Due date: Feb. 3 (Tuesday), 2004.

Note: you can either give your homework to the TA right after class or put it in the box outside my office (Heady 469) before 5:00pm. Do not forget your name, student ID number, and section number.

**Problem 1 (4 points)** Abby consumes only apples. In year 1, red apples cost 1 dollar each, green apples cost 2 dollars each, and Abby buys 10 red apples. In year 2, red apples cost 2 dollars, green apples cost 1 dollar, and Abby buys 10 green apples.

a. Compute a consumer price index for apples for each year. Assume that year 1 is the base year in which the consumer basket is fixed. How does your index change from year 1 to year 2?

b. Compute Abby’s nominal spending on apples in each year. How does it change from year 1 to year 2?

c. Using year 1 as the base year, compute Abby’s real spending on apples in each year. How does it change from year 1 to year 2?

d. Defining the implicit price deflator as nominal spending divided by real spending, compute the deflator for each year. How does the deflator change from year 1 to year 2?

**Problem 2 (6 points)** Find data on GDP and its components, and compute the percentage of GDP for the following components for 1950, 1970 and 1990.

a. Personal consumption expenditures
b. Gross private domestic investment
c. Government purchases
d. Net exports
e. National defense purchases
f. State and local purchases
g. Imports

Do you see any stable relationships in the data? Do you see any trends? (Hint: A good place to look for data is the statistical appendices of the *Economic Report Of the President*, which is written each year by the Council of Economic Advisors. Alternatively, you can go over the internet to www.bea.doc.gov, which is the website of the Bureau of Economic Analysis).