Blinder, Chapter 1: The Theory of Economic Policy

Chapter 1:

Blinder discusses the theory of macroeconomic policy and highlights complications that a central banker must deal with.
Key Terms: Structural and Reduced Form Models

A structural model can be written as:

\[ y = F(y, x, z) + \varepsilon \]

Where

- \( y \) – a vector (i.e. list) of endogenous variables
- \( x \) – a vector of policy instruments
- \( z \) – a vector of non-policy exogenous variables
- \( \varepsilon \) – a vector of stochastic disturbance terms
An example: The Keynesian IS-LM model

The structural model is:

**behavioral equations**

- \( C = a + b(Y - T_0) \)  
  - consumption function
- \( I = I_0 - dr \)  
  - investment function
- \( G = G_0 \)  
  - government purchases
- \( L = eY - fr \)  
  - money demand

**equilibrium**

- \( Y = C + I + G \)  
  - equilibrium in the goods market
- \( \frac{M}{P} = L \)  
  - equilibrium in the money market

- \((a, b, I_0, d, e, f)\) - positive constants
- \((C, I, r, Y)\) - endogenous variables
- \((T_0, G_0, P)\) - exogenous variables

For convenience, assume \( P = 1 \).
Derive the reduced form model – defined as

Endogenous variables = f(exogenous variables)

Or, using the notation given earlier:

\[ y = G(x, z) + \varepsilon \]

For the Keynesian model:

\[ Y = C + I + G \]

\[ Y = a + bY - bT_0 + I_0 - dr + G_0 \]

\[ Y = \frac{a}{1-b} - \frac{b}{1-b}T_0 + \frac{1}{1-b}I_0 + \frac{1}{1-b}G_0 - \frac{d}{1-b}r \quad \text{(IS curve)} \]

\[ M = eY - fr \quad \text{(LM curve)} \]

Express the LM curve in terms of \( r \) and substitute into IS curve.
Making the substitution

\[ Y = \frac{1}{1-b} (a - bT_0 + I_0 + G_0) - \frac{d}{1-b} \left( \frac{e}{f} Y - \frac{1}{f} M \right) \]

\[ Y \left( \frac{(1-b)f+de}{(1-b)f} \right) = \frac{a-bT_0+I_0+G_0}{1-b} + \frac{d}{(1-b)f} M \]

\[ Y = \frac{f(a-bT_0+I_0+G_0)}{(1-b)f+de} + \frac{d}{(1-b)f+de} M \]

(reduced form for \( Y \))

Use this in the LM curve

\[ r = \frac{e}{f} \left( \frac{f(a-bT_0+I_0+G_0)}{(1-b)f+de} + \frac{d}{(1-b)f+de} M \right) - \frac{1}{f} M \]

\[ r = \frac{e(a-bT_0+I_0+G_0)}{(1-b)f+de} - \frac{(1-b)}{(1-b)f+de} M \]

(reduced form for \( r \))
Back to Blinder

So, we have the reduced form of the model:

\[ y = G(x, z) + \varepsilon \]

Where

- \( y \) – a vector (i.e. list) of endogenous variables
- \( x \) – a vector of policy instruments
- \( z \) – a vector of non-policy exogenous variables
- \( \varepsilon \) – a vector of stochastic disturbance terms

Next, we must specify the policymaker’s preferences:

\[ W = W(y) \]
Formally, the problem faced by the policymaker is:

$$\max_x E \left[ W(y) \right] \text{ subject to } y = G(x, z) + \varepsilon$$

This leads to the policy rule:

$$x^* = H(z)$$

Blinder asks: What is wrong with this framework?

Nothing and Everything
Nothing is wrong:
This is the way policymakers think about the conduct of policy:

They have an economic model.

They have policy instruments.

They have preferences over the outcomes.

But – the Devil is in the details.
What makes it difficult to implement:

1. **Model Uncertainty**: Estimating the parameters in the reduced form model.

2. **Lags**: It is difficult to estimate when policy changes will work their way through the economy.

3. **Need for forecasts**: If there are lags, then I need to forecast path of \( z \). And like in Lucas critique paper, these must be consistent with the way households form expectations.
Complications to the theory, continued.

4. **Choice of Instrument:**
This introduces some vocabulary:

1. **Goals** of Monetary Policy: Stable inflation, low unemployment, stable economic growth.
2. **Targets** of Monetary Policy: Long term interest rates, broad monetary aggregate, exchange rates.
3. **Instruments** of Monetary Policy: Short term interest rates, monetary base.

\[\text{Instruments} \Rightarrow \text{Targets} \Rightarrow \text{Goals}\]

Fed has direct control  Fed can influence  Fed cares about

So – what is the best instrument? (We will analyze this.)
Complications to the theory, continued

5. **The Objective Function**: What does the policymaker care about?

Implementing the theory is difficult – but what is the alternative? Ask your uncle??

For Larry Summers, not such a bad idea:

Solow and Samuelson – both Nobel Prize winners.