Final Exam

Directions: Answer all questions. Point totals for each are given in parentheses. Remember, to receive full credit you must provide complete explanations for your answers. Relax and Good Luck. And, most important, enjoy your summer — after exams are over.

1. (20) Contrast Ricardian Equivalence and the Tax Smoothing Hypotheses. In particular, discuss how it is possible for economists to reach such different conclusions in the analysis of fiscal policy? In your answer, be sure to identify the thought experiment associated with both theories. Here are the critical points: 1. Govt. expenditures are held constant in both analysis. 2. Ricardian equivalence assumes that taxes are lump sum - hence they do not affect marginal decisions. The only impact is through the PDV of taxes effect on household’s intertemporal budget constraint. But since PDV of taxes = PDV of govt. expenditures and this is constant, there is no effect. In the Ramsey problem, taxes are distortionary so timing of taxes matters. The govt. wants to minimize the welfare losses which implies smooth tax rates. If not smooth, then agents MU of consumption over time is affected negatively.

2. (25) My elderly next door neighbor, Mr. Kelly, admonished me once for teaching “that Keynesian crap.” Since the modern models of monetary policy include a version of the IS curve, should I be wary of telling this to Mr. Kelly? Carefully and thoroughly explain your answer.

I am looking for a careful answer here. 1. The modern version of the IS curve is derived from an optimizing framework and represents the Euler equation. A good answer should describe what the Euler equation represents. 2. It is important the answer identify that the expectations of future output (or consumption -as in the Euler equation) is present. This represents the permanent income hypothesis - and implies that not only do today’s interest rates matter – but all future interest rates (and shocks) as well.

3. (20) In Euroland, financial markets are prone to waves of skepticism and optimism which translates into changes in the demand for money. Based upon Poole’s analysis, should the European Central Bank target the money supply, inflation, nominal GDP, or interest rates? With instability in the LM curve, the ECB should target interest rates - but be tough in having them explain their answers. If they do not use graphs, then they must give a thorough verbal description - a good answer will do both.

4. (25) Analyze the following quote about the Taylor rule (identified as the “monetary policy rule approach”). What is the significance of the change in the coefficient mentioned in the quote? An unexpected benefit of the monetary policy rule approach is that it has revealed changes in the decisionmaking processes at central banks. One important change is in how the federal funds rate has responded to events in the economy. The response can be measured by the coefficient in the policy rule. John Judd and Glenn Rudebusch discovered such a change for Federal Reserve policy by empirically estimating a policy rule for the federal funds rate. They found that the response of the federal funds rate to the inflation rate has increased over time. During the late 1960s and 1970s the coefficient was less than one; during the period since the mid 1980s the coefficient has been greater than one.

A good answer will first describe what the Taylor rule is. They should identify the implications for the real interest rate and why a coefficient less than one (as in the 60s and 70s) implies spiraling inflation. I am looking for a thorough answer here.

5. (25) Consider the following simple structural macroeconomic model:
consumption: \( c = a + b(y - t) \)

investment: \( i = i_0 - dr \)

money demand: \( m^d = e_y - f_r \)

government: \( g = g_0 \)

taxes: \( t = t_0 \)

moneysupply: \( m^s = m_0 \)

goods market eq: \( y = c + i + g \)

money market eq: \( m^s = m^d \)

The terms \((a, b, d, e, f)\) are positive coefficients while the following are exogenous \((t_0, g_0, m_0, i_0)\).

Represent the model in reduced form.

Solving, I get

\[
y = \frac{f}{f(1 - b) + de} \left[ a - bt_0 + i_0 - \frac{d}{f} m_0 + g_0 \right]
\]
\[
r = \frac{e}{f(1 - b) + de} \left[ a - bt_0 + i_0 - \frac{d}{f} m_0 + g_0 \right] - \frac{1}{f} m_0
\]

6. (25) An implication of optimal monetary policy (as described by Clarida, Gali, and Gertler) is the new policy tradeoff between output and inflation variability. Using graphical analysis, illustrate this tradeoff and demonstrate how policymakers’ preferences toward output and inflation volatility influence the economy.

I am looking for an analysis as presente in class. They need to identify the AS curve and MPR curve (and give some - however brief - description of these). They need to show how the parameter \( \alpha \) affects the tradeoff.