R77-77 Rent as constraint on occupying space

Location theory is based on weight loss, overly.

If storage is oriented to point of variability; & industry requires storage; then mfg. will be resource-oriented or mkt-oriented depending on where is variability.

Probly an important neglected factor.

"Location theory" as thus far developed hardly includes considerations of timing, does it, & need to have storage near point of variability? Yet this is a paramount factor.

~~The present paper study purports to~~

Rent is more than a constraint on the use to which a given plot of ground ~~is~~ is put. It is also a constraint on how big the plot should be. ~~relation to the input used thereon or how intensively ex~~

It is, that is, a means of arbitrating the boundaries of holdings. In the broadest sense one might regard this as implicit ~~subsumed~~ in the "use" to which a lot is put, intensity being an aspect of use.

~~But~~ ~~Such~~ location thy does hence us put intensive uses on central lots.

~~But the reason~~

Not however for the convenience to others, but only to the user of the lot.

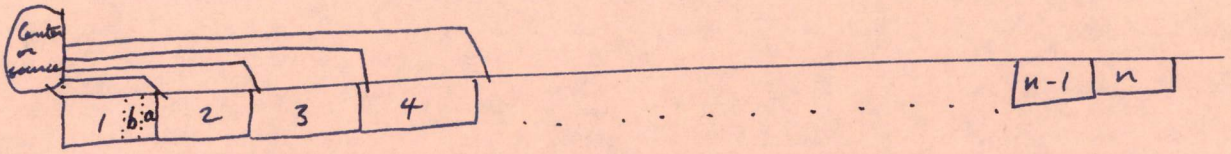
Neglected is the social rationale, the saving in xptn overhead by compactness. (If there were no overhead by only per cost, wd. it be adequate? I think not, there is something else here.) The cost imposed on No. 2 location is cost of traversing No. 1. No. 1 expands only so far as No. 2 will accept this. This cd. be treated w. small discrete increments. (but has it?)

Fn. of rent is not merely to locate land uses where they are most convenient for those who use them; also where least inconvenient for those who don't. The latter must bypass them to get where they want.

"Traversal cost."

It will be argued that this is subsumed. If so, still needs more explicit emphasis, to rationalize rent. But probly isn't. Answer is: ———

Return later, see if there is anything to say here. Location theory already tells us the ~~cost~~ premium on better lots is xptn cost imposed by moving to poorer lots is cost of traversing inner ones. So rent on a frontage reps cost of traversal. Premium of lot 1 over 2 is cost of traversing lot 1 ... by the user on lot 1 (not lot 2). Premium of 1 over n is cost of traversing lots 1 to n-1. Work out a linear scheme, supply of one utility.



Say a wtr system, pumping uphill. Cheap wtr at No. 1. gets 1 to use more wtr. But takes rent to get him to use less land.

Must assume a wtr rate rising continuously, & not discretely at boundaries. Otherwise when 1 sells a to 2, rate jumps, biases decision.

Rent arises internally in 1, also, bcs of internal distr. cost.

If lot 1 & 2 went out, this wd. ∆ cost to lot n, the mgnl one, and it wd. go out, in part at least. Thus rent serves further fn. beyond fn. of wtr price. Cheap wtr lets lot 1 take much wtr, as an option. Rent forces it to – thus benefiting ~~~ outer lands.

Rent converts the advantage to a fixed cost. Low variable, hi fixed cost, at center.

Location theory falls down by ~~assum~~ considering only pvt. costs of xptn, which are variable costs, to individ. ~~the xptn do not~~ (whether or not they include share of fixed costs.) But rent shd. also constrain ec. on fixed costs, social overhead.

But is there something else? Suppose pvt. costs = social costs. Suppose static demand etc., and MC = price, along line. srmc = lrmc < ac If 1 & 2 choose not to participate, for some reason, is their loss of rent equal to costs thus imposed on others?

Cost imposed on others is what? 1, higher mc all along line? Not necy, bcs it is ∆c that is falling. ~~But prdy somewhere along system, mc is~~ 2, Fewer to share fixed cost, ~~at both ends~~. Higher ac. If mc not increased, & you follow MC pricing, won't reduce demand at end.

Longer line.

Another possibility is congestion near center, Δg costs. Then cutting out 1 & 2 reduces costs to others? If so, extends net further, get Δg costs again along 3 & 4, no gain.

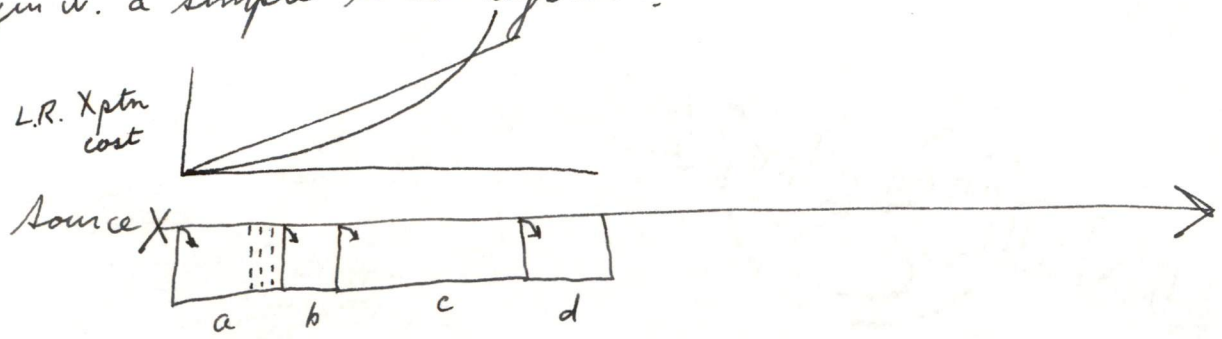
If costs imposed on 3 by 2 exceed premium rent, 3 buys out 2. But what about sum of costs imposed on 3 to n? Same holds for each individual down the line, but how about the sum of them?

Cost imposed by 1 & 2 is a longer line, when they extend frontage. If 1 & 2 pull out, or extend frontage ~~not~~ w/o taking more w/t, they reduce costs only a little, but reduce benefits of system much. Just how this wd be imposed on others depends on how system is fixed, but its quantity is determinable. Contrast, if n pulls out he reduces costs much.

If 2 buys out 3 & 3 moves to to n+1, cost of sptn is much higher.

[When systems are new & built ahead of capacity, by mc pricing outer areas are in relatively good shape. As move into older stage, rates rise relatively more further out, if they follow mc. This may play role ~~role~~ in amplitude of cycles (or out)

Begin w. a simple linear system.



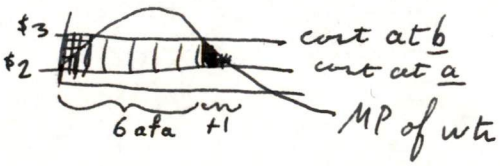
To min. xptn cost:

1. Make wtr cheaper to a than d, i.e. charge for xptn

2. Compensate by taxes on a's location, thus meet welfare principle (instead of uneconomically distrib welfare by uniform pricing) i.e. let a pay for frontage but not water; and d vice versa.

3. Assure that a is under pressure to economize on frontage commensurate with ~~his location~~ cost of transporting by it.

a will command more rent than b because of saving in xptn cost past a. The amount of Δd rent will = the saved xptn cost.



Roughly, anyway.

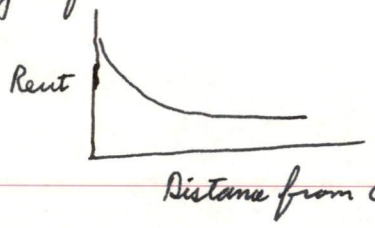
Say b pays $3/at, and a pays $2, and uses 6 at a rents for $6 more per year per acre. (+50¢ for the Δ wtr)

The extra $6/yr rent makes a use land more intensively. Suppose the acres are in strips as shown. Each strip he can dispense w. saves him $6/yr (and more if b is supra mgnl, but say b is mgnl). He either sells the strips until MP = $6/ay, or adds compl. inputs to same end.

(?f d is mgnl, & xptn cost higher there, maybe rent shd be Δ $6, l maybe it wd be, two)

What accomplish? He uses land more intensively, thereby brings in men from c&d land, thereby a, shortens lines; b, creates net gains from latent or dormant supramgnl rents.

E. M. Hoover, p. 93, assumes ecs. of "scale" in xptn are in length dimension only, (or mainly); and also is a breaking zone of change from short to long xptn. Hence rent gradient flattens as leave center, thus:



[?f so, economic space increases less than with r^2 as circle widens, ~~but~~ so in early boom there is not an Δ of land supply commensurate w. Δ radius. But in late boom there is, fooling people]

This indicates Hoover is thinking only of prt. costs. Public costs are otherwise. Or let's say fixed or r.e. costs. Bes. near center, bigger pipes, ecs. of scale; more constant use.

Chap. 2, Hoover goes into this at greater length. He distinguishes ~~xxxxxx~~ xptn rates from costs, and proceeds from there to explain land use. (More)

How reconcile mc prig in short run vs. imposg fixed cost on users?

He is not presuming, like the welfare ecsts, to say the results are ideal. and so perhaps shd not be taxed, except w. failing to care.

But he does say, p. 17, tho his illustrations are from freight xptn, "it shd. be kept in mind that other transfer mediums, e.g. telephone communication, behave generally in similar fashion."

Lösch, p. 453, points out % decline of rent becomes greater, tho, toward fringes, ~~as~~ [if xptn cost a distance, (and even if somewhat less than a)]

Lösch, p. 21. Poor ore attracts indy stronger than rich ore, bes is more weight lost in refining poor ore. I wd. add it takes more work to extract given amt of metal from poor ore, attracting popn. 3rd, poor ore land cheaper, more accessible, less comen & speen. So poor resources may attract cities, rather than rich ones. Except for the location resource.

Hoover has nothing on qn. of reducing frontage by intensive land use; nor does Lösch seem to.

If there were no-rent land, occupancy cd. be scattered w/o harm, ~~Bye~~ & there wd. be no centralizing tendency. In fact causation is opposite – if there is no centralizing tendency then there is no rent.

But there usually is centralizing tendency, except for exceptional few individuals. Therefore there is rent, even w/o respect to natural differences of fertility, based possibly on initial accident.

The natural centralizing tendency is not fully realized due to free public expansion of xptn & utilities, coupled w. land spec. at center. Scattered settlement on mgnl lands ∴ does not rep. a net preference for scatter

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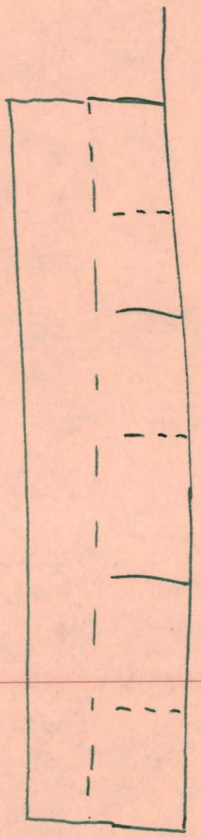
Bye, p. 30 ". . .the distinction between earned and unearned income . . .always has been founded basically upon the measure of performance, by the income receiver, of some necessary economic function, i.e. working, waiting, or risk-taking." Cites Dorau & Hinman, p. 494

What about argument that larger lots cost less per sq. ft?
Are there const. land costs? How do land costs relate to
supposed xpt costs?