

**Economics 613: Macroeconomics I**

Fall 2006

Cornell University

**Problem Set #3**

Due: Wednesday, September 13, 2006

## Capital Valuation

1. What is the economic reason for assuming profit maximization? What is the economic reason for assuming present value maximization? What – if any – is the economic basis for assuming expected profit maximization?

2. 2 periods: Period 1 (this year, or the present) and period 2 (next year). The annual interest rate  $r$  is 5%.

What is the interest factor  $R$ ?

What is the price this year of goods delivered next year? Hint: set  $p_1 \equiv 1$ , solve for  $p_2$ .

What should be the price of the following projects? Clearly state your assumptions.

Project 1: First year net revenue = \$5 million, second year net revenue = \$5 million.

Project 2: First year net revenue = \$3 million, second year net loss due to clean-up = \$1 million

Project 3: First year net revenue = \$3 million, second year net loss = \$3 million

Project 4: First year net loss due to start-up = \$1 million, second year net revenue = \$1.01 million