

Economics of Information

LECTURE 2

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Information and production

- information is an economic good: it is costly and valuable
- a firm can purchase information, or it can expend resources in research and development to wrest it from nature

BUT

- the way information enters the production function is different than the way other goods do
- the same piece of information can be used over and over again, by the same or a different producer, regardless of the scale of production

Arrow (1996)

- increasing returns can occur for other reasons than information
- but with information, constant returns are impossible

Information and production (cont'd)

information as a choice variable

information is a *signal*, i.e. an observed random variable which may be of no economic interest itself but which is not independent of unobserved variables which affect benefits or costs

- the cost of information is related to its accuracy
- information is often about *rates* (e.g. returns on securities, unit costs...)
- then, the cost is independent of absolute magnitudes

BUT

- the *value* depends on the scale of its utilisation
- e.g. gross income \propto scale of utilisation \perp cost of information
- reasonably, demand for information increases with scale
- then uses on high scale are more accurate than uses on low scale

THEN

- also the expected rate of return increases with scale !

Information and production (cont'd)

“the presence of increasing returns leads to the conclusion that the opportunity to acquire information about investments leads to a situation in which the rate of return to investment rises with the amount invested” [ibidem, p.125]

- this mechanism can explain part of the inequality of income
- departures from equality are self-reinforcing !

Example: process innovation

- extensive search for lower unit costs is economically justified only if the new process is applied on a large scale
- the larger the scale, the lower the unit cost because of more R&D
- justifies endogenous theories of economic growth

Thank you for your attention!

see you tomorrow
Wednesday, 20th March
h. 17:00 – Aula 6

