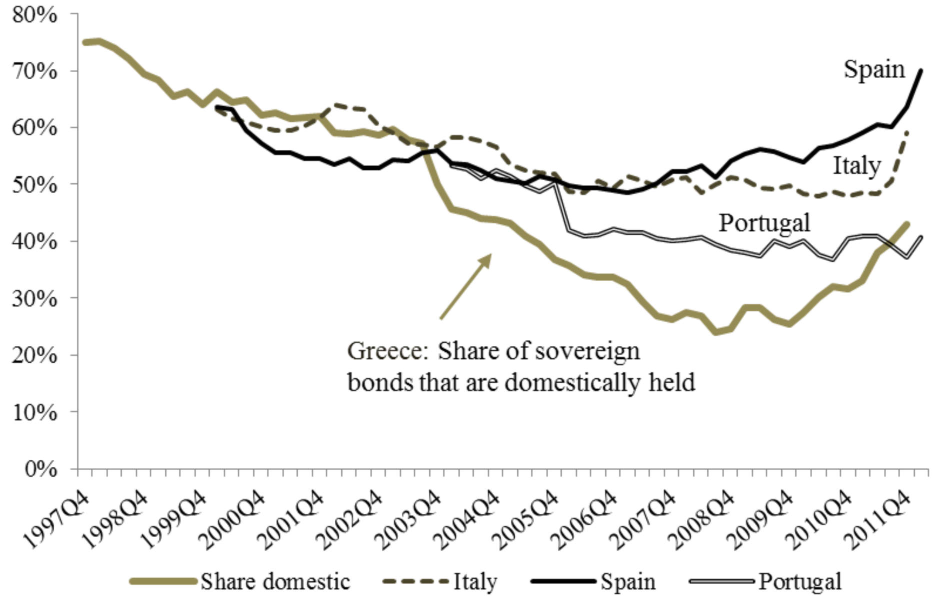
Material for online appendix

Appendix A: More on Greece's External Dependence

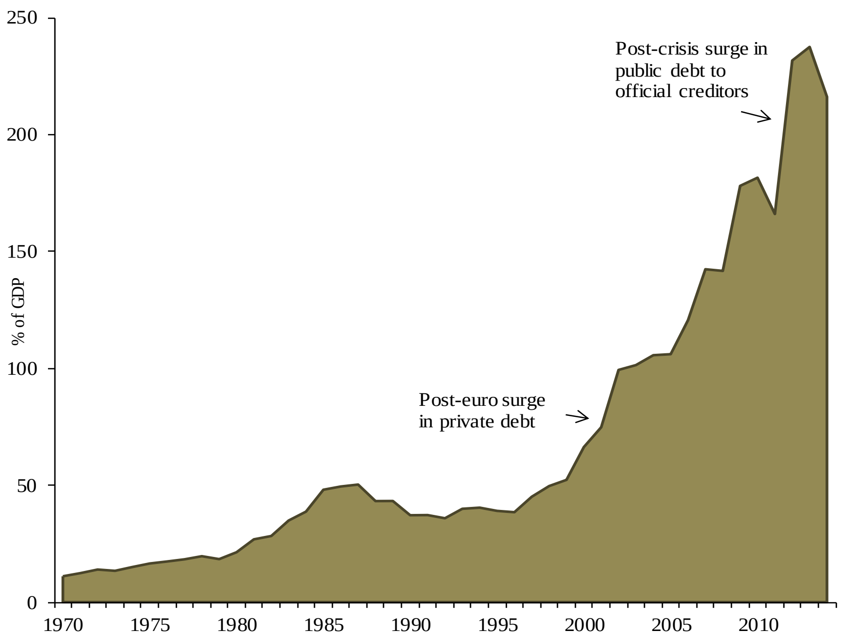
Figure A1. Greece and other advanced Economies: sovereign bonds held domestically, 1997-2011



Sources: Andritzky (2012), Arlanalp and Tsuda (2014, for Portugal) and author's calculation.

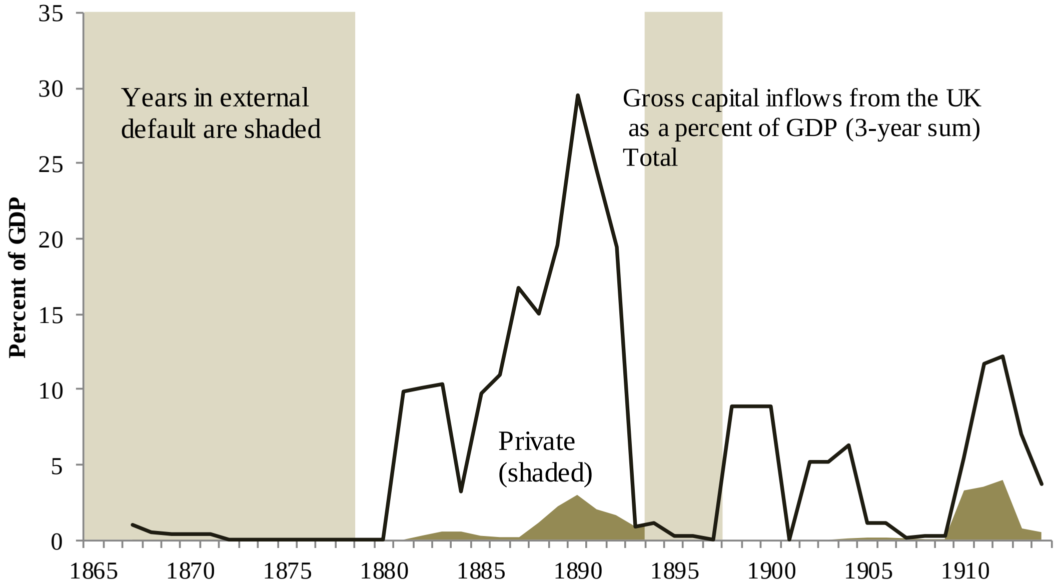
Notes: The figure shows the share of short-term and long-term debt securities issued by the government that are domestically held, i.e. those not held by the "Rest of World (non-residents)".

Figure A2. Total (public plus private) external debt, percent of GDP, 1970-2014



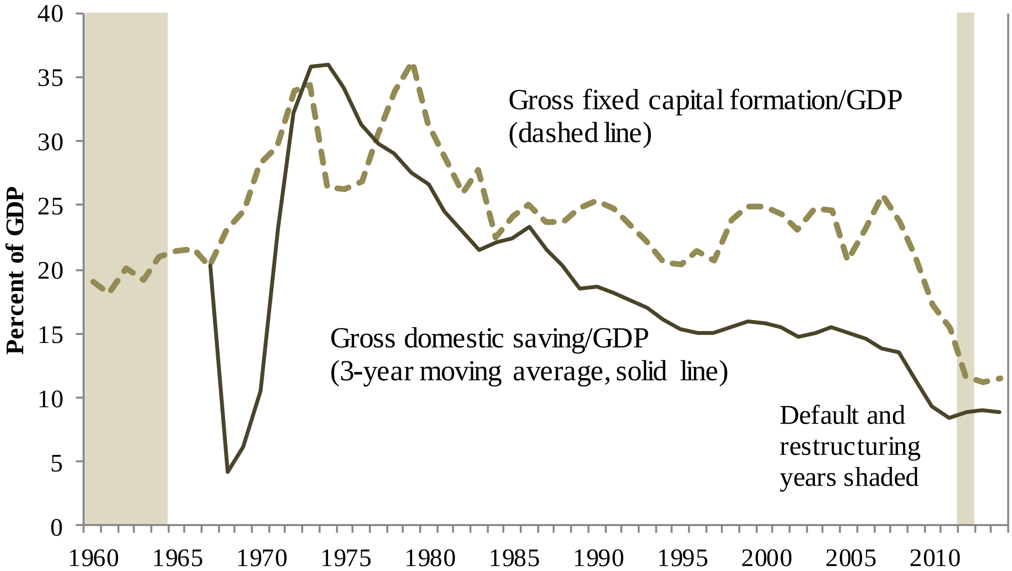
Sources: International Monetary Fund, IFS and World Economic Outlook, Lane and Milesi Ferreti (various), Reinhart and Rogoff (2009), and World Bank, *Quarterly External Debt Statistics.*

Figure A3. Gross capital inflow surges and sudden stops, Greece: 1865-1914
(Capital imports from the United Kingdom as a percent of GDP)



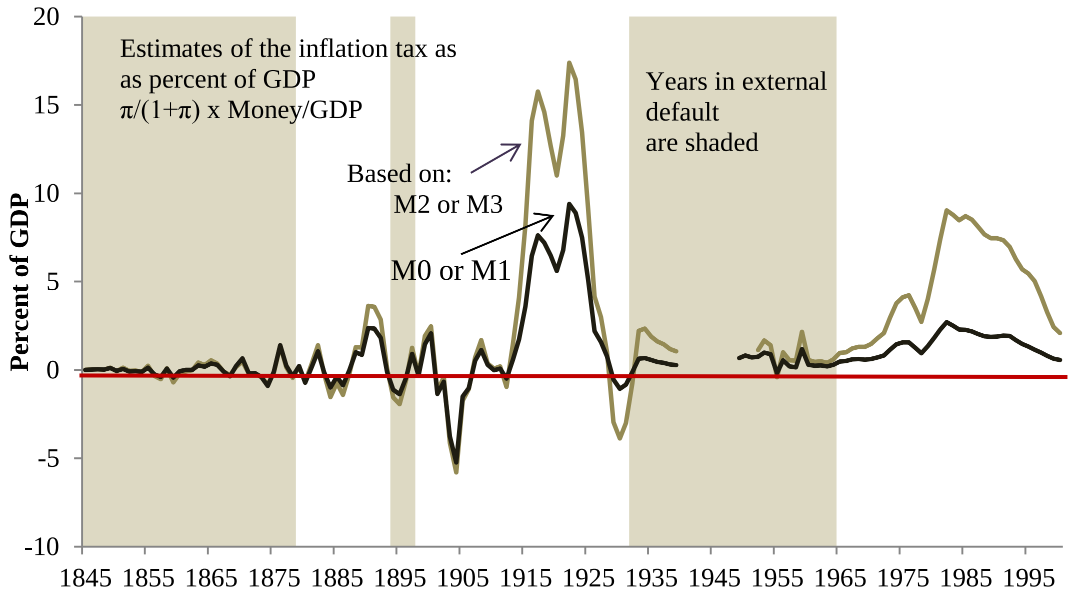
Sources: Reinhart and Rogoff (2009), Reinhart and Trebesch (2015), South-Eastern European Monetary History Network (2014), Stone (1999).

Figure A4. Gross Domestic Saving and Gross Fixed Capital Formation, 1960-2014



Sources: The World Bank (World Development Indicators) and authors' calculations

Figure A5. Pre-Euro revenues from the inflations tax, Greece 1845-2000



Sources: International Monetary Fund: International Financial Statistics and World Economic Outlook, Mitchell International Historical Statistics (various), Reinhart and Rogoff (2009), Reinhart and Trebesch (2015), South-Eastern European Monetary History Network (2014), Stone (1999).

Notes: The estimate based on M0/M1 and M2/M3 can be interpreted as the lower and upper bound, respectively.

Table A1: The First Bailout Loan of 1833: Use of Procceds

The following is a summary of the use of proceeds of the 1833 guaranteed loan by the Great Powers (Tranches A and B, totaling 44.5 million drachmas):

Fees to the House of Rothschild……………………………………5 million

Interest on loan for 1833-1835 (advanced)………………..……..7.6 million

Compensation to Ottoman Empire……………………………...12.5 million

Debt repayment to Great Powers (advanced)………………………2 million

Travelling expenses for King Otto, his personnel and escort…....2.1 million

Wages and other expenses for members of Otto’s regency…..…....2 million

Recruitment and moving costs for Bavarian Voluntary Corps…...3.3 million

Purchase of military supplies………………………………………1 million

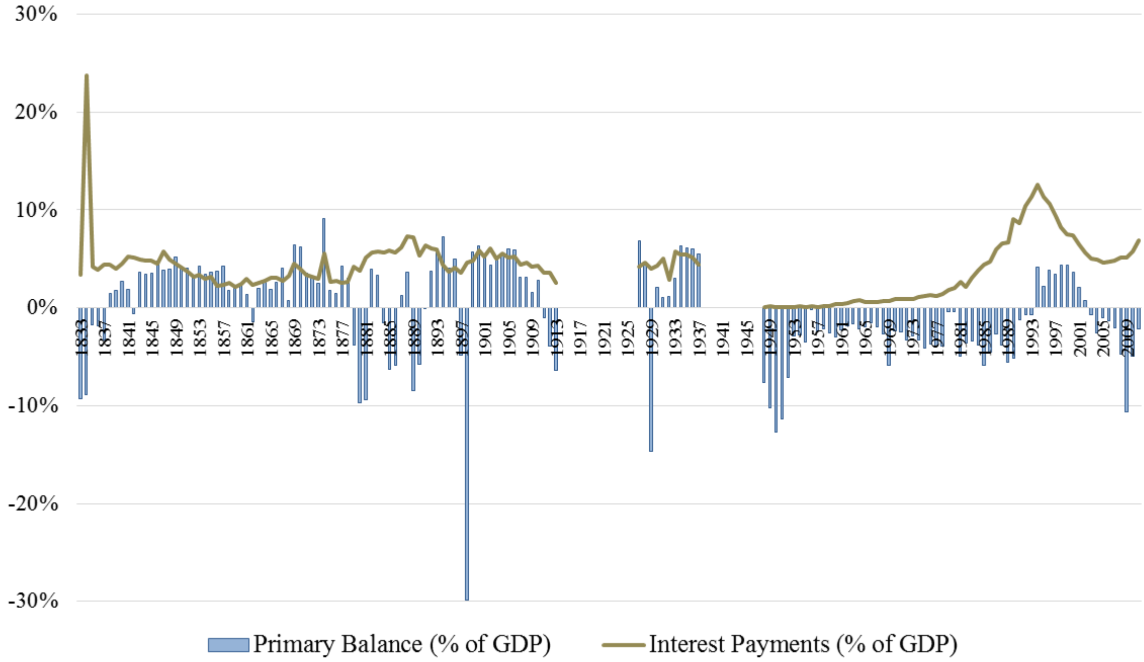
***Subtotal*:……………………………………………………...35.5 million**

Remainder transferred to Greek Public Treasury**……....……….9 million**

Source: Kofas, Jon. 1981. Financial Relations of Greece and the Great Powers 1832-1862. Boulder: East European Monographs. Page 25.

Appendix B: Greece's Fiscal Position in History

Figure B1. Greek primary balances and interest payments 1833-2011



Sources: South-Eastern European Monetary History Network (2014) for data 1833-1879, Mauro et al. (2013) for data 1880-2011, as well as detailed sources cited therein.

Appendix C: Background on Sovereign Defaults in Greece (see list of sources below)

Default of 1826

Context:

In 1821 Greece began to revolt against Ottoman rule. To finance the independence war, a provisional government borrowed two large-scale loans in 1824 and 1825 (in the order of 120% of GDP of 1833) at very unfavorable terms. Of the total nominal value of 2.8 million British pounds, less than 1.3 million actually flowed to Greece. The remainder was retained due to high commission fees and because the issue price was less than 60% of par. The provisional government declares default in 1826 due to the ongoing conflict and because of high military expenditures.

Crisis Resolution and Outcome:

Duration of Default: 53 years (1826 until 1878); market re-access in 1879

Crisis resolution: In 1829 first settlement offer by Greece, which is refused by creditors, who insist on repayment of 100% of par. From 1833 to 1866 no negotiations, since King Otto does not recognize the loans made by a provisional government prior to his rule. From 1866 to 1875 negotiations break down frequently, partly due to political instability in Greece and partly due to disagreements with creditors. A main disagreement was on how to treat arrears and compound interest, which had ballooned to £10 m (a multiple of the original loan amounts).

Haircuts: De jure haircut above 90% (debt reduction on principal and interest arrears). The de facto haircut was much lower than that. Indeed, the new, exchanged loan amounted to £1.2 million (which is close to the £1.3 m originally borrowed in 1824/25) and was fully paid off in 1890 (20 years ahead of schedule). The haircut size also crucially depends on whether interest arrears are included or not.

Bailout Loans / Official Lending:

Yes: In 1830 the governments of France, Great Britain and Russia (the three powers) agreed to jointly guarantee a loan of 60 m Francs to be raised on private markets and to be paid out in three tranches, conditional on sound financial management. A loan totaling 60 m Francs was finally arranged in 1833, was paid out in three tranches, and with principal repayments starting in 1840King Otto defaulted on this loan in 1838 and again in 1843. From 1838 on, the Powers largely assumed the repayment towards private creditors, until the loan was fully repaid to private creditors in 1871. In the late 1890s the Powers used their new political leverage to reactivate this old claim and Greece resumed debt servicing on the loan until the 1930s.

Amounts: 60 m Francs (2,4 m pounds) originally contracted. This is equivalent to 124% of the estimated Greek GDP of 1833 or 275 million real USD (deflated at 2009 values).

Foreign Political Intervention:

The loan contract of 1830 contained a provision that allowed the Three Powers to intervene financially in case of a default. Moreover, the loan pledged "all revenues of Greece" as collateral, which de facto subordinated all other expenditure needs including repayments to the two previous private loans. In 1833 Otto, son of Ludwig I of Bavaria, was installed by the Three Powers as King of Greece. During his rule Otto imposed high taxes that even exceeded those under Ottoman rule. The external financial intervention became most visible in 1843 when the Powers insisted on the servicing of the guaranteed loan and pressed for fiscal tightening and more savings, despite increasing public discontent about taxes and military expenditures. Faced with military threats by Great Britain, Otto agreed to the demands and imposed drastic budgetary cuts. This was followed by an uprising against Otto in September 1843 and a renewed default on the guaranteed loan.

Default of 1893

Context:

After regaining market access in 1879, Greece borrowed heavily from foreign investors, partly to meet obligations on the old debt from the 1878 debt settlement. Moreover, in the early 1890s, the government contracted new loans abroad, ran high budget deficits and saw a collapse of its exports to Europe. The drop in exports was partly due to the recession in Northern European countries but also because France, Germany and Russia imposed a duty on currants, which accounted for 2/3 of Greek exports at the time (currant exports decreased by more than 50% between 1891 and 1893). The result was a collapse of the exchange rate and increasing difficulty to service the large stock of external debt. Greece declared a unilateral default in parliament in 1893, after losing market access abroad. Greece's financial situation further deteriorated as a result of its decision to engage in a war against the Ottoman Empire in 1897.

Crisis Resolution and Outcome:

Duration of default: 5 years (1893-1898); market re-access in 1902

Crisis resolution: Slow process until 1897. After the Greek defeat in the war against the Ottoman Empire, its bargaining power deteriorated. In 1898, a rapid debt settlement was achieved, since it was legally linked to the peace treaty with Turkey. Accordingly, the negotiations over the peace treaty and debt settlement were orchestrated by Austria-Hungary, France, Germany, Great Britain, Italy and Russia.

Haircuts: No cut in principal. Present value haircut between 37% and 53% depending on assumptions and discount rate used.

Bailout Loans / Official Lending:

Yes: A new loan of 1898 was guaranteed by France, Great Britain and Russia. The proceeds were used to pay the war indemnity to Turkey and to service the new restructured private debt obligations. The Powers also demanded the repayment of the old 1833 guaranteed loan, including arrears and compound interest. The new and old guaranteed loans were serviced regularly and nearly redeemed, until the default of 1932. From then on, the two remaining guarantors (France and Great Britain) repaid the remainder of the 1898 loan to investors. France's share of these guarantee payments were partly reimbursed by Greece in a separate agreement of 1965.

Amounts: 150 million Gold Francs (6 m pounds) in two tranches. This is equivalent to 26.8% of Greek GDP in 1898 or 668 m real USD (deflated at 2009 values).

Foreign Political Intervention:

As part of the peace treaty with Turkey, the Great Powers installed an "International Financial Commission" of representatives of Austria-Hungary, France, Germany, Great Britain, Italy and Russia. It was granted far-reaching control over Greek fiscal affairs. According to Borchard and Wynne (1951) and Levandis (1944), the German government was the main proponent of imposing foreign financial control in Greece, as many bondholders were German and the public opinion in Germany demanded foreign intervention (similar commissions had been installed by Great Britain in Egypt and in the Ottoman Empire). The Financial Commission generated high primary surpluses and assured full debt servicing of Greece's external debt, including on the guaranteed loans. It governed Greek finances with an expanding mandate until 1942, when the occupation by Nazi Germany and Fascist Italy interrupted its rule.

Default of 1932

Context:

Between 1929 and 1932 declining government revenues, increasing inflation (in excess of 40%) and a strong decline of exports during the Great Depression. This was accompanied by an erosion of foreign exchange reserves. A banking crisis in 1931 and mass-immigration of refugees from Asia Minor worsened the fiscal crisis substantially. In April 1932 Greece leaves the Gold standard, resulting in a 50% depreciation of the drachma and a doubling of external debt servicing costs. In parallel, Greece unilaterally suspended all payments on external debt in April 1932.

Crisis Resolution and Outcome:

Duration of default: 32 years (1932-1964); market re-access in 1963

Crisis resolution: Cooperative process until German occupation in 1942. Between 1932 and 1939, a series of short-term agreements were reached with creditors. Partial debt service by Greece continued, despite severe crisis. After WW2 negotiations started only in 1954, but there was further delay, also due to frequent government changes in Greece. Restructuring concluded only in 1964.

Haircuts: No cut in principal. Present value haircut in the range of between 64% (excl. interest arrears) and 86% (with interest arrears).

Bailout Loans / Official Lending:

Yes: Substantial war-time loans by the governments of the UK, Canada, US and France during and after WW1. Moreover, two "refugee" loans were arranged in 1924 and 1928 with the help of the League of Nations, which acted as a trustee. The purpose of these loans was to finance the costs of the mass-inflow of refugees and to stabilize the economy.

Amounts: WW1-related lending of 23.5 m pounds by the UK, 20 m US$ by the US, 8 m Can$ by Canada and 144 m Francs by France, respectively. The sum corresponds to more than 55% of Greek GDP of 1928. The League Loans amounted to 94 m US$, more than 20% of GDP.

Foreign Political Intervention:

The International Financial Commission preserves its control over Greek fiscal issues until the occupation of Nazi Germany in 1942. Moreover, between 1923 and 1931 the League of Nations exerts significant influence on Greek fiscal and monetary policy, as a condition for arranging the League-sponsored loans. The League negotiates several adjustment plans with Greece, which mainly aim to reduce inflation and improve the fiscal situation by increasing taxes and reducing expenditures, in particular military expenditures. The activities of both the Commission and the League were under strong British influence, in particular from the Bank of England and the British Treasury.

Default of 2012

Context:

Persistent budget deficits and strongly increasing debt stock since the 1980s. The Greek fiscal position deteriorated after 2008 when the government revealed a deficit exceeding 10% of GDP and because private capital inflows reversed (sudden stop). In 2010 loss of market access and strong increase in bond yields. Private debt restructuring implemented in 2012.

Crisis Resolution and Outcome:

Duration of default: No legal default. Restructuring in 2012. Severe debt distress (bond spreads>10%) since 2010

Crisis resolution: First negotiations start in mid-2011. Restructuring concluded in April 2012. The fast restructuring was achieved by a combination of large cash incentives for creditors, new legal techniques and political pressure on key domestic and external creditors.

Haircuts: Nominal haircut of 53.5%. Present value haircut in the range 59-65% depending on assumptions and discount rate used. Large cash transfers to creditors (15% of old principal) and bailout of domestic Greek banks financed from official loans.

Bailout Loans / Official Lending:

Yes: Multiple official loans disbursed by Eurozone countries (bilaterally and via the EFSF) and by the IMF since May 2010. All disbursements in tranches, conditional on good financial management. Large-scale ECB purchases of Greek sovereign bonds in May and June 2010.

Amounts: Between 2010 and 2013 a total of €215 m of Eurozone and IMF loans were disbursed. This is equivalent to 110% of Greek GDP in 2012

Foreign Political Intervention:

As a condition for official financing, the European Central Bank, the European Commission and the IMF ("Troika") required the implementation of macroeconomic adjustment programs aimed at generating primary fiscal surpluses, reducing public expenditures and structural reforms to improve Greek competitiveness.

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