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Proposition 2 Cleanup

Proposition 1. *Suppose $\Omega(z) = \Omega$ for all z, $\bar{A} = 0$, and all households are perfectly mobile across space. Recall that β is the Cobb-Douglas weight on housing consumption and ϵ is the housing supply elasticity in each neighborhood.*

Suppose $k\Omega > \frac{\beta}{1+\epsilon}$ for some $k > 0$. Then,

1. *If income sorting absent regulation is **strong**, imposing a marginal increase in the minimum lot size in i_1 around a deregulated equilibrium benefits all renters.*
2. *If income sorting absent regulation is **weak** and type z_m households have higher income than the average household, imposing a marginal increase in the minimum lot size in i_1 around the deregulated equilibrium hurts low income renters z_l and benefits all other renters.*

Decomposing welfare I have emphasized three margins by which deregulation affects welfare: 1) housing affordability by increasing the supply of low quality housing, 2) aggregate labour productivity achieved by the expansion of productive cities, and 3) externalities in neighborhood choice. I decompose the welfare equation (xx) to elucidate these three channels. To this end, suppose preferences are Cobb-Douglas ($\bar{A} = 0$) and households are perfectly mobile ($\theta = \rho = \infty$). In Appendix (xx), I show that log welfare of a type z agent can be expressed as

$$\log \boldsymbol{W}(z) = \underbrace{\frac{G(z)}{\sum_{c\in C}\sum_{i\in N(c)} \frac{P(i)^\beta}{D(i,z)} L(i,z)}}_{\text{Affordability-weighted aggregate productivity}} + \underbrace{\frac{\sum_{c\in C}\sum_{i\in N(c)} \frac{P(i)^\beta}{D(i,z)} L(i,z)\log b(i,z)}{\sum_{c\in C}\sum_{i\in N(c)} \frac{P(i)^\beta}{D(i,z)} L(i,z)}}_{\text{Affordability-weighted amenities}} \tag{1}$$

where $G(z)$ is the aggregate output produced by type z households, $P(i)$ is the housing price in neighborhood i, β is the spending share on housing absent regulation and $D(i,z)$ is the *distortion factor*, which is the discount factor on consumption caused by binding regulation, and $L(i,z)$ is the neighborhood i