

# Monocentric City with Heterogenous Groups; Discussion of LeRoy and Sonstelie

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3. How is the model set up? What are the main variables?

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Argues that these predictions are consistent with location patterns of rich and poor over a period of US history with significant innovation in transportation

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We assume cars are more costly in both fixed and variable costs,  $f^a > f^b$ ,  $c^a > c^b$ , but are faster  $t^a < t^b$

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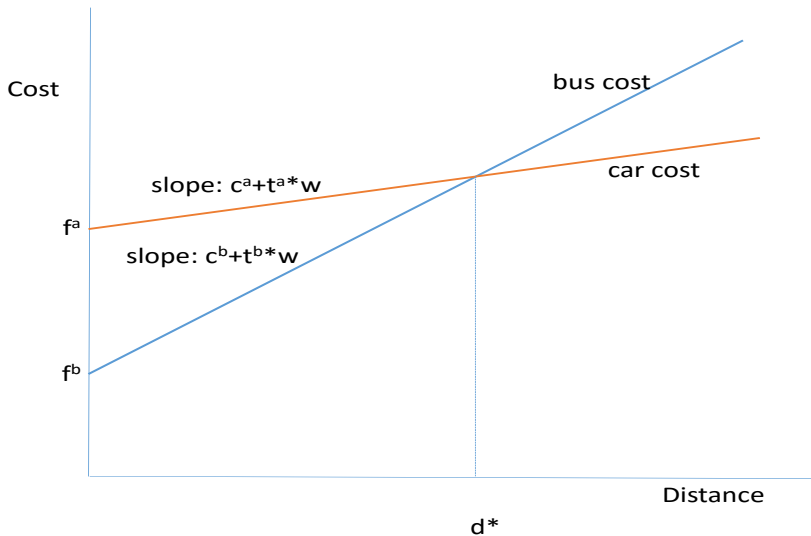
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Easiest to see this in a graph

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This Alonso-Muth condition replaces  $\tau$  with marginal commuting cost

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Note: housing is not a function of commute mode (parking might complicate this)

# Commuting Cost by Distance

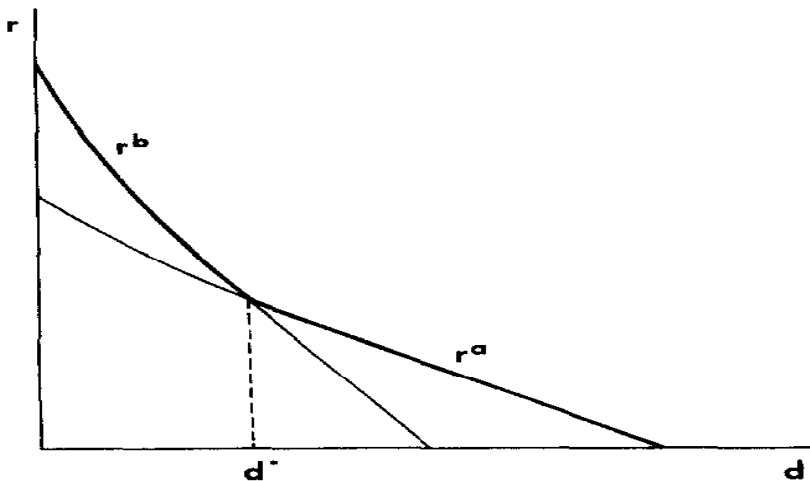


FIG. 1. The bid-rent function.

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We first examine the simple case of zero fixed costs in commuting—why is this simpler?

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Do the rich live in the center because their time is so valuable or do they live in the suburbs because they have high housing demand?

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Notice that  $\eta_c \approx 1$  when  $c_p = c_r$  and  $c_p$  is small

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Most interesting case is Paradise Lost: why do rich live in suburbs when poor can't afford cars but then in center when the poor also drive (Paradise Regained)?

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Notice that when the rich live in the suburbs they will enjoy low housing prices because there is no competition for space from the poor, who cannot drive

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This is the Paradise case where rich live in the center

# Paradise with Fixed Costs

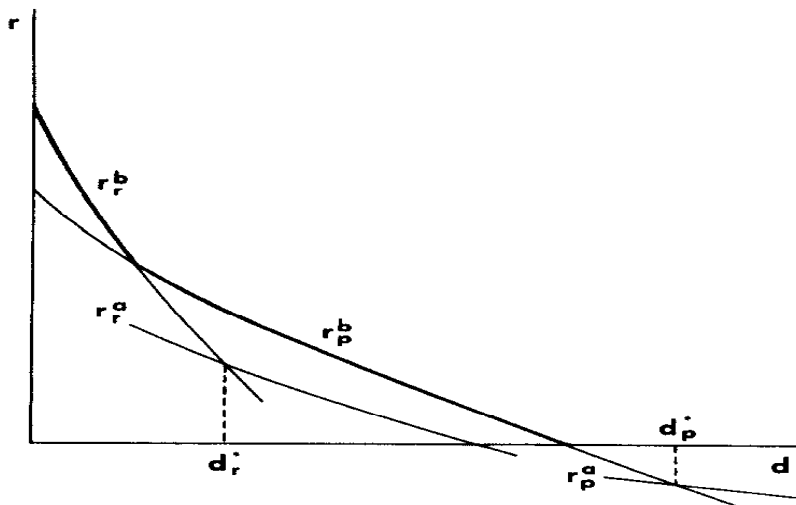


FIG. 2. Paradise.

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As costs continue to decline all of the rich may then move to the suburbs (Paradise Lost)

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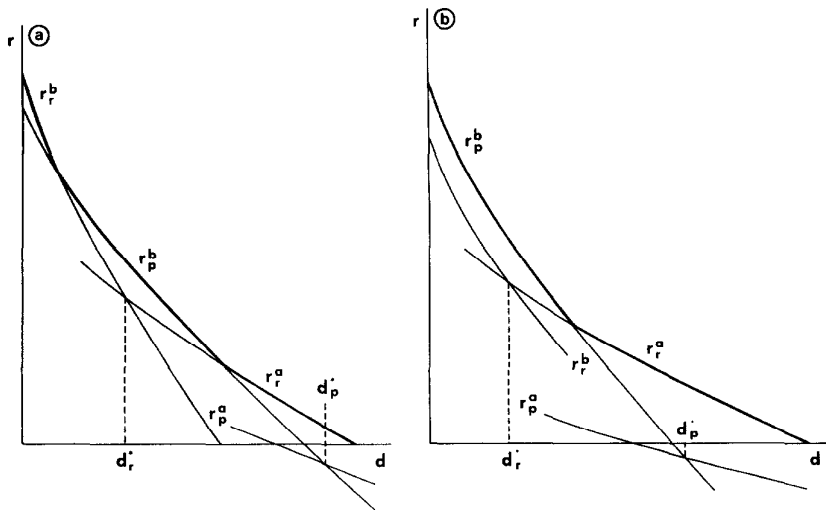


FIG. 3. Paradise lost.

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Note: authors show case where poor only drive in suburbs but an equilibrium where they also use the bus (and then car) might be possible depending upon population sizes

# Regentrification

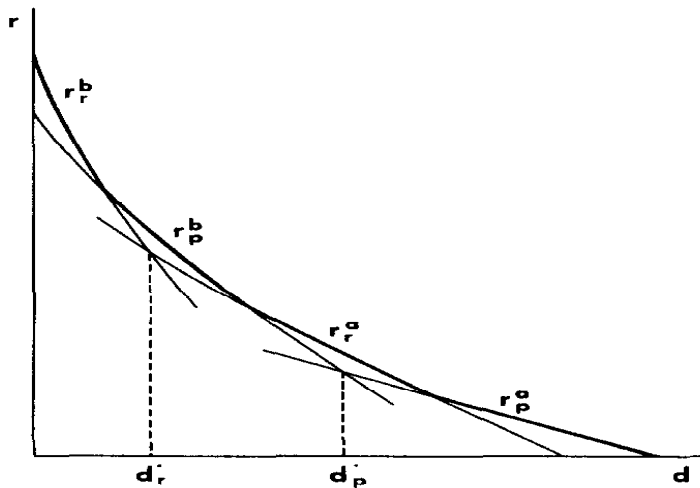


FIG. 4. Regentrification.

# Paradise Regained with Fixed Costs

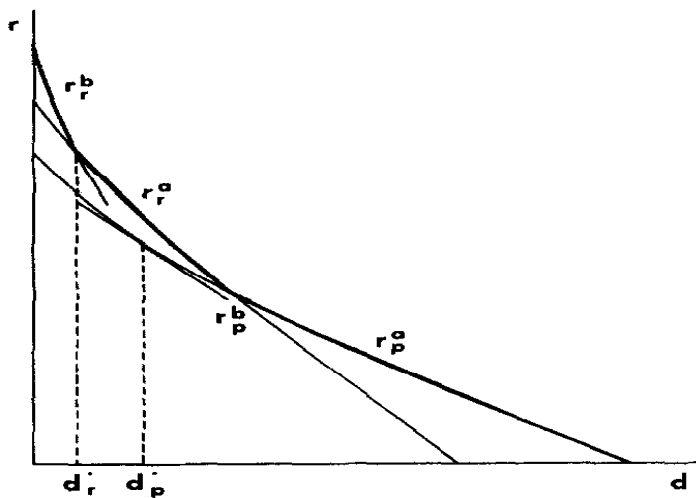


FIG. 5. Paradise regained.

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What do we know about location patterns of rich and poor in China? What data can we use?



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# Monocentric City Model in China

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