Macroeconomic Theory

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# Midterm Examination #1

Do all three questions in Part I, and two questions from Part II. Be sure to show your work. You are free to use notes, texts, calculators, computers, or any other inanimate objects. *Please use one or more pens (no pencils*.) Exams will be collected at 9:40. Please reaffirm the *Honor Code*. You have 90 minutes; the exam has a possible score of 100 points. Use your time wisely.

“For one thing, money is a contract – the freest, most gorgeous contract of them all. Money is somebody else’s promise to pay, to give me what I want, when I want it. What a magnificent conception!” – David Bazelton

Part I (Do Problem 1 – 30 points)

1. Use the following version of Model 1 to address parts a –e. ***Show your work***.

W/P = d0 –d1\*L + d2\*K + d3\*RM (1) **Endogenous Exogenous**

Ls = so + s1\*(W/P) - s2\*T (2) W, P, L, Ls, Y K, RM, T

L = Ls (3) AD, C, I M, k, G

Y = 100\*L.7K.3  (4)

AD = k\*M/P (5)

AD = C + I + G (6)

C = .8\* (Y-T) (7)

Y = AD (8)

1. (6) Determine the reduced form equation for employment.
2. (4) Determine the reduced form equation for output (income).
3. (4) Identify the Aggregate Supply curve.
4. (8) In this model, how would an earthquake that destroyed a major nuclear power plant affect employment, output, real wages, and the price level?
5. (8) In this model, determine how a fall in taxes (T) would affect employment, output, real wages, and the price level.

|  |  |  |  |
| --- | --- | --- | --- |
| Year | Cell Phones | Computers | Cars |
|  | Price | Quantity | Price | Quantity | Price | Quantity |
| 1 | 100 | 100 | 1000 | 50 | 5000 | 10 |
| 2 | 80 | 150 | 600 | 100 | 8000 | 12 |

1. Use the data in the table below to answer parts a – c. (15 points)
2. Use a CPI type index (Laspeyres) to determine how much prices have changed from year 1 to year 2.
3. Use a GDP current weight deflator index (Paasche) to determine how much prices have changed from year 1 to year 2.
4. Use a chain weighted index to determine how much prices have changed from year 1 to year 2.

3. Exchange rates are expressed in per Euro terms. (15 points)

* 1. (8) Based on the data in the table below, calculate the trade weighted exchange rate for the Eurozone countries for 2011 based on a 2000 year base of 100. How much has it changed since 2000?

b. (7) Assuming that the price index for Europe in 2000 was 90.2 and that it presently stands at 111.5, how much has the real exchange rate between the USA and Europe changed between 2000 and 2011.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Country | Share of Trade | Exchange Rate 2000 | Exchange Rate2011 | Price Index2000 | Price Index 2011 |
| China | 25% | 7.94 | 9.44 | NA | NA |
| Japan | 25% | 102.56 | 121.95 | NA | NA |
| USA | 50% | 0.96 | 1.44 | 171.3 | 221.3 |

Part II (Answer two of the following three questions – 20 points each.) ***Be sure to provide supporting graphics or evidence.***

1. Model 1 (The Neoclassical Model) seems to provide a view of money that contradicts that posed at the top of this exam. Furthermore, many economists and policy makers argue that money has powerful effects on output and employment. Explain why these views contradict the predictions of Model 1. Briefly discuss why it is difficult to predict the effects of expansionary monetary policy on the real economy.
2. On Friday, April 1st, 2011, the Bureau of Labor Statistics reported that the unemployment rate had dropped to 8.8%, that the change in non-farm payroll employment was 216,000, that the labor force participation rate was 64.2%, and that the employment ratio was 58.5%. If you were a journalist asked to explain what this information says about the labor market, how would you do so? Be sure to put these indicators in historical context.
3. What role do interest rates play in Model 1? Be sure to distinguish between real and nominal interest rates as well as how they are determined. Explain the connection between interest rates and crowding out.