The Greek debt-trap :
Origins, threats and ways out before the doom

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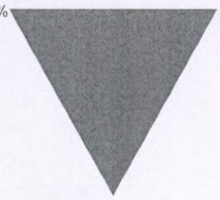
Greece in the Bermuda triangle

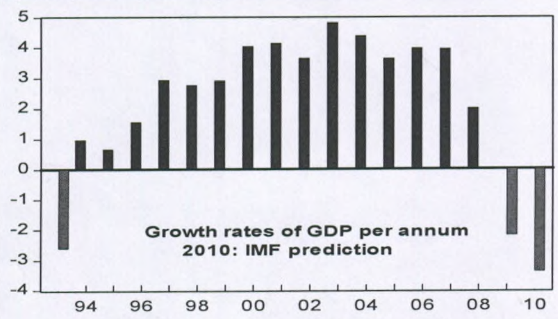
Fiscal exhaustion
2009: Deficit 12.6%
Debt 122% GDP



Unsustainable
External
Imbalances
2006-08: 14% GDP

Deep recession
2009: -2%, 2010: -3.4%

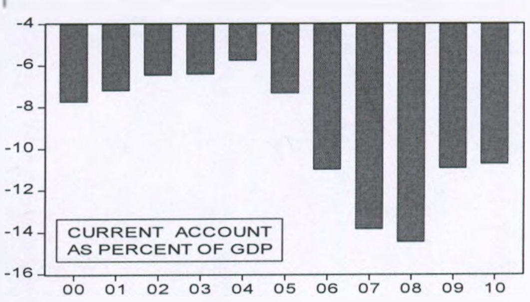
The twilight of Growth. For the first time after 10 years, Greece is lagging behind the EU average



Source: IMF WEO 2010, Greek Budget Plan 2011

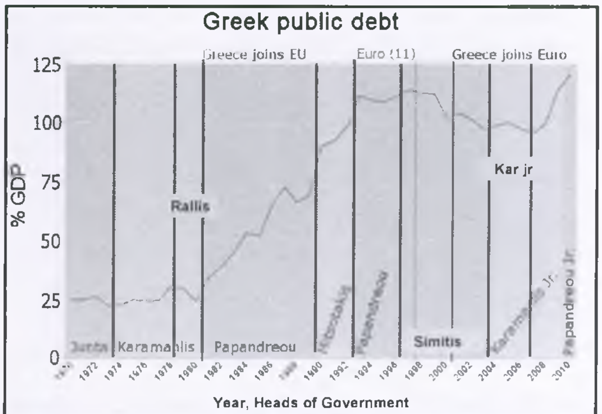
External imbalance explosive, after 2005. Rise in imports of goods, shipping orders.

Source: IMF WEO Data 2010



Greek economy was perennially facing challenges, but recent problems went out of imaginable proportions

- **Growth vanished in 2009, 2010, but before it was strong and survived global crisis 2008**
- **CAD always a pain, but became explosive only after 2006.**
  (Main reasons: shipping orders and spree in luxury imports
  See: a recent study by the Bank of Greece)
- **Debt-to-GDP surged after 2008, but until then it was falling for about 10 years, gradually .**

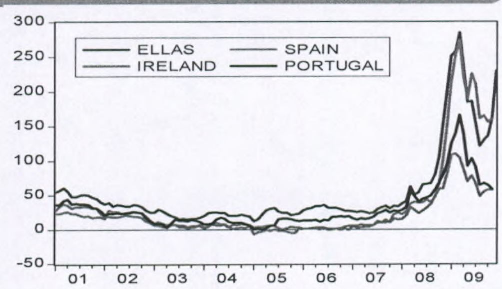


1978-80 and 1997-2007: The only periods of a descending Debt/GDP ratio

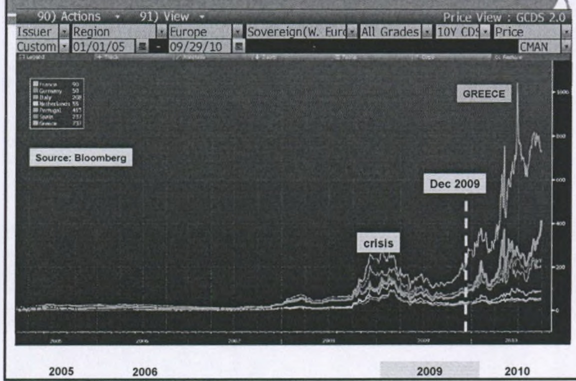
Thesis: In 2009, there was a one-off fiscal catastrophe, not a permanent systemic failure

- **In the beginning of the crisis, Greece suffered higher spreads similarly with other countries in the Eurozone with large fiscal and/or External imbalances**
- **Markets saw it as a liquidity shock, caused by the credit crunch.**
- **There was no serious question of solvency before the summer 2009. CDS similar with Italy, Portugal**
- **Only after December 2009 CDS started to surge.**

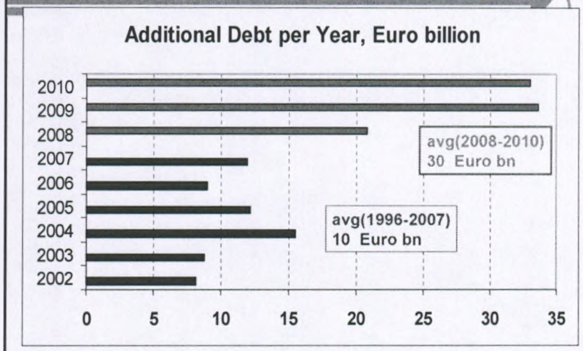
Right after the crisis, Greece suffered higher spreads similarly with other countries in the Eurozone



CDS on 10-year Greek Bonds 2005-2010
Falling during most 2009, escalated after December 2009



New Public Debt surged after 2008
Source: Eurostat, Greek Budget Plan 2011

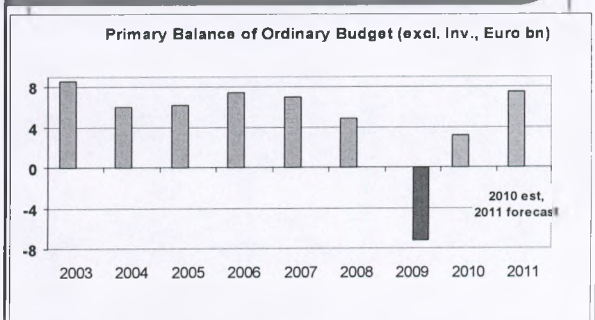


Most of the fiscal deterioration was circumstantial

- **Lax fiscal policies after 2007 elections**
- **Policy complacency before/after the crisis in 2008**
- **New fiscal spree in double election year 2009**
  Thousands of new public appointments
  Huge losses in VAT revenues.
- **New Government delayed to consider action**

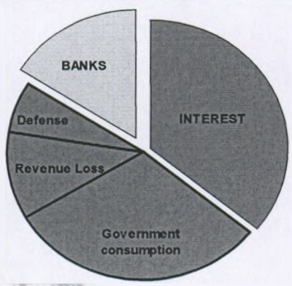
The surge in deficit and debt was combined with a falling output, leading debt/GDP ratio to explode

In 2009, there was a huge Primary DEFICIT (excluding Public Investment)



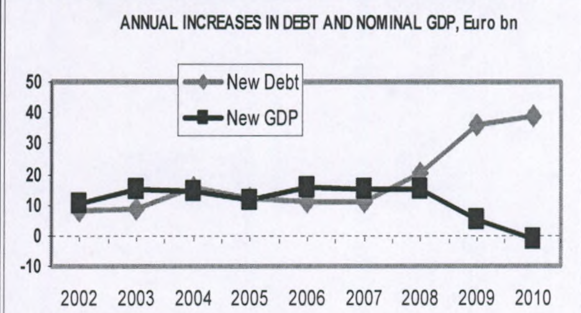
Source: Stabilization Plan 2010, Greek Budget Plan 2011

In 2009, half of the new debt was created by unusually lax fiscal policies (incl. revenue fall)



Source: Greek Budget Report 2010

After 2008, Public Debt is rising faster than Nominal GDP and indebtedness became explosive (i.e. Debt/GDP ratio)



Source: Greek Budget Report 2010, Plan 2011

Two types of Debt Distress

Kumar, Masson, Miller: IMF WP, 2000
"Global Financial Crises: Institutions and Incentives"

ILLIQUIDITY: Servicing and paying back the debt feasible in NPV terms, but **occasionally difficult**

➔ Policy effort to increase servicing capacity
Plus credit assistance, roll-over obligations, etc.

INSOLVENCY: In present value terms, servicing and paying back the debt infeasible

→ Immediate debt restructuring,
→ Conditionality program, major reforms

Risks of misdiagnosing debt distress

A. Taking illiquidity as insolvency
e.g. Mexico 1994, Korea 1998
Demanding excessive effort, hurting growth
(The "***killing the patient***" syndrome)

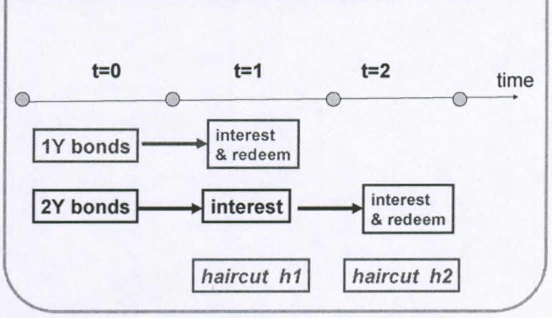
B. Taking insolvency as illiquidity
e.g. Argentina before 2001, Japan ???
Delaying deep-scale action, pathologies increase,
➔ correction even more demanding

What markets perceive is told in spreads: A simple model: Borrowing 1 and 2-year bonds

r : Foreign interest rate
$R1$: Interest rate on one-year bond
$R2$: Interest rate on two-year bond
$S1 = 100 * (R1 - r)$: Spread on one-year bond
$S2 = 100 * (R2 - r)$: Spread on one-year bond

$h1$: expected haircut in period 1
$h2$: expected haircut in period 2
Haircuts in each period inversely related with determination to take new measures: $0 \leq p \leq 1$

A three period model: t = 0, 1, 2



Arbitrage equations for one and two-year yields: Spreads are functions of expected haircuts

Arbitrage for 1-year bonds:

$$1 = (1 - h1)\frac{1 + R1}{1 + r} \quad \Rightarrow \quad S1 = (1 + r)\frac{h1}{1 - h1}$$

Arbitrage for 2-year bonds:

$$1 = (1 - h1)\frac{R2}{1 + r} + (1 - h2)\frac{1 + R2}{(1 + r)^2}$$

$$\Rightarrow S2 = \left[1 + \frac{1 - h2}{1 + r}\right]^{-1}\left[\frac{1 + r}{1 - h1} - \frac{1 - h2}{1 + r}\right] - r$$

Fears of haircut influenced by policy inaction

In each period: Payments due = D
Revenues normally collected = $F^{OLD} < D$
If Government does not act $\Rightarrow$
markets fear a haircut is likely: $h^{OLD} = \frac{D - F^{OLD}}{D}$
New action: $F^{NEW} = F^{OLD} + p(D - F^{OLD})$

$h^{NEW} = (1 - p)(1 - F / D) = (1 - p)h^{OLD}$

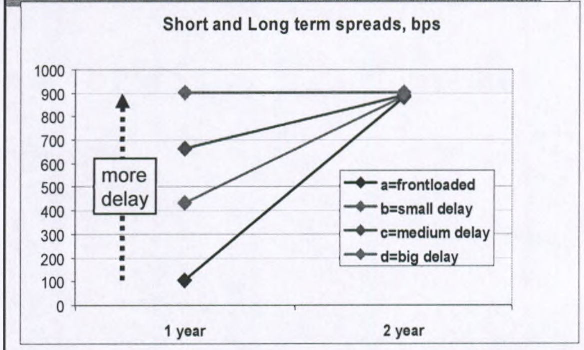
Only if: $p = 1 \Rightarrow F^{NEW} = D \Rightarrow h^{NEW} = 0$
After elections of 2009 markets were expecting: strong policy action in 2010-11, may be relax later

Fears spread across two periods, depending on effort

Example: Suppose a total haircut *h1+h2=16%*

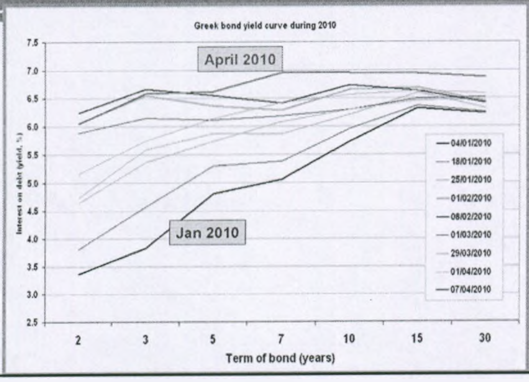
	effort	Period 1	Period 2
		haircut	***haircut***
a	**major**	**0.01**	**0.15**
b	**medium**	**0.04**	**0.12**
c	**small**	**0.06**	**0.10**
d	usual	0.08	0.08

If fiscal consolidation is delayed, yield curve becomes flatter by the time



As time was passing with no action, yield curve was flattened

Source: Financial Times: Greece, April 2010



In 2009- early 2010, Greek yield curve was ascending, as expected!

- **The reasons**:

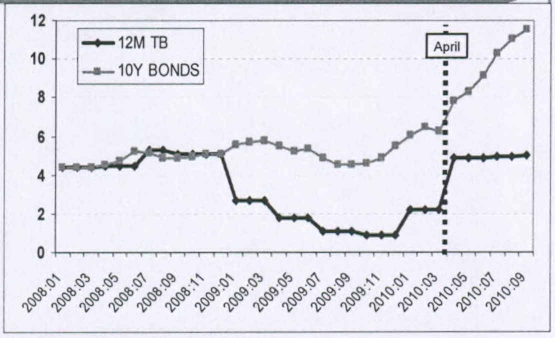
1. ECB quantitative easing, short-term liquidity
➔ Very low short-term interest rates

2. Deficit 2009 was seen as one-off disaster, that could be contained with proper action

3. Debt was getting too high, ability to repay in doubt

➔ Rates on long-term bonds soared

In 2009-10, annualized yields (%) on 10Y bonds were exceeding Treasury Bills by 500 bps



Source: Bank of Greece Statistical Bulletins, Market Data

In Ireland fiscal consolidation was front-loaded, so Irish yield curve remained ascending

Source: Frankfurter Allgemeine, November 2010

Why action was postponed in Greece? Four delays sparked haircut fears

1. Ex- Government Lag: shocking complacency

2. New Government Lag in admitting the problem:
   e.g. In November 2009: Soft budget targets for 2009
   In Dec. 2009: Pledge that *"promises will be honored"*

3. ECB Lag in accepting Greek bonds as collaterals

4. EU Lag: Chancellor Merkel's refusal to examine the Greek problem (as opposed to the immediate decision on Hungary, Latvia, and later Ireland)

But, exploiting the policy vacuum, adverse developments were very quick

- Building CDS positions
- Capital flight, more than Euro 30 bn fled Greek banks
- Pressure groups organized against austerity measures
- Greece was viciously harassed by international press, gurus, agencies, e-blogs, etc. *(and not only financially)*

→ *Many thought that collapse is imminent*!

Ex post wisdom:

Action Should have been **:**

Increase currently cheap TB borrowing,
Reduce currently expensive long-term bonds

→Buy time to reverse fiscal deterioration
rebuild confidence in fiscal management
and improve public finances

... but the big opportunity was missed !

What can be done now?

Above all**: *Clarify the nature of the crisis: Is it***

(i) a temporary liquidity shock due to lack of appropriate policies in 2009?
If Yes, → strengthen fiscal effort and reforms

(ii) or a solvency threat that may imperil the Eurozone?
If Yes, → negotiate an early restructuring

Policy management during the crisis:
Some suggestions

I. **Debt management**

II. **Tight fiscal management**

III. **Constitutional constraints ahead of the coming EU reforms on the SGP**

IV. **Combine consolidation with "some growth"**

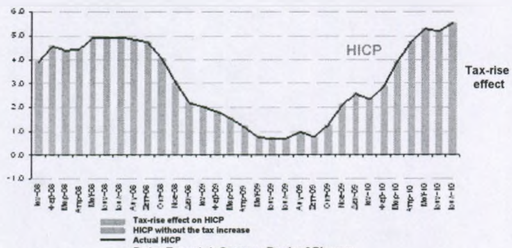
Plus: Preserve political stability, promote consensus and legal enforcement,
to avoid speculation on policy reversals in the near future.

Choice of policy instruments difficult
Some are incompatible with targets

Proposal	*Instrument*	*Public deficit*	*External imbalance*	*Recession*
IMF, EU	Cut spending, and/or raise taxes	better	b	Worse
IMF, EU OECD	Market Reforms	b	w→b	w→b
Left	Increase spending, No reforms	w	w	b→w
Krugman, Stiglitz	Public investment	w	w→b	b
Purists	Education, R&D, Green Growth	w	w→b	b

Example: Increasing indirect taxes causes inflation, deepens recession, small effect on revenues.

Harmonized Index of Consumer Prices. Monthly data 2008-2010



Data: Eurostat. Source: Bank of Piraeus

I. Debt management

- Shift in the duration of borrowing
  Borrow on the cheap side
- Facilitate purchase of T-Bills and 2-3 y bonds
- Early return in the bond-market
- Issue new types of attractive bonds

2. Facilitate purchase of T-Bills and bonds

- Establish regular TB auctions
- No tax-audit for the buyer
- No tax, no audit for capital repatriation if it buys and holds bonds for some years.
  (Repatriate Greek fugitive funds)
- Encourage use T-Bills as IOUs in private sector to raise attractiveness to small savers

3. Plan the comeback in the bond-market

- Start with 2-year bond
- Issue market-exchangeable bonds
  → On planned privatisations, profitable utilities (PPC, OTE), etc.
- Issue public corporation bonds
- Direct sales to sovereign funds
  (i.e. Norway, China, Emirates, etc)

II. Strengthen fiscal credibility

- **Remove the factors that led to the spree in 2008-09:**
  Otherwise, party pressures to repeat it before the next elections as a compensation to the current austerity will be enormous.
- **Tight fiscal management**
- **No more tax surprises: Concentrate on improving the revenue collection mechanism**
- **Constitutional constraints on spending, guarantees**

1. Remove the factors led to the surge in public spending in 2008-09:

- Massive partisan appointments in the public sector

  → Only in Parliament, 290 persons were illegally appointed (many daughters and sons of politicians). The House said it was a scandal, but need to be approved for the LAST time, (sure!).
  → In several Organisations, personnel doubled since 2004, turnover the same or less.
- Ludicrous Contracts (especially in PR)
- Bizarre Quangos (e.g. Farmers' TV, state sport channels, research institutes in remote regions, etc).

2. Tight fiscal management: Nothing new, but takes so long!

- **Centralise revenue collection, e.g.**
  National Insurance payments collected by Inland Revenue
  Make N.I. compliance similar to Tax compliance
- **Establish Single Payment Authority, not allowing Ministries to "generate" future obligations.**
- **Disconnect Local Authorities Budget from the trends in Central Government Budget, especially VAT revenues.**
- **Eliminate the Emergency stock. It is used as an excuse to approve new spending out of the budget.**
- **Fiscal conditionality (No save, no pay):**
  A high proportion of public spending is inelastic and attempts to cut it are easily thwarted.
  Compromise, by making these parts payable on the condition of meeting extra targets on revenues

III. Constitutional constraints

- **State guarantees on loans to public utilities, only by legislation, not by Minister's approval.**
- **Court decisions for retro-active remuneration in public sector salaries, not allowed.**
- **Break with salary-maximizing rules for special categories (jury, parliament, diplomats, etc)**
- **To eliminate pre-electoral spree, make appointments in unfunded public positions illegal.**

IV. Encourage some growth:

- **Release public investment funds.**
  To avoid widening the deficit, defer national co-financing for two years, (via EIB, or EC decision Apr. 2009)
- Privatize/Sell state enterprises to sovereign funds
- Develop Public Property: tourism, dwellings, real-estate
- Use banks' money for healthy enterprises, not ailing ones
- Make tax cuts to enterprises conditional on new investment and new employment

Today, Greece needs to mix fiscal consolidation with a growth impetus

- **Debt dynamics very sensitive to growth and inflation patterns.**
- **If combined, recession and deflation will bring disaster to debt/GDP ratio** (recall 1929?)
- **To face market uncertainty, one needs a credible fiscal outlook in the medium-term.**

Even small growth can make things a lot better
A: Official projections (IMF) B,C : Alternative

Year	2009	2010	2011	2012	2013	2014
Deficit %GDP	-15.40	-9.40	-7.40	-6.50	-4.90	-2.60
A. Inflation	1.30	2.90	1.50	0.40	0.80	1.20
B. Inflation	1.30	2.90	3.00	3.00	3.00	3.00
A. Growth rate	-2.40	-4.20	-3.00	1.10	2.10	2.10
B. Growth rate	-2.40	-4.20	1.10	2.10	2.10	2.10
C. Privatise %	0.00	0.00	2.00	2.00	2.00	2.00
A.Budget 2011	126.80	142.50	152.07	156.32	156.82	154.41
B. Growth	126.80	142.5	144.29	143.79	141.71	137.43
C.Privatise	126.80	142.50	142.29	139.88	136.00	130.00

If recession is milder and deflation is avoided → debt dynamics may be less dreadful