

# How to Reduce Unemployment Without Creating Poverty

2014 Summer Term

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version - July 24, 2014

## Problem Set 8

July 24, 2014

### Question 1

Suppose preferences for consumption  $c$  and leisure  $l$  are

$$U(c, l) = \frac{1}{\theta} \log [\gamma c^\theta + (1 - \gamma) l^\theta], \quad \theta < 1. \quad (1)$$

with real budget constraint

$$c = (\bar{l} - l)w, \quad (2)$$

where  $\bar{l}$  is the total available number of hours and  $w$  is the wage. Find

a) the marginal rate of substitution between consumption and leisure

$$\frac{\partial U(c, l) / \partial l}{\partial U(c, l) / \partial c} = w; \quad (3)$$

b) the general labour supply equation:

$$l = \frac{1}{1 + \left(\frac{\gamma}{1-\gamma}\right)^{\frac{1}{1-\theta}} w^{\frac{\theta}{1-\theta}}} \bar{l} \quad (4)$$