

From Samurai to Skyscrapers: How Transaction Costs Shape Tokyo*

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Abstract: Whether transaction costs to assemble or split land can persistently hinder urban land use remains unknown. Constructing a 100 m*100 m-cell-level dataset of central Tokyo from the 19th-century pre-modern era to the 21st-century skyscraper era, we study how initial lot fragmentation has affected urban development. We exploit a plausibly exogenous supply shock of large lots in 1868, the release of local lords' estates (*daimyo yashiki*) scattered throughout central Tokyo. Using ordinary least squares and a regression discontinuity design, we find that cells previously used as local lords' estates have larger lots today, implying that lot size persists through transaction costs. Such cells today see more tall buildings, higher land prices, and higher labor productivity of firms. We also find these effects only in the core area, and the effect on land price is 129%. Our conceptual framework suggests this effect as the lower bound of transaction costs to assemble land in the control group. Finally, the effect of lot size on land prices became positive only after the rise of skyscrapers that made optimal lot size larger. Overall, initial lot allocation affects the urban economy, land assembly costs are disproportionately increasing in the local economic potential, and assembly friction became more salient in the skyscraper age.

Keywords: Transaction costs, historical persistence, skyscrapers, lot fragmentation, agglomeration economy, Coase theorem

JEL Codes: R14, R30, O18, N95

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