

Asymmetric Information: Signaling

Verifiable Information

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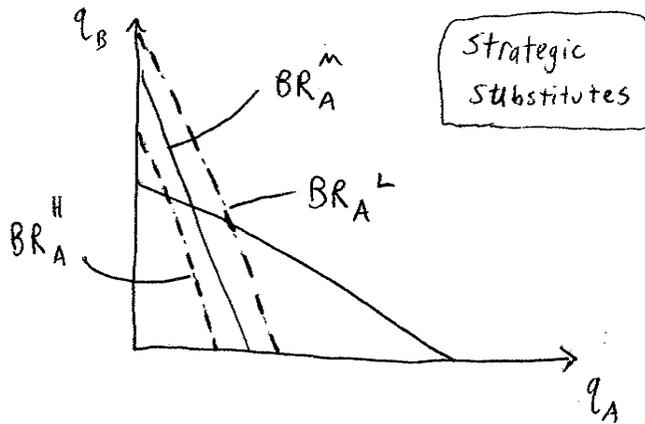
Firm B has costs c^m

Firm A has costs $\begin{cases} c^H = c^m + x \\ c^m = c^m \\ c^L = c^m - x \end{cases}$

Firm B knows only its costs

Firm A knows both costs

Firm A can costlessly and verifiably reveal its costs to B



If c^L then reveal

Therefore c^m reveals as well to prevent being mistaken for c^H

Therefore c^H "is revealed"

informational unraveling

Lesson lack of a signal can be informative

"silence speaks volumes"

Verifiable

Not verifiable - costly signaling

G-workers = 50 (productivity) 10%

B-workers = 30 (") 90%

Firms compete for workers, so

pay 50 to workers they identify as G

30 B

32 to a worker they cannot identify

Main signal is Education (Spence)

MBA suppose that the cost^{per} year of MBA-educi.

$\left. \begin{matrix} 5 \text{ if G worker} \\ 10.01 \text{ if B worker} \end{matrix} \right\} \begin{matrix} \text{not fees} \\ \text{not opportunity costs} \\ \text{pain of work} \end{matrix}$

I claim there is an equilibrium in which

degrees take 3 years

G-workers all get MBAs

B-workers do not

and the employers identify $\begin{matrix} \text{MBA} = G \\ \text{not MBA} = B \end{matrix}$

To check

Separating Equilibrium

① Need to check no type will deviate

G-workers \rightarrow MBA \rightarrow id'ed as G \rightarrow payoff $50 - (3 \times 5) = 35$
 if deviate \rightarrow not MBA \rightarrow id'ed as B \rightarrow payoff 30 \checkmark

B-workers \rightarrow not MBA \rightarrow id'ed as B \rightarrow payoff 30
 if deviate \rightarrow MBA \rightarrow id'ed as G \rightarrow payoff $50 - (3 \times 10.01) \approx 20 \checkmark$

② Need to check that employers beliefs are consistent with equilibrium behavior \checkmark

How about a one-year MBA? ...

How about a one-year MBA?

Not an equilibrium

problem: B-workers

in the "equilibrium" \rightarrow Not MBA \rightarrow 30

if deviate \rightarrow MBA \rightarrow 50 (1x10.01)

\nearrow
identified as G $\approx 40 \times$

But two-year MBA will work

Need enough difference in cost for

G to get the degree

B not to want to do so

Lesson: a good signal needs to be
differentially costly across types

- qualification inflation

Lessons for Education

- (1) pessimistic - no learning, only pain
- (2) socially wasteful send professors to drive
dump trucks
- (3) increases inequality - hurts the poor