

N16. Business Location and Public Policy (Part 2)

Why do governments offer subsidies to attract business?

1. Common answer: jobs

- economic case requires some clear thinking as we will see below

2. Tax base. Fiscal Externalities

- new business may bring in more tax revenue than it costs, so a subsidy actually makes money
- argument is common

3. Leviathan

- government as whale, self-aggrandizing
- kick backs to government workers...

Base Case with no Externalities

- Capital K is mobile, has return r_{US} determined at the national level.
- Labor L° is immobile so fixed.
- Production function $F(L, K)$, constant returns to scale. Assume $MP_L = F_L(L, K)$ increasing in K .
- K^* No government intervention Value of the marginal product equals factor price. (See graph)

$$\frac{\partial F(L^\circ, K^*)}{\partial K} = r_{US}$$

..

- What is wage?

$$w^* = \frac{\partial F(L^\circ, K^*)}{\partial L}$$

- Wage bill equals:

$$w^* L^\circ = F(L^\circ, K^*) - r_{US} K^*$$

- Suppose place subsidy s on capital in MSP so that $r_{MSP} = r_{US} - s$.

- What happens to capital? See graph see that demand for capital increase. $K^{**} > K^*$

- What happens to wages?

$$w^{**} = \frac{\partial F(L^\circ, K^{**})}{\partial L} > \frac{\partial F(L^\circ, K^*)}{\partial L} = w^*$$

so wages increase with the capital subsidy?

- What happens to return to area Minnesotan?

$$\begin{aligned} \text{return} &= w^{**} L^\circ - s K^{**} \\ &= F(L^\circ, K^{**}) - r_{MSP} K^{**} - s K^{**} \\ &= F(L^\circ, K^{**}) - r_{US} K^{**} \\ &< w^* L^\circ \end{aligned}$$

so increase in wage is less than the cost of the subsidy.

- Same point that a subsidy leads to a deadweight loss triangle in a supply and demand figure (see graph).

- To make the “jobs” argument, need to argue that there is some kind of externality or spillover.

- This holds if

$$\text{wage} > \text{opportunity cost}$$

for marginal worker. So expanding quantity of labor raises local surplus. Holds if wages are not set competitively (e.g. through unions).

- Maybe externality if through other intermediate inputs. If land an auto factory, might increase demand for other local products. If $P > MC$, then local welfare increases
- Point: to make economic case for a subsidy, have to get out of the competitive world where $P = MC$

- Example of getting out of the competitive world: Strategic Trade Policy

- 2 oligopolistic firms, e.g. Boeing and Airbus, competing in a Cournot Duopoly
- Plot reaction functions
- A subsidy by U.S. to Boeing shifts out the Boeing reaction function. In equilibrium, Boeing grabs more share.
- The subsidy has a cost of distorting Boeing behavior. But it has the strategic benefit (to the U.S.) of inducing Airbus to reduce output, leaving more rents for the U.S. firm.