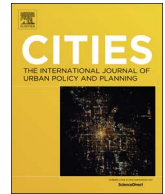




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How do sprawl and inequality affect well-being in American cities?

Wen Hao Lee^a, Christopher Ambrey^{b,*}, Dorina Pojani^a

^a The University of Queensland, St Lucia campus, School of SEES, Chamberlain (35), 4th floor, Brisbane, QLD 4072, Australia

^b Institute for Social Science Research, Long Pocket Precinct, The University of Queensland, Queensland 4068, Australia

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ABSTRACT

This study investigates whether income inequality is related to sprawl and wellbeing in American cities. The results do not provide evidence to support the role of income inequality as a mediator of the link between sprawl and well-being. Instead, the results tell a more nuanced story. Specifically, they indicate that consistent with a priori expectations, lower levels of sprawl are, on average, associated with lower levels of income inequality. Additionally, lower levels of sprawl correspond to higher levels of financial well-being. Supplementary investigation into this finding reveals that this disguises a very different experience among Metropolitan Statistical Areas (MSAs) with higher levels of financial wellbeing, in which lower sprawl corresponds more strongly to higher levels of financial well-being. While the evidence is not unimpeachable, these findings lend some support to conventional anti-sprawl urban planning wisdom for American cities.

1. Introduction

One might expect social problems to alleviate, if not disappear, with increased real Gross Domestic Product (GDP) per capita. This has not been the case in the United States. Instead, the incidence of physical and mental illnesses (such as obesity, anxiety, and depression) has increased, violence and crime rates have grown, social trust and social capital have eroded, and confidence in government has declined. This has led some eminent economists to revisit how countries gauge their social and economic progress (Stiglitz, Sen, & Fitoussi, 2009). At the same time, this has been accompanied by an epistemological turn in economics (Colander, 2007; Davis, 2007) and an advocacy for *subjective* measures of well-being to design policies and evaluate social progress (Easterlin, 2010).

Arguably the impetus for the use of subjective measures of well-being for assessing a nation's progress has existed for some time. Since the post-war "Golden Era," there has been no improvement in the self-reported well-being and life satisfaction of the citizenry (Helliwell, Layard, & Sachs, 2012). This phenomenon has been described as the *Easterlin Paradox* (Sarracino, 2015). This paradox was first explained with reference to Duesenberry's (1949) relative income hypothesis: increasing the income of one individual would increase his or her happiness while raising the income of all individuals would leave happiness levels unchanged (Easterlin, 1974).

However, stagnant well-being and life satisfaction may also be attributed to worsening social and economic inequalities in the United States (Esteva, Babones, & Babcicky, 2013; Wilkinson & Pickett, 2009).

Partly as a result of the efforts of scholars to document inequality, understood broadly as differences in access to opportunities, this issue has entered the American political discourse. While interest in income inequality is growing, most research and commentary has examined its causes and effects at the national or state level. Little is known about its role within urban areas (Ballas, 2013). In particular, it is unclear whether a relationship exists between income inequality, well-being, and urban sprawl – the latter being non-compact development, a key characteristic of American urban form, as well as one of the major problems facing cities in the United States (Ewing, Pendall, & Chen, 2002; Montgomery 2013; Ewing & Hamidi, 2014; MacLaran & Kelly, 2014).

Exploring this relationship is critical because cities - which house 82% of the American population - are believed to empower humanity intellectually, physically, and financially and have been described as one of the greatest triumphs of humankind (Glaeser, 2011). But, with growing inequalities and sprawl, can cities fulfil their promise of improving the well-being of urbanites?

We empirically test the following hypotheses for American cities:

1. *Income inequality is negatively linked to well-being.* Previous research has highlighted the negative effects of income inequality on a number of well-being indicators, such as health and safety from crime (Florida & Mellander, 2015; Wilkinson & Pickett, 2009). We hypothesize that the same relationship which exists at national or state level holds at an urban level.
2. *Sprawl is negatively linked to well-being.* We hypothesize that people

* Corresponding author.

E-mail addresses: wen.lee4@uq.net.au (W.H. Lee), c.ambrey@uq.edu.au (C. Ambrey), d.pojani@uq.edu.au (D. Pojani).

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living in more sprawling cities have lower levels of well-being on account of being car-dependent, spending more time trapped in traffic, being in poorer health (due to lower levels of physical activity), and being more socially isolated. Previous studies have already made this connection, which we retest here employing a different dataset (Montgomery 2013; Ewing et al., 2002; Ewing & Hamidi, 2014).

3. *Sprawl is positively linked to income inequality.* We hypothesize that, in more unequal cities, social groups seek status through larger housing and properties, thus segregating from others whom they perceive as inferior. This behavior produces sprawl. A link between urban form and income inequality has been suggested in prior studies (Coburn, 2004; Florida, 2012; MacLaran & Kelly, 2014). One study has found a positive correlation between income inequality and city size – but “sprawl” is a complex concept than encompasses characteristics beyond city size alone (Baum-Snow & Pavan, 2013). Also, previous studies have indicated that poverty - a concept linked to inequality - is inversely correlated to city size, on account of better services, more sophisticated employment opportunities, more technologically advanced infrastructure, and higher concentrations of educated talent (David, Peeters, Hamme, & Vandermotten, 2013; Ferré, Ferreira, & Lanjouw, 2011; Florida, 2008; Naschold, 2002).
4. *Sprawl is negatively linked to well-being through income inequality.* We also hypothesize that the relationship between sprawl and well-being is mediated by income inequality. In other words, cities which are more sprawling are also more unequal, and therefore, the well-being levels of their residents are lower.

This study is placed into three theoretical contexts as pertaining to urban areas: (1) income inequality, (2) sprawl, and (3) well-being. These constructs and their relationships are conceptualized below in Fig. 1. This background is followed by an overview of the data and methods used in this study. The remainder of the article reports and discusses the findings.

2. Literature review: the confluence of income inequality, sprawl, and well-being

2.1. Income inequality and well-being

The last four decades have witnessed a widening income gap between rich and poor households, and a shrinkage of the middle class across the United States and most of its cities (Sommeiller, Price, & Wazeter, 2016). Now, the average income of the wealthiest 1% of households is 72 fold higher than the average income of the poorest quantile, and 23 fold higher than that of the middle quantile. The United States has more cities with a high income disparity (as measured by a Gini coefficient of 0.50 or more) than all other developed countries. In addition, social mobility is the lowest among developed economies, including the notoriously class-conscious United Kingdom (Wilkinson & Pickett, 2009). This reality exists in stark contrast to the widespread belief that “with hard work, drive, and passion, one can achieve the American dream.” Rather, ascending the social and income ladder appears to be more challenging than ever before (UN Habitat,

2011, 2013). Economic projections suggest that, given a political and institutional status quo, inequality trends will not slow (IHS Global Insight, 2014).

Some studies have started to examine what this may mean for wellbeing within and between countries (see Bjørnskov, Dreher, Fischer, Schnellenbach, & Gehring, 2013; Senik, 2009). No clear conclusion has been reached for the United States (for an exception, see Alesina, Di Tella, & MacCulloch, 2004). However, inequality is argued to be detrimental to society in many ways, and there is a social gradient in the distribution of its costs. In other words, the poor are more affected by inequality than the middle classes, and, in turn, the middle classes are more affected than the rich. No one emerges unscathed (Wilkinson & Pickett, 2009). Perversely, by driving competition, status-seeking, striving, and ambition, inequality threatens community ties, friendships, gender balances, and all other social relationships that rely on empathy, collaboration, and identification with others. Precarious employment and a lack of opportunity disempower people, leading to low feelings of self-worth and self-control, and a sense of being looked down upon, humiliated, and disrespected.

In combination, these feelings can be reconciled with evidence of deteriorating mental and physical health (of which growing obesity rates are just one example), expanding social ills such as drug use, violence, imprisonment, teenage pregnancies, poor educational performance, and, eventually, decreasing life expectancy (Bruni & Stanca, 2008; Leonard, 2015; Rettenmaier & Wang, 2013; Wilkinson & Pickett, 2009).

2.2. Sprawl and well-being

Neoliberal urban policies have significantly influenced physical, as well as economic and social planning, in American cities (MacLaran & Kelly, 2014). Since the enactment of the 1949 Housing Act, a development-led urban growth pattern has been adopted, which has contributed to uncoordinated urban sprawl. Effectively, city governments have acted as brokers for private developers rather than as the prime actors shaping urban form (Hull, 1997; Kivell, 1993). For decades now, academic planners have directed a plethora of criticisms toward sprawling, low-density suburbs. Sprawl is criticized on environmental, public health, social, and economic grounds. Taken together, good health, a supportive social milieu, a clean environment, and a strong economy are among the principal components of human well-being (Gallup Healthways, 2016).

The environmental impacts of sprawl include: loss of public open space and farmland, increased Vehicle Miles/Km Travelled (with associated air pollution, energy consumption, and greenhouse gas emissions), aesthetically monotonous visual landscape, increased storm-water runoff and flood risk, and ecosystem fragmentation. Even when residential self-selection influences are accounted for, there is resounding evidence of statistically-significant associations between built environment and car-dependent travel behavior (Bart, 2010; Ewing, 2008; Ewing & Hamidi, 2015; Johnson, 2001).

The environmental arguments against sprawl are rarely refuted. However, there are a few caveats. For example, while the amount of travel is higher in sprawling areas, so are average travel speeds.

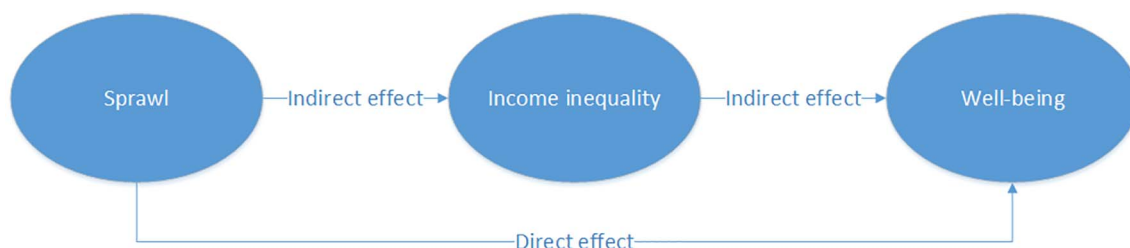


Fig. 1. Conceptual diagram.

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