

# Explaining C. Romer Numbers

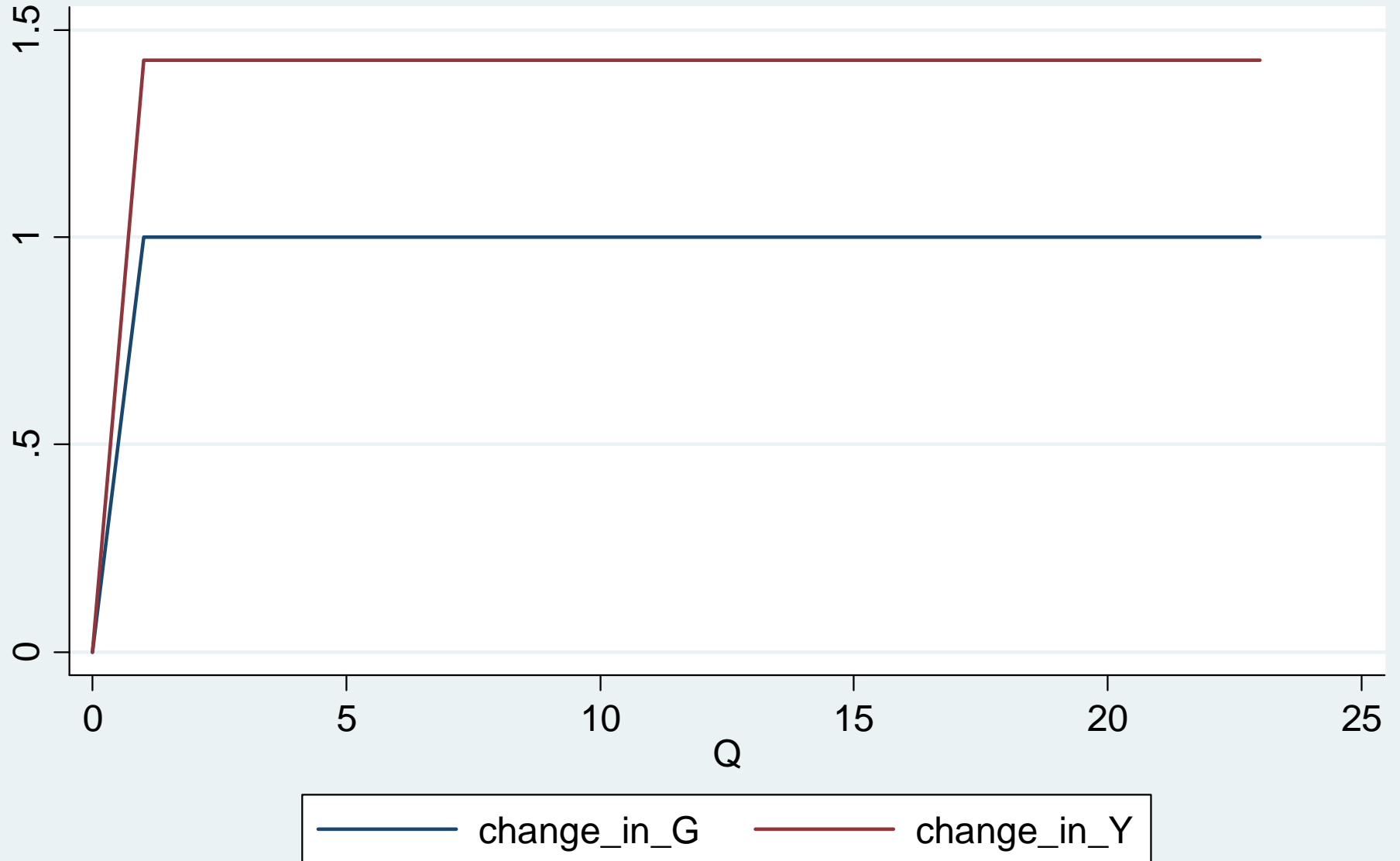
(Slide 25 IS/LM)

# Using Model from Class

- $Y = (c_0 + I + G - c_1 T) / (1 - c_1)$
- One unit increase in  $G$  increases  $Y$  by  $1 / (1 - c_1)$
- Inconsistent with numbers from C. Romer which are generally increasing
- Implies  $c_1$  changing across quarters
- Or generated by different model

# Response to Permanent Increase in G

c1=0.3 Standard Model

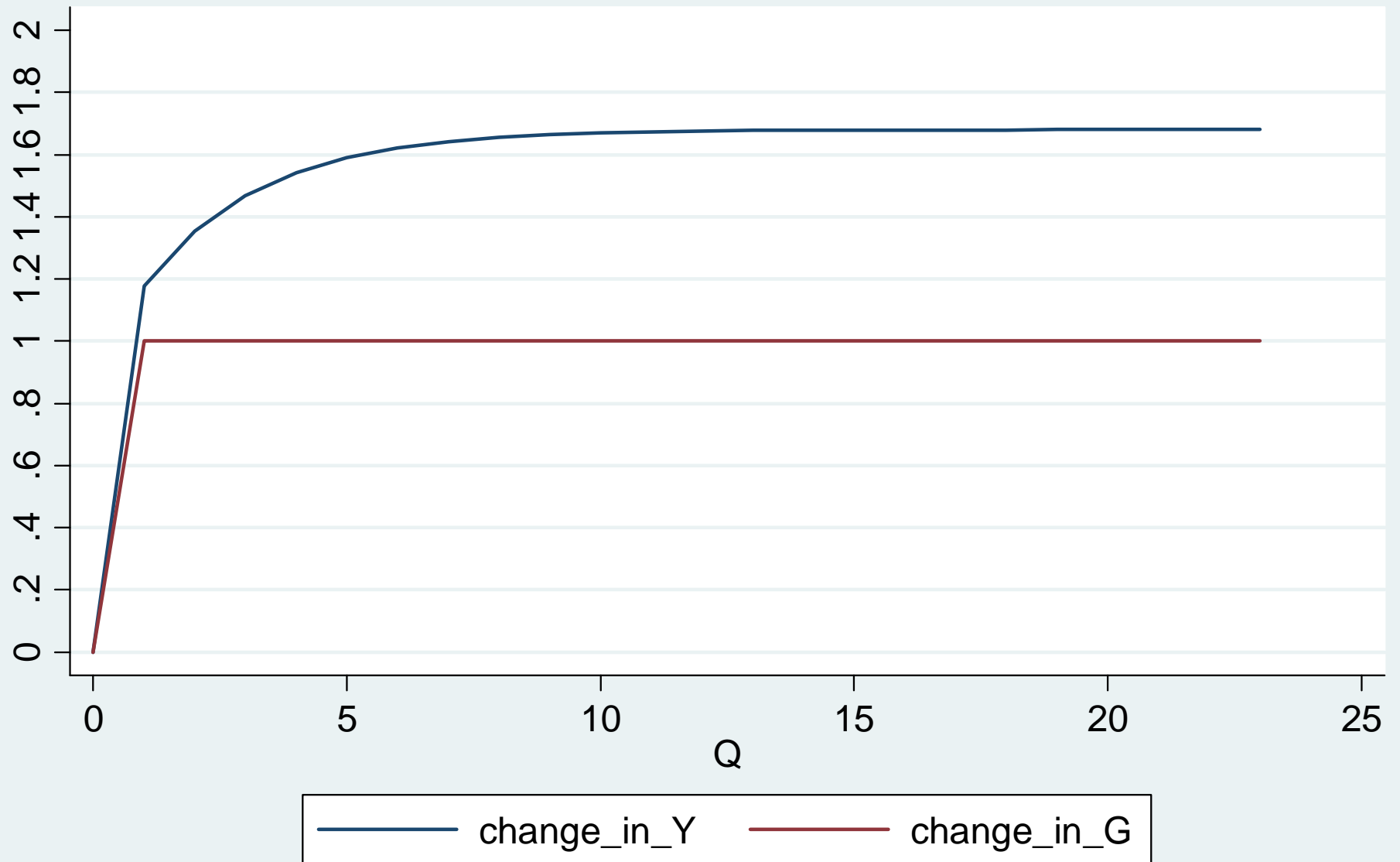


# Alternative Habit Formation Model

- $C(t) - C(t-1) = a ( C(t)^* - C(t-1) )$ 
  - with  $C(t)^* = c_0 + c_1 Y(t)$
  - $0 < a \leq 1$
  - For  $a = 1$ ,  $C(t) = C(t)^*$
- $Y(t) = C(t) + G(t)$
- Solution:  $Y(t) = c_0 + (1-a)C(t-1) + G(t)/(1-ac_1)$

# Response to Permanent Increase in G

$c_1=0.3, a=0.5$  Habit Formation



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