BOSTON COLLEGE
Department of Economics

EC 202 03
Macroeconomic Theory
Spring 2001
Prof. Baum

MIDTERM EXAM TWO
Patriots Day, 2001

Answer all questions. Total of 95 points. Partial credit will be given.

1. (10 pts) Explain how the inclusion of future levels of GDP, taxes, and the real interest rate in an expanded IS-LM model could cause a budget deficit reduction package to be a stimulative macroeconomic policy.

> A deficit reduction package–even though it involves contractionary fiscal policy today–may be stimulative in net terms if it is 'backloaded', relying heavily on future tax increases. If interest rates now and in the future are reduced, economic activity today will be stimulated. People may increase spending today if they believe that future output will be largely unaffected by the deficit reduction but the economy will be more investment-oriented.

2. (15 pts) The Euro has fallen against the US dollar since its inception. According to the *Economist*'s "Big Mac" standard, the burger costs the equivalent of \$2.71 in Euroland, versus \$2.43 in the USA. Does the difference reflect the Euro's fall? If we believe in the 'hamburger standard', by how much is the US dollar overvalued? What prevents the Law of One Price (or purchasing power parity) from eradicating these differences?

> According to this comparison of prices, the Euro is still OVERvalued relative to the dollar, despite its fall versus the dollar since its inceptiony. The Euro would have to trade at a value which made a Euro BigMac cost the equivalent of \$2.43–about 1 Euro=\$0.89–so the Euro is about 11% overvalued and the dollar is 11% UNDERvalued. The Law of One Price (PPP) does not apply to equate hamburger prices because this is not the only good in US-Euroland trade–and in fact is not a traded good at all!

3. (15 pts) Explain why the balance of payments must balance–i.e. what must be the balancing item to the very sizable trade deficit that the U.S. has vis-a-vis the People's Republic of China? Can this deficit persist indefinitely? Could we reduce this deficit with stimulative fiscal policy (e.g. the Bush tax cut plan)?

> The trade deficit is balanced by the capital account–China is lending to the US by accepting, in net terms, US liabilities in exchange for goods. It cannot persist indefinitely in the sense that any nation should have a finite demand for another nation's IOUs. Stimulative fiscal policy (such as a US tax cut) would tend to worsen the deficit by increasing the US demand for Chinese imports while having little or no effect on exports.

4. (10 pts) It has been said that the US real interest rate for one-year bonds is currently 2% higher than that of the Euro-11 countries for similar bonds. How can the rates differ to this extent? What forecast is implicit in the differential?

> Real interest parity, where US real interest rates exceed those of Euro-11 bonds of one-year tenor, would imply a 2% real depreciation of the dollar versus the Euro over the year. This does not relate to nominal exchange rates nor interest rates! Note that we are not talking about an increase in the US real rate (which would indeed cause an immediate appreciation of the dollar), but to a scenario where it is higher.

5. (25 pts) Indicate clearly whether each of the following statements is TRUE or FALSE, and EXPLAIN your answer. No credit for merely asserting T or F.

a. A reduction in the number of weeks of unemployment benefit provided would increase the natural rate of unemployment.

> False; it would put pressure on unemployed workers to find jobs more quickly (reducing 'z') and would decrease u_n permanently.

b. In the long run, the economy's performance is more heavily influenced by the characteristics of aggregate demand than those of aggregate supply.

> False: ultimately what is produced depends on supply and the factors of production.

c. In the bond markets, the n-year rate is approximately equal to the average of current and expected one-year rates over this and the next $(n - 1)$ years.

> True: according to the pure expectations theory of the term structure of interest rates, as long as liquidity (or risk) premia are not too important, this relation will hold.

d. The announcement of a higher-than-expected outcome for the monthly U.S. unemployment rate will drive stock prices down.

> False: higher unemployment is likely to lead to monetary easing, lowering interest rates, which will both stimulate the portfolio demand for stocks (as an alternative asset in investors' portfolios) and improve the outlook for corporate earnings due to a lower cost of capital. A booming economy is often not good for the stock market, as it represents upward pressure on labor and materials costs, and backlogs of capital goods orders.

e. If we believe that participants in the stock market behave rationally, stock prices will not diverge from their fundamental values.

> False: there could be a "rational speculative bubble" in which everyone is willing to pay higher prices, despite a lack of fundamental value. For instance, Internet stocks selling at hundreds of dollars per share, with no profits and no dividends in the foreseeable future. This is not necessarily irrational, as long as you believe that there is a greater fool.

6. (20 pts) Write a brief essay discussing the issues raised and methodology employed in Howard Wall's paper "Using the Gravity Model to Estimate the Costs of Protection." Comment on his findings.