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Example 1.C (cont.): National income model

homework

- From the example 1.B, it is straightforward to solve for all the endogenous equilibrium solutions, Y^*, C^*, Y_d^*.

$Y = C + I + G \qquad C = a + bY_d \qquad Y_d = Y - T$

$Y = a + bY_d + I + G$

$Y = a + b(Y - T) + I + G$

$Y = a + bY - bT_0 + I_0 + G_0$

$Y - bY = a - bT_0 + I_0 + G_0$

$Y^*(1 - b) = a - bT_0 + I_0 + G_0$

$Y^* = C^* = Y_d^* = \frac{a - bT_0 + I_0 + G_0}{1 - b}$

- Numerically, if a = 1, T_0 = \$0 I_0 = \$1, G_0 = \$1 and b = 0.5, this yields us,

$= \frac{a - bT_0 + I_0 + G_0}{1 - b}$

$= \frac{1 - 0.5(0) + 1 + 1}{1 - 0.5}$

$= \frac{1 - 0 + 2}{0.5}$

$= \frac{3}{0.5}$

$= 2$

Question: What if G is now changed to \$2, how big is the change in Y^* and C^*?

Answer:

New Y^* = 2 ➔

A \$1 increase in G causes an increase in Y^* by 2