EXPECTATIONS AND THE IMPACTS OF MACRO POLICIES

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A Singular Economic Event?

- **$11.2 Trillion** loss of wealth last year
- **5.8%** drop in GDP, 2008Q4; **3.1%** drop in GDP, 2009Q1
- **8.9%** unemployment rate in April
- **$787 Billion** stimulus package
THE JOINT POLICY RESPONSE

- Unusually aggressive monetary & fiscal policy response
  - federal funds rate near zero bound since Dec 2008
  - Fed’s balance sheet has exploded: from $800 billion to about $2.5 trillion at end of 2009
  - $125 billion tax refund in 2008 and $787 billion stimulus package in 2009
  - deficit is 13% of GDP now; debt will rise from 40% to 80% of GDP over the decade and may reach 277% in 2040
This Talk

- Establish the role of expectations in monetary policy
  - well understood with lots of research
- Establish the role of expectations in fiscal policy
  - understood conceptually, but perhaps not quantitatively
- Establish the need to study monetary & fiscal policy jointly
  - shall reveal a dirty little secret
  - well understood but widely denied
- Draw out some policy implications
  - call for thinking about a joint monetary-fiscal framework
  - in contrast to the monetary-only frameworks that prevail
Central banking mantra:

Monetary policy is about managing expectations

Many features of modern central banking flow from this

- adoption of explicit inflation targeting
- prominent role for communication with public
  - publication of inflation/monetary policy reports
  - publication of detailed minutes
  - announcement of interest-rate paths
- enhanced accountability for central bankers
MONETARY POLICY MAKING UNDER RATIONAL EXPECTATIONS

EXAMPLE FROM NEW KEYNESIAN MODEL: DEMAND GIVEN BY

\[ y_t = E_t y_{t+1} - \sigma^{-1}(i_t - E_t \pi_{t+1} - r^n_t) \]

\[ y: \text{output;} \ i: \text{policy rate;} \ \pi: \text{inflation;} \ r^n: \text{natural interest rate} \]

A DYNAMIC RELATION THAT IMPLIES

\[ y_t = -\sigma^{-1} \sum_{j=0}^{\infty} E_t (i_{t+j} - E_t \pi_{t+j+1} - r^n_{t+j}) \]

WHEN POLICY FOLLOWS \( i_t = \alpha(z_t) \), FUNCTION OF STATE

\[ y_t = -\sigma^{-1} \sum_{j=0}^{\infty} E_t (\alpha(z_{t+j}) - E_t \pi_{t+j+1} - r^n_{t+j}) \]
EXPECTATIONS AND MONETARY POLICY

• Consider a simple model of inflation with $\alpha > 1$

\[
i_t = E_t \pi_{t+1} + r_t
\]
\[
i_t = \alpha \pi_t
\]

• Combine these to yield

\[
E_t \pi_{t+1} = \alpha \pi_t + r_t
\]

• Repeated substitution, assuming fixed policy rule

\[
\pi_t = -\frac{1}{\alpha} E_t \sum_{s=0}^{\infty} \left( \frac{1}{\alpha} \right)^s r_{t+s}
\]

• **Big Assumption:** Policy over infinite future same as it is now: $\alpha_t = \alpha$ all $t$

• This ain’t what any central bank in the world is doing now
EXPECTATIONS AND FISCAL POLICY

• Some results from a model estimated to U.S. data [Leeper, Plante, Traum (2009)]

• Standard neo-classical growth model with fiscal instruments
  • unproductive government spending
  • capital taxes
  • labor taxes
  • lump-sum transfer payments

• Estimate how each instrument has responded to government debt historically

• Yields estimates of the sources of fiscal financing
Fiscal Financing in the U.S.

- Formal Bayesian tests indicate that intertemporal fiscal adjustments are complex
  - best fit from a model that allows all instruments to adjust over time
  - debt dynamics important for impacts of fiscal policies
- Fiscal multipliers tend to be modest in size
- Modest multipliers a tentative finding: model does not include monetary policy
- Sources of fiscal financing very important
The graph illustrates the government spending multipliers over quarters after an increase in government consumption. The x-axis represents the quarters after the increase, while the y-axis shows the output multipliers. The line indicates the adjustment of all instruments, showing how the multipliers change over time.
$1$ more government spending $\Rightarrow$ $0.65$ more GDP
If higher spending financed with lower transfers, GDP rises more.
Government Spending Multipliers

Output Multipliers

Government spending adjusts

Quarters After an Increase in Government Consumption
**Government Spending Multipliers**

Output Multipliers

**If government spending financed by lower government spending, GDP falls after 2 years**

Quarters After an Increase in Government Consumption
Government Spending Multipliers

Output Multipliers

Quarters After an Increase in Government Consumption

Taxes adjust
If government spending financed by higher taxes, GDP soon begins to decline.
**Speed of Fiscal Adjustment**

- Obama administration has pledged to cut deficit in half within 4 years
- Done in response to outcries about fiscal “unsustainability”
- Use estimated model to answer: What are the implications for effectiveness of fiscal stimulus of slowing down or speeding up fiscal adjustments?
  - slowing down pushes adjustments into future
  - rational agents discount those more heavily
  - speeding up brings them forward
- Changes in the timing of fiscal adjustments can alter the government spending multipliers in important ways
- Caveat: we address this in a model with no default
Government Spending Multipliers

Historically Estimated Speed of Adjustment

Output Multipliers

Quarters After an Increase in Government Consumption
Output Multipliers

Quarters After an Increase in Government Consumption

Slower Speed of Adjustment
Slower retirement of debt enhances fiscal stimulus for 6 years

Slower Speed of Adjustment

Output Multipliers

Quarters After an Increase in Government Consumption
Government Spending Multipliers

Output Multipliers

Faster Speed of Adjustment

Faster retirement of debt suppresses fiscal stimulus

Quarters After an Increase in Government Consumption
Expectations and Monetary & Fiscal Policy

- The conventional wisdom

- An appropriate choice of policy behavior—the $\alpha(z_t)$ function—allows monetary policy to
  - target inflation
  - influence aggregate demand
  - stabilize the macro economy

- Monetary policy’s effectiveness depends on private sector’s beliefs about current & future monetary policy

- This would be wonderful . . . if it were true
The Dirty Little Secret

- The claims about monetary policy’s potency fundamentally depends on fiscal policy behavior

- Consider an open-market sale to tighten monetary policy

\[ M_t \downarrow \quad B_t \uparrow \quad \Rightarrow \quad i_t \uparrow \]

- Higher \( B_t \) and higher \( i_t \) imply higher debt service
- Fiscal policy *must* be expected to raise future surpluses
- Without this fiscal response, it is not feasible to conduct the open-market sale
- Also implies that exogenous MP contractions should predict higher surpluses: evidence?
The dirty little secret leads to

For monetary policy to manage expectations, fiscal policy must manage expectations appropriately

This mantra is much less catchy and far less popular
Myth Busting

Myth #1

Inflation is always & everywhere a monetary phenomenon.

- Monetary policy can control inflation only if fiscal behavior stabilizes debt

- Failure of fiscal policy to manage expectations appropriately can destabilize the economy

- Most (all?) countries have not established a fiscal framework compatible with monetary policy control of inflation

- Current circumstances may test if this is a practical problem as well as a theoretical one
Myth Busting

Myth #2

It is reasonable to study monetary policy and fiscal policy impacts separately.

- Every statement about monetary policy impacts is conditional on fiscal behavior
- Every statement about fiscal policy impacts is conditional on monetary behavior
- When we study monetary and fiscal policy separately, we do so by maintaining special assumptions about how the other policy behaves
- Every central bank models MP in isolation from FP
Ubiquitous Equilibrium Conditions

- Dynamic models include two equilibrium conditions:

\[ M_t V_t = P_t Y_t \]  \hspace{1cm} \text{(QE)}

\[ \frac{M_{t-1} + B_{t-1}}{P_t} = E_t \sum_{T=t}^{\infty} q_{t,T} S_T \]  \hspace{1cm} \text{(IEC)}

- These are both equilibrium conditions

- They are *not* constraints on policy choices

- No policy authority must choose instruments to be consistent with (QE) or (IEC)
NEW MANTRAS

• Because of Mantra III

Inflation is always & everywhere a monetary and fiscal phenomenon . . .

• We have a macro policy Mantra IV

Monetary and fiscal policy are about managing expectations

• How do we do this?
INSTITUTIONALLY INCONVENIENT TRUTHS

1. Essential to coordinate monetary & fiscal policies: maybe counterproductive to separate monetary & fiscal decision making

2. Choice of joint monetary-fiscal regime important for impacts of fiscal stimulus: politicized fiscal choices & independent monetary choices unlikely to deliver best results

3. Agents’ beliefs about current & future policy regimes determine impacts of stimulus: calls for enhanced monetary and fiscal transparency about both current and likely future policies

4. Accurate predictions of policy effects depend on entire future paths of policy choices: regime change should be the default modeling strategy
The Pink Elephant

- The world economy is facing serious financial threats
- How is any of this relevant?
- Two major reactions to the crisis are fiscal:
  - fiscal stimulus (in US: 2 plans done; more on the way?)
  - debt-financed recapitalizations & bailouts (banks & others)
- No government has coupled its fiscal actions with any discussion of how resulting debt expansions will be financed
- Long-run consequences will be primarily fiscal \(\Rightarrow\) need for fiscal transparency urgent
What is Fiscal Transparency?

• In monetary policy, several central banks have taken transparency to the next level by announcing a “forward track” for policy interest rate
  • it’s understood this is not a commitment
  • it’s understood this does not bind future decisions

• Apply this to fiscal policy:
  • fiscal authority reveals as much as possible about future policy

• Fiscal policy is more complex
  • many more instruments
  • many more decision makers; governments come & go
What is Fiscal Transparency?

- But people are going to form expectations about paths of tax rates & and components of expenditures
  - government can help or hinder expectations formation
  - governments certainly could do more to help with expectations formation

- How do countries’ fiscal frameworks fare in light of this?
Fiscal Transparency & Predictability: The Euro Way

- Stability & Growth Pact: about sustainability
- In the face of violations by France, Germany & Greece, pact was “reformed”
  - seriously weakened the constraints on large budget deficits in EU countries
  - will reformed rules be any better enforced?
- Not about transparency
FISCAL TRANSPARENCY & PREDICTABILITY: THE SWEDISH WAY

- Fiscal Policy Council
- Designed to combat “deficit bias” and ensure sustainability
- Asserts moral suasion
  - no authority to change policy
- Not about transparency
Fiscal Transparency & Predictability: The UK Way

- Code for Financial Stability
- About sustainability
- Encourages the “golden rule” to separate government investment from consumption
- Not about transparency
Fiscal Transparency & Predictability: The American Way
Fiscal Transparency & Predictability: The American Way
Fiscal Transparency & Predictability: The Kiwi Way

- Spirit of NZ’s Fiscal Responsibility Act
  - reduce to & maintain debt at “prudent” levels
  - seeks to enhance predictability of tax rates
  - a kind of “golden rule”
- Sort of a debt target (20% of GDP)
- But it’s not clear whether a government that violates the spirit of the Act will bear obvious costs
- Also no requirement that government must announce explicitly how any change in debt will be financed
- Not about transparency
A Stunning Fact

• Countries are super vague about goals of fiscal policy
  • maximize growth; build infrastructure; offset business cycles; encourage work effort; equalize income distribution; help the disadvantaged; eliminate inefficiencies; reduce emissions; provide national defense; reduce smoking; help farmers & ranchers; minimize deadweight loses; maximize revenues; ensure re-election; ensure election; reduce global poverty; support monetary policy
  • all of the above
  • in absence of goals, fiscal decisions are totally political

• Some countries break goals into short-run, medium-run, long-run
  • no discussion of whether they are mutually consistent
  • no discussion of relative weights
A Stunning Fact

- In contrast, monetary policy goals are quite specific: target inflation; stabilize output; ensure value of currency

- Countries seem to set the bar for fiscal policy rather low

- Achieving a “prudent” level of debt (NZ FRA) ⇔ fiscal policy is not utterly incompetent

- A CEO whose sole goal was to avoid bankruptcy would soon be fired
  - we can ask for more from our elected officials
Steps Toward Transparency

1. Agree on broad principles; examples are

- taxes should raise revenues in least inefficient way
- use spending programs—rather than taxes—to achieve social goals
- fiscal policy should (or should not) include countercyclical components
- fiscal policy should aim to be as transparent as monetary policy
**Steps Toward Transparency**

2. Reach consensus on rules to determine government spending & taxation decisions
   - rules should be reasonably stable but not immutable

3. Design polices to be consistent with principles

4. Communicate how policy choices are consistent with principles
   - communicate about current *and future* policies
   - Treasury projections must make sense (don’t explode)
Monetary-Fiscal Framework

- Industrialized countries entering a prolonged period of fiscal stress
  - short-run problems associated with The Pink Elephant
  - long-run problems associated with aging populations and rising health costs
- I am NOT calling for de-democratizing fiscal decisions
I am highlighting three things

1. importance of establishing principles to guide fiscal policy

2. need to dramatically improve transparency of fiscal decisions by discussing future policies

3. the need to think about a joint monetary-fiscal framework
NATTERING NABOBS OF NEGATIVISM
NATTERING NABOBS OF NEGATIVISM MADE POSITIVE

- Society can never agree on principles to guide fiscal policy
  - managed to do it for monetary policy
- Government cannot credibly announce future policies
  - central banks do it
- Fiscal policy complex; communication difficult
  - same for monetary policy
- All these arguments were made about monetary policy
  - objections were overcome by professional & political consensuses
- Can we transform fiscal policy making?

Yes, we can. At least we oughta be able to.