

THE EFFECT OF WAL-MART STORES ON BUSINESSES IN
HOST TOWNS AND SURROUNDING TOWNS IN IOWA

by

Kenneth E. Stone
Professor of Economics
and Extension Economist

Iowa State University

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This study uses secondary data, primarily from Iowa Retail Sales and Use Tax Reports to analyze the effect of Wal-Mart stores on the sales levels of competing businesses in Iowa. No attempt is made to assess the sociological impacts of these stores on consumers or existing merchants.

Background

This study was made in response to a number of calls from chambers of commerce and business people concerning the likely effects of proposed Wal-Mart stores on their businesses. In no way is this an attempt to berate the Wal-Mart company; its stellar national reputation speaks for itself. Wal-Mart stores were singled out because they are the newest national chain on the scene in Iowa and appear to be in a highly expansionary mode. Wal-Mart stores are also of interest to Iowans because of the company's strategy of locating in relatively small towns.

Towns in ten locations were chosen for analysis. These towns were selected on the basis of being a small-to-medium size town and having at least one full year of sales tax data available after opening. As time goes on data will be available for more towns and longer-term effects can be assessed.

Effects on Host Towns

The location of a Wal-Mart store in a small-to-medium size Iowa town appears to have both positive and negative effects on that town's businesses.

* By Kenneth E. Stone, Extension Economist, Iowa State University.

Figures 1, 2, and 3 show the average cumulative change in Wal-Mart towns' per capita retail sales compared to the state average, after one, two, and three years. Similar findings were made when comparing Wal-Mart towns' pull factors to similar-size towns without Wal-Mart stores. Figure 4 shows these results. (See Appendix for definition of pull factor).

Positive Effects

On average the following merchandise groups showed increases in per capita sales after the opening of a Wal-Mart store.

- General Merchandise
- Eating and Drinking
- Home Furnishings
- Total Sales

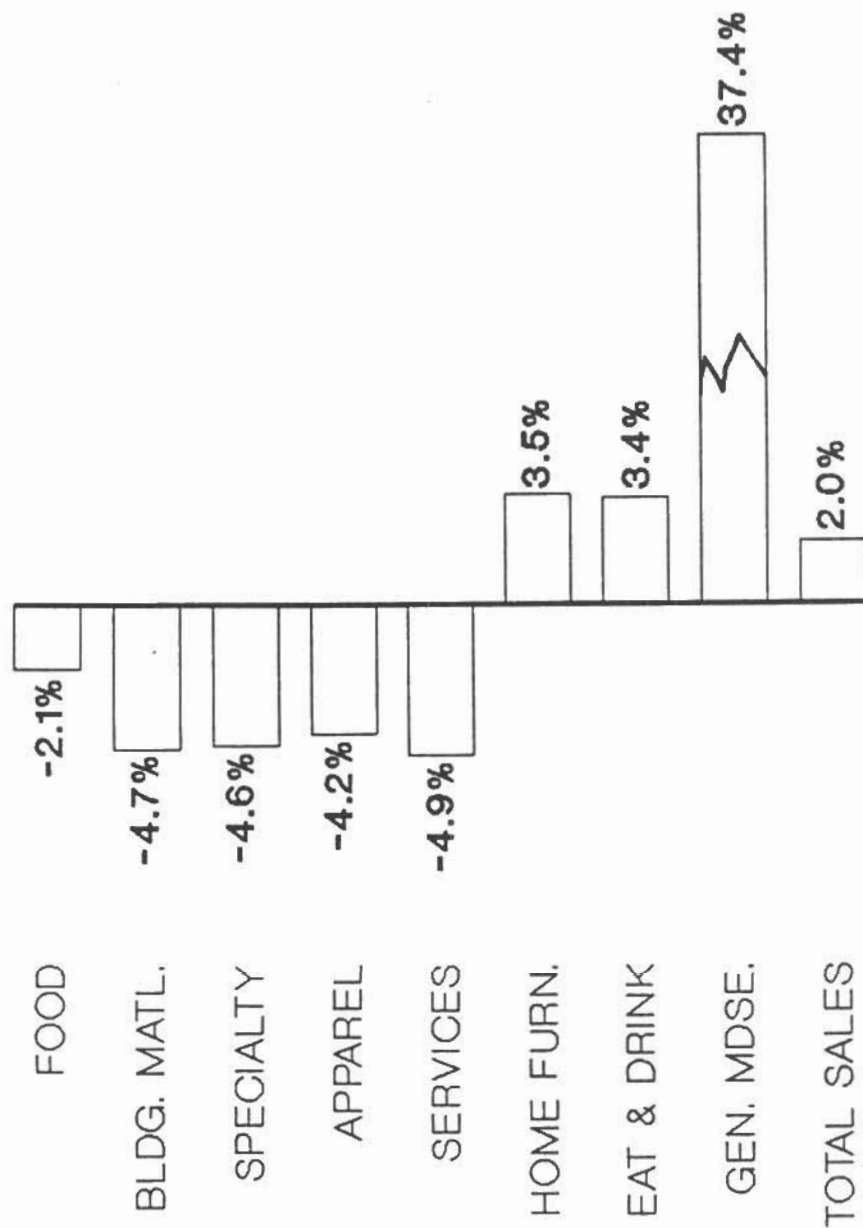
The changes are discussed below.

General Merchandise. The greatest increase in per capita sales occurred in the General Merchandise category, as might be expected since Wal-Mart stores are classified in this category. Figure 1 shows that after one year, general merchandise per capita sales in Wal-Mart towns increased an average of 37.4 percent, compared to average state per capita sales for the same time periods. Cumulative per capita sales further increased to 52.5 percent after two years and to 55.0 percent after three years, as shown in Figures 2 and 3, respectively.

In terms of dollars, the first year increase averaged \$3.1 million, ranging from a low of \$500,000 in Grinnell to a high of \$6.3 million in Ankeny. After the second year, average general merchandise sales increased cumulatively to \$5.5 million, ranging from \$2.5 million for Grinnell to \$9.8 million for Marshalltown. By the end of the third year cumulative average

Figure 1

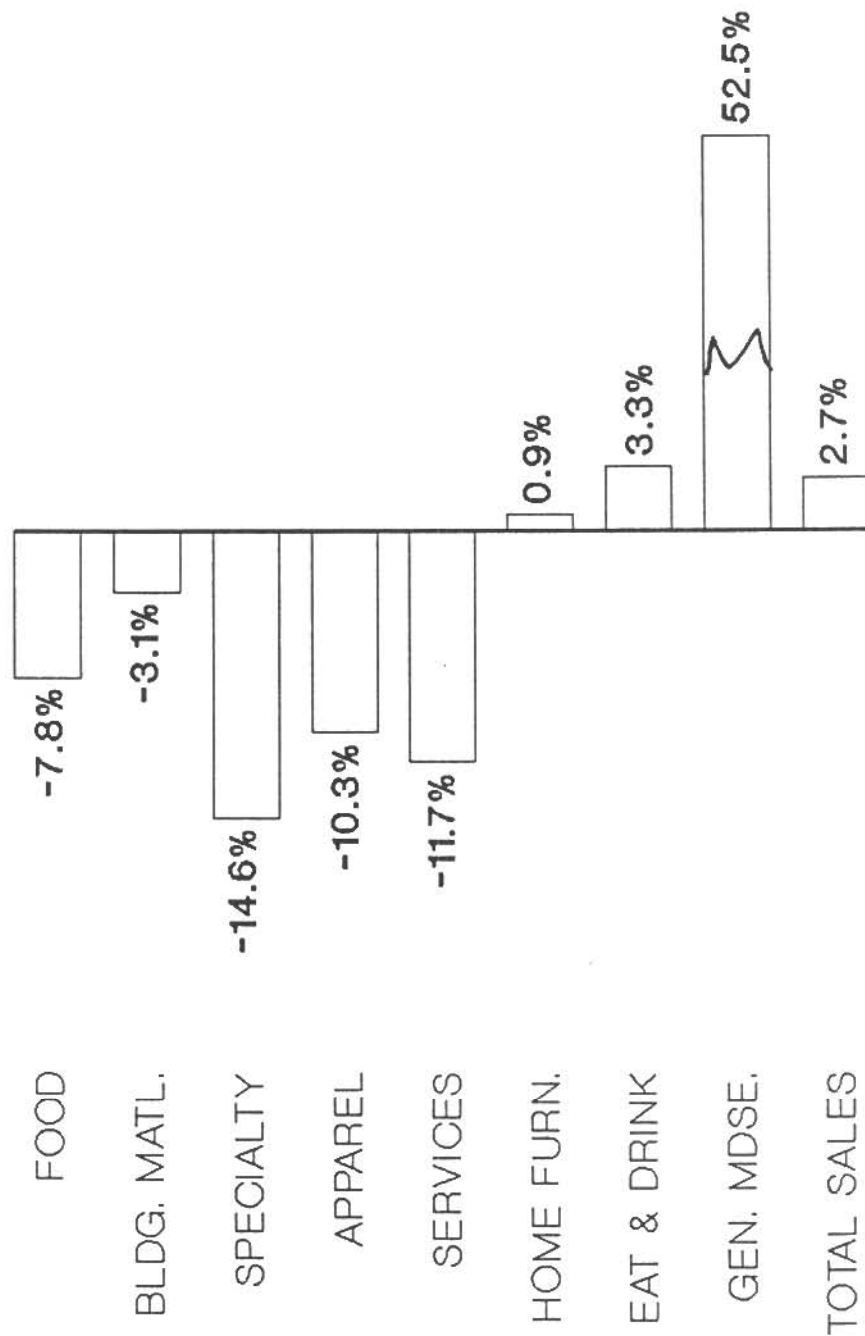
PER CAPITA SALES OF IOWA WAL-MART TOWNS, COMPARED TO STATE AVERAGE, AFTER 1 YEAR



Source: Iowa Retail Sales and Use Tax Reports.

Figure 2

PER CAPITA SALES OF IOWA WAL-MART TOWNS, COMPARED TO STATE AVERAGE, AFTER 2 YEARS

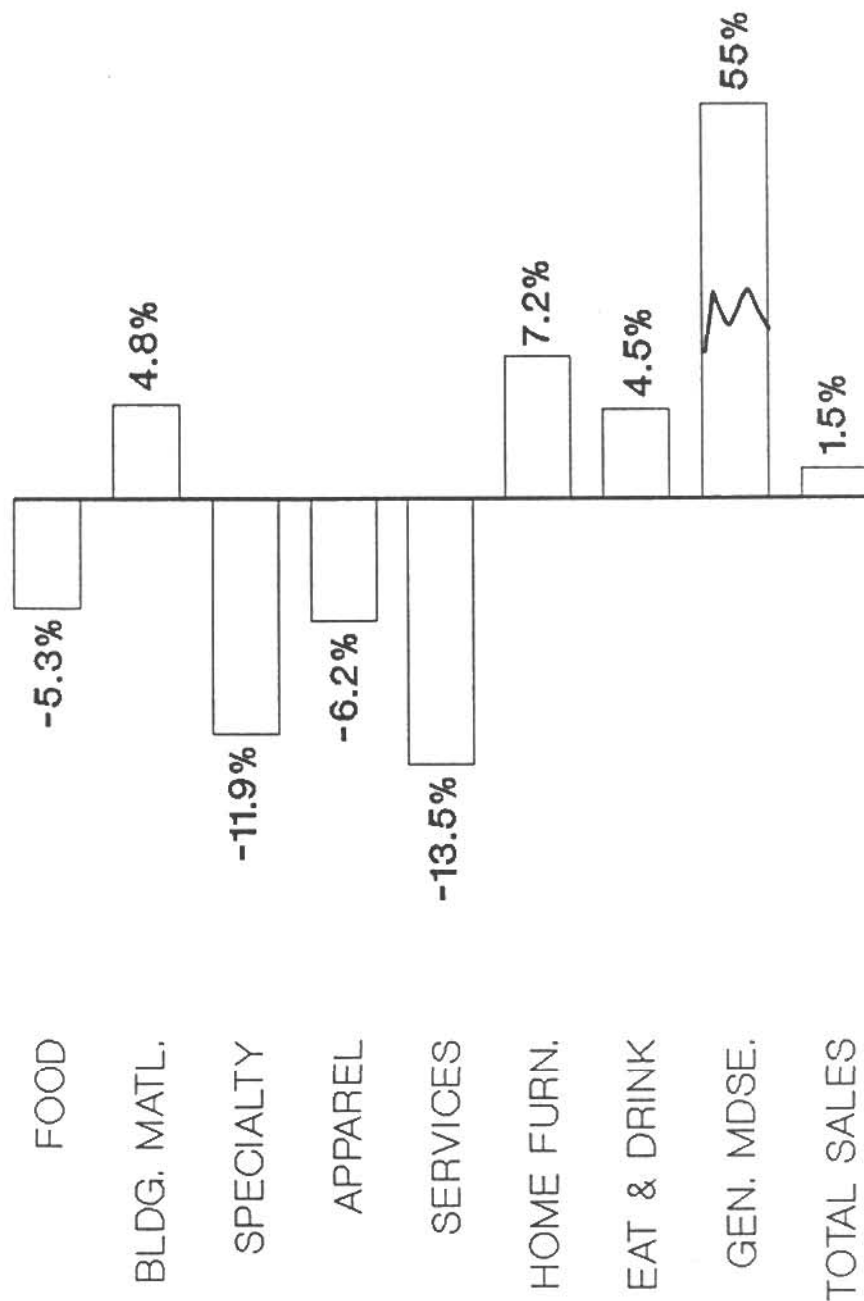


Source: Iowa Retail Sales and Use Tax Reports.

Note: Changes are cumulative from base year.

Figure 3

PER CAPITA SALES OF IOWA WAL-MART TOWNS, COMPARED TO STATE AVERAGE, AFTER 3 YEARS



Source: Iowa Retail Sales and Use Tax Reports.

Note: Changes are cumulative from base year.

Figure 4a

PULL FACTOR COMPARISONS FOR IOWA WAL-MART TOWNS VS. OTHERS FOR FIRST 3 YEARS (WINNERS)

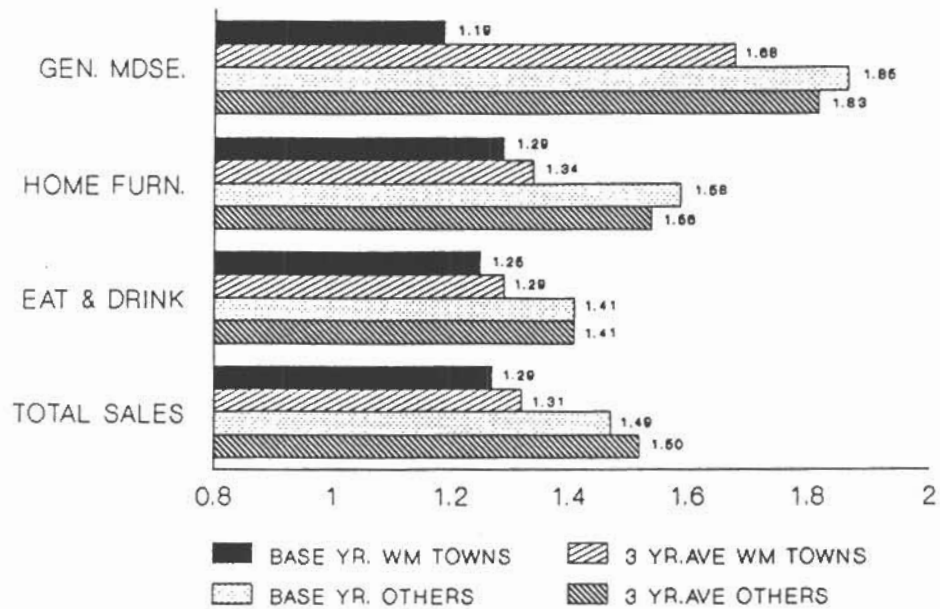
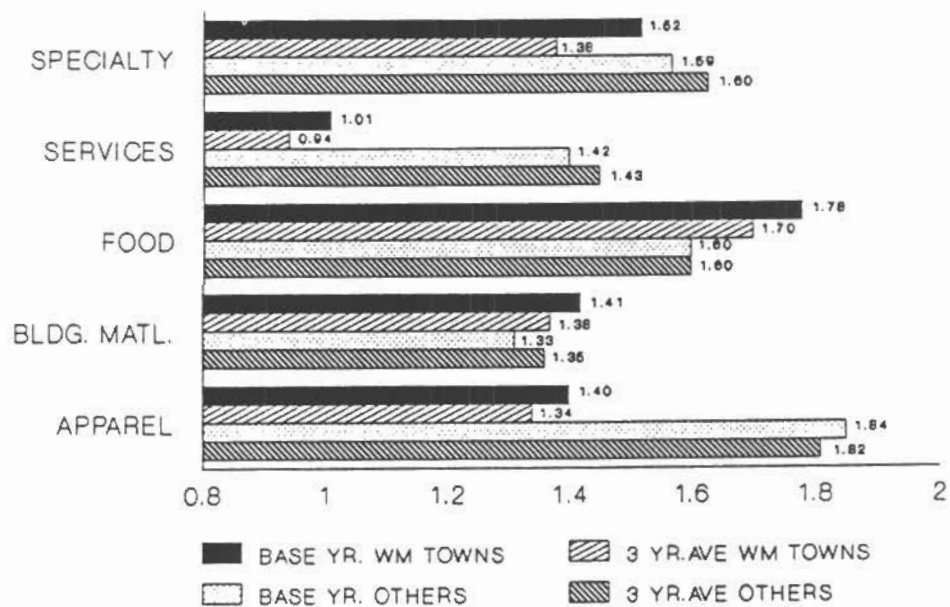


Figure 4b

PULL FACTOR COMPARISONS FOR IOWA WAL-MART TOWNS VS. OTHERS FOR FIRST 3 YEARS (LOSERS)



sales had increased to \$5.9 million, ranging from \$3.5 million for Grinnell to \$8.1 million for Marshalltown. It is interesting to note that the general merchandise sales level actually decreased in the third year for Muscatine and Marshalltown.

Eating and Drinking Places. Intuitively, one would expect eating and drinking establishments to benefit when the trade area is expanded by Wal-Mart stores. This was the case in Iowa. Figures 1, 2 and 3 show that cumulative eating and drinking per capita sales increased by 3.4 percent after one year, 3.3 percent after two years, and 4.5 percent after three years, compared to the state average. The restaurant business in Iowa is in a growth mode just as it is nationally. However, it appears that the restaurant business is growing even faster in Wal-Mart towns than in other towns.

Home Furnishings. This category consists of furniture stores, home appliance stores, carpeting stores and other smaller stores such as drapery stores. Figures 1, 2, and 3 show that cumulative per capita sales for this category increased by 3.5 percent after one year, 0.9 percent after two years, and 7.2 percent after three years in Wal-Mart towns compared to state averages. This finding may be a surprise to some people, since home furnishings would not at first glance seem to be a beneficiary of increased Wal-Mart customer traffic. However, since many of these stores carry merchandise that Wal-Mart doesn't handle, there apparently is a spillover of a larger customer base that is initially drawn to Wal-Mart stores.

Total Sales. Total per capita sales in Wal-Mart towns increased at a slightly faster rate than the state average. Figures, 1, 2, and 3 show a cumulative increase of 2.0 percent after one year, 2.7 percent after two years, and 1.5 percent after three years, compared to state averages. Wal-Mart stores are

the major contributor to total sales gains, but probably also account for the sales losses experienced by other types of stores as discussed below.

Negative Effects

The following merchandise groups experienced losses of sales, on average, after the opening of a Wal-Mart store in their town.

- Food (grocery)
- Building Materials
- Specialty Stores
- Apparel Stores
- Services

The changes are discussed below.

Food Stores. It has been commonly believed that the enlarged customer base brought to town by a Wal-Mart store would "spillover" and benefit other non-competing stores such as grocery stores. With a couple of exceptions, that has not been the case in Iowa. On average, cumulative per capita food store sales in host towns declined by 2.1 percent after one year, by 7.8 percent after two years, and 5.3 percent after three years, compared to state average per capita sales. Figures 1, 2, and 3 graphically show these losses.

The most obvious explanation for these sales losses is that Wal-Mart stores carry many of the items found in food stores, particularly non-food items. The average grocery store has several aisles devoted to non-food items such as paper products, household cleaners, health and beauty aids, pet supplies, etc. that compete directly with Wal-Mart stores. In addition, most Wal-Mart stores carry some non-perishable food such as cookies, candy, canned goods, and snack items. The proximity of the grocery stores to Wal-Mart is also probably a factor, but further study is necessary for verification.

Building Materials. This category consists primarily of lumber yards, other building materials stores, and hardware stores. Figures 1, 2, and 3 show that these stores suffered a 4.7 percent loss in per capita sales after one year, 3.1 percent loss after two years, but showed a cumulative 4.8 percent gain after three years, compared to state averages. The majority of the towns actually experienced third year losses, but two towns with dominant lumber yards experienced large sales gains as the state's economy recovered, consequently biasing the average.

Stores that handle a high percentage of merchandise that competes directly with Wal-Mart stores, probably suffered the greatest losses. For example, hardware stores that depend heavily on the sales of housewares, lawn and garden tools, sporting goods, etc. found that they now had to share the market with Wal-Mart.

Specialty Stores. There are a large number of stores in this group and many tend to be locally owned. Drug stores, sporting goods stores, book and stationery stores, fabric stores and hobby and toy stores are some of the direct Wal-Mart competitors. First year losses of per capita sales were 4.6 percent, cumulative second and third year sales losses were 14.6 percent, and 11.9 percent, respectively, compared to state average per capita sales. Figures 1, 2 and 3 graphically illustrate these losses.

Services. It is a mystery as to why service type businesses lost sales after Wal-Mart stores opened in their towns. Conventional wisdom would suggest that these types of businesses should have benefited from the customer "spillover effect." Some of the businesses in this category are laundry and cleaning, photo studios, beauty shops, shoe repair shops, automobile repair shops,

electrical repair shops, furniture repair shops, etc. One possible explanation is that there may be a perception by many that it is more economical to purchase certain new items at Wal-Mart, rather than having old ones repaired.

Figures 1, 2, and 3 indicate that service type businesses in Wal-Mart towns experienced a 4.9 percent decline in per capita sales after one year, 11.9 percent cumulative decline after two years, and 13.5 percent cumulative decline after three years, compared to state averages. These are among the heaviest losses experienced by any merchandise group.

Effect on Outlying Towns

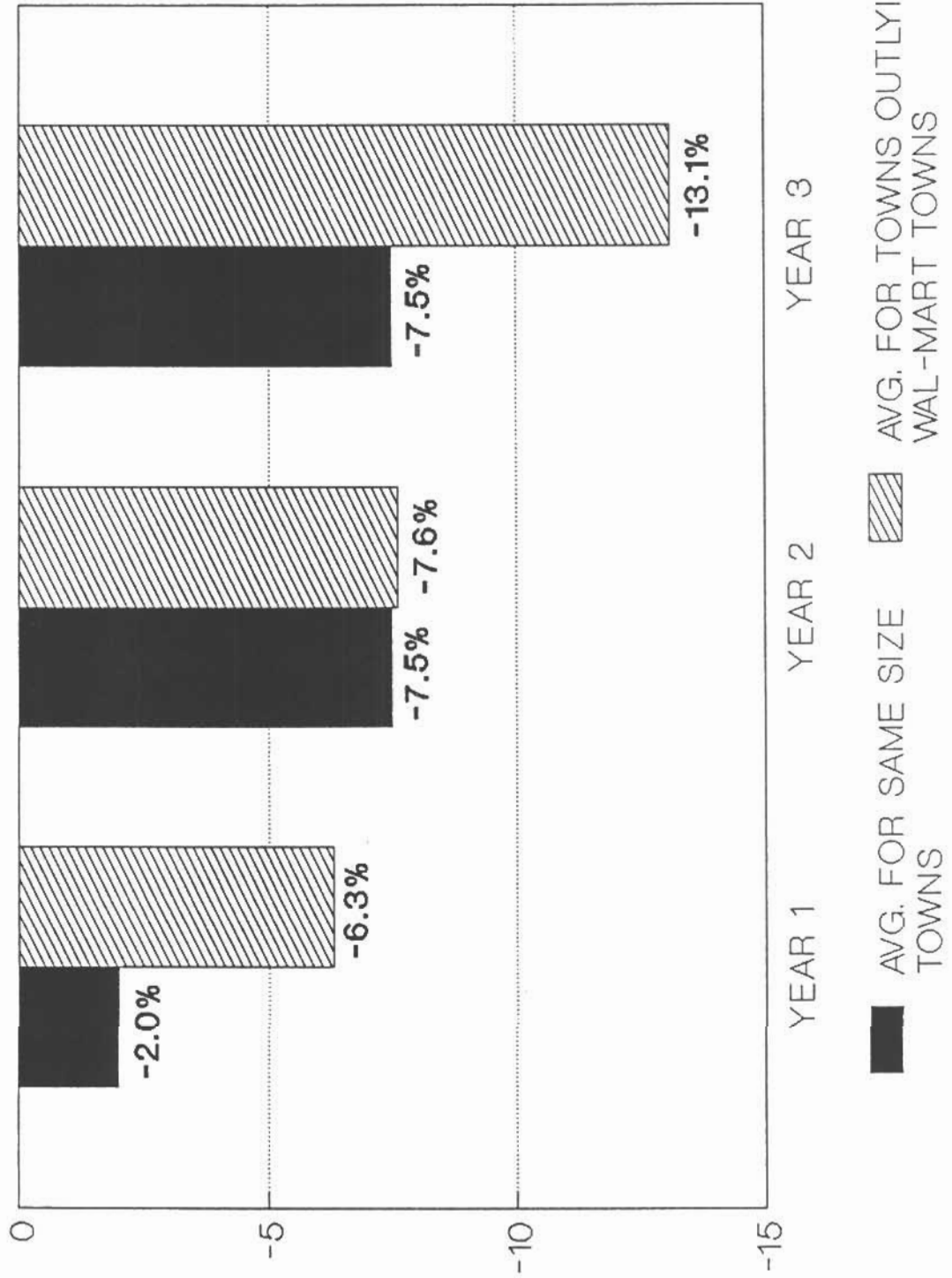
Small towns surrounding Wal-Mart towns were analyzed to determine what, if any effect, Wal-Mart stores had on them. Forty-five smaller towns with significant sales, within a 20 mile radius of the Wal-Mart town were selected.

Change in Sales

Figure 5 shows that, on average, small towns surrounding Wal-Mart towns suffered greater losses of retail sales than similar size towns elsewhere in the state. The average first year per capita loss of sales for the nearby towns was 6.3 percent compared to 2.0 percent for all other towns of a similar size population. After two years, the cumulative loss of per capita sales in towns surrounding Wal-Mart towns was 7.6 percent, compared to 7.5 percent loss for other towns of a similar size. By the end of the third year, cumulative per capita sales for surrounding small towns had declined by 13.1 percent, compared to a 7.5 percent decline for similar size towns elsewhere. It is not known why second year losses for surrounding towns were about the same as for other similar size towns. However, this occurred during the depths of the

Figure 5

PER CAPITA SALES OF IOWA TOWNS OUTLYING WAL-MART, COMPARED TO SIMILAR SIZE TOWNS



Source: Iowa Retail Sales and Use Tax Reports.

Note: Changes are cumulative from base year.

state's economic recession, which may have been a factor.

Implications

When dominant national stores such as Wal-Mart open in a state such as Iowa where population is static or declining, some competing stores will end up with a smaller market share and consequently less sales. This study has pointed out the winners and losers in Iowa, based on the first few years operation of Wal-Mart stores. The intent of this study is to document what actually happened in the past so that business people may make better operational decisions in the future.

Expanded Trade Area

There is little doubt that the trade area is expanded when Wal-Mart locates in a town. This offers the possibility for non-competing businesses to reach the additional new customers attracted to town by Wal-Mart. The method for doing this is not so clear, but advertising and tie-in promotions will probably be required.

Effect on a Typical Host Town

The average percentage change in merchandise groups found in this study can be used to estimate the dollar change in sales for similar sized towns.

For example, Table 1 shows the expected change in sales for the first three years for a typical town of 8,000 population if a Wal-Mart store were to open. It should be noted that these figures will vary in practice depending on the relative strength of the existing businesses in town. In addition, the actual losses will probably be more than is apparent from Table 1. A typical Wal-Mart store in a town of 8,000 population would probably have 50,000 square feet of floor space. If the Wal-Mart store produced sales of \$130 per square foot (some apparently do much better than that), its annual sales would be

Table 1.

Expected Change in Sales For a Host Town of 8,000 Population, After a Wal-Mart Store Opens	
<u>Merchandise Group</u>	<u>Average Change Per Year for First 3 Years</u>
Food	-\$ 652,000
Building Material	- 84,000
Specialty Stores	- 538,000
Apparel	- 207,000
Services	- 633,000
General Merchandise	+ 4,100,000
Eating & Drinking	+ 190,000
Home Furnishings	+ 72,000
Other	- 896,000
Total Sales	+\$1,352,000

Note: Based on averages found in Iowa 3-year study. Figures will vary in practice depending on relative strengths of existing businesses in town and local economic and demographic trends.

\$6.5 million. Yet according to the findings of this study, the average increase in general merchandise sales would be \$4.1 million. This can only mean that existing general merchandise stores would probably experience losses in sales. In this case the loss would be \$2.4 million per year (\$6.5 million minus \$4.1 million). Of equal concern is the amount of trade captured from other businesses in town. These findings would indicate that the Wal-Mart store would capture a total of \$5.1 million (\$6.5 million minus \$1.4 million) from town businesses. Therefore, firms other than general merchandise would lose \$2.7 million (\$5.1 million minus \$2.4 million). Figure 6 illustrates this graphically.

Effect on a Typical Outlying Town

It is estimated that the average annual loss of sales for a town of 1,000 population, within a 20 mile radius of a Wal-Mart town would be approximately \$200,000 per year more than the losses for a similar size town located elsewhere. Of course, this figure would vary according to the relative retail strength of the town.

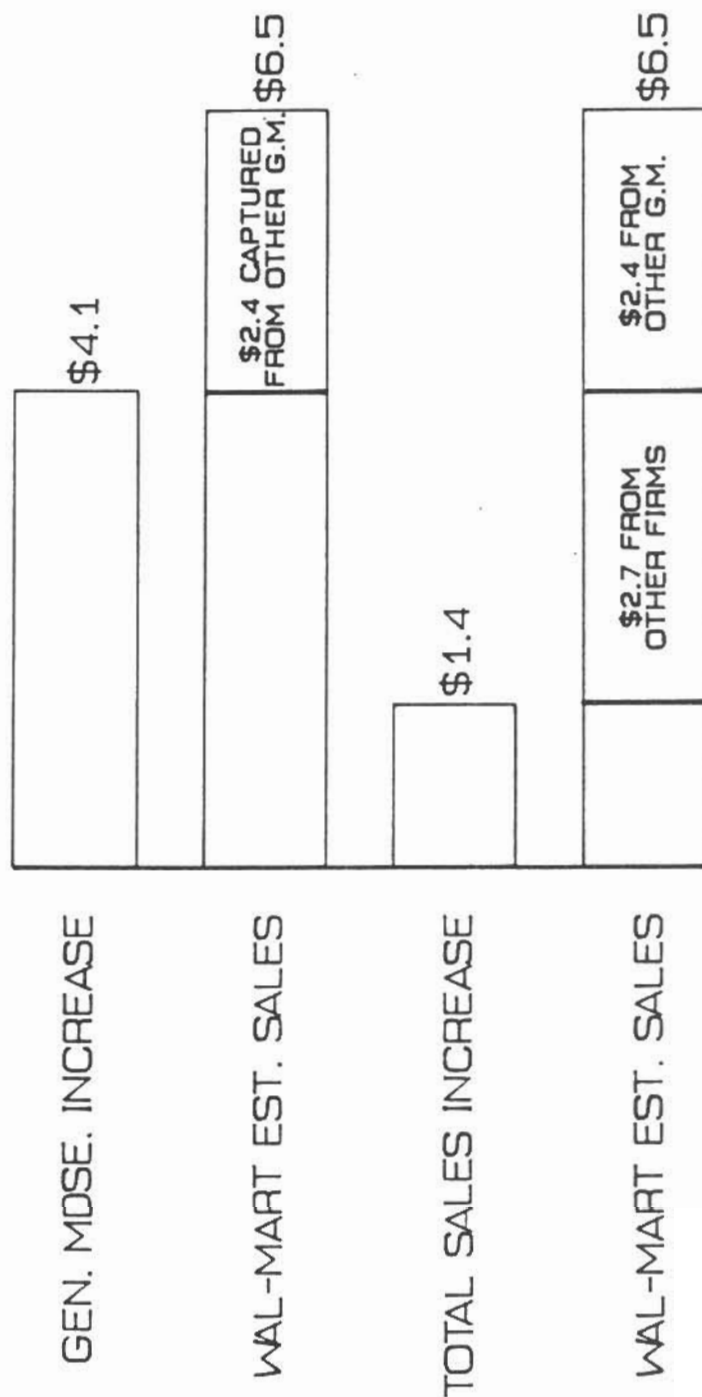
Strategies

Small retailers may need to develop new strategies for competing after a Wal-Mart store opens nearby. Some of the following strategies may be appropriate for competing merchants.

- Don't compete with identical merchandise
- Change merchandise mix to be complementary to Wal-Mart
- Compete on non-price factors such as better service, home delivery, special order, etc.
- Use selective markdowns to improve pricing image
- Appeal to up-scale market

Figure 6

EXPECTED YEARLY LOSS OF SALES TO FIRMS
IN TOWNS OF 8000 AFTER WAL-MART OPENS
IN MILLIONS OF DOLLARS



\$5.1 CAPTURED FROM OTHER FIRMS

- Find a niche (e.g. a segment of the market not being served that is too small to attract Wal-Mart)

Additional Study

Although this study presents strong evidence about the effects of Wal-Mart stores on competing business, it does not prove causation. In the future, additional studies would be useful to further document trends and to examine factors causing the trends. Perhaps, more importantly, additional study should be done to determine competitive strategies suitable for small businesses in a mass merchandising climate.

Appendix A

Pull Factors

The pull factor is a much more precise measure of retail activity than sales alone, because it takes into consideration changes in population and changes in the state economy. The pull factor is defined as:

$$PF_{A1} = \frac{PS_{A1}}{PS_{S1}}$$

where: PF_{A1} = pull factor for town A, for merchandise group 1.

PS_{A1} = per capita sales for town A, for merchandise group 1.

PS_{S1} = per capita sales for the state, for merchandise group 1.

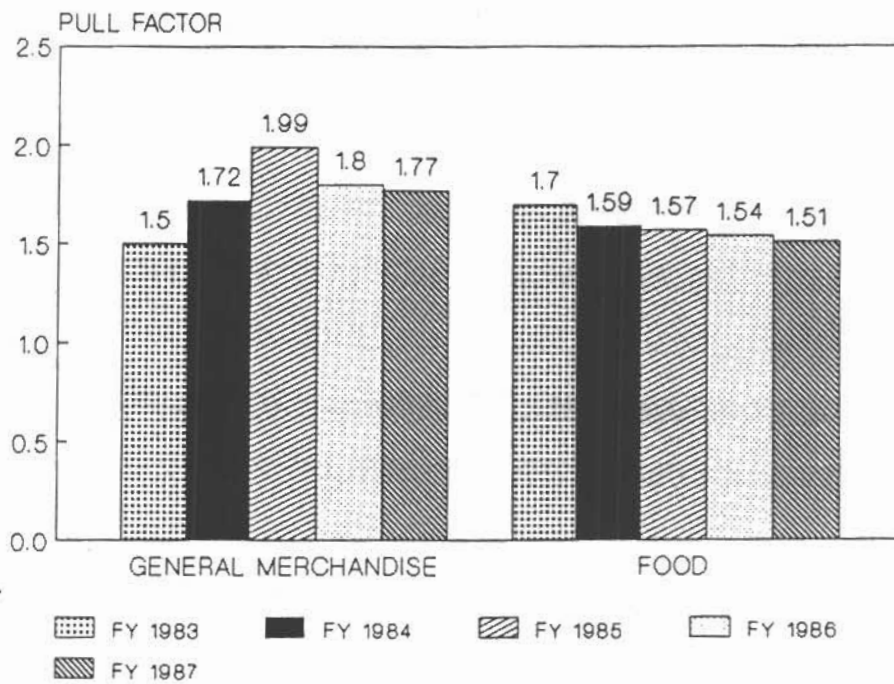
For example, if: $PS_{A1} = 900$ and $PS_{S1} = 600$

$$\text{then : } PF_{A1} = \frac{900}{600} = 1.5$$

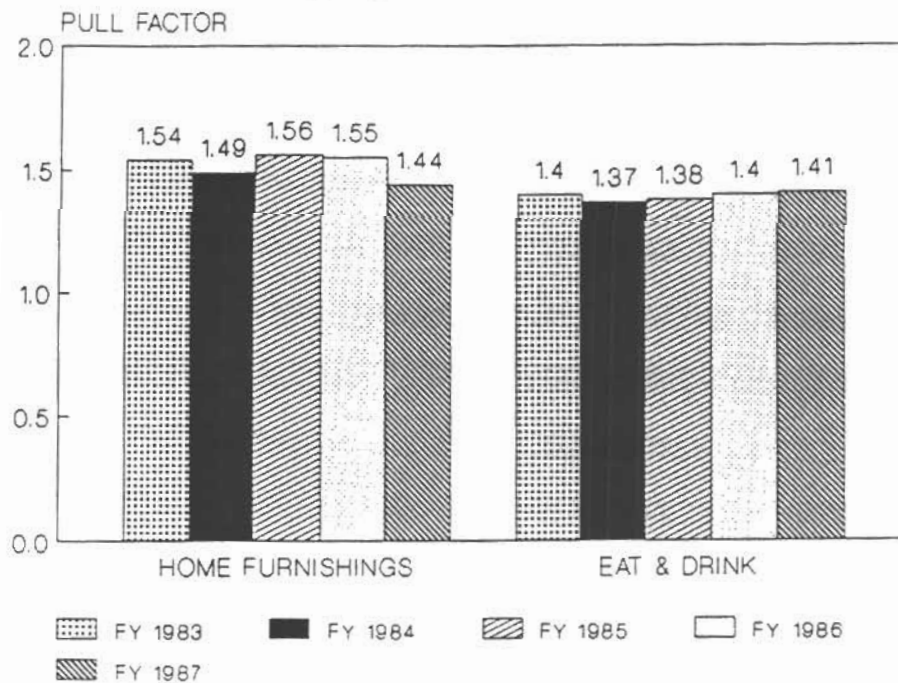
The interpretation is that Town A is selling to 150 percent of the town population in full-time customer equivalents.

Pull factors for selected merchandise groups are shown for each of the 10 Wal-Mart host towns in bargraph form. In each case, the bar furthest to the left is the last full fiscal year preceding the opening of the Wal-Mart store.

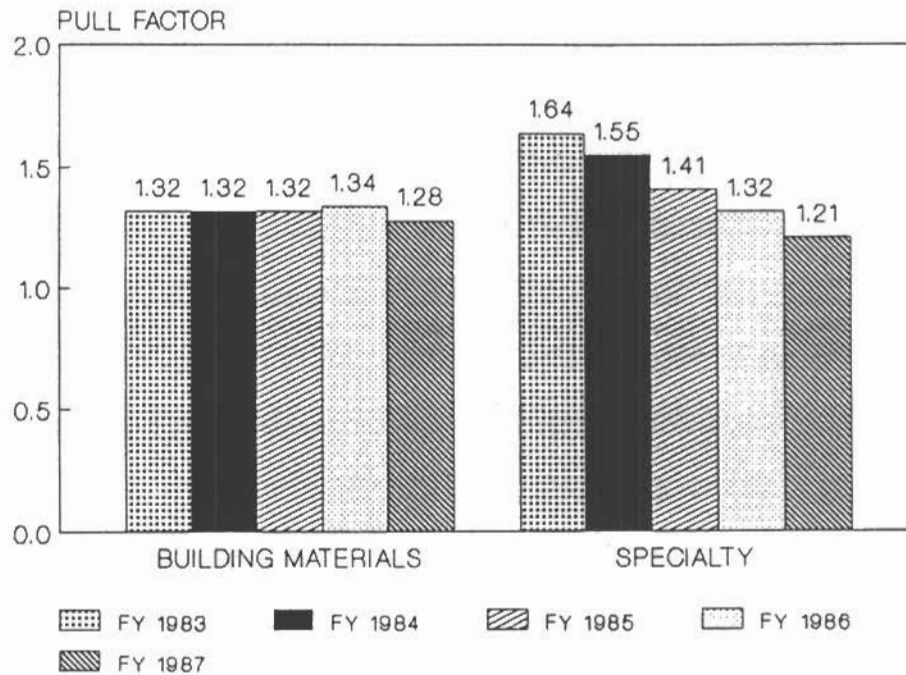
MARSHALLTOWN, IOWA PULL FACTOR CHANGE AFTER WALMART OPENING



MARSHALLTOWN, IOWA PULL FACTOR CHANGE AFTER WAL-MART OPENING

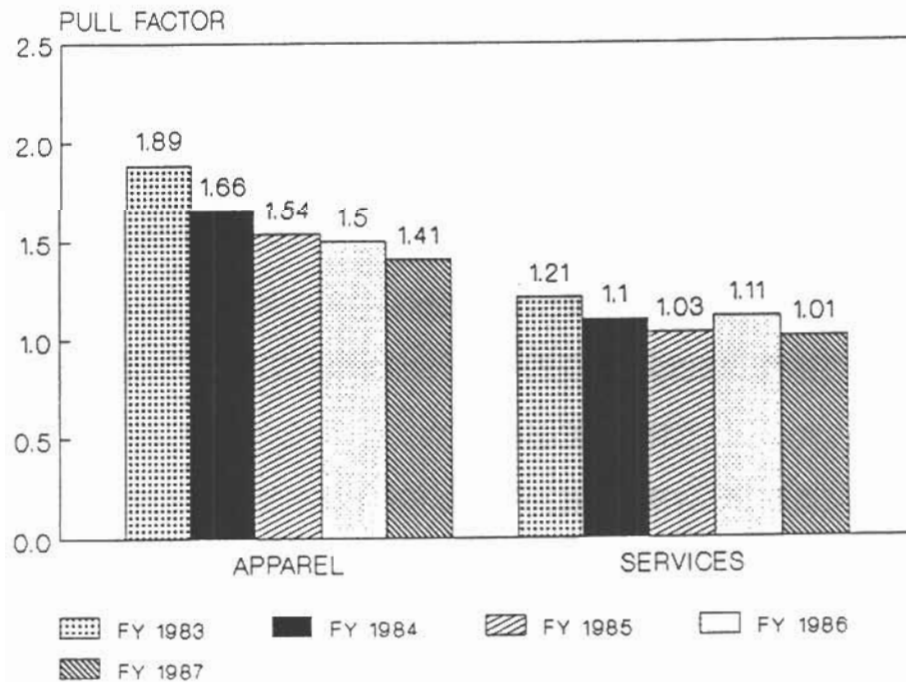


MARSHALLTOWN, IOWA PULL FACTOR CHANGE AFTER WALMART OPENING



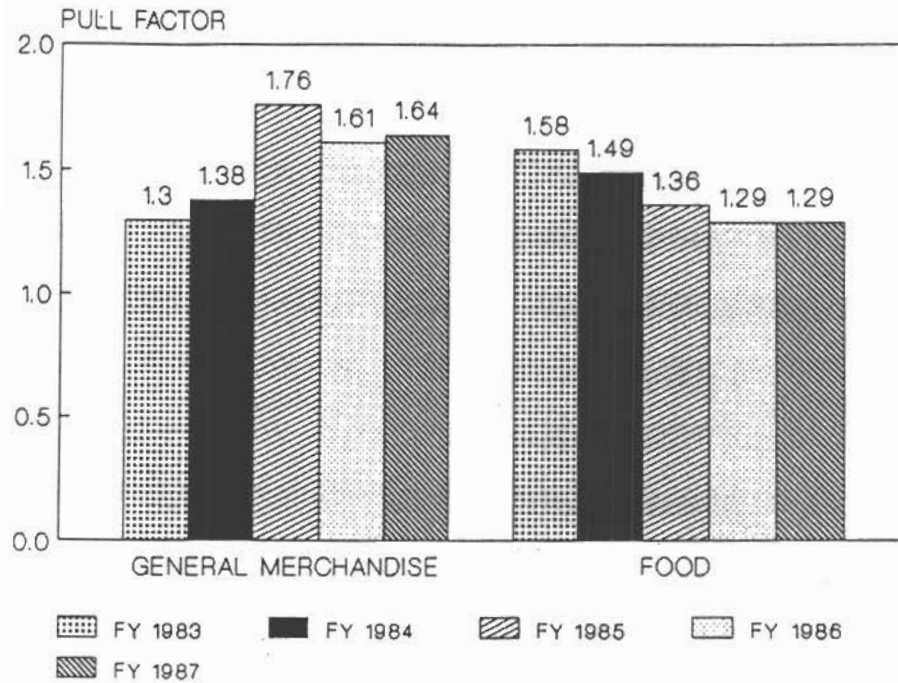
Source: Iowa Retail Sales and Use Tax Reports.

MARSHALLTOWN, IOWA PULL FACTOR CHANGE AFTER WAL-MART OPENING

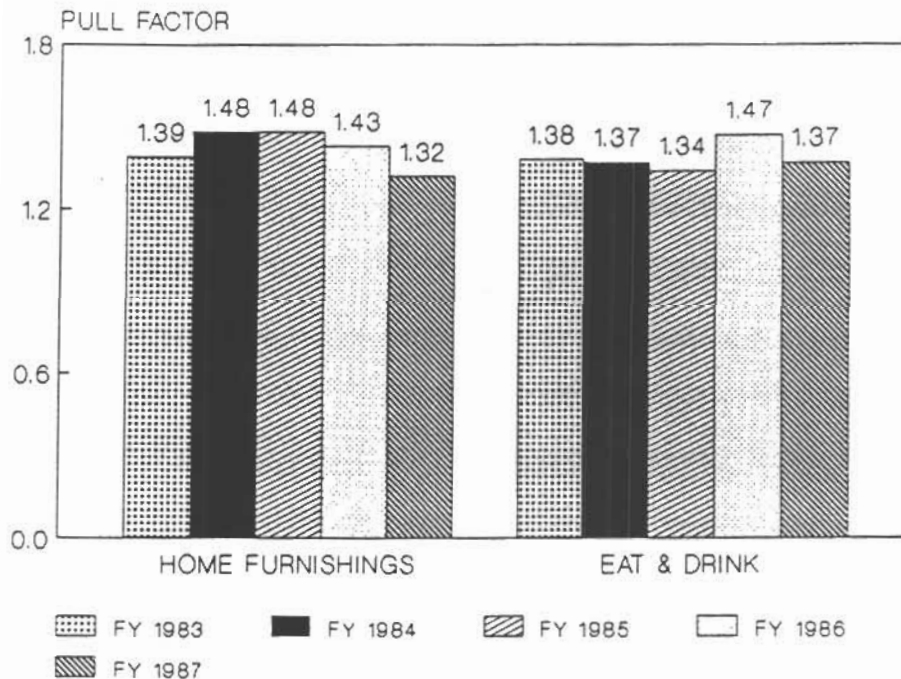


Source: Iowa Retail Sales and Use Tax Reports.

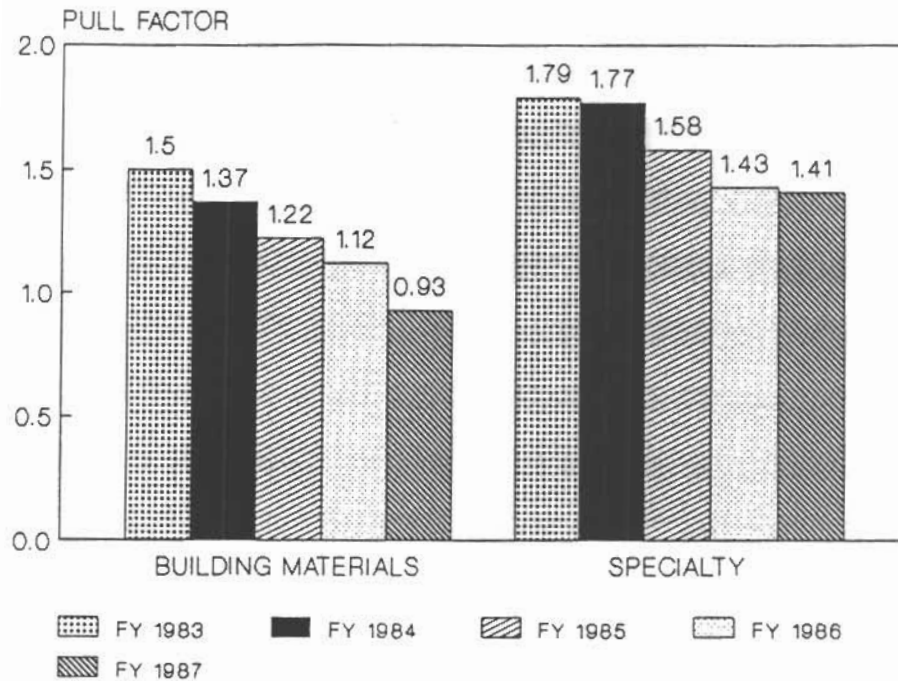
MUSCATINE, IOWA PULL FACTOR CHANGE AFTER WAL-MART OPENING



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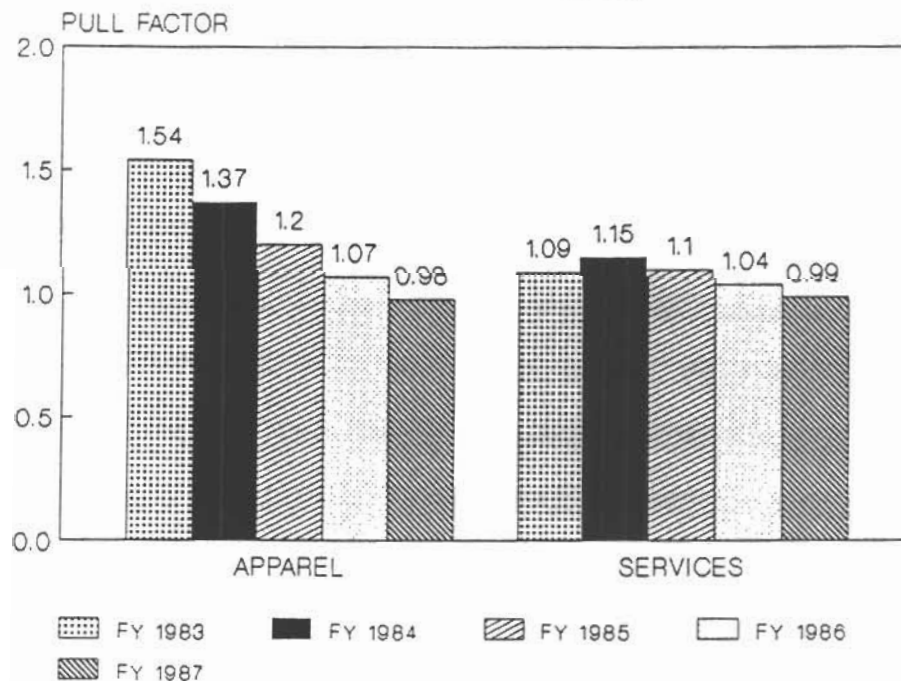


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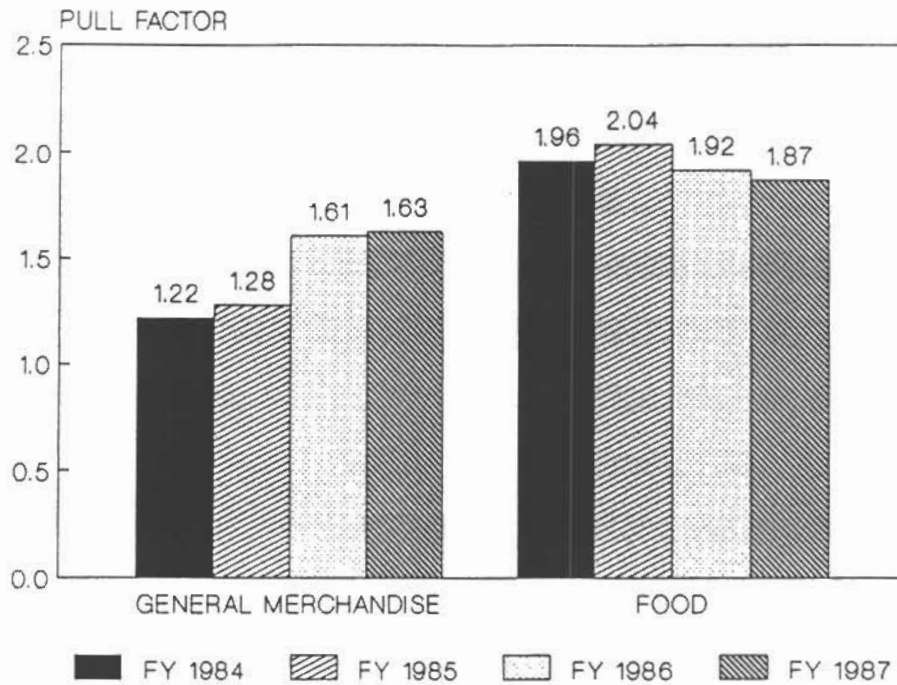
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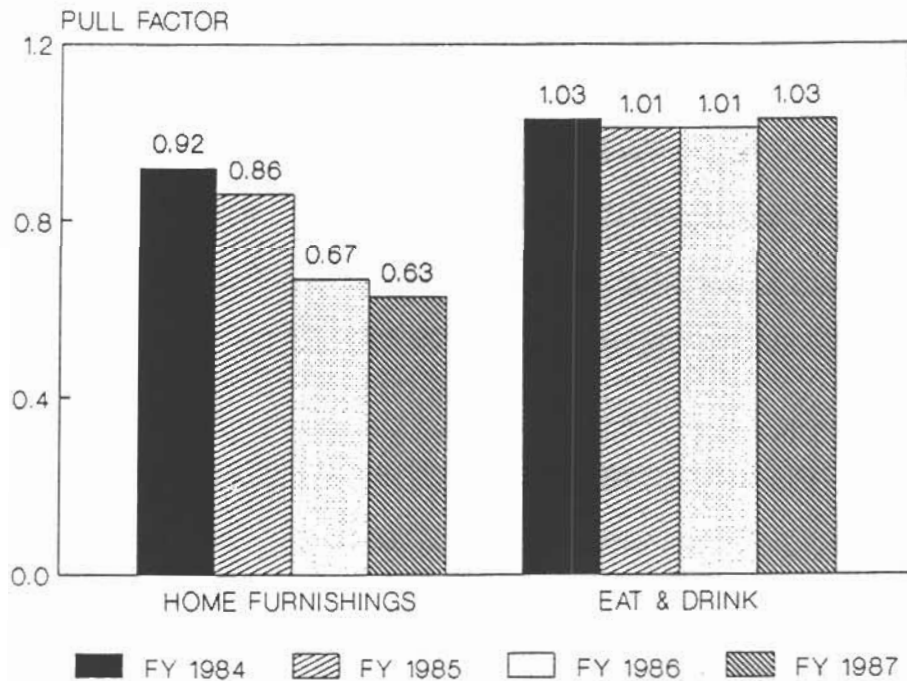
Source: Iowa Retail Sales and Use Tax Reports.

GRINNELL, IOWA PULL FACTOR CHANGE AFTER WAL-MART OPENING



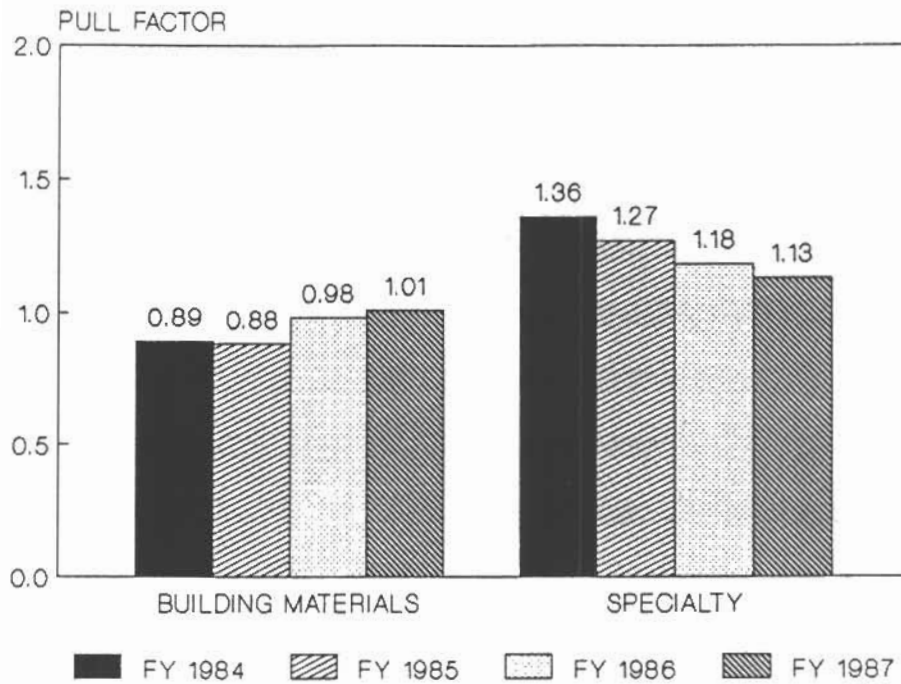
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GRINNELL, IOWA PULL FACTOR CHANGE AFTER WAL-MART OPENING



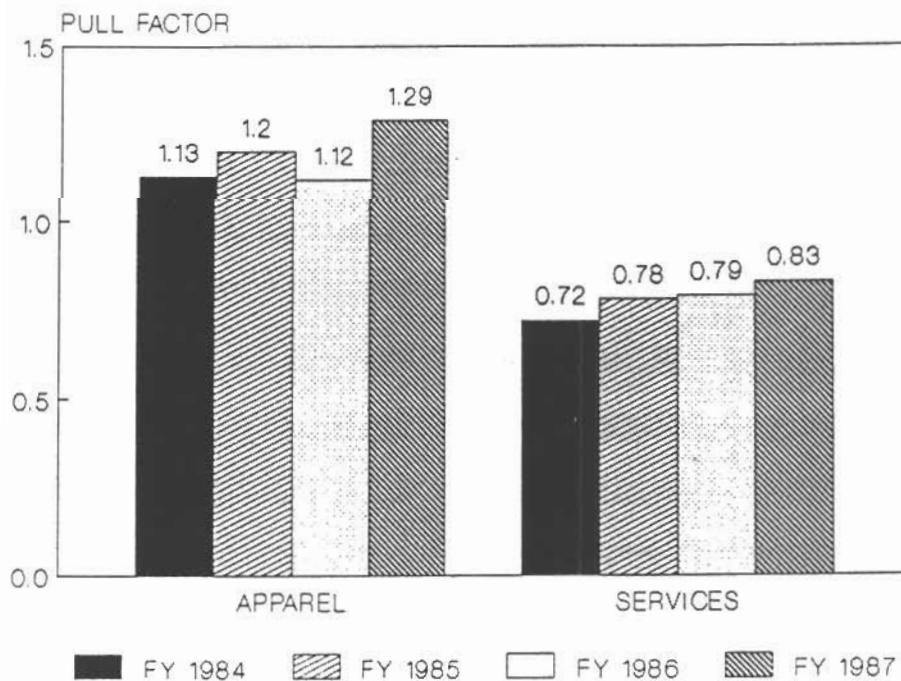
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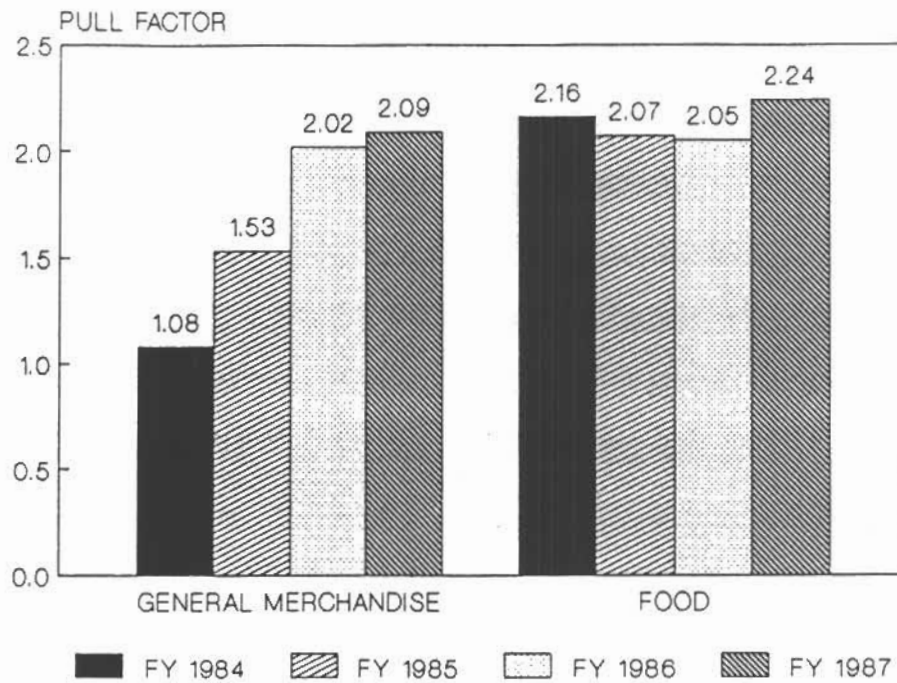
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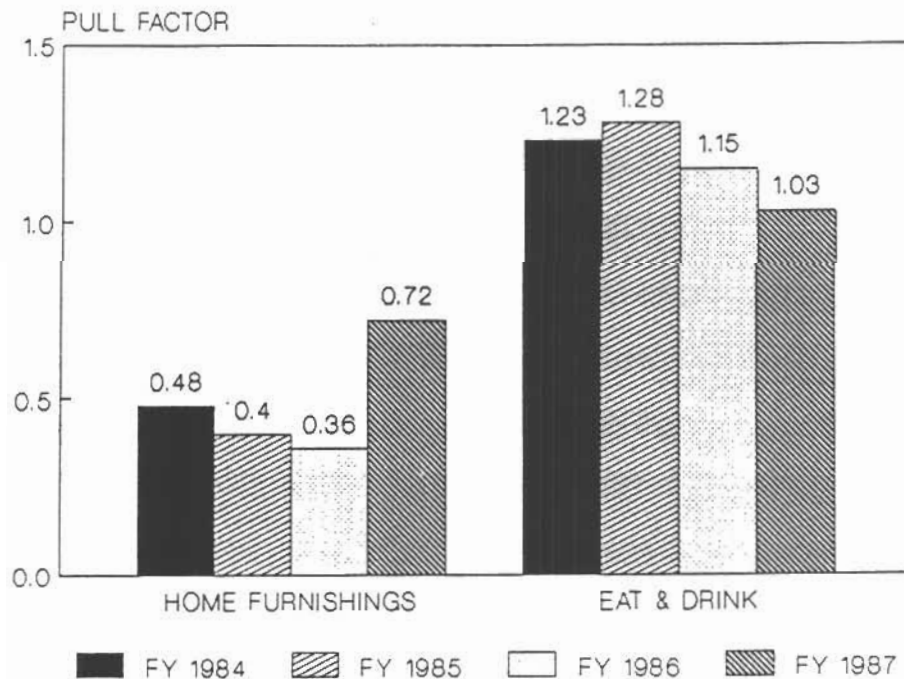
Source: Iowa Retail Sales and Use Tax Reports.

INDEPENDENCE, IOWA PULL FACTOR CHANGE AFTER WAL-MART OPENING



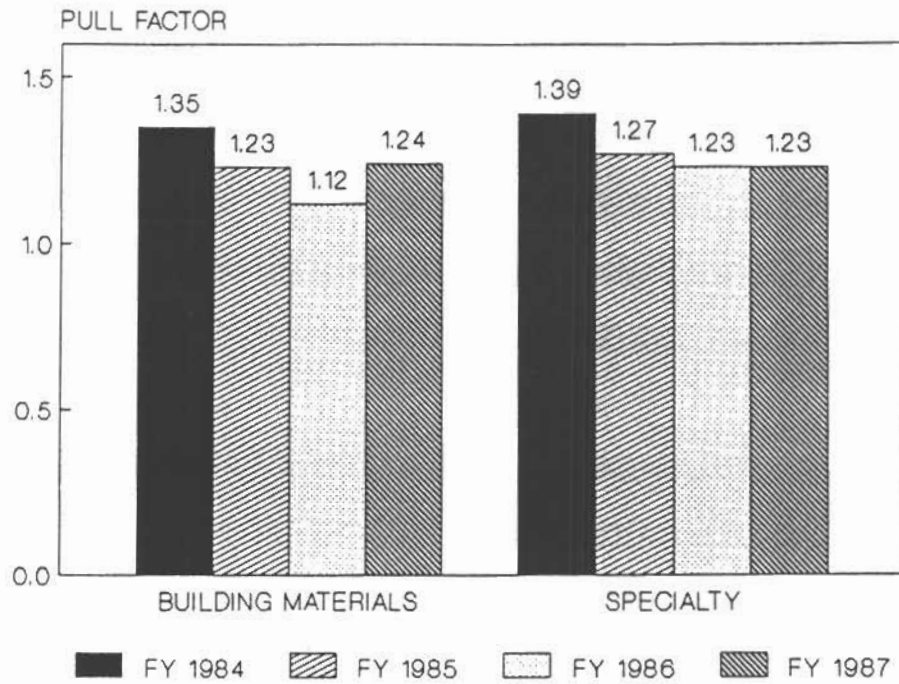
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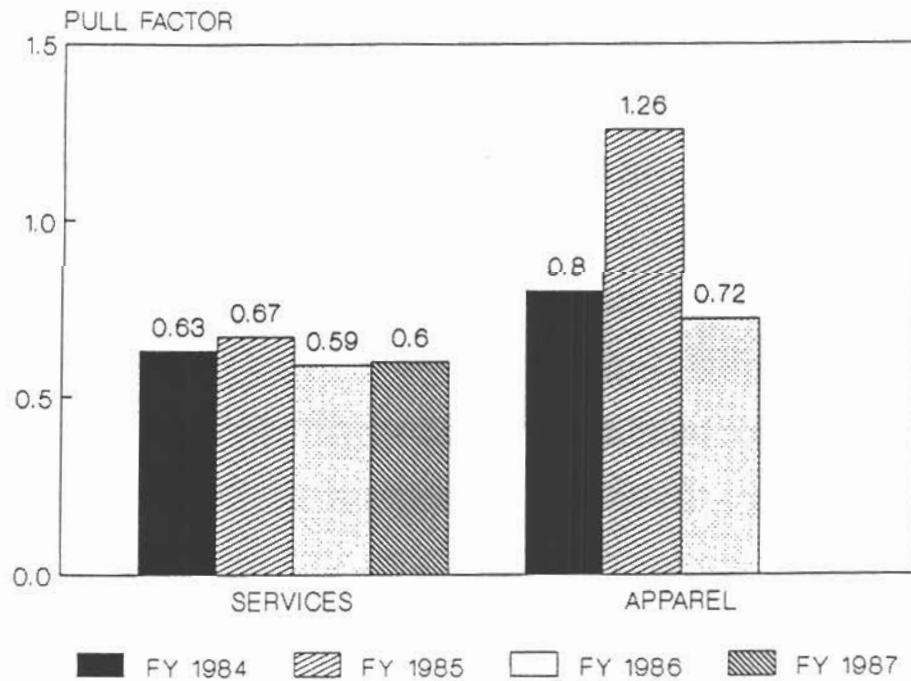
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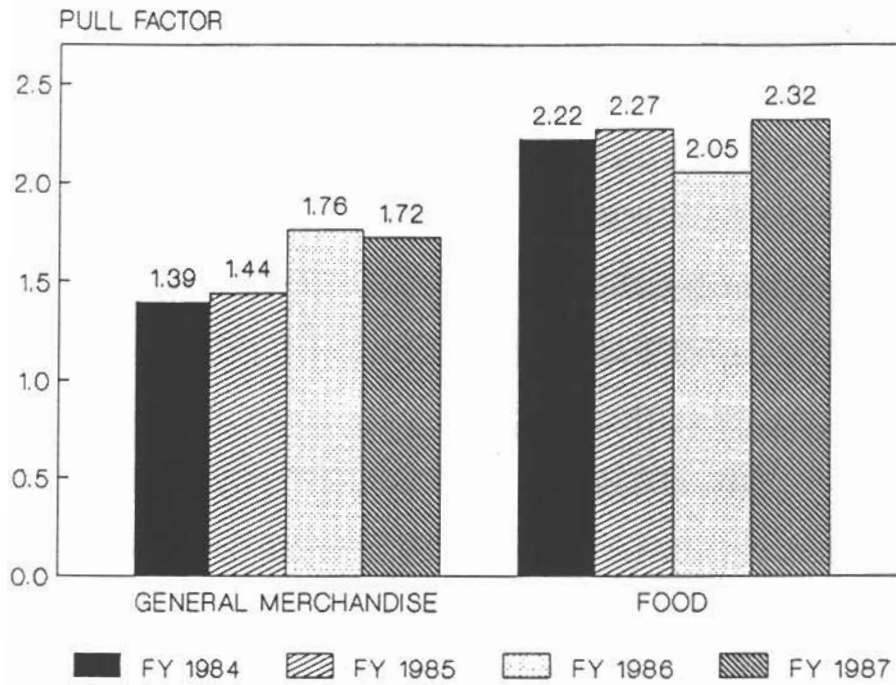
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INDEPENDENCE, IOWA PULL FACTOR CHANGE AFTER WAL-MART OPENING



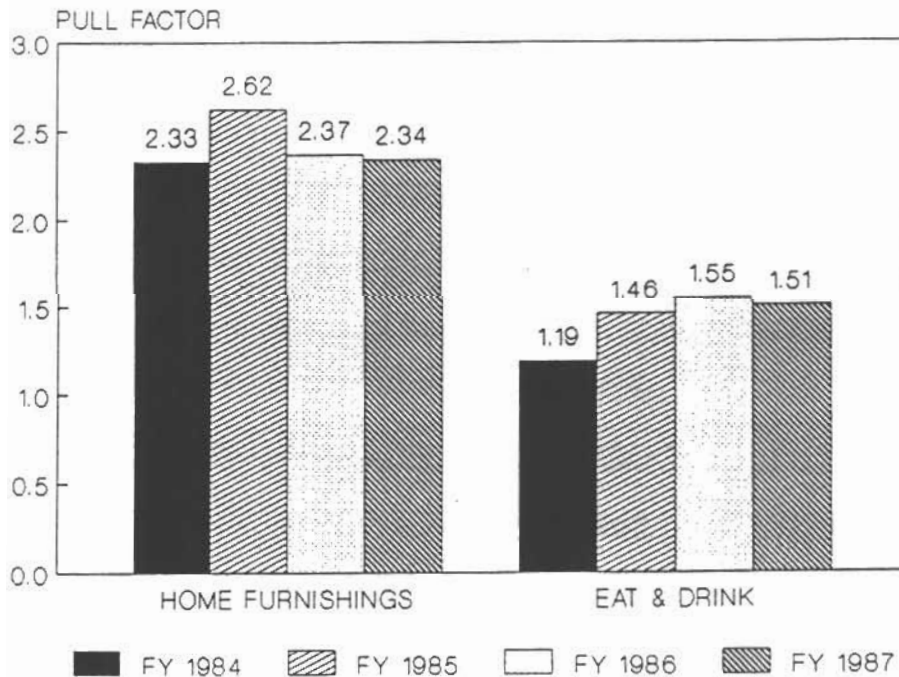
Source: Iowa Retail Sales and Use Tax Reports.

NEWTON, IOWA PULL FACTOR CHANGE AFTER WALMART OPENING



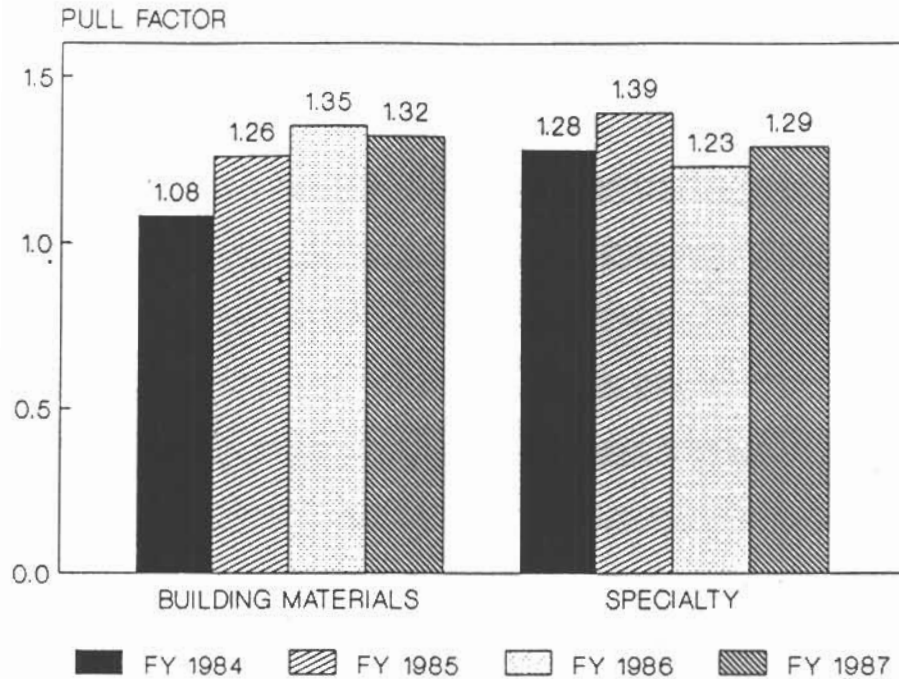
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NEWTON, IOWA PULL FACTOR CHANGE AFTER WAL-MART OPENING



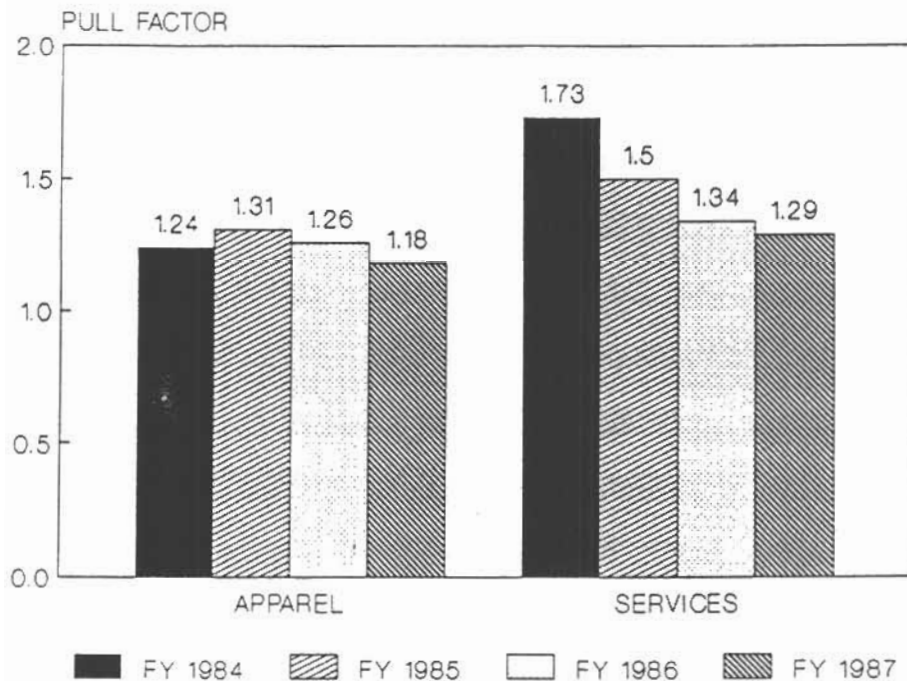
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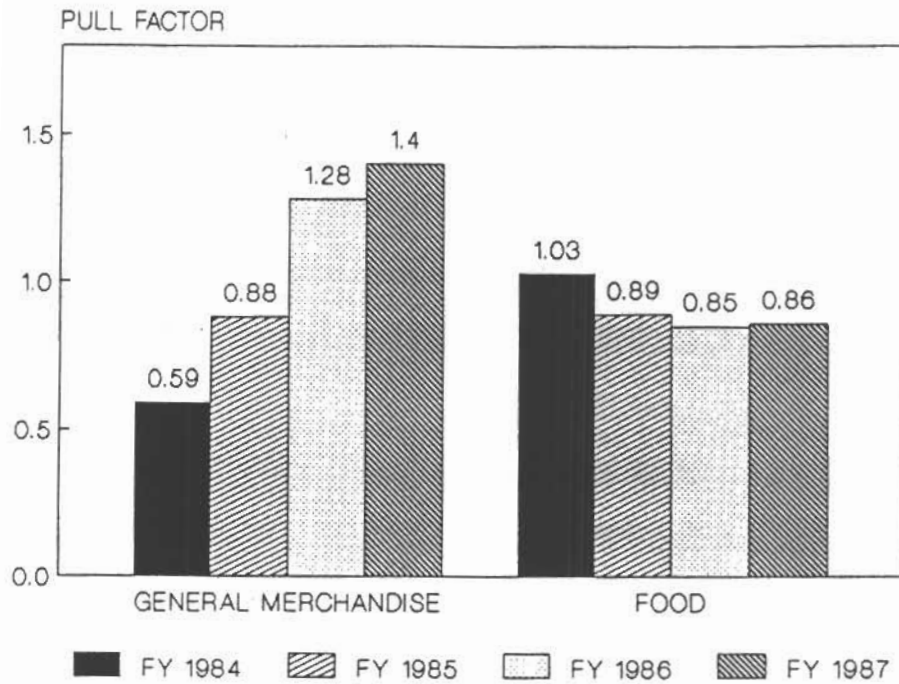
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NEWTON, IOWA PULL FACTOR CHANGE AFTER WAL-MART OPENING



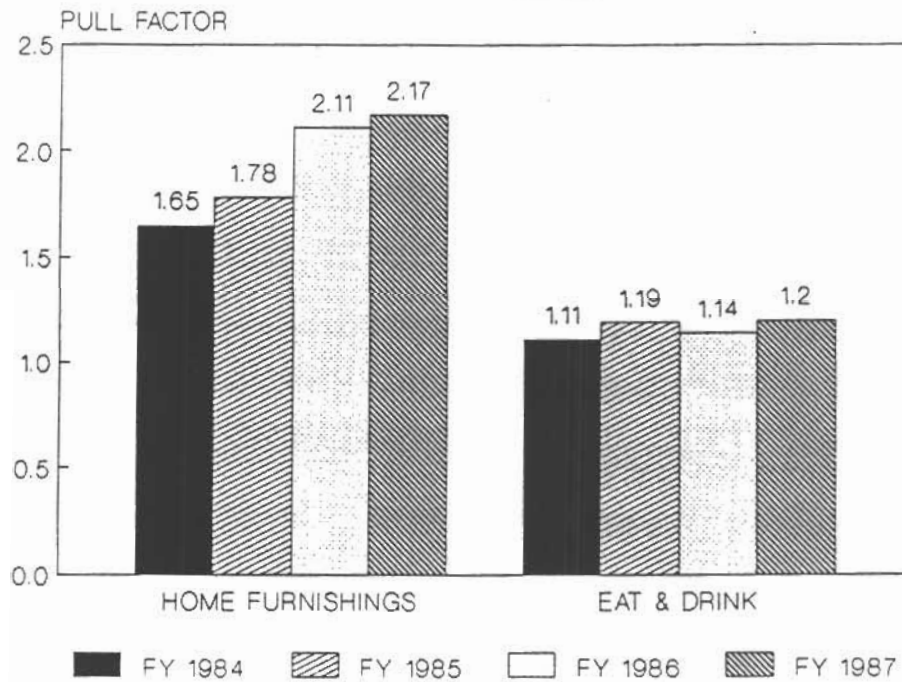
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PELLA, IOWA PULL FACTOR CHANGE AFTER WALMART OPENING



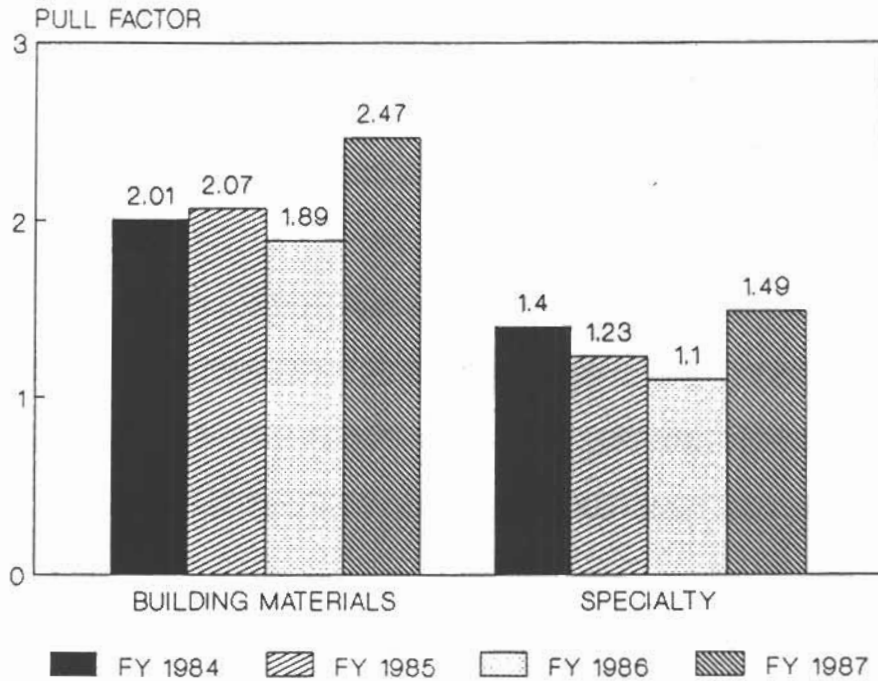
Source: Iowa Retail Sales and Use Tax Reports.

PELLA, IOWA PULL FACTOR CHANGE AFTER WAL-MART OPENING



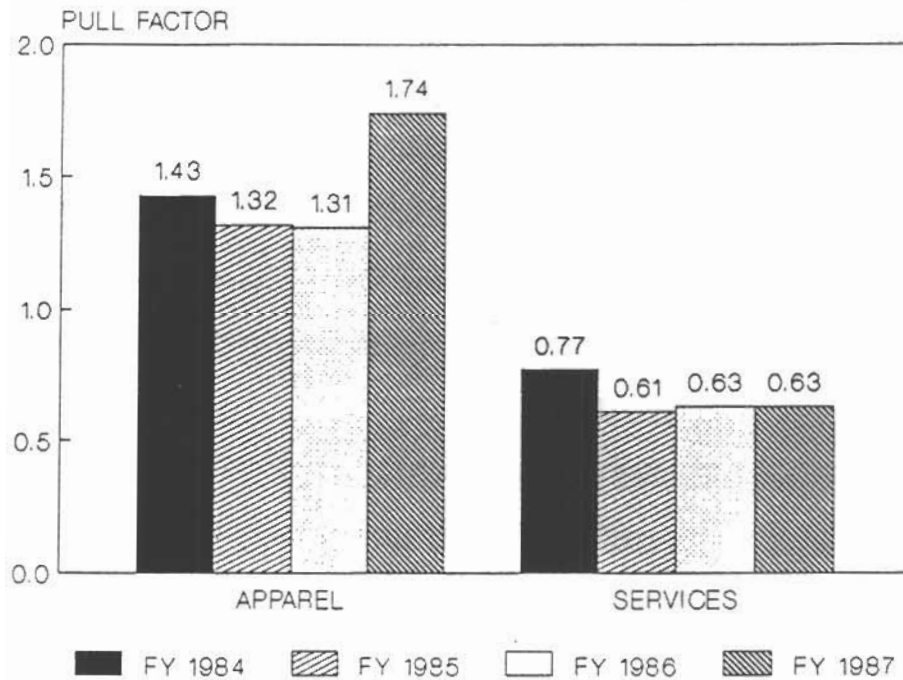
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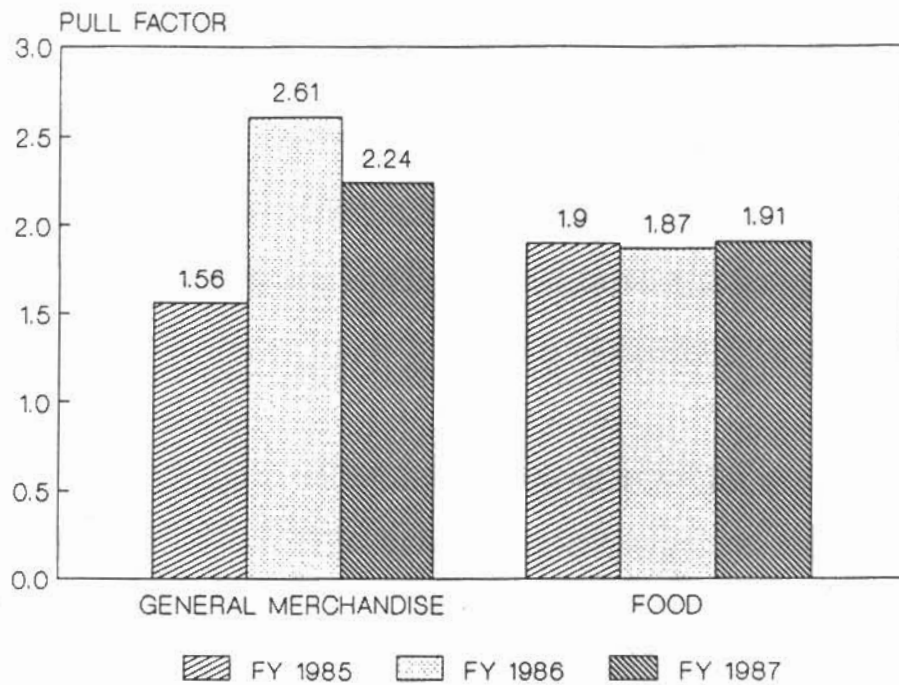
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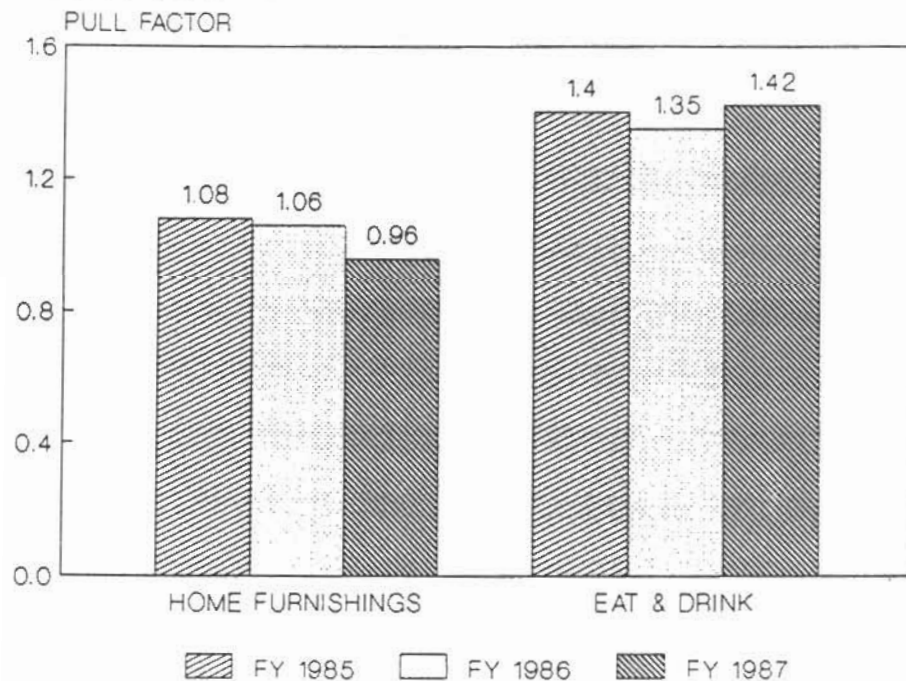
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MT. PLEASANT, IOWA PULL FACTOR CHANGE AFTER WALMART OPENING



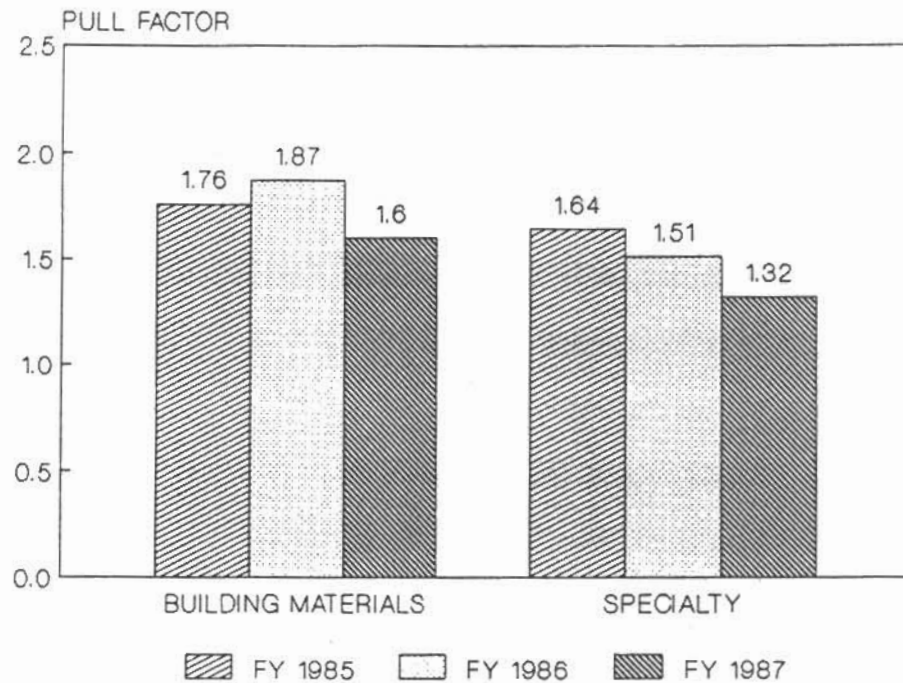
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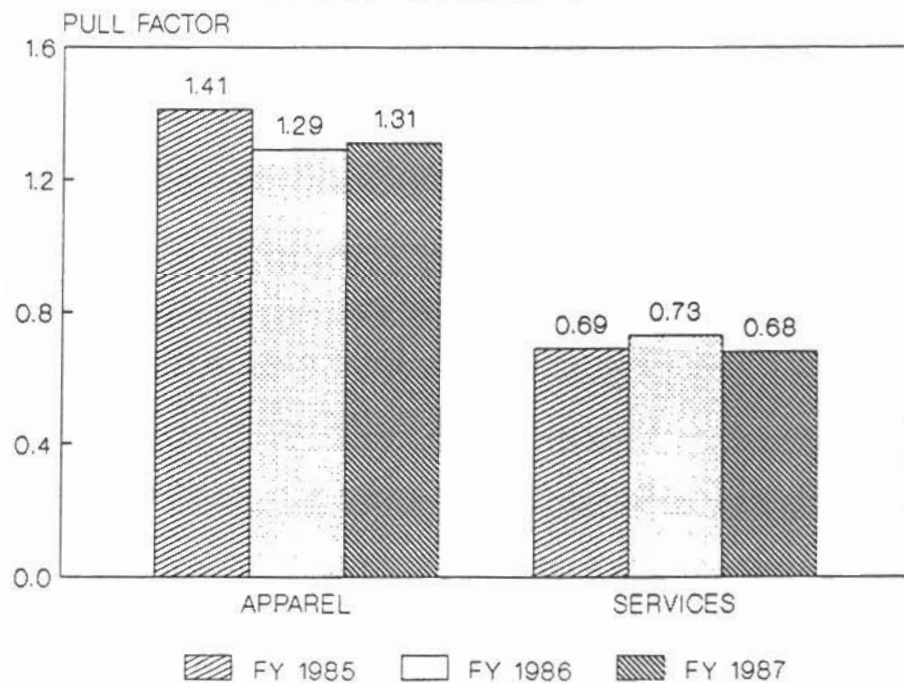
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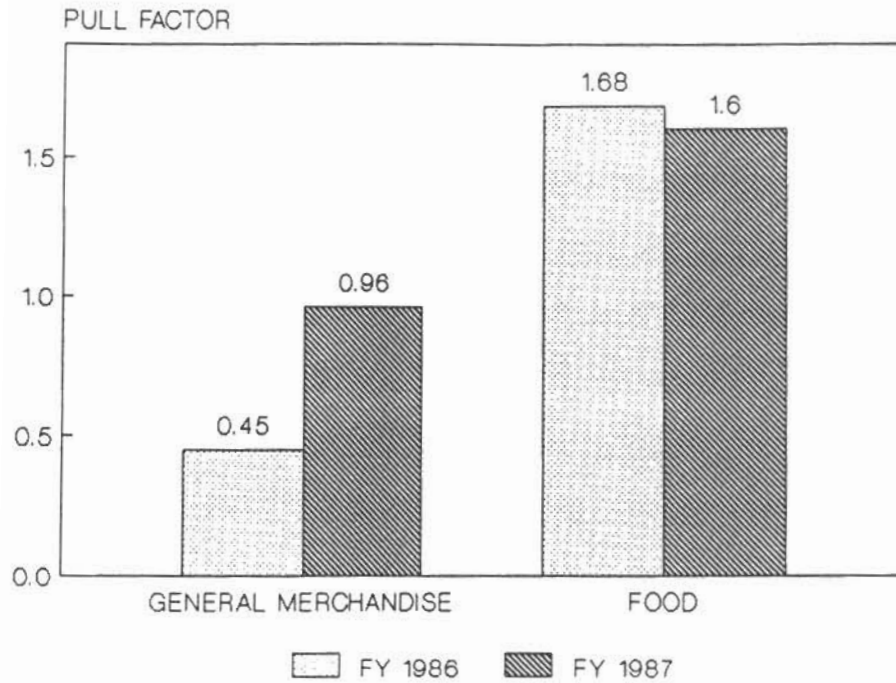
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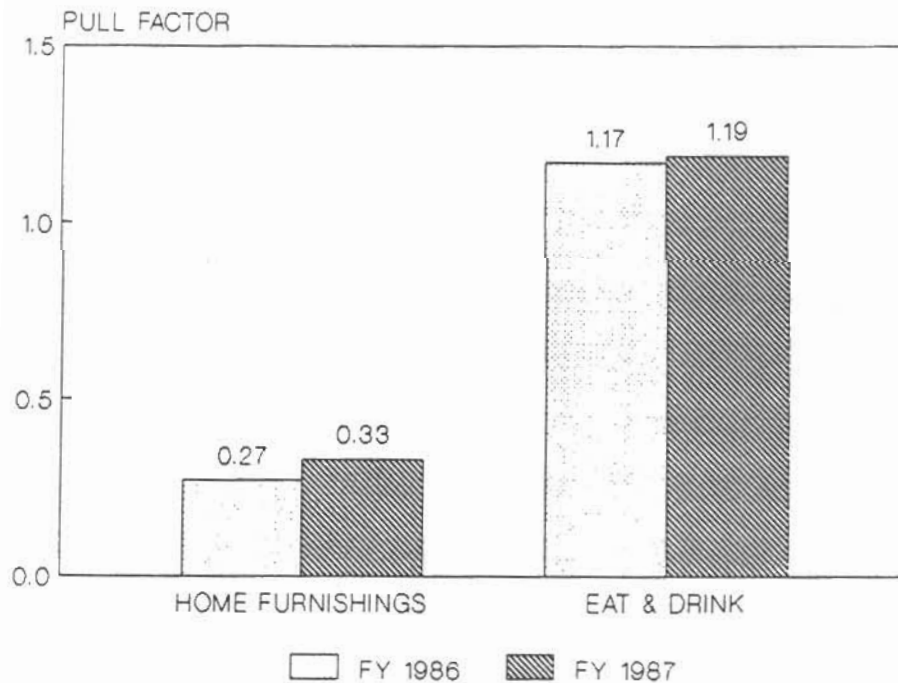
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ANKENY, IOWA PULL FACTOR CHANGE AFTER WALMART OPENING



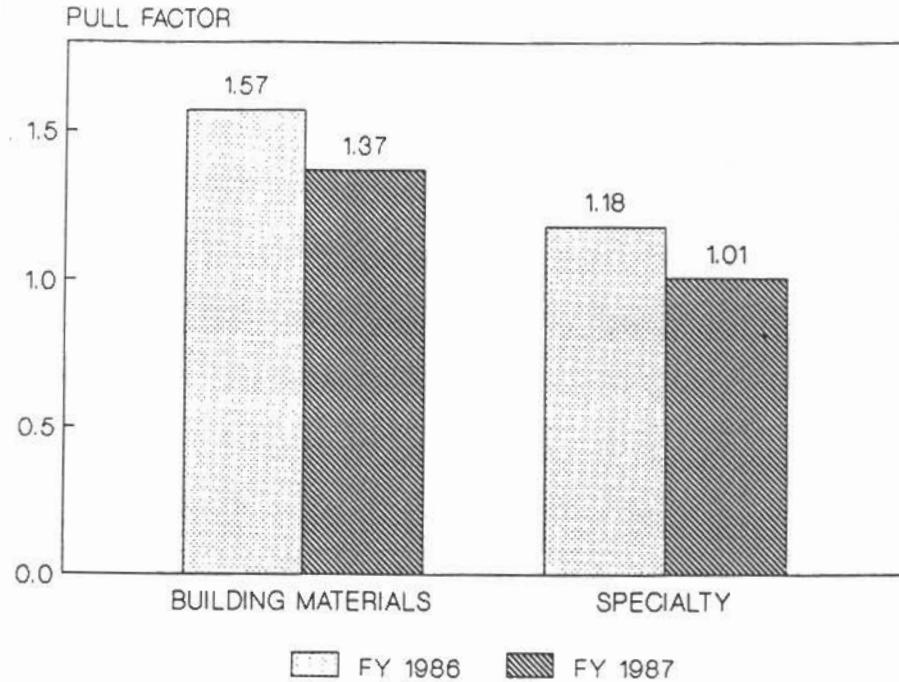
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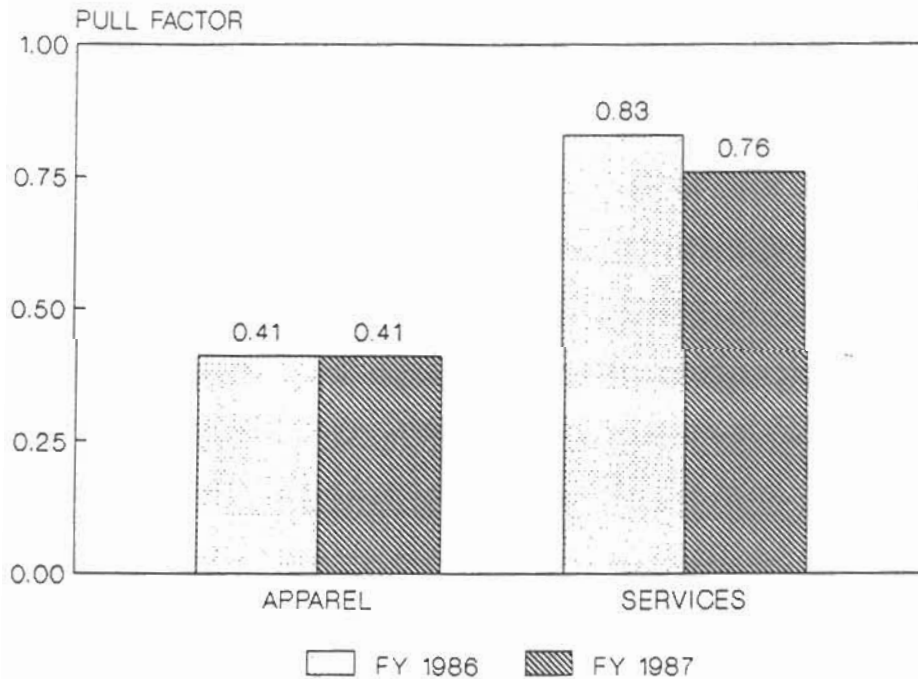
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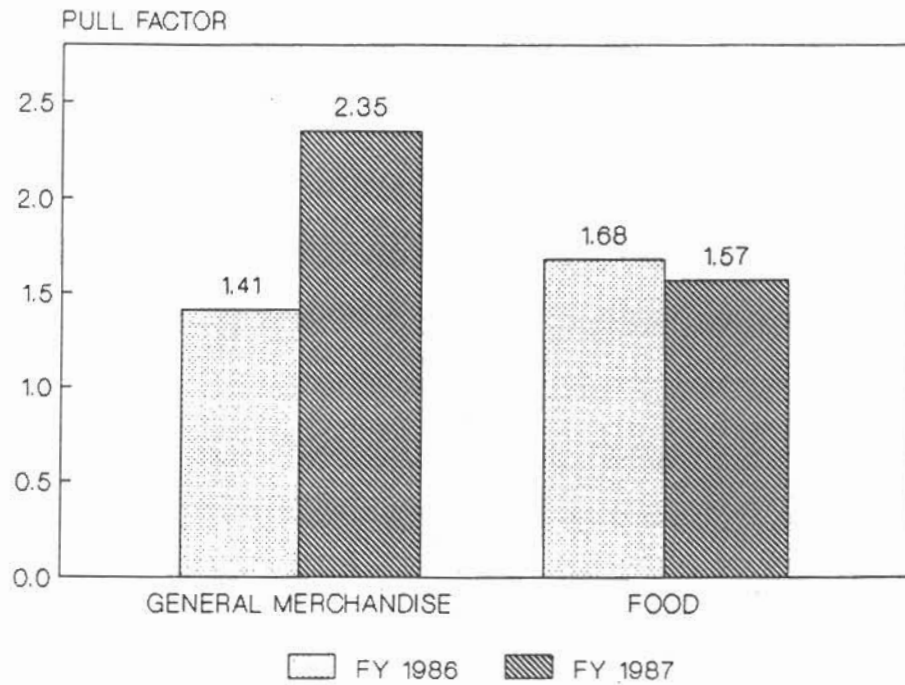
Source: Iowa Retail Sales and Use Tax Reports.

ANKENY, IOWA PULL FACTOR CHANGE AFTER WAL-MART OPENING



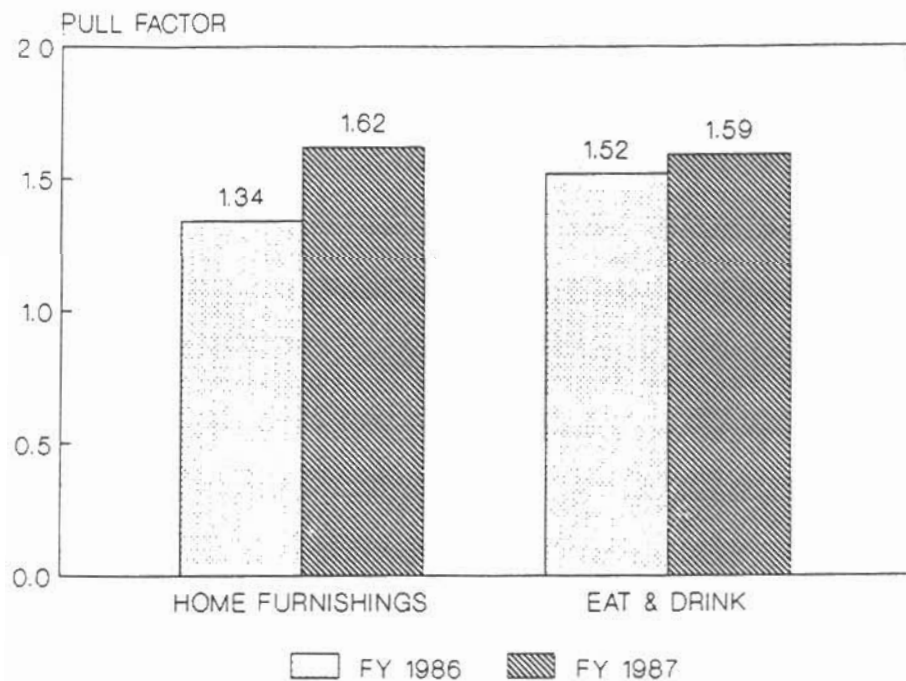
Source: Iowa Retail Sales and Use Tax Reports.

DECORAH, IOWA PULL FACTOR CHANGE AFTER WALMART OPENING



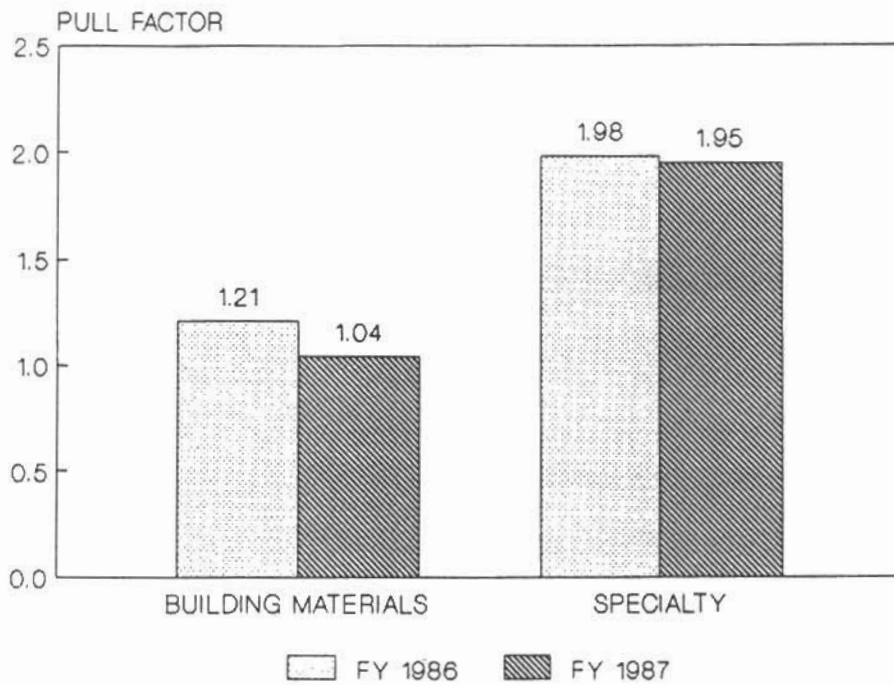
Source: Iowa Retail Sales and Use Tax Reports.

DECORAH, IOWA PULL FACTOR CHANGE AFTER WAL-MART OPENING



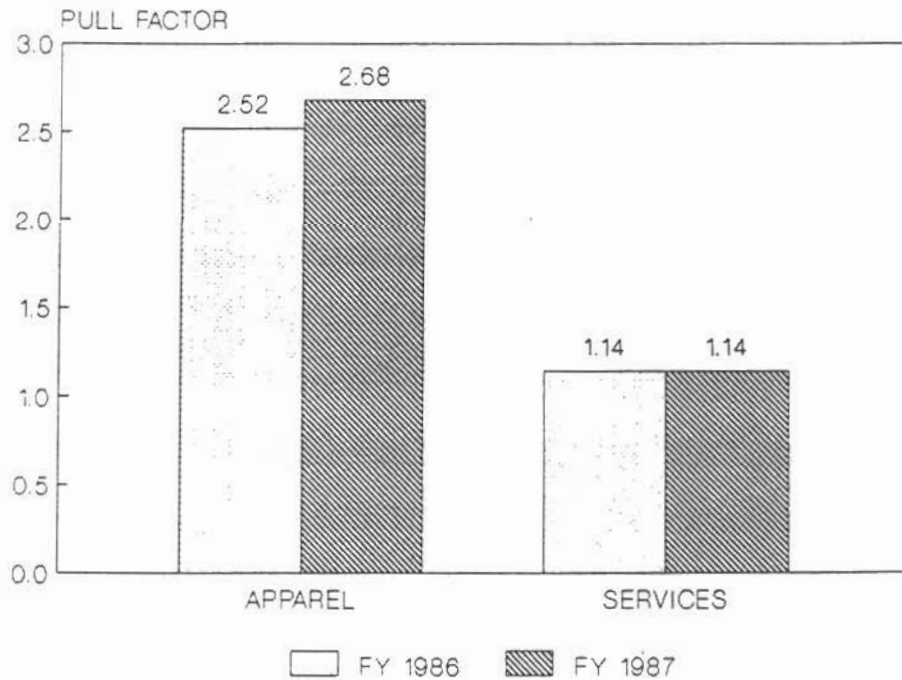
Source: Iowa Retail Sales and Use Tax Reports.

DECORAH, IOWA PULL FACTOR CHANGE AFTER WAL-MART OPENING



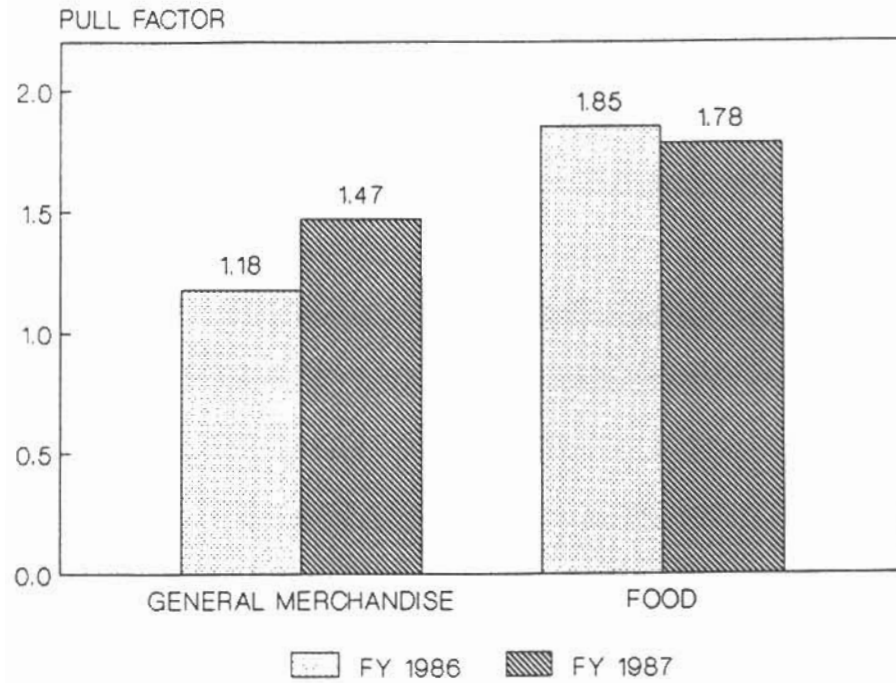
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DECORAH, IOWA PULL FACTOR CHANGE AFTER WAL-MART OPENING



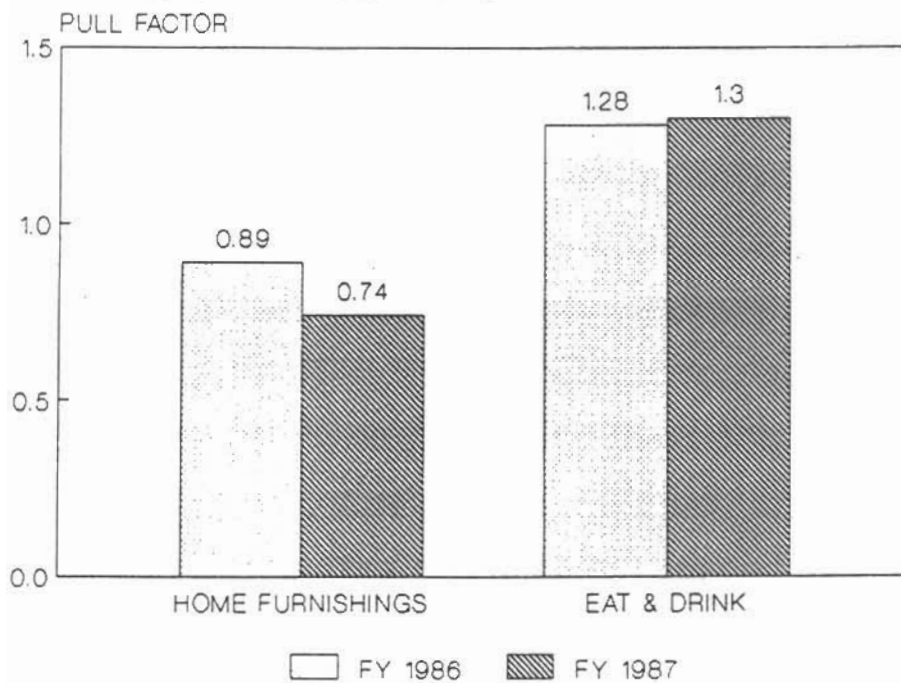
Source: Iowa Retail Sales and Use Tax Reports.

FAIRFIELD, IOWA PULL FACTOR CHANGE AFTER WALMART OPENING



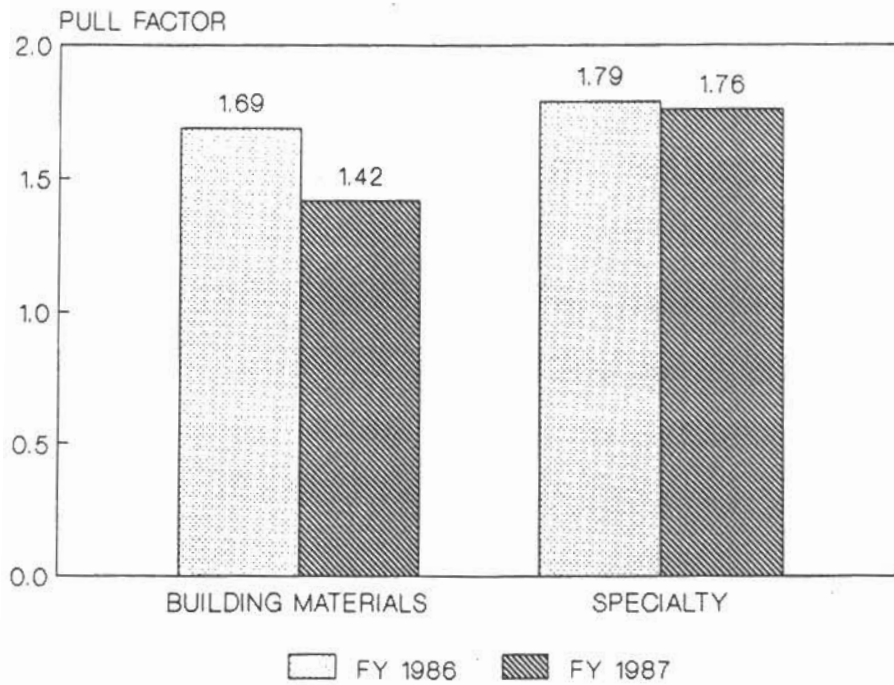
Source: Iowa Retail Sales and Use Tax Reports.

FAIRFIELD, IOWA PULL FACTOR CHANGE AFTER WAL-MART OPENING



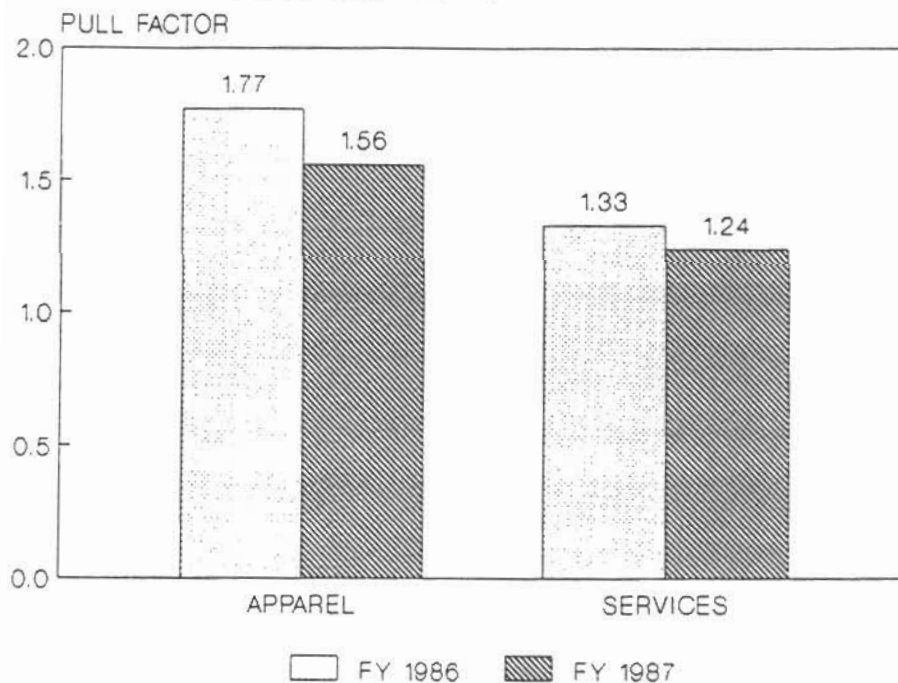
Source: Iowa Retail Sales and Use Tax Reports.

FAIRFIELD, IOWA PULL FACTOR CHANGE AFTER WALMART OPENING



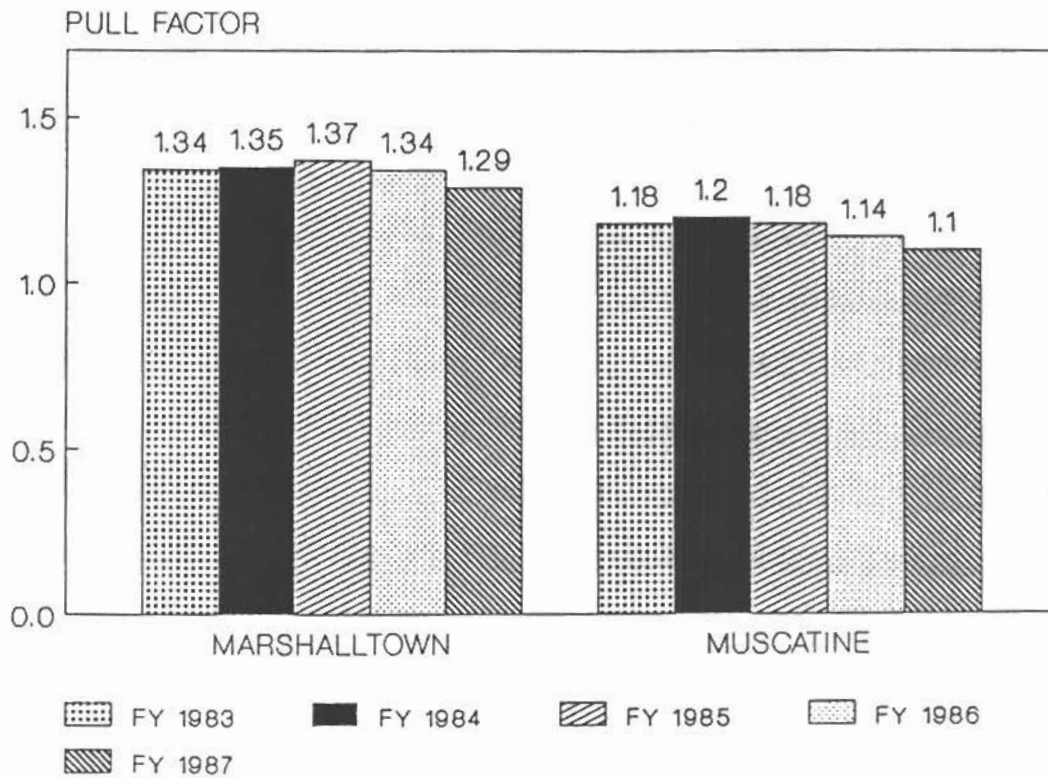
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FAIRFIELD, IOWA PULL FACTOR CHANGE AFTER WAL-MART OPENING



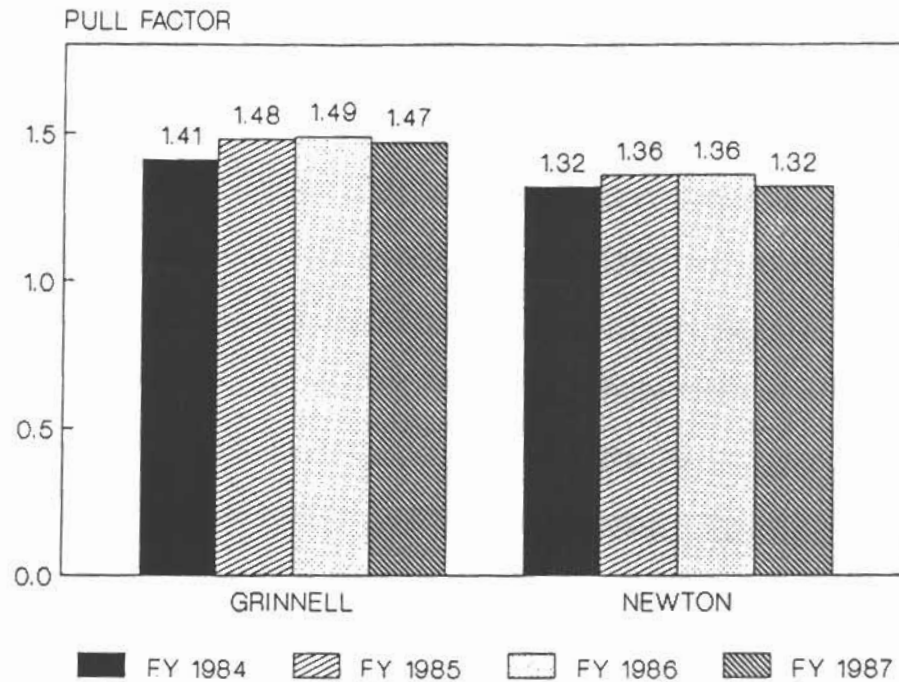
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TOTAL RETAIL SALES PULL FACTOR CHANGE AFTER WALMART OPENING



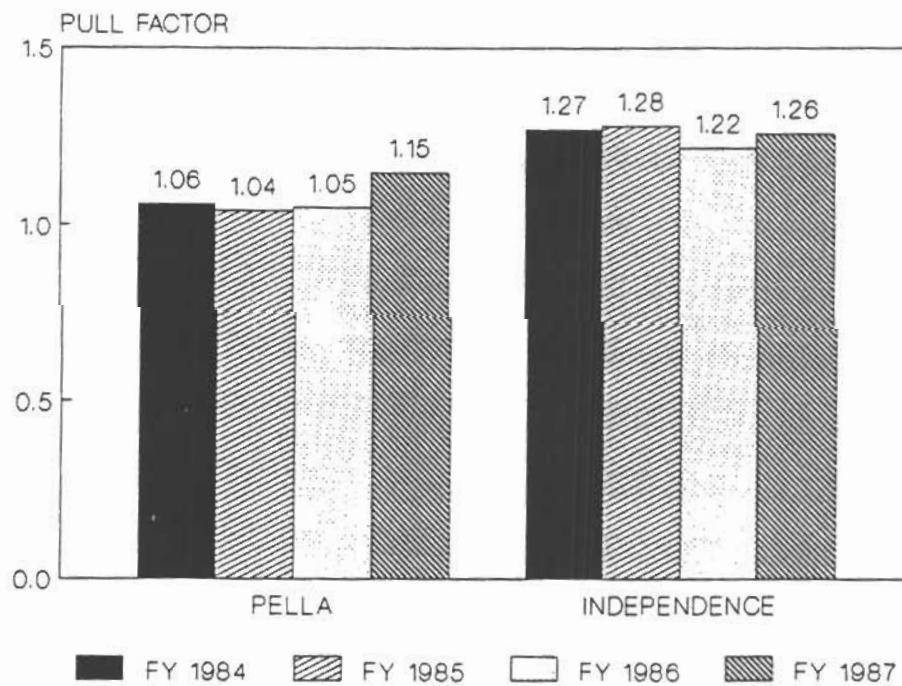
Source: Iowa Retail Sales and Use Tax Reports.

TOTAL RETAIL SALES PULL FACTOR CHANGE AFTER WALMART OPENING



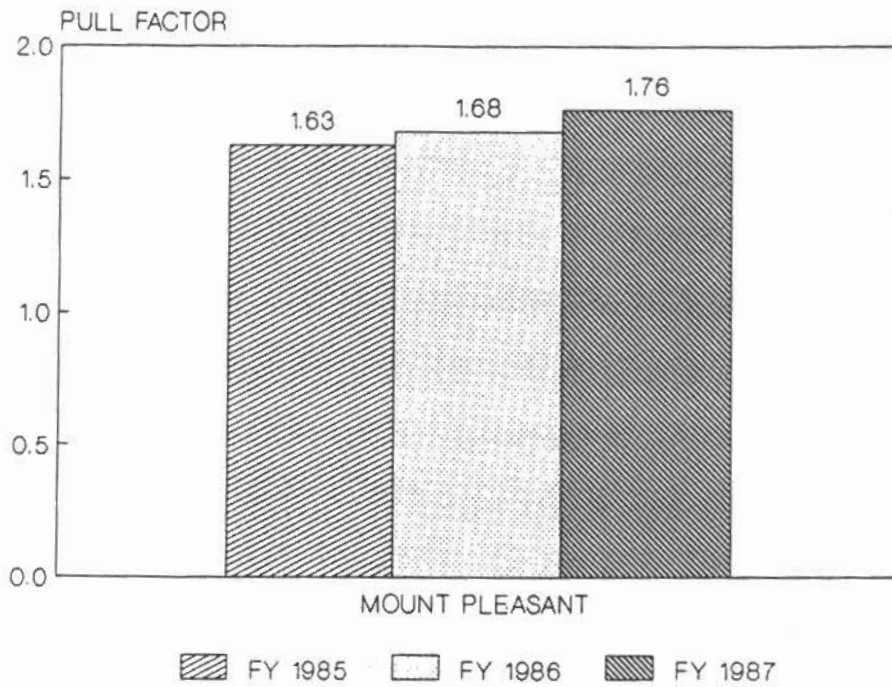
Source: Iowa Retail Sales and Use Tax Reports.

TOTAL RETAIL SALES PULL FACTOR CHANGE AFTER WALMART OPENING



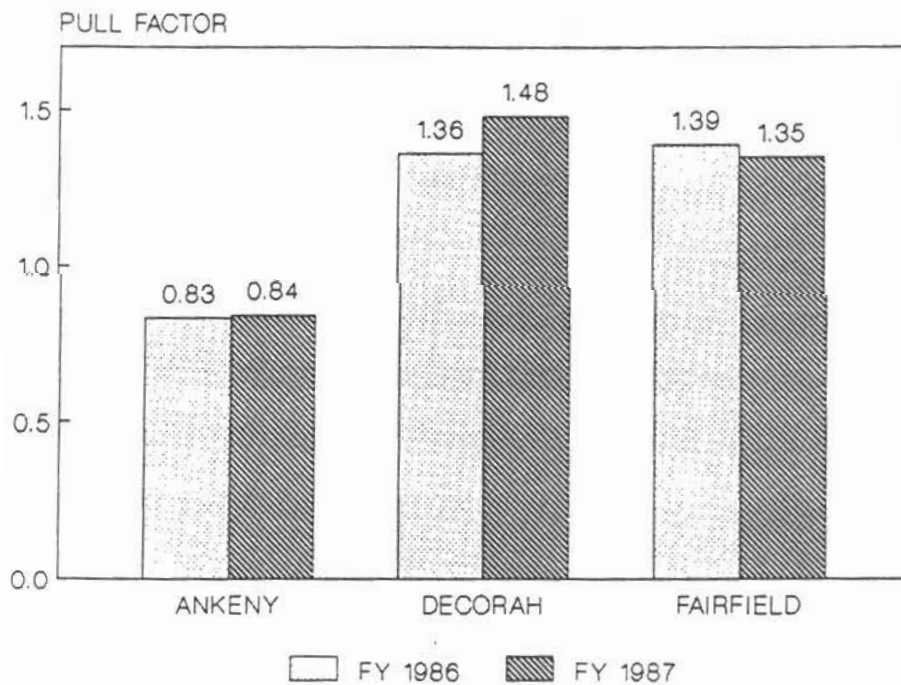
Source: Iowa Retail Sales and Use Tax Reports.

TOTAL RETAIL SALES PULL FACTOR CHANGE AFTER WALMART OPENING



Source: Iowa Retail Sales and Use Tax Reports.

TOTAL RETAIL SALES PULL FACTOR CHANGE AFTER WALMART OPENING



Source: Iowa Retail Sales and Use Tax Reports.