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The Effects of Walmart on Healthcare and Unionization: Is America Really Saving Money and Living Better?

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Is America Really Saving Money and Living Better?

A Capstone Project Submitted in Partial Fulfillment of the Requirements of the Renée Crown University Honors Program at Syracuse University

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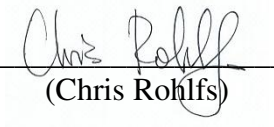
Capstone Project Advisor: 
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ABSTRACT

As the largest private sector employer in the United States, corporate retail giant Walmart continues to make waves in United States culture and the economy since launching its first store in 1962. As Walmart seeks to expand, the validity of its consumer guarantee to "save money, live better" has been increasingly scrutinized, given Walmart's use of controversial business practices, most notably its employee benefit policies and anti-unionization efforts. With over 1.4 million employees in the United States, there is much talk surrounding the potential costs of Walmart's low prices. This study analyzes selected healthcare and unionization impacts of Walmart in various Metropolitan Statistical Areas across the United States during the years 1996 - 2004. Using cross-sectional data from the U.S. Census Bureau's Current Population Survey, I perform an econometric analysis to evaluate the effect of the introduction of a Walmart store on Medicaid, Medicare, and private health insurance coverage as well as union membership and coverage. To address the endogeneity of Walmart's decision to enter a particular area, I estimate a fixed effects model, controlling for year and Metropolitan Statistical Area effects. My results indicate that the introduction of a Walmart may initially appear beneficial through its creation of additional jobs and offering of low-priced goods. In addition, findings show that Walmart increases the probability of Medicaid and private health insurance coverage and has a negative effect on the probability of being a member of a union.

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I. Acknowledgements

I would like to thank my parents, Mostapha and Elizabeth Ziad, for their continued motivation, support and encouragement throughout my undergraduate experience. Additionally, I would like to acknowledge the Undergraduate Economics Department and Renée Crown University Honors Program at Syracuse University for making this research possible through their support and endorsement. I wish to extend my deepest thanks to Professor Jeffrey Weinstein and to my fellow Economics Program of Distinction students for their support, advice, and encouragement throughout this researching and writing process. Lastly and most importantly, this project would not have been possible without the guidance and assistance provided by Professor Chris Rohlfs, who has been an invaluable resource, advisor, and role model throughout this process.

II. Advice to Future Honors Students

Having the opportunity write an honors and economics thesis has been a challenging, but rewarding experience that has enhanced my undergraduate experience at Syracuse in a profound manner. Being given the opportunity to interpret data and apply it to an area of interest has given me an insight into the world of economic research and the ways in which statistics and findings can be applied towards understanding current events. I would advise future honors students to follow their passions and complete their capstone in a subject area that not only interests them, but also inspires them. Substantial time and dedication to the project is necessary and at times it is daunting; however the reward of completing a project that is entirely your own is an extremely gratifying feeling and worth every minute of stress and hard work. Be diligent with your time management, allot yourself double the time you expect to need as you will always find yourself wishing for more time, and have fun with it!

III. Introduction

Corporate retail giant "Walmart" has continued to make headlines since its initial store opening in 1962. With an appeal of low, affordable prices on everyday items, it has constructed a heroic image of itself backed by a motto promising Americans the opportunity to "save money, live better" (Walmart.com 2011). As shown in figure 1, Walmart has rapidly expanded throughout the United States in the past twenty years. As a result, this discount mass merchandising chain has become a staple in American society and a cultural phenomenon that is spreading across continents. Walmart currently employs more than 2.1 million associates worldwide, covers 617 square footage of the United States, and earned $419 billion in fiscal sales for the 2011 year (Walmart 2011). However, recent concerns have emerged regarding Walmart's controversial business practices including its use of government subsidies, predatory pricing, outsourcing methods, and poor treatment of employees. This has incited much debate and hesitation in the local communities in which Walmart wishes to enter. Existing research provides varied findings on Walmart's socioeconomic impacts and reflects a further need for analysis, particularly in areas of its employment practices and the ensuing impacts on labor market characteristics, the utilization of public assistance, and relevant federal and local fiscal policy.[1] This paper seeks to examine the implications that Walmart's presence and introduction into a Metropolitan Statistical Area may have on rates of Medicaid, Medicare, private

[1] This need for further scrutiny is most recently echoed in legislation passed by the San Diego Senate requiring new Walmart superstores to prepare economic impact analyses as part of their permit acquisition process (Gardner 2011).

health insurance coverage, union membership, union coverage, income, retail employment, and food stamp receipt.

The wide uncertainty in academic literature surrounding Walmart's socioeconomic effects is striking in light of the level of public attention and controversy surrounding its name. Costs and benefits associated with Walmart are often exposed to the American public through media headlines, anecdotal evidence, and Walmart's own public relation campaigns, but this information is unlikely to be impartial. The economic literature surrounding Walmart is vast but altogether quite inconclusive. Many researchers have examined Walmart's effects on retail prices, wages, and employment levels. Notable studies include those of Basker (2005) and Ciccarella, Neumark, and Zhang (2005) who find a reduction in county-level retail employment and earnings as a result of Walmart. Both use an instrumental variable approach to correct for the problem of endogeneity in Walmart's entry decision. Literature exploring Walmart's effects on employee benefits and reliance on anti-poverty programs is much less prevalent. Michael Hicks (2005) examines Walmart's impact on Federal and state anti-poverty expenditures from 1978-2003 and finds that each new Walmart worker is causing the average state to spend just under $900 per year in Medicaid benefits, which remains consistent with other studies conducted on Medicaid costs of low wage workers in the United States. Similarly, Dube, Eidlin, and Lester (2007) perform a state-level analysis of Walmart stores on healthcare benefits and find a Walmart store opening decreases employer-sponsored health insurance by 0.1%. Although these studies veer away from the common employment, price, and wage level

analyses, they fail to acknowledge other impacts of Walmart's employment practices, notably that of its anti-unionization policy which prohibits employees from organizing or forming unions and asserts that failure to comply with this policy can be grounds for termination. The company defends this policy by explaining that, "At Wal-Mart, we respect the individual rights of our associates and encourage them to express their ideas, comments and concerns. Because we believe in maintaining an environment of open communications, we do not believe there is a need for third-party representation." (Walmart 2005)

The current study contributes to this literature by expanding the scope of Walmart's effects. My research uses a wider range of outcome variables that address both Walmart's health care benefits and anti-unionization policy. By estimating the effects of Walmart on Medicaid, Medicare, private health insurance coverage, food stamp receipt, union membership and coverage in addition to income and retail employment, this study dives deeper into the realms of Walmart's influence on the American public. While the current literature frequently examines Walmart's impacts on rural communities and small towns (see Stone 1989, 1995, 1997, 2002), this study analyses Metropolitan Statistical Areas (MSA).[2] A historical look at Walmart shows that, during its rapid expansion in the 1980s and 90s, a large majority of its new stores were introduced into metropolitan areas rather than rural areas. Conducting analysis at the MSA-

[2] MSA is a geographic entity defined by the U.S. Office of Management and Budget as a vicinity that has at least one urbanized area of 50,000 or more inhabitants. Each MSA consists of one or more counties, including the county containing the core urban area and adjacent counties deemed to have a high degree of social and economic integration in relation to the urban core (U.S. Census Bureau 2011).

level provides increased accuracy since metropolitan areas tend to have better-paying jobs with higher rates of unionization, suggesting a greater sustained impact in comparison to rural areas. MSA-level analysis also provides research of greater relevancy to the general public, given the larger resistance towards Walmart openings in metropolitan areas compared to elsewhere.

Using Walmart store openings compiled by Thomas J. Holmes and cross-sectional data from the U.S. Census Bureau's Current Population Survey's March Annual Social and Economic Study, econometric analysis is performed on 85 Metropolitan Statistical Areas in which 255 Walmart stores, including Supercenters, were opened during the years 1996-2004. The estimation strategy utilized is comprised of two equations which incorporate a vector of controls to correct for any possible sources of bias, particularly the endogeneity of a Walmart store opening. This vector varies across specifications and includes controls for MSA demographics, a linear time trend, and MSA and year fixed effects to disentangle the effects of Walmart from its entry decision. These controls, along with evidence presented by Hicks and Wilburn (2001) and Franklin (2001) that prove that the location and timing of Walmart entries are unaffected by regional economic conditions and growth, seek to eliminate any potential endogeneity.

An additional feature of this study is the use of sensitivity checks to examine potential patterns in the effect of Walmart and test the validity of my estimation strategy. Using lead and lag variables in my regression analysis to look at outcome variables both before and after a Walmart introduction, I am able to evaluate the specific time-pattern that I predict will occur in response to a store

opening. I hypothesize that this will pattern show no effects five or so years before a Walmart opening, as the intent to introduce a store is unknown. This will be followed by slight effects one to two years before the opening, suggesting a response to store-opening indications such as construction. Further, I expect Walmart's effects to be biggest immediately following its opening, with gradually less effects when the novelty of the new store wears off and the surrounding community adjusts to its presence. The results of these sensitivity checks can prove useful in disentangling short-term and long-term patterns, thus allowing a better understanding of Walmart's total effect.

Although I achieve mixed results, my initial findings indicate positive effects on private health insurance and Medicaid coverage as a result of a Walmart store opening. Union membership appears to decline slightly due to Walmart while the effects on Medicare coverage remain unclear. Results indicate varied effects of Walmart on retail employment, union coverage rates, food stamp recipients, and income levels, but my findings appear to follow the predicted time-specific pattern previously described, in which short-term effects appear more pronounced.

The remainder of this paper provides a detailed explanation of my research and is organized as follows: Section III provides a more in-depth literature review of case studies relevant to this research. Section IV presents a description of the data used to complete this study. Section V outlines the estimation strategy utilized to obtain these results and includes key factors associated with this method. Section VI provides an in-depth consideration of the

empirical results. Section VII ends the paper with a concluding summary and remarks on potential policy implications.

IV. Literature Review

Research on Walmart's impact on healthcare and unionization is quite limited in comparison to the considerable amount of literature on employment and wage consequences. Often-cited early studies done by Kenneth Stone (1989) suggest negative impacts of Walmart on rural communities in the United States, highlighting negative effects sustained to the retail industry and per capita sales in small-town areas.[3] Basker (2005) examines county-level employment and finds that a net gain in retail sector jobs prior to a Walmart opening is concurrent with a net loss of jobs in the wholesale sector. Neumark, Zhang and Ciccarella (2007) also perform a notable study, finding that county level employment and wages of retail sector workers are adversely affected by the introduction of a Walmart. Though these case studies provide conclusive findings, they suffer from two major shortcomings. The first limitation is the narrow scope of these studies, as they often focus on only one particular state or region. Additionally, they fail to examine a full picture of employee well-being because their emphasis on employment rates and wage levels overlooks the potential effects of Walmart's employment benefits.

[3] See Stone (1989, 1995, 1997, and 2002) for his ongoing literature regarding Walmart's effect on small-town communities. His overall findings indicate that the introduction of a Walmart substantially hurts towns in Iowa and Mississippi due to local competitors being driven out of business. Stone determines "pull factors" that account for the percentage of the population frequenting Walmart and assesses the consequent changes in sales, relative to non-Walmart areas.

The first major study to examine Walmart employee reliance on anti-poverty programs was conducted by Dube and Jacobs (2004). The authors find that Walmart's insufficient wages and lack of benefits cause a reliance of its Californian workers on public assistance, resulting in significant public costs. Further findings by Dube, Eidlin, and Lester (2007) project that the introduction of ten new Walmart stores in a given state will result in a one percentage point reduction in the retail sector employer-sponsored health insurance rate. Similarly, studies conducted by Michael Hicks (2005) have examined Walmart's potential role in the use of state and Federal anti-poverty programs by its employees. Hicks' research shows that Walmart increases Medicaid expenditures but has no impact on food stamp expenditures in the retail sector and a negative impact on AFDC/TANF expenditures.[4]

The main concern in the academic literature remains the question of whether Walmart's choice of entrance location and time is endogenous. It is unclear whether the decision to open a Walmart store is non-random, correlated with demographic factors, such as age and racial breakdown, as well as levels of income, employment, and retail competition. The timing of a store opening may be a calculated decision based on current socioeconomic conditions and future projections. To address this matter of endogeneity, Neumark et al. (2007) use a geographic pattern of Walmart store openings over time as an instrumental variable. Basker (2005) utilizes a similar instrumental variable approach for store

[4] Hicks (2005) finds that Walmart increases Medicaid expenditures by roughly $898 per worker per year. Aid to Families of Dependent Children (AFDC) was renamed to Temporary Assistance to Needy Families (TANF) in 1996 and provides support to children in poor, non-working families.

openings, correcting for both endogeneity as well as measurement error. However, research conducted by Hicks and Wilburn (2001), as well as Franklin (2001), provides evidence that the location and timing of Walmart entries are unaffected by regional economic conditions and growth.[5] This provides me with enough reassurance that no correction for endogeneity is needed and as a result I will not be correcting for endogeneity.

V. Data Description

Data on healthcare coverage, employment, income, union coverage, and other demographic variables such as age, racial, and employment composition, were taken from the March component of the U.S. Census Bureau's Current Population Survey pooled over the years 1996-2004. Walmart store openings data were obtained from Professor Thomas J. Holmes at the University of Minnesota, who provides the date and location for the 3,243 Walmart stores opened between July 1, 1962 and October 26, 2005. The unit of observation in this study is MSA-year. I concentrate on the data for 85 Metropolitan Statistical Areas (MSAs) identified in the CPS (see Table 1). This panel of MSAs contains 255 Walmart stores, including supercenters, opened between the years of 1996 and 2004.

[5] Separate tests in each study model the entrance of Walmart stores and Supercenters as a function of demographic and economic variables.

VI. Estimation Strategy

My approach estimates the contemporaneous effect of Walmart on income and retail employment levels, Medicare, Medicaid, and private health insurance coverage, food stamp recipients, and union membership and coverage. The equation is specified for each variable as follows:

(1) $Y_{it} = \beta_0 + \beta_1 Walmarts_{it} + \mathbf{\beta_x X_{it}} + U_{it}$

where the dependent variable, Y_{it} is for a given MSA *i* observed at time *t*. Y_{it} is assumed to be a linear function of $Walmarts_{it}$, the number of Walmart stores in MSA *i* at time *t* and X_{it} is a vector of controls that varies across specifications. X_{it} includes MSA characteristics such educational attainment, age, and racial composition, a linear time trend, and MSA fixed effects models to correct for spatial autocorrelation. U_{it} is a mean-zero unobservable within the regression. I assume that $Cov(Walmarts_{it}, U_{it})=0$, meaning that the number of Walmart stores in MSA *i* in year *t* is uncorrelated with the error term.

Endogeneity in Walmart's timing of entrance and choice of location is the foremost concern when employing this estimation strategy. At the individual level, $Walmarts_{it}$ may be correlated with MSA or year-specific characteristics, suggesting that Ordinary Least Squares (OLS) estimates of β_1 are likely biased. This paper avoids these biases by including demographic controls in X_{it} including educational attainment, age, and racial composition. Furthermore, statistical models are employed to correct for correlation between the error term and the explanatory variables in the case that Walmart openings are non-random. An MSA fixed-effects model allows me to control for various observed and

unobserved tmie-invariant trends in Y_{it} for each MSA. Similarly, fixed effects models with MSA-specific time trends account for variation in linear time trends by allowing a different trend for each MSA while also accounting for influences on changes in Y_{it} that might be correlated with Walmart openings. Most specifications include a time trend to test the assumption that Y_{it} is constant across time and ensure that any outliers or fluctuations are independent from one time period to the next.

The second estimation strategy utilizes lagged explanatory variables to measure the effect of Walmart on Y_{it} one, two, three, four, and five years following the introduction of a Walmart store. This equation is expressed as:

$$(2)\ Y_{it} = \delta_0 + \sum_{j=0}^{L} \delta_{j+1} Walmarts_{it-j} + \delta_x X_{it} + U_{it}$$

where L is the number of lag or lead variables used in the regression. In some specifications, lead variables are also included for one, two, and three years preceding the opening of a Walmart store. The various specifications of Equation (2) include a vector of controls identical to that of Equation (1).

VII. Empirical Results

Descriptive statistics for population, income, age and racial composition, employment, educational attainment levels, and health insurance of the analyzed MSAs are reported in Table 2. On average MSAs in this data set have a population of approximately 945,023 residents in years 1996-2004. The average percentage of individuals in the data set covered by private health insurance is

57.03%, while Medicaid coverage averages at 9.2% and Medicare coverage at 13.44%. Union membership among survey participants in the data set remains very low at 1.30% with union coverage[6] even lower at 0.15%[7]. The average level of retail employment is 10.64% and average income $20,908.11. I assume Walmart has the greatest effect on the low-skill, low-wage market. Thus, these characteristics aid in discerning whether the affected individuals in the data set generally reflect workers likely to be participating in this labor market.

Figure 2 provides descriptive statistics on Walmart store openings in the analyzed MSAs during the time period of 1996 to 2004. As indicated on the pie chart, 40% of the analyzed MSAs experienced the opening of one Walmart store while 21% experienced two Walmart store openings and 9% experienced 11 openings. The remaining percentages indicate a range of store openings during this time period, reaching a high of 17 store openings in the Houston-Sugar Land-Baytown, TX MSA. Figure 3 provides a comparison of MSA population size to frequency of store openings, and indicates a positive relationship between population size and the number of store openings.

To examine the overall effect of Walmart on health care coverage and unionization, I begin my empirical analysis by using Equation (1) to estimate the effect of Walmart's presence (the number of Walmart stores in MSA *i* at time *t*)

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[6] Union coverage rates reflect answers to the CPS survey question reading, "On this job, are you covered by a union or employee association contract?" Union coverage reflects third-party representation which aids in the negotiation of wages, total compensation, benefits, and workplace protections.

[7] Comparing unionization rates and unionization coverage in my sample to that of the entire set of MSAs n the US over the same time period, I find that unionization rates and union coverage are both higher in the entire set of MSAs (13.6% versus 1.3% and 14.9% versus 0.15%). This could be due to Walmart's decision to enter areas with lower rates of union membership and coverage. It is important to consider these differences when interpreting the empirical results in Section VII.

on Medicaid coverage, union membership rates, and private health care coverage. The Medicaid variable used in these regressions was obtained from the CPS survey question reading, “At any time in the last year were you/was anyone in this household covered by Medicaid/(fill state name), the government assistance program that pays for health care?” Similarly, the private health insurance variable used was obtained from the CPS survey question reading, “At any time during the last year, were you/was anyone in this household covered by a plan that you/they purchased directly, that is, not related to current or past employer?” The union membership variable examined was obtained from the survey question asked of all employed participants, “On this job, are you a member of a labor union or of an employee association similar to a union?” To more easily interpret the coefficients, all coefficients from the original regression are multiplied by 100. Thus, the coefficients of interest can be read as percentage point changes in the average rates of coverage. The regression results for seven different specifications of Equation (1) can be seen in Table 3 of the appendix. Estimates for Medicaid coverage are represented in Panel A, Union Membership in Panel B, and Private Health Care coverage in Panel C. Column (1) denotes a basic Ordinary Least Squares regression with no controls. In columns (2) through (7), controls are increasingly added to correct for any possible bias and increase the precision of the coefficient estimates. Column (7) reflects the preferred specification with a full set of controls that includes demographic controls as well as MSA and year-fixed effects.

In general, the OLS regression results in Table 3 indicate a negative effect of Walmart presence on Medicaid coverage and union membership and a positive effect on private healthcare coverage. The coefficients are quite varied between specifications, with statistical significance at the 5% level only for regression columns (1), (2), (3), and (6) of Panel A, (1) of Panel B, and (1), (2), (4), and (5) of Panel C. Although regressions in column (1) exhibit significance across all three panels, this is likely due to omitted variable bias because there are no control variables. The coefficients for union membership are quite small and imprecise, but the results across all specifications exhibit a decreasing probability of union membership for each additional Walmart, which is to be expected given Walmart's anti-unionization policy. Similarly, in each specification I estimate a positive effect of the number of Walmarts on the likelihood of private healthcare coverage. Looking at regression (7) of Panel C, the magnitude of this increased probability can be understood through analysis concluding that the introduction of 100 additional Walmart stores in a given MSA and year lowers the fraction of people who are covered by private insurance by 0.103, or ten percentage points. Putting this into a more realistic perspective, the introduction of ten additional Walmart stores in a given MSA and year would thus decrease the fraction of people with private health insurance coverage by .01, or one percentage point. However, this may be indicative of an overall rising trend in private healthcare rates that is not directly a cause of Walmart's presence.

As I do not expect the entry of a Walmart store or additional opening of a Walmart store to have an immediate effect on the outcome variables, (it may take

time for a new store to get established), it is interesting to look at the lagged effects of a Walmart opening and the number of Walmart stores on healthcare and unionization variables. Table 4 contains regression coefficients from Equation (2), depicting the lagged effects of Walmart openings on Medicaid coverage, union membership, and private health care coverage. Columns (1), (4), and (7) indicate the lagged effects for the initial three years on Medicaid coverage, union membership, and private health care coverage, respectively, using the preferred specification of full controls. L1. Walmart Opened represents one year following the opening of a Walmart store, L2. Walmart Opened represents two years following the opening of a Walmart store, and L3. Walmart Opened represents three years following the opening of a Walmart store. Similarly, columns (2), (5), and (8) indicate lagged effects for four years after a Walmart store opening and columns (3), (6), and (9) indicate lagged effects for five years after a Walmart store opening for each outcome variable.

The regression results shown in Table 4 contain varied signs and magnitudes of the coefficients suggesting mixed results for Walmart's short-term effect in the immediate years following its arrival. Medicaid coverage exhibits a decline in the initial one to two years after store opening subsequently followed by an increase in years three and four. The lagged effects on union membership are unclear, showing an ambiguous influence of Walmart that is likely due to the small percentage of survey participants who answered "yes" to having been a member of a labor union. Walmart's short-term effects on private health care

coverage also appear uncertain in these regressions due to varied results across models.

To investigate Walmart's overall effect on society, Equation (1) with a full set of controls is used to estimate Walmart's effect on income levels, Medicare coverage, union coverage, food stamp recipients, and retail employment levels. These results are shown in Table 5. Though the coefficients are small and generally imprecise, they indicate that a Walmart store has an overall negative effect on income, Medicare, food stamp recipients, and retail employment and no discernable effect on union coverage. Table 6 displays Equation (2) for these same outcome variables reflecting the lagged effects of Walmart store openings for up to five years after store onset. There does not seem to be a conclusive pattern in the effects of Walmart over time for these outcome variables.

Figure 4 provides sensitivity checks, measuring the precision of my estimation strategy and assessing a potential time-specific pattern of the effects surrounding a Walmart store opening. These regressions utilize the same equation shown in Equation (2) with additional lead explanatory variables included. For each panel, leads and lags years of three years prior to and three years preceding a Walmart store opening are plotted on the x-axis and the coefficient estimates are plotted on the y-axis.

Panels C and H, which measure the effects of private healthcare coverage and food stamp recipients exhibit increasing trends both before and after Walmart opening, indicating a general positive trend in the rates of these variables that may not be related to the opening of a Walmart. However Panel D, which reflects the

impact of Walmart entry on retail employment, shows a direct change in retail employment in the year of store introduction. This is followed by a sign reversal after two years of store existence, which supports my hypothesized time-specific pattern of effect. Further, the effect on Medicaid coverage shown in Panel A, the effect on union membership shown in Panel B, and the effect of Medicare coverage shown in Panel F all exhibit a trend one year prior to Walmart entry (decreasing for Medicaid and Medicare and increasing for union membership) followed by a sign reversal starting to trend the other way after two years of Walmart's presence. Lastly, Panels E and F, income and union coverage respectively, indicate an increasing trend that starts two years preceding the opening of a Walmart, and in the case of income, is also reversed after two years of existence.

VIII. Conclusion

The debate surrounding Walmart's effects on the United States continues to spark public interest and cause contention throughout academia. While Walmart argues its presence serves to help America "save money, live better," critics point to its use of unfair business practices, which they justify by observing Walmart's monopsonistic presence in a low-skill, low-wage labor market. This study provides empirical consideration of Walmart's effects on various indicators of consumer and employee well-being. While my analysis fails to find consistent effects, given many imprecise and varying results, this study nonetheless provides interesting findings**.** Private health insurance and Medicaid coverage appear to increase as a result of Walmart entrance. Union membership appears to decline

slightly, while the effects sustained to Medicare coverage rates remains unclear. Furthermore, retail employment, union coverage rates, income, and food stamp recipients appear to follow the hypothesized time-specific pattern in which slight effects are sustained one to two years prior to store arrival, while the most pronounced effects occur immediately after store opening and taper off within a few years.

Given the high turnover rate and quantity of casual workers in the retail industry, it is difficult to accurately ascertain the effects sustained to retail workers in the aftermath of a Walmart opening. An increase in Medicaid coverage rates may be reflective of changes in the labor force due to situations in which Walmart plays a contributing role. For example, retail workers whose former employers have been crowded out of the market due to the entry of a Walmart are faced with unemployment and may be forced to take jobs at Walmart offering lesser pay and decreased benefits, thus qualifying them for welfare services.[8] Counter arguments to this explanation of increased Medicaid coverage rates suggest that Medicaid eligible workers experience a real income increase by choosing Medicaid in lieu of employer-based health insurance in which premiums and co-pays are required (Hicks 2005). The choice of medical coverage is thus a utility maximizing decision made by the worker and may also explain the

[8] The Medicaid program was enacted to provide health care to low-income children, families, and individuals who fit into an eligibility group recognized by federal and state law. Qualification for Medicaid is based on age, income and resources, and whether the individual is pregnant, disabled, blind, and/or aged. It is a state administered program with separately mandated guidelines for eligibility and services (U.S. Department of Health and Human Services - Centers for Medicare and Medicaid Services 2011).

increasing rates of private health care coverage found in this study, as employees find it most beneficial to purchase their own form of coverage.

Others argue that employing large numbers of low-wage workers is a strategy used by large firms, such as Walmart, that seek to avoid the costs of providing employer-sponsored health care (see Cutler and Gruber 1996). By making eligibility for benefits more difficult for workers, many may opt to utilize alternative forms of coverage. In the case of Walmart, part-time status was increased in 2002 from those who work 28 hours per week or less to cover those who work 34 hours per week or less. This may help to explain the rise and patterns seen in welfare dependence, as workers may have initially received benefits before more stringent requirements were placed making them ineligible.

In its March 2010 Corporate Fact Sheet, Walmart states, "The majority of our associates work full-time. Many of our associates are senior citizens who need supplemental income or students who want work experience." Given this assertion, the question that must be asked is whether the provision of employee benefits is still a major concern. Students are dependents and are therefore covered by their providers of care or by the state, and any citizen over age 65 is eligible for Medicare.[9] Given these two groups' guaranteed access to healthcare coverage, the issue of Walmart's effect on their healthcare is of lesser concern and

[9] The Medicare program was established in 1965 as part of the Social Security Act extending health insurance coverage to all people aged 65 and older. In 1972, eligibility was further extended to include people under the age of 65 with long-term disabilities and individuals with end-stage renal disease. Thus, the Medicare eligibility requirement does not rely on measures of employment or income, making Walmart's effect on healthcare inconsequential. (U.S. Department of Health and Human Services - Centers for Medicare and Medicaid Services 2011)

helps to explain Walmart's indiscernible effects on Medicare coverage rates seen in this study.

While the results of this study do not provide conclusive results as to the effects of Walmart, they do provide interesting insight into both sides of the Walmart debate. Looking at preceding and subsequent years of a Walmart introduction provides interesting patterns, but it also suggests that the placement of Walmart stores is non-random and thus the problem endogeneity of Walmart's entrance decision still remains. Given the opportunity, I would like to pursue future work on this topic using an instrumental variable approach to better correct for the problem of endogeneity and to obtain more precise results. While Walmart's anti-unionization policy and poor employee treatment remain troubling, it is clear from the mixed results presented in this case study that further research is necessary before taking a definitive stance for or against the presence of Walmart in American society.

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X. Appendices

a. Figures

Figure 1: *Location of Walmart Openings, 1970-2001*

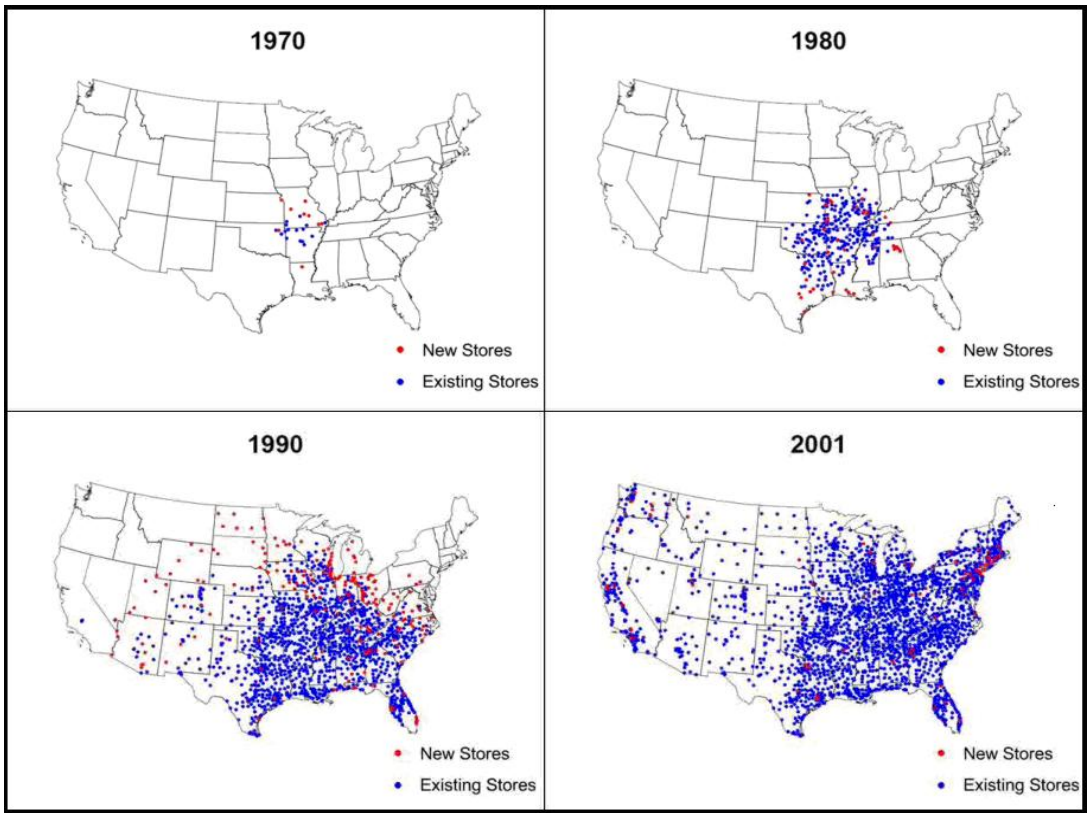


Figure 2: *Percentage of Walmart Openings in Analyzed MSAs, 1996-2004*

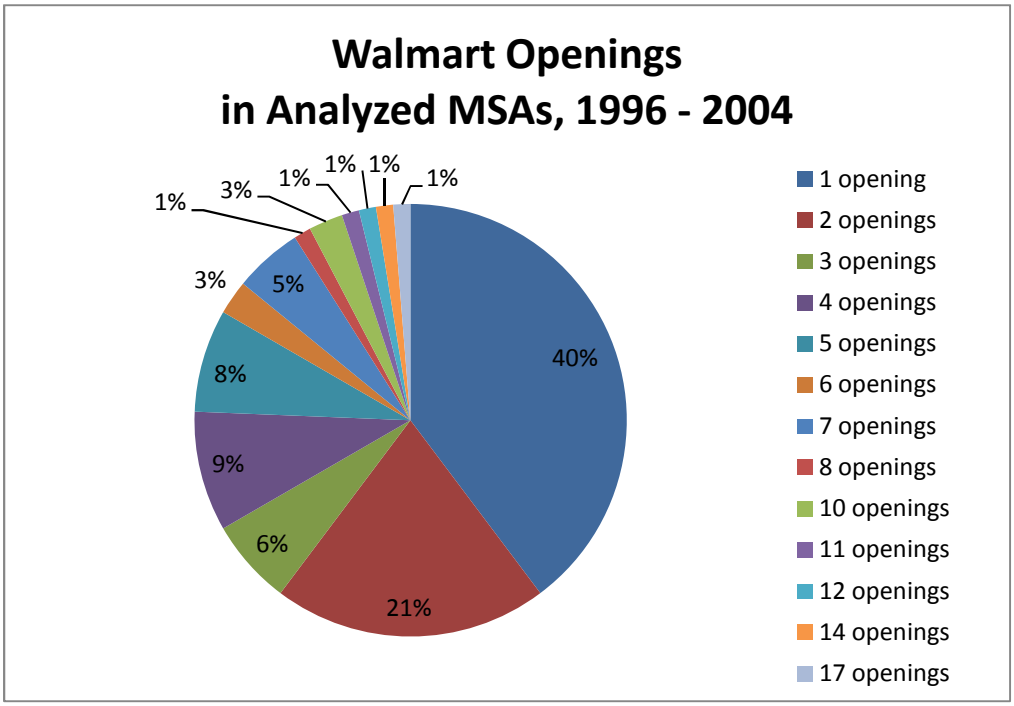


Figure 3: *Average Population vs. Number of Store Openings in Analyzed MSAs*

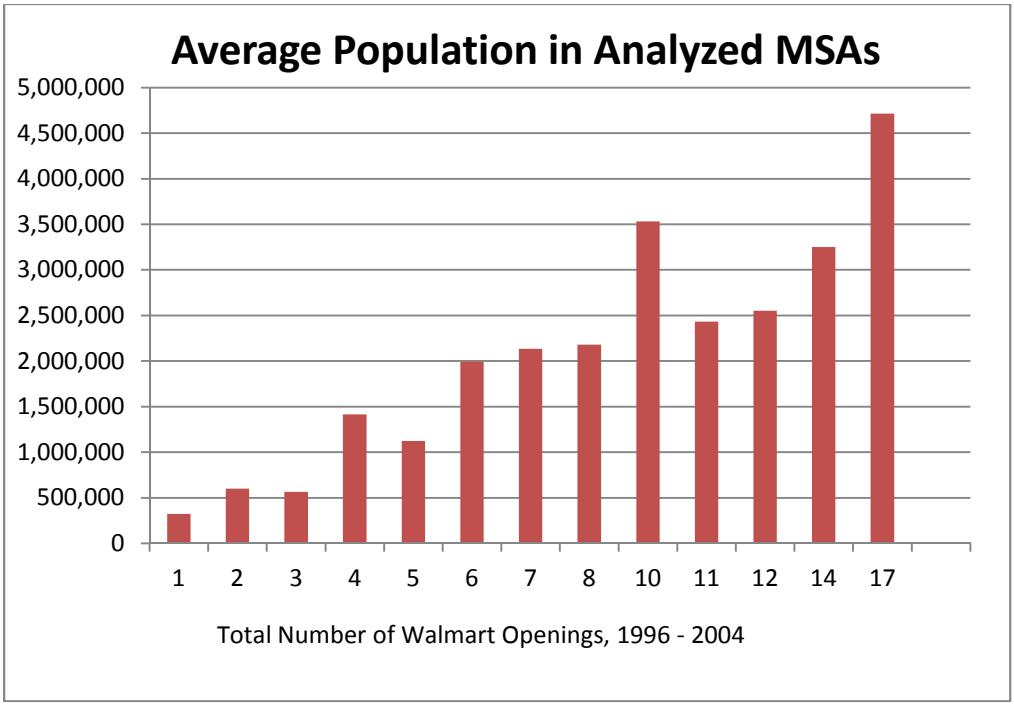


Figure 4: *Lead and Lag Effects of Walmart Openings*

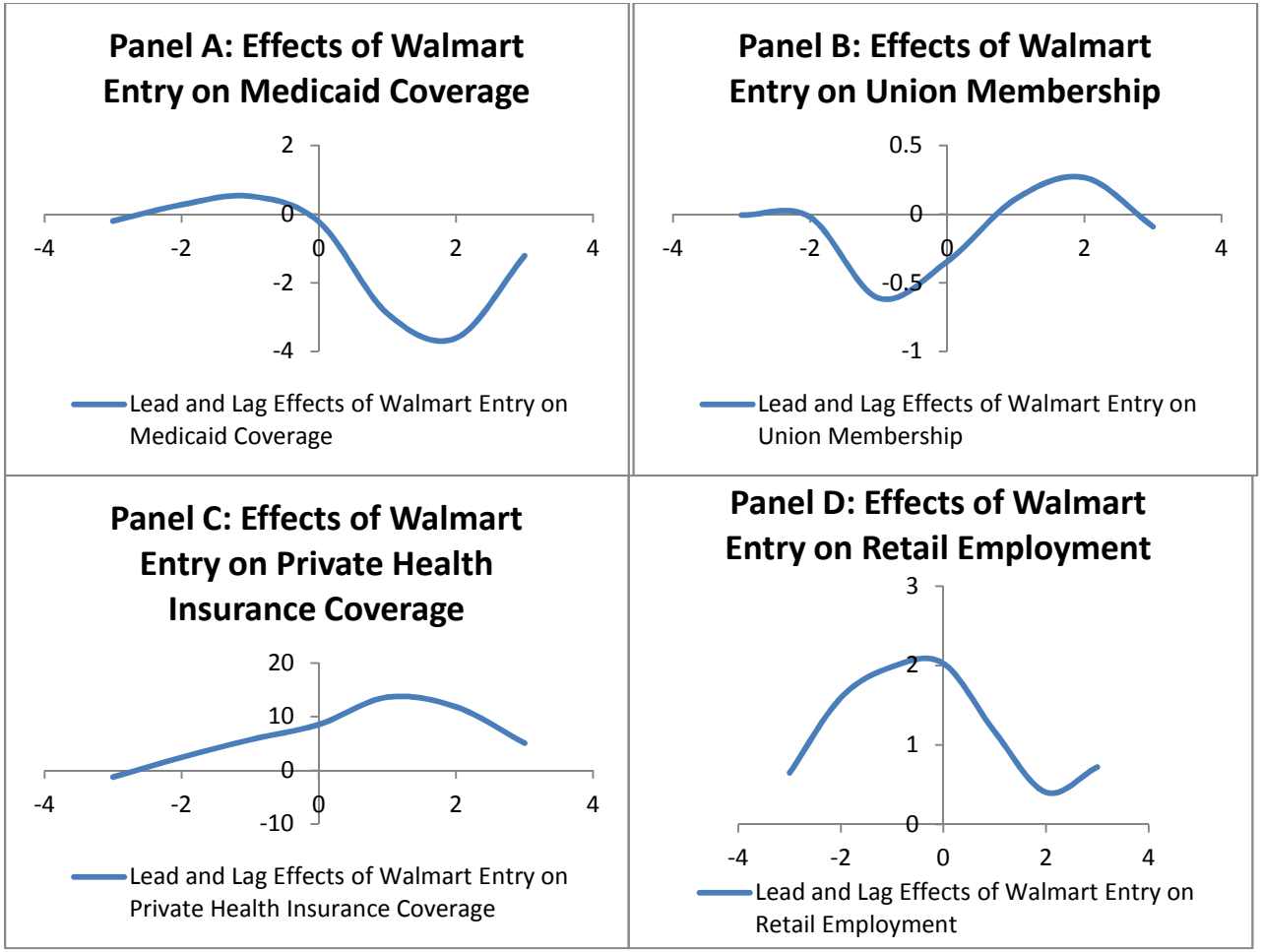
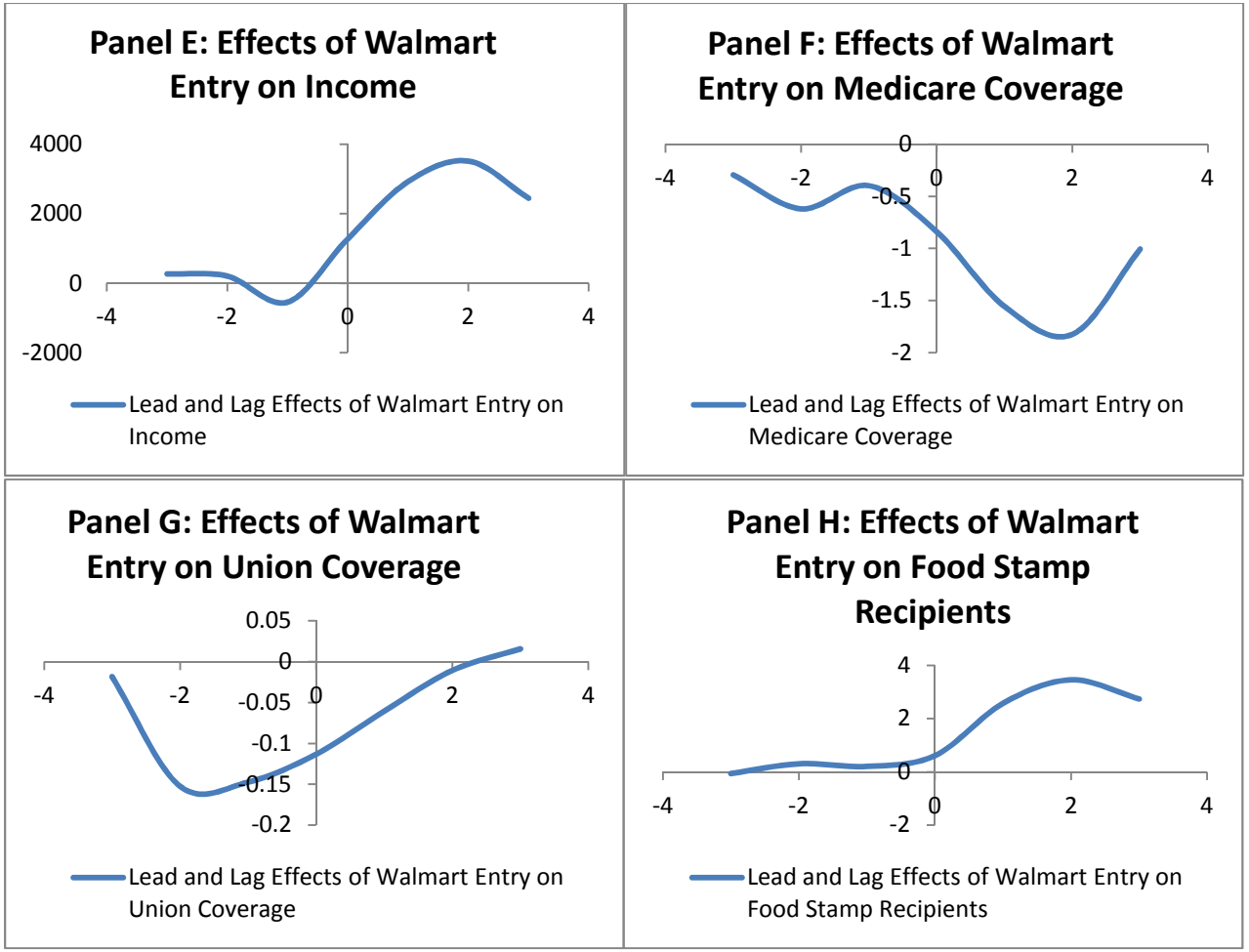


Figure 4 (continued): *Lead and Lag Effects of Walmart Openings*



b. Tables

Table 1: Metropolitan Statistical Areas Analyzed

MSA	Area Encompassed	Population*	Number of Walmarts Opened 1996 - 2004
12060	Atlanta-Sandy Springs-Marietta, GA	4,247,981	10
12580	Baltimore-Towson, MD	2,552,994	12
12940	Baton Rouge, LA	705,973	2
13820	Birmingham-Hoover, AL	1,052,238	5
14600	Bradenton-Sarasota-Venice, FL	589,959	2
15980	Cape Coral-Fort Myers, FL	440,888	1
16300	Cedar Rapids, IA	237,230	1
16740	Charlotte-Gastonia-Concord, NC-SC	1,330,448	2
17140	Cincinnati-Middletown, OH-KY-IN	2,009,632	4
17300	Clarksville, TN-KY	232,000	1
17460	Cleveland-Elyria-Mentor, OH	2,148,143	6
17820	Colorado Springs, CO	537,484	2
19340	Davenport-Moline-Rock Island, IA-IL	376,019	2
19500	Decatur, IL	114,706	1
19740	Denver-Aurora-Broomfield, CO	2,179,240	8
20100	Dover, DE	126,697	1
20260	Duluth, MN-WI	275,486	1
20620	East Liverpool-Salem, OH	112,075	1
21500	Erie, PA	280,843	5
21660	Eugene-Springfield, OR	322,959	4
22180	Fayetteville, NC	336,609	2
22420	Flint, MI	436,141	1
22660	Fort Collins-Loveland, CO	251,494	1
24540	Greeley, CO	180,926	1
24580	Green Bay, WI	282,599	1
26420	Houston-Sugar Land-Baytown, TX	4,715,407	17
26900	Indianapolis-Carmel, IN	1,525,104	4
27100	Jackson, MI	158,422	1
27260	Jacksonville, FL	1,122,750	3
28140	Kansas City, MO-KS	1,836,038	6
28740	Kingston, NY	177,749	1
29460	Lakeland-Winter Haven, FL	483,924	1
29540	Lancaster, PA	470,658	3
29700	Laredo, TX	193,117	1
29740	Las Cruces, NM	174,682	1
29820	Las Vegas-Paradise, NV	1,375,765	7
30700	Lincoln, NE	266,787	1
32580	McAllen-Edinburg-Mission, TX	569,463	1
33460	Minneapolis-St. Paul-Bloomington, MN-WI	2,968,806	7
34820	Myrtle Beach-North Myrtle Beach-Conway, SC	196,629	2
34940	Naples-Marco Island, FL	251,377	1
35380	New Orleans-Metairie-Kenner, LA	1,316,510	4

Table 1 continued: Metropolitan Statistical Areas Analyzed

MSA	Area Encompassed	Population*	Number of Walmarts Opened 1996 - 2004
36100	Ocala, FL	258,916	2
36500	Olympia, WA	207,355	1
36740	Orlando-Kissimmee, FL	1,644,561	4
37100	Oxnard-Thousand Oaks-Ventura, CA	753,197	1
37340	Palm Bay-Melbourne-Titusville, FL	476,230	1
38060	Phoenix-Mesa-Scottsdale, AZ	3,251,876	14
38300	Pittsburgh, PA	2,431,087	11
38900	Portland-Vancouver-Beaverton, OR-WA	1,927,881	5
39100	Poughkeepsie-Newburgh-Middletown, NY	621,517	1
39340	Provo-Orem, UT	376,774	4
39540	Racine, WI	188,831	2
39580	Raleigh-Cary, NC	797,071	5
39740	Reading, PA	373,638	2
39900	Reno-Sparks, NV	342,885	2
40060	Richmond, VA	1,096,957	5
40380	Rochester, NY	1,037,831	2
40900	Sacramento--Arden-Arcade--Roseville, CA	1,796,857	7
41180	St. Louis, MO-IL	2,698,687	4
41740	San Diego-Carlsbad-San Marcos, CA	2,813,833	10
41940	San Jose-Sunnyvale-Santa Clara, CA	1,735,819	2
42020	San Luis Obispo-Paso Robles, CA	246,681	1
42060	Santa Barbara-Santa Maria-Goleta, CA	399,347	1
42220	Santa Rosa-Petaluma, CA	458,614	1
42580	Seaford, DE	156,638	3
43620	Sioux Falls, SD	187,093	1
43780	South Bend-Mishawaka, IN-MI	316,663	2
44060	Spokane, WA	417,939	3
45060	Syracuse, NY	650,154	3
45300	Tampa-St. Petersburg-Clearwater, FL	2,395,997	7
45940	Trenton-Ewing, NJ	350,761	1
46060	Tucson, AZ	843,746	2
46140	Tulsa, OK	859,532	1
47260	Virginia Beach-Norfolk-Newport News, VA-NC	1,576,370	5
48900	Wilmington, NC	274,532	1
49180	Winston-Salem, NC	421,961	2
49740	Yuma, AZ	160,026	1

*For the year 2000, obtained from the U.S. Census Bureau

Table 2: MSA Selected Summary Statistics		
	Mean	**Standard Deviation**
Population**	945,023	991,111
Income	$20,908.11	5104.5
Age	35	4.11
Black	10.52%	0.113
White	85.36%	0.116
Employed	47.27%	0.065
Unemployed	2.16%	0.015
High School Graduate	23.75%	0.066
Bachelor's Degree	12.10%	0.048
Graduate Degree	5.42%	0.028
Food Stamp Receipient	17.69%	0.065
Private Health Ins. Coverage	57.03%	0.963
Medicaid Coverage	9.20%	0.056
Medicare Coverage	13.44%	0.058
Union Membership	1.30%	0.013
Union Coverage	0.15%	0.003
Employed Retail Sector	10.64%	0.033
Employed Manufacturing Sector	6.87%	0.040
Employed Transportation Sector	2.24%	0.016

** Based on the 2000 U.S. Census Bureau

Table 3: OLS and Fixed Effects Estimates of Effects of Walmart							
	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**
Panel A: Medicaid Coverage							
Total Walmarts / 100	-0.108	-0.106	-0.156	-0.105	-0.202	0.055	0.039
	(0.018)**	(0.018)**	(0.095)	(0.021)**	(0.092)**	(0.17)	(0.171)
R^2	0.025	0.025	0.560	0.244	0.597	0.657	0.675
Panel B: Union Membership							
Total Walmarts / 100	-0.009	-0.008	-0.002	0.001	-0.008	-0.027	-0.017
	(0.005)**	(0.005)	(0.025)	(0.005)	(0.025)	(0.051)	(0.052)
R^2	0.003	0.006	0.590	0.091	0.599	0.676	0.679
Panel C: Private Healthcare Coverage							
Total Walmarts / 100	0.081	0.085	0.230	0.014	0.259	0.001	0.103
	(0.033)**	(0.033)**	(0.145)	(0.028)**	(0.117)**	(0.309)	(0.305)
R^2	0.005	0.006	0.663	0.511	0.774	0.707	0.728
Controls?				Yes	Yes		Yes
Time Trend?		Yes		Yes			
MSA Fixed Effects?			Yes		Yes	Yes	Yes
Year Fixed Effects?					Yes	Yes	Yes
MSA-Specific Trends?						Yes	Yes
Observations	702	702	702	702	702	702	702

**denotes significance at the 5% level

Table 4: Lagged Effects of Walmart on Medicaid Coverage, Union Membership, and Private Healthcare

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Medicaid Coverage			Union Membership			Private Healthcare Coverage		
Walmart Opened / 100	-0.126	-0.001	-0.017	-0.084	-0.057	0.834	-0.084	-0.057	0.834
	(0.232)	(0.251)	(0.319)	(0.347)	(0.487)	(1.029)	(0.347)	(0.487)	(1.029)
L1.Walmart Opened / 100	-0.040	-0.024	0.759	0.595	-0.165	1.850	0.595	-0.165	1.850
	(0.342)	(0.435)	(0.56)	(0.553)	(0.613)	(1.449)	(0.553)	(0.613)	(1.449)
L2.Walmart Opened / 100	0.274	0.746	1.305	0.487	-0.498	2.383	0.487	-0.498	2.383
	(0.399)	(0.568)	(0.84)	(0.607)	(0.959)	(2.409)	(0.607)	(0.959)	(2.409)
L3.Walmart Opened / 100	0.518	1.125	1.206	-0.022	-0.921	2.558	-0.022	-0.921	2.558
	(0.389)	(0.62)	(0.983)	(0.542)	(0.962)	(2.656)	(0.542)	(0.962)	(2.656)
L4.Walmart Opened / 100		0.887	0.470		-0.753	2.229		-0.753	2.229
		(0.473)	(0.904)		(0.724)	(2.228)		(0.724)	(2.228)
L5.Walmart Opened / 100			-0.258			1.877			1.877
			(0.715)			(1.175)			(1.175)
R^2	0.780	0.801	0.872	0.829	0.854	0.870	0.829	0.854	0.870
Controls?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Time Trend?									
MSA Fixed Effects?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
MSA-Specific Trends?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	468	390	312	468	390	312	468	390	312

**denotes significance at the 5% level

Table 5: OLS and Fixed Effects Estimates of Effects of Walmart

	Income	Medicare	Union Coverage	Food Stamp Recipients	Retail Employment
Total Walmarts / 100	-229.6	-0.192	0.000	-0.351	-0.394
	(167.8)	(0.133)	(0.018)	(0.231)	(0.154)**
Controls?	Yes	Yes	Yes	Yes	Yes
Time Trend?					
MSA Fixed Effects?	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects?	Yes	Yes	Yes	Yes	Yes
MSA-Specific Trends?	Yes	Yes	Yes	Yes	Yes
R^2	0.855	0.86	0.291	0.698	0.395
Observations	702	702	702	702	702

**denotes significance at the 5% level

Table 6: Lagged Effects of Walmart Openings

	Income	Medicare	Union Coverage	Food Stamp Recipients	Retail Employment
Walmart Opened / 100	124.5	-0.052	0.01	0.181	0.021
	(268.1)	(0.258)	(0.032)	(0.758)	(0.375)
L1.Walmart Opened / 100	-174.4	0.402	-0.03	-0.498	0.608
	(419.2)	(0.431)	(0.047)	(1.01)	(0.7)
L2.Walmart Opened / 100	220.6	0.554	-0.02	-0.298	0.914
	(699.)	(0.617)	(0.072)	(1.63)	(0.957)
L3.Walmart Opened / 100	418.4	0.103	-0.07	-0.442	0.425
	(779.5)	(0.756)	(0.084)	(1.886)	(1.143)
L4.Walmart Opened / 100	415.1	-0.146	-0.07	-0.436	-0.326
	(807.3)	(0.819)	(0.094)	(1.726)	(1.148)
L5.Walmart Opened / 100	304.5	-0.677	0.01	0.345	0.263
	(527.7)	(0.509)	(0.064)	(1.026)	(0.933)
Controls?	Yes	Yes	Yes	Yes	Yes
Time Trend?					
MSA Fixed Effects?	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects?	Yes	Yes	Yes	Yes	Yes
MSA-Specific Trends?	Yes	Yes	Yes	Yes	Yes
R^2	0.922	0.916	0.60	0.772	0.723
Observations	312	312	312	312	312