# EC202 03
# Macroeconomic Theory
# Solutions to Problem Set 4

Ch. 16 #3 [6]

EPDV is $\Pi/(r+\delta)=18,000/(r+0.08)$.
a. Buy. EPDV=138,462>100,000.
b. Break-even.
c. Don t buy. EPDV=78,260.

Ch. 16 #4 [4]

a. 44,000*(1-0.4)*36-40,000*(1-0.4)*38=38,400.
b. 44,000*(1-0.3)*36-40,000*(1-0.3)*38=44,800.

Ch. 16 #5 [16]

a. EPDV of future labor income is $30. Consumption of $10 in all three periods.
b. Young —5, middle age 15, old —10.
c. —5+15-10=0.
d. 0-5N+10N=5N.
e. Young 5, middle age 12.5, old 12.5. Cannot borrow against future income when young.
f. 0+12.5N-2.5N=0.
g. 0+0+12.5N=12.5N.
h. Yes. By allowing people to have more even consumption, financial liberalization may lead to less overall accumulation of capital.

Ch. 18 #5 [10]

a. The nominal return on the U.S. bond is 10,000/(9615.38)-1=4%. On German bond 5%.
b. Uncovered interest parity implies that the dollar is expected to appreciate by 1%. Thus, the expected exchange rate is 0.99*0.95=0.9405 $/DM.
c. If you expect the dollar to depreciate instead, purchase the German bond as you expect the return (in $) to be more than 5%.
d. The German currency depreciates by 5.26%, so the total return on the German bond (in $) is 5-5.26=-0.26. Investing in the U.S. bonds would have produced a sure 4% return.
e. The uncovered interest parity condition is about equality of expected returns, not equality of actual returns.

Ch. 18 #6 [8]

a. Substitute F for $E^e$ in the derivation of uncovered interest parity in the text. We no longer need to use $E^e$ as the price of foreign exchange will be fixed when we liquidate our position in German bonds and move funds back to the United States.

b. The forward rate consistent with covered interest parity is the same as the expected exchange rate consistent with uncovered interest parity.

c. Go long or short in U.S. bonds, depending on the forward exchange rate.

d. Surprises in the exchange rate no longer affect actual returns on your investment.