

10-27-09

- MORE ON IPR
- DEARDONFF MODEL

BASIC WORDS

IP = CREATION OF HUMAN MIND

IPR = LEGAL RIGHTS GOVERNING THESE CREATIONS.

4 PRIMARY FORMS :

- ① PATENT
- ② RIGHTS TO INDUSTRIAL DESIGNS
- ③ TRADEMARKS (RELATED TO GEOG. INDICATORS)
- ④ COPYRIGHTS

FROM NOW ON,
FOCUS ON PATENTS

INTERNATIONAL SCENARIO

IPR REGIMES WERE
VERY \neq UNTIL THE 90'S

ISSUES OF DISCUSSION :

- 1) HARMONIZATION?
- 2) EXCEPTIONS? (SECTORS?)
- 3) EFFECTS OF INNOVATION & WELFARE.

DEARDORFF :

2 COUNTRY MODEL (NORTH-SOUTH)
STUDIES 2 REGIMES:

- ONLY NORTH PROTECTS IPR'S (SOUTH ONLY USES THE DISCOVERIES)
- IPR'S ARE PROTECTED IN BOTH COUNTRIES

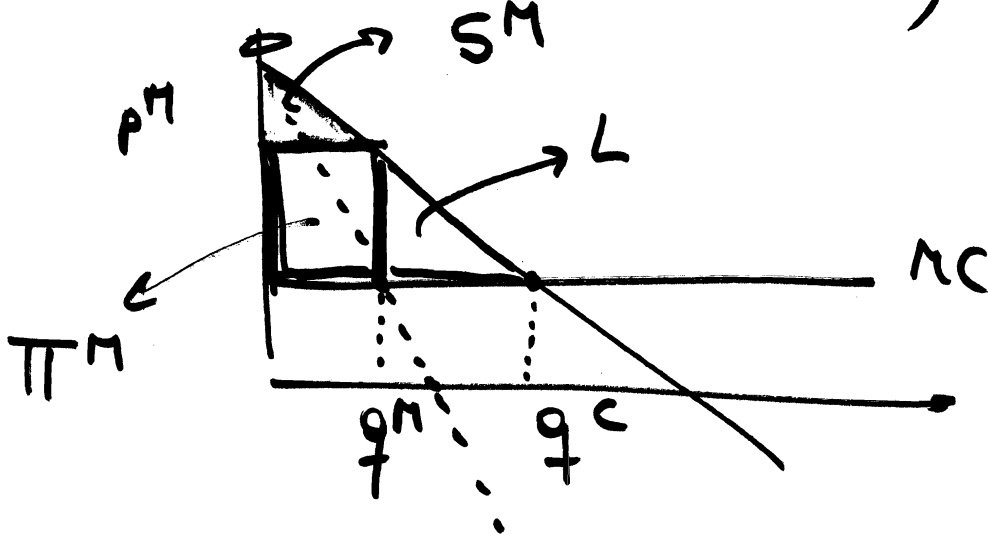
QUESTIONS :

- EFFECTS ON INNOVATION
- " " WELFARE (COUNTRIES & WORLD)

BACKGROUND

CLOSED ECONOMY

MONOPOLY INCENTIVES,
 COMPARED TO SOCIAL
 PLANNER INCENTIVES
 (STATIC MODEL)



$SM = CS$ UNDER MONOPOLY

$\pi^M =$ PROFITS " "

$L =$ DEADWEIGHT LOSS ASSOCIATED WITH MONOPOLY

UNDER A SOCIAL PLANNER:

$$WELFARE = SM + \pi^M + L$$

ASSUME RED COST OF \heartsuit FC

MONOPOLIST WILL UNDERTAKE

R&D IF:

$$\pi^M > FC$$

SOCIAL PLANNER

WILL UNDERTAKE R&D IF: $W = SM + \pi^M + L > FC$

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PATENTS ARE AN "IMPERFECT"
DEVICE SINCE SOME
INNOVATIONS THAT ARE
SOCIALLY DESIRABLE
WILL NOT BE UNDERTAKING
BY THE MONOPOLIST
EN

CLOSED ECONOMY
SINGLE INVENTION

BASIC SET UP:

R = R&D COST

C = MARGINAL COST OF PRODUCTION

n IDENTICAL CONSUMERS

LINEAR DEMAND

INTUITION:

SPEND R → GET PRODUCT
ANYONE CAN
PRODUCE IT AT MC = C

(2)
$$p = a - \frac{b}{n} q$$

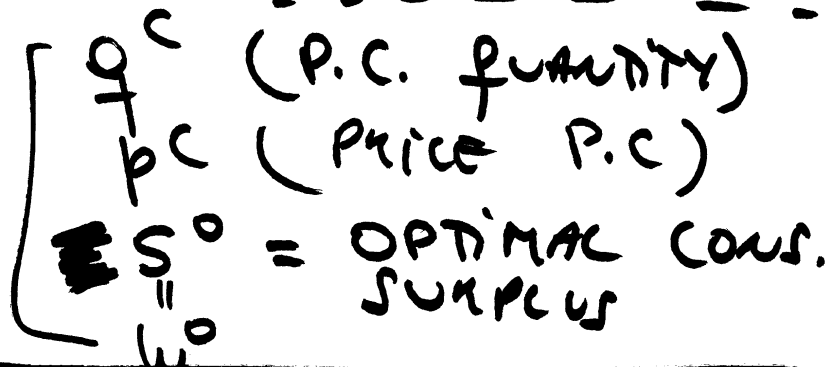
WHERE:

$q = n \cdot q_i$

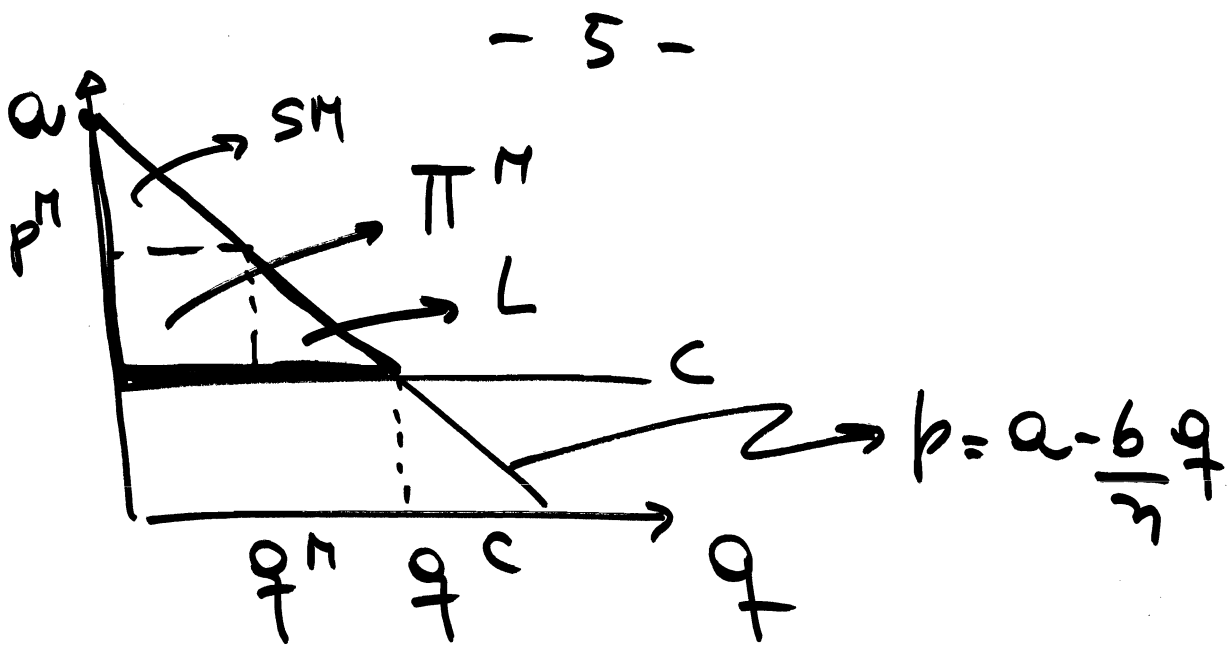
(1) $p = a - b q_i$

CALCULATE:

OPTIMAL



MONOPOLY: $q^M, p^M, \pi^M, S^M, W^M$



P.c : $p = c$

$$a - \frac{b}{n}q = c \Rightarrow \boxed{q^C = \frac{n(a-c)}{b}} \quad (3)$$

(4) $\boxed{S^0} = \frac{(a-c) \cdot q^C}{2} = \frac{(a-c)^2 n}{2b}$

$\boxed{p^C = c}$

MONOPOLY :

(6) $\boxed{q^M = \frac{(a-c)n}{2b}}$ $\boxed{p^M = \frac{a+c}{2}}$ (7)

$\boxed{\pi^M = \frac{(a-c)^2 n}{4b}}$ (8)

$\boxed{S^M = \frac{1}{8} n \frac{(a-c)^2}{b}}$ (9)

LOOKING AT EQUATIONS

$$\pi^M = \frac{1}{2} S^0 \quad (8')$$

$$S^M = \frac{1}{4} S^0 \quad (9')$$

WELFARE MONOPOLY

$$W^M = S^M + \pi^M = \frac{3}{4} S^0$$

WELFARE LOSS FROM MONOPOLY (DEADWEIGHT LOSS)

$$L = W^0 - W^M = S^0 - \frac{3}{4} S^0 = \frac{1}{4} S^0$$

DECISION TO UNDERTAKE INVENTION:

INVEST IF	{	<u>MONOPOLY</u> : IF R ≤ π^M
		<u>PLANNER</u> : IF R ≤ S ⁰

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IN OTHER WORDS :
MONOPOLY INVESTS IF

$$\frac{\pi^M}{R} \geq 1 \Rightarrow \frac{1/2 S_0}{R} \geq 1 \Rightarrow \boxed{\frac{S_0}{R} \geq 2}$$

USING (8')

PLANNER INVESTS IF :

$$\boxed{\frac{S_0}{R} \geq 1}$$

LET :

$$R_0 = \frac{S_0}{R} = \text{OPTIMAL CONSUMER SURPLUS PER UNIT OF RESEARCH DOLLAR}$$

THEN MONOPOLIST
WILL UNDERTAKE IF

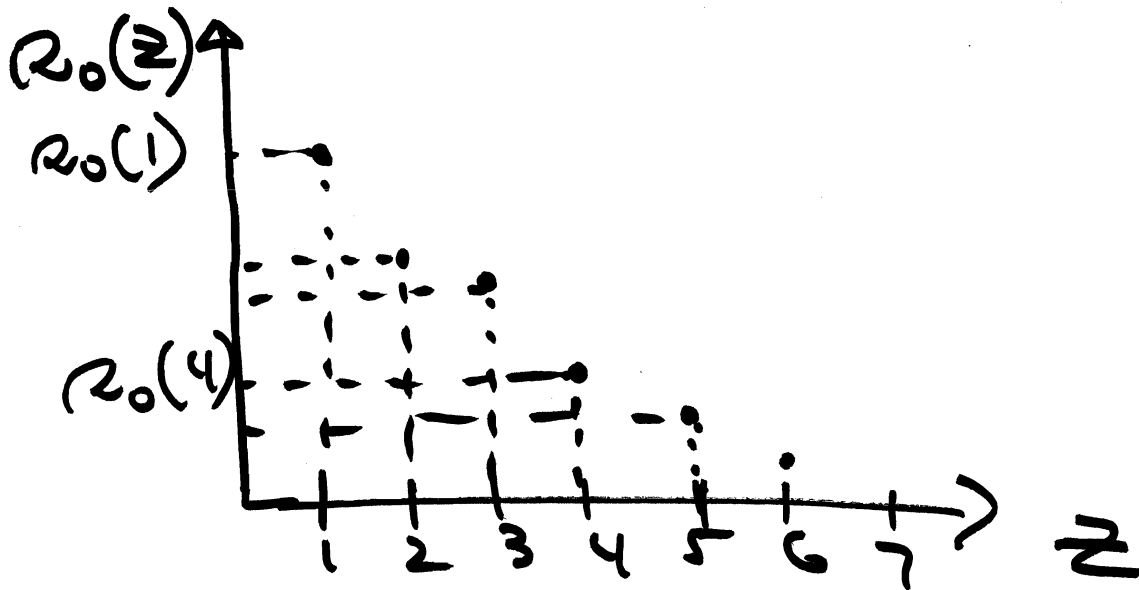
$$R_0 \geq 2$$

PLANNER WILL UNDERTAKE IF

$$R_0 \geq 1$$

-P-

MULTIPLE INVENTIONS IN A SINGLE COUNTRY



RANK z ORDER
INVENTIONS ACCORDING TO
THEIR R_0 'S, THOSE
WITH HIGHER R_0 'S ARE
THE LOWER NUMBERS