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# Currency crisis and collapse in interwar Greece: predicament or policy failure?

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In 1928 Greece viewed the anchoring to the Gold Exchange Standard as the imperative choice in order to implant financial credibility and attract foreign capital. After the British pound exited the system in 1931, Greece chose a defence that exhausted foreign reserves and finally quitted in 1932. The Drachma devalued and debt payments were repudiated. Instead of a fast recovery, unemployment rose and the country entered a period of instability that ended with the imposition of dictatorship in 1936. The lessons are perhaps relevant for the costs that Greece would likely face by exiting the Eurozone.

## 1. Introduction

A byproduct of the current Greek debt crisis is a thriving literature based on the intellectual speculation—sometimes on a market one as well—that stabilization is bound to fail, recession will deepen destroying more jobs and igniting social unrest, thus Greece exits the Eurozone and defaults; for an apocalyptic foretelling, see Roubini (2011). As warned by Feldstein (2011), a concomitant option would be to repudiate payment obligations since all public debt is presently denominated in Euro and a steep devaluation would make its servicing intolerable. But, the exit argument continues, even this may be an affordable cost as the economy will soon assume a growth path, restoring competitiveness and employment, and advancing market reforms (see Azariadis 2011).

The above arguments are enriched by historical *clichés*, according to which Greece will fail because under similar circumstances it had also failed in the past. Hartwich (2011) presents one such episode when the country left the Latin Monetary Union (LMU) in 1908[1] and quickly reaches the verdict that "Greece is a basket case." Another incident took place in 1932 when Greece abandoned the interwar Gold Exchange Standard (henceforth GES) and subsequently repudiated its debt. In contrast to conventional wisdom, neither the collapse was predetermined by some history dictation, nor the post-collapse regime managed to adequately face the economic and social problems of the time. The same applies for the current crisis and whether Greece fails or succeeds is an issue of policy choices, not a chance of fate. In this respect, the present paper sets to demonstrate three points.

First, to explain why joining the GES was a justified decision that helped Greece to harness inflation, ease the cost of finance and initiate structural reforms. Second, to describe a number

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[1] To a less prejudiced observer, the noticeable fact would rather be that Greece successfully managed *to enter and stay* in LMU for several years, despite structural deficiencies and frequent wars. The suspension in 1908 was due to the huge reparations for the war in 1897, but Greece quickly recuperated and returned to the Union in 1910; see Lazaretou (1999).

of shortcomings and subsequent policy failures that ultimately led to the currency collapsing in 1932. Third, to assess the consequences that the abandoning of exchange rate stability and the repudiation of foreign debt had on the domestic front. Instead of a speedy recovery, the steep devaluation and the ensuing inflation eroded domestic demand, unemployment kept on rising, and the political fall-out finally led to the imposition of an authoritative regime. These developments cast doubt on the prevailing view that *all* countries that exited the Gold standard and devalued in the 1930s managed to quickly return to growth and employment, as presented by Eichengreen and Sachs (1985). If anything, the collapse and default of the 1930s is for Greece a lesson that has to be avoided rather than copied.

The rest of the paper is organized as follows: Section 2 presents a dynamic model of currency crises to portray how the Central Bank depletes foreign exchange reserves when an adverse shock hits the economy. The predictions are found to be in agreement with actual developments before and after the crisis. Section 3 provides a brief account of the reasons that led Greece to adopt the Gold Exchange Standard and makes an assessment of its benefits and shortcomings. Section 4 describes the main episodes in defending the regime, while Section 5 assesses the economic consequences and the political disintegration that followed the exit. Finally, Section 6 draws some lessons that might be relevant for the present debt crisis. Supplementary material, Appendix S1 gives the sources and definitions of the variables, while Supplementary material, Appendix S2 describes the theoretical model in more detail.

## 2. Modelling a currency crisis

A dynamic model of Balance of Payments crises is set up to examine the response to shocks and describe policy options available to counter them. Though broadly following the framework developed by Krugman (1979) and Calvo (1987), the present version is modified to reflect some aspects specific to the Greek crisis: first, the uncovered parity condition is partially incapacitated by capital controls, implying that devaluation expectations are influenced not only by the sovereign spread but also by market beliefs that the peg eventually may be abandoned. Second, foreign reserves are actively used against adverse shocks and if reach a certain floor known only to the authorities the regime collapses. This makes the timing of collapsing not perfectly foreseen by the market, in a way similar to that described by Flood and Garber (1984).

The exchange rate is assumed fixed at a predetermined level $X = X_o$ of domestic units per currency of the anchor country, in this case the USA. The other key country in the system was the UK with its rate fixed at $Z$ pound sterling per US dollar, thus the bilateral exchange rate of Greece vis-à-vis the UK was $X/Z$ Drachma per pound. An increase in $X$ or a fall in $Z$ denotes depreciation of domestic currency. Full details on the model set-up and how it is solved are given in Supplementary material, Appendix S2. Using superscript (e) to denote expectations, an over dot for time derivatives, Greek letters for model parameters and small case for logarithmic values (i.e., $x = \ln[X]$, etc.), the main equations of the model are summarized as follows:

$$s = R - r = \sigma - \eta Q \tag{1}$$

$$x^e = \theta\gamma(u - x) + (1 - \theta)[\sigma - \eta Q] \tag{2}$$

$$\dot{Q} = \mathcal{J} + rQ + \dot{F} - RF \tag{3}$$

$$\mathcal{J} = \beta_1 x + \beta_2(x - z) + \beta_3 W - \beta_4 V \tag{4}$$

Expression (1) postulates that the sovereign spread ($s$) between domestic ($R$) and world interest rates ($r$) adjusts inversely with the level of reserves ($Q$), the depletion of which raises the collapse probability as described by Krugman (1991, p 93). Reaction parameters are denoted by ($\sigma$, $\eta$). Equation (2) is analogous to that in Dornbusch (1987), where depreciation expectations are influenced by devaluation pressure and reserves behaviour in each period, each factor weighted by an index ($\theta$) of capital controls,[2] ($0 \leq \theta \leq 1$). With free capital mobility ($\theta = 0$), equation (2) collapses to the uncovered parity condition. Pressure is captured by the discrepancy between a fundamental rate (say $u = \ln[U]$) that clears the trade balance and the current rate ($x$), while parameter ($\gamma$) is a degree of market nervousness.

Equation (3) is a re-writing of the external financial constraint with foreign reserves being augmented by the trade surplus ($\mathcal{J}$), returns on the existing stock and eventual borrowing from abroad, while diminished by payments to holders of foreign debt ($F$). If inflation differentials between Greece and other members of GES are assumed away due to similar monetary policies, trade balance ($\mathcal{J}$) is approximated by (4) as a function increasing with nominal exchange log-rates ($x$) and ($x - z$), rising with an index of world demand ($W$), and decreasing with a domestic one ($V$) that includes fiscal components and autonomous private spending. Parameters ($\beta_1, \beta_2$) are proxies for price elasticities, while ($\beta_3, \beta_4$) denote propensities of foreign and domestic demand, respectively. The fundamental rate ($u$) can be viewed as the exchange rate that every time clears (4).

The dynamics of the model are simplified by assuming that during a credit crisis new borrowing from abroad is inhibitive (leading to $F = 0$) as was actually the case in 1932.[3] The system has a unique equilibrium ($E_0$) which is saddle-path stable, and steady-state values of foreign reserves and the exchange rate are shown in figure 1.

Two types of shocks relevant for the Greek crisis were the depression in world demand (expressed here by a decrease $dW < 0$ of the relevant index) and the depreciation of the British currency (i.e., an increase $dz > 0$ vis-à-vis the anchor country). In the face of shocks, the market adjusts perceptions about the fundamental rate to a new level ($u \rightarrow u + du$) that is deemed sufficient to restore the new trade balance. If hit by such permanent disturbances, the equilibrium is transposed vertically to ($E_1$), implying a higher (i.e., depreciated) exchange rate $X_1$.

In a free-floating system, the new equilibrium ($E_1$) would be reached immediately, but if the currency remains pegged, there is no depreciation taking place and this causes a rise in the market pressure ($u - x$). To diffuse the risk of the regime collapsing, various options can be considered such as imposing full capital controls ($\theta = 1$) to suppress the functioning of (2), enforcing fiscal cuts ($dV < 0$) to keep (4) in balance without disturbing the fundamentals, or by annulling debt obligations ($dF < 0$) to an extent sufficient to ease pressure on foreign reserves according to (3). If the above policies misfire or are not available, the depletion of reserves leads to the system eventually collapsing along the path ($E_0 E_2 E_1$), as happened in interwar Greece.

[2] In the second term of the right-hand side in (2), capital controls act as a tax on profits from forex transactions, as in the theoretical model of Agenor and Flood (1994). In the context of the interwar crisis, Eichengreen and Sachs (1985) report that in 1931 Mexico imposed a moderate restriction on capital movements by taxing non-commercial transactions by 4 percent.

[3] According to Psalidopoulos (2011, p. 69) the Government made desperate attempts for a new loan, but "international financial markets . . . were not responding to the Greek appeals".
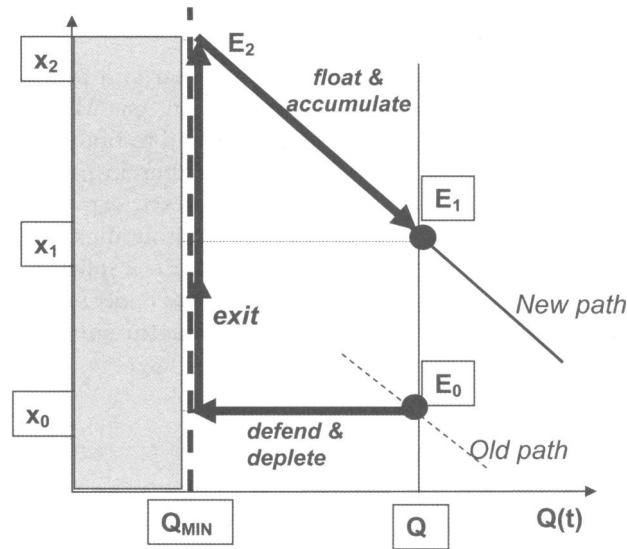
Figure 1. *Saddle-path equilibria for foreign reserves and the exchange rate before and after permanent adverse shocks in competitiveness and world demand hit the economy.*

## 3. The quest for financial stability in interwar Greece

In the aftermath of the First World War, most European nations were experiencing economic instability associated with exchange rate fluctuations, rampant inflation rates, and lack of financing. In 1919, the USA decided to adopt the Gold Standard and this prompted the League of Nations to organize, 1 year later, the Paris Conference seeking exchange rate stability and some form of returning to Gold. The Gold Exchange Standard was finally established at the Genoa Conference in 1922 and joining the club soon became the political and financial "zeitgeist" as it was expected to act as a "seal of approval" for servicing the debt of participating countries (see Bordo and Rockoff 1996). The establishment of GES did usher in a period of solid growth, low inflation, fiscal consolidation, and an easy access to financial markets, but then came the Great Crash in 1929 and a period of prolonged recession followed worldwide that put the system under unbearable strain.

Improvements for participating nations neither were as extensive as initially envisaged, nor mono-causally attributed to the exchange rate stability supplied by the GES. Regarding borrowing costs, Obstfeld and Taylor (2003) present evidence that the return to Gold after the Great War conferred lower sovereign spreads, but not to the extent experienced in the prewar period. In the meanwhile, other factors such as the rise in world demand and the abundance of capital flows were also crucial for the revival of economic activity. In fact, the external environment was so benign that may have concealed the frailties of GES and led to domestic complacency (see Yousef and Wolf 2006). Finally, the benefits were not equally shared by all countries, as the markets' approach in pricing the risk had changed drastically.[4] As opposed to prewar tastes, international investors in the 1920s scrutinized the "books" more carefully,

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[4] Greece did not enjoy much of the reduced spreads in the pre-war system either. According to Obstfeld and Taylor (2003) it was paying a large risk premium of 215 basis points, while most other countries were enjoying a zero spread.

and fiscal positions, viability of trade balances, and appropriateness of the exchange rate were receiving more attention in each country.

In Greece, inflation was galloping at 80 percent per year and public debt exceeded 120 percent of GDP due to the cost of the ill-fated campaign in Asia Minor (see figures 2 and 3, respectively). The Drachma was unstoppably losing ground to both the UK sterling and the US dollar, and its value in 1928 was fourteen times lower than in 1918 (see figure 6). Capital financing was crucial for economic recovery, but the domestic capacity was very thin due to the panic-stricken flights of wealth to foreign banks. Christodoulaki and Penzer (2004) find that market anxiety rose steeply after 1925 and the issue of Greek solvency was receiving extensive (and negative) foreign press coverage. The economy was badly in need of stability, but the implementation of reforms from within looked implausible as the anomalous political situation made domestic policy efforts to be short-lived.
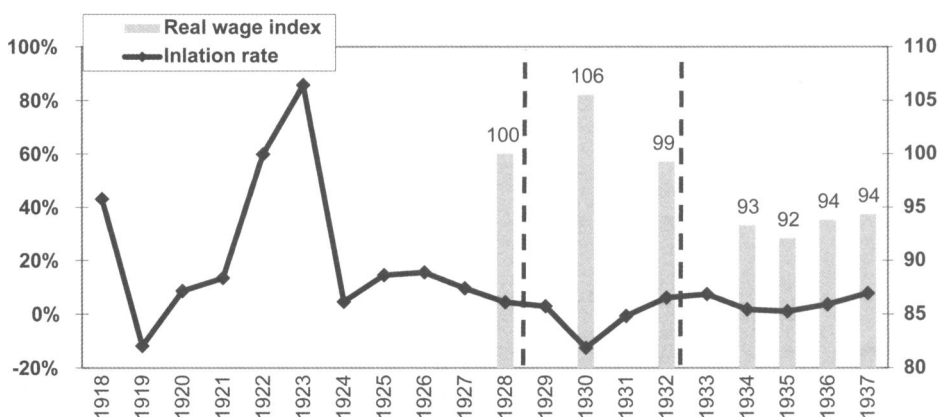


Figure 2. *Annual inflation rate and a real wage index. Variables AIR and IRW as defined in supplementary material, Appendix S1. Vertical dotted lines here and subsequent graphs indicate the period of Greece in the GES.*
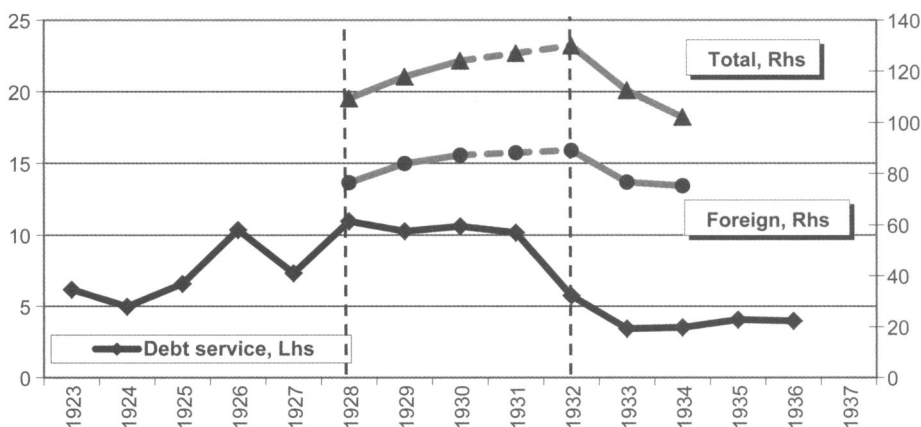


Figure 3. *Total Government debt, foreign debt and debt service as a percentage of GDP. Two data series are used for foreign debt: GDF1 for 1928–1932 and GDF2 for 1928–1934. Variables GDT, GDF1, GDF2, GDS and GDP as defined in supplementary material, Appendix S1.*

### 3.1 Terms and shortcomings

In such an environment, joining the Gold Standard was rightly seen as a precondition to facilitate the influx of foreign capital for financing major infrastructures, assimilate 1 million refugees into the economic and social sphere, while at the same time hoping—as pointed by Lazaretou (1999)—that this would encourage repatriation of Greek funds. Given the strong dependence on London markets as well as the long-time influence of Great Britain on Greek politics, participation to GES acquired momentum after the UK entered the system in 1925 at the pre-war rate of 4.86 US dollars per pound sterling, (or $Z = 0.206$ using the notation adopted in the previous section).

The decisive steps for Greece were the signing of the Geneva Protocol in 1927 with the League of Nations the establishment of new Central Bank in April 1928, and finally the accession to GES in May 1928. The currency was fixed at $X/Z = 375$ Drachmas to the pound and by implication to $X = 77.20$ Drachmas per Dollar. However, the terms on which Greece entered GES and subsequently conducted its monetary policy were never fully convincing to the market players and depreciation expectations as implied by equation (2) were kept alive. At least three factors contributed to the uncertainty.

*3.1.1 Adherence to the UK* As most of Greek foreign debt was supplied by British investors,[5] authorities were constantly anxious on the assessment by the City financial markets. To raise credibility, the Party of Liberals immediately after winning the elections of 1928 sought to advance relations with the UK in all fields of policy as an essential part of its strategy to join GES. But in practice the adherence to the British system proved to be more of a political *fetish*, since— after all—Greece was never a member of the Empire to enjoy extensive economic links with the UK and the Commonwealth. Trade volumes between the two countries were slim[6] as opposed to much higher ones with the USA, Germany, France, and Italy, and the Drachma should have rather been fixed at a rate competitive vis-à-vis its main trading partners. Another consequence of the "sterling fetishism" was that the bulk of foreign exchange reserves were kept in pounds, an act that on the event of the British exit from GES proved to be fatal for Greece.

*3.1.2 Exchange rate miscalculation* The exchange rate *(X)* at which Greece entered GES did not reflect the fundamentals *(U)*, mainly because authorities choose to ignore the fact that the pound itself was appreciated and industrial competitiveness of Great Britain was eroding fast.[7] They also overlooked the fact that the Drachma spot rate to the pound was incidentally reinforced by the Stabilization Loan of £9 million issued in London in 1927, one-third of which was earmarked for setting up foreign exchange reserves as in equation (3), thus causing a technical appreciation ($\dot{x}^e < 0$) as implied by equation (2).

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[5] According to the Bank of Greece (1978, p. 107), 67 percent of foreign creditors were British, 10 percent from USA and 7.5 percent French.

[6] In 1925–1929 Greek exports to the UK were counting for only 12.2 percent of total, and imports from the UK for 13.4 percent; see Mazower (2002, p. 205).

[7] For a discussion of the British recession prior to 1929, see Eichengreen (2008, p. 57). In a recent study in the Bank of England, Hills *et al.* (2010) find that the decision to return to Gold at a high parity caused deflation and led real interest rates to climb to unprecedented levels. The most outspoken critic of the prewar restoration was, of course, Keynes ("The economic consequences of Mr. Churchill," 1925).

As can be seen in figure 6, the entry rate was overvalued[8] by 13 percent relative to its peak in 1926 on top of the appreciation of the pound which in 1928 was ranging between 7 and 10 percent relative to the prewar index according to Solomou and Vartis (2005, tables 3 and 4). Thus total discrepancy $(u - x)$ from fundamentals was in the range of 20 to 23 percent, a feature that was quickly picked up by currency traders and from the onset put the Drachma on the defensive. According to equation (2), the Central Bank had to deplete a substantial part of foreign exchange reserves to calm expectations ($\dot{x}^e \rightarrow$ 0) and sustain the fixity; figure 10 shows that by May 1931 more than a third of the initial stock had gone. Another implication of the uncertainty was that the Bank of Greece kept the discount rate at a relatively high level (marginally reduced to 9 from 10 percent before the GES), thus a substantially cheap credit to stimulate the economy was not practically available.

*3.1.3 Institutional flaws* Commenting on how international markets can come to trust a currency, Caballero et al. (2004) suggest that "it requires a good history of inflation and a clear framework governing monetary policy and the exchange rate." Applying these three criteria to interwar Greece, one can see that the latter was achieved by entering the GES, but the first two were poorly addressed. Regarding inflation, it was admirably brought down to 4.40 percent in 1928, but memories of hyperinflation just a few years ago were still lingering. Regarding the institutional framework, Greece did establish a new Central Bank to fully undertake the conduct of monetary policy from the National Bank of Greece that was hitherto acting both as a commercial bank and as a the monetary authority. But to everybody's surprise, it was soon tempted to directly provide credit facilities to the industry causing major confusion about its role: Mazower (2002, p 199) attributes the decision to the ambition of the Bank of Greece to antagonize commercial banks, Kostis (1986) describes the phenomenon as a "complete paradox," and Minoglou-Pepelasis (1998) asserts that it undermined efficacy at critical moments.

Another handicap for Greece—though outside the responsibility of the then Government—was that it entered the GES too late[9] and soon was engulfed in the Great Depression, before reaping substantial benefits from the increased world demand. International credit was also curtailed due to the tight monetary policy adopted by the core countries after the Crash. For example, when the Bank of England raised the discount rate more than two-fold from 2.5 percent in May 1931 to 6 percent in September in her own struggle to sustain the exchange rate parity, the appetite of London investors for Greek bonds declined en masse, even after Greece raised its own discount rate to 12 percent.

*3.2 Gains from entering GES*

Despite the above shortcomings, there have been some benefits from participating in the GES. As shown in figure 2, the post-war process of spiralling prices ended and inflation reached a zero average in 1928–1931. There was also some fiscal improvement, though moderate and by no means adequate. As shown in figure 4, ordinary public revenues (that is excluding loans

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[8] Central Bank authorities were so complacent as to assert that the Drachma rate was depreciated relative to its 3-year average, thus providing a lee-way to face unforeseen pressures; see Bank of Greece (1978, p. 75).

[9] After Greece joined in 1928, only three more countries followed9: France joined the GES in September 1928, but only after a substantial devaluation of the franc; Japan joined in January 1930 but exited before the end of 1931, and, finally, Portugal made the shortest journey entering in July 1931 and jumping out of the ship just three months later. Dates are taken from Obstfeld and Taylor (2003), Table A1.
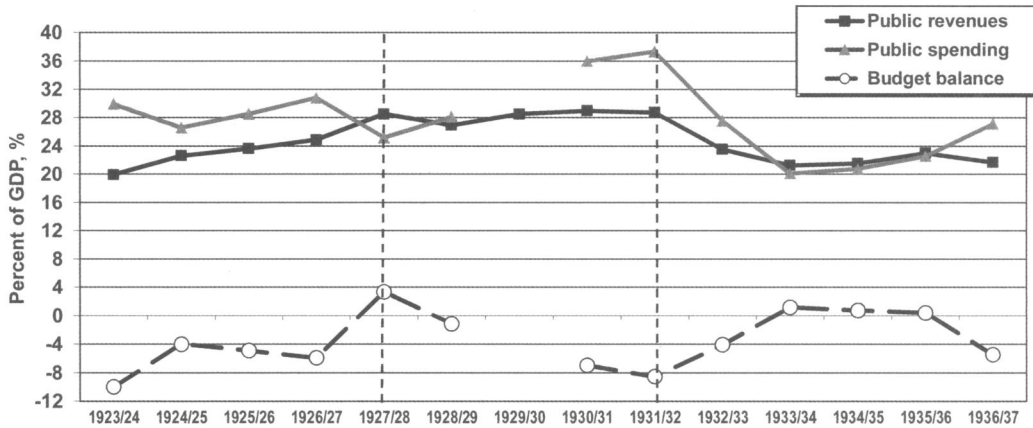
Figure 4. *Ordinary revenues, total public expenditure and the budget balance in Greece, all as percent of GDP. Dates denote fiscal years that span from April until April or July of next calendar year as explained in supplementary material, Appendix S1. Public spending and balance in 1929 not shown here for reasons explained in footnote 8. Variables are CGRO, CGET and CGBB as defined in supplementary material, Appendix S1.*

classified as state inflows) rose by an average of 5.6 percentage units of GDP in 1927–1931 relative to the period[10] 1923–1926, but that was mainly achieved by raising indirect taxation rather than beating evasion and improving the collection of income taxes. In any case, the rise was not sufficient to meet the hikes in spending that kept rising by around 3 percent of GDP on a regular basis[11] and significantly more so in 1929. Fiscal balance was turned from an average deficit of 6.2 percent of GDP in 1923–1926 to a small surplus of +1.1 percent of GDP in the first 2 years of GES participation, but later it receded back to an even higher deficit of −7.8 percent of GDP in 1930–1931.

Hence, it is no wonder that public debt continued to rise and in 1931 it was standing at 155 percent of GDP from 121 percent in 1928, mainly due to increased borrowing from abroad (responsible for two-thirds of the rise as shown in figure 3). Hence, the cost of servicing the debt was kept around 10 percent of GDP, despite the fall in borrowing costs after 1928 as shown in figure 14. These findings demonstrate that participation in the GES was primarily viewed by Greece as an opportunity to facilitate spending for investment financing rather than a mechanism to impose fiscal restraint.

Regarding activity, growth resumed (see figures 11 and 13) and several new companies were established; between 1920 and 1930, firms increased by more than two-fold,[12] while industrial employment expanded by 80 percent. Exports picked up a slice of the rising world demand and, although imports increased too, trade balance during 1928–1931 somewhat improved; see figure 8.

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[10] Comparison starts from 1927 rather 1928, as data series refer to each financial year that started from April and extended well into the next calendar year. When Greece entered GES in April 1928, it was still within fiscal year 1927–1928.

[11] The average figure excludes year 1929 in which spending appears to skyrocket at 57 percent of GDP; see Lazaretou (2013, Table GR4). The outlier is probably explained by an emergency payment covered by an equal receipt or loan within the year that was classified in total revenues, but not in the ordinary ones.

[12] Calculations are based on Mazower (2002, p. 131) where original sources are detailed.

Several mergers and acquisitions took place in the banking sector, and red-tape was partly reduced to facilitate some foreign direct investment. Other reforms included the distribution of large agrarian estates to landless cultivators, the foundation of the Agricultural Bank in 1929 to extend credit to small owners, and the establishment of the National Estate Bank to promote industrial development.

Despite the political effort, the outcome undershot ambitions as the archaic structures could not be transformed into a competitive economy within a few years and developments were not always enhancing efficiency. For example, the land distribution was so extensive that inhibited large-scale production and specialization, while industrial expansion took place through the creation of small-scale units rather than of large enterprises with a robust competitive advantage.

The situation was further aggravated after the Great Depression when the first signs of stagnation appeared in the Greek economy. Agricultural production grew only marginally due to the falling world demand and industrial production, after peaking in 1929, declined[13] in 1930–1931 though less than in other European nations. Commenting upon the strains worldwide, Eichengreen and Sachs (1985) note that various policies could have been conceived, including ". . . devaluation, protection, monetary expansion and fiscal stimulus." Since none of these policies was compatible with the GES framework, several countries decided to break with the system and opted for massive devaluations, adding further pressure on those remaining within.

The Greek Government ignored the temptation and, in response to the recommendations by the League of Nations in June 1931 to contain imbalances, it adopted a stringent fiscal stance (i.e., $dV < 0$ in the model) hoping that by easing pressure on reserves—as implied by equation (3)—it would regain credibility in financial markets. But in spite of the political determination, the economy was quickly reaching its limits and defenses proved vulnerable when major new shocks occurred.

### 4. Sliding on the golden edge: fight, flight, and failure

The Greek Government was terrified to learn that the UK abandoned the GES in 21 September 1931 and the pound devalued by 35 percent to the US dollar, (i.e., $dz = 0.35$). The move was seen[14] as "the strongest possible shock," even more so because—as noted by Eichengreen (2012)—the Bank of England had just previously reassured foreign central banks of its unwavering support for the prevailing rate. Though politically the Government lost face as the unilateral act tarnished its long-held image for being a strategic partner with the UK, the financial cost was even more severe, as the Central Bank of Greece in the summer of 1931 had sold its entire stock of gold to the Bank of England. The future in the GES was no more taken for granted and, in the ensuing debates on how Greece should deal with the situation, various alternatives were put forward as examined below.

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[13] Earlier estimates of industrial production showed that Greece managed to escape the world depression unscathed; see Mazower (2002) and Kostis (1986). Their findings are challenged by Christodoulaki (2001) where a more representative index is found to decline in 1930; Figure 12 displays both versions.

[14] Bank of Greece (1932, "The Governor's Report for Year 1931," ch. xii), as quoted by Psalidopoulos (2011, p. 85).

### 4.1 The option of devaluation

As graphically shown in figure 1, if facing a permanent shock the system could be reset to a new exchange rate $(X_1)$ by an immediate depreciation of the Drachma such as to compensate for the additional pressure exerted in the currency market (i.e., $dx = du$) due both to the British exit $(dz > 0)$ and to the world recession $(dW < 0)$. Differentiating (4) and setting $d\mathcal{J} = 0$, the currency adjustment is obtained as

$$dx^* = du = \frac{1}{\beta_1 + \beta_2}[\beta_2 dz - \beta_3 dW] > 0 \qquad (5)$$

The above expression implies a one-off depreciation $(x_1 - x_0)$ which is close to the actual devaluation that took place after the Drachma collapsed in 1932. Had it been applied immediately, neither the foreign exchange reserves would be lost, nor would economic activity have collapsed.

The proposal to follow the British move and immediately devalue the currency was advanced by no less than the League of Nations representative in Greece and the Chief Economist of the Central Bank,[15] but it was fiercely opposed by commercial banks fearing that their Drachma reserves would be further diminished.[16] The Government might as well have had been preoccupied by what Calvo and Reinhart (2002) have coined as the "fear of floating," i.e., believing that any departure from the peg would automatically unleash hyperinflation and cut access to foreign credit.[17]

To alleviate fears of excessive fluctuations in the future, currency stability could have been reinstated after a quick adjustment. In fact, other countries acted in this way without been regarded as unilaterally reneging on prior obligations; for example, Shearer and Clark (1984) describe how Canada imposed capital controls so effectively that the act was tantamount to devaluing the currency, but without moving to a floating regime. Similarly, Eichengreen (2008, p. 84) confirms that the group of countries that remained pegged to sterling after its devaluation enjoyed much of the benefits of exchange rate stability, while at the same time they stimulated their economy by cutting interest rates as Britain did. It was an irony of history that after being faithfully tied to the pound when it was widely considered overvalued, the Drachma broke company at the moment that the fault was just about to be corrected!

### 4.2 The option of debt forgiveness

If devaluation is excluded as an option, another way to keep the system in the initial equilibrium $X_0$ is by cutting debt liabilities to an extent $(dF < 0)$ sufficient to compensate for the impinging shocks without sacrificing the reserves. For expression (3) to remain unaffected, debt reduction

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[15] As described in Bank of Greece (1978, *The First Fifty Years*, p. 93).

[16] Commenting upon a similar decision by the UK the year before, Keynes noted that "…the decision to maintain the gold standard at all costs has been taken … in a spirit of hysteria and without a calm consideration of the alternative…" (1931, *On the eve of the Gold suspension*).

[17] In an analysis of the interwar period, Wolf (2008) remarks that "(i)n countries which suffered a hyperinflation or a significant depreciation of their currencies relative to the pre-war parities, one can expect a wide reluctance to adopt expansionary monetary policies."

should be:

$$dF = -\frac{1}{r+\sigma}d\mathcal{J} = \frac{1}{r+\sigma}\left[-\beta_2 dz + \beta_3 dW\right] < 0 \tag{6}$$

The debt reduction option was publicly suggested by influential economists[18] and resonated positively in the domestic political scene. The Government initially considered the advice, but found it to be too adventurous in the institutional setting of the 1930s and not without reasons. Since no bail-out mechanism existed within the GES, any debt rearrangement should take the form of either a rescheduling approved by creditors or a unilateral repudiation by the debtor. The latter was rightly rejected by the Government on the grounds that it would destroy all previously gained credibility and put the country in financial isolation. The former was simply not available as other countries were entangled in their own recession and refused to assist the rest; for a discussion of this "asymmetry problem," see Simmons (1996).

With recession spreading and deepening worldwide, the attractiveness of GES participation was quickly eroded and by the end of 1931 twenty-two countries[19] had suspended membership. In a marked contrast, Greek authorities seemed to act as a late proselyte and insisted to prove that Greece is not a fair-weather participant in the system.[20] In a joint meeting between the Prime Minister, the Central Bank, and commercial banks, the Government vowed to stay in the GES by keeping the peg to the US dollar (i.e., $X = 77.20$ Drachmas per dollar) intact.

According to the model in Section 2, if a currency stays committed to the GES under the same parity ($dx = 0$), depreciation expectations should be controlled by suspending convertibility ($\theta = 1$) and ensuring that fundamentals do not alter (i.e., $du = 0$). This means that the deterioration of the trade balance in equation (4) is absorbed fiscally and by setting $d\mathcal{J} = 0$ the reduction required in domestic demand is given by

$$dV = \frac{1}{\beta_4}\left[-\beta_2 dz + \beta_3 dW\right] < 0 \tag{7}$$

To reassure markets about their determination to stay in the GES, Greek authorities did move along the above lines in two ways.

First, by imposing capital controls to curb the ensuing capital flight. The decision misfired as implementation was delayed for a few critical days, during which big withdrawals took place. Public outrage against for sheltering the profiteers forced the Government to sack the Governor of the Bank of Greece as a scapegoat, thus creating a serious vacuum in managing the crisis. Then as a political show-off against speculators, the discount rate was raised to 12 percent and a defiant Prime Minister personally called the authorities ". . . not to hesitate to raise interest rates to 20% or even to 50% if deemed necessary"; see Mazower (2002, p. 211). The rise was not effective to eliminate the capital flight, although it was chocking off liquidity for small firms, further aggravating the dysfunction of the economy.

Second, by declaring a rigorous fiscal stance. The political investment in the GES was so deeply rooted in the Party of Liberals that it made the Government to ignore the steep fall

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[18] The most influential economist was D. Maximos, previous Governor of the National Bank of Greece and later Prime Minister; see Bank of Greece (1978, p. 98).

[19] Obstfeld and Taylor (2003, Table A1) list eighteen countries leaving the GES before the end of 1931, and four more are included in Wandschneider (2008, Table 1). It is worth noting that of those listed, Uruguay and Argentina were only effectively—though not formally—in the GES, while Czechoslovakia suspended the system in 1931 but devalued in 1934.

[20] In contrast, Wandschneider (2008) brandishes UK as behaving like a "fair-weather friend" for early breaking with GES even though its economy was not hit as hard as others that chose to fight and remained for longer in the system.

already experienced in employment (see figure 13) and declare a target of "zero deficits." But the target was beyond reach, as public spending peaked during fiscal year 1931–1932 and revenues could not rise any further amid the recession. In fact, the budget deficit reached pre-crisis levels,[21] increasing the pressure on Greek finances and reinforcing pessimistic expectations in the market.

Soon it became apparent that none of the above measures was able to keep the tide of events off. Access to international credit flows was further curtailed and industries pressed commercial banks to raise liquidity capital. With much of private deposits withdrawn by worried creditors, commercial banks turned for help to the Central Bank, enforcing her to sacrifice a substantial part of foreign reserves.

In figure 1, keeping the same exchange rate after the equilibrium is being displaced by a permanent shock implies that the system slides along the horizontal locus $X = X_0$, while foreign reserves are depleting. When they reach a critical level ($Q_{MIN}$), authorities are forced to abandon the system and then the exchange rate overshoots onto the new saddle-path at point $E_2$ from which it subsequently free-floats to the new equilibrium $E_1$.

Actual developments in 1931–1932 closely followed the pattern of futile defense step by step as follows. With foreign reserves disappearing, the Government had second thoughts on debt rescheduling and in January 1932 sought a five-year moratorium on servicing foreign debt and a new loan of pound sterling 12.5 million to finance infrastructural projects and enhance growth. After three months of procrastination, the League of Nations rejected the request[22] and the Government bitterly realized that the situation was not any more defensible.

To implement the exit decision, a Law was passed by Parliament and the system was officially abandoned in April 1932. The Drachma devalued and foreign obligations were subsequently repudiated causing anger and hostility in the credit community. Post-default, the Bank of Greece sought a compromise with foreign bond-holders proposing to compensate them at 30 percent of the nominal value and, after some protestations, most of them accepted the offer by the end of 1932. The cost of debt service as a ratio to GDP fell to a third and this improved the budget deficit despite the shrinking in public revenues; see figures 3 and 4, respectively.

The time profile of the exchange rate path shown in figure 5 closely depicts the actual trajectory of overshooting and adjustment that took place in 1932–1933 as in figure 6. Following the currency path, net exports in (4) rose strongly in the aftermath of devaluation, though later somewhat declined due to the partial revaluation $E_2E_1$ towards the new equilibrium. Figure 7 displays this pattern and seems to capture well the actual behaviour shown in figure 8. According to equation (3), the improvement in trade balances gradually augments foreign reserves as in figure 9 and, again, this is in line with actual accumulation after 1932 as in figure 10.

## 5. The aftermath of the crisis

The economic consequences of devaluation were mixed and a comparison is made in table 1 by juxtaposing the averages of key economic variables over two 4-year periods equally spanning

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[21] The fiscal target adopted by the Government was the so-called "official balance" that included a number of foreign loans as revenues; see Appendix B for a discussion on variable CGFB. The official balance was indeed close to zero or in surplus, but this could not conceal the structural fiscal imbalances as discussed in Section 2.

[22] It agreed only to a brief postponement of debt repayment, utterly insufficient to reverse the situation, Bank of Greece (1978, p. 100).
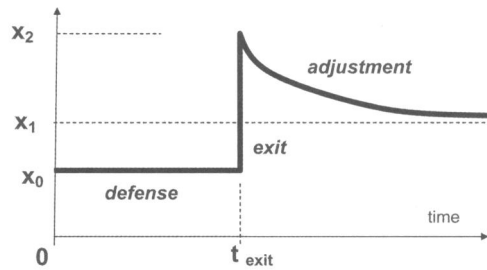
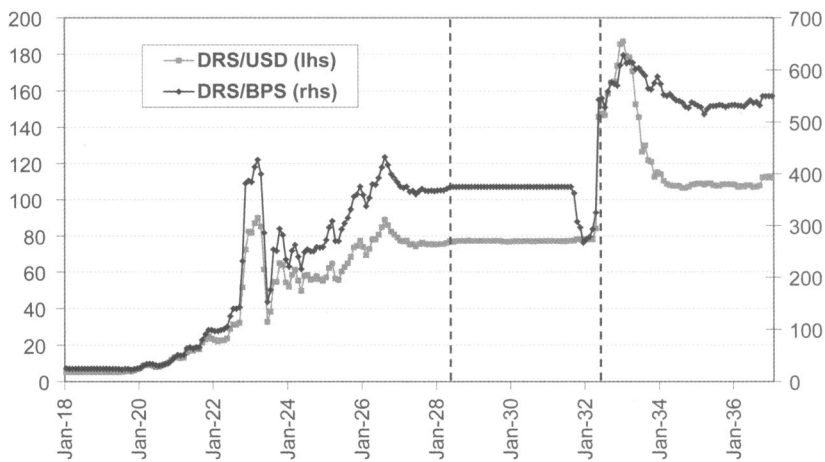Figure 5. *The response of the exchange rate after abandoning the GES, as implied in figure 1.*



Figure 6. *The Drachma exchange rate vis-à-vis the British Pound (left-hand scale) and the US dollar (right-hand scale). A rise indicates depreciation. Variables XRBPS and XRUSD as defined in supplementary material, Appendix S1.*
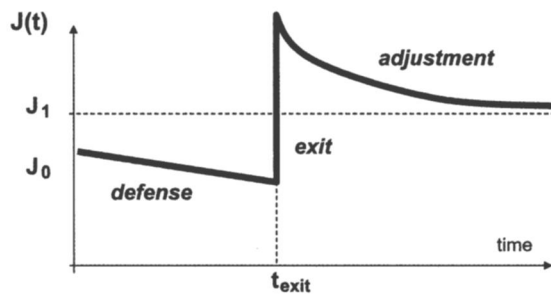


Figure 7. *The response of the trade balance after abandoning the GES, as implied in figure 1.*

within and outside GES, respectively. Comparisons leave out developments after 1936 as in that year Greece entered a wholly different phase with the imposition of a right-wing dictatorship that profoundly changed the political, social, and economic environment.

The most pronounced effect of the devaluation was the sharp rise in industrial production in 1933, after shrinking for the rest of 1932 as shown in figure 11. This has led some authors to
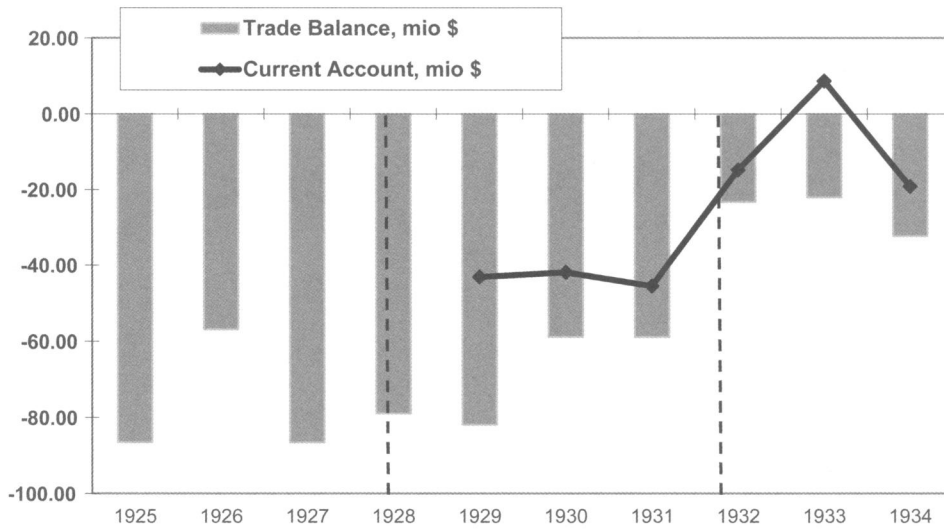
Figure 8. *Trade balance and current account balance in Greece, million US dollars. Variables TBG and CABG as defined in supplementary material, Appendix S1.*
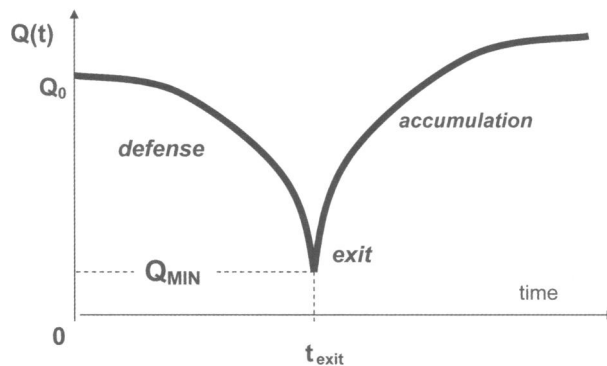


Figure 9. *The response of foreign reserves after abandoning the GES, as implied in figure 1.*

portray Greece as just another case of fast recovery as soon as it was freed from the "golden fetters"; see Freris (1986), Tsoulfidis (2005), Psalidopoulos (2011) and Kopsidis (2012). In practice, overall developments were far less impressive and the outlook of industrial production is seriously compromised by the fact that it was counting for only a tenth of the total output.

The share of agriculture was far more extensive at 56.4 percent of total output, thus its slow pace after 1932 inhibited a rapid overall growth. Despite the fall in relative prices, world demand for Greek crops did not rise, while falling real incomes at home constrained domestic demand. In some rural sectors, the decline was devastating, causing abject poverty[23] and fermenting political discontent.

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[23] In a description of the period, Psalidopoulos (2011, p. 69) notes that rural populations were living in "desperate conditions."
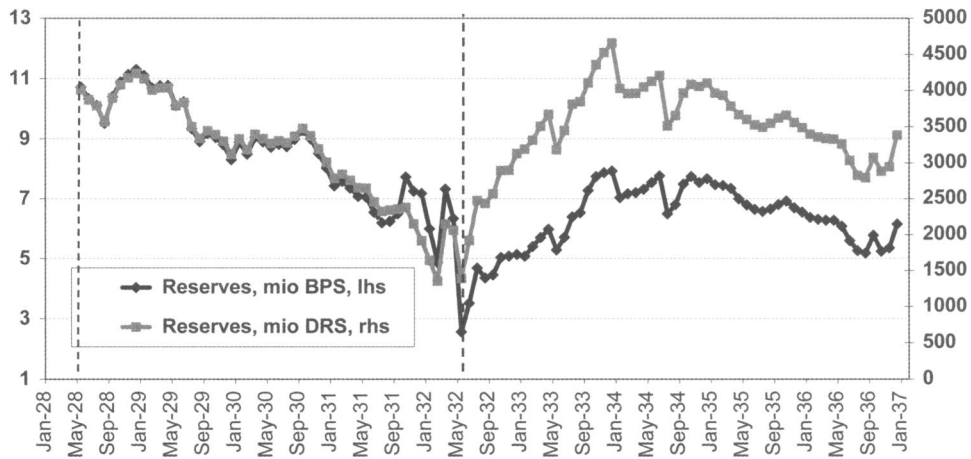
Figure 10. *Foreign reserves: Monthly series in million of British Pound Sterling, left-hand scale, and in million Drachmas, right-hand scale. Variables FXRPS and FXRDR as defined in supplementary material, Appendix S1.*

Table 1. *Comparison of key economic variables*

|    | Variable | Pre-crisis 1928–1931 | Post-crisis 1933–1936 | Comments |
|----|----------|----------------------|-----------------------|----------|
| 1  | Growth rate percent | 5.14 | 5.45 | Slightly better |
| 2  | Total activity index | 103.18 | 102.05 | Slightly worse |
| 3  | Industry index | 103.76 | 135.25 | Better |
| 4  | Employment index | 103.60 | 97.80 | Worse |
| 5  | Consumer price index | 96.73 | 110.69 | Worse |
| 6  | Real wage index | 102.76 | 93.05 | Worse |
| 7  | Export volume | 52.18 | 54.61 | Slightly better |
| 8  | Import volume index | 101.25 | 86.75 | Better |
| 9  | Budget deficit %GDP | −3.33 | −1.44 | Better, due to default |
| 10 | Debt service %GDP | 9.80 | 4.19 | Better, due to default |
| 11 | Bonds yield percent | 7.51 | 27.86 | Worse, due to default |
| 12 | Discount rate percent | 9.50 | 7.73 | Better |

Four-year averages before and after the collapse in 1932.

Calculation of simple averages of the variables shown in the previous graphs, where definitions and sources are given. (i) For annual data, the year 1932 is excluded from calculations as it is difficult to separate allocation before and after the crisis in April 1932. If a weighting of one-third or two-thirds is used to correspond to the relative length of the two phases, comparison becomes slightly more favourable for the pre-crisis years. By omitting 1932, the post-crisis average growth rate looks higher and this explains the slightly contradictory comments in the first two rows. (ii) Bond yields and discount rates are monthly averages of similar duration. Pre-crisis period ranges from May 1928 until April 1932; post-crisis from May 1932 until April 1936. (iii) Except for exports, all other indices are based on 1928 = 100. The volume of exports is relative to that of imports and in 1928 was equal to 51. (iv) Budget deficits are calculated as simple averages of fiscal years 1927/28 until 1931/32 for the pre-crisis period and of 1932/33 until 1936/37 for the post-crisis one.

Taking the economy as a whole, activity surpassed pre-crisis levels only after 3 years, as can be seen in figure 11. Looking at table 1, average GDP growth rate in the post-crisis period 1933–1936 was at 5.45 percent, marginally above the average of 5.14 percent during the same span in pre-crisis times 1928–1931.
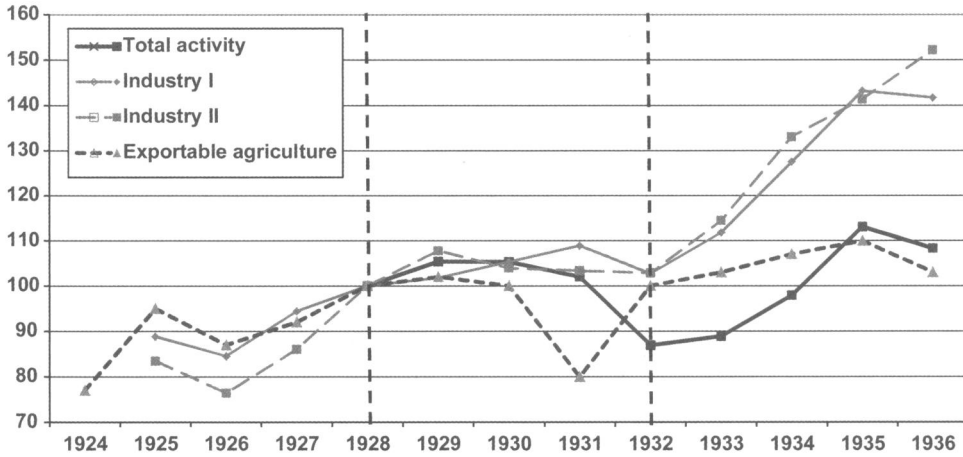
Figure 11. *Indices of annual economic activity, industrial output and an index of exportable agricultural production. Base year 1928 = 100. Variables IACT, IIP1, IIP2 and IAPX as defined in supplementary material, Appendix S1.*
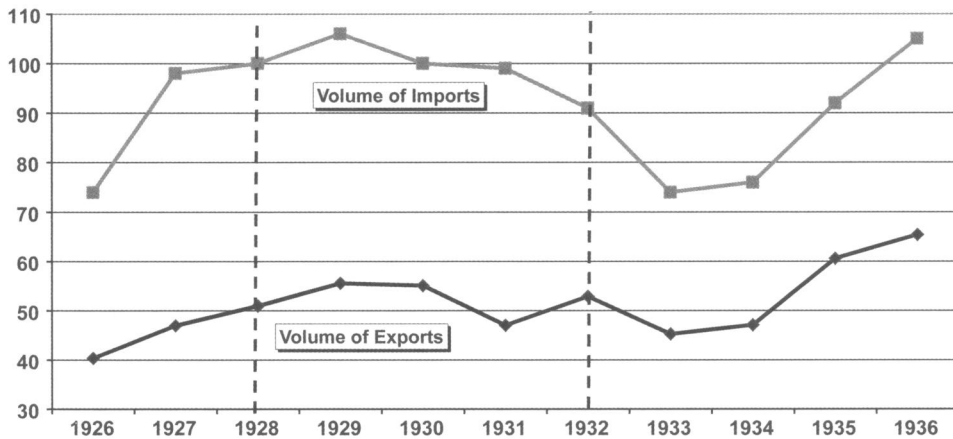


Figure 12. *Index volumes of merchandise exports and imports. For imports 1928 = 100. Variables VEX and VIM as defined in supplementary material, Appendix S1.*

Neither was there any structural improvement in the economy as a result of devaluation. Between1930 and 1938 the share of agriculture expanded from 50.2 to 56.4 percent, while that of industry remained virtually unchanged (from 10.3 percent of GDP to 10.4 percent in 1931 and 1938, respectively[24]). As most of the period falls after 1932, this implies that no further industrialization took place in the aftermath of exiting the GES.

The trade deficit improved but, again, it was hardly a cause for celebration. Containment came mainly from the reduction of imports due to the fall of real incomes and the imposition of tariffs and quantitative controls. Although the volume of exports in 1932 marginally rose relative to the previous year, it did not exceed those of 1929–1930. Subsequently, it fell even further,

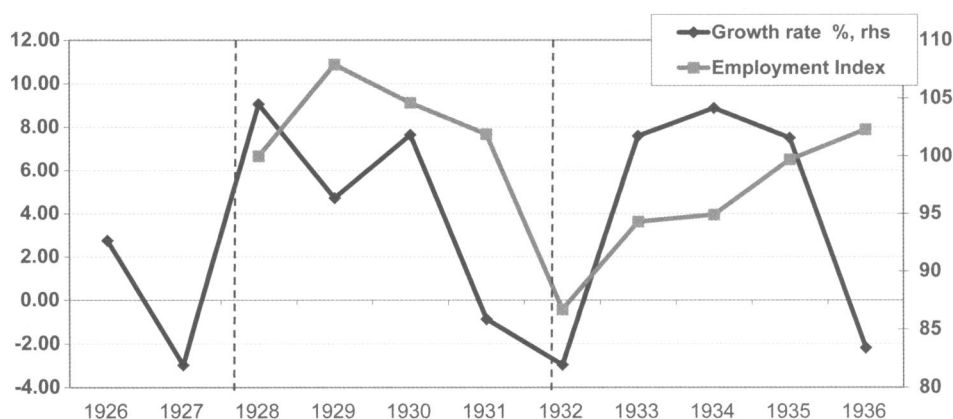[24] Shares are displayed in Kopsidis (2012, Table 3) for various years.

Figure 13. *Growth rate of annual GDP (lhs) and an index of employment, 1928 = 100, (rhs). Variables GDP28 and IEMP as defined in supplementary material, Appendix S1.*
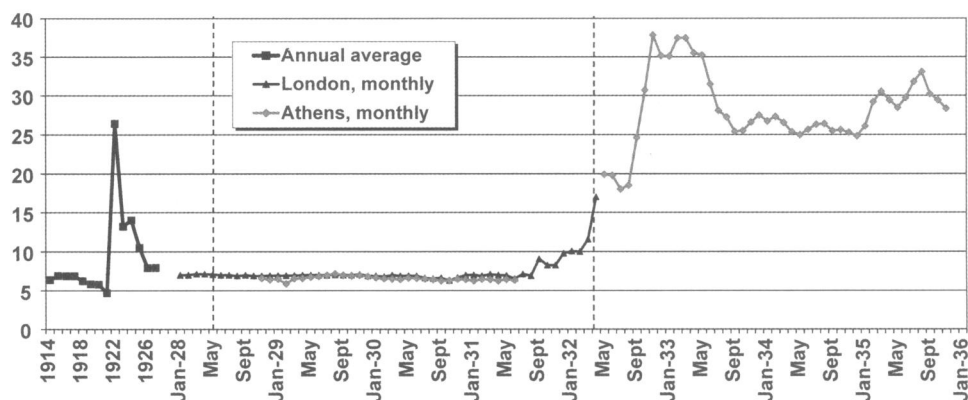


Figure 14. *Greek sovereign yields quoted in Athens and in London. Data for 1914–1927 are annual averages, for 1928–1936 monthly averages. Variables SYA and SYL as defined in supplementary material, Appendix S1.*

as protectionism was spreading in many European countries inhibiting an export-led growth in peripheral economies (see figure 12). In value terms,[25] exports actually fell by USD 20 million in 1932 due to the deterioration of the terms of trade.

Uncertainties continued to prevail in the labour market after the devaluation, reflecting both the confusion over the future of economic policy and the spread of industrial action to oppose the fall in workers' real income shown in figure 2. In such an uncertain environment, employment exhibited a strong hysteresis as firms—not restricted by work-time regulations—found it easier to meet higher production by extending working hours rather than hiring new employees. According to Lazaretou (2009, p. 34) employment in 1932 ended almost 15 percent lower when

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[25] Data are taken from Bank of Greece (1978, *The First Fifty Years,* Table 10, p. 105).

compared with the previous year. An index of employment[26] is depicted in figure 13, showing that even in 1936 it was still lower than its peak during the GES as many jobs were not recovered along the rise in industrial production; for a similar pattern of hysteresis in USA employment, see Blanchard and Summers (1986).

On top of economic developments, the political fall-out in Greece was even more dramatic. Following the fate of the currency, the Government collapsed too and within 4 years the country went through an unprecedented process of chaos and disintegration. Four consecutive elections had been held (in 1932, 1933, 1935, and 1936), but all failed to form a stable coalition capable of managing the economic situation.

After each electoral round, political tensions were escalating and many atrocities took place, including one election boycott, an assassination attempt against the crisis Prime Minister, and four military *coup d' etats*. As unemployment continued to surge, social clashes intensified and finally a pro-fascist dictatorship was imposed by yet another coup in 1936. It was only then that output and employment expanded substantially, as protectionism was extended to many sectors, orders to industry multiplied by intensive defense procurement, and—most crucially—authoritarian control cut civil liberties and silenced the labour force.

Following similar practices in the other oppressive systems of the time, the new regime crushed political parties and trade unions, thousands of dissenters were sent to domestic exile[27] and Labour Battalions were set up to provide work in infrastructural and communal projects at below-market wages. Most likely, it was the imposition of such "iron fetters" that made unemployment to seriously decline and output to grow steadily after 1936, rather than the currency liberation from the golden ones.

The above findings challenge the prevailing view advanced by Eichengreen and Sachs (1985) that *all* countries that either *de jure* or *de facto* devalued their currencies in the 1930s, came out of recession faster. Likely reasons for their conclusions not being universally applicable are the following:

## 5.1 Peripheriality

Although all non-anchor countries were formally sharing the same status within the GES, some were "more equal than the others." Obstfeld and Taylor (2003) suggest that there was an advanced inner group consisting of core countries (Northern Europe, Japan and, of course, the dual anchors) and British Empire countries, leaving a less robust group consisting of periphery and non-empire economies. The analysis of Eichengreen and Sachs (1985) is based on only ten countries of the first group, thus their conclusions may not extend automatically to those of the latter.

The key reason for peripheral economies being financially constrained after devaluations was that their domestic debt market was very thin, while at the same time the procyclicality of capital movements[28] meant that they were denied access to international credit when needed it most.

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[26] Unemployment ratios for the period may be unreliable as the definition of the labour force was under constant revision. However, the numbers of persons unemployed reported by Kostis (1986, p. 139) confirm an increase in 1932 and 1933. Tsoulfidis (2005, Table 4) provides different figures showing a sharp rise in 1932 and then a decline in 1933, though the average number of unemployed during 1933–1935 is still higher than the average in the GES period 1928–1931.

[27] In 1941 the camps were transferred to the occupation forces and most of the interns were vanquished.

[28] For an analysis of this problem in today's emerging markets, see Haussmann and Velasco (2005).

Figure 14 shows that after devaluation and debt repudiation, borrowing costs increased at pro-hibitive levels.

### 5.2 Weak export capacity

Greece was not able to get transformed to an export-led economy and exports in 1928 were dominated by agriculture to an extent reaching 90 percent of total.[29] The exportability of the primary sector was raised from 40 to only 50 percent in 1930, still leaving a large part of agricul-tural production unsellable in world markets. As pointed by Christodoulaki (2001), the sec-ondary sector was also characterized by backward technology and low investment intensity, with industrial production mainly focused on domestic consumption. With a thin internal market and an increasingly protectionist environment abroad, it is no wonder that devaluation did not confer any major trade benefits. The problem in Greece was more of a structural char-acter and had far less to do with the stability of the exchange rate per se versus a floating regime.

Similar patterns occurred with other peripheral economies. For example, Ivanov and Tooze (2011) examine interwar Bulgaria and find that the country, after leaving the GES in 1931, did not confer any export gains[30] as the economy was neither able to overcome the prohibitive restrictions on international trade nor effectively retaliate against them.

## 6. Conclusions and lessons

In late 1920s, Greek economic policy was trying to restructure parochial relations in key sectors ranging from banking to agriculture, to build productive infrastructure in order to close the gap of regional inequalities, and at the same time become an equal partner in shaping European politics. To this end, Greece vowed to participate in GES, but—in spite of some progress—the outcome of the project was finally negative.

The paper aimed to show that, rather offering a Greek propensity to failure as an explanation of history, events in the 1930s could have been shaped differently if a number of specific policy mistakes were avoided both by Greece and by the leading economies of the GES. The main causes of failure were the uncompetitive rate at which the Drachma was tied to the system, the slow pace of reforms thereafter, and the stringency of credit availability when Greece was hit by the devaluation of the pound and the subsequent capital flight and loss of foreign reserves. With the Government pursuing—in isolation—a tight credit and fiscal policy to stave off market speculation, the economy was soon trapped in deep recession that terminally undermined business prospects and employment.

The lesson cannot be timelier for today. In the 1930s, mechanisms of credit facilitation to stressed countries were completely lacking and, in the event of the crisis, every member of the system was left alone and soon succumbing to the mounting pressure. The message seems to be understood in the present crisis and institutional coordination has been signifi-cantly upgraded. Today the emergency finance set up by the European Union, the European

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[29] Bank of Greece (1978), p. 15.

[30] At a technical level, Ivanov et al. (2008, Table 2) find that the regression coefficient of the real exchange rate on the volume of exports is wrongly signed and statistically insignificant. In contrast, a similar coefficient estimated by Eichengreen and Sachs (1985, Table 3, row 5) for the core countries is found to be strongly significant and properly signed.

Central Bank, and the IMF provided lending assistance to the economies threatened by a credit crunch, and new procedures—such as the European Stability Mechanism and the open market bonds repurchasing—are further used to stabilize the Eurozone.

As part of the conditionality programme, Greece has to achieve within a short time-framework certain fiscal targets by cutting expenditure and raising tax revenues. But this further deepens recession and, as unemployment currently soars above 26 percent, ignites social tensions and fuels unrest. The most challenging task today for Greece—and perhaps for other Southern European economies—is to pass a number of structural reforms in order to bridge the gap with the most competitive economies in Northern Europe. But for this to feasible, a growth initiative along the reform agenda is urgently needed, before it is too late for revival.

As always, it is the set of policy actions in Greece and the Eurozone that will determine the outcome, not chance or prior failures and in this spirit the sequel of events in the 1930s should be given more attention by those currently advocating the so-called Grexit scenario. In a recent pronouncement of the threat, Vanatta (2012) attempts to popularize the destiny factor haunting Greece by arguing that the inability of the country to defend the Gold standard has created "an ugly precedent" looming over its current participation in the Eurozone. The previous analysis suggests that the practical consequences of abandoning exchange rate stability may set in motion an even uglier precedent that will likely entail huge socio-economic costs if Greece follows the advice.

### Supplementary material

Supplementary material is available at *European Review of Economic History* online.

### Acknowledgements

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