

How wide are the wider economic impacts?

On the overlap between standard CBA and
agglomeration benefits

by
Jonas Eliasson

Discussion by

Alex Anas

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Accessibility and wages

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- 1) “Average wages and wage rates will increase when commuting costs and times decrease”
- 1) Decreasing the commuting time & cost will make more workers choose to commute, which in itself increases average wage rates
- 2) More workers choosing to commute will increase wage rates for all downtown workers

Analysis

H : work hours (fixed just for now)

w : wage rate

N : labor (population)

$t(\delta, N)$: commuting cost (decreases with δ , increases with N)

V_0 : outside utility

$F'(N)$: marginal product of labor

$$\textit{Supply of labor} : V \left(\underbrace{Hw - t(\delta, N)}_{\textit{net income} \equiv Y} \right) - V_0 = 0$$

$$\textit{Demand for labor} : F'(N) - w = 0$$

BUT.....there can be a secondary effect of higher population

- If there are agglomeration effects as Marshallian externalities in production, then a higher labor supply can increase the productivity of each worker.

Wages without agglomeration

Effect	Agglomeration	How do wages change?	Reason	Example
1. More population	None	Decrease	Labor supply increases	Mexican labor in California
2. Higher consumption Amenity	None	Decrease	Compensating differential	Harvard assistant professors are paid less Gateway computer had to pay extra to attract workers to South Dakota
3. Lower cost of living; lower congestion; better accessibility	None	Decrease	Compensating differential	Firms in LA or Manhattan or Hong Kong may have to pay more to attract workers

Wages with agglomeration effects (1)

These are similar to Jonas's MODEL 1

Agglomeration effect	How do wages change?	Reason	Example
More variety in consumption	Decrease	Compensating differential	More restaurants are like more amenity
Better matching in labor market OR Statistical economies of scale	(1) I will accept a lower wage to move to a place I can be better re-matched if I quit (1) My productivity will be higher if I am better matched to a job, so my wage will be higher	(1) Compensating differential (2) Productivity of labor due to better matching	Diversified local economy; Heterogeneity of labor force and firms

Wages with agglomeration Effects (2)

*These are
similar to
Jonas's
MODEL 2*

Agglomeration effect	How do wages change?	Reason	Example
More ideas making each worker more productive	(1) If I can benefit from more ideas I will accept a lower wage (2) More ideas will make me more productive so my wage will be higher	(1) Compensating differential (2) Productivity of labor due to better matching	Working for Google OR A university where your colleagues are better than you are