Econ 1, Fall 2010

University of California, Berkeley

Your name: ________________

GSI's name: ________________

Section #: ________________

# Practice Midterm

NOTE: To ensure proper grading, write your answers in the area indicated.

Suppose that it is December 2008 and you are Berkeley Professor Christina D. Romer, called to Chicago to audition for a cabinet-level post in Barack Obama's forthcoming administration and to advise him on the proper size of the economic stimulus program. Your forecast is that were 2010 to be a normal business-cycle time that the level of GDP in 2010 would be $15.5 trillion/year. You are conducting your analysis in the income-expenditure framework where: $Y = C + I + G + NX$, $C = c_o + c_y Y$. You believe that $c_y = .5$. You project that NX will be on trend during the recession—that imports will fall as U.S. purchasers shrink their spending, but exports will fall by about as much because there is a recession in the rest of the world as well. You project that there will be little change from trend in consumer confidence $c_o$. You project that there will be three years—2009, 2010, and 2011—during which the economy will be depressed. And you project that even with U.S. Treasury and Federal Reserve support for financial markets to increase the supply of and reduce the demand for safe assets, that the scramble for safety will cause financial and non-financial businesses to shrink their business investment spending by $375 billion/year as they cut back spending on risky assets and try to move their portfolios into safer asset vehicles. You are asked to advise the president-elect on what the government should do to its level of purchases G over the next three years 2009-2011.

1. Suppose that your goal is to achieve balance—to keep total economy-wide spending on trend during the three years that you forecast investment spending will be depressed—what total boost to government purchases G over the next three years should Obama propose and ask his allies in congress to enact in the form of a three-year fiscal stimulus Reinvestment and Recovery Act?

2. The President-Elect's assistant for economic policy, Harvard Professor Lawrence Summers, writes that it would be a mistake to propose a stimulus program to fill the entire spending gap—that the Recovery Act proposal should be crafted as "an insurance package against catastrophic failure." Suppose that the President-Elect endorses Lawrence Summers's argument and asks you to plan a Reinvestme and Recovery Act to fill half the spending gap.. What is the total three-year boost to government purchases G that you propose?

3. Suppose Chief-of-Staff Rahm Emmanuel warns you that congress will take a quarter of the sum you propose and waste it on measures that are actually extremely ineffective at boosting the economy. If you seek to fulfill the charge to close half of the spending gap, how large a program do you advise the President-Elect to propose?

4. In the end, the Reinvestment and Recovery Act as passed contained $600 billion of true stimulus—increases in government spending G—spread out over three years. Yet the level of GDP in 2010 is not $15.5 trillion but $14.6 trillion. Two things went wrong: first, state and local governments unexpectedly cut their contributions to government purchases G by an extra $100 billion per year that you had not planned on. Second, the flight to safety and hence the reduction in business investment spending turned out to be significantly larger than you had forecast in December 2008. If you maintain your belief that your analysis of the effects of a fiscal stimulus Reinvestment and Recovery Act were accurate, what is your forecast of what the level of GDP in 2010 would have been had the Reinvestment and Recovery Act been filibustered and died in the Senate in February 2009?

5. Explain whether or not, why, and how the following items are included in the calculation of GDP:
   a. The sale for $25,000 of an automobile that cost $20,000 to manufacture that had been produced here at home last year and carried over in inventory.

   b. The sale for $35,000 of an automobile that cost $25,000 to manufacture newly-made at home this year.

   c. The sale for $45,000 of an automobile that cost $30,000 to manufacture that was newly-made abroad this year and imported.

   d. The sale for $25,000 of an automobile that cost $20,000 to manufacture that was made abroad and imported last year.

6. In the monetarist framework $Y = (M/P)\cdot V$—real GDP $Y$ equals the money stock $M$ divided by the price level $P$ times the velocity of money $V$— and $M = \mu \cdot R$—the money stock equals the money multiplier $\mu$ times cash-and-reserves $R$, solve for the equilibrium price level $P$:

   a. If $V = 3$, $Y =$ \$15 trillion, $R =$ \$1 trillion, and $\mu = 5$

   b. If $V = 5$, $Y =$ \$20 trillion, $R =$ \$1 trillion, and $\mu = 5$

   c. If $V = 4$, $Y =$ \$16 trillion, $R =$ \$1.5 trillion, and $\mu = 4$

   d. Explain what decisions and actions are taken in the chain of causation that leads from a central bank decision to increase the money stock to an increase in the overall price level

7. In the Phillips Curve framework in which $\pi = E(\pi) + \beta(u^* - u)$—the inflation rate $\pi$ equals the previously-expected inflation rate $E(\pi)$ plus the "slope" $\beta$ times the difference between the natural rate of unemployment $u^*$ and the actual rate of unemployment $u$—calculate the rate of inflation $\pi$:

   a. If $E(\pi) = 2\%$ per year, $\beta = ½$, $u^* = 7\%$, $u = 5\%$

   b. If $E(\pi) = 9\%$ per year, $\beta = ½$, $u^* = 5\%$, $u = 7\%$

   c. If $E(\pi) = 2\%$ per year, $\beta = ½$, $u^* = 4\%$, $u = 8\%$

   d. Explain what decisions and actions are taken that leads from a central bank decision to raise the unemployment rate to a decline in the inflation rate.

8. What do you remember about the Paul Krugman article "That 1937 Feeling" which began with this passage?

> Here's what's coming in economic news: The next employment report could show the economy adding jobs for the first time in two years. The next G.D.P. report is likely to show solid growth in late 2009. There will be lots of bullish commentary — and the calls we're already hearing for an end to stimulus, for reversing the steps the government and the Federal Reserve took to prop up the economy, will grow even louder. But if those calls are heeded, we'll be repeating the great mistake of 1937...