1 New Keynesian Recap

- Theory of shocks underlying business cycle: Aggregate demand shocks matter (e.g., changes in desired investment, consumer confidence or prefs, monetary policy).
- SRAS: Upward sloping because of sticky wages or sticky prices.
- Data successes:
  - Theory correctly predicts procyclical employment, consumption, and (more volatile) investment.
  - Money is procyclical and leading, inflation is procyclical and lagging.
  - The sticky price model also implies a procyclical real wage, unlike the sticky wage model.
- View on policy: Government policy can stabilize the economy, and output fluctuations are largely undesirable.

2 Wage Contracts and SRAS
Based on ABE Ch. 11 NP #5

Consider an economy in which all workers are covered by contracts that specify the nominal wage and give the employer the right to choose the amount of employment. The production function is \( Y = 20\sqrt{N} \), and the corresponding marginal product of labor is \( MPN = \frac{10}{\sqrt{N}} \). Suppose that the nominal wage is \( W = 20 \).

\( a \) Derive an equation that relates the real wage to the amount of labor demanded by firms.

\( b \) What is the relationship between the price level and the amount of labor demanded by firms?
c) What is the relationship between the price level and the amount of output supplied by firms? Graph this relationship.

Suppose that the IS and LM curves for the economy are described as follows:

\[ IS : Y = 120 - 500r \]
\[ LM : \frac{M}{P} = 0.5Y - 500r \]

d) Initially, the money supply is set at \( M = 300 \). Use the IS and LM equations to derive a relationship between output, \( Y \), and the price level, \( P \). Graph it on the same axis as the relationship between the price level and output from Part (c).

e) What are the equilibrium values of the price level, output, employment, real wage, and real interest rate?

f) Suppose the money supply is lowered to \( M = 135 \). What are the equilibrium values of the price level, output, employment, real wage, and real interest rate?

3 Section 4 Recap

- 4.1 Business Cycles
  - Sources of shocks and their impacts
  - The data characteristics our theories should match:
    - Procyclical vs. countercyclical key economic variables
    - Leading vs. lagging economic variables

- 4.2 The IS-LM Model

- 4.3 The AS-AD Model
  - Effect of monetary and fiscal policy depends on slopes of IS and LM curves (Keynesian vs. Monetarist views)

- 4.4 (Neo) Classical Models of the Business Cycle
  - Standard classical/RBC model:
    - Real aggregate supply shocks drive fluctuations (e.g., productivity)
    - Prices adjust rapidly (SRAS \( \approx \) LRAS)
    - Recessions are short lived, little to no involuntary unemployment
    - No need for government policy intervention (money is neutral)
- Contributions: Microfoundations, rational expectations, Lucas critique, quantitative predictions, welfare analysis
  - Neo-classical model with imperfect information:
    * Aggregate demand or supply shocks can drive fluctuations
    * Information asymmetries can generate an upward sloping SRAS curve (Friedman’s Misperceptions Model, Lucas’ Island Model)
    * Monetary surprises violate neutrality (lagged adjustment of information)
    * Monetary policy still can’t be used to stabilize the cycle
    * Rational expectations leads to the Policy Ineffectiveness Proposition
    * Lucas critique: Policies can not be evaluated based on historical reduced form relationships as these relationships will change with the policies.

- 4.4 (New) Keynesian Models of the Business Cycle
  - Large role for aggregate demand shocks driving fluctuations
  - Prices and wages adjust slowly, perhaps many years (SRAS ≠ LRAS)
  - Monetary and fiscal policy can fight recessions by shifting AD curve
  - Maintain rational expectations and microfoundations of RBC theory

- How do these models hold up with the data?
  - What elasticity of labor supply should we be using?
  - Do we think money is neutral?
  - Do we think prices are flexible?
  - Do we think expectations are rational?

4 Benefits of Keynesian Fiscal Policy?
Based on ABE Ch. 11 AP #4

Classical economists argue that using fiscal policy to fight a recession doesn’t make workers better off. Suppose, however, that the Keynesian model is correct. Relative to a policy of doing nothing, does an increase in government purchases that brings the economy to full employment make workers better off? What is the impact on the real wage, employment, consumption, and taxes? How does your answer depend on the direct benefits of the spending and the speed of price adjustments?