June 2005

Wal-Mart and Economic Growth of Nebraska Counties

Gibson Nene  
*University of Nebraska - Lincoln*

Azzedine Azzam  
*University of Nebraska - Lincoln*

Amalia Yiannaka  
atyiannaka2@unl.edu

Steven Katchman  
*University of Nebraska - Lincoln*

Follow this and additional works at: [http://digitalcommons.unl.edu/ruralinitiativepubs](http://digitalcommons.unl.edu/ruralinitiativepubs)

Part of the [Agricultural and Resource Economics Commons](http://digitalcommons.unl.edu/agriculture)


[http://digitalcommons.unl.edu/researchpublications/14](http://digitalcommons.unl.edu/researchpublications/14)

This Article is brought to you for free and open access by the Rural Initiative at DigitalCommons@Univeristy of Nebraska - Lincoln. It has been accepted for inclusion in Rural Initiative Publications and Reports by an authorized administrator of DigitalCommons@University of Nebraska - Lincoln.
Wal-Mart and Economic Growth of Nebraska Counties

Gibson Nene (M.S. student, Ag Econ)
Azzedine Azzam (Professor, Ag Econ)
Amalia Yiannaka (Assistant Professor, Ag Econ)
Steven Katchman (Professor, Statistics)

June 2005
What is the issue and why is it important?

- Wal-Mart has been criticized regarding its socio-economic impact on communities.
- Complaints are emanating from:
  - Consumers, suppliers, competitors, community leaders and labor unions.
- Anti-Wal-Mart websites:
  - Wal-Martsucks.com
- Wal-Mart defense:
  - Wal-Martfacts.com
Complaints
- Anti-union
- Contributes to increase in unemployment
- No health insurance for all employees
- Payment of low wages
- Force suppliers to follow its demands
- Destroys mom and pop shops
- Outsources production and forces its suppliers to outsource
WAL-MART
Costs You
Always
www.walmartwatch.com
Wal-Mart today

- Largest corporation in the world
- Operates 3600 stores in the US and 1150 stores in other countries
- Employs 1.2 million in US and 300 thousand workers in other countries
- Imports the bulk of its merchandise from China
  - Approximately 10% of total US imports from China in 2003
Wal-Mart history

- First store in Rogers, Arkansas in July 1962
- 1972- listed on the stock exchange
- Wal-Mart Satellite Network , 1987
  - The largest private satellite communication system in the U.S
Wal-Mart history

- Became No. 1 retailer in U.S, 1990
- Went international in 1991-Mexico
- Between 1992 and 2002 opened stores in 9 countries including UK and Canada
- Became the number 1 employer in US, 1997
- Highest single day sales in history, US$1.25 billion, Thanksgiving 2001
What non-academic reports say about Wal-Mart:

Wal-Mart benefits immigrants, old people with employment
Benefits consumers with low prices
Chews virgin land, destroys mom and pop shops
Has set standards for other inefficient firms

Article: Learning to love Wal-Mart

The Economist April 17th-23rd 2004
What academic studies say about Wal-Mart:

  - Wal-Mart increases sales in host towns and decreases sales in surrounding communities.
- Stone, Artz and Myles (2002)
  - The impact of Wal-Mart on incumbents is a zero sum game.
- Wal-Mart presence has a positive impact on job creation

Hicks and Wilburn (2001)
- Wal-Mart brings employment and wage net benefits to counties where it is located - West Virginia study
- Franklin (2000)
  - Wal-Mart’s impact on supermarket concentration and grocery retailing performance to date has been minimal. – US-metro areas

- Ketchum and Hughes (1997)
  - Wal-Mart had no effect on either lack of growth in retail employment or relative wage growth – Maine study
Mattera and Purinton (2004),
- Wal-Mart received $1 billion benefit in form of subsidies from communities.
  - Doubt on whether Wal-Mart should get subsidies with all the controversy that surrounds it

Dube and Jacobs (2004)
- Wal-Mart receives indirect subsidies
  - Its employees rely heavily on social welfare and taxpayer funded healthcare
  - This is hidden cost to society
Goetz and Swaminthan (2004)

- Communities which attracted more Wal-Mart stores between 1990 and 1999 registered the highest poverty levels.
Why another study?

- The effect of Wal-Mart on the standard of living measured by its effects on economic growth is unknown.
- No study has used a formal economic framework that would allow sorting out the effects of other economic variables on the impact of Wal-Mart on the economic growth of communities.
- No consensus on the impact of Wal-Mart on communities.
OBJECTIVE

- To test whether or not the rate of economic growth in counties with a Wal-Mart is the same, higher, or lower than counties without Wal-Mart, after accounting for other variables that influence economic growth.

- Economic growth is measured by growth in median household income.
<table>
<thead>
<tr>
<th>County</th>
<th>Growth</th>
<th>ENTRY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jefferson</td>
<td>65.7599</td>
<td>1982</td>
</tr>
<tr>
<td>Buffalo</td>
<td>26.66166</td>
<td>1984</td>
</tr>
<tr>
<td>Madison</td>
<td>-64.4052</td>
<td>1984</td>
</tr>
<tr>
<td>York</td>
<td>-49.296</td>
<td>1984</td>
</tr>
<tr>
<td>Dawson</td>
<td>-226.892</td>
<td>1985</td>
</tr>
<tr>
<td>Douglas</td>
<td>138.9741</td>
<td>1985</td>
</tr>
<tr>
<td>Platte</td>
<td>-77.7792</td>
<td>1985</td>
</tr>
<tr>
<td>Red W</td>
<td>-201.263</td>
<td>1985</td>
</tr>
<tr>
<td>Scotts B</td>
<td>-163.221</td>
<td>1986</td>
</tr>
<tr>
<td>Seward</td>
<td>193.6135</td>
<td>1986</td>
</tr>
<tr>
<td>Dakota</td>
<td>-151.604</td>
<td>1989</td>
</tr>
<tr>
<td>Hall</td>
<td>-155.686</td>
<td>1989</td>
</tr>
<tr>
<td>Adams</td>
<td>-12.2147</td>
<td>1990</td>
</tr>
<tr>
<td>Lincoln</td>
<td>-320.431</td>
<td>1990</td>
</tr>
<tr>
<td>Dodge</td>
<td>-68.1187</td>
<td>1991</td>
</tr>
<tr>
<td>Sarpy</td>
<td>294.5319</td>
<td>1991</td>
</tr>
<tr>
<td>Lanca</td>
<td>-15.3526</td>
<td>1993</td>
</tr>
<tr>
<td>Dawes</td>
<td>-118.149</td>
<td>1998</td>
</tr>
<tr>
<td>Gage</td>
<td>36.21739</td>
<td>2000</td>
</tr>
</tbody>
</table>
Household income is the sum of money income received in a calendar year by all household members 15 years old and over, including household members not related to the householder, people living alone, and other nonfamily household members. Included are in the total are amounts reported separately for wage or salary income; net self-employment income; interest, dividends, or net rental or royalty income or income from estates and trusts; Social Security or Railroad Retirement income; Supplemental Security Income (SSI); public assistance or welfare payments; retirement, survivor, or disability pensions; and all other income.
Median = 7.65
Mean = 8.69
Model specification

\[ \text{Growth}_i = \alpha + \gamma (\text{Condition set})_i + \beta (\text{Wal-Mart})_i + \text{Error}_i \]

- Where the subscript \( i \) indicates the \( i \)th county in Nebraska
- \( \alpha \) is the constant term
- \( \gamma \) and \( \beta \) are parameters to be estimated
- error is a random disturbance.

Shaffer (2002)
Model - Variables

- **Growth**
  
  Measured by average growth rate in median household income between 1979 and 2002

  \[ \text{Growth} = \frac{MHHinc_{2002} - MHHinc_{1979}}{23} \]

- **Conditioning set**
  
  - Initial personal per capita income
  - Education – stock of human capital
  - Population density – agglomeration economies
  - Population – market size
Model- variables

- Conditioning set cont:
  - Total local government expenditure – government size
  - Highway expenditure - infrastructure
  - Unemployment rate – economic health of a geographical area
  - Interstate – isolation or accessibility of a county
Model - Wal-Mart variables

- Waldum 1
  - Dummy variable for counties with a Wal-Mart
- Waldum2
  - Dummy variable for counties with more than one Wal-Mart store
- WalAdjacent
  - Dummy variable for counties which are adjacent to counties with a Wal-Mart store
- Walyear – number of years Wal-Mart has been in a county
Data

- 93 Nebraska counties
  - 19 counties have a Wal-Mart
  - 49 counties are adjacent to Wal-Mart counties
- Information on Wal-Mart location and opening dates was obtained from Wal-Mart.
## Results

<table>
<thead>
<tr>
<th>Variable</th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
<th>Model 4</th>
<th>Model 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>1628.7 (2.0307)**</td>
<td>1755.7 (2.2160)**</td>
<td>1728.9 (2.1655)**</td>
<td>1889.4 (2.5364)**</td>
<td>1884.4 (2.3733)**</td>
</tr>
<tr>
<td>ln(Initial per capita income)</td>
<td>-121.32 (-1.7772)*</td>
<td>-134.73 (-2.0014)**</td>
<td>-126.88 (-1.8625)*</td>
<td>-139.02 (-2.0306)**</td>
<td>-140.13 (-2.0682)**</td>
</tr>
<tr>
<td>ln(Education)</td>
<td>-135.97 (-1.725)*</td>
<td>-117.14 (-1.5171)</td>
<td>-116.89 (-1.5036)</td>
<td>-95.979 (-1.2466)</td>
<td>-95.542 (-1.2489)</td>
</tr>
<tr>
<td>ln(Population)</td>
<td>101.07 (3.321)***</td>
<td>90.649 (3.162)***</td>
<td>112.30 (3.8915)***</td>
<td>103.77 (3.6143)***</td>
<td>102.97 (3.6564)***</td>
</tr>
<tr>
<td>ln(Gvtyp)</td>
<td>-22.984 (-0.2954)</td>
<td>-27.100 (-0.36194)</td>
<td>-30.686 (-0.40958)</td>
<td>-44.954 (-0.57725)</td>
<td>-41.576 (-0.55539)</td>
</tr>
<tr>
<td>ln(Highexp)</td>
<td>-26.718 (-0.3641)</td>
<td>-19.762 (-0.27904)</td>
<td>-22.728 (-0.31848)</td>
<td>-7.0373 (-0.09583)</td>
<td>-9.8837 (-0.13904)</td>
</tr>
<tr>
<td>ln(Unempl rate)</td>
<td>45.619 (0.8871)</td>
<td>30.657 (0.62552)</td>
<td>31.001 (0.6272)</td>
<td>18.673 (0.37277)</td>
<td>16.767 (0.34546)</td>
</tr>
<tr>
<td>Interstate-30</td>
<td>-99.336 (-2.313)***</td>
<td>-91.374 (-2.173)***</td>
<td>-108.28 (-2.5528)***</td>
<td>-98.448 (-2.3174)***</td>
<td>-99.069 (-2.3545)***</td>
</tr>
<tr>
<td>Waldum1</td>
<td>50.228 (1.577)</td>
<td>42.248 (1.3837)</td>
<td>51.390 (1.6307)</td>
<td>40.463 (1.2921)</td>
<td>41.277 (1.3416)</td>
</tr>
<tr>
<td>Waldum2</td>
<td>-169.07 (-2.8421)***</td>
<td>-126.40 (-2.6665)***</td>
<td>-174.06 (-3.0883)***</td>
<td>-135.80 (-2.6525)***</td>
<td>-132.72 (-2.7883)***</td>
</tr>
<tr>
<td>WaldAdjacent</td>
<td>162.79 (1.4219)</td>
<td>173.14 (1.5233)</td>
<td>-51.104</td>
<td>-1.1334 (-0.17008)</td>
<td></td>
</tr>
<tr>
<td>Waldyear</td>
<td>-1.6643 (-0.23224)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>R²</td>
<td>0.3990</td>
<td>0.3872</td>
<td>0.3836</td>
<td>0.3700</td>
<td>0.3698</td>
</tr>
</tbody>
</table>

P-values are indicated as 0.10*, 0.05**, 0.01***
Finding

- Counties where a Wal-Mart is located experienced lower economic growth than counties without a Wal-Mart.

- Why?
Future research possibilities

- What causes counties with a Wal-Mart to experience lower growth as compared to non–Wal-Mart counties.
- Wal-Mart entry and location decisions.
THANK YOU