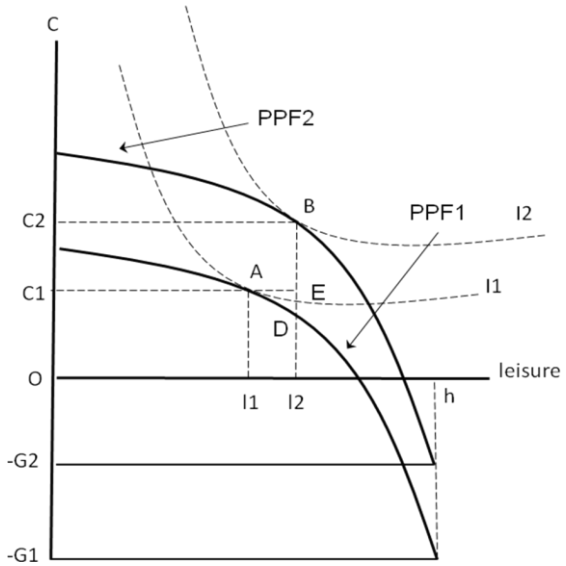
EE312 Macroeconomic Theory
Semester 2/2016
Homework I

Question: Suppose the government decides to decrease its spending on consumption goods. Use **the Closed-Economy, One-Period Macroeconomic Model** to determine the effects of the spending cut on aggregate output, consumption, employment and the real wage.

- Explain the chain of effects among variables correctly.
- Describe your analysis in words and use diagrams as needed.

Submission date: Wednesday 22 February 2017, 13:00hr.

Answer: The initial competitive equilibrium is at point A where the firm's Production Possibility Frontier, PPF1, touches the consumer's highest indifference curve I1. At A, the optimal consumption bundle for the consumer consists of consumption goods equal to c1 and leisure equal to L1. So the consumer's working time (and labor supply) is h – L1.



The government reduces spending (G), causing taxes to decrease (T). The consumer's non-wage income (π - T) and disposable income increase. The consumer increases demand for consumption goods (C) and leisure (l) as both are normal goods. More leisure is equivalent to a decrease in working time (h – l). So the labor supply (N^s) decreases. There is excess demand for labor by the firm at the initial real wage. So the real wage (w) increases, causing the firm to reduce its labor demand and employment. Less labor input in production results in a lower level of total output. The lower labor input also raises the marginal product of labor (MP_N) which corresponds to the higher real wage, given the capital input.

The decrease in government spending from G1 to G2 is equivalent to a positive income effect. The production possibility frontier shifts upwards from PPF1 to PPF2 as G = T is smaller. The competitive equilibrium moves from point A to point B at a higher indifference curve I2. The consumer's demand for consumption goods increases from C1 to C2 while

leisure increases from l1 to l2. Consumer welfare and utility are higher. Work time drops from h – l1 to h – l2. Thus, labor supply decreases. The slope of PPF2 at point B is steeper than the slope of PPF1 at point A, so MP_N and the real wage at point B are higher.

In conclusion, a decrease in government spending results in higher consumption, lower employment, a higher real wage and lower total output. The decrease in government spending raises consumption despite the lower output because lower taxes cause disposable income to increase.