Chapter 14,15: Stabilization Policy/Government Debt

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Things to Read

1. The Lucas critique; policy by rule or by discretion.

2. Traditional vs. Ricardian view of government debt.

Lucas Critique

- Many economic decisions are based on expectations of future variables (e.g., investment—on expectations of future returns, consumption—on expectations of lifetime resources, etc.).

- *Lucas*: Some relationships between economic variables are *not stable* since expectations may change after the policy is implemented. Evaluation of policies should take formation of expectations seriously.

E.g., Phillips curve is not a stable relationship between π and u; rather, the menu of π and u is dependent on what is π^e, and how it changes when the policy changes.
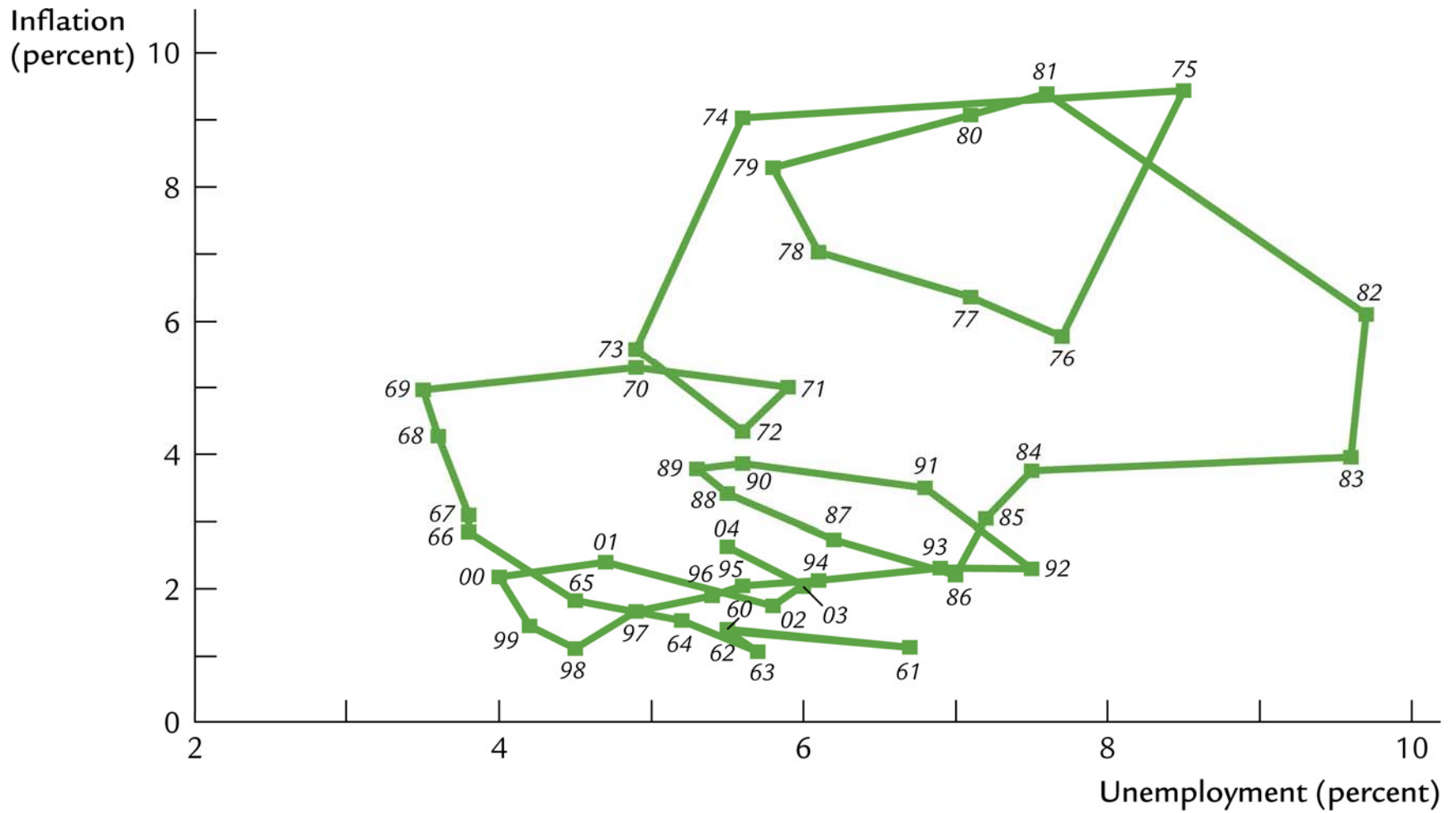
Figure 13.5 Inflation and Unemployment in the United States Since 1960
Mankiw: Macroeconomics, Sixth Edition
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Ex.: want to predict the effect of an expansionary fiscal policy (a tax cut). One way to proceed:

- The parameters of a model (e.g., the MPC or the interest rate sensitivity of investment) are estimated with *real-world* data;

- then, by changing the values of the exogenous variables, or by specifying price shocks or other changes, the *macroeconometric* models generate forecasts of all the endogenous variables (GDP, interest rates, unemployment, inflation) at various time horizons following the shock or policy change.

Estimate aggregate consumption function:

$$C_t = \alpha + \beta(Y_t - T_t) + \text{error}_t.$$

If the forecast of the tax cut

$$\Delta C_{t+1} = -\beta \Delta T_{t+1}$$

accurate? Not likely as the reaction of aggregate consumption will depend on the nature of the tax cut, that is whether it is *perceived* (expected) as permanent or temporary.

Policy by Rule or by Discretion

- By discretion: fine-tune policy to the shocks in the economy.

- By rule: set a pre-specified rule, announce it, and follow it (e.g., a balanced-budget rule, inflation targeting, etc.)

Discretionary Policy and Time Inconsistency

- Policies may be announced in advance to influence the expectations of the public.

- When households and firms adapt their behavior to the newly formed expectations, policymakers have an *incentive to deviate* from their announcements.

E.g., the central bank announces a tight monetary policy to combat inflation. Firms reset wages and prices downwards in expectation of low inflation. The goal of low prices is achieved. Thus, the central bank has now an incentive to expand money supply and stimulate the economy.

Traditional and Ricardian View of the Government Debt

<u>Government debt</u> is the sum of budget deficits.

A debt financed cut in taxes: G is unchanged, while T falls. Means that government deficit and debt increase.

- What happens after a debt financed cut in taxes? (G stays the same, $T \downarrow$).

Traditional (Keynesian) View

In the SR, since $(Y - T)\uparrow$, $C\uparrow \rightarrow IS$ shifts to the right $\rightarrow r\uparrow \rightarrow I\downarrow$, $Y\uparrow$.

In the LR, $P\uparrow$, LM shifts to the left, output at its natural level, $r\uparrow$ even further, $I\downarrow$ even further.

Low I may hurt the long-run economic growth.

The main point is that a debt-financed cut in taxes boosts employment and output in the short run.

Ricardian Equivalence

Assume an economy runs for 2 periods, labeled 0 and 1;
consumers can borrow or lend at the net interest r.
<u>Consumers</u>:

$$C_0 + S_0 = Y_0 - T_0$$
$$C_1 + \underbrace{S_1}_{=0} = Y_1 - T_1 + (1+r)S_0.$$

It follows that

$$C_0^* + \frac{C_1^*}{1+r} = Y_0 + \frac{Y_1}{1+r} - \left(T_0 + \frac{T_1}{1+r} \right).$$

<u>Government</u>:

$$G_0 + \underbrace{B_0}_{\text{bonds}} = T_0$$

$$G_1 + \underbrace{B_1}_{=0} = T_1 + (1 + r)B_0.$$

Notice that $B_0 < 0$ if the government issues bonds (i.e., borrows). Combining the two above equations,

$$G_0 + \frac{G_1}{1 + r} = T_0 + \frac{T_1}{1 + r}.$$

What is the budget-feasible, debt-financed reduction in taxes?

$$G_0 + \frac{G_1}{1+r} = T_0 + \Delta T_0 + \left[\frac{T_1 + \Delta T_1}{1+r} \right].$$

We must have $\Delta T_1 = -(1+r)\Delta T_0$. Under this alteration, consumer's budget constraint is unchanged:

$$C_0^* + \frac{C_1^*}{1+r} = Y_0 + \frac{Y_1}{1+r} - \left(T_0 + \Delta T_0 + \frac{T_1}{1+r} - \frac{\Delta T_0(1+r)}{1+r} \right)$$

$$= Y_0 + \frac{Y_1}{1+r} - \left(T_0 + \frac{T_1}{1+r} \right).$$

The interest rate remains unchanged since the national saving remains constant: public savings are reduced by ΔT_0 while private savings increase by ΔT_0.

Ricardian View

Consumers are *forward-looking* and choose their consumption on the basis of current *and* (expected) future resources.

Ricardian equivalence: a debt-financed cut in taxes requires an increase of taxes in the future by the same amount. Consumers will save the current tax cut to finance the future tax increase.

Ricardian equivalence *will not hold* if:

- consumers are myopic;
- consumers are liquidity constrained;
- current generations value the well-being of future generations less than their own.