

PUBLIC POLICY TOWARDS ENTREPRENEURSHIP AND INNOVATION

— INSIGHTS FOR REGIONS —

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- Entrepreneurs are the engines for regional economic growth in a capitalist economy.
 - They organize production.
 - They employ new production techniques.
 - They bring new products to the market.
 - They do all of these for their self-interests.
- If we are going to have regional development plans, we have to focus on entrepreneurship.
- The big question: What kind of policies are needed for better entrepreneurial sectors?

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- Self interests of entrepreneurs do not always coincide with the goals of the region.
 - Not all entrepreneurs are the same.
 - Externalities and other market failures.
- Two examples:
 - 1 **R&D TAX INCENTIVES:** Sometimes we might want to tax R&D investments to increase the R&D investment carried out by entrepreneurs (Inci, 2005).
 - 2 **THE QUALITY OF ENTREPRENEURS:** Sometimes a tax on entrepreneurs is desirable to be able to increase the quality of entrepreneurs in the economy (Inci, 2006).

- It is in society's interest to tax R&D investment in some cases.
- A tax on R&D does not necessarily result in a lower equilibrium level of R&D investment.

Economic Environment

- 1 Oligopolistic industry: a few firms in the industry with market power
 - Markets are usually oligopolistic in the industries that engage in large amounts of R&D investment.
 - Why? Because, new entrants have to bear high R&D costs to enter.
- 2 Technological spillovers
 - Firms make process R&D (to decrease the cost of production).
 - All other firms benefit from the R&D investment of the firm.

- Firms' goal is to maximize profits

$$\textit{profit} = \textit{total revenue} - \textit{total cost} \quad (1)$$

$$\textit{total cost} = \textit{cost of production} + \textit{cost of R\&D} \quad (2)$$

- The government's goal is to maximize social welfare

$$\textit{social welfare} = \textit{surplus of the consumer} + \textit{industry profits} \quad (3)$$

- In the absence of government policy

market outcome \neq outcome of social welfare max.

WHY?

- 1 Technological spillovers
 - Free ride on others' R&D investment.
 - Invest **too little** in R&D.
- 2 Oligopolistic industry
 - Strategic interaction between the firms.
 - Produce too little output due to market power.
 - Invest **too much** in R&D per unit of output to gain competitive advantage.

R&D TAX INCENTIVES

THE CASE OF AN R&D SUBSIDY

- When the technological spillovers are high, there is R&D subsidy.

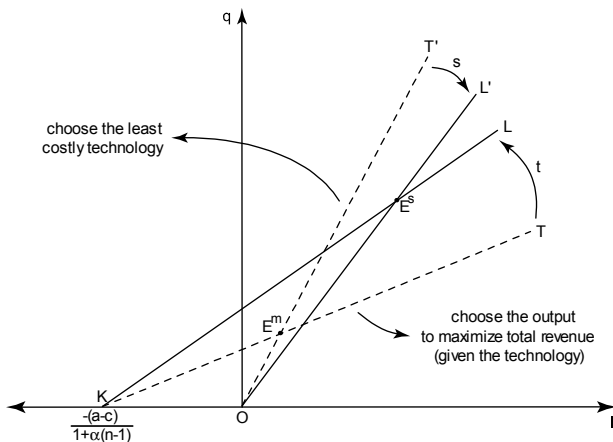


FIGURE: R&D Subsidy

R&D TAX INCENTIVES

THE CASE OF AN R&D TAX

- When the technological spillovers are low, there is R&D tax.

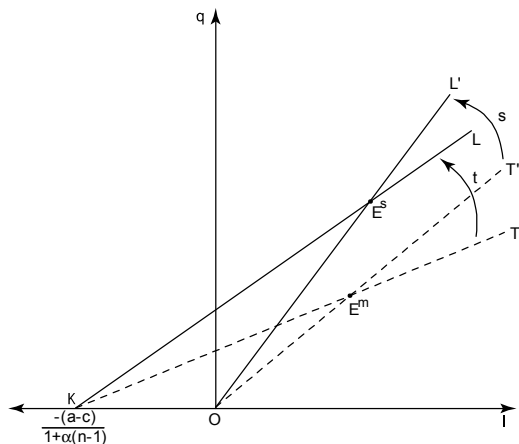


FIGURE: R&D Tax

R&D TAX INCENTIVES

TAX-SUBSIDY POLICY

- A tax on R&D is more likely when the industry is highly concentrated and the spillovers are sufficiently low.
- Some industries have both low spillovers and high concentration.

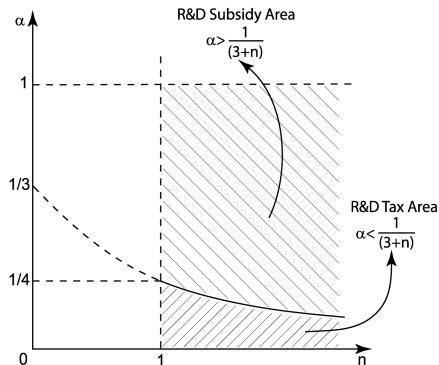


FIGURE: Optimal Subsidy and Tax Subspaces

- Sometimes, one good entrepreneur is better than two bad entrepreneurs.

Economic Environment

- 1 Two types of individuals in terms of entrepreneurial ability: high-ability and low-ability
- 2 Individuals know their own types, but neither banks nor the government know them.
- 3 Every agent has some wealth which differs among agents (denoted by A).

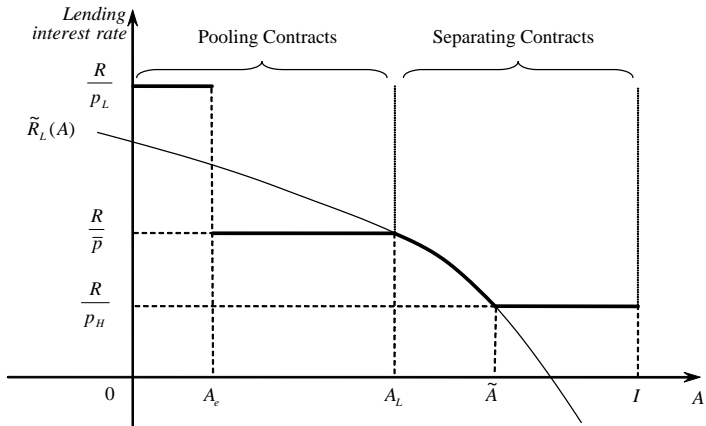
THE QUALITY OF ENTREPRENEURS

OCCUPATIONAL CHOICE

- Individuals choose their occupations: entrepreneur or worker.
 - A loan is required to become an entrepreneur (borrow $I - A$).
 - Workers: deposit wealth to the bank and work for a firm.
 - Entrepreneurs: use own wealth to start business and get the rest from the bank.
- Low-ability individuals do not have a worthy project.
- Low-ability individuals may be tempted to get a loan and start their own businesses to make use of the fact that banks cannot identify between types.
- Banks offer various contracts depending on the wealth of an individual.

THE QUALITY OF ENTREPRENEURS

TAX-SUBSIDY POLICY



Poor
H: worker
L: worker

Lower-middle
H: entrepreneur
L: entrepreneur

Upper-middle
H: entrepreneur
L: worker

Rich
H: entrepreneur
L: worker