

**Econ 522: Intermediate Macroeconomics, Fall 2017**  
**Business Cycle Problem Set 1: Expenditure & the Keynesian Cross**

1. See prior handout
  
2. (a) Shifts down by the amount of the decrease. Vertical intercept goes from 425 to 325.  
(b)  $Y_{e2} = 1,300$ ,  $DI = 1,200$ ,  $C = 1,100$ ,  $PriS = 100$ ,  $PubS = 0$ ,  $S = 100$ .  
(c) Compare  $S$  here to  $S$  before the change (i.e., in problem 1).  $I$  does not change in this problem.  
(d) See notes and textbook.
  
3. (a)  $\uparrow E$  by  $\Delta G \Rightarrow \uparrow Y$  by  $\frac{1}{(1-MPC)} \times \Delta G$ . See the textbook or class notes for additional details, if you're not comfortable with drawing the graph, applying the multiplier, or the with the underlying explanations.  
(b)  $\downarrow E$  by  $\Delta T \times MPC \Rightarrow \downarrow Y$  by  $\frac{MPC}{(1-MPC)} \times \Delta T$ . See the textbook or class notes for additional details, if you're not comfortable with drawing the graph, applying the multiplier, or the with the underlying explanations.  
(c) Combine the effects of part a and b. Use that  $\Delta T = \Delta G$  to simplify.
  
4. (a)  $E = 720 + 0.8Y - 5r$ .  
(b) Solve the equation in part a for an equation for equilibrium  $Y$  ( $Y = 3,600 - 25r$ ). When  $r = 10$ ,  $Y = 3,350$ .  
(c) Select any other two values for  $r$ , and find the corresponding  $Y$  using the equation for  $Y$ .