Deficits and debts

Th. Warin

Any government, like any family, can for a year spend a little more than it earns. But you and I know that a continuance of that habit means the poorhouse.

— *Franklin D. Roosevelt*

Chapter Goals

- Define the terms deficit, surplus, and debt
- Distinguish between a passive deficit and a structural deficit
- Differentiate between real and nominal deficits and surpluses
- Explain why the debt needs to be judged relative to assets
- Describe the historical record for the U.S. deficit and debt

Defining Deficits and Surpluses

- A **deficit** is a shortfall of revenues under payments
- A **surplus** is an excess of revenues over payments
- In the short run, if the economy is below potential, deficits are good because deficits increase expenditures moving output closer to potential
- Long-run surpluses are good because they provide saving for investment

Financing the Deficit

- The government finances its deficits by selling bonds to private individuals and the Fed
- Bonds are promises to pay back the money in the future
- The Fed can print an unlimited amount of money to buy bonds, but printing too much money can cause inflation

Arbitrariness in Defining Surpluses and Deficits

- Whether a nation has a deficit or surplus depends on what is included as revenues and expenditures
- There are many ways to measure expenditures and receipts, so there are many ways to measure deficits and surpluses
- Deficit and surplus figures are summary measures of the financial health of the economy
- To understand the summary, you must understand the methods that were used to calculate it

Structural and Passive Deficits

- Many government revenues and expenditures depend on the level of income in the economy
- **Structural deficit** is the part of the budget deficit that would exist even if the economy were at its potential income
- **Passive deficit** is the part of the deficit that exists because the economy is operating below its potential level of output

Structural and Passive Deficits

- There is disagreement about what percentage of a deficit is structural and what percentage is passive
- Actual deficit = structural deficit + passive deficit
- Passive deficit = tax rate x (potential – actual output)
- Structural deficit = actual deficit – passive deficit

Nominal and Real Surpluses and Deficits

- A **nominal deficit** is the difference between expenditures and receipts
- A **real deficit** is the nominal deficit adjusted for inflation
- Inflation reduces the value of the debt
- Real deficit = Nominal deficit – (Inflation x Total debt)
- Lowering the real deficit by inflation can be costly
    - Persistent inflation becomes built into expectations and causes higher interest rates

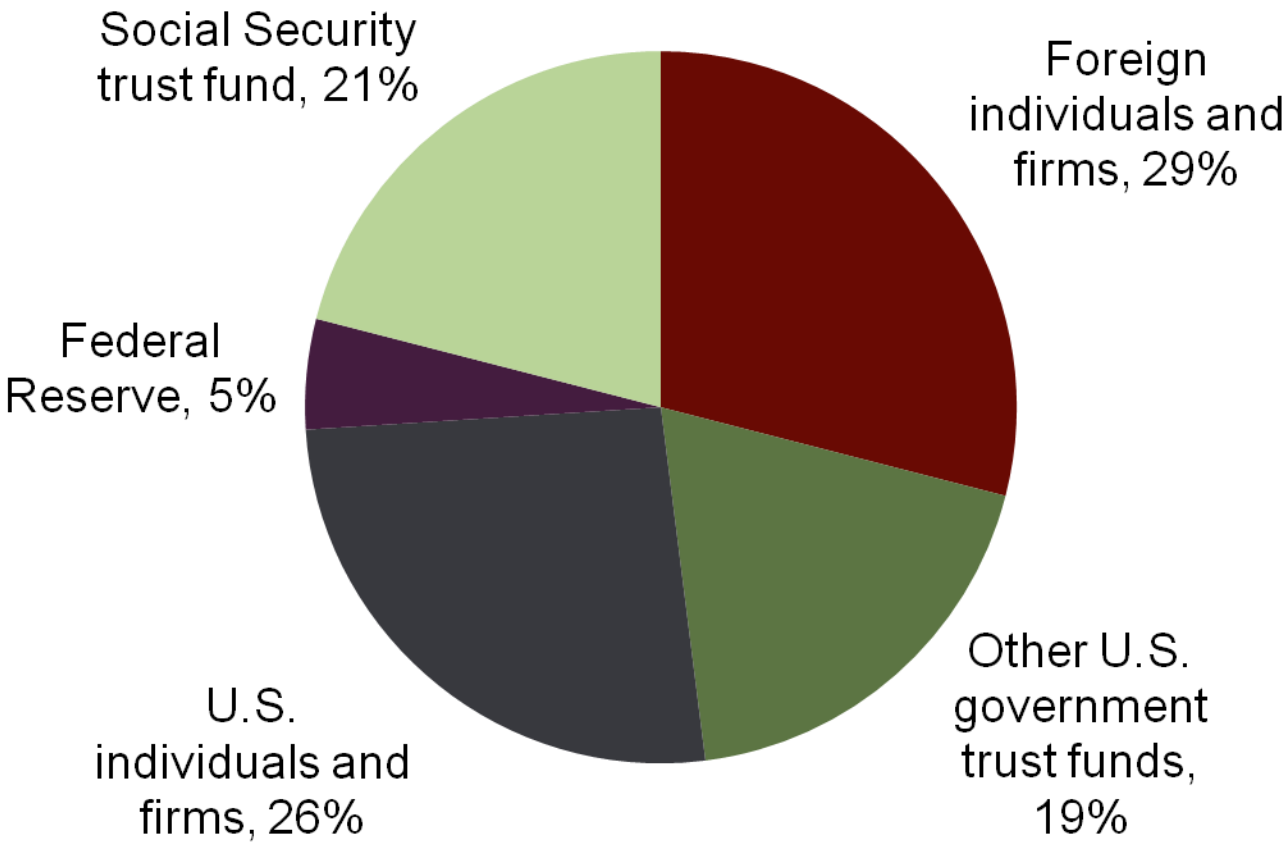
The Definition of Debt and Assets

- **Debt** is accumulated deficits minus accumulated surpluses
  - Debt is a stock, defined at a point in time
- Deficits and surpluses are flow concepts, defined for a period of time
- If a country has more surpluses than deficits, the accumulated surpluses minus accumulated deficits are a part of its assets
- The U.S. Treasury must sell new bonds to pay for a deficit and refinance previously issued bonds as they come due

Debt Management

- Debt, as a summary measure of a nation's financial situation, needs to be judged in relation to a nation's assets
- When the government runs a deficit, it might be spending on projects that increase its assets
- If the assets are valued at more than their costs, then the deficit is making society better off

Ownership of the Debt



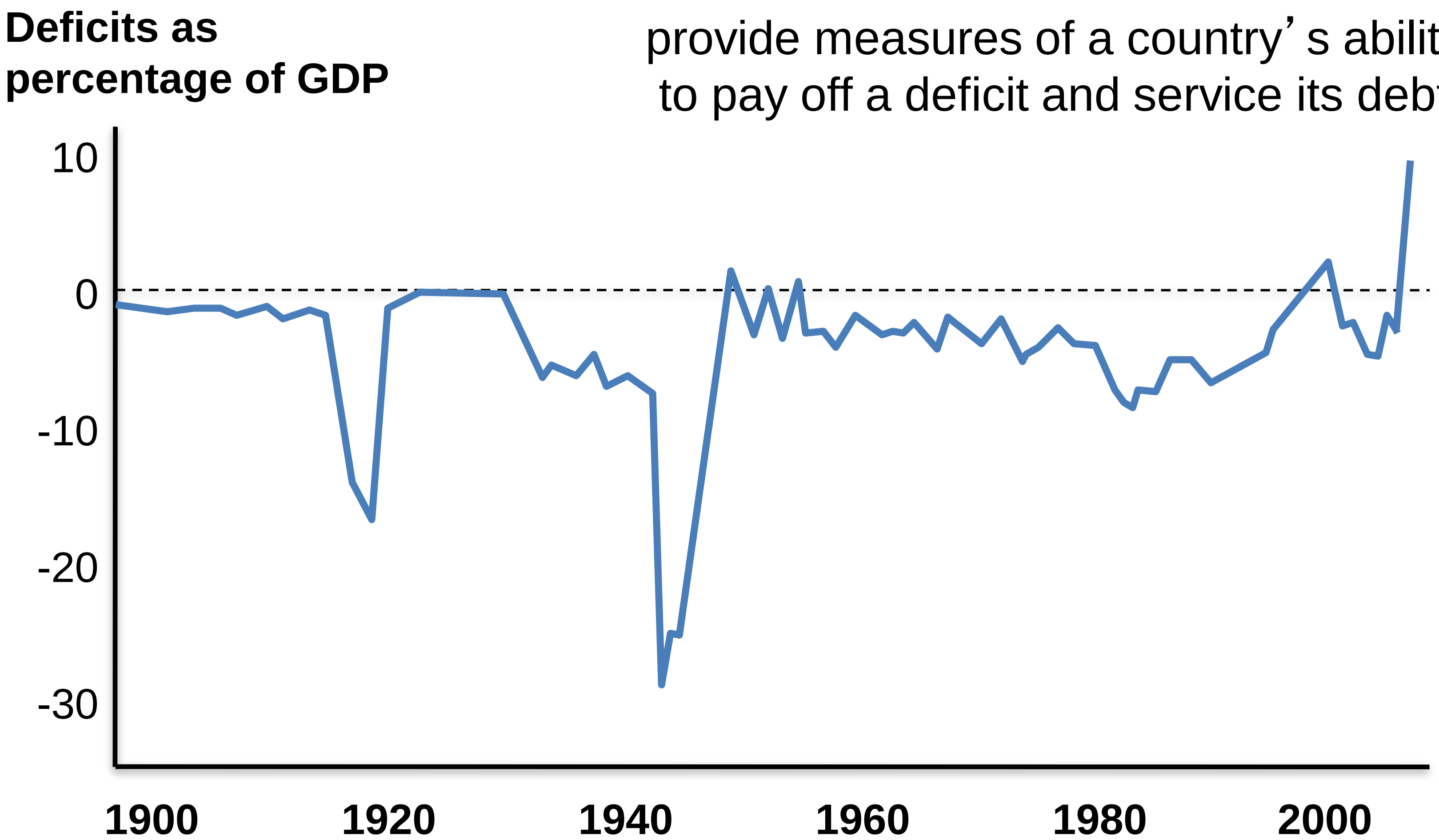
Difference Between Individual and Government Debt

1. The government lives forever; people don't
2. The government can print money to pay its debt; people can't
3. Government owes much of its debt to itself (to its own citizens)

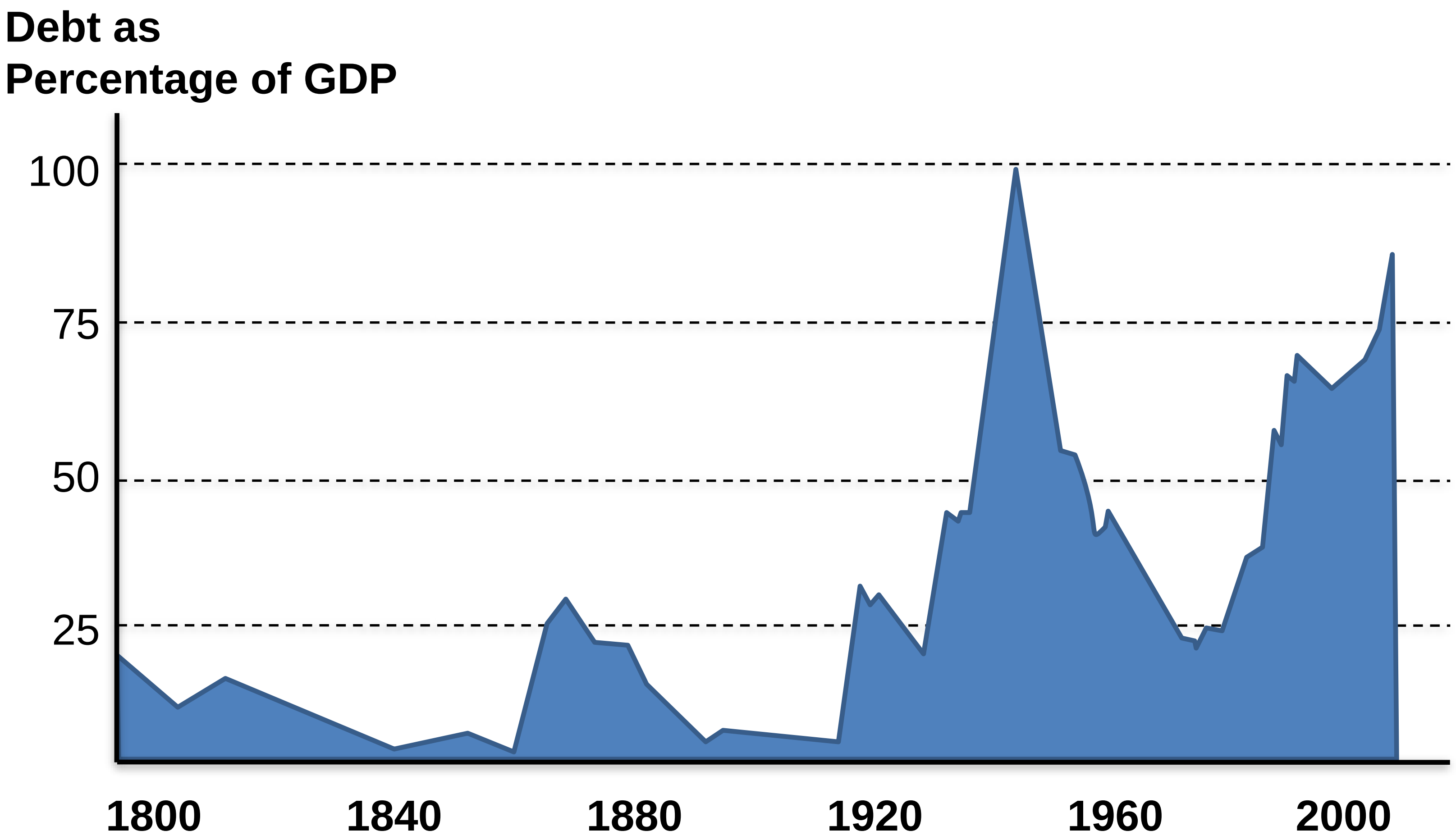
- **Internal debt** is government debt owed to other governmental agencies or to its own citizens
- **External debt** is government debt owed to individuals in foreign countries

U.S. Budget Deficits as Percentage of GDP

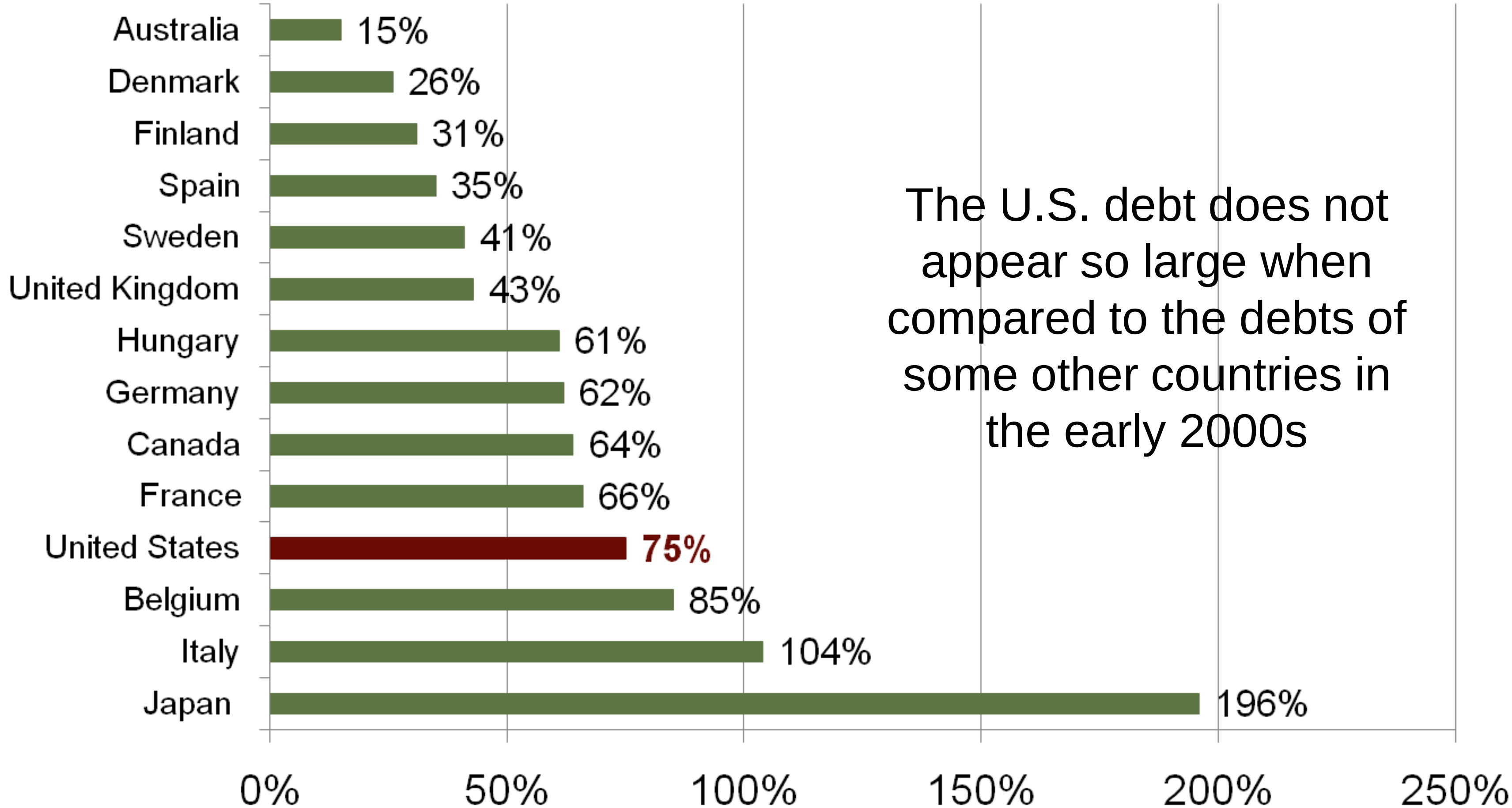
Deficits and debt relative to GDP provide measures of a country's ability to pay off a deficit and service its debt



U.S. Debt as Percentage of GDP

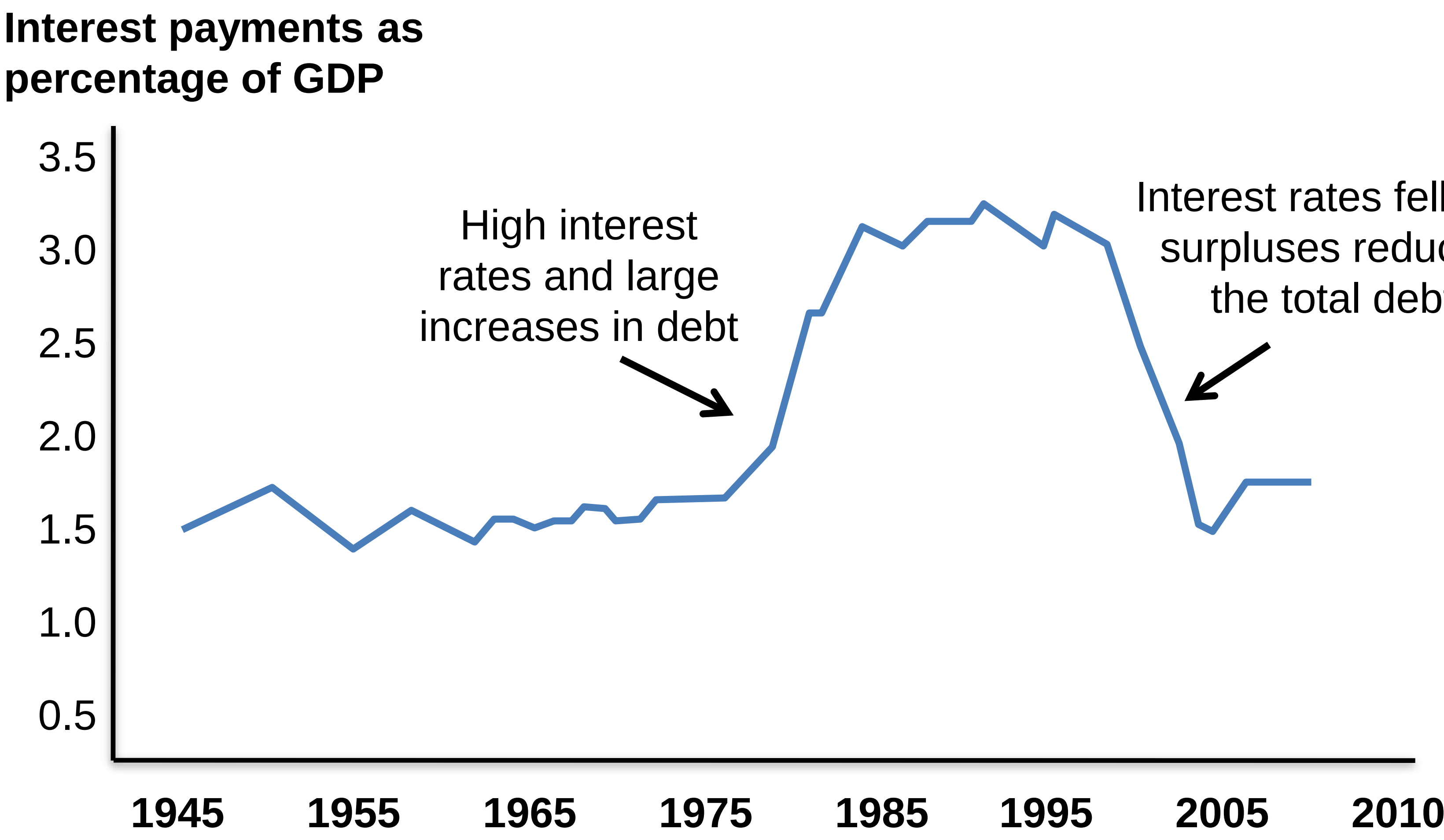


U.S. Debt Compared to Foreign Countries' Debt

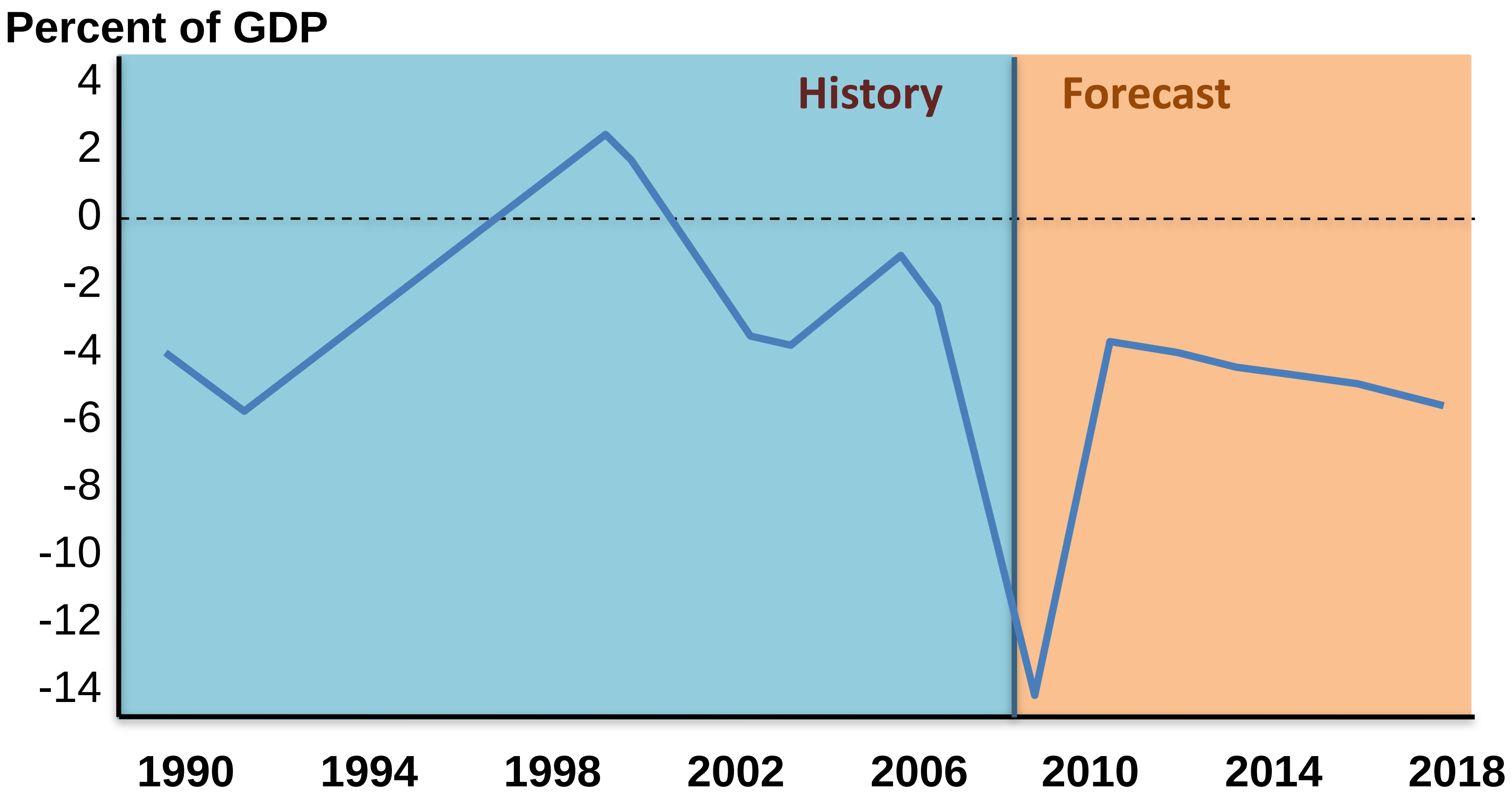


The U.S. debt does not appear so large when compared to the debts of some other countries in the early 2000s

Federal Interest Payments Relative to GDP



Projections for the Budget Deficit



Chapter Summary

- A deficit is a shortfall of revenues under payments
- A surplus is an excess of revenues over payments
- Debt is accumulated deficits minus accumulated surpluses
- Deficits and surpluses are summary measures of a budget
- Budget deficits and surpluses should be judged in light of economic and political conditions
- Whether a budget deficit is a problem depends on the budgeting procedures that measure it

Chapter Summary

- A passive deficit is the part of the deficit that exists because the economy is below its potential
- A structural deficit is that part of a budget deficit that would exist even if the economy were at its potential income
- Structural deficit = Actual deficit – Passive deficit
- A real deficit is a nominal deficit adjusted for inflation
- Real deficit = Nominal deficit – (InflationxDebt)
- A country's debt must be judged in relation to its assets

Chapter Summary

- What is counted as a debt and as an asset can be arbitrary
- Government debt and individual debt differ in three major ways:
    - Government is ongoing and never needs to repay its debt
    - Government can pay off its debt by printing money
    - Most of the government debt is internal – owed to its own citizens – so interest payments go to U.S. citizens

Chapter Summary

- Deficits, surpluses, and debt should be viewed relative to GDP because this ratio better measures the government's ability to handle the deficit and pay off the debt
- The Economic Growth and Tax Relief Reconciliation Act of 2001, an economic slowdown, and the war on terrorism contributed to a return to budget deficits in 2002

From systemic to systematic risk

SOVEREIGN DEBT CRISIS IN EUROPE: THE IMPORTANCE OF THE MISSING LINK

Maastricht treaty (1993)

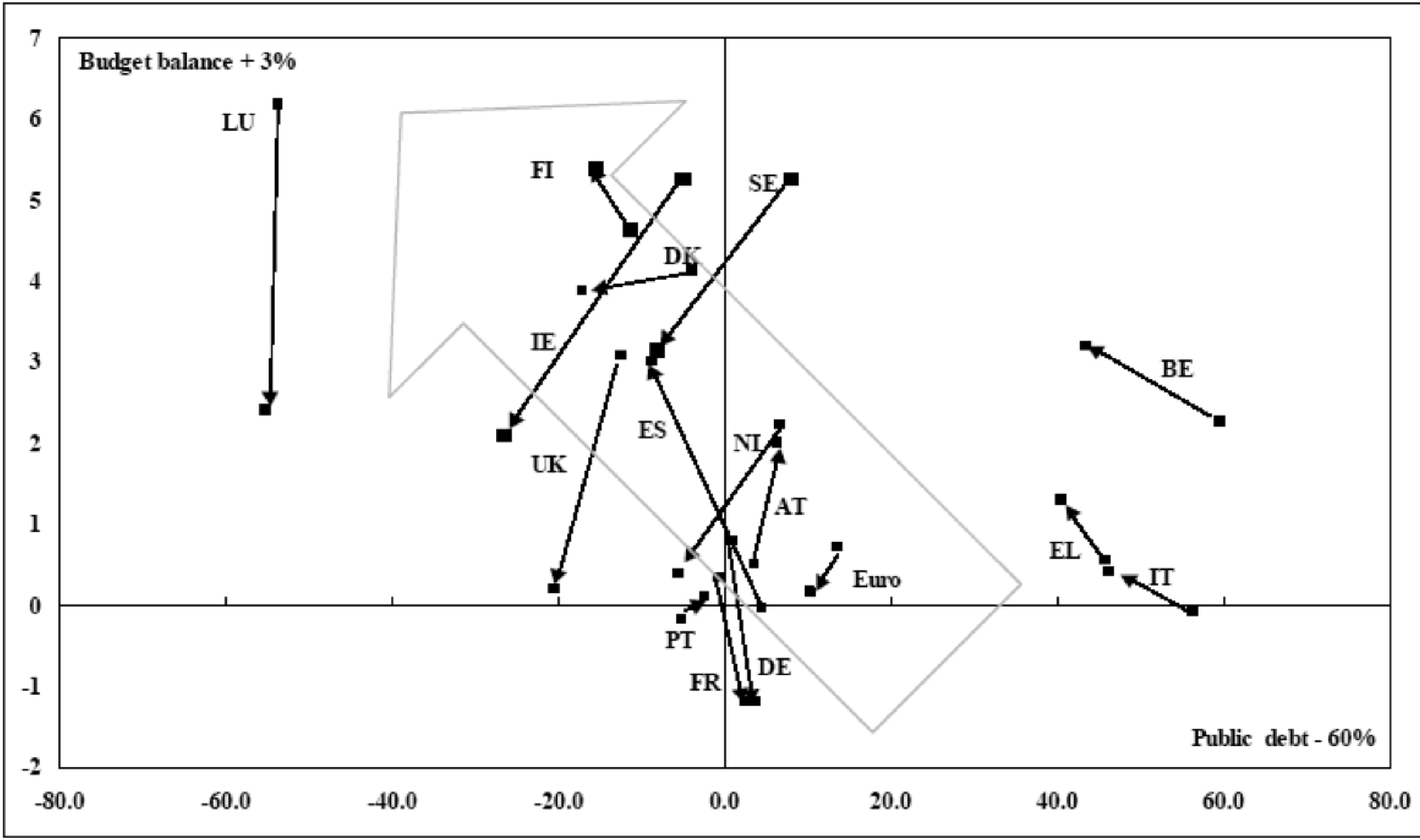


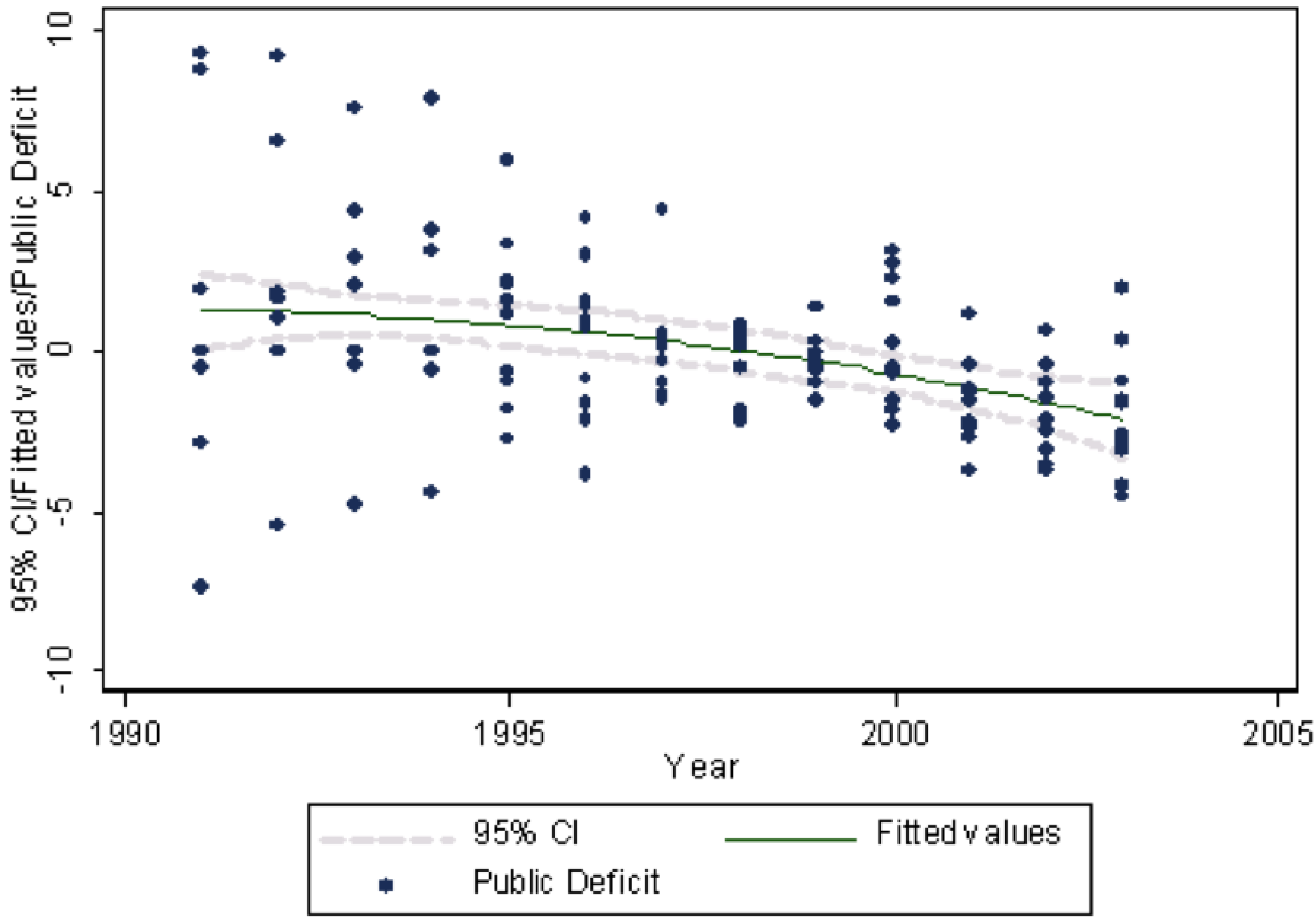
Table 2: General government gross debt (as % of GDP)

	Average 1993-98	1998	1999	2000	2001	2002	2003	2004	2005
BE	130.4	119.6	114.8	109.1	108.1	105.8	100.5	97.4	94.3
DE	55.8	60.9	61.2	60.2	59.4	60.8	64.2	65.6	66.1
EL (1)	108.7	105.8	105.2	106.2	106.9	104.7	103.0	102.8	101.7
ES	63.8	64.6	63.1	61.2	57.5	54.6	50.8	48.0	45.1
FR	54.0	59.5	58.5	57.2	56.8	58.6	63.0	64.6	65.6
IE	76.3	53.8	48.6	38.4	36.1	32.3	32.0	32.4	32.6
IT	121.4	116.7	115.5	111.2	110.6	108.0	106.2	106.0	106.0
LU	6.7	6.3	6.0	5.5	5.5	5.7	4.9	4.5	3.8
NL	74.1	66.8	63.1	55.9	52.9	52.6	54.8	56.3	58.6
AT	65.5	63.7	67.5	67.0	67.1	66.6	65.0	65.5	65.3
PT	60.4	55.0	54.3	53.3	55.6	58.1	59.4	60.7	62.0
FI	55.1	48.6	47.0	44.6	43.9	42.6	45.3	44.5	44.3
EUR-12 (2)	72.2	74.1	72.8	70.4	69.4	69.2	70.4	70.9	70.9

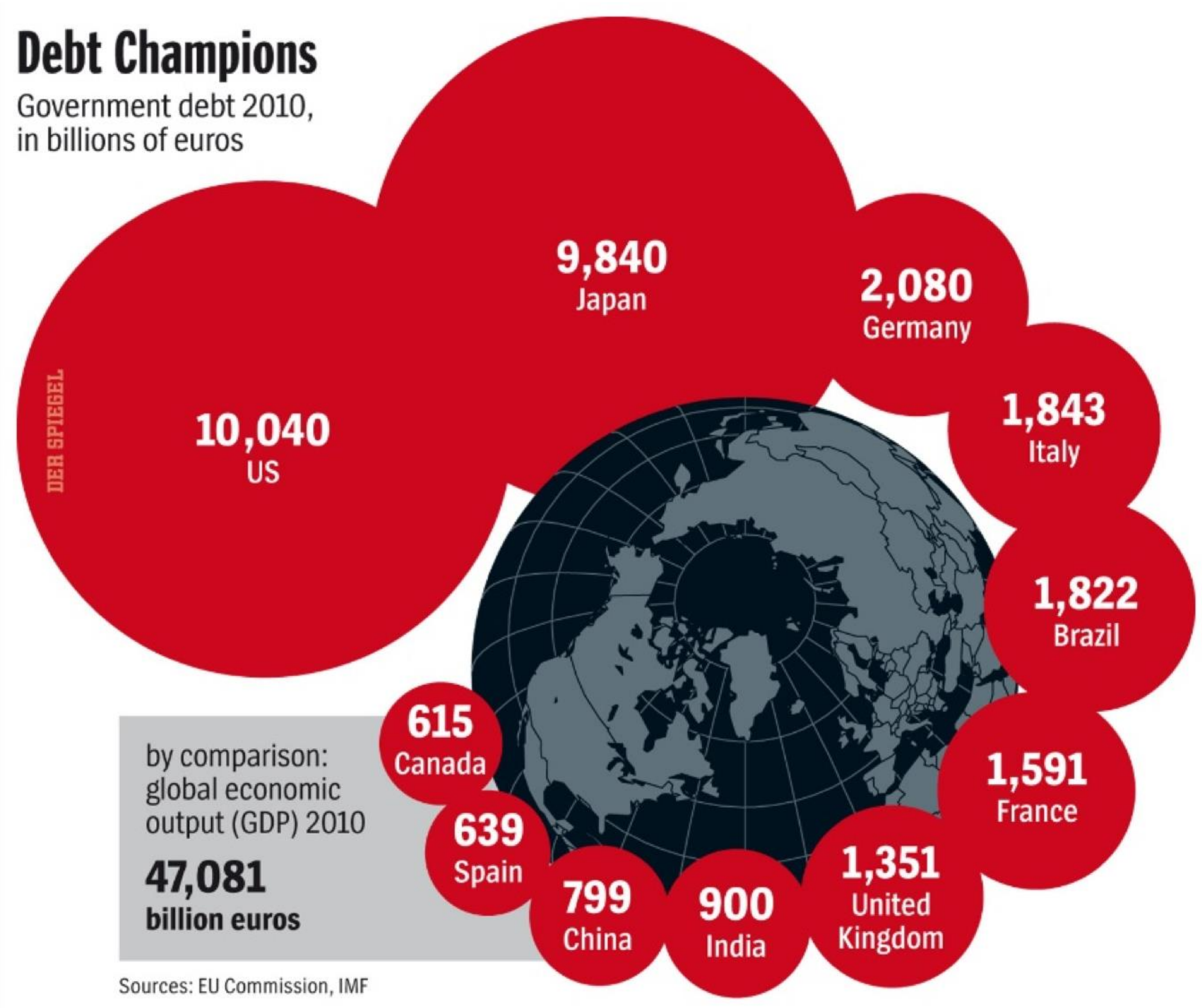
Note Figures 2000-2003 are based on a revised EDP notification not yet validated by Eurostat; hence, they are to be considered subject to revision. Source: AMECO database.

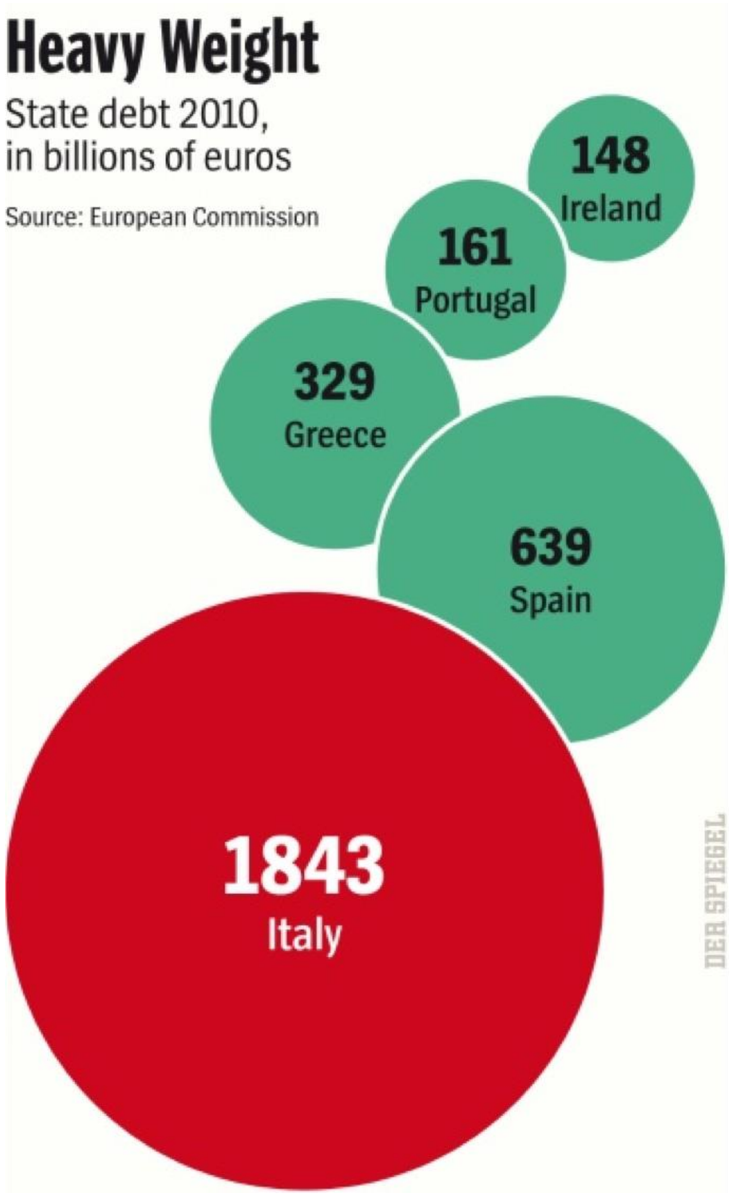
Source: AMECO database

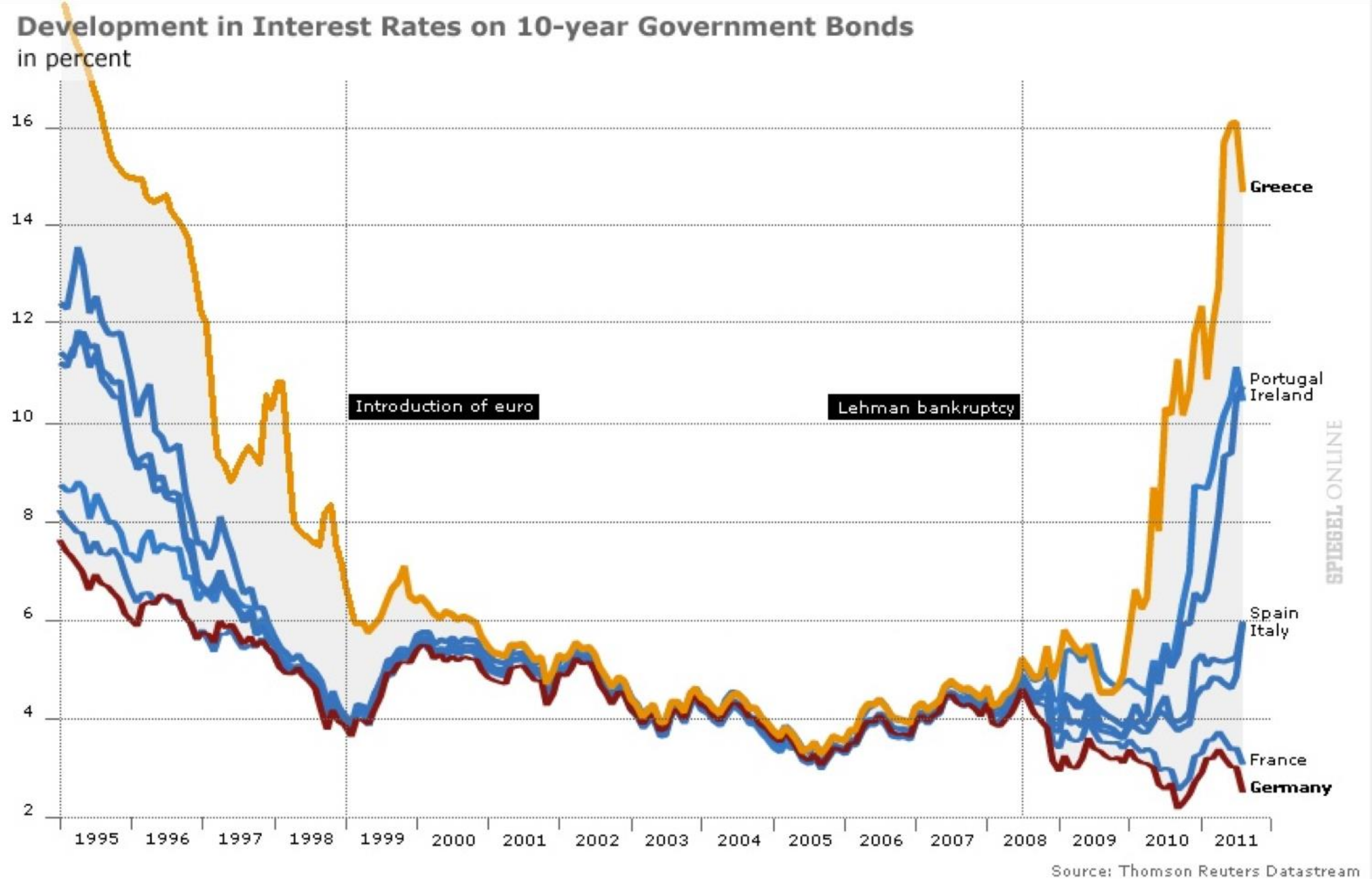
Figure 2. Differences in public deficits from 1991 to 2003



Source: own computations

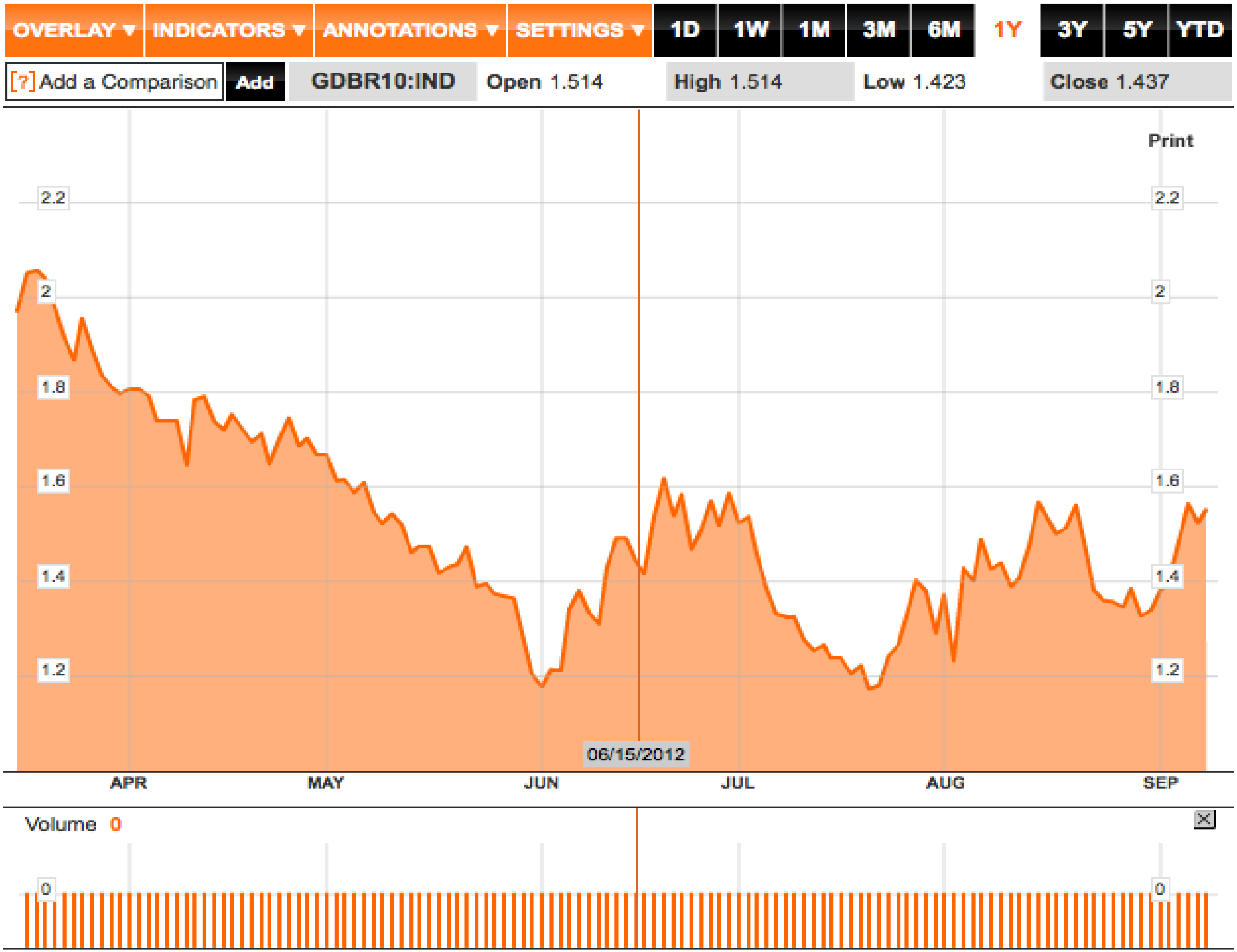

Debt Champions
Government debt 2010, in billions of euros
DER SPIEGEL
10,040 US
9,840 Japan
2,080 Germany
1,843 Italy
1,822 Brazil
1,591 France
1,351 United Kingdom
900 India
799 China
639 Spain
615 Canada
by comparison: global economic output (GDP) 2010
47,081 billion euros
Sources: EU Commission, IMF

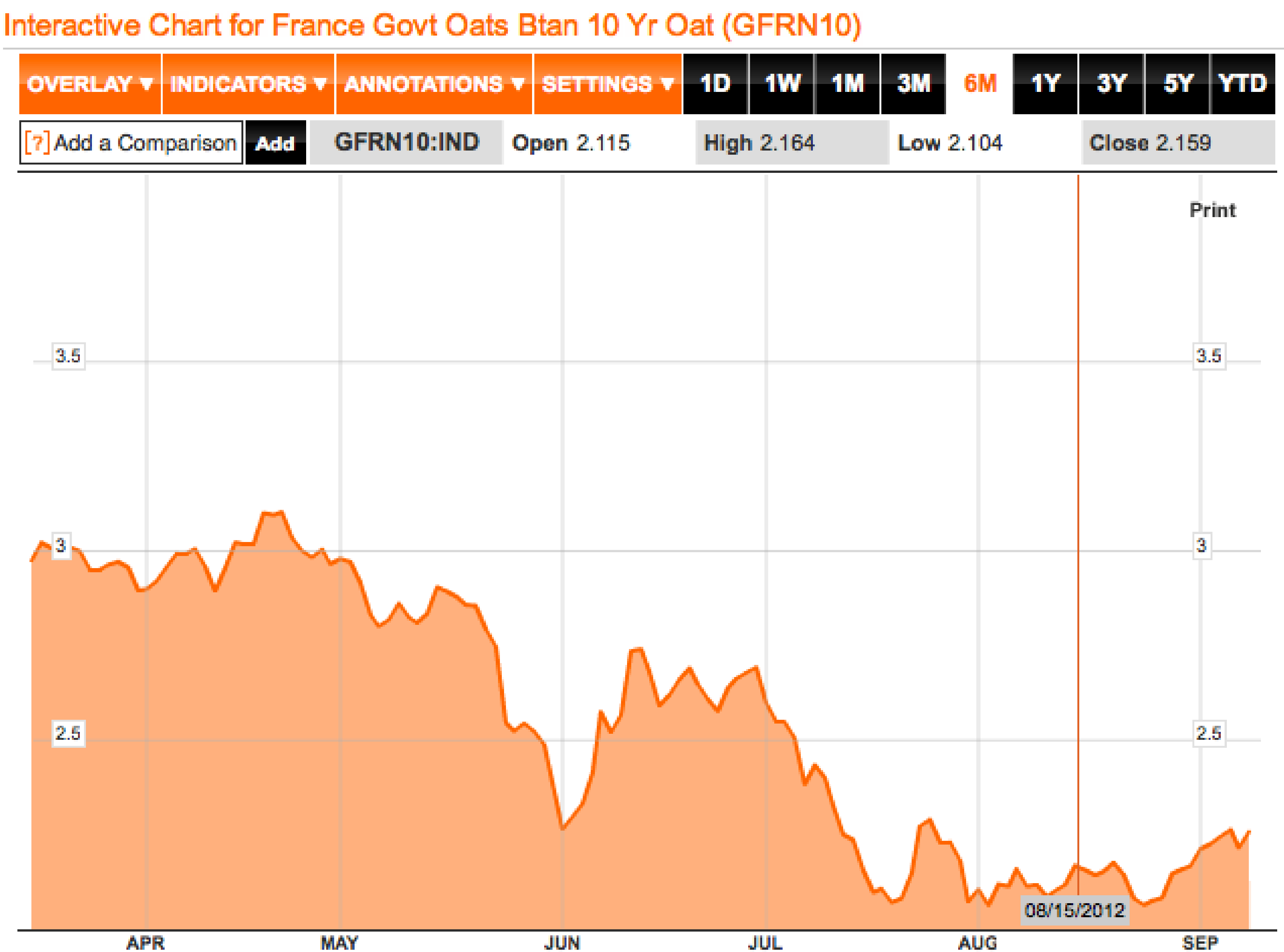

Heavy Weight
State debt 2010,
in billions of euros
Source: European Commission
148
Ireland
161
Portugal
329
Greece
639
Spain
1843
Italy
DER SPIEGEL



Development in Interest Rates on 10-year Government Bonds
in percent
16
14
12
10
8
6
4
2
Introduction of euro
Lehman bankruptcy
Greece
Portugal
Ireland
Spain
Italy
France
Germany
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
SPIEGEL ONLINE
Source: Thomson Reuters Datastream

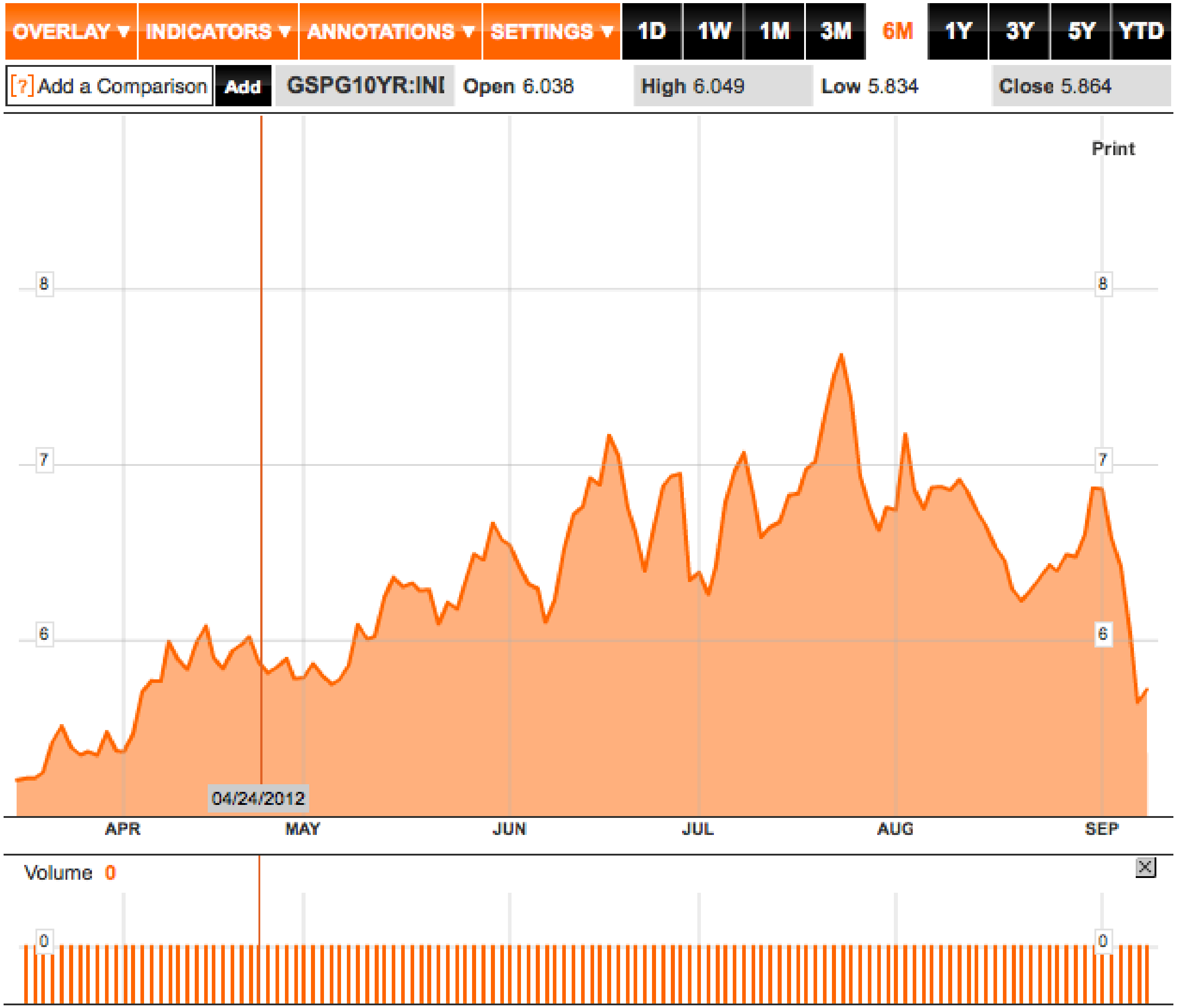
Interactive Chart for German Government Bonds 10 Yr Dbr (GDBR10)





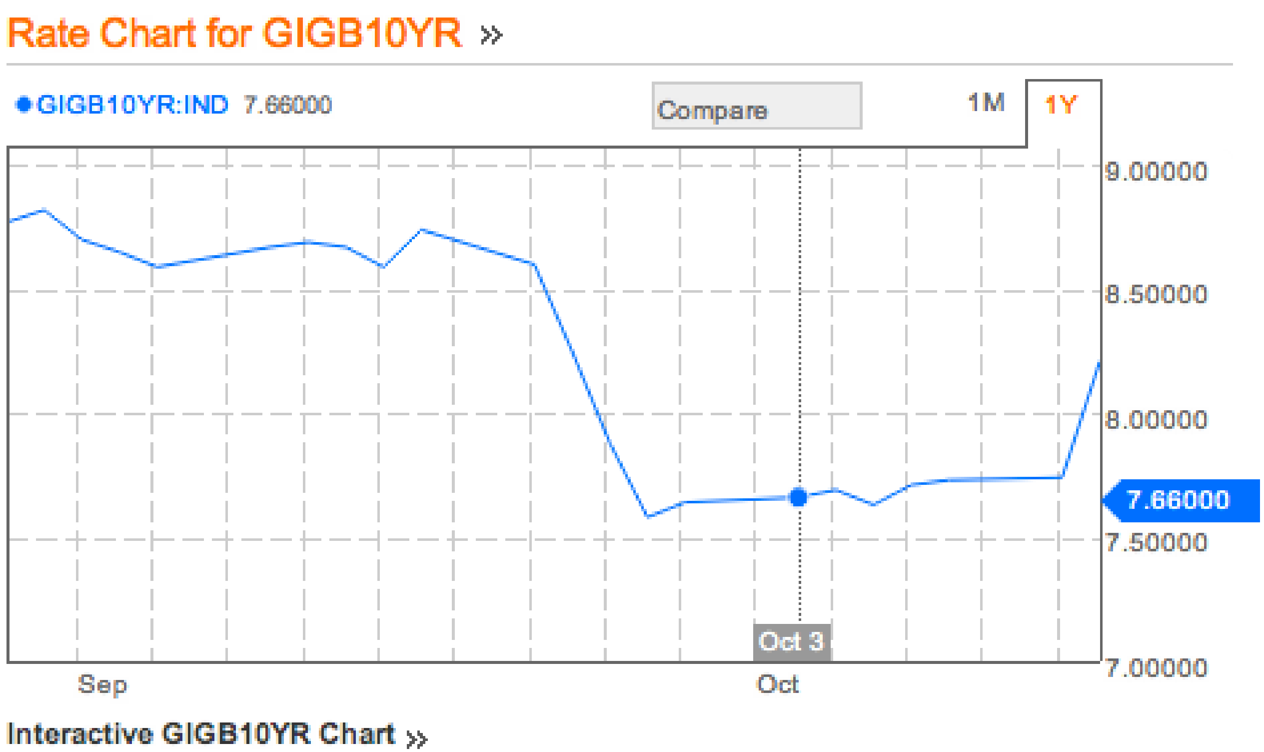
Interactive Chart for France Govt Oats Btan 10 Yr Oat (GFRN10)
OVERLAY
INDICATORS
ANNOTATIONS
SETTINGS
1D
1W
1M
3M
6M
1Y
3Y
5Y
YTD
[?] Add a Comparison
Add
GFRN10:IND
Open 2.115
High 2.164
Low 2.104
Close 2.159
Print
3.5
3
2.5
08/15/2012
APR
MAY
JUN
JUL
AUG
SEP

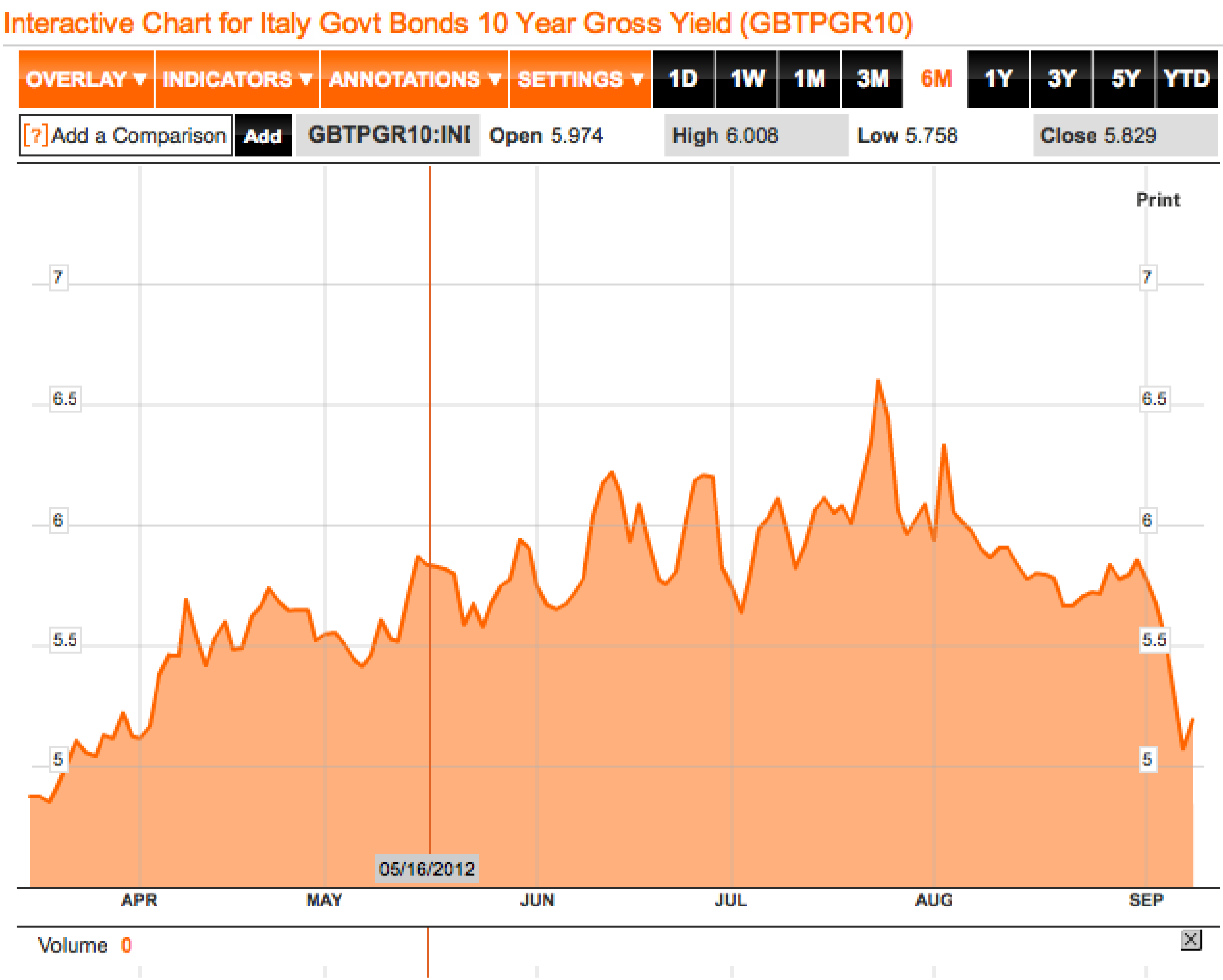
Interactive Chart for SPANISH GOVERNMENT GENERIC BONDS - 10 YR NOTE (GSPG10YR)




Interactive Chart for Greece Govt Bond 10 Year Acting as Benchmark (GGGB10YR)
OVERLAY
INDICATORS
ANNOTATIONS
SETTINGS
1D
1W
1M
3M
6M
1Y
3Y
5Y
YTD
[?] Add a Comparison
Add
GGGB10YR:IN
Open
High
Low
Close
Print
35
30
25
20
APR
MAY
JUN
JUL
AUG
SEP
Volume

Ireland


Rate Chart for GIGB10YR »
GIGB10YR:IND 7.66000
Compare
1M
1Y
9.00000
8.50000
8.00000
7.66000
7.50000
7.00000
Oct 3
Sep
Oct
Interactive GIGB10YR Chart »



Interactive Chart for Italy Govt Bonds 10 Year Gross Yield (GBTPGR10)
OVERLAY
INDICATORS
ANNOTATIONS
SETTINGS
1D
1W
1M
3M
6M
1Y
3Y
5Y
YTD
[?] Add a Comparison
Add
GBTPGR10:INI
Open 5.974
High 6.008
Low 5.758
Close 5.829
Print
7
6.5
6
5.5
5
05/16/2012
APR
MAY
JUN
JUL
AUG
SEP
Volume 0

Snapshot for PORTUGUESE GOVERNMENT BONDS 10YR NOTE PO

Open:	8.47200	High:

Rate Chart for GSPT10YR »

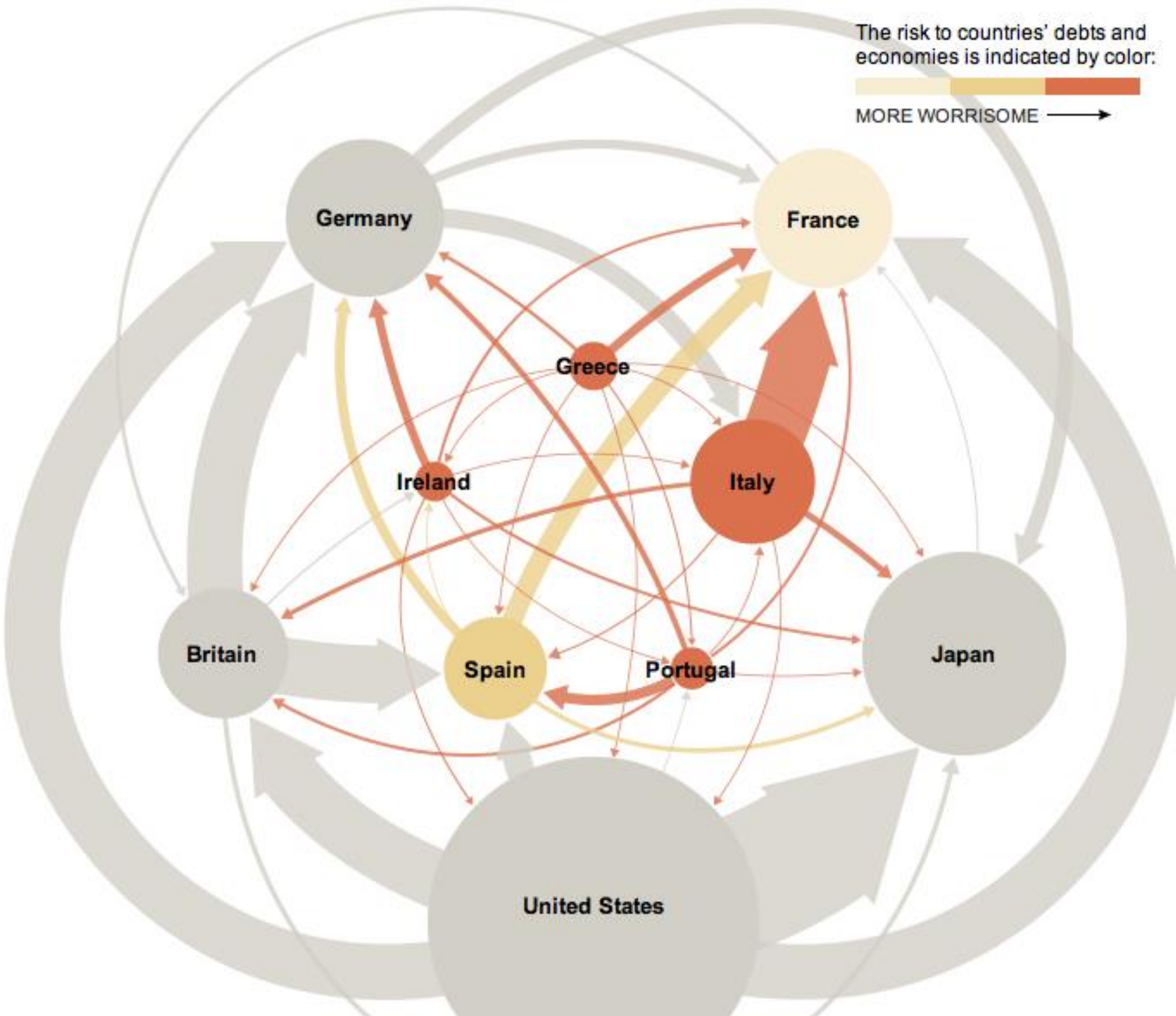
Interactive GSPT10YR Chart »

Snapshot for US Breakeven 10 Year (USGGBE10YR)

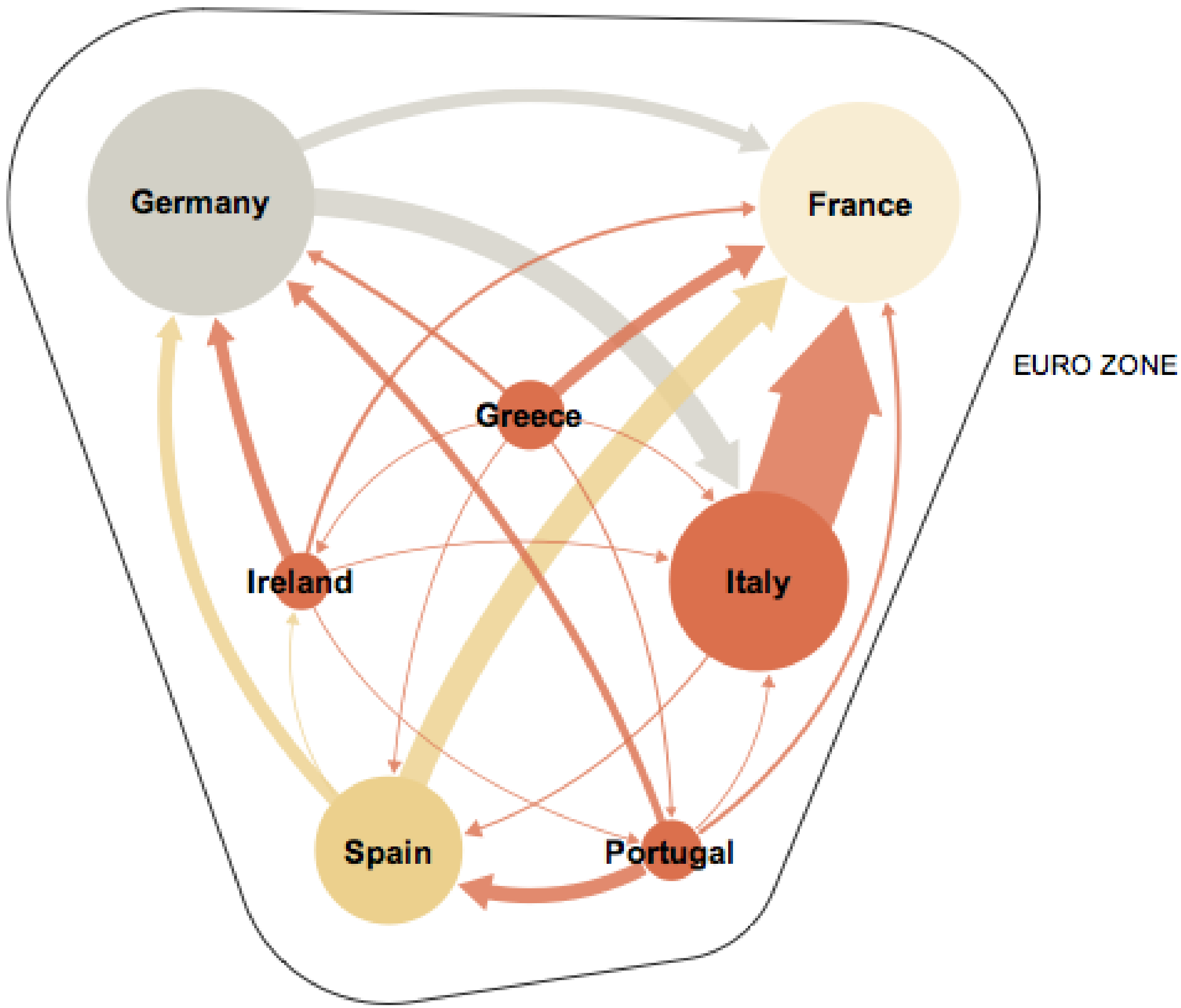
Open:	**2.37800**	High:	

Rate Chart for USGGBE10YR »

Interactive USGGBE10YR Chart »



Arrows show imbalances of debt exposure between borrowers in one country and banks in another; arrows point from debtors to their bank creditors. Arrow widths are proportional to the balance of money owed. For example, French borrowers owe Italian banks $50.6 billion; Italian borrowers owe French banks $416.4 billion. The difference — their imbalance — shows France's banking system more exposed to Italian debtors by about $365.8 billion.



If there is no firewall or if it is inadequate, it would be easy to imagine a run on banks. The euro zone's single currency makes it easy to shift money across borders from risky economies to safer ones. That and the lack of central banks in each country -- those went away in 1999 with the arrival of the euro — make the euro zone "the ultimate contagion machine," says Kenneth Rogoff, a Harvard economist.

CONCLUSION

Conclusion

- 1. The missing link in finance
- 2. Sovereign debt crisis
- 3. A visual representation of the systemic risk
- 4. Systematic risk is impacted by the systemic risk