Simplest possible model for income distributions

- Two countries: Home (H) and Foreign (G)
- Two goods: Clothes (C) and Food (F)
- *Two* factors: Land (t) and Capital (k)
- Different from textbook (three factors)!
- Home endowment of land T less than foreign T^*
- Home endowment of capital K greater than foreign K^*

Two factor model

- Specific factors
  - Income dist.: different people own Land and Capital
  - Capital is used *only* to make clothes
  - Land is used *only* to make food
- Production technology
  - Clothes: $f_C(k) = \frac{k}{a_C}$
  - Food: $f_F(t) = \frac{t}{a_F}$
  - Same technology in both countries

Production Possibilities Sets

Payments to factor owners

- Like wages last time
- Capital gets $r_k = \frac{P_C}{a_C}$
- Land gets $r_t = \frac{P_F}{a_F}$

Equilibrium prices

- As last time, relative demand and supply

Equilibrium Gains from Trade

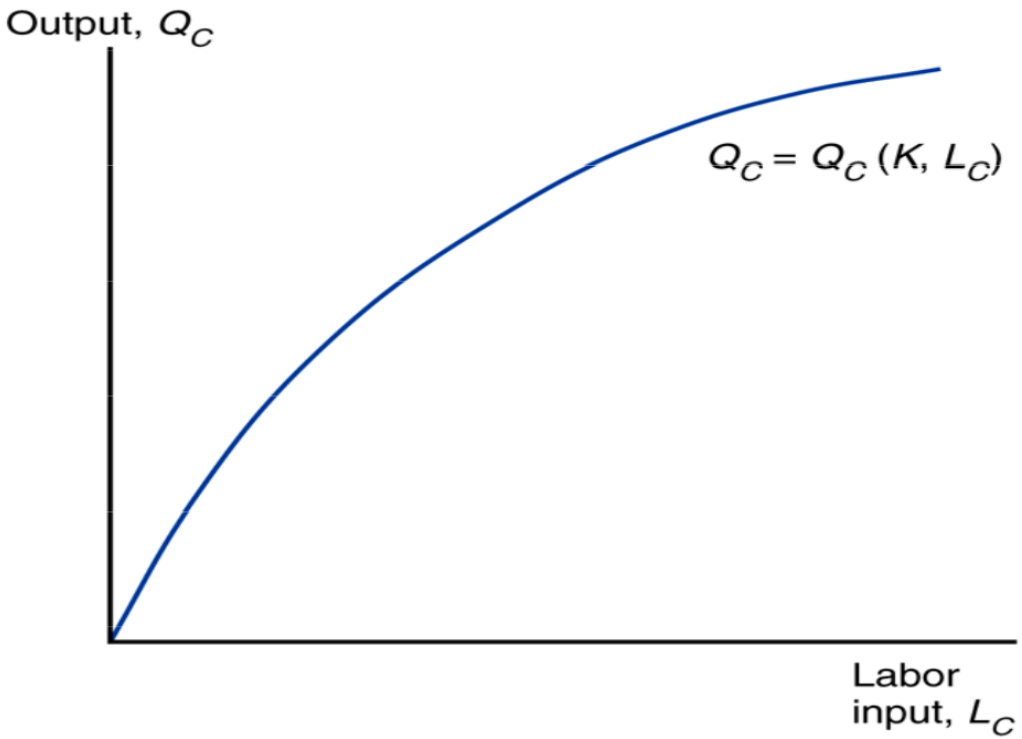
- autarchy home price ratio $< \frac{P_C^e}{P_F^e} <$ autarchy foreign price ratio

	Input	Clothes	Food
Home capital owner	One unit of capital	$\frac{1}{a_C}$	$\frac{P_C^e}{P_F^e}\frac{1}{a_C}$
Home land owner	One unit of land	$\frac{P_F^e}{P_C^e}\frac{1}{a_F}$	$\frac{1}{a_F}$

- Home capital owner gains from trade, but home land owner is hurt!

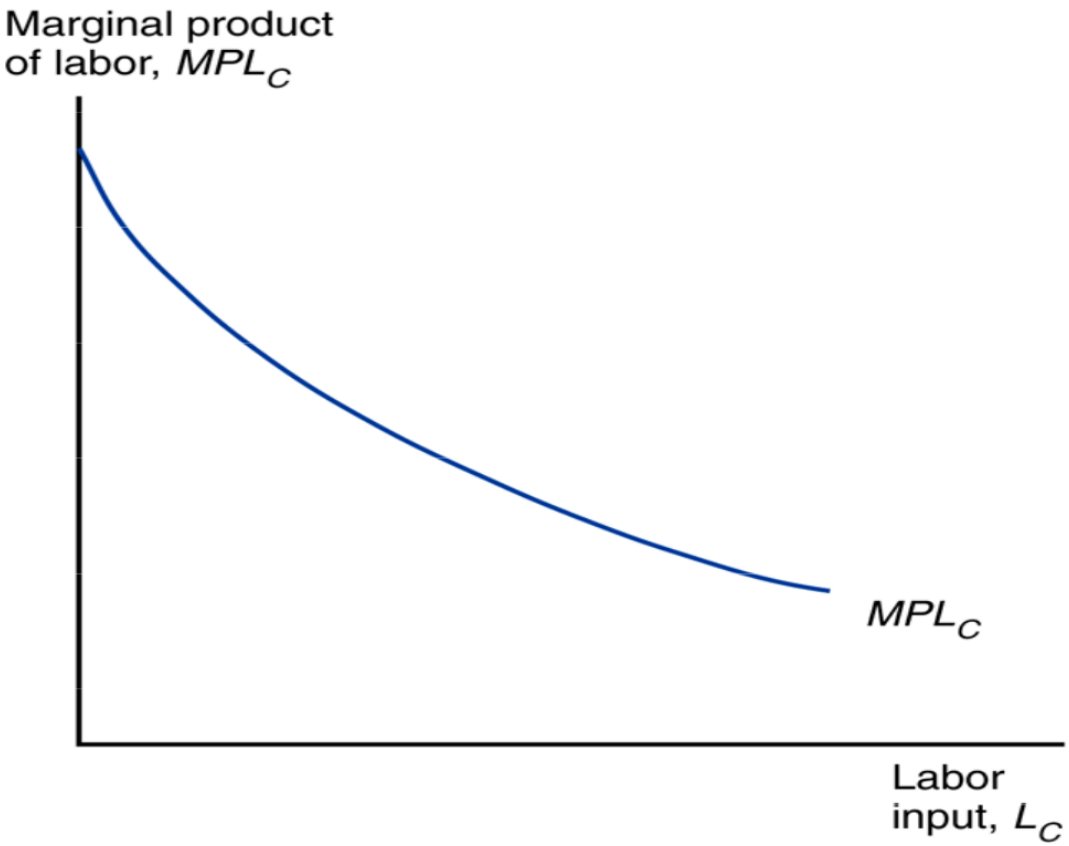
Production function

- Clothing, fix capital at K

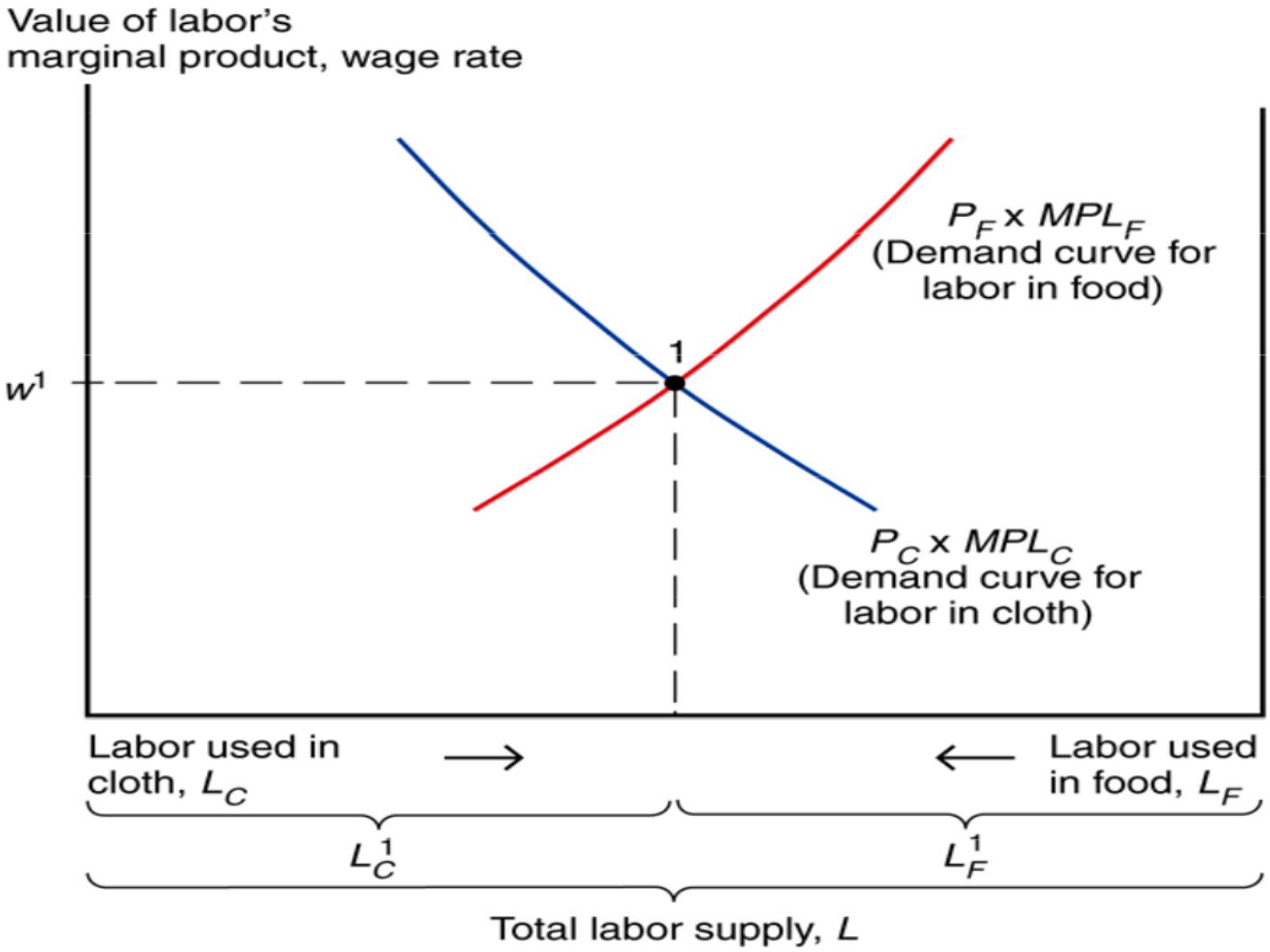


Decreasing MPL

- Clothing, fix capital at K

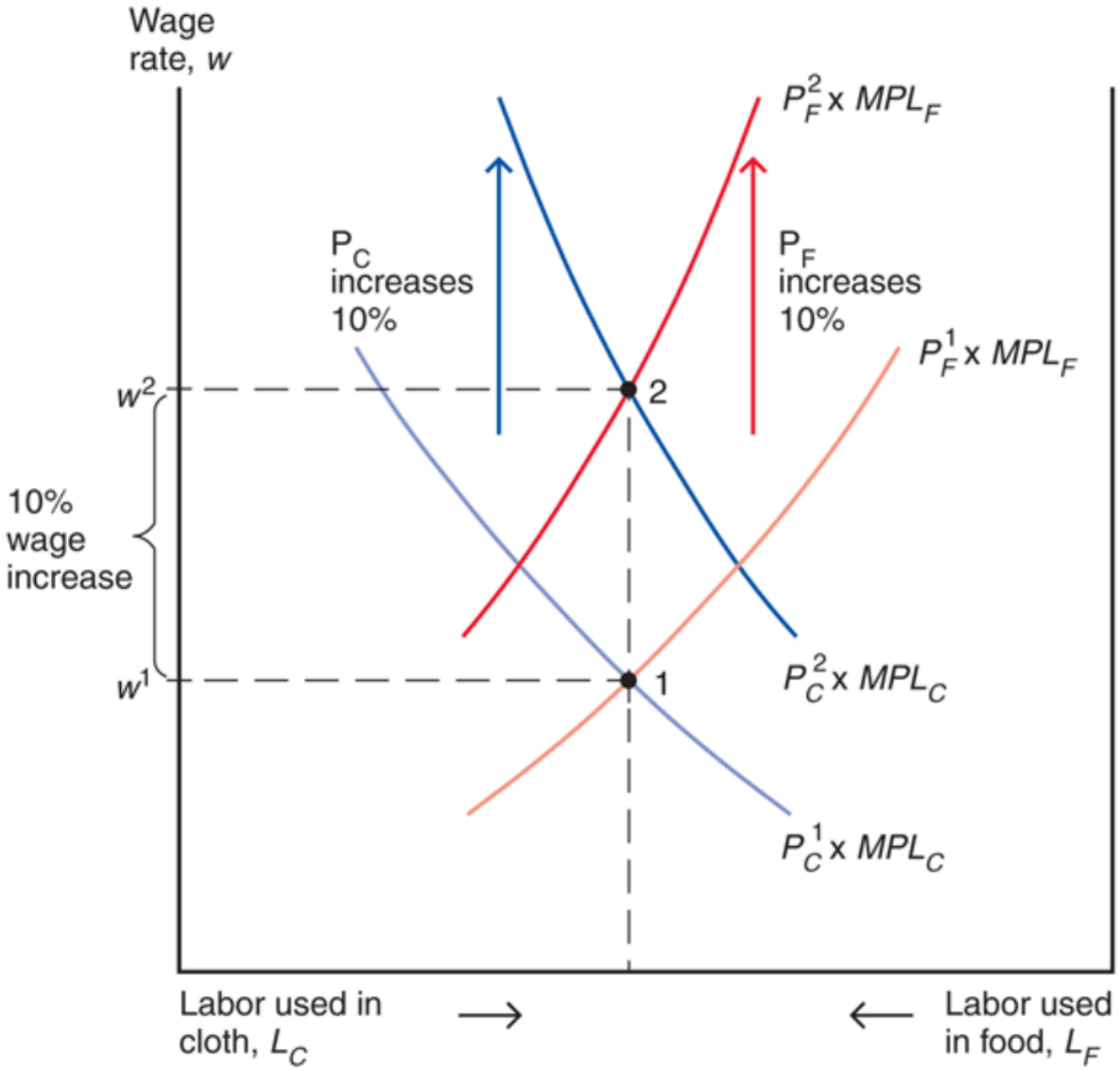


Graphical Autarchy wage



Price changes, labor allocation, and wages

- Proportional increase in wage, no labor allocation change

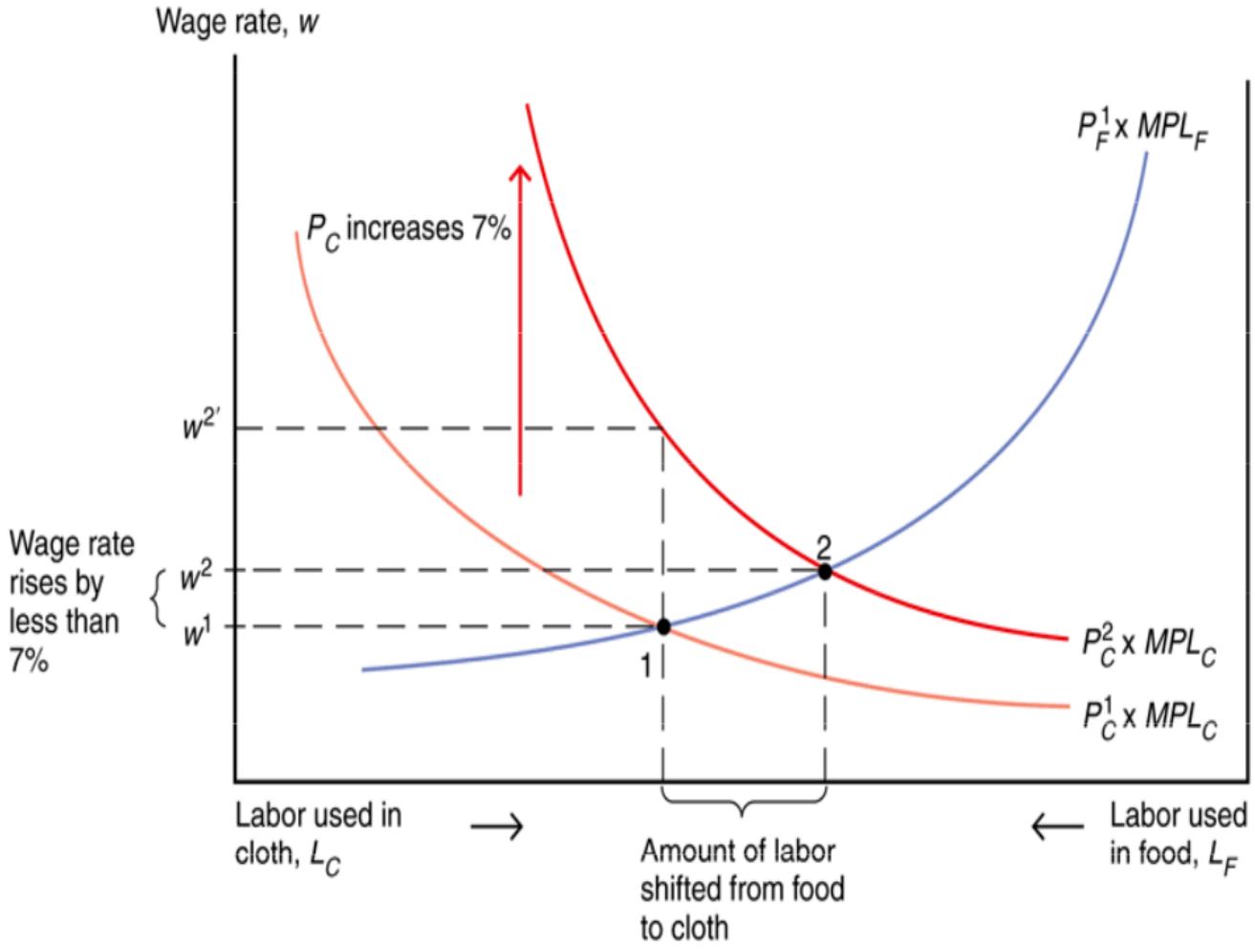


Price changes, labor allocation, and wages

- Proportional price changes
  - No one hurt, as all returns rise proportionally to price

Price changes, labor allocation, and wages

- Less than proportional increase in wage due to falling MPL

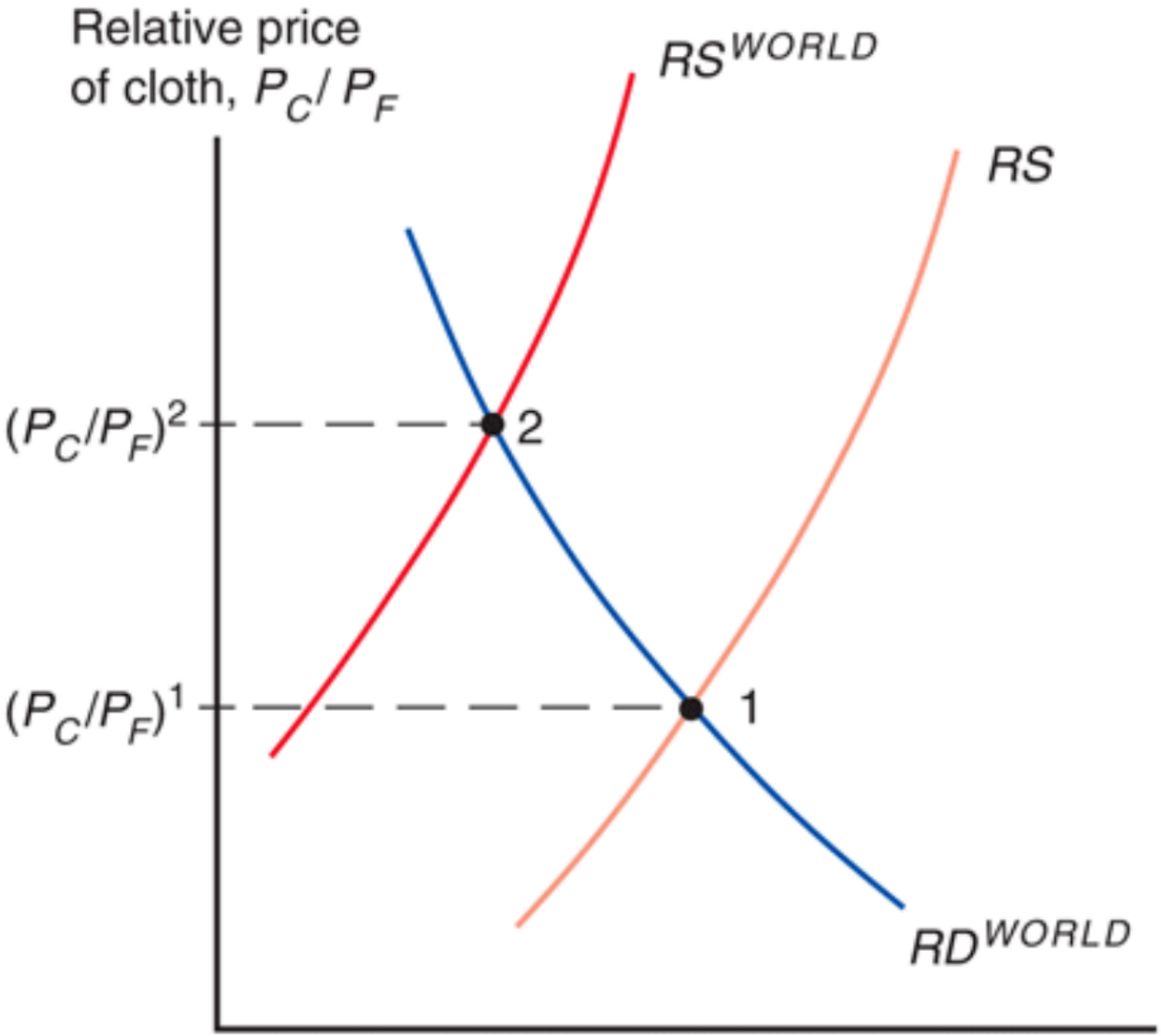


Price changes, labor allocation, and wages

- Rise in price of clothes relative to food
- Begin waving of hands
  - Labor
    - Wage rises, but price of clothes rises more!
    - Workers can afford more food, but less clothes
    - Indeterminent effect on welfare
  - Capital
    - Price of clothes rises $\rightarrow$ pushes r_k up.
    - What happens to the marginal product of capital when L_c increases?
    - Good reason to think that marginal product of capital should increase
    - However what if $Q_C(K, L_C) = (K - L)^2$?
  - Land
    - Price of food stays constant, but clothes now more expensive!
    - Textbook assumes that marginal product of land goes down as L_F decreases
    - Thus r_t goes down, and price of clothes goes up, so land owners hurt.

Trade equilibrium

- We can think of opening up to trade as a change in relative prices, in one direction or the other



International Migration