United States then, Europe now

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December 8, 2011
Questions

1. Should governments default on their debts?
2. Should a central government bailout subordinate states?
3. Should a monetary union precede a fiscal union?
4. Should a fiscal union precede a monetary union?
“United States Then” - Fiscal Timeline

- War of Independence: 1783
- Articles of Confederation: 1790
- U.S. Constitution: 1783
- Treasury department: Nationalization of state debts: 1800
- War of 1812: 1830
- Defaults by states: 1860
- Civil War: 1860

Federal Bailout: 1800
No Federal Bailout: 1830
Outline

- Fiscal arithmetic
- Fiscal and monetary choices of U.S.
- The current situations in the U.S. and EU
- Lessons
A Simple Model For Government Debt

1. **Statistical Model** for government surplus net-of interest $s_t$

$$s_t = \sum_{j=0}^{\infty} \sigma_j w_{t-j} = \sigma(L) w_t$$

2. **Government budget constraint**

$$b_t = \left\{ T_t - g_t + R^{-1} b_{t+1}, t \geq 0 \right\}_{s_t}$$

Iterating backward

$$b_t = - \sum_{j=0}^{t-1} R^{j+1} s_{t+j-1} + R^t b_0$$

Iterating forward

$$b_t = \sum_{j=0}^{\infty} R^{-j} E_{t-1} s_{t+j}$$
Cross-equation Restrictions

1. **Rational Expectations**: 

\[ b_t = \kappa(L)w_t, \quad s_t = \sigma(L)w_t \]

where

\[ \kappa(z) = \frac{z\sigma(z) - R^{-1}\sigma(R^{-1})}{z - R^{-1}} \]  \hspace{1cm} (1)

2. **Measurability**: 

\[ \sigma(R^{-1}) = 0 \]  \hspace{1cm} (2)

3. **No arbitrage**: 

\[ R^{-1} = \tilde{R}^{-1}[(1 - \pi) + \pi(1 - \phi)] \]  \hspace{1cm} (3)

Where \( \tilde{R} \) is the risk-free rate, \( \pi \) is the probability of default and \( \phi \) is the haircut.
Economic Theory

1. What determines $s_t$?

2. Economic Model
   - Environment
     - Agents
     - Actions
     - Information flows
   - Timing protocols
   - Optimizing behavior
   - Equilibrium
Environment + Behavior + Eqb = Prob. Dist. Over Outcomes
Economic Theory and Outcomes

Environment + Behavior + Eqb = Prob. Dist. Over Outcomes
Economic Theory and Outcomes

Economic Model

\[ \text{Environment} + \text{Behavior} + \text{Eqb} = \text{Prob. Dist. Over Outcomes} \]

- Government, Voters, Creditors
- Fiscal and Monetary Policies, Voting and Portfolio Choices
- Political Institutions (Constitutions)

\( \{ s_t \}, R \)
1781-1787: U.S. After War of Independence

**Environment**
- Articles of Confederation
- Weak Continental Congress
- High debt from war
- Uncoordinated trade/fiscal policies

**Outcomes**
- Deep discounts on IOU’s
- $14 \{s_t\}$
1790’s: The U.S. Constitution

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Monetary arrangements as an afterthought.
1790’s: The U.S. Constitution

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Monetary arrangements as an afterthought.

**Reputation with creditors vs. reputation with states**
1840’s: Fiscal Crisis

- What kind of fiscal union?
  - Expenditure
  - Bond-issuance
  - Taxation
- Eleventh Amendment and Congress’s refusal to bail out states
- Rewritten state constitutions with balanced budget provisions
Deep discounts on bonds
Uncoordinated fiscal policies
“Messy” monetary arrangements
Large federal debt
EU now

- Deep and varied discounts on member state bonds
- Uncoordinated fiscal policies
- Centralized monetary arrangements
- No “federal” debt
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