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## Journal of Urban Economics

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## When Walmart comes to town: Always low housing prices? Always? \*



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#### ARTICLE INFO

Article history:
Received 18 July 2012
Revised 8 October 2014
Available online 28 October 2014

Keywords: Walmart Housing prices

#### ABSTRACT

Walmart often faces strong local opposition when trying to build a new store. One common complaint is that Walmart lowers nearby housing prices. In this study we use over one million housing transactions located near 159 Walmarts that opened between 2000 and 2006 to test if the opening of a Walmart lowers housing prices. Using a difference-in-differences specification, our estimates suggest that a new Walmart store actually increases housing prices by between 2% and 3% for houses located within 0.5 miles of the store and by 1–2% for houses located between 0.5 and 1 mile.

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#### 1. Introduction

One of the most significant changes over the past two decades in the U.S. retail market is the expansion of large box stores and supercenters. Walmart is the largest of these rapidly growing retailers and is currently the biggest private employer in the world. In the United States alone, Walmart currently operates more than 4400 retail facilities, employs almost 1.4 million people (approximately 1% of the workforce), and accounts for about 11% of retail sales.<sup>1</sup> Phone surveys suggest that 84% of households in the U.S. shop at Walmart in a given year with 42% of households reporting to be regular Walmart shoppers (Pew Research Center, 2005). These surveys also show that lower-income households are more likely to shop at Walmart than upper-income households. In fact, Basker (2005b), Hausman and Leibtag (2007), and Basker and Noel (2009) have shown that Walmart "supercenters" that sell groceries offer many identical food items as other grocers at an average price that is substantially lower than their competitors. Hausman

Despite the consumer benefits from the expansion of supercenters into new geographic markets, there is often significant opposition and controversy when Walmart tries to open a new store. One concern of opponents is the impact that a new Walmart will have on local employment opportunities and wages. There is a small literature that has analyzed this common concern including Basker (2005a), Hicks (2007a) and Neumark et al. (2008). The findings of these studies have been mixed with Basker (2005a) and Hicks (2007a) finding positive effects on employment and/or wages, while Neumark et al. (2008) found negative effects.<sup>2</sup> Another primary concern of opponents to a new Walmart, is the effect it will have on crime, traffic and congestion, noise and light pollution, the visual aesthetics of the local area, and ultimately the impact that these externalities will have on local housing prices which are likely to aggregate the positive and negative effects of a Walmart opening in a locality.<sup>3</sup> However, unlike the academic literature that surrounds the labor-market effects of Walmart, there

and Leibtag (2007) also find that these lower prices translate into a significant increase in consumer surplus.

<sup>\*</sup> We thank Emek Basker, Nick Kuminoff, Lars Lefgren, Chris Parmeter and Arden Pope and seminar participants at Brigham Young University, the summer meetings of the European Association of Environmental and Resource Economists, and the meetings of the Weimer/Seldin School for Advanced Studies, as well as colleagues at the University of Chicago and Brigham Young University for helpful discussions about this paper. We also thank Chris Bruegge and Brendan Forster for excellent research assistance on this project. The standard disclaimer applies.

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<sup>&</sup>lt;sup>1</sup> These numbers were taken from the August 2011 fact sheet provided on the Walmart website and can be found at <a href="http://www.walmartstores.com/press-room/factsheets/">http://www.walmartstores.com/press-room/factsheets/</a>.

<sup>&</sup>lt;sup>2</sup> The different findings in these studies depend primarily on the identification strategy employed to account for the potential endogeneity of the location and timing of Wal-Mart openings. See Basker (2007) and Neumark et al. (2008) for a discussion of these differences.

<sup>&</sup>lt;sup>3</sup> Basker's (2007) overview article on the causes and consequences of Walmart's growth states that "Wal-Mart's effects on local government expenditures urban sprawl, traffic, crime, and social capital have received some attention in popular discourse." It also states that "places that have limited Wal-Mart's entry have often cited its potential impact on urban sprawl, traffic, and congestion; however, research is needed to test these claims." Prominent concerns listed by opponents of Walmart on the internet include less local employment opportunities and lower wages, lower property values, increased crime, traffic, congestion, noise and light pollution. See for example: http://www.corpethics.org/downloads/northcross\_no\_walmart.pdf.

has been no peer-reviewed work that attempts to understand the impact of Walmart on housing prices.<sup>4</sup>

In this paper we try to understand if building a new Walmart has a positive or negative effect on nearby housing prices. Answering this question is important as citizens and local governments grapple with the economic impacts of allowing Walmart to build a new store in their jurisdiction. Analyzing housing prices is a particularly useful way to understand the economic value of a Walmart entering a community. For example, when a Walmart is built, it generally is not built in isolation. The Walmart store often acts as a hub that attracts a variety of other businesses, which in turn, can also have impacts on housing markets. If households value convenient access to the goods and services that Walmart and these other businesses provide, then the new stores would have a positive impact on housing prices. However, if Walmart and the businesses that agglomerate nearby also impose negative externalities such as increased pollution, crime, and traffic, then this could adversely impact prices of nearby houses. Thus the housing price effect a priori is ambiguous. Accurately estimating the housing price changes that result from the building and opening of a Walmart and the agglomeration it spurs may help local policymakers to better understand if the net effect of a new Walmart is perceived as beneficial to nearby households.<sup>5</sup> This could in turn provide some economic justification for a local government to encourage or discourage the building of a Walmart store in its jurisdiction.

Our analysis of the impact that Walmart has on housing prices utilizes two unique datasets. The first dataset describes when and where Walmarts opened between 2000 and 2006. The second dataset includes data for more than one million residential housing transactions that occurred within four miles of 159 Walmarts that opened during this time period. In contrast to the county-level analyses conducted by most previous work on the impacts of Walmart, the micro-level nature of our dataset allows us to develop an identification strategy that can help us to overcome the potential endogeneity of the location and timing of Walmart openings. More specifically, we employ a difference-in-differences analysis that compares housing prices before and after a Walmart opens for areas very close to a newly built Walmart, to areas slightly farther away.

The results from this analysis suggest that a new Walmart store increases nearby housing prices. Our primary analysis suggests that houses located within 0.5 miles of the store see increases in their sale prices of about 2–3% when comparing the two and a half years before the Walmart opened to the two and a half years after the opening. Houses between 0.5 and 1 mile from the Walmart see an increase of 1–2%. It does not appear that these price impacts are caused by an abrupt increase in the number of houses that sold in the area or by a change in the composition of houses that sold. Furthermore, graphical evidence and falsification tests provide no evidence of a spurious, positive effect due to differential housing price growth at the Walmart location and are therefore supportive of a causal interpretation of our difference-in-differences estimates of the impact of Walmart on housing prices.

The paper proceeds as follows. In Section 2 we discuss the potential impacts of Walmart in terms of the value of accessibility

and the costs of negative externalities. We proceed in Section 3 to describe the key datasets used in our analysis. In Section 4, we describe our empirical strategy for estimating the impact of Walmart on housing prices and in Section 5, we present the results. Finally, we conclude in Section 6.

#### 2. Accessibility and externality effects of Walmart

Walmart likely affects housing prices through two main channels-accessibility and negative externalities. Many studies at the intersection of economics and geography have shown that land and housing prices vary with accessibility to "business districts" that provide shopping and employment. For example, the American Housing Survey (AHS), which is constructed by the U.S. Census Bureau and is based on household surveys that are aimed at better understanding the determinants of housing values throughout the United States, specifically asks households if there is "satisfactory shopping within 1 mile." Using this data, Emrath (2002) provided evidence that having satisfactory shopping within one mile increased housing prices substantially inside metro areas. Others, including Sirpal (1994) and Des Rosiers et al., 1995, have also found a positive correlation between shopping centers and housing prices. These studies suggest that having convenient access to a Walmart might increase housing prices.

On the other hand, the introduction of a Walmart store in a community also has the potential to lower housing prices through increased local crime, noise and light pollution, traffic congestion, garbage accumulation, and loss of perceived visual aesthetics. Several studies have shown that these disamenities are capitalized into housing prices. For example, Linden and Rockoff (2008) and Pope (2008) have both recently shown that a discrete change in the risk of a localized crime can have a causal impact on housing prices, Smith et al. (2002) showed that freeway noise can have a negative impact on housing prices, Lin (2013) showed the negative impact of brownfields (and the positive impact of state certification against liability for new owners) on property values, and Lim and Missios (2007) showed the negative impact of landfills on housing prices.

An important question that has not been addressed in the literature is whether or not the benefits of access to a Walmart outweigh the costs imposed by any negative externalities that it imposes on the local community when it builds a store. Analyzing housing prices before and after a Walmart is built in a given locale offers the potential to test whether or not the benefits of accessibility outweigh the costs of negative externalities. If one were to see a decrease in housing prices near a Walmart store after it was built, this might signal that there are significant negative externalities imposed on landowners and households nearby Walmart. However, if one were to see an *increase* in housing prices, this might suggest that the benefits of easy access to Walmart's lower prices or the other shopping that naturally agglomerates near a Walmart outweigh any negative externalities imposed on local residents. There is some evidence that the value of accessibility declines less rapidly across space than the costs of localized externalities. Li and Brown (1980) provide empirical evidence to suggest that although proximity to industry and commercial areas impose negative externalities on nearby houses, this same proximity creates substantial benefits to households far enough away to avoid the sphere of influence from the negative externalities.

The most common method for investigating the effects of accessibility and externalities on property values is called the hedonic method. The hedonic model was developed by Rosen (1974) to provide a theoretical foundation for the relationship between prices and attributes. The hedonic price function describes the equilibrium relationship between the characteristics of a house (including both structural characteristics and locational attributes such as accessibility and externalities). For over 40 years

<sup>&</sup>lt;sup>4</sup> There is a paper on the impact of Walmart on annual property tax collections and commercial properties by Hicks (2007b) and a working paper by Vandegrift et al. (2011). There is also a small but growing literature on the impact of Walmart on a variety of other outcomes outside of labor and housing markets. These include poverty rates (Goetz and Swaminathan, 2006), small business activity (Sobel and Dean, 2008), obesity (Courtemanche and Carden, 2011), social capital (Goetz and Rupasingha, 2006; Carden et al., 2009a), leisure activities (Carden and Courtemanche, 2009), traditional values (Carden et al., 2009b), and on other grocery stores (Ellickson and Grieco, 2013).

<sup>&</sup>lt;sup>5</sup> Clearly, estimates of the average treatment effect of Walmart on housing prices would have to be adjusted by a policymaker for the income and preferences of the households in a specific locale.

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