IN4203 - Macroeconomics 2017-1
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Teaching assistantship # 1

Goods market and IS curve

Problem 3: Calculations in closed economy

Suposse an economy characterized by the folllowing equations: $C = 160 + 0{,}6Y^D$, $I = 150$, $G = 150$, $T = 100$. Derive:

1. Equilibrium GDP (Y).

   Remember that the equilibrium condition in goods market is given by $Y = Z$.

$$
\begin{aligned}
Y &= C + I + G \\
\Rightarrow Y &= (160 + 0,6Y^D) + I + G \\
\Rightarrow Y &= 160 + 0,6(Y - T) + I + G \\
\Rightarrow (1 - 0,6)Y &= 160 - 0,6T + I + G \\
\Rightarrow Y &= \frac{160 - 0,6T + I + G}{0,4} \\
\Rightarrow Y &= \frac{160 - 0,6 \cdot 100 + 150 + 150}{0,4} = \frac{400}{0,4} = 1000
\end{aligned}
$$

2. Disposable income in equilibrium (Y^D).

$$Y^D = Y - T = 1000 - 100 = 900$$

3. Consume in equilibrium (C).

$$C = 160 + 0,6Y^D = 160 + 0,6 \cdot 900 = 700$$