ECON 3560/5040
Quiz #5 (Answers)

Last Name:_____, First Name:_____

Part A (6 points) Fill-in Questions

(1) [2 points] The steady state with the highest consumption is called the

Golden Rule level of capital

(2) [2 points] The number of *effective workers* takes into account the number of workers and the efficiency of each worker

(3) [2 points] In the United States, the primary way in which the Federal Reserve controls the supply of money is through *open-market operations*—the purchase and sales of government bonds

Part B (14 points)

(1) [6 points] **Money and Inflation**

(a) [3 points] What are three functions of money?

Medium of exchange, unit of account, and store of value

(b) [3 points] Money demand in an economy in which no interest is paid on money is $M/P = 0.2Y$, where Y is national income. Suppose that $P = 100$, $Y = 1000$. What is ***income velocity of money***?

The quantity equation is $MV = PY$ *or* $\frac{M}{P} = \frac{1}{V}Y$. *Therefore, income velocity of money is* $V = \frac{Y}{M/P} = \frac{Y}{0.2Y} = 5$

(2) [8 points] **Solow-Swan Model**

Answer the following questions using the Solow-Swan model with ***growing population*** and ***no technological progress***

(a) [5 points] It rains so much in the country A that capital equipment rusts out (depreciates) at a much faster rate than it does in the country B. If the countries are otherwise identical, in which country will the ***Golden Rule level of capital per worker*** be higher? Illustrate graphically

Country B has a higher Golden Rule level of capital per worker, $y_A^g < y_B^g$

(b) [3 points] Which country will have the faster ***rate of growth of output per worker*** in the steady state? Why?

In the steady state, both countries have the same rate of growth of output per worker. Note that the growth rate of output per worker is 0 in this model