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**The Locational Impact of Wal-Mart Entrance:
A Panel Study of the Retail Trade Sector in West Virginia**

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Abstract: This paper examines the retail trade sector in 14 West Virginia counties from 1989 through 1996. A series of random effects models are tested on these panel data to measure the effect of the entrance of Wal-Mart stores in the county and in adjacent counties, and business cycle effects. This paper differs from earlier research in that it controls for endogeneity in the entrance decision of Wal-Mart in faster growing counties. This research finds a dramatic net increase in employment and wages in the Retail Trade sector (SIC 52) and a mild increase in the number of firms. The study finds a per capita wage increase in this industry, which is surprising but small. The paper concludes with further research recommendations.

The views expressed in this paper are the authors' and do not reflect the policy or opinion of the Lewis College of Business, Marshall University or any of its entities.

Introduction

The putative economic impact of the entrance of a discount store in a community has been hotly debated among local leaders across the U.S. throughout the past decade. The extension of these stores, especially Wal-Mart, Inc. overseas provides grist to an ongoing critique of everything from unfettered markets to cultural imperialism. Among the perceived impacts of these types of discounts stores, which we feel competent to address, include lower regional wages, capital outflows and loss of independent, locally owned businesses. These costs are balanced against proponent arguments of increased efficiency, employment and tax revenues. Less frequently discussed are the consumption benefits. Economists, for the most part, have been silent on these issues, feeling that the economies of scale inherent in a discount store, and the success of local market mechanisms meant increased welfare effects for local communities. Simply, the matter was not investigated on a broad scale within the academic community.

The few studies that have been performed do not generate a consensus result. Nearly all work in this area has focused on the location of Wal-Mart stores in local communities since the mid 1980's. The earliest of these studies (Keon, et. al., 1989) performed a static comparison of economic conditions in 14 Missouri counties with and without Wal-Mart stores. These researchers found no evidence of a negative impact of Wal-Mart location, instead finding increases in broad measures of income, retail employment and income, and sales tax revenues. They found that the overall number of retail stores had declined, but that in the sector there were more employees and higher payrolls. They did not note per capita wages in the retail sector, nor did they account for potential growth related entrance by Wal-Mart. This final problem plagues all the studies in the current literature. Simply, the

question of endogeneity in the growth variable in explicit or implicit modeling has not been adequately addressed, static analysis fails to capture the possibility that Wal-Mart stores enter counties with higher growth rates. This problem was addressed in a later paper (Ozment, et. al., 1990) which found few significant positive effects of Wal-Mart in a sample of rural counties. The study examined population, income, number of establishments, per capita bank deposits, employment, sales revenue and tax receipts. The authors suggested that Wal-Mart may have selected the better performing counties for store locations, and that the mildly better performance of the economies in these counties was not likely caused by the store entrance.

A study of employment and wages in Maine (Ketchum, et. al., 1997) concluded that there was no evidence of negative impact in a sample of 12 counties with and 12 counties without Wal-Mart stores. These findings were similar to the earlier studies in that the impacts were not significant and the authors recognized the possibility that Wal-Mart entered counties with higher growth rates.¹ A broader study (Barnes and Connell, 1996) examined regional variation in Wal-Mart impacts across several northeastern states. The study examined impacts on specific industries finding a pattern of results. They found increased sales of general merchandise, but with number of establishments unchanged, little or no change in the food stores and sales, decreased auto and furniture sales and increases in eating, apparel and drug store sales. The authors sought to find patterns, not causation, and the results point to that effort.

Two historians conducted a study that evaluated the social and economic effect of Wal-Mart

¹This study is notable for its use of actual statistical analysis, not merely comparisons of growth rates. The authors used the difference-in-difference-in-difference method (Gruber, 1994) to approximate second derivative analysis for functions whose empirical specifications were not continuous.

entrance in southern towns (Vance & Scott, 1992). The study addressed several sticky issues such as capital outflows and the benefits of locally owned firms. They concluded that the benefits Wal-Mart brought to the local communities outweighed the costs.²

Perhaps the best known research on Wal-Mart impacts focused on small towns in Iowa (Stone, 1989, 1995, 1997). The 1997 comparative study of 34 towns (5,000 - 40,000 pop.) examined changes in the same sets of variables as did the earlier studies, examining a metric known as the *pull factor* (the proportion of sales in a county as a proportion of statewide sales) in several industry sectors. The short run effects pointed to Wal-Mart induced increases (or slower decreases) in several sectors. This took the form of comparison between cities with and without Wal-Marts. The author suggested that long term growth rates would diverge much more modestly than the pronounced short run effects. He attributed this, in part, to the travel of shoppers to the Wal-Mart area from adjoining counties. Changes in the *pull factors* were used to capture this inter-county movement of consumers. We call this the *travel-substitution* effect. Stone's work was primarily aimed at describing the local effects of Wal-Mart entrance by focusing on large samples of towns. This work is both the most extensive and analytical of the existing literature. This study went further in establishing retail strategies for local stores facing Wal-Mart entrance, expanding this section into a widely read book on retail strategies for competing with discount stores. The prime element of Stone's analysis we

²The inclusion of an historical study in this review suggests the paucity of economic research on the subject. The weakness of the economic analysis by these authors (and their interpretation of the existing economic literature) highlights the problems that surround the analysis of discount stores. For example, the authors write "Walton hit upon another *innovation*. . . that by lowering his price per item he could sell a greater quantity of goods." (Vance & Scott, 1994, pg. 8, our italics). These type of wild assertions are endemic to journalistic reviews of the company, and sadly among some academic writing. The notion that Sam Walton discovered the demand curve is incredible, and casts real doubt on the veracity of the remaining analysis of the book.

shall evaluate is to whether or not the *pull factor* changes he introduced can be approximated through variations in the sample employed in our regression analysis. What we hope to examine is whether the entrance of Wal-Mart in poor counties, with fewer retail outlets, results in stronger economic impacts than in larger counties. This should imply the existence of a *travel-substitution* effect that would be more apparent in a small county with little retail alternatives.

The economic impact of Wal-Mart remains an unanswered phenomenon. The impact of Wal-Mart entrance has not been evaluated using newer econometric methods, nor has there been a study that attempts to control for endogeneity in the growth component. We seek to remediate this omission by evaluating the impact of Wal-Mart stores in southwestern West Virginia.

Wal-Mart in West Virginia

Wal-Mart incorporated in West Virginia late in its corporate life (August, 1989) and as of Summer, 1999 had 18 store locations and three supercenters and was the largest employer in the State with over 5,700 employees. We will focus on 14 counties in the southwest corner of the State where Wal-Mart is ranked between the fourth and seventh largest employer in each county. Wal-Mart claims significant economic impact from its location in the State, but these figures represent only gross benefits.³ The counties we evaluate are both rural and urban, but share slow growth, relatively high unemployment, and during our sample period of 1989-1996, continued to suffer from net population declines. Indeed out-migration, as a consequence of the sluggish economy was among the chief policy

³The company claims \$10 million in State and local taxes and almost \$47 million in sales tax receipts.

concerns in the State legislature during this period. While we have specific analytical methods to determine whether Wal-Mart entered faster growing counties within the region, it is clear that these 14 West Virginia counties would have ranked near the bottom on any growth related entrance decision.

Table 1 includes descriptive data on the sample counties with Wal-Mart locations.

Table 1, Sample Counties With Wal-Mart Locations

County	Store Type	Opening Date	Population (1996)	Per Capita Income (1996)	Unemployment Rate	
					Opening Date	1996
Cabell	1-regular	5/95	95,975	\$20,810	5.8%	6.2
Fayette	1-regular	1989	48,911	15,385	10.9	9.6
Greenbrier	1-supercenter	8/95	35,621	17,559	10.1	8.6
Kanawha	2-supercenter, 1 Sam's Club Supercenter 2, 8/98, outside of sample period	8/93, Supercenter 7/99, Sam's 7/94,	204,704	23,838	8.2 ('93), 6.6 ('94), 4.7 (98)	5.4
Logan	1-supercenter	10/97	41,795	15,864	9.4	10.9
Nicholas	1-supercenter	10/90	27,536	14,327	12.9	10.8
Raleigh	1-supercenter	9/89, supercenter 9/94	78,868	18,137	10.2	8.2

Table 2 describes those counties without Wal-Mart stores.

Table 2, Sample Counties without Wal-Mart Stores

County	Population (1996)	Per Capita Income (1996)	Unemployment Rate (1996)
Boone	26,413	\$17,367	9.8%
McDowell	31,395	13,034	12.7
Mercer	64,530	18,810	5.3
Mingo	32,830	15,898	14.1

Monroe	13,002	13,905	5.9
Summers	13,862	12,934	10
Wyoming	27,901	12,378	10.4

It is clear from these data that the counties in which Wal-Mart located are larger, and have a higher per capita income than the remaining counties, though there is some overlap. Likewise, the unemployment rates of the counties were not correlated with the entrance decision of Wal-Mart (corr = 0.0226). Wal-Mart appears to enter markets based on population size, not growth or per capita income. This is evident from both the data described in Tables 1 and 2 and discussions with Wal-Mart public relations division. This notion is reinforced through examination of the counties where Wal-Mart located. To capture a wide population size all sites are easily visited and seem to be centrally located. Also, as we will address later, it appears that these discount types of stores (e.g Target, K-Mart, Wal-Mart) are driven to enter markets based on rival location. That explains, in part, why there are 18 Wal-Marts and 18 K-Marts in West Virginia. What we seek to determine is the net economic impact within the counties that Wal-Mart located. This study will differ not in that question, but instead in the method of answering, relying on dynamic growth effects, not static comparisons. In that regard this study differs from the previous research examining discount store impacts on local communities.

Data and Estimation

Data for this study were obtained from the *Bureau of the Census* (Standard Industrial Classification employment, wages and number of firms), the *Bureau of Labor Statistics* (unemployment rates, civilian labor force figures, personal income and consumer price index, all urban

consumers), and from the individual Wal-Mart stores in the study (entrance year and location). All data is annual from 1988 through 1996.

As outlined earlier, a chief criticism of several studies of the local impact of Wal-Mart or similar retailers was their inability to decompose the retailer’s effect on the local community from unrelated economic effects. This potential problem is especially critical in a study that encompasses entrance of a firm during the sample period. The question is simply, was the decision to enter the market by the retailer independent of the rate of growth of the community. This simple endogeneity issue potentially clouds any further analysis. Accordingly, we seek to establish that Wal-Mart location decisions are independent of the rate of growth of the individual counties in which they were located (within our sample). To begin this test, we compared the growth rates of personal income between the Wal-Mart, and no-Wal-Mart counties from 1969 through 1996. There was no statistical difference between the two at any real level of significance (p-value = 0.52 in F-Test with unequal variance), see Table 3.

Table 3, Growth Rates among Counties in Sample

	Wal-Mart	no Wal-Mart
Mean	7.16	6.88
Median	7.08	7.34
Standard Deviation	0.53	1.02
Maximum	7.85	7.56
Minimum	4.81	6.57

The next step was to examine the entrance decision at each location. We constructed a probit model where the entrance decision [0,1] was tested on the county’s current and one year lagged growth rates. We counted entrance and an upgrade to a Super Wal-Mart as decisions to enter (so we

have 8 entrances) over the sample period. The results were invariant to traditional distributional assumptions (normal, logistic, binomial or negative binomial) and suggest that growth and lagged growth had no significant effect on the decision to enter.⁴

Descriptions of retailer location decisions are sparse in the literature. The two chief considerations affecting location decisions appear to be rival and own firm location and population densities. In West Virginia there are both 18 Wal-Mart's and 18 K-Mart stores.⁵ We offer these data merely to suggest that rival location appears to play a major role in Wal-Mart's entrance decision. Finally, to handle the issue of endogeneity we will examine subsets of the data in our model.

Estimation of the model was performed on a panel of 14 counties. A random effects model was initially employed. The model specification appears as:

$$Y_{i,t} = B_i X_i + g_j + g_t + u_i$$

where the dependent variable was regressed on a matrix of explanatory variables, location and time varying error terms and an observation specific error term. The first variable we selected to estimate the economic impact was the entrance of a Wal-Mart store in the county (counting an upgrade to a Super Wal-Mart as an additional entry). The second variable we selected was the location of Wal-Mart stores in adjacent counties. Both of these variables were simply annual count variables. To control for other population and economic effects, we also included West Virginia's civilian labor force

⁴The results of the probit, with z-statistics in parenthesis, was **Entrance = -1.7966 + 0.003966*Growth + 0.0546*Growth_{t-1}**. The standard errors were 0.40, 0.06 and 0.054 respectively with only the intercept statistically significant. Both growth variables had p-values ranging from .33 to .94. The model did not explain entrance to any reasonable degree with a McFadden $R^2 = 0.01$. Also, as previously noted, the unemployment rates were not correlated with entrance.

⁵Despite a proliferation in adjoining states, there are no Target stores in West Virginia.

and unemployment rate. This random effects model provided the basis for the estimation. We tested this model on a number of related dependent variables including total employment, wages, per capita wages and number of firms in SIC 52 (retail trade).

An alternative specification was employed where the dependent variable for per-capita wages was weighted according to the proportion of total sales (in the sample region) for that observation. This was a fixed effect model with the locational effect included in the dependent variable. Though a random effects model is clearly appropriate here, the weighted dependent variable technique permitted a robustness test of the model without deviating from the need to calculate cross sectional specific variations. All standard errors were White-washed with White's heteroscedasticity invariant variance-covariance matrix. Because of potential concerns with autocorrelated error terms we included the variables first differences to compare with the estimation in levels.⁶ Also, a series of Augmented Dickey-Fuller tests were performed on the economic variables. These tests rejected non-stationarity in each of the variables but at very weak levels of significance. For this reason an additional test on stationary (first differences) variables was performed. This served as a stability test of the parameter estimates since all first differences were stationary at high degrees of significance.

We also tested the model on a subset of the data, excluding two large counties (with Wal-Mart's) and excluding all counties without Wal-Mart stores. This is simply a robustness test. Also, this permits comparison of the effects of size differentials and offers evidence of the size effect on Wal-Mart entrance decisions. Estimation results on employment and number of firms appear in Table 4.

⁶Random effects models with autoregressive terms may be biased so that correction for the low Durbin-Watson statistics was not performed. We do not feel that autocorrelation in these models is a problem.

Table 4, Employment and Net Firm Effects of Wal-Mart Entrance (random effects parameters and intercept not illustrated)

Variable	employment) (employment)	# of firms) (# of firms)
Wal-Mart	322.39*** (4.07)	83.59*** (3.17)	15.32*** (3.47)	4.13* (1.97)
Adjacent Wal-Mart	48.74 (1.37)	12.24 (1.07)	1.49 (0.75)	-0.21 (-0.22)
WV Unemployment Rate	-48.52*** (-2.81)	-50.17*** (-2.91)	-0.21 (-0.23)	-1.31* (-1.66)
WV Civilian Labor Force	-1.56 (-0.99)	-1.49 (-0.80)	-0.13 (0.08)	-0.12 (-0.18)
R ²	0.99	0.09	0.99	0.08
D-W statistic	1.44	2.04	0.91	2.00

***Significant to the 0.01 level, **Significant to the 0.05 level, *Significant to the 0.10 level

These results tell a clear story about the effect of Wal-Mart on local employment and the number of firms in Retail Trade (SIC 52). This regression indicates a one time increase in jobs attributable to Wal-Mart of over 320 positions per county, in this narrow classification. This occurs even with controls for the overall State economy. Likewise, these results suggest adjacent Wal-Mart locations bring over 45 new jobs to a county (although this is not statistically significant at a high level). The regression in levels generated similar results.⁷ In the change in employment regression, the overall economy (as measured by the unemployment rate) explained roughly the same amount of variation in retail trade employment, as did a Wal-Mart entrance.

The regressions on the number of firms and the change in the number of firms indicated a dramatic effect by Wal-Mart. Following the location of Wal-Mart in the area, the total number of firms

⁷Since the median time Wal-Mart was on location was four years, the results for both in county and adjacent Wal-Mart stores were virtually identical. This was established by multiplying the parameter estimate for the first difference regression by the average number of years (334.36) and comparing that to the estimate in levels (322.39).

in retail trade increased by 15. For the one year change in number of firms regression this equaled roughly four. This variable was statistically significant at very high levels in both regressions. The general economic effects in the regression on the total number of retail trade establishments were swamped by the effect of Wal-Mart entrance. In the regression, the annual number of retail trade establishments was affected less (roughly 20 percent of the total change) than the change in the number of firms.⁸

These results are startling. Previous research has found a slight (often insignificant) net employment increase and increased numbers of firms outside the retail trade sector (e.g. eating and drinking establishments, gasoline service stations, etc.). Nowhere have we seen results that show increased number of retail trade establishments following the entrance of a large chain store. This is net, not gross number of firms. There are two possible explanations for these results. The first, and least likely, is that Wal-Mart clusters explain much of the increase. When Wal-Mart locates in an area, several smaller establishments also tend to locate nearby, though we have not seen more than a half dozen of these in any Wal-Mart location that would be classified as SIC 52 (Retail Trade). The more likely explanation is that the existence of Wal-Mart draws a larger shopping crowd from other locations. The extreme rural conditions in many of these counties suggests that consumers may shopping at and nearby local Wal-Mart locations instead of traveling to more urban areas. This *travel-substitution* effect attracts more local retail trade (as measured by Stone's *pull factor*).

When we examined this on subsets of the data (we excluded the no Wal-Mart only counties

⁸For both of these regressions, we also weighted the dependent variable by the county's size. These results were too similar to illustrate here.

and two dramatically larger counties) the results did not change. Indeed, when we examined only the counties with Wal-Mart locations, the store related employment figures dropped slightly, but the unemployment rate (or economy wide conditions) grew to explain about half the number of new retail jobs. When we eliminated the two very large counties, the results were substantially unchanged from the full model.

This suggests that the job growth results were consistent across counties with the most extreme rural poverty as well as the more urban counties. Job creation in the poorest of the counties was not as robust as in the full sample. This was expected because the Wal-Mart stores (and the new retail establishments) are larger in the more prosperous counties. The total number of new retail trade establishments increased from 15 in the full sample to 19 per county in the smaller set. This indicates the increase in new retail trade establishments was more pronounced (by nearly a third) in the rural counties. This strongly supports the explanation that local travel substitution leads to an increase in new retail establishments.

These results were restricted to the effect on total employment and establishments in SIC 52, Retail Trade. It seems intuitive that the effect of Wal-Mart on other sectors will be positive (e.g. construction and trade, services such as eating establishments, and on gasoline service stations). Earlier studies have mostly borne this out. Neglecting these other sectors is also a data necessity since suppression of key data by the Bureau of the Census affected each of the other critical sectors we could potentially examine.⁹ Of interest is the gross employment flows and the change in the number of

⁹The use of sales tax data from the West Virginia Department of Revenue may be exploited in later research.

gross establishments both before and after the beginning of this sample period. These data are of interest because they describe any change in the volatility and duration of employment and number of firms that could be attributable to the entrance of Wal-Mart stores. It is likely, given the large net increase in retail trade employment and establishments, that there is not a large gross decline in these data.¹⁰ It is also likely that the volatility of entrance and exit of retail stores are not substantially changed due to the Wal-Mart effect. Indeed, the simple increase in net employment in these counties (the majority of which experienced net population declines during the sample period) most likely led to much shorter periods of unemployment. These are empirical questions however, and ones that shall remain unanswered here, since the data necessary to answer these questions are enormously expensive.¹¹

With the increase in total employment and number of retail trade establishments, there was a clear expectation that total wages would increase. This expectation was borne out by tests on total real wages (deflated by the consumer price index for all urban consumers). However, the question remains whether or not the increase in employment increased real per capita wages in the retail sector. It seems unlikely that real per capita wages in the retail trade sector should rise given that new employees are likely to be less productive than existing employees.¹² This, of course, is an empirical question. We sought to test real per capita wages on the same set of explanatory variables. Table 5 illustrates the results.

¹⁰Our estimates are only slightly smaller than the Wal-Mart claims of gross job effects in these counties.

¹¹*Bureau of the Census* data estimates for the barest of these data exceed \$750 per year. The richer set of data may exceed \$4,000 per year and we require at least nine years of the data.

¹²Productivity is simply the dollar value sales per worker.

Table 5, Real Wages and Per Capita Real Wages, SIC 52, Retail Trade (all in thousands of dollars, intercept and random effects parameters not illustrated here)

variable	real wages) (real wages)	real per capita wages
Wal-Mart	29.398*** (4.99)	6.470*** (2.78)	0.004 (1.38)
Adjacent Wal-Mart	-0.249 (-0.10)	0.976 (0.96)	-0.001 (-1.07)
WV Unemployment Rate	-2.535** (-2.06)	-1.11 (-0.70)	-0.0007 (-0.38)
WV Civilian Labor Force	-0.249** (-2.16)	0.11 (0.70)	-0.0001* (-1.72)
R ²	0.99	0.02	0.39
D-W statistic	2.00	2.04	2.09

***Significant to the 0.01 level, **Significant to the 0.05 level, *Significant to the 0.10 level

The results for real wages and change in real wages are consistent with the findings for employment and number of establishments. Clearly, if employment rises, so too will wages. Other studies typically support this result. The surprising result is real per capita wages in the retail trade sector does not decline. In fact there is a slight increase, but it is not an economically (or statistically) significant amount (under \$5.00 per month). The fact that it is non-negative is quite surprising. This suggests that Wal-Mart employees are better (or as well) paid as other retail trade employees. This result held in alternate tests of smaller counties (although the increase in wages was, not surprisingly, more modest). Given the traditional value of marginal product analysis of wages, this overall result is surprising. It is possible here (though we will not explore it further) that an efficiency wage model may be necessary to explain these results.

The total direct economic impact of the seven Wal-Mart stores in southern West Virginia can be calculated based on the estimates of the net increase in wages, employment and retail trade

establishments using standard RIMS multipliers. There is an additional effect due to the location of Wal-Mart and that is an increase in local sales (fewer cross border imports) attributable to the travel substitution effect observed in these results. This effect should actually increase the value of the RIMS multiplier for each county in which a Wal-Mart is located. Of course, for the entire region this may not be a net change. This again is the *travel-substitution* factor effect which dissipates as more Wal-Marts enter the market. That is probably why Stone noted more modest increases in the *pull factor* changes over time.

Conclusions

The varied estimates of the economic impact of Wal-Mart uncovered in earlier studies begged more research. The 14 counties in southern West Virginia explored in this study were, on average, more rural and poorer than most of the subjects in earlier studies, but by no means all. Two counties had large cities and growth rates just slightly below the national rate for the sample period. We feel that analytical methods that do not control for economy wide changes are incomplete. Likewise, we do not believe that the studies that fail to describe the net benefits of Wal-Mart (both in consumption and production) provide valuable insight to the effect.¹³ This indicts the economic benefit of most of the

¹³We also feel that the much of the literature by other social scientists on this subject (left unreviewed in this paper) could be improved. Specifically, there are a number of studies that infer labor market impacts which presuppose average wage rates are independent of simple productivity measures. Specifically we feel that established analytical tools should be applied to research on the labor force of discount stores. Laying all coyness aside, the comparison of retail wages with other sectors is often performed without control variables for skill level, time restrictions and individual preferences. Similarly, the choice of production mix in an economy is endogenous to any specification of aggregate demand. Many of the studies of Wal-Mart that find dissatisfied workers (or retail workers who are inexplicably satisfied with their low paying jobs) implicitly suppose that the mix of goods in an economy is exogenously determined in a model of aggregate output.

studies (other than Ketchum, et. al.) that have been performed. This is a narrow criticism however, and several of these studies (especially Stone's) seek to answer other important questions. Still, we feel the existing literature on this subject clearly wanting, in method and scope.

We feel that more regional analysis of some specific questions are of interest. The per capita wage changes in the retail trade sector were non-negative in this study. We think it likely that this result is sensitive to locational variation. A study which examines a larger region, and especially one with a high variation in per capita wages in retail trade is of interest. Left unanswered here are questions regarding the specific impacts to town centers. Stone, and others have addressed this question, but we feel the long term impact of Wal-Mart on residents is warranted. This type of study necessarily examines the consumption benefits that our study and its predecessors have neglected. This component is much more challenging, but no less important, than the production side studies that dominate the literature.

In our study, the data on employment changes and net establishment changes strongly supports the notion, due to the entrance of Wal-Mart in the county, that consumers are remaining closer to home when making retail purchase. This effect will continue to extend to the point where there is a Wal-Mart in every county. This explains part of the increase in retail trade, the remainder was empirically explained by the changes in population and the unemployment rate in the State. In every case however, the impact on this sector of Wal-Mart was much more pronounced than the growth of the economy (which has not been robust). This result is important to researchers interested in explaining the pattern of regional economic growth, especially in rural communities. It may be of interest to policymakers intent on controlling the entrance of Wal-Mart stores in local areas. There is clearly a profound net

benefit to employment and wages in having a Wal-Mart locate in your county. The net benefit is really the only economically justifiable measure in this type of analysis.

To many who read this study, the last statement will prove indigestible. The criticism of Wal-Mart entrance is not often couched in economic, but sociological analysis. We prefer to remain silent on that subject for obvious reasons. We would note that the criticism leveled against Wal-Mart are a familiar refrain. In the late nineteenth century they were launched against chain five and dime stores throughout the Midwest. In the 1920's Sears and Roebuck suffered through similar critics of their low priced mail order services. Indeed, local monopolies have a great deal to lose from entrance by firms that enjoy, and exploit, economies of scale.

Disclosure

Michael J. Hicks owns shares in a retirement mutual fund which invests 8.5% in several retail firms, including Wal-Mart, Inc (according to the summer 1999 prospectus). His total Wal-Mart ownership is limited to this account which involves less than \$350. All other funding was provided by the Center for Business and Economic Research, Lewis College of Business at Marshall University.

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