基本總體經濟架構

葉國俊

2023.3.17

基本原則

- 商品市場、貨幣市場、債券市場
- Walras Law: 二個市場均衡則另一必均衡，故只需看二個

變數定義

- Y：商品需求
- C：消費函數 (與所得正比)
- I：民間投資函數 (與利率R反比)
- G：政府支出 (通常包括政府投資與消費，自發性支出)
- R：利率
- T：租稅
- M^s：貨幣供給 (假設央行決定)
- L：貨幣需求
- P：物價

商品市場 (IS曲線)

$$
\begin{aligned}
Y &= C(Y-T) + I(R) + G \\
C &= C(Y-T) \\
&\quad + \\
I &= I(R) \\
&\quad -
\end{aligned}
$$

IS 全微分

$$dY = \frac{\partial C}{\partial Y}(dY - dT) + \frac{\partial I}{\partial R}dR + dG$$

$$dY \approx Y_t - Y_{t-1}$$

$$(1 - C_Y)dY = I_R dR + dG - C_Y dT$$

$$\frac{dY}{dG} = \frac{1}{1 - C_Y} > 0 \qquad 0 < C_Y < 1$$

$$C_Y = 0.5 \quad \frac{dY}{dG} = 2$$

$$C_Y = 0.8 \quad \frac{dY}{dG} = 5$$

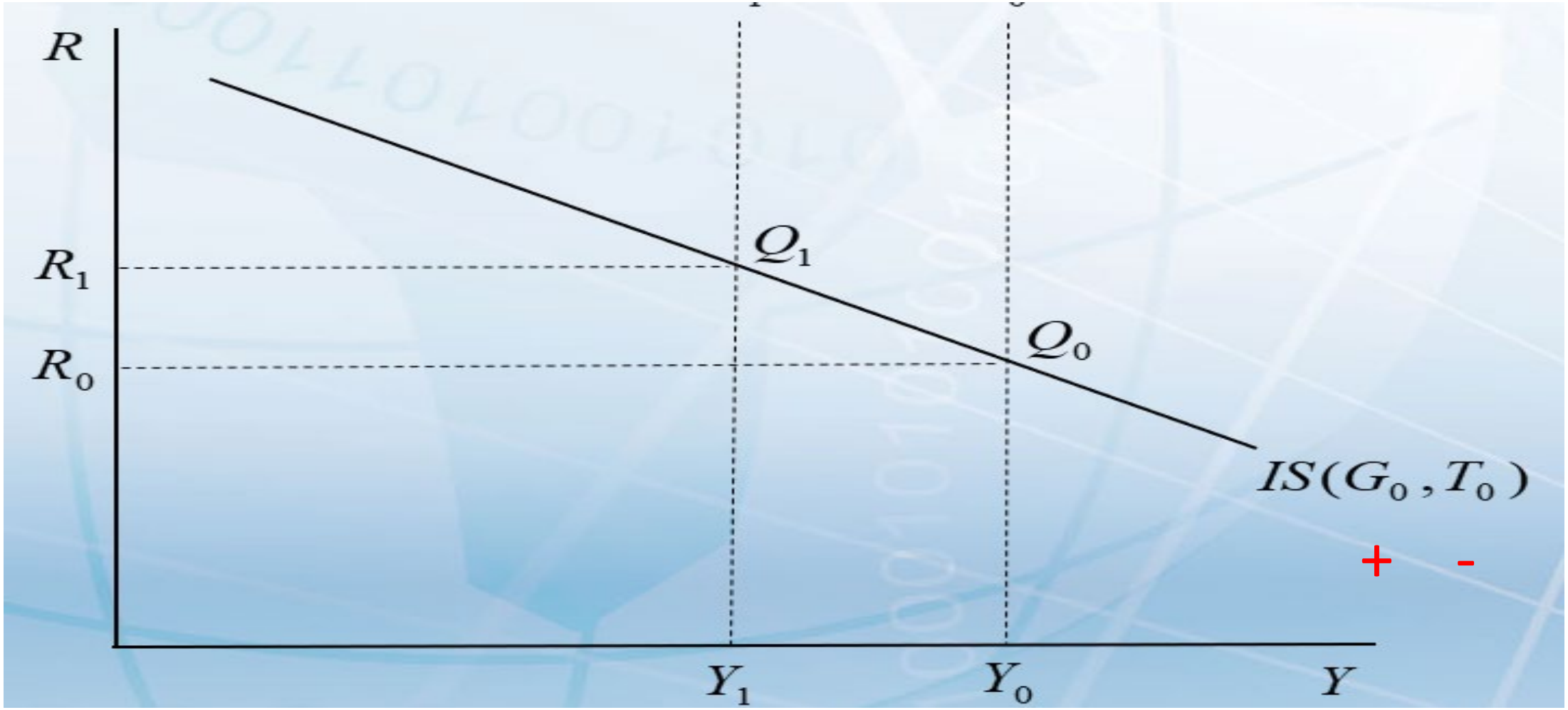
$$\frac{dY}{dT} = \frac{-C_Y}{1 - C_Y} < 0$$

橫軸為Y縱軸為R，可求斜率

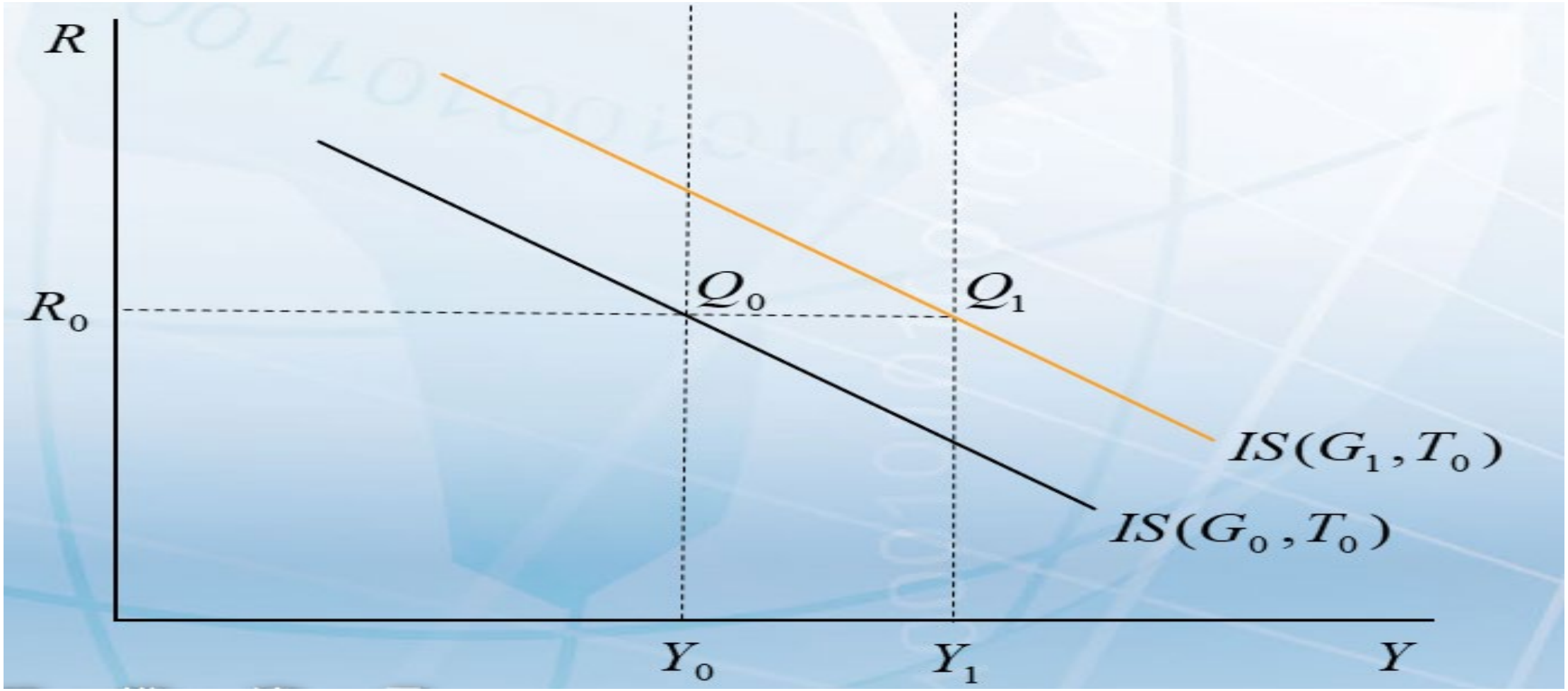
$$(1 - C_Y)dY = I_R dR + dG$$

$$\frac{dR}{dY} = \frac{1 - C_Y}{I_R} < 0$$

IS曲線 (+表右移，-表左移)



G增加 (G_0→G_1) 曲線右移



貨幣市場 (LM曲線)

$$\frac{M^s}{P} = L(Y, R)$$

$$+ \quad -$$

$$\frac{dMP - dPM}{P^2} = L_Y dY + L_R dR$$

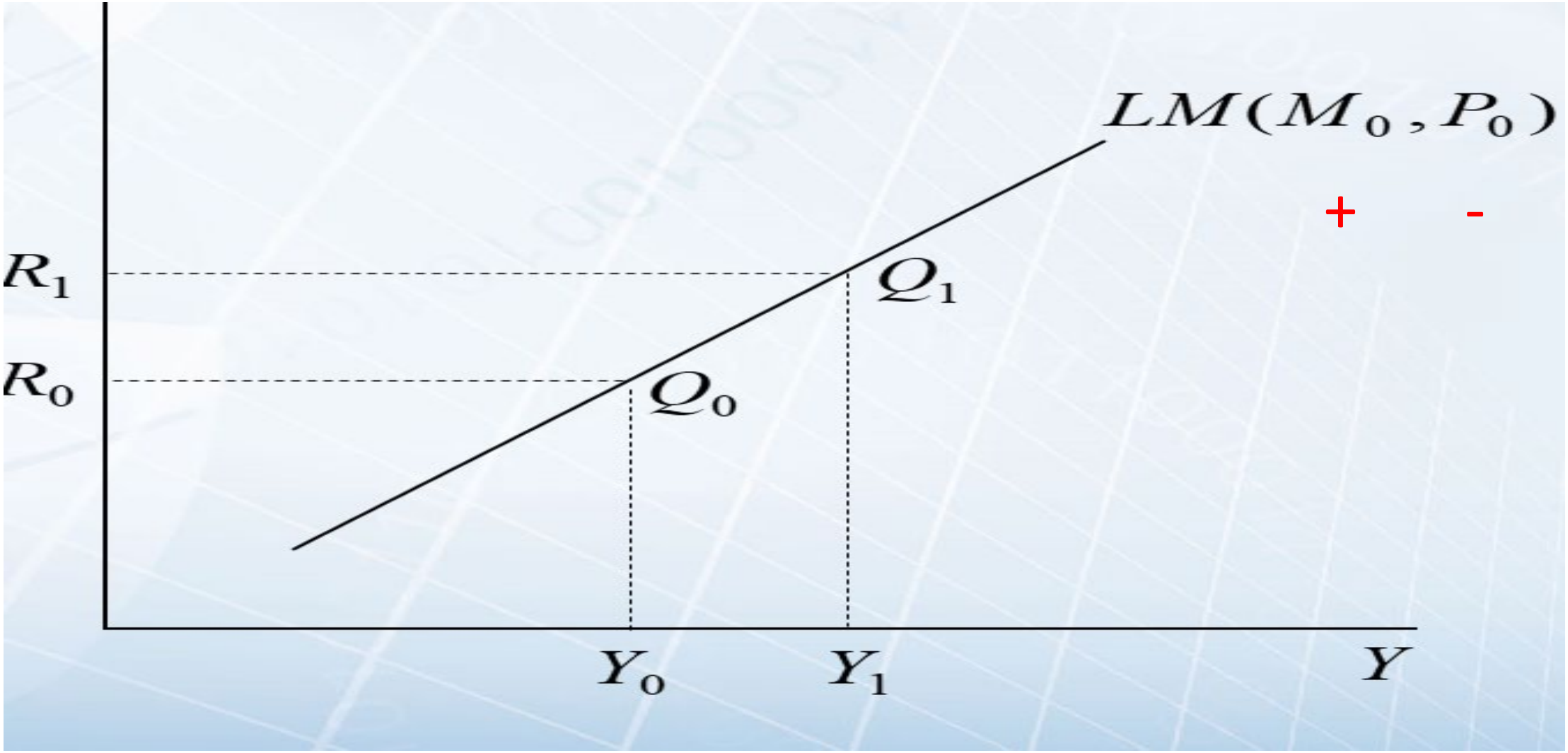
$$if \qquad P = 1 \quad dP = 0 \quad dM = 0$$

$$L_Y dY + L_R dR = 0 \quad \frac{dR}{dY} = -\frac{L_Y}{L_R} > 0$$

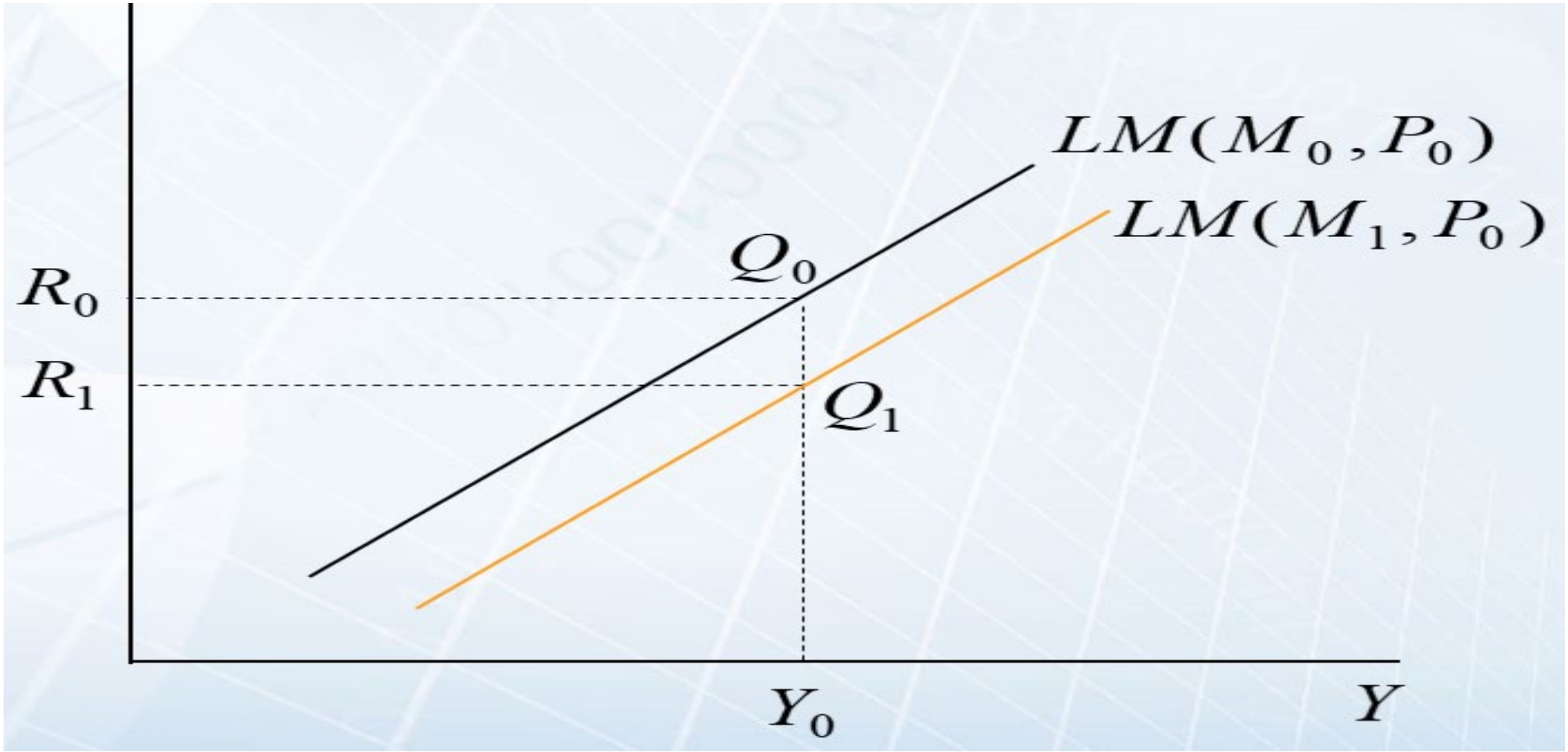
$$if \quad dM \neq 0 \quad dP \neq 0$$

$$\frac{dY}{dM} = \frac{1}{L_Y} > 0, \qquad \frac{dY}{dP} = -\frac{M}{L_Y} < 0$$

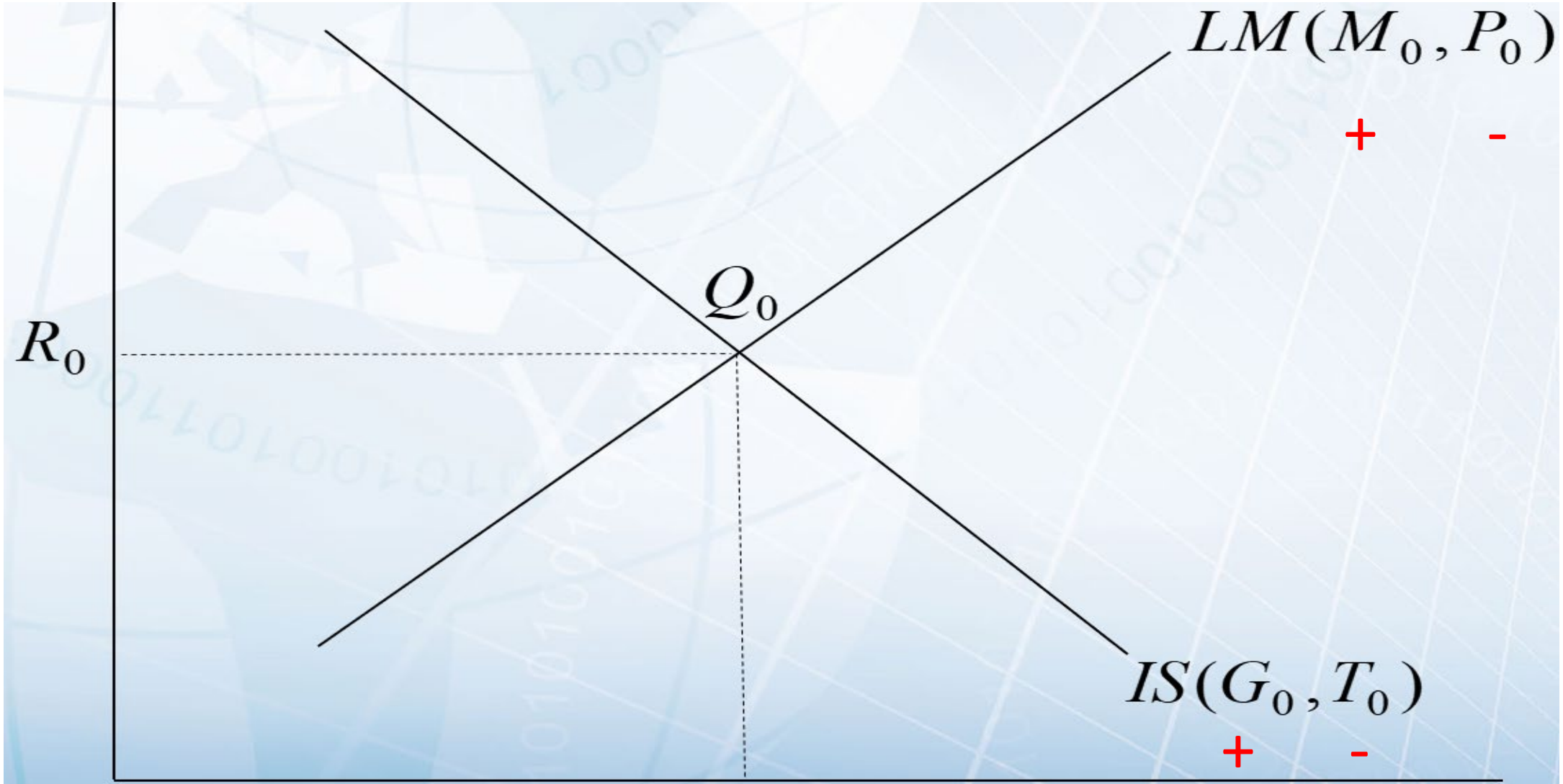
LM曲線



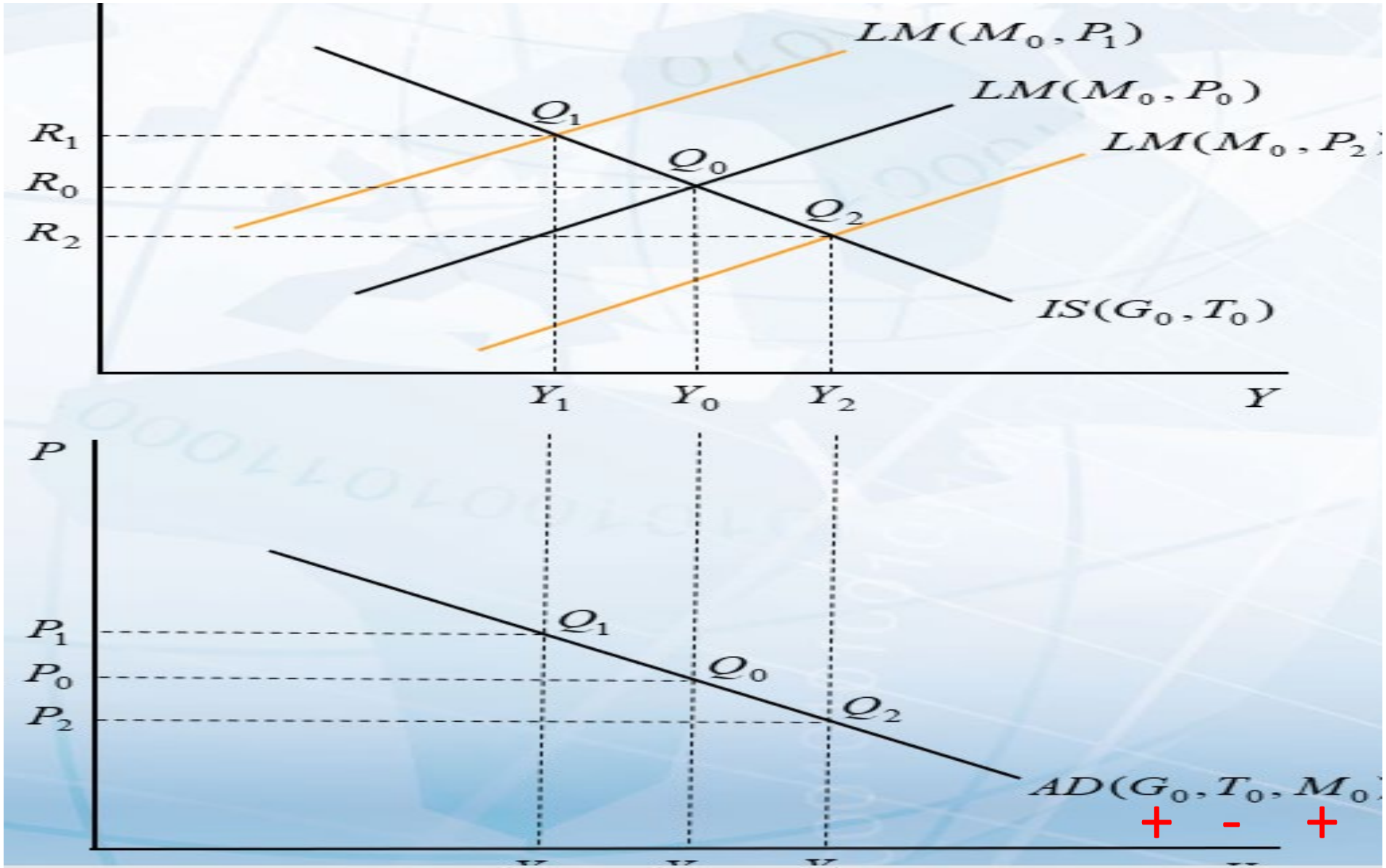
M增加 (M_0→M_1) 曲線右移



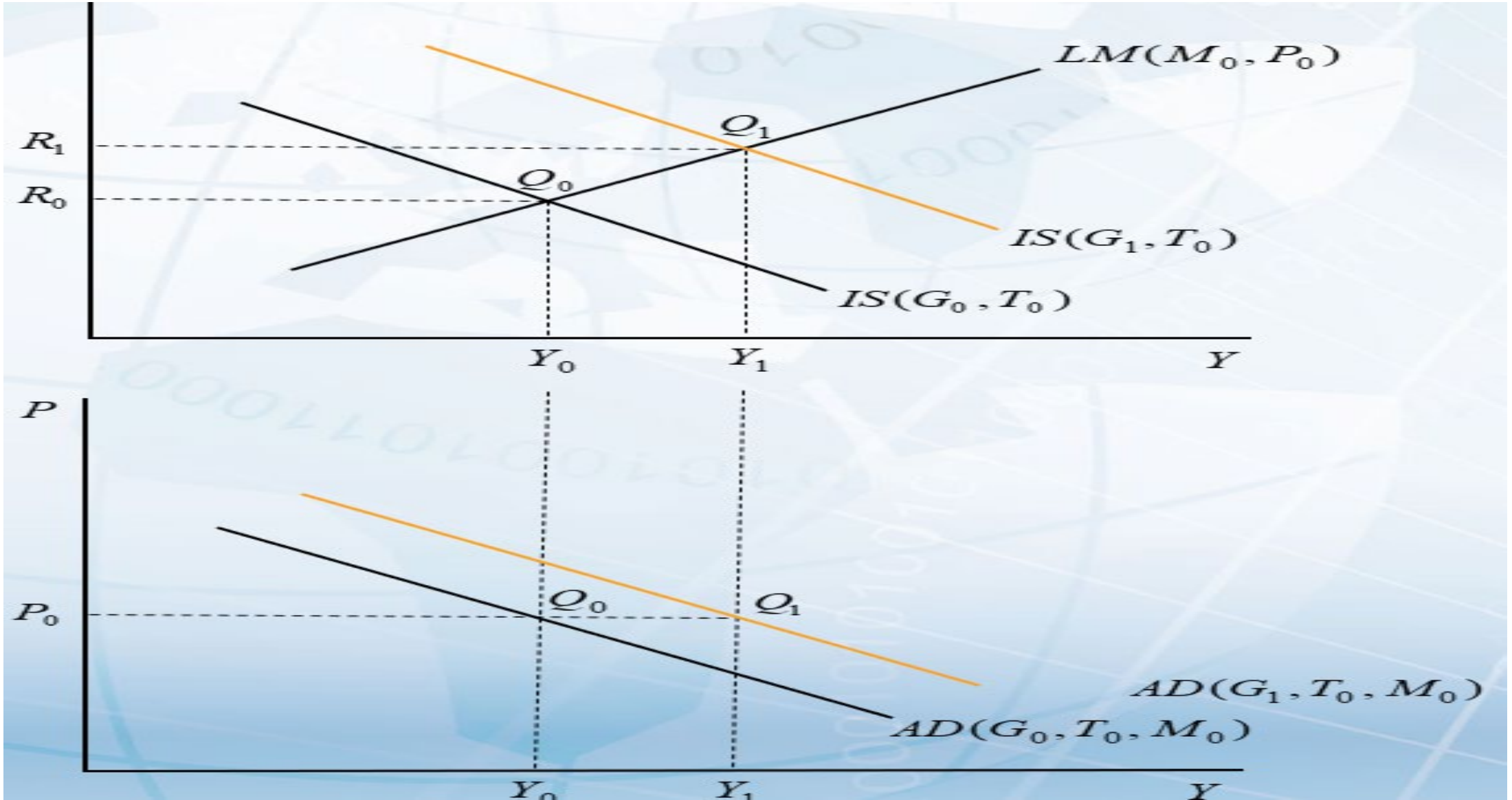
商品、貨幣、債券都是屬於需求面



結合總需求並轉為橫軸Y縱軸P



練習：G增加則AD右移，餘類推



假設總供給AS為正斜率，完整模型