal responsible governments. Specifically, under the law of February 1898 on *International Economic Monitor*, debt monetization was prevented and strict constraints were imposed on the annual increase in banknote circulation, whereas an increase in tax revenues were demanded so that foreign loans could be completely repaid.

⁴ "Original sin" is a country's inability to borrow in local currency abroad and in local currency at home except short-term, through no default on country's own.

Third, the periodic abandonment of and return to metallic standards reveal, however, the various Greek governments' strong commitment to the specie standard rule. Indeed, as seen in the following section, throughout the period under study the monetary authorities regarded the suspension of the drachma's convertibility into gold or foreign exchange as a reaction to an emergency, such as war. Once hostilities ceased, they made every effort to return to the "natural state".

3. The Drachma, Foreign Creditors and the International Monetary System

Treating membership of the gold standard as a "good housekeeping seal of approval", we try, first, to explain Greek governments' insistence on tying the drachma to the international monetary system and, second, to interpret the timing of the transition from floating to fixed exchange rates. The exploration of the history of Greek foreign loans might provide useful information for this purpose. There are four cases suggestive of Greek governments' spirited efforts to pursue consistently a contingent gold standard rule. Preliminary empirical findings corroborate evidence relying on case studies.

3.1 Four Suggestive Cases

Case #1

In December 1868 the government, in the face of the Crete Revolution, was forced to suspend bimetallic convertibility and issued paper money⁶ to cover increased military spending. Inflation became the ultimate option for financing the war since international capital markets were closed to Greece and the country was unable to draw funds from the domestic capital market. When hostilities ceased in April 1869, the government announced its commitment to pursue an anti-inflationary policy so as to restrain liquidity in the economy (see the decree of 8 April). Moreover, through a law enacted in July 1869, it tried, albeit without success, to issue debt denominated in hard currency in order to repay its floating debt and increase metallic reserves. There were two reasons for the debt issue failure: first, the scarcity of private

⁵ Lazaretou (1993, 1996) and Alogoskoufis and Lazaretou (2002) offer a detailed discussion of the monetary history of modern Greece.

savings and, second, the poor reputation of the government as a debtor in the domestic capital market.

In fact, from mid-1869 the growth rate of money circulation started to fall. Seigniorage revenues fell, from 5.7% and 8.3% of total government expenditure in 1868 and 1869, respectively to just 0.01% in 1870, whereas income tax revenues rose from 31% of total tax revenues in 1869 to 37% in 1870. In March 1870, the government attempted at last to issue a bond loan. The National Bank – a universal bank - was the sole purchaser of the government bonds. In order to cover the loan to the State, the Bank increased its equity capital and avoided expanding its loan activities to private agents, in an attempt to restrain liquidity in the economy.⁷ Efforts aimed at fiscal and monetary adjustment lasted 15 months and were successful. In July 1870, the drachma reverted back to bimetallism.⁸

Two key factors underpinned the government's determination to take the anti-inflationary measures necessary to restore bimetallism. The first was its insistence on the drachma entering the LMU, to which it had formally belonged since 1867. The second was its intention to make reliable efforts for a final compromise with foreign creditors on outstanding external debt, and its motivation to save on the costs of borrowing.

The government expected that by joining the LMU the country could enjoy monetary stability and increase financial linkages with Paris. First, Greece would no longer face money scarcity since domestic transactions would also be carried out in French francs. Second, tying the drachma to the French franc at a fixed rate would

⁶ In effect, the government borrowed from the National Bank of Greece in metallic and banknotes at an interest rate of 6 per cent and 1 ½ per cent, respectively. The interest rate on banknotes was low enough to cover only the issuance expenses of fiat money.

⁷ The value of new equity derived from the domestic capital market amounted to 2 million drachmas. The monthly average rate of increase in banknote circulation was nearly zero in 1870 (0.002%) and 0.53% in 1871, compared with 1.17% in 1869. In 1871, the Bank's short- and long-term lending to the economy remained constant; in 1872 short-term lending rose by 28.9%, while long-term lending was constant.

⁸ It is quite interesting to note that the decision to suspend drachma convertibility was the result of a conflict between two actors with competing preferences: the National Bank of Greece and the government. The government faced a wartime emergency and was interested in covering its urgent financial requirements *via* inflation, while banking interests were strong advocates of bimetallism. In his *Annual Report for the year 1868* (1869) the Governor of the Bank was extremely unwilling to finance the high budget deficits. He mentioned (p.27) that fiat money would adversely affect confidence in the Bank's note. However, the excessive borrowing requirements of the government forced it to threaten the Bank with suspension of its exclusive privilege of note issue. By a decree of December 1868 the government announced that it was going to issue paper money. Soon, an attack on the Bank's metallic reserves occurred as people rushed to redeem their banknotes in metallic. In this way, the Bank was forced to suspend convertibility and create money.

reduce exchange rate fluctuations and, third, Greece would rebuild her creditworthiness in the international capital market of Paris. This was because the credible adoption of convertibility might send a signal to lenders that the government promised to pursue fiscal and monetary policies compatible with the maintenance of the exchange rate stability. In particular, it ensured that the liabilities, if they were denominated in domestic currency, would not be inflated away or, in the case that they were denominated in hard currency or specie, that fiscal discipline imposed by the convertibility rule would improve the debt to GDP ratio, thus reducing default risk. Ultimately, the risk premium would be lowered and with it the cost of borrowing.

Case#2

Bimetallism lasted almost seven years (i.e. 1869-1876). During this period, the government was able to derive funds only from the domestic market. Domestic investors seemed willing to hold Greek bonds denominated in the country's own currency.⁹ However, domestic borrowing was contracted on unfavourable terms for the government – it was short-term capital and at high interest rates. The domestic money market punished the government by setting a lending rate higher than the international rate.

From the mid-1870s, political instability in Greece led to an increase in fiscal deficits. The segmentation of the Parliament into many small political parties and the short-lived nature of governments caused a loss in revenues due to laxity in tax collection and an increase in expenditure due, in part, to the numerous dismissals and transfers of civil servants that accompanied each government change.

The Russo-Turkish War of 1877-78 caused new wartime emergencies and aggravated the budget position even further. Considering the rise in its defense expenses as temporary and with the intention of maintaining the specie convertibility rule during the war, the government tried to finance expenditure by domestic debt issuance. Indeed, in December 1876 the government issued a national loan and in March 1877 short-term securities in the form of Treasury bills. However, the loans were only partly covered, mainly because of the inadequacy of domestic savings.

⁹ In 1872, the government successfully issued Treasury bills at the attractive interest rate of 8 per cent, causing competition between commercial banks and the Public (the interest rate on time deposits was

Ultimately, the government relied on inflation to finance its borrowing requirements. The political instability of the time, the underdeveloped financial market and Greece's default on past loans prevented the inflow of foreign capital. Fiscal disturbances led to the abandonment of anti-inflationary monetary regimes. Seigniorage sharply increased from near zero in 1876 to 42% of total tax revenues in 1878. For the whole period of the fiat money standard (1877-1884), seigniorage was on average 11% of total government spending, compared with only 4% in the previous period of bimetallism (1869-1876).

Nevertheless, after the end of the war in 1878, the government tried to bring the drachma back to the "natural state", namely bimetallism. To this end, it undertook anti-inflationary policy measures and attempted to contract a loan, albeit unsuccessfully, with foreign creditors to increase the Bank's reserves. Seigniorage was reduced to -21% of total tax revenues, while revenues from indirect taxation increased to 45% in 1878 and 51% in 1879. The government's decision was prompted mainly by its interest in successfully concluding its negotiations with foreign creditors for the Independence loans, which had been on going since 1878. Effective fiscal and monetary adjustment was translated into a successful debt settlement. From June 1879 Greek government bonds were accepted again on the London Stock Exchange market and large inflows of gold occurred. The government successfully contracted foreign loans to increase metallic reserves and restore bimetallism. In 1879 it contracted a bond loan in gold French francs at an interest rate of 6% and a bond issue price of 76% of face value. In 1881 and 1884 new bond loans payable in gold were issued in London and Paris. The interest rate was lower by one percentage point (5%). However, the bonds were sold at a discount; the bond price at the time of issue was 75.6% and 69.3%, respectively.

Public confidence in the domestic currency was also promoted. In a state of euphoria, in May 1880, the government announced the precise date for specie payments resumption (1st January 1881). However, reversion to bimetallism on the specified date failed. The anti-inflationary policy efforts stopped in October 1880 when a new crisis broke out in Greek-Turkish relations, resulting in increased wartime expenditures. Once the crisis passed, the government, in the light of its intention to return to fixed exchange rates, for a second time, took anti-inflationary

6-6.5 per cent). In 1874 it signed a contract with the National Bank for a bond loan issue at the interest rate of 9.6 per cent for the repayment of all its previous debts to the Bank.

policy measures. The fiscal deficit was largely reduced in 1882 and remained at low levels until 1884. Moreover, in November 1882 the drachma was devalued so that the drachma/French franc parity became 1:1, as laid down in the LMU agreement. This time the effort was successful. In January 1885 the drachma joined the gold standard at the statutory par, after a delay of seven years.¹⁰

It should be noted that the timing of the transition from an irredeemable paper currency standard to the gold standard can be interpreted in the light of two factors. First, from the 1860s the use of gold as an international currency had increased in Europe while bimetallism - due to its inflationary bias - favoured monetary instability (Einaudi, 2000). Moreover, the economically advanced countries had large average values of transaction and, thus, gold coinage was more convenient due to the lower carrying costs implied compared to silver. From the beginning of the 1880s, all the developed world of the time was already on gold, and Britain, an important commercial and financial power, had effectively been on gold for almost a century. Second, following the compromise on Greece's foreign debt, which was reached in 1879, Greece could again draw funds from the capital markets of the core countries. However, this could be done only to the degree that foreign lenders could be sure that successive governments were truly pursuing prudent monetary and fiscal policies, aimed at linking the drachma to the international gold standard. In this way, the possibility of either a unilateral suspension of debt servicing or its servicing at a devalued currency would be averted.

Case#3

A substantial government deficit, due to the economic recession from the end of 1884, forced the government to suspend the drachma's convertibility in September 1885. A new war threat was also looming. Banknote circulation was reduced by 23.7% in 1885 whereas government spending was more than two times as large as tax

¹⁰ It is worth mentioning the government's intention to restore convertibility. In his speech in April 1880 before the Greek Parliament, the then Prime Minister, Harilaos Trikoupis, supported the need to rebuild the country's reputation in foreign capital markets and named the benefits for the national economy (see the *Gazette of the Greek Parliament Conference* of the 12th April 1880, p.1211). Two years later, in autumn 1882, when the government made strenuous efforts to resume specie payments, the then Minister of Finance, Efthimios Kehayias, stressed the necessity of linking the drachma to the French franc: "...which currency facilitates money transactions with Europe, the completely unknown drachma or the common currency in Europe, i.e. the French franc?" (the *Gazette of the Greek Parliament Conference* of the 4th November 1882, p.63).

revenues. The high interest payments, due to heavy borrowing, as well as the economic crisis at the end of 1884 caused large gold outflows.

Beginning in 1886, the government relied on large-scale foreign borrowing for financing its budget deficits. During this period, successive Greek governments were able to raise foreign loans for the implementation of infrastructure projects. Seigniorage never rose above 14% of total expenditure while it was only 3% on average from 1886 to 1897, compared with 11% in the period 1877-84. After averting the economic crisis of 1884-85 and contracting a large foreign loan in 1887 (i.e. the “Monopoly Loan”), the country’s credit-worthiness in the international capital markets was enhanced. From 1887 onwards, foreign creditors willingly provided the government with loans with small or no pledges and at a low interest rate. This occurred because it appears that they considered the suspension of the drachma’s convertibility in September 1885 a temporal phenomenon, which could be attributed to an emergency. Thus, they expected that the government would soon adopt anti-inflationary policy measures, as it had done in the past, in an effort to resume specie payments, once the effects of the urgent contingency had passed. Indeed, the ratio of government spending to total tax revenues was sharply reduced to 129% and 121% in 1887 and 1888, respectively, compared with 209% in 1886 and 207% in 1885.

The credit-worthiness of a country is typically assessed by using both the interest rate and the market bond prices. For example, the “Monopoly Loan” of 1887 and the loans of 1889 bore a 4% interest rate, which was fairly low, compared to previous foreign loans, although the bonds were sold at a discount. Bond issue prices were 78.5%, 68% and 73%, respectively.

Nevertheless, higher government expenditure, mainly expenditure on the repayment of domestic debt, and its financing through foreign borrowing caused higher interest payments¹¹, thus contributing to the persistent budget deficits that prevented the return to the gold standard. Greece soon became over-indebted. In 1890 the country’s reputation as a borrower began to suffer. The debt default of Portugal in Europe and the dollar crisis on the other side of the Atlantic as well as the Baring crisis worried foreign creditors who, until then, had been happy to generously supply loans to developing countries at low interest rates. In June 1893 the government tried, albeit with no success, to contract a new foreign loan, while in December it

¹¹ In 1891 interest payments were five times higher than in 1877.

unilaterally suspended external debt servicing. The country's credibility had been destroyed and foreign investors, in an effort to restructure the debt, demanded the presence of foreign experts to monitor the economic policies pursued, and especially, the tax collection and management systems. Establishment of the "international committee" for Greek debt management was regarded by foreign creditors as a sufficient condition for the government to make credible efforts to achieve fiscal and monetary discipline that would secure the regular repayment of the outstanding foreign debt.¹²

By a law adopted on 26 February 1898, the use of money creation as a financing instrument was strictly prohibited and a statutory limit (66 million drachmas) to notes in circulation was set. The National Bank was not allowed to increase "uncovered" notes in circulation over and above this limit. It was also announced that the government would amortize its floating debt to the National Bank by 2 million drachmas annually and note circulation would be reduced by the same amount. In other words, the international monitoring committee became a political liability that aimed at increasing the country's "institutional capability".¹³

For the Greek economy, the first decade of the 20th century was generally a period of rapid growth. Export trade¹⁴ was promoted and the growth of domestic production accelerated. The Greek shipping industry marked considerable progress, expanding its activities to the transit trade of third countries. After the debt compromise in 1898, the country's international credit standing was gradually rebuilt, resulting in a foreign capital inflow and the re-introduction of the trading of government bonds on the domestic money market. The foreign loan of 1898 was successfully issued: the interest rate was low (2.5%) and the bonds were sold at a

¹² The government started negotiations with foreign creditors in 1894 that came to a dead-end in 1896. The 1897 Greco-Turkish War was completely financed by inflation. Debt compromise came at last in 1898. Foreign creditors demanded that a large part of the interest payments on foreign loans (43% on the Monopoly Loan and 32% on all other loans) should be repaid in gold and the rest in drachmas. They also demanded to gain from the drachma's revaluation. Starting from 1903 Greece would pay a fixed amount of 15 million drachmas (or 9 million gold French francs) to foreign creditors. However, every time the drachma was revalued, interest payments would increase by 30% of the currency's revaluation rate. (For a detailed description of the negotiations, see Adreades, 1925, Part II, pp.274-300).

¹³ One representative from each European countries that had intervened to suspend hostilities between Greece and Turkey in the war of 1897 (the UK, France, Germany, Italy Russia and Austria-Hungary) was appointed to the committee. Members were E. Fg. Law, L. Bodio, W. Kaufmann, Suzzara, Testa, Dubois de l'Estang and A. Smirnow. The committee was active until the outbreak of WWII. See Valaoritis (1902, pp.177-194) and Adreades (1925, pp.305-337).

¹⁴ Greek exports primarily consisted of high income-elasticity main agricultural products, such as olive oil, currants, sultanas, wine and tobacco. Exports of skins and silk also rose.

premium (100.5%). In 1902 a new foreign loan was issued at 84% of par, while the bonds of the 1907 loan were sold at close to par value (97%).

Excess money demand, in conjunction with the monetary stringency (due to the annual reduction in the monetary base imposed by the International Committee), caused a liquidity shortage in the economy, which was reflected in the strong appreciation of the drachma. Appreciation benefited foreign creditors but harmed exports. In an effort to avoid deflationary pressures and to curb any appreciation of the drachma above its statutory par, the government restored convertibility in March 1910. The resumption was made at the initial parity of 1:1. The country's credit-
standing improved further, resulting in the successful coverage (about 60 per cent) of the huge military expenditures in the face of the two Balkan Wars by foreign borrowing, without affecting on the fixed exchange rate of the drachma against the French franc¹⁵. An indication of the country's international credibility was also the fact that the price of government bonds traded on the London Stock Exchange market started to rise after 1910, climbing to a high of 60-70 pounds sterling, the highest price ever recorded. After the debt compromise in 1898, and for almost a decade, the London price of government bonds fluctuated between 37 and 45 (on bonds each with a face value of 100). From 1910, the price started to increase gradually, reaching a peak of 53 at the beginning of 1915.¹⁶

Case#4

When hostilities with Turkey ended with the ratification of the Treaty of Lausanne (July 1923), the government again made efforts to achieve fiscal and monetary adjustment. Thus, it avoided using inflation as a financial instrument, but tried to cover spending through indirect taxation. Indirect taxes increased to 50.1% of total tax revenues in 1923 and 53.2% in 1924, compared with an average of 38.3% in the period 1915-1919, whereas direct taxes remained close to 20%. In addition, the government successfully contracted a foreign loan (the 1924 Refugee Loan). In the aftermath of the Asia Minor Disaster, the country had lost her credibility in the international capital markets. The price of Greek bonds traded on the London Stock

¹⁵ In 1910-11 and in 1914 the government issued, with success, two large loans in gold. The bonds were issued at only a small discount: 86.5% and 92.25%, respectively.

¹⁶ These figures are derived from a chart that shows the price of Greek government bonds traded on the London Stock Exchange market for the period 1898-1923. See the *Annual Report of the Governor for the Year 1922, 1923*. The complete time series is still missing.

Exchange market approached the very low level of 20-21 pounds sterling and the interest rate soared to 25%. However, from 1923, the country's credit-worthiness started to recover. The price of government bonds gradually increased, reaching 50-55 pounds in 1923 and 65 pounds in 1924 implying remuneration at a rate approaching the yields on foreign securities (8.5-9%). With the country's involvement in WWI, the price of government bonds traded on the London Stock Exchange market started to fall, touching a minimum of 44 (on each face value=100) in the first half of 1919. Subsequently, it rose, reaching a peak of 127 when the Greek Army disembarked in Asia Minor and the Greek State extended its northeast boundaries to include the Greek minority in Turkey. In the aftermath of the great defeat and the Smyrna disaster in September 1922, the price of government bonds fell sharply to 89. From 1923, it started to rise again.¹⁷

In 1926, the government turned again to the international capital markets of Western Europe and America to draw the requisite resources to meet pressing needs for the relief of refugees and the country's rearmament. In December 1926 a coalition government was established that undertook the difficult task of economic stabilisation. It also embarked on negotiations with the League of Nations aimed at encouraging the inflow of foreign capital. In 1927, creditor countries agreed to provide a tripartite 9 million loan in sterling. The loan was successfully issued (at 91%). However, they demanded the restoration of convertibility as a pre-condition for lending and as a signal of fiscal prudence and monetary discipline (see the League of Nations, 1927). In particular, to ensure fiscal consolidation, and thus, debt repayment, they imposed a clear-cut "fiscal rule": government expenditures should not increase over and above a statutory limit of 9 billion drachmas in the years 1929 and 1930 and the budget should be in balance thereafter. As Obstfeld and Taylor (2003) remark, due to the high degree of economic globalisation "...adherence to gold, in and of itself, was sufficient to enhance market credibility before 1914". By contrast, in the interwar period public debt levels were a crucial determinant of a country's market credibility: "...now creditors also wanted to see the books" (p.31). The loan was used for several purposes: first, to increase the country's foreign reserves and help stabilise the drachma; second, to finance the accumulated budget deficits; and, third, to help with resettling the refugees. The stabilisation period lasted 18 months and was completed

¹⁷ See the *Annual Report of the Governor for the year 1924* (1925), National Bank of Greece.

successfully. The drachma was *de jure* stabilised close to its market rate. On 14 May 1928 Greece joined the interwar gold-exchange standard.

Peripheral countries were unable to issue paper bonds, i.e. bonds denominated in the domestic currency, but only bonds with gold or exchange clauses. In this way, exchange risk was eliminated since lenders could be repaid in the currency of denomination (specie or hard currency) regardless of the government's monetary circumstances. Country risk, however, remained high. Refusing to repay debt or repaying in deflated currency would be possible. The history of Greek foreign loans provides some useful information concerning the constraints facing Greek governments. Foreign debt was either gold indexed or denominated in French francs or sterling. Due to many defaults in the past, country risk was high and, thus, the risk premium was large. However, the credible adherence to a gold standard contingent rule acted as a seal of approval. Each time the government announced its intention to maintain a fixed rate regime, the country could draw funds with lower borrowing cost in the sense both of the interest rate and the bond price of issue.

Figure 1 plots the market yield data on government bonds of long maturity payable in gold or in French francs, measured typically by the coupon-price ratio, for the period 1901-1928. The bonds quoted are the "old" loans of 1881, 1884, 1887, 1889 and 1890, contracted before the 1893 debt default and traded in Paris and London. We note that the ratio exhibits a downward trend in the 1900s, when the country made credible efforts to discipline fiscal and monetary policies in order to join the gold standard. Disciplined fiscal policies implied lower public debt and, thus, lower default risk. The market price of Greek bonds was higher since the capital markets in the international financial centres treated them more favourably. Figure 2 plots the coupon-price ratio of the "new" foreign loans of 1902, 1907, 1910-11 and 1914, contracted after the establishment of the International Monitoring Committee that helped the government to impose fiscal and monetary discipline. The yield data refer to long-term bond loans in gold or in French francs traded mainly in Paris. As seen in the figures, the coupon-price ratio started to rise with the outbreak of WWI, implying a higher country risk and declining market bond prices. In 1920-21, in a state of euphoria due to the belief that the country's irredentist dreams could be fulfilled, the coupon-price ratio fell, whereas in the aftermath of the Smyrna disaster it rose sharply. As the government made efforts to stabilise the economy and join the gold-exchange standard, the ratio started to decline again.

3.2 Empirical Results

Figure 3 shows the path of Greek government bond spreads over British consols for the period 1870-1925. It is a measure of the country's risk; high rates imply large country risk. Pre-1880, Greece had a spread as large as 50, 30 or 20 percentage points. With the debt compromise in 1879 and the deflationary policy that the government embarked upon in 1881, the external borrowing spread fell sharply to 3 percentage points and remained at these low levels until the end of the decade. From 1890 it started to increase again, since the attempt to restore specie flows failed and the country's reputation as a borrower began to suffer. In 1896 it reached a peak of 10 percentage points. With the debt compromise of 1898 and the shift towards more disciplined monetary and fiscal policies, the spread gradually fell to about 4 percentage points in the years after 1910, when Greece joined gold. Low spreads imply small country risk and, thus, better access to the London capital market, i.e. cheaper credit.

The figure also shows how the external borrowing spread varied with the nominal exchange rate (drachmas per sterling). Expectations of gold resumption and lower borrowing costs were strongly interrelated. For example, in the 1890s, the drachma depreciated against sterling and borrowing costs rose, whereas in the post-1898 deflationary period, the drachma's appreciation was closely related to lower borrowing costs. Additionally, the strong pressure for drachma devaluation which appeared in the late 1910s and the early 1920s was accompanied by higher bond spreads.

The above evidence is only suggestive. In what follows, econometric results are provided with regard to the determinants of the bond spreads. Selected macroeconomic determinants of country risk include the inflation rate, the debt-to-GDP ratio, gold standard adherence, the exports-to-GDP ratio, and real income per capita (see Obstfeld and Taylor, 2003). The absence of data for some of the determinants is a problem.¹⁸ Nevertheless, some tentative results emerge from a regression of the bond spread on the key policy regime variable, the adoption or suspension of gold or foreign exchange convertibility. Not surprisingly, the spread exhibits a high degree of autocorrelation, since bond spreads are a function of the country's reputation in capital markets. Autocorrelation implies that reputation in

¹⁸ A complete time series for Greek public debt does not exist for the period under study, while a time series for CPI inflation starts as late as 1915.

international capital markets cannot be built or lost immediately. A country's reputation in the current period influences her reputation in the next period. Consequently, as Obstfeld and Taylor (2003) have found, bond spreads exhibit high levels of persistence (see also Frieden, Pastor and Tomz, 2000).

Thus, we adopt an AR(1) specification for the dependent variable. We also use multiplicative dummies to take into account the "policy regime effect". Table 1 presents the estimates of persistence and the sample mean in the form of a univariate representation of the spread series. The regression on a constant produces estimates of the sample mean. By using the dummy variables GS and GSUSP, we can split the whole sample mean into two different sub-period means; i.e. the mean for the years that the country was on gold (GS) and off gold (GSUSP). As reported on the table, country risk was substantially lower in the years when Greece was on gold (3.8 percentage points *versus* 11.5 percentage points). Both dummies are strongly statistically significant. Moreover, spread persistence shows a remarkable difference across regimes. It rose from 0.66 in the years that Greece adhered to gold or foreign exchange convertibility, to 0.84 in the years of flexible rates.

4. Conclusions

In this paper, we have tried to explore for the first time the history of Greek borrowing. By using the hypothesis that the gold standard served as a "good housekeeping seal of approval", we have tried to explain why Greek governments of the 19th and the early 20th centuries strongly insisted on the participation of the drachma in the prevailing international monetary system. The exploration of several historical episodes was found to be informative. Two conclusions can be drawn from the national story. First, Greek governments seemed to have followed a "contingent gold standard rule". In case of an emergency, such as war, the government temporarily relied upon inflation to cover excess spending. Once the hostilities ceased, it pursued an anti-inflationary policy so as to revert to the "natural state", namely the convertibility of the drachma into a precious metal or foreign exchange, at some future date.

Second, improved access to international capital markets might also have motivated Greece to enter a monetary zone with strong economies, since the gold standard countries enjoyed credibility and had lower country risk premia. Each time

Greek governments needed foreign capital to finance their excess spending, they made credible efforts to achieve fiscal consolidation and monetary discipline, with a view to enhancing the country's reputation in the international capital markets. Yet, foreign investors were willing to lend to the government only in the case in which the latter credibly committed itself to the drachma's participation in the international monetary system. Credible adherence to the convertibility rule would ensure that the country should have more disciplined fiscal and monetary policies and a lower public debt, and thus, more favourable treatment by the capital markets. A sound fiscal system could send a signal to lenders that the country would not default. In this way, the country faced lower credit risk and, consequently, lending rates were reduced.¹⁹

Two caveats are in order. First, case studies are only suggestive and not definitive. However, their examination might provide useful information that could complement an econometric analysis. Second, in the gold standard literature, many other hypotheses, apart from cheaper credit, have been put forward as explanations of why a country might join a gold standard, involving changing trade patterns, financial needs and domestic constraints, or political and military conflicts. More specifically, cost savings in trade, exchange rate stability, the composition and the quality of metallic reserves, the domestic political struggle between different interest groups (debtor *versus* creditors), the level of development and the degree of institutional capability are all factors that have been found to play a role in a country's decision to move to the prevailing international monetary regime. Moreover, as Clemens and Williamson (2000) have showed, international capital market failures did not solely determine capital flows from rich to poor countries in the gold standard period. Funds flowed to capital-importing countries where investment opportunities were most profitable. Other factors also played an important role. Schooling, natural resources and demographic features (migrants and youth) were the fundamentals driving capital exports. Finally, institutional measures of political and/or military conflict, such as democracy, property rights etc, may also affect country risk. Which of these factors had a significant effect on why Greece adopted gold, when she did so, are questions requiring further quantitative research. Nevertheless, the findings presented here strongly suggest that the Greek government's desire to act with contingent rules of the

¹⁹ Adhering to the gold standard might not be a necessary condition to repay debt in gold. For example, Italy did so to its international creditors (Tattara, 2000) and the US had episodes of inconvertibility and still paid in gold.

game was a very important factor in its monetary and fiscal decisions. Preliminary empirical results seem to corroborate the previous evidence gleaned from the four cases. They reveal that Greek bond spreads were lower and less persistent in the years when the country adhered to the convertibility rule.

Data Appendix: Sources and Definitions

The data for the market bond price in Paris (in French francs) for the loans of 1881, 1884, 1887, 1889, 1890, 1902, 1907, 1910-11 and 1914 are from the Athens Stock Exchange, *Yearbook*, (various issues). They refer only to the maximum price and the minimum price in a particular year. The time periods are 1901-1928 for the “old” loans (1881, 1884, 1887, 1889, 1890) and 1903-1928 for the 1902 loan, 1908-1928 for the 1907 loan, 1911-1928 for the 1910-11, and 1914-1928 for the 1914 loan. The time series for Greek bond spreads are from Obstfeld and Taylor (2003). The bonds quoted from Global Financial Database are the 5s of 1824 and 1879 (1870-1886) and the Monopoly 4s bond loan of 1887 (1887-1925). The data for the nominal exchange rate of the drachma against sterling (spot rates, year averages) are from the Greek National Statistical Service, *Monthly Bulletin*, 1885-1925, (various issues). The historical data for total government expenditure, revenues from direct and indirect taxation and interest payments are from *Greek Government Budget, Annual Report*, 1833-1936 (various issues), General Records of the Government. The data for banknote circulation are from the National Bank of Greece, *Annual Report of the Governor*, 1841-1927 (various issues), Historical Records of the National Bank, and from the Bank of Greece, *Monthly Statistical Bulletin*, 1928-1939 (various issues). Money supply is measured as the sum of banknotes in circulation (outside the monetary system) and total private deposits with commercial banks (sight, time, savings and bank bonds). Therefore, it is a measure of the liquidity in the economy (M3). Monetary base is measured as the sum of banknote circulation, cash and the balances of the commercial banknotes with the central bank (reserve requirements). Commercial banks were not required to keep deposits with the National Bank. Data are available from 1928 and refer to deposits of all other banks and the National Bank with the Bank of Greece. In 1931 an institutional set-up was initiated concerning the function and the supervision of the domestic banking system. According to the law of 7 July 1931, all commercial banks were obliged to keep deposits with the central bank. Total private deposits (denominated in specie, foreign exchange and drachmas) refer mainly to deposits with the National Bank of Greece until 1911 and with all other banks and the National Bank from 1912 and afterwards. The data are from the National Bank of Greece, *Annual Report of the Governor* for the period 1841-1911

(various issues) and the Bank of Greece, *Monthly Statistical Bulletin*, for the period 1912-1939 (various issues). The data for cash are from the *Balance Sheets* of the National Bank and the Bank of Greece, *Monthly Statistical Bulletin*. The data for the deposits with the central bank are from the Bank of Greece, *Monthly Statistical Bulletin*. All the data refer to end-of-year.

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Table 1
Country Risk and the Gold Standard in Greece, 1870-1925
(OLS-estimates of AR representation of bond spreads)

$$\text{spread}_t = 3.844 \text{ GS} + 11.518 \text{ GSUSP}$$

(2.160) (7.030)

$$\text{adj-R}^2 = 0.057, \text{ se} = 10.990, \text{ DW} = 0.129$$

$$\text{spread}_t = 0.811 + 0.663 \text{ spread}_{t-1}^{\text{GS}} + 0.845 \text{ spread}_{t-1}^{\text{GSUSP}}$$

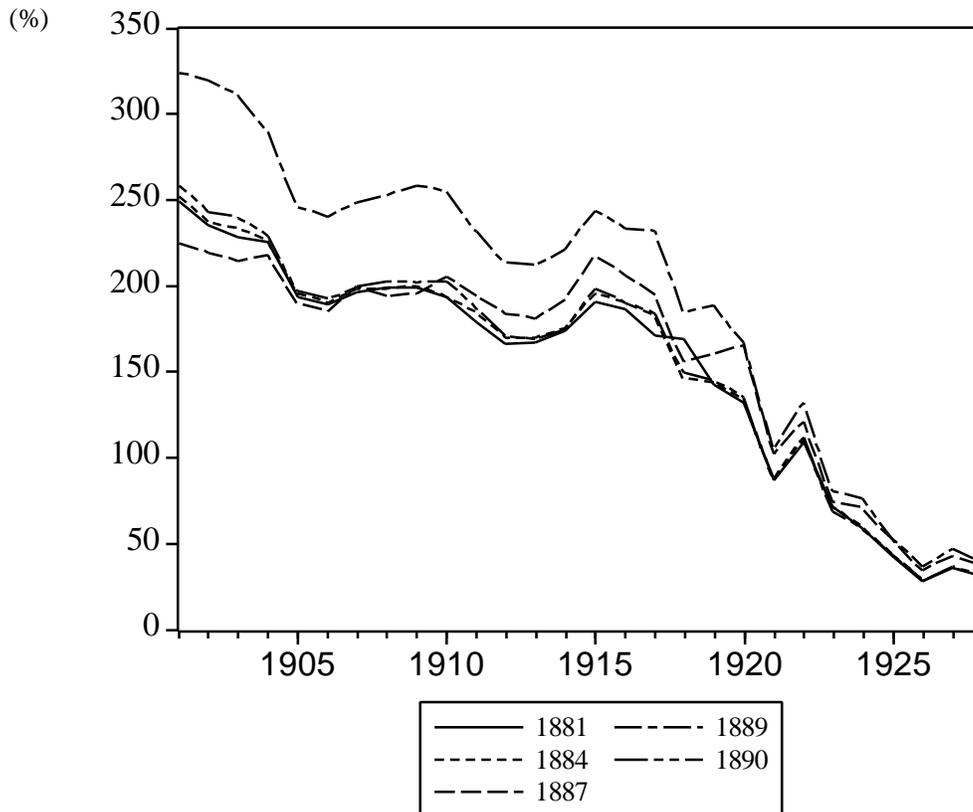
(1.366) (2.927) (23.828)

$$\text{adj-R}^2 = 0.919, \text{ se} = 2.866, \text{ DW} = 1.543, \text{ L}(1) = 2.821, \text{ L}(2) = 1.769,$$

$$\text{ARCH}(1) = 0.472, \text{ ARCH}(2) = 0.539$$

Note: annual data. GS takes the value of one for gold or gold-exchange regimes (1885, 1910-1919) and zero elsewhere. GSUSP takes the value of one in the years Greece was off gold (1870-1884, 1886-1909, 1920-1925) and zero elsewhere. Bond spreads with one lag have been multiplied by these two dummies to control for the “regime effect” on the persistent parameter of the estimate. *se* is the standard deviation of the dependent variable. LM(1) and LM(2) are the Breusch-Godfrey L-statistic for the presence of first- and second-order residual autocorrelation, and ARCH(1) and ARCH(2) are Engle LM-statistic for autoregressive conditional heteroskedasticity. t-statistics are in parentheses.

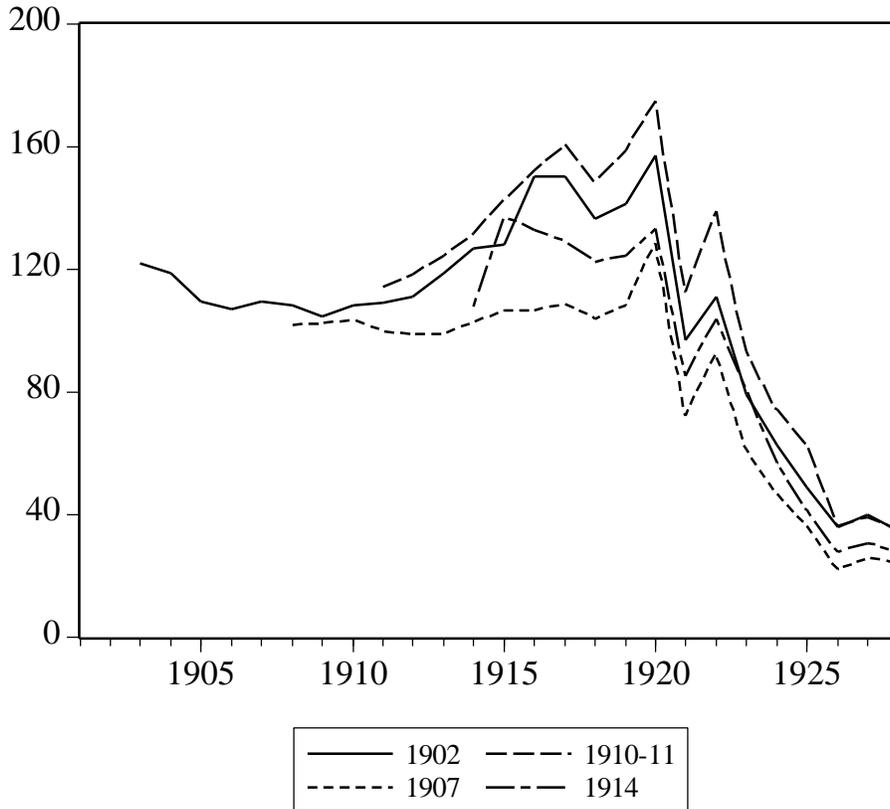
Figure 1
The Coupon Price Ratio, 1901-1928
 ('old' government bond loans in gold or in French francs)



Note: The loans had a coupon price of 500 French francs. The data for the market bond price (in French francs) refer only to the maximum bond price and the minimum bond price in a year. Hence, $(\max + \min) / 2$ is used as a proxy for the mean market bond price. Data exist only for the period 1901-1928.

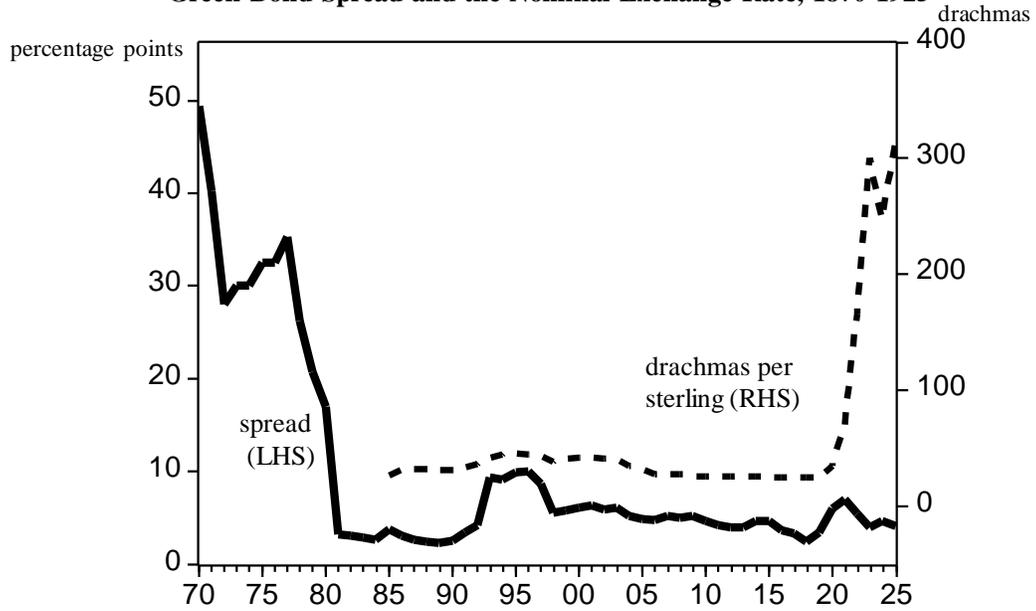
Figure 2
The Coupon Price Ratio, 1903-1928

(%) ('new' government bond loans in gold or in French francs)



Note: The loans of 1902, 1910-11 and 1914 had a coupon price of 500 French francs. The loan of 1907 had a coupon price of 100 French francs. The data refer only to the maximum bond price and the minimum bond price in a year. Hence, $(\max + \min) / 2$ is used as a proxy for the mean market bond price. The sample period is 1903-1928 for the 1902 loan, 1908-1928 for the 1907 loan, 1911-1928 for the 1910-11 loan and 1914-1928 for the 1914 loan.

Figure 3
Greek Bond Spread and the Nominal Exchange Rate, 1870-1925



Note: spread= Greek gold bond yield minus British consol yield, 1870-1925, percent per annum. Nominal exchange rate of the drachma against sterling (spot rates), 1885-1925, year averages.

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