The simple mechanics of solvency, stability and sovereign debt

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The last crisis was a confluence of developments and events

- Low real interest rates, too long after 9/11
- International imbalances
- Financial market innovation combined with under- or complete deregulation
- …a perfect storm?
- No one was in charge...
- …no one was responsible?
The current crisis is no different

- Continued low interest rates
- Continuing imbalances – not just the US
- Derivative markets out-of-control: driven by or driving the fundamentals, or both?
- The so-called PIIGS countries of the Eurozone need to reduce their structural deficits
- The EU lacks and needs more transparency
- Cow is out of the barn – default is no option
Collateral Damage of First Crisis

- Real growth (GDP at constant prices, % p.a.)
  
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Collateral Damage of First Crisis

- Real growth (GDP at constant prices, % p.a.)

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Collateral Damage of First Crisis

- Consolidated fiscal surplus (% of GDP, IMF)

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Fiscal discipline in a monetary union is essential

• At issue: Are Eurozone countries too big to fail?
• There is no political will to bail out governments – but big banks, yes
• A direct program of the magnitude of the US-ARRA – a bailout of US states to the tune of $180 b – is not an option in the EU.
• An Italian or Greek „California“ would quickly lead to scrip issue and dissolution of EMU
• Contagion and freeze-up of money markets
Proof: Greece!

Government Budget Surplus
Greece (1980-2010)
Proof: Greece!

Government Budget Surplus and Inflation, Greece (1980-2010)
How long can this go on? Some simple arithmetic

- Stabilizing the nominal debt-GDP ratio ($D/PY$) is the primary objective for monetary stability.
- For positive nominal debt ($D>0$), even a balanced budget means that the debt-GDP ratio may grow.
- The nominal debt-GDP ratio is stable if nominal debt ($D$) and nominal GDP ($PY$) both grow at the same rate.
How long can this go on?

Some simple arithmetic

- Let $P(G-T)$ be the *nominal* government budget deficit (excluding interest)
- So nominal debt grows at rate $\frac{P(G-T)}{D} + i$
- ..and nominal GDP grows at rate $g + \pi$
- So the debt/GDP ratio is stable when the two are equal, or when
  $$\frac{P(G-T)}{D} = g - (i - \pi) = g - r$$
How long can this go on?
Some simple arithmetic

• In words: The debt/GDP ratio is stabilized when the public sector borrowing requirement as a fraction of outstanding debt is equal to the excess of real growth \( (g) \) over the real interest rate \( (r) \). Rewrite this as

\[
\frac{T - G}{Y} = (r - g) \left( \frac{D}{pY} \right)
\]

Primary surplus \( = (\text{Real interest rate} - \text{real growth rate}) \times \text{Debt-GDP ratio} \)
Algebra of Debt and Deficits

• Conclusion: *In a growing economy*, a stable debt-GDP ratio is possible without a balanced budget!

• But: if the real interest rate ($r$) exceeds the trend GDP growth rate ($g$), a *primary surplus is required* (debt service must exceed total new borrowing)

• The success of a stabilization program, e.g. for Greece, depends not only on the debt-GDP ratio, *but also on $g$ and $r$*
The case of Greece

Debt and net public borrowing, Greece (% of GDP)

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The case of Greece

Consolidated budget surplus Greece (% of GDP)

*Quelle: IWF*
The Greek conundrum

• Greece cannot devalue, cannot inflate
• If r=4%, g=-2%, the formula says that, all things equal, Greek debt/GDP grew in 2009 by
  \[(r - g)\left(\frac{D}{pY}\right) - \frac{T - G}{Y} = (0.04 - (-0.02))99 + 9.0 \approx 15%!\]
• That is, debt/GDP rose from 99% to 115% … in just one year!
Doing nothing worsened the problem

• Now suppose instead that Greece grew in 2009: $g=2\%$. Greek debt/GDP would have grown by

$$(r-g)\left(\frac{D}{pY}\right) - \frac{T-G}{Y} = (0.04 - 0.02)99 + 9.0 \approx 11\%!$$

• Growth **must** return, soon plus…

• …Greece must maintain a primary surplus (?)

• …and interest rates must stay low (?) **too late**
Central objective: Maintain Euro’s credibility

• Fundamentally the Euro-Area economies are sound
• The Achilles heel will emerge as a product of the collateral damage of the financial crisis
• Coordinated fiscal policy was useful in stimulating demand and increasing firm liquidity but its time has passed
• More important to keep eye on fiscal side
Sensible supply side policy

- Growth can work wonders for reducing the Debt/GDP ratio
- The Irish miracle (1987-2007)
- Continental Europe (especially PIGS) is still far behind potential
  - Female labor force participation
  - Deregulation of and more competition in product markets, esp. services
- Can the Greeks pull it off?
Final remarks

• Two focal points of discussion: 1) who’s to blame 2) how to prevent it from happening again
• We live in a world where sovereign interest rates in small economies are determined by CDS markets (“tail wagging the dog”)
• Greece cannot be possibly be solvent when it faces r = 9-10% and g=1-2%
• Thus, however small, the CDS markets are key to solving the interest rate problem.
Final remarks

• The burden of proof: What happened in Greece in February-March 2010 that was so radically different from the many years before?

• A partial default or haircut may treat symptoms in the short run, but not the fundamental problem – that a tiny market with little or no tether to real values determines the interest rate on sovereign debt!
Final remarks

• Reminder: Fiscal discipline in a monetary union is essential – the US and Europe have different interests

• World recession was a massive distraction to fiscal discipline

• Until now the Euro had been a tower of strength

• Time to renew focus on stability