The simple mechanics of solvency, stability and sovereign debt

Prof. Michael C. Burda, Ph.D.
Humboldt-Universität zu Berlin

"Sovereign Defaults in the Euro Area: Legal and Economic Issues."
Institute for Monetary and Financial Stability
Frankfurt, June 30, 2010

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.)

	2008
• D	1.2
• F	0.7
• UK	0.7
• I	-1.4
• IRL	-2.7
• NL	2.0
• E	1.2
• USA	1.1
• **GREECE**	2.0

Collateral Damage of First Crisis

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

	2008	***2009*** **(IMF)**
• D	1.2	-5.6
• F	0.7	-2.9
• UK	0.7	-4.1
• I	-1.4	-4.5
• IRL	-2.7	-8.0
• NL	2.0	-4.7
• E	1.2	-3.0
• USA	1.1	-2.8
• **GREECE**	2.0	-2.0

Collateral Damage of First Crisis

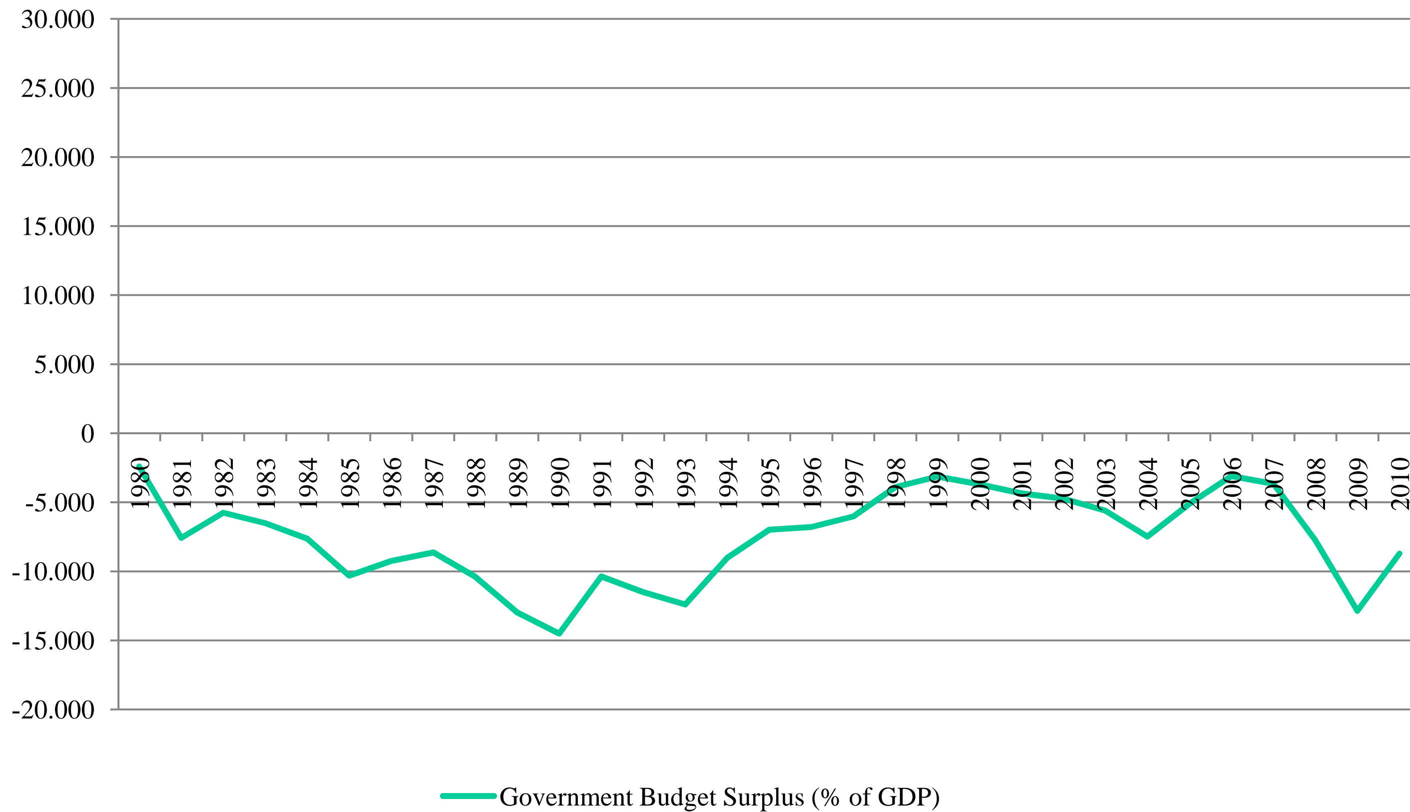
- Consolidated fiscal surplus (% of GDP, IMF)

	2008	***2009*** **(IMF)**
• D	-0,1	-4,7
• F	-3,4	-6,2
• UK	-5,4	-9,8
• I	-2,7	-5,4
• IRL	-6,4	-14,2
• NL	0,8	-3,2
• E	-3,8	-7.5
• USA	-6,1	-13,6
• **GREECE**	-7.8	-12.9

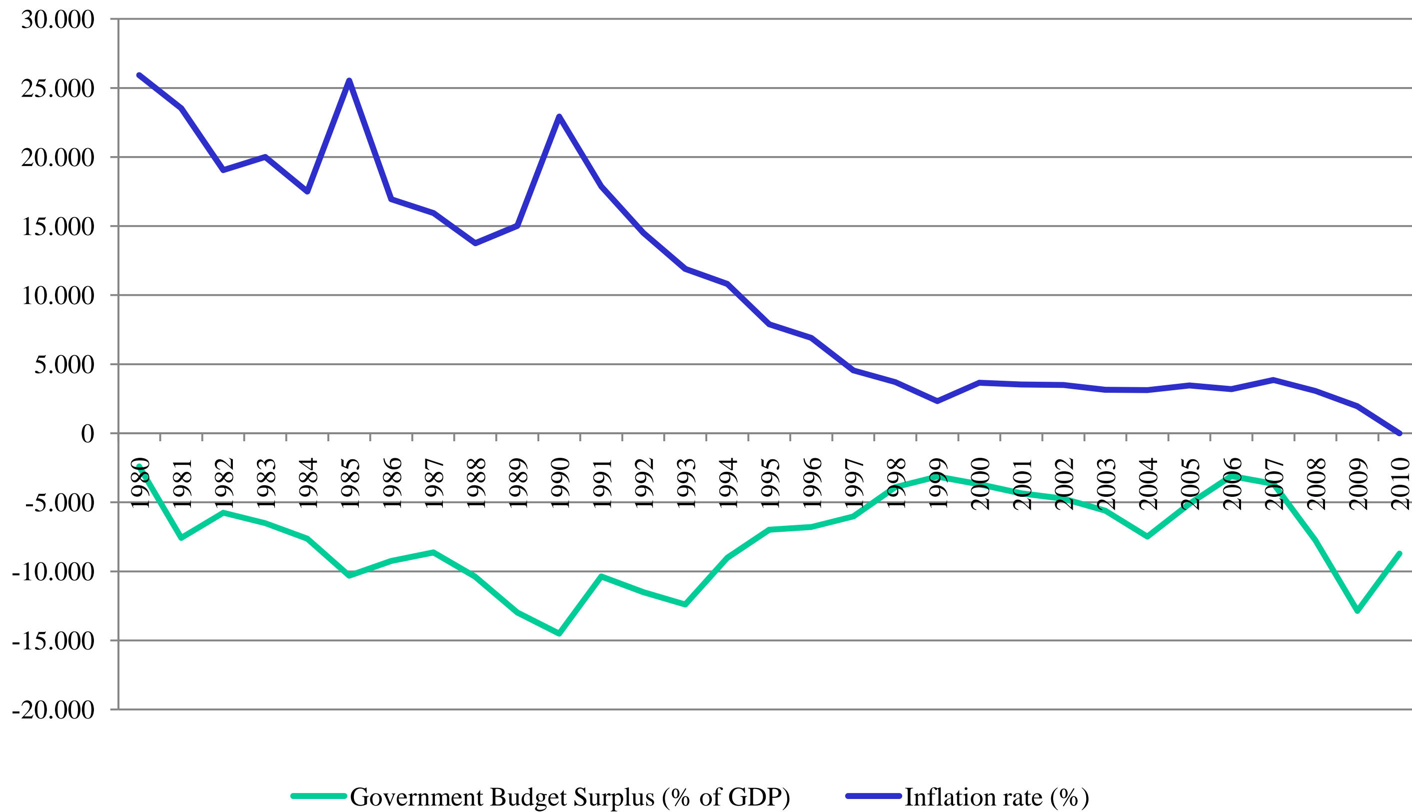
Fiscal discipline in a monetary union is essential

- 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!



Proof: Greece!



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 = (Real interest rate – real growth rate) x Debt-GDP ratio

Algebra of Debt and Deficits

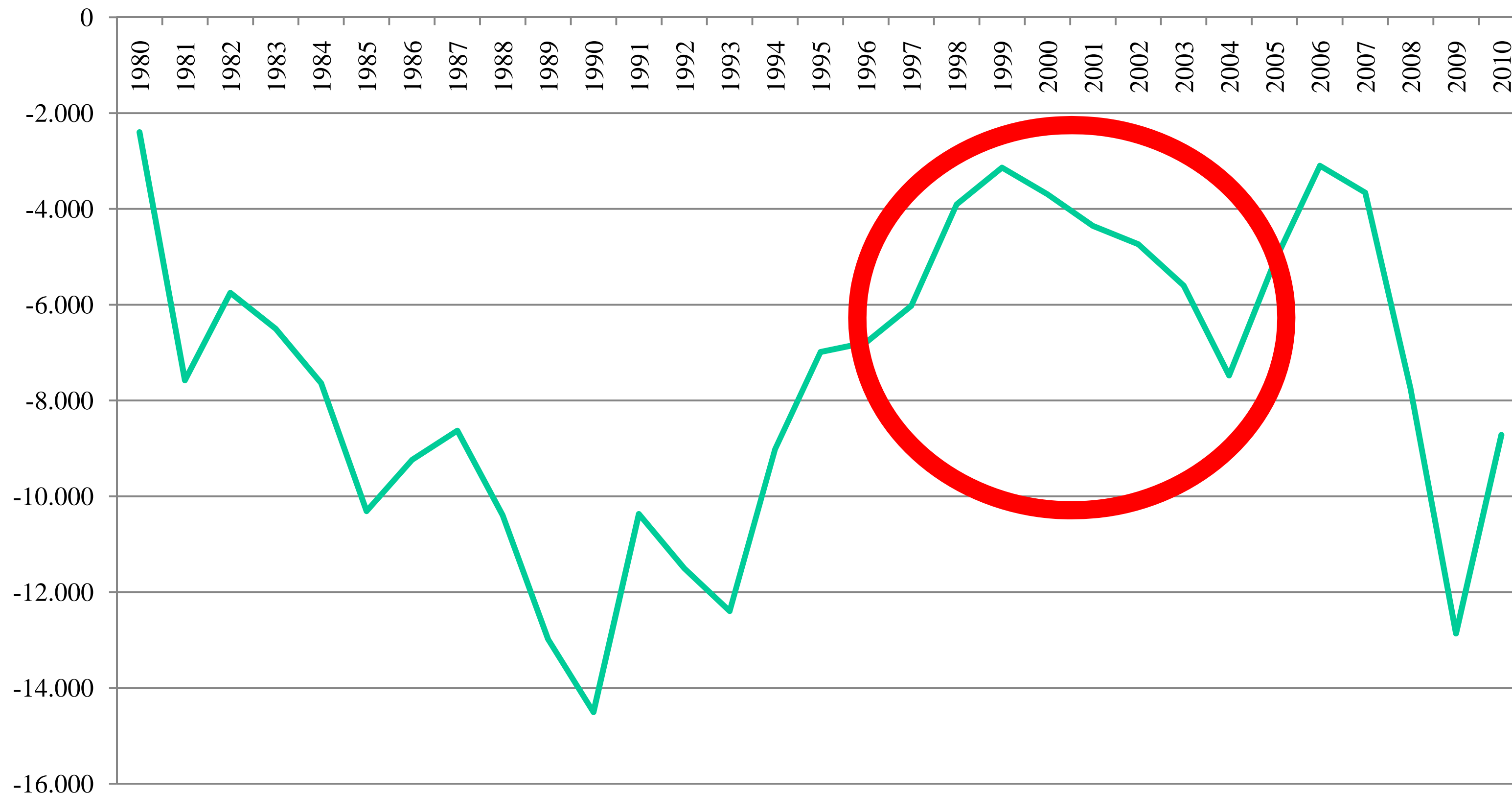
- Conclusion: *In a growing economy*, a stable debt-GDP ratio is possible without a balanced budget!
- But: if the real interest rate (r) exceeds the trend GDP growth rate (g), a *primary surplus is required* (debt service must exceed total new borrowing)
- The success of a stabilization program, e.g. 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)

	1995	*1996*	*1997*	*1998*	*1999*	*2000*	*2001*	*2002*	*2003*	*2004*	*2005*	*2006*	*2007*	*2008*	*2009*
Staats-schulden	97.0	99.4	96.6	94.5	94.0	103.4	103.7	101.7	97.4	98.6	100.0	97.8	95.7	99.2	115.1
Über-schuss	:	:	:	:	:	-3.7	-4.5	-4.8	-5.6	-7.5	-5.2	-3.6	-5.1	-7.7	-13.6

The case of Greece



***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