

EE312 Macroeconomics, 1/2015 (Sec. 046402)
 Problem Sets 4 : Ch.4 Part 2 Endogenous Growth Model

Please submit at the BE office, 5th floor department of Economics building.
 Deadline of submission : October 27, 2015, before 15.00 hrs.
 Late submission will not be accepted.

*** Exam will consist of essay-type questions only.**

1. In the endogenous growth model, suppose that there are three possible uses of time. Let u denote the fraction of time spent working. **Let s denote the fraction of time spent neither working nor accumulating human capital (call this unemployment)**, and $1 - u - s$ the fraction of time spent accumulating human capital.

- (a) Define the consumer's budget constraint, the law of motion of human capital, the firm's production function and the firm's profit function. (Fill in the blanks in the table below)

Consumers	Firm
$C = \dots\dots\dots$	$Y = \dots\dots\dots$
$H^{s'} = (\dots\dots\dots)$	$\pi = \dots\dots\dots$
b = efficiency of human capital accumulation technology	The demand curve is infinitely elastic at $w = z$

- (b) Define equilibrium consumption and growth of capital accumulation. (Fill in the blanks below.)

The market clears at $w = \dots\dots\dots$ where $uH^d = \dots\dots\dots$

Equilibrium consumption and growth of human capital accumulation: (Define H' , $\frac{H'}{H}$ and $\frac{H'}{H} - 1$.)

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- (c) From question (b), draw two diagrams; one to show equilibrium in the labour market and the other to show growth of human capital.

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