Explaining C. Romer Numbers
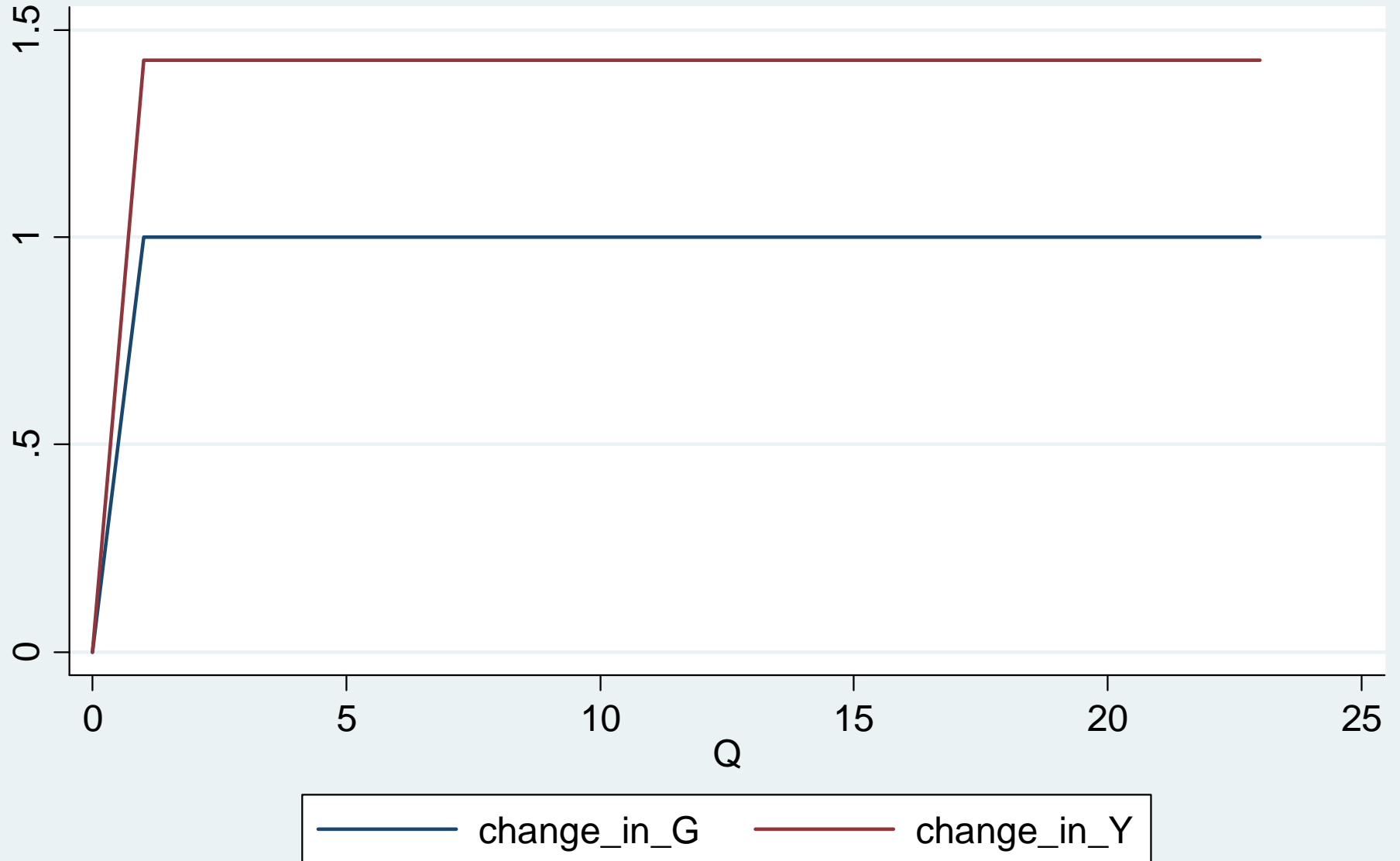
(Slide 25 IS/LM)

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

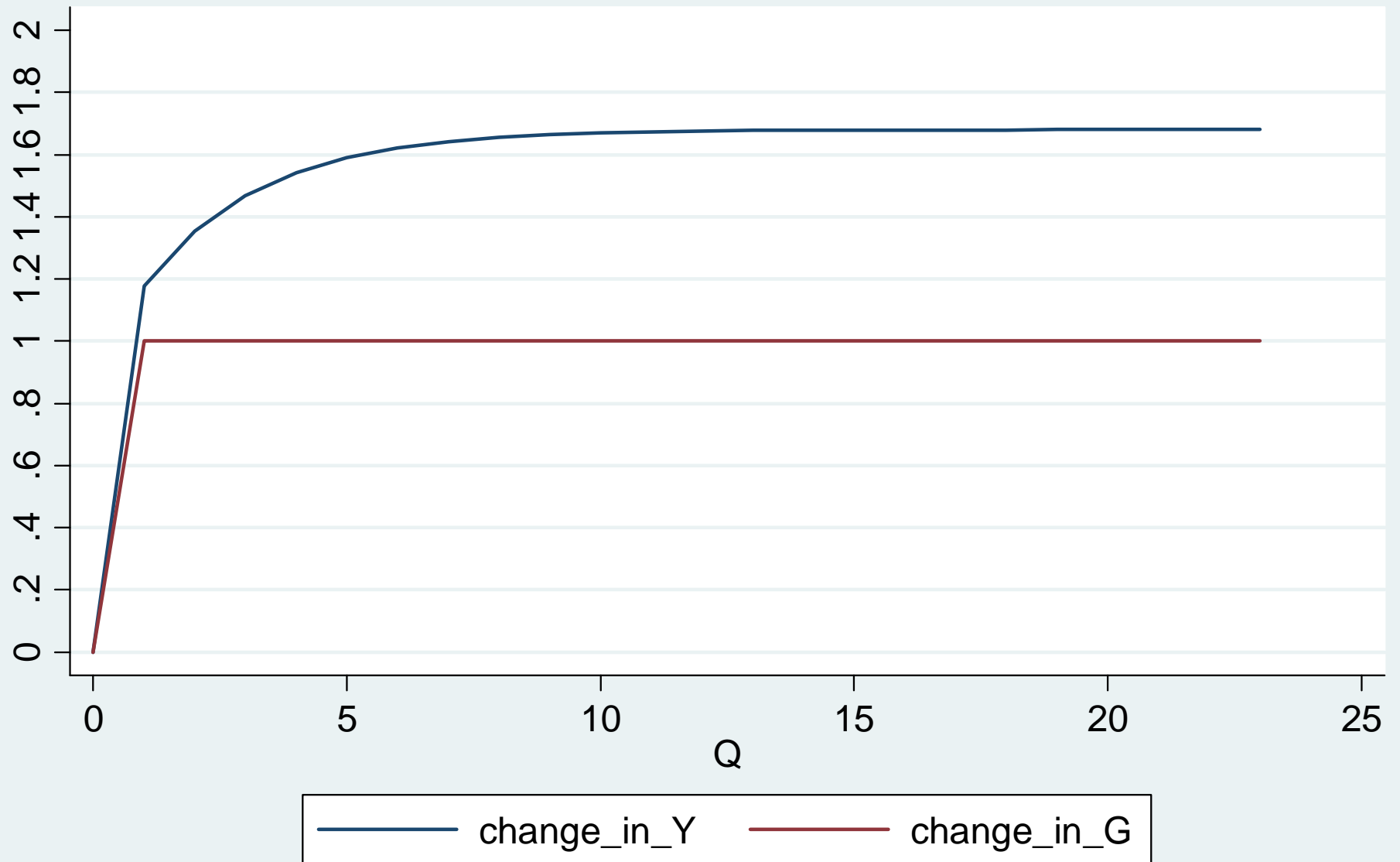# Response to Permanent Increase in G
c1=0.3 Standard Model

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

c1=0.3, a=0.5 Habit Formation

14.02 Principles of Macroeconomics

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