

## Extra Credit Problem

The economy is currently in equilibrium. The aggregate planned expenditure function is:

$$APE = C + I + G + NX$$

where  $NX$  are net exports, which are a part of the autonomous expenditure. Consumers pay taxes according to the following formula:

$$T = T_0 + s(Y - T_0)$$

where  $T_0$  is the autonomous tax,  $Y$  is income, and  $s$  is the tax rate on the income in excess of  $T_0$ . Assume that  $Y \geq T_0$ .

a) Derive the expression for the expenditure multiplier.

b) If the slope of the consumption function is 0.8 and  $s = 0.5$ , what will the change in the equilibrium GDP be if  $T_0$  increases by \$10 million?