Wal-Mart, Leisure, and Culture

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Abstract:

This essay contributes to the debate about the alleged spillover effects associated with Wal-Mart's growth. Combining county-level data on Wal-Mart entry and location from 1985 through 1998 with individual-level data on leisure activities, we estimate a positive relationship between Wal-Mart penetration and participation in activities involving inputs that can be bought at Wal-Mart. The relationship between Wal-Mart penetration and activities that do not involve inputs that can be bought at Wal-Mart is negative in most cases but may be positive or zero for "cultural" activities such as attending classical music concerts and visiting art galleries. The evidence is consistent with the thesis that deeper Wal-Mart penetration expands consumption possibilities. (JELA13, D00, C12, Z11, Z13)

Keywords: economics | Wal-Mart | leisure activities | consumption | Wal-Mart growth | cultural activities

Article:

I. INTRODUCTION

Do Wal-Mart's "Every Day Low Prices" cause people to ignore T.S. Eliot's The Waste Land in favor of television's "vast wasteland" or is Wal-Mart's effect on leisure and cultural activities more benign? Wal-Mart is both a cause and a consequence of economic and social change. Beyond this, there is a centuries-old debate stretching back to Adam Smith and before which considers whether the advance of commercial society "deadens the soul." It has been maintained that, in the words of William Wordsworth, "in getting and spending we lay waste our powers."1 We expand on the literature about the economic, political, and social effects by exploring how

Wal-Mart affects how people spend their free time. Using data on Wal-Mart collected by Basker and data on leisure activities collected by Putnam, we explore the link between Wal-Mart and leisure. Evidence suggests that Wal-Mart penetration is associated with how people use their time. Wal-Mart increases real incomes and changes the relative prices of the ways people spend their leisure time. People do more of the things that Wal-Mart makes cheaper, less of some things that become relatively more expensive, and possibly more of some "high culture" activities.

Putnam (2000) assembles a wide range of data to suggest that "American community" has been on the decline since the 1950s. Part of this is likely due to the changing opportunity cost of community activities. Critics have argued that there is a fundamental tension between capitalism and our artistic impulses. Playwright Edward Albee maintains that the "killing hand of commerce" is destroying the arts (Albee, 2007). Wal-Mart regularly occupies the top position on the Fortune 500. The company, which made 2007 sales equal to approximately 2.5% of U.S. gross domestic product and had a sales volume equal to approximately 170% of the sales volume of its next 13 competitors combined, is emblematic of modern commercial society. Indeed, Lichtenstein (2006, p. 3) calls the company a "template for twenty-first-century capitalism." In this essay, we extend previous research and explore the relationship between the template and the society by using data that vary across time and space to determine how Wal-Mart penetration affects the activities people pursue.

Economists hesitate to attribute changing patterns of behavior to exogenous cultural shifts, preferring to rely on the maxim "people respond to incentives." Prices are the most important incentives in a market economy, and Wal-Mart's policy of "Every Day Low Prices" has been so effective that the consumer price index is overstated because of failure to account for Wal-Mart and other superstores (Hausman and Leibtag, 2004, 2005). Lower prices for goods that can be bought at Wal-Mart would presumably increase consumption of those goods. However, the effect on goods that cannot be bought at Wal-Mart is more ambiguous: consumption of these goods may fall through a substitution effect or rise through an income effect.

Also at issue are the aesthetics of bourgeois capitalist culture and criticisms thereof. Some commentators find advancing modern culture aesthetically unappealing (e.g., Barber, 1996), and Albee (2007) has argued that people in modern commercial culture "want the wrong things." In his eyes, people are making an unwise tradeoff between the soul-ennobling arts and soul-killing material consumption. In contrast, Postrel (1998) and Cowen (1998) defend the cultural search process characterizing modernity; Cowen, in particular, is optimistic about the ability of commercial culture to enhance rather than debase our artistic proclivities. Carden (2008) surveys

research on the alleged moral and artistic tradeoffs we make in commercial society and finds the claim that “capitalism deadens the soul” to be wanting. This essay contributes to the broader debate about the aesthetics of commercial society and the alleged tradeoffs between commerce and culture by offering an explicit empirical evaluation of how Wal-Mart—and the commercial society it embodies—affects how people spend their free time.

Using data on Wal-Mart’s presence collected by Basker and data on time use and social capital collected by Putnam, we evaluate Wal-Mart’s impact on a variety of leisure activities. We first consider activities that involve goods purchased at Wal-Mart, including buying and reading books, buying videos, playing tennis or golf, going clothes shopping, and watching television. We then consider the following activities that do not involve goods purchased at Wal-Mart, many of which are “cultural” in nature: going to classical music, pop, and rock concerts; going to the zoo; attending a lecture; visiting an art gallery or museum; and jogging. Using fixed-effects models, we find evidence that Wal-Mart entry is associated with an increase in “Wal-Mart-related” activities and a decrease in most “non–Wal-Mart-related” activities. However, participation in the high culture non–Wal-Mart-related activities—visiting art galleries and going to classical music concerts—appears to rise or remain unchanged after Wal-Mart entry, suggesting either stronger income effects or weaker substitution effects for them.

We proceed as follows. The next section discusses the literature on Wal-Mart. Wal-Mart lowers prices and affects disposable income. Section III discusses the theory. The relative magnitudes of the income and substitution effects attributable to Wal-Mart penetration are ambiguous and we explore the effects of increased Wal-Mart penetration on the ways people have used their leisure time. In Sections IV, V, and VI, we present our data, our empirical model, and our empirical results. We conclude in Section VII.

II. LITERATURE

Wal-Mart’s impact on leisure time allocation likely occurs through the chain’s effect on relative prices and purchasing power.2 To understand Wal-Mart’s effect on purchasing power, we must consider effects on employment, overall price levels, and incomes. Using county-level data, Basker (2005a) finds that Wal-Mart leads to a statistically significant increase in employment over the long run (an approximate increase of 50 jobs) and a reduction in the number of small retailers. In contrast, Neumark, Zhang, and Ciccarella (2005) use a different methodology and find that every Wal-Mart employee displaces 1.4 retail employees (Neumark, Zhang, and Ciccarella, 2005, p. 34).3Vedder and Cox (2006) offer evidence that Wal-Mart increased employment, and the issue has been studied most recently by Hicks (2007) who reaches a similar

conclusion. Sobel and Dean (2008) and Dean and Sobel (2008) broaden the literature on employment effects beyond the retail sector and are unable to identify a statistically significant effect of Wal-Mart entry on employment in small businesses. While Wal-Mart crowds out small retailers, they suggest that other businesses take their place.4

Lower prices expand our options, and Wal-Mart's old motto, "Always Low Prices," describes their impact on prices throughout the economy. The company touts a study by Global Insight—which it funded—suggesting that Wal-Mart saves the average family approximately $2,500 per year. Basker (2005b) finds that Wal-Mart reduces prices in the short run by 1.5%–3%, but the effect grows by as much as a factor of 4 as we move into the long run. Wal-Mart's efficiencies spillover onto their competitors: Basker and Noel (forthcoming) argue that Wal-Mart enjoys a 10% price advantage over other grocers, and they estimate that entry of a Wal-Mart superstore leads to a 1%–1.2% reduction in prices by the company's competitors. In broad critiques of the consumer price index, Hausman and Leibtag (2004, 2005) argue that the consumer price index is systematically overestimated because the Bureau of Labor Statistics does not adequately account for the impact of Wal-Mart and other Big-Box retailers in its calculation of the index. Hausman and Leibtag (2005) also argue that the benefits from Big-Box retail flow primarily to low-income households.

Open questions remain about Wal-Mart's impact on worker incomes, with the view among some being that Wal-Mart reduces wages and erodes working conditions. According to Hoopes (2006, p. 99), Wal-Mart's wages "subvert the democratic principles of justice and freedom" and prevent the company's workers from living "with dignity and autonomy"; however, this conclusion is unclear because little is known about the actual composition of the company's workforce (Hoopes, 2006, p. 98). Goetz and Swaminathan (2006) conduct an instrumental variable analysis and find that Wal-Mart increases poverty rates at the county level.

Less well established are findings about Wal-Mart's social and cultural effects. Anti-Wal-Mart polemics argue that the company's low prices come at a "high cost," as suggested by the title of the anti-Wal-Mart film and accompanying book The High Cost of Low Price.5 Many of the essays in Lichtenstein (2006) are explicitly critical of Wal-Mart's alleged impact on wages, labor standards, and social fabric.

Goetz and Rupasingha (2006) is the first systematic study of Wal-Mart's impact on social capital. While they find that Wal-Mart reduces social capital, Carden, Courtemanche, and

Meiners (2008a) combine Basker's county-level Wal-Mart data set, Putnam's individual response data on social capital, and a broader range of empirical methods and find that there is no identifiable systematic relationship between Wal-Mart penetration and social capital. Other critics have argued that Wal-Mart and Big-Box retailers lead to "cultural impoverishment of communities" (Strasser, 2006, p. 55), and Hoopes (2006, p. 95) argues that "(a)nother increasingly widespread and largely justified critique of Wal-Mart is that it is bad for the social fabric."Dicker (2005) argues that Wal-Mart is covertly foisting a conservative political agenda on the country—the company does not carry adult-oriented magazines like Maxim, FHM, and Stuff—and right-wing groups have criticized Wal-Mart for its decision to join the National Gay and Lesbian Chamber of Commerce, a decision which they recently reversed. Carden, Courtemanche, and Meiners (2008b) fail to detect a systematic relationship between Wal-Mart penetration and individual political, religious, and moral values, suggesting that the cultural spillovers from the Wal-Mart economy are less pronounced than popular discourse might suppose.

This essay continues Carden, Courtemanche, and Meiners (2008a, 2008b) line of inquiry into some of the subtler effects and spillovers associated with Wal-Mart's expansion. This essay considers explicitly how Wal-Mart affects the way people spend their time by comparing activities that Wal-Mart makes cheaper to activities that do not involve the Wal-Mart product line. This has two implications. First, we address Wal-Mart's allegedly deleterious effects on social wellbeing. Second, we explore the relationship between commerce and supposed fine things like the arts that we give up as part of our supposed devotion to unrighteous mammon. We now consider the effect of Wal-Mart penetration on leisure activities.

III. THEORY

Wal-Mart's recently adopted slogan is "Save More. Live Better," which follows explicitly their previous slogan "Always Low Prices." Wal-Mart changes some prices faster than others. Some distribution channels can be more amenable to economies of scale, and Wal-Mart's expansion also brings new goods into previously unserved markets.

We do not know consumers' preferences a priori, and their new utility-maximizing choice of bundles containing "Wal-Mart goods" and "non-Wal-Mart goods" could reflect net increases, net reductions, or no change in consumption of the two types of goods depending on the relative magnitudes of the income and substitution effects attributable to Wal-Mart-induced price changes. Wal-Mart's impact on prices suggests that the income effect is positive for both types of goods, although if Wal-Mart has an adverse effect on employment or wages, conceivably the

income effect could be negative. The substitution effect implies that people should substitute away from goods not sold at Wal-Mart toward goods sold at Wal-Mart. However, the substitution effect will not be the same for all goods sold at Wal-Mart since Wal-Mart affects some prices differently than others. If Wal-Mart reduces the price of, for example, books by less than it reduces the price of other items, people could actually substitute away from books even though they are sold at Wal-Mart. Because of these theoretical ambiguities, we next turn to the data in an effort to evaluate how Wal-Mart impacts different types of leisure activities.

IV. DATA

We combine two data sets. The first is a set of data on Wal-Marts sorted by county and date of entry from the early 1970s through 2001 compiled by Basker. The second is a data set compiled by Putnam for his 2000 book Bowling Alone. Putnam's data report individual-level responses to questions about habits, values, and activities culled from the General Social Survey (GSS), the Roper Social and Political Trends data set, and the DDB Needham Life Style surveys. Our estimations use data from the DDB Needham Life Style surveys, which are comparable to the GSS data and similar data sources (Putnam, 2000, pp. 422–423). Because the DDB Needham data are restricted to married couples only before 1985, we restrict our attention to post-1985 data. Putnam's data are available annually until 1998, so our sample period is restricted to the period from 1985 to 1998.6 After adjusting the data for missing values, our samples for the regressions that include all survey years vary between 43,501 and 44,202.7

Table 1 reports summary statistics for the data used in this analysis. We use two different measures of Wal-Mart presence. The first is the "number of Wal-Marts per 10,000 residents" in the respondent's county of residence. The second measures the "number of Wal-Mart years" or the aggregate number of years that Wal-Mart has been in operation in the county, calculated as the number of Wal-Marts times the number of years in operation for each Wal-Mart.8 We use several aspects of leisure activity, collected according to whether inputs to the activity can be bought at Wal-Mart or whether they cannot.

Table 1. Summary Statistics

Variable Name	Description	Mean (SD)
Number of Wal-Marts per 10,000	Number of Wal-Marts in the respondent's county of residence per 10,000 residents	0.078 (0.161)
Wal-Mart years per 10,000	Number of Wal-Marts in the county times number of years each Wal-Mart has existed	0.553 (1.464)
Read book	Number of times the respondent finished reading a book in the past 12 mo	13.883 (16.874)
Buy book	Number of times the respondent finished reading a book in the past 12 mo	8.223 (11.134)
Buy movie	Number of times the respondent bought a movie in the past 12 mo	3.228 (6.640)
Television	Number of half-hour program slots the respondent watches television on a typical week	31.260 (16.148)
Clothes	Number of time the respondent went clothes shopping in the past 12 mo	10.631 (11.546)
Tennis or golf	Number of time the respondent played tennis or golf in the past 12 mo	3.050 (9.765)
Classical	Number of times the respondent went to a classical music concert in the past 12 mo	0.723 (2.597)
Rock/pop	Number of times the respondent went to a rock or pop concert in the past 12 mo	0.605 (2.289)
Went to movie	Number of times the respondent went to a movie in the past 12 mo	5.407 (8.450)
Zoo	Number of times the respondent went to the zoo in the past 12 mo	1.192 (2.774)
Art gallery	Number of times the respondent went to an art gallery or art museum in the past 12 mo	1.692 (3.497)
Lecture	Number of times the respondent went to a lecture (not including school) in the past 12 mo	2.785 (6.999)
Jogging	Number of times the respondent went jogging in the past 12 mo	3.026 (9.511)
Population density 2	Binary variable equal to 1 if the respondent lives in the central city of a metropolitan area with population 50,000–499,999 and 0 otherwise	0.092 (0.288)
Population density 3	Binary variable equal to 1 if the respondent lives in the suburbs of a metropolitan area with population 50,000–499,999 and 0 otherwise	0.102 (0.302)
Population density 4	Binary variable equal to 1 if the respondent lives in the central city of a metropolitan area with population 500,000–2,000,000 and 0 otherwise	0.122 (0.327)
Population density 5	Binary variable equal to 1 if the respondent lives in the suburbs of a metropolitan area with population 500,000–2,000,000 and 0 otherwise	0.170 (0.375)
Population density 6	Binary variable equal to 1 if the respondent lives in the central city of a metropolitan area with population greater than 2,000,000 and 0 otherwise	0.095 (0.293)
Population density 7	Binary variable equal to 1 if the respondent lives in the suburbs of a metropolitan area with population greater than 2,000,000 and 0 otherwise	0.193 (0.394)
Income 2	Binary variable equal to 1 if the respondent's total annual household income is between $20,000 and $40,000	0.348 (0.476)
Income 3	Binary variable equal to 1 if the respondent's total annual household income is between $40,000 and $60,000	0.212 (0.409)
Income 4	Binary variable equal to 1 if the respondent's total annual household income is between $60,000 and $80,000	0.098 (0.297)
Income 5	Binary variable equal to 1 if the respondent's total annual household income is between $80,000 and $100,000	0.038 (0.192)
Income 6	Binary variable equal to 1 if the respondent's total annual household income is greater than $100,000	0.032 (0.176)
Married	Binary variable equal to 1 if the respondent is married and 0 otherwise	0.722 (0.428)
Number of children	Number of children younger than 18 yr living with the respondent	0.963 (1.180)
Age	Respondent's age	46.780 (16.042)

Female	Binary variable equal to 1 if the respondent is female and 0 otherwise	0.554 (0.497)
Education 2	Respondent graduated from high school but did not attend college	0.354 (0.478)
Education 3	Respondent attended college but did not graduate	0.285 (0.451)
Education 4	Respondent graduated college but did not take any postgraduate classes	0.131 (0.337)
Education 5	Respondent took postgraduate classes.	0.128 (0.334)
Race: nonwhite	Binary variable equal to 1 if the respondent is not white and 0 otherwise	0.114 (0.318)

We consider six leisure activity variables that involve inputs that can be purchased at Wal-Mart as well as plausible theoretical reasons why they might matter for policy purposes. The first is the number of books bought in the preceding year, and the second is the number of books read in the preceding year. Literacy is the first hurdle into the knowledge-based global economy, and reading is an important component of education. Presumably, substitution toward time spent reading will increase one's future productivity. The number of books one buys should more directly reflect Wal-Mart entry than the number of books read, but the variable exists for only 2 of the 13 survey years, so the sample size is limited.9 Number of books read exists for all survey years and also better measures the actual portion of leisure time allocated to reading. It is important to note that the data do not permit us to measure the "quality" of the books being bought or of the time spent reading; we cannot determine whether people are spending more time reading Dickens or more time reading trashy romance novels.

Third and fourth, we use the number of movies or videos bought in the preceding year and the number of half hour television slots watched in a typical week. Wal-Mart reduces the price of home entertainment and the price of sedentary leisure, which could damage health and reduce participation in social entertainment. While these innovations are outside our sample period, Wal-Mart's aggressive price-cutting on DVD players, DVDs, and plasma-screen TVs have increased access to quality home entertainment. Fifth, we consider the number of times the individual has gone shopping for clothes in the preceding year. Shopping evolved into a distinctly social activity in the twentieth century, and deeper Wal-Mart penetration could alter the distribution of time people spend shopping relative to other social activities. Our sixth dependent variable is the number of times playing golf or tennis in the previous year, as physical activity is an important determinant of health. We choose golf and tennis instead of other sports because they both require substantial equipment purchases on the part of every participant, meaning that they may be especially sensitive to the price of sporting goods. Capital intensity has also traditionally made them middle- and upper-class pursuits.

For comparison, we also consider seven leisure activity variables that involve inputs that cannot be purchased at Wal-Mart and which could be crowded out as people substitute toward goods and activities that are directly Wal-Mart sensitive. We consider the number of times in the preceding year that a survey respondent has gone to a classical music concert, a rock or pop concert, the movies, a lecture or seminar, an art gallery, or a zoo. Four of these involve participation in the arts. Many municipalities have in place programs designed to protect or promote the arts; indeed, the research program and policy agenda falling into the category of "new urbanism" places the arts at the center of the agenda (Holcombe, 2004). Florida (2004), for example, argues that the "creative class" essential to job growth and economic dynamism in the twenty-first century is attracted to a vibrant arts scene. Examining these variables also allows us to confront the criticism offered by Albee (2007). Finally, we consider the number of times one has gone jogging in the preceding year. Since jogging does not require the purchasing of expensive sporting goods, it should be less sensitive to price changes than golf or tennis.10 We examine jogging in addition to golf and tennis to examine whether Wal-Mart leads to an increase in physical activity or simply a substitution away from noncapital-intensive activities to capital-intensive activities.

Data for some of these activities are missing for some survey waves. The variable for buying videos is not available in 1989, 1991, and 1992; buying books is only available in 1997 and 1998; data for buying clothes only exist from 1985 to 1991; watching television is only available from 1993 to 1998; and data on zoo visits are only available in and after 1992.

Table 1 also includes summary statistics on a variety of control variables. We control for population density, income, whether survey respondents are married, how many children they have, how old they are, whether they are male or female, their level of education, and their race.

V. EMPIRICAL STRATEGY

We model participation in Activity as a function of Wal-Mart prevalence, a vector of control variables, and year fixed effects. We begin by estimating a model with county random effects. The equation takes the following form:

$$\text{Activity}_{ict} = \alpha_0 + \beta_{\text{WM}}\text{WalMart}_{ict} + \beta \boldsymbol{X}_{ict} + t_t + \upsilon_c + \varepsilon_{ict}$$

WalMart is the number of Wal-Marts in period *t* in respondent *i*'s county *c* per 10,000 residents.[11] $\boldsymbol{X}$ is a vector of individual-level control variables, *t* represents year effects, and υ is

the random effect. We use 17 dependent variables: the 13 activities described in Section III plus variables representing the sum of the Wal-Mart-related activities, the sum of the non–Wal-Mart-related activities, the sum of the cultural non–Wal-Mart-related activities (art gallery visits and times going to a classical music concert), and the sum of the 5 other non–Wal-Mart-related activities. We include the sums to have a single measure for how Wal-Mart affects participation in activities that involve products purchased there and how Wal-Mart affects participation in other activities as well as to see if the effect on high culture activities differs from the effect on other non–Wal-Mart-related activities. Adding all the Wal-Mart-related activities is impossible because the variable for buying clothes only exists until 1991, while the variable for television viewing does not start until 1993. Also, the variable for buying books only exists for 2 of the 13 yr. Our sum of the Wal-Mart-related activities therefore encompasses only reading books, buying movies, and playing tennis or golf.

β_{WM} may suffer from omitted variable bias, as unobservable characteristics may affect both Wal-Mart presence and leisure activity choices. For example, an area having a strong demand for electronics may lead to both Wal-Mart entry and frequent movie or television watching. Therefore, we also estimate models including county fixed effects (α_c) instead of random effects:[12]

$$\begin{aligned}\text{Activity}_{ict} &= \alpha_0 + \beta_{\text{WM}}\text{WalMart}_{ict} \\ &\quad + \beta \boldsymbol{X}_{ict} + t_t + \alpha_c + \varepsilon_{ict}\end{aligned}$$

The inclusion of both county and time fixed effects removes potential bias from county-level omitted variables that do not vary over time in addition to national trends. Since our data do not track the same individuals over time, the use of individual fixed effects is not possible. However, since the variable of interest is county level, including individual fixed effects in additional to county effects would be unlikely to result in a more consistent estimator for β_{WM}. Our estimator for β_{WM} is consistent under the assumption that changes over time in the error term are uncorrelated with changes in Wal-Mart prevalence. Although the potential sources of omitted variable bias may vary over time, including county fixed effects should mitigate the extent of any bias in our estimates. Note, however, that fixed effects do not correct for reverse causality, which in this context would occur if participation in leisure activities directly determines Wal-Mart presence. While the improved consistency using fixed effects is appealing, precision becomes a concern, as most of our regressions include approximately 15 observations per county. In short, the random-effects estimator is more efficient but may not be consistent, while the fixed-effects estimator is more consistent but less efficient. We therefore estimate both types of models and conduct Hausman tests to evaluate the consistency of the random-effects estimator.

A possible concern with the specifications in Equations (1) and (2) is that people's leisure time habits may respond gradually to changes in the relative prices of different activities. Also, a new Wal-Mart store may take time to earn a large enough market share for its prices to affect people's choices of hobbies. Consequently, the assumption in Equations (1) and (2) that the Wal-

Mart effect does not depend on the length of time the store has been in business may not be valid. We next relax this assumption by using a different variable of interest: the natural logarithm of the sum of the number of years each Wal-Mart in the county has existed.[13] This variable is defined by $\ln((\sum_{j=0}^{J} \mathrm{YEARS}_j) + 1)$, where J is the number of Wal-Marts in the county and YEARS is the number of years that Wal-Mart j has been in business. We add one to prevent the natural log from being undefined in counties with no Wal-Marts. An additional advantage to this approach is that, to some degree, accounting for lagged Wal-Mart presence helps to guard against reverse causality.

Another concern is the fact that the dependent variables are censored on the left by 0.[14] We elect not to estimate Tobit models because Tobit fixed-effects estimators are biased due to the incidental parameters problem (Greene, 2004). To address the censoring problem, we also estimated models restricting the sample to people with nonzero values of the dependent variables as well as models using binary dependent variables indicating whether or not the respondent ever participates in the activity. The conclusions reached were similar.[15]

VI. RESULTS

We report estimates of β_{WM} in Table 2. To better assess the magnitudes of the effects, we also convert these estimates to percentage changes in the dependent variables that would result if two Wal-Marts entered a county with a population of 500,000 that previously had no Wal-Marts and remained for 10 yr. We report these percentages in Table 3. In both Tables 2 and 3, the columns indicate whether we use per capita number of Wal-Marts or the log of the per capita number of Wal-Marts weighted by the number of years the stores have existed and also whether we use random or fixed effects.

Table 2. Coefficient Estimates for Wal-Mart Variables

Activity	Number of Wal-Marts per 10,000 Residents—Random Effects	Number of Wal-Marts per 10,000 Residents—Fixed Effects	Log(Number of Wal-Mart Years)—Random Effects	Log(Number of Wal-Mart Years)—Fixed Effects
Read book	−0.52 (0.76)	2.16 (1.72)†	−0.19 (0.21)	0.79 (0.52)††
Buy book	4.32 (2.47)*	6.32 (2.71)**†	0.64 (0.44)	1.52 (0.61)**††
Buy movie	−0.11 (0.37)	0.95 (0.93)	0.06 (0.11)	0.64 (0.26)**†††
Television	4.96 (1.48)***	8.52 (6.07)	1.71 (0.37)***	1.71 (1.91)
Clothes	0.08 (0.66)	4.74 (2.09)**†††	−0.04 (0.24)	0.49 (0.86)
Tennis or golf	0.18 (0.43)	1.84 (0.99)*†	−0.07 (0.11)	0.89 (0.30)***†††
Sum(Wal-Mart related)	−0.43 (1.16)	6.70 (3.35)**††	−0.33 (0.29)	1.55 (0.94)*†
Classical	−0.30 (0.09)***	−0.17 (0.17)	−0.09 (0.02)***	0.04 (0.06)††
Rock/pop	−0.27 (0.07)***	−0.13 (0.25)	−0.09 (0.02)***	−0.07 (0.07)
Went to movie	−0.61 (0.32)*	−0.40 (0.76)	−0.19 (0.09)**	−0.46 (0.24)*
Zoo	0.12 (0.11)	−0.13 (0.43)	0.03 (0.03)	−0.28 (0.23)
Art gallery	−0.45 (0.12)***	0.44 (0.30)	−0.16 (0.04)***	0.19 (0.10)*†††
Lecture	−0.39 (0.27)	−0.13 (0.62)	−0.11 (0.08)	−0.11 (0.21)
Jogging	0.15 (0.37)	−1.58 (1.29)†††	−0.03 (0.10)	−0.58 (0.29)**††
Sum(non-Wal-Mart related)	−2.90 (0.99)***	−4.34 (3.78)	−0.83 (0.24)***	−1.96 (1.46)
Sum(high culture)	−0.73 (0.16)***	0.31 (0.38)†††	−0.24 (0.05)***	0.22 (0.13)*†††
Sum(other non-Wal-Mart related)				

Notes: Heteroskedasticity robust standard errors are in parentheses. All regressions include year fixed effects and the control variables.

*, **, and ***indicate statistically significant at the 10%, 5%, and 1% levels.

† , ††, and †††Hausman test rejects null hypothesis that the random- and fixed-effects estimates are the same at the 10%, 5%, and 1% levels.

Table 3. Percentage Change in the Dependent Variables 10 Years after the Entry of Two Wal-Marts into a County

Activity	Number of Wal-Marts per 10,000 Residents—Random Effects (%)	Number of Wal-Marts per 10,000 Residents—Fixed Effects (%)	Log(Number of Wal-Mart Years)—Random Effects (%)	Log(Number of Wal-Mart Years)—Fixed Effects (%)
Read book	−0.1	0.6	−0.5	1.9
Buy book	2.1*	3.1**	2.6	6.2**
Buy movie	−0.1	1.2	0.6	6.7**
Television	0.6***	1.1	1.8***	1.8
Clothes	0.0	1.8**	−0.1	1.6
Tennis or golf	0.2	2.4*	−0.7	9.8***
Sum(Wal-Mart related)	−0.1	1.3**	−0.5	2.6*
Classical	−1.6***	−0.9	−4.4***	1.7
Rock/pop	−1.8***	−0.9	−5.2***	−4.1
Went to movie	−0.5*	−0.3	−1.2**	−2.9*
Zoo	0.4	−0.4	0.7	−7.8
Art gallery	−1.1***	1.0	−3.1***	3.7*
Lecture	−0.6	−0.2	−1.4	−1.3
Jogging	0.2	−2.1	−0.3	−6.4**
Sum(non-Wal-Mart related)	−0.8***	−1.1	−1.8***	−4.3
Sum(high culture)	−1.2***	0.5	−3.4***	3.1*
Sum(other non-Wal-Mart related)	−0.6**	−1.3	−1.5***	−5.6*

Notes: All calculations assume a county population of 500,000. Log estimates assume that the county initially had no Wal-Marts. See other notes from Table 2.

Wal-Mart is associated with a small and statistically insignificant drop in reading books in both random-effects regressions, but when fixed effects are added the effect becomes positive and more substantial. Two additional Wal-Mart stores increases reading by 0.6% using per capita number of Wal-Marts and 1.9% using the log of Wal-Mart years. The fixed-effects estimates are not quite statistically significant, although both Hausman tests reject the null hypothesis that the random-effects estimators are consistent (as indicated by the "†" symbol on Table 2), suggesting that the fixed-effects estimates are more reliable. All four estimates for buying books are positive

and large, with effects ranging from 2.1% to 6.2%. Both fixed-effects estimates are statistically significant at the 5% level.

For buying movies, there is essentially no effect using random effects, but the effect of Wal-Mart entry is positive and large in the fixed-effects regressions. Using the log of Wal-Mart years, the effect is especially strong: two new stores increase movie buying by a statistically significant 6.7% after 10 yr.

Wal-Mart is associated with increases in television watching in all four regressions, and the effect of two stores ranges from 0.6% to 1.8%. The random-effects estimates are highly significant, but the fixed-effects estimates are not. However, the fixed-effects coefficient estimates are statistically indistinguishable from the random-effects estimates, so we find no evidence that the random-effects estimates are unreliable.

Wal-Mart does not impact clothes buying in the random-effects regressions, but in the fixed-effects regressions, the effect is positive in both regressions and significant in one. The magnitudes in both are about 2%. One of the two Hausman tests rejects the null hypothesis that the random-effects estimator is consistent.

Similarly, we cannot conclude that Wal-Mart entry is associated with changes in playing tennis or golf using random effects, but using fixed effects, the effect is positive, large, and statistically significant. Both Hausman tests reject the null hypothesis at the 10% level or better.

Using the sum of reading books, buying movies, and playing tennis or golf as the dependent variable, the effect of Wal-Mart is negative, small, and insignificant using random effects but positive, statistically significant, and sizeable (magnitudes of 1%–3%) using fixed effects. Again, both Hausman tests reject the null hypothesis at at least the 10% level.

To summarize, the difference between the fixed-effects and random-effects estimates is substantial in most specifications, and in most cases, the Hausman test rejects the null hypothesis. Therefore, fixed-effects estimation appears to be preferred to random-effects estimation for Wal-Mart-related activities. Focusing only on the fixed-effects models, Wal-Mart entry is associated with increases in participation in activities which involve inputs that can be

purchased at Wal-Mart in each of the 14 regressions. Wal-Mart is not always statistically significant, likely because of the aforementioned inefficiency of the fixed-effects estimation, so our evidence falls short of conclusive, but the robustness of the signs is unlikely to be coincidental.

Turning to the effect on non–Wal-Mart-related activities, Wal-Mart is associated with a decrease in going to classical music concerts in three of the four regressions, and Wal-Mart is significant in both random-effects regressions. However, using the log of Wal-Mart years and fixed effects, the effect becomes positive and insignificant, and the Hausman test rejects the consistency of the random-effects estimator.

The effect on rock and pop concert attendance is more conclusive, as the coefficient estimate on Wal-Mart is negative in all four specifications. The random-effects estimates are significant at the 1% level, while the fixed-effects estimates are insignificant but statistically indistinguishable from the random-effects estimates. The magnitudes are nontrivial, ranging from 1% to 5%.

Similarly, Wal-Mart entry is associated with a drop in going out to the movies in all four specifications, three of which are significant at the 10% level or better. Two additional Wal-Mart stores decrease movie attendance by 0.3%–2.9%.

For zoos, the coefficient estimate on Wal-Mart is positive using random effects but becomes negative using fixed effects. Wal-Mart is statistically insignificant in all regressions, but the magnitude of the effect using fixed effects and the log of Wal-Mart years is a large −7.8%.

The effect on art galleries appears negative using random effects, but when fixed effects are added, it becomes positive in both regressions and significant at the 10% level in one. One of the two Hausman tests rejects the null hypothesis, suggesting that the negative coefficients estimated using random effects may reflect correlation rather than causality.

Wal-Mart entry is associated with a statistically insignificant decline in attending lectures in all four specifications. The magnitudes are modest, with the largest reduction being 1.4%.

The effect of Wal-Mart on jogging is essentially zero using random effects but becomes negative and large (−2.1% and −6.4%) when fixed effects are added. One of the two fixed-effects estimates is significant at the 5% level, and both Hausman tests reject the null hypothesis.

Using the sum of the seven non–Wal-Mart-related activities as the dependent variable, the coefficient estimate is negative in all four models, with the effect of two additional Wal-Marts ranging from −1% to −4%. Wal-Mart is statistically significant at the 1% level in both random-effects regressions. While neither fixed-effects estimate is significant, they are both larger in magnitude than the corresponding random-effects estimates and statistically indistinguishable according to the Hausman tests.

Considering the sum of the cultural activities visiting art galleries and going to classical music concerts, however, reveals a different picture. In both fixed-effects regressions, the coefficient on Wal-Mart is positive, and the log of Wal-Mart years is significant at the 10% level. While the random-effects estimates are negative, both Hausman tests reject the null hypothesis at the 1% level, suggesting that the fixed-effects estimators are more consistent.

The effect of Wal-Mart on the sum of the other five non–Wal-Mart-related activities is negative in all four specifications. Wal-Mart is highly significant in both random-effects regressions, and neither Hausman test rejects the null hypothesis. Also, in the fixed-effects regression, the log of Wal-Mart years is significant at the 10% level.

To summarize, for the cultural activities visiting art galleries and attending classical music concerts, Hausman tests suggest that fixed effects are generally preferred to random effects, and the results from the fixed-effects regressions suggest that the effect of Wal-Mart is likely either zero or positive. In contrast, for the other non–Wal-Mart-related activities, results from Hausman tests suggest that fixed effects are only preferred when the dependent variable is jogging. Focusing on the fixed-effects regressions for jogging and the random-effects regressions for going to rock concerts, the movies, the zoo, and lectures, we see that the effect of Wal-Mart is generally negative. The weight of the evidence therefore suggests that Wal-Mart penetration is associated with modest reductions in participation in activities that do not involve inputs that can be purchased at Wal-Mart, although this pattern does not appear to hold for high culture activities.

The different results for cultural and other non–Wal-Mart-related activities suggest that either income or substitution effects (or both) differ for the two groups. Purchasing art at a gallery and going to the symphony are both generally expensive relative to the other activities we examine and therefore the income effect may be stronger. Indeed, this appears to be the case in our data. Our regression results imply that moving from the lowest to highest income group increases classical concert attendance by 110% relative to the sample mean and visits to an art gallery by 76%. In contrast, such an income shift increases going to the movies by 64%, going to a pop/rock concert by 66%, trips to the zoo by 29%, and lecture attendance by 17%.16 Alternatively, the substitution effects may differ from the different groups. Close substitutes for cultural goods such as symphonies and fine art are not available at Wal-Mart. On the other hand, for example, one could substitute buying a movie for watching a movie in a theater, equipment-intensive sports for jogging, and, less perfectly, buying a rock CD for going to a rock concert. The fact that Wal-Mart is statistically significant in the preferred specifications for going to the movies, jogging, and going to rock concerts—the three activities that can be most closely substituted at Wal-Mart—provides some evidence that substitution effects matter in this context.

VII. CONCLUSIONS

Using data from the DDB Needham Life Style Surveys matched with data on Wal-Mart presence collected by Basker, we examine the relationship between per capita number of Wal-Mart stores and individual participation in a wide range of leisure activities using random- and fixed-effects models. We consider both activities that involve goods that can be purchased at Wal-Mart, such as reading, watching television, and playing tennis or golf, as well as activities that do not involve goods that can be purchased at Wal-Mart, such as going to classical music concerts, rock concerts, and the movies. We find fairly robust evidence that Wal-Mart entry is associated with an increase in people's participation in activities that involve goods which can be purchased at the store as well as some evidence that Wal-Mart entry is associated with a decrease in participation in activities unrelated to the store. However, we do not find a decrease in participation in the cultural activities visiting an art gallery and going to a classical music concert. This suggests that Wal-Mart does not contribute to the "dumbing down" of society.

Clear identification remains an important issue, as fixed-effects estimation does not completely disentangle correlation and causality. Further, our fixed-effects estimators are relatively inefficient because of a limited number of individuals per county in our data. Future research should examine if the patterns observed in this study persist using different identification strategies and different types of leisure activities.

Footnotes

1 This is discussed in an interview with Deirdre N. McCloskey by Russell Roberts, available online at www.econtalk.org.

2 This section is adapted from the literature reviews in Carden, Courtemanche, and Meiners (2008a, 2008b).

3 Neumark, Zhang, and Ciccarella (2005) obtain these results by predicting Wal-Mart entry using the company's pattern of expansion around Bentonville, Arkansas (Neumark, Zhang, and Ciccarella, 2005, p. 34). Basker (2007) criticizes their findings and argues that for employment studies, other factors explaining the temporal and spatial distribution of employment are correlated with their "distance from Bentonville" instrument, rendering it invalid.

4 Dean and Sobel (2008, p. 40) offer the example of change in Morgantown, West Virginia, where downtown retailers were driven out of business by Wal-Mart but were replaced by other small businesses: "A former women's clothing shop transformed into a high-end restaurant. A former electronics store was converted into an ice cream parlor." And so on. Theirs is a story of division of labor and Schumpeterian creative destruction: Wal-Mart economizes on labor in the retail sector and frees it for employment in other lines of work.

5 Other anti-Wal-Mart titles unearthed at Amazon.com include How Wal-Mart is Destroying America and the World: And What You Can Do About It, Selling Women Short: The Landmark Battle for Worker's Rights at Wal-Mart, Wal-Mart: The Bully of Bentonville: How the High Cost of Everyday Low Prices is Hurting America, and The Case Against Wal-Mart, among others.

6 Putnam's data are not available in 1990.

7 The data are available on Basker's Web site: http://economics.missouri.edu/~baskere. Putnam's data are available online at http://www.bowlingalone.com. Putnam's data, including the problems with them, are discussed in detail in Putnam (2000, pp. 415–435). The data are also discussed further by Carden, Courtemanche, and Meiners (2008a, 2008b).

8 For example, if a county has three Wal-Marts that have been in business for 3, 5, and 8 yr, respectively, the number of Wal-Mart years is 16.

9 Wal-Mart does not carry as large a selection of books as a typical bookstore, so the degree to which Wal-Mart directly affects book buying is unclear. Indirect effects are also possible, as people shopping at Wal-Mart may also stop by stores that share the same parking lot, such as Barnes and Noble. We thank an anonymous referee for pointing this out.

10 Of course, jogging requires shoes and athletic clothes, which can be purchased at Wal-Mart.

11 This is the measure used by Goetz and Rupasingha (2006) and Carden, Courtemanche, and Meiners (2008a). Therefore, the number of Wal-Marts in a market is adjusted for the potential size of a market that a Wal-Mart can serve. There are numerous methods of approximating the size of markets, but for the purposes of this study, each county is considered to be its own isolated market. This dismisses the possibility that individuals access markets across county lines; however, there is no reason to suspect that this specification will result in any systematic bias.

12 Since the sample size is severely limited using frequency of buying books as the dependent variable, we include state instead of county fixed effects in that regression.

13 We do not count years in business before 1979, when Wal-Mart reached $1 billion in sales, assuming that Wal-Mart was too small a company to exert a cultural influence before 1979.

14 The dependent variables are also right censored at 52, although for all variables, very few observations are right censored.

15 These results are available upon request.

16 These calculations are based on the fixed-effects regressions with per capita number of Wal-Marts as the variable of interest. Note that it is not clear if our coefficient estimates for the income groups reflect correlation or causality, so these calculations should be interpreted with caution.

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