Do rising tides lift all prices? Income inequality and housing affordability

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ABSTRACT

Simple partial equilibrium models suggest that income increases at the high end of the distribution can raise prices paid by those at the low end of the income distribution. This prediction does not universally hold in a general equilibrium model, or in models where the rich and poor consume distinct products. We use Census microdata to evaluate these predictions empirically, using data on housing markets in American metropolitan areas between 1970 and 2000. In markets with low-vacancy rates, increases in income at the high end of the distribution are associated with significantly higher rents per room and greater crowding among households headed by a high school dropout. Similar effects are not observed in markets with above-average vacancy rates.

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1. Introduction

Both recently and historically, debates over the progressivity of government tax and transfer policies have focused on arguments that increasing the incomes of wealthy individuals has an indirect "trickle-down" effect on those further down the income distribution (Danziger and Gottschalk, 1986; Gottschalk and Smeeding, 1997). This paper focuses on a potential argument against trickle-down effects: the possibility that increases in income inequality raise the prices of the goods consumed by the poor.[1] "Smoking gun" evidence of such a relationship is not difficult to obtain. Over the past twenty years, low-socioeconomic status (SES) households in the United States have witnessed both a decline in their relative incomes and adverse changes in housing outcomes. Figs. 1 and 2 provide basic evidence of these trends. Fig. 1 depicts a common income inequality measure, the ratio of family income at the

90th and 10th percentiles, and the average monthly rent paid by renter households headed by a high school dropout, using four Census microdata samples.[2] Both time-series show similar trends: relatively stable patterns in the 1970s followed by increases in both measures after 1980. Fig. 2 replaces the price measure with an inverted quantity measure, the number of persons per room for renter households headed by a high school dropout. This time-series bears a striking resemblance to trends in income inequality.

While Figs. 1 and 2 bring only four data points to bear on this question, Figs. 3 and 4 present additional evidence, culled from a longitudinal dataset of metropolitan housing markets derived from the Census public use microdata samples of 1970, 1980, 1990, and 2000. In both figures, the horizontal axis measures the MSA-by-year specific GINI coefficient in household income. Fig. 3 shows the relationship between this inequality measure and a measure of average living standards for renter households headed by a high

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[1] Luttmer (2005) presents a more behavioral argument in the same vein: that increases in own income may not enhance self-reported welfare if they are accompanied by larger increases in the incomes of other agents.

[2] We focus on renter households in this paper, under the presumption that households purchasing housing on a spot market will face prices more clearly influenced by current market conditions. Low-SES owner households will in many cases be hedged against fluctuations in spot market prices, whatever their source (Sinai and Souleles, 2005).
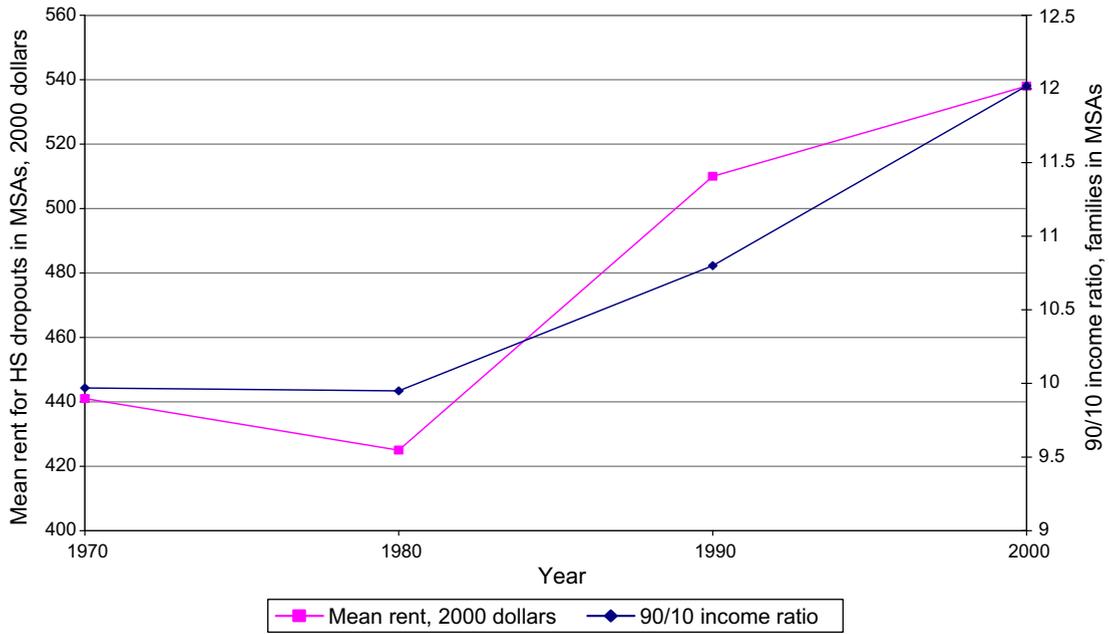
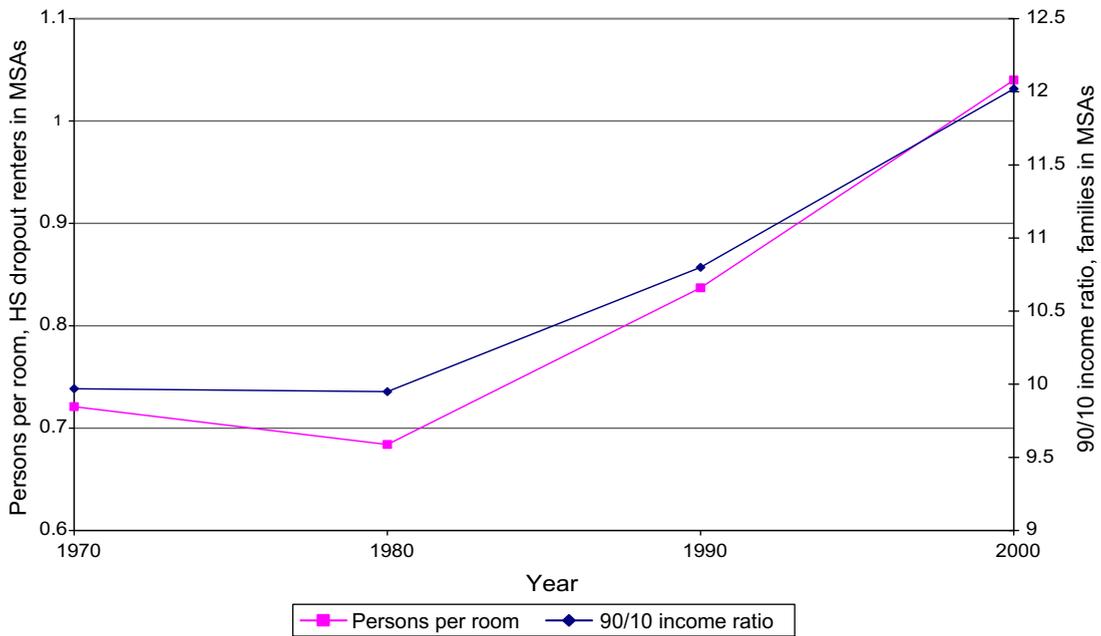**Fig. 1.** Income inequality and the housing of high school dropouts.

Fig. 2. Income inequality and the housing of high school dropouts.

school dropout in that MSA and year. This measure, which we term residual income, equals annual family income (in constant 2000 dollars) less annual gross rental payments. Fig. 3 shows a significant negative relationship: as income inequality grows, the residual income of households headed by a less-educated individual declines. Fig. 4 relates GINI coefficients to a measure of crowding, average persons per room, for the same set of households. In this case, crowding increases significantly as income inequality increases.

The time-series and cross-sectional correlations between income inequality and the housing outcomes of the poor can be criticized on numerous fronts. The composition of the less-skilled population changed over time, largely because of immigration. There are no efforts here to adjust for the quality of a housing unit. Because of these concerns, this evidence by itself should not be assigned any causal interpretation. It does, however, motivate this paper's basic research question: whether increases