

	Rival	Non-rival
Exclud.	Private Good	Club Goods
Non-exclud.	Common <sup>*</sup> Property	Pure <sup>*</sup> Public

↳ private solution unless open access

Fig 5.5

Fig 5.6

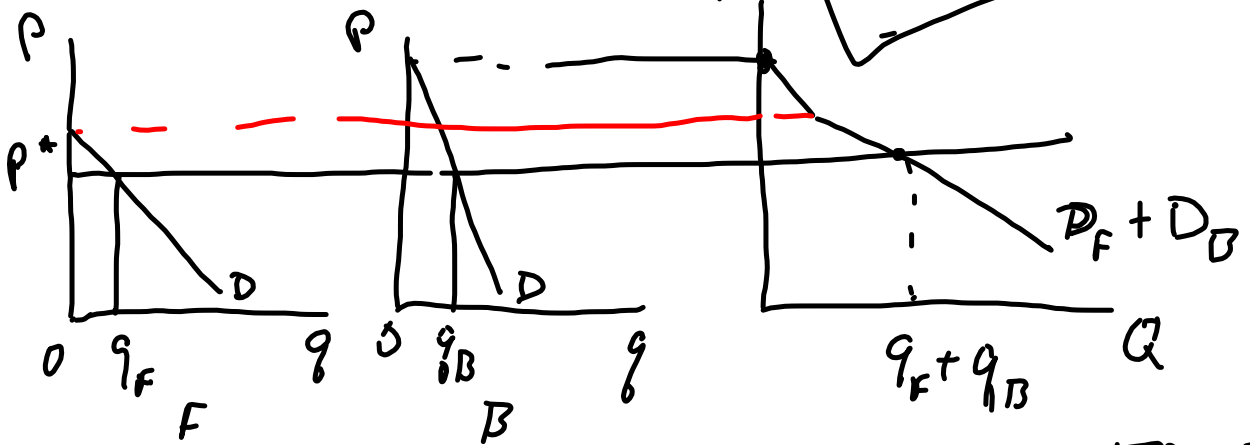
examples

Public Good ]  
 " Bad ]

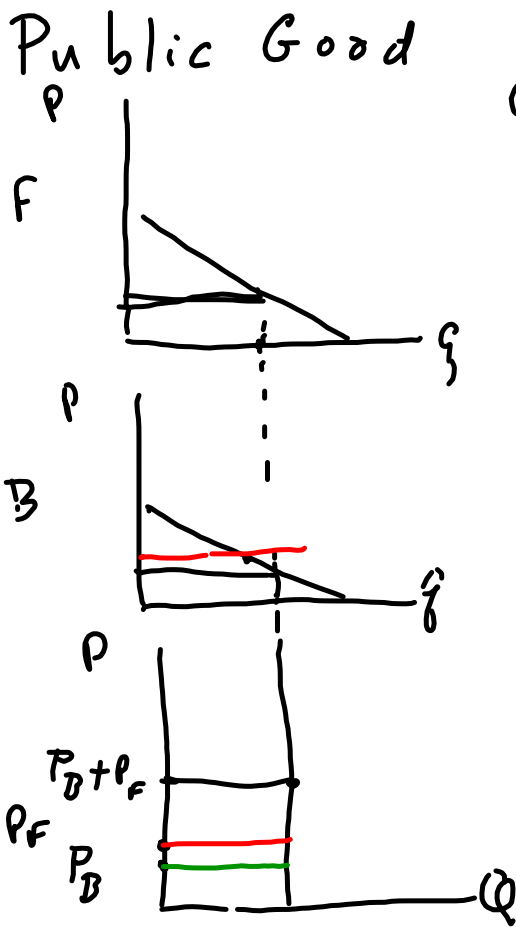
Public Goods  
→ efficient level.

Private Good

sum  $q$   
 $P = p^* q$  for  
all consumers!



$$WTP_F + WTP_B = WTA = P^*$$



$$Q = q$$

$$P_F \neq P_B$$

each pays WTP

Price = Marginal Benefit.

$$\text{If } P_B = P_F$$

then B will want less

$$\text{set } P = \frac{P_B + P_F}{2}$$

Free riding → perception that  $Q$  won't fall if I don't pay

production  $Q = \alpha \cdot \sum_{i=1}^n q_i$

		B	
		C	NC
F	C	4, 4	1, 5
	NC	5, 1	2, 2*

$Q = 6$  net 4 because  $c = 2$

$\alpha$  - cons. surplus multiplier  
 each  $q \rightarrow 0, 2$   
 $\sum q_i = 4 \quad \alpha = 1.5$   
 $Q = 6$   
 $\sum q_i = 2 \quad Q = 3$   
 NC, C  $5 > 4$

\* Nash Equil.

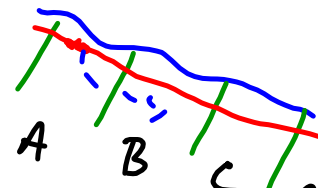
NC → dominant strategy  
 Best response to all opponent's play

# Production Function

$Q = \alpha \cdot \sum_i q_i$  - linear public - free ride dominant strategy

$Q = \min \{q_i\}$  - weak link less free riding

for  $i$   $q_i \uparrow$  if  $q_i < q_j$



$Q = \max \{q_i\}$  - best shot easy riding

if  $q_i < \max q$   $q_i = 0$

$Q = \begin{cases} z, & \sum_i q_i \geq TH \\ 0, & \sum_i q_i < TH \end{cases}$  If  $\sum q_i < TH$  everyone is pivotal. NE  $\sum q_i = TH$  provided.

Q 1 p 110

Huck

Matilda

Section V. pp 103 - 108









