

FISCAL AND MONETARY INTERACTIONS

APRIL 20, 2009

Introduction

MONETARY POLICY AND FISCAL POLICY

- ❑ **Chapter 7: studied fiscal policy in isolation from monetary policy**
 - ❑ Illustrated some core issues of fiscal policy (i.e., lifetime budget constraint of government, Ricardian Equivalence)

- ❑ **Chapter 14: studied monetary policy in isolation from fiscal policy**
 - ❑ Illustrated some core issues of monetary policy (i.e., neutrality debate, long-run monetarist link between money growth and inflation)

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- ❑ Monetary policy and fiscal policy don't occur in vacuums isolated from each other
 - ❑ Both occur simultaneously
 - ❑ The conduct of fiscal policy can place *restrictions* on what monetary policy can do, and vice-versa

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- ❑ Chapter 15: Domestic-economy interactions of fiscal and monetary policy – focus on dynamic unfolding of events

MONETARY POLICY AND FISCAL POLICY

- ❑ Representative consumer will be “in the background,” not the focus, of our analysis in Chapter 15
 - ❑ No explicit utility maximization problems, etc.
 - ❑ But we know where optimal choices of c_t and M_t/P_t etc. come from...
- ❑ Focus will just be on government actions
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- ❑ An infinite-period framework
- ❑ Two distinct “sides” of the government
 - ❑ **Fiscal authority – i.e., Congress**
 - ❑ Controls government spending g_t
 - ❑ Collects taxes T_t (will assume only lump-sum taxes throughout)
 - ❑ Issues (sells) new bonds (for various financing needs)
 - ❑ **Monetary authority (aka central bank) – i.e., Fed**
 - ❑ Controls money supply of economy...
 - ❑ ...by engaging in open-market operations

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 - **Receives “profits” from central bank (because it legally charters C.B.)**
 - **Monetary authority (aka central bank) – i.e., Fed**
 - Controls money supply of economy...
 - ...by engaging in open-market operations
 - **Turns over any “profits” it earns to fiscal authority**

The crucial linkage between fiscal and monetary policy

FISCAL AUTHORITY

- Fiscal authority's actions described by the period- t budget constraint

$$P_t g_t + B_{t-1}^f = T_t + P_t^b B_t^f + RCB_t$$

Total expenditure in period t Total income in period t

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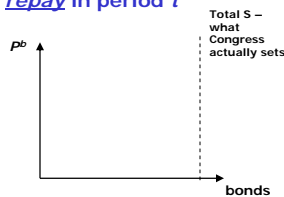
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OPEN MARKET FOR BONDS

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- Fiscal authority's period $t+1$ budget constraint

$$\underbrace{P_{t+1} g_{t+1} + B_t^T}_{\text{Total expenditure in period } t+1} = \underbrace{T_{t+1} + P_{t+1}^b B_{t+1}^T}_{\text{Total income in period } t+1} + RCB_{t+1}$$

Total expenditure in period $t+1$ Total income in period $t+1$

- And so on for $t+2$, $t+3$, etc.

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- **$M_t - M_{t-1}$: the change in the money supply engineered by the central bank during the course of period t**
 - M_t and M_{t-1} individually are stock variables, but $M_t - M_{t-1}$ is a flow variable

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- And so on for period $t+2$, $t+3$, etc.

CONSOLIDATED GOVERNMENT BUDGET

- Can view the two sides of the government as one consolidated entity

$$P_t^b B_t^M + RCB_t = B_{t-1}^M + M_t - M_{t-1}$$

$$P_t g_t + B_{t-1}^T = T_t + P_t^b B_t^T + RCB_t$$

Combine by eliminating RCB_t

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$$P_t g_t + B_{t-1}^T - B_{t-1}^M = T_t + P_t^b (B_t^T - B_t^M) + M_t - M_{t-1}$$

- B^T is the total quantity of fiscally-issued bonds...
- ...of which B^M is purchased by the central bank on the open market
- → $B^T - B^M$ is total quantity of fiscally-issued bonds held by the private sector (i.e., consumers, mutual funds, domestic investors, foreign investors, etc.) – i.e., the quantity available on the open market

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- Define $B = B^T - B^M$ as bonds held by the private sector

- What really matters for policy actions and interactions
- → Consolidated flow government budget constraint

$$P_t g_t + B_{t-1} = T_t + P_t^b B_t + M_t - M_{t-1}$$

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- Consolidated flow government budget constraint highlights the limits that fiscal policy places on monetary policy and vice-versa

$$P_t g_t + B_{t-1} = T_t + P_t^b B_t + M_t - M_{t-1}$$

- All analysis from the perspective of the very beginning of period t

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- All analysis from the perspective of the very beginning of period t
- Fiscal policy in period t is a particular setting for all three of its instruments (g_t, T_t, B_t)
 - Fiscal policy has three instruments (aka policy tools)
- Monetary policy in period t is a particular setting for all one of its instruments (M_t)
 - Monetary policy has one instrument (aka policy tool)
- (Practice Problem Set 2: A **policy** is defined by **unique** settings for **each** available instrument)

ACTIVE VS. PASSIVE POLICY

- **Definition:** A policy authority is **active** if *every instrument* at its disposal can be completely freely chosen, without any heed for the consolidated government budget constraint
 - Active authority does not engage in policy in such a way as to make sure the consolidated government budget balances

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- **Definition:** A policy authority is **passive** if *not every instrument* at its disposal can be completely freely chosen, without any heed for the consolidated government budget constraint
 - Passive authority must engage in policy in such a way as to make sure the consolidated government budget balances

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- At beginning of period t , B_{t-1} and M_{t-1} are fixed (assume no default)
- Fiscal authority sets g_t , B_t , and T_t } Question: How will "consistency" between them be guaranteed?
- Monetary authority sets M_t }

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i.e., how will equality of the consolidated budget be achieved?

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- Monetary authority sets M_t } Two possibilities...

ACTIVE FISCAL/PASSIVE MONETARY POLICY

- Suppose fiscal authority sets all of its policy instruments (all three of them) without heed for the consolidated flow GBC

- Monetary authority must react by setting M_t to ensure the consolidated GBC holds

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 - Fiscal authority is active
- Monetary authority must react by setting M_t to ensure the consolidated GBC holds
 - Monetary authority is passive
- Game-theoretic undertones
 - Fiscal authority is the “dominant” policy-maker
 - Fiscal authority is the “leader”
 - Monetary authority is the “lagging” policy-maker
 - Monetary authority is the “follower”
- Policy pressure (by fiscal authority on monetary authority) is implicit and (largely...) through market forces
 - U.S. Fed is independent of Congress
 - But in developing countries?...

ACTIVE MONETARY/PASSIVE FISCAL POLICY

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- Which regime describes the U.S.?
 - Matter of a lot of debate
 - Maybe there's “regime switching” – i.e., each authority “takes turns” being the follower and the leader
 - Through the rise and fall of political power?
 - Through the ascendancy of strong central bankers?
- Game theory a compelling way to study monetary-fiscal interactions (more advanced course)
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- ❑ Analysis so far: the period- t choices of one policy authority **restrict the choices of the other policy authority in period t**
- ❑ A more nuanced view: the period- t choices of one policy authority **may restrict the choices of the other policy authority in period t and/or period $t+1$ and/or period $t+2$ and/or period $t+3$, ...**

NEXT
TIME

April 20, 2009

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