Employment Location and Local Retail Purchasing: A study in Local Community Development

William T. Boehm

Martin T. Pond
employment location and local retail purchasing: a study in local community development

by William T. Boehm and Martin T. Pond

Cooperative Extension Service, Purdue University, West Lafayette, Indiana
Contents

Summary ................................................. 3
Introduction .......................................... 3
General Conclusions .................................. 3
The Rural Community and Economic Growth ....... 4
Study Results .......................................... 5
Shopping Behavior of Study Area Respondents ...... 7
Considerations for Small Community Economic Development .... 9
Conclusion .............................................. 10
Employment Location & Local Retail Purchasing: A Study in Local Community Development

William T. Boehm and Martin T. Pond, Agricultural Economics Department

Summary

Interest in the growth or decline of small rural communities led to this report on one aspect of economic growth. Evidence is presented which indicates that locally employed citizens tend to purchase a greater percentage of their retail goods and services locally. Results suggest that retail merchants interested in increasing retail sales locally may wish to become involved in projects designed to increase local employment. In addition, those who encourage rural citizens to commute to larger cities for jobs may need to specifically consider the impact of such behavior on local retail activity. Since local retail activity may be adversely affected, alternatives to local business taxes may be necessary to maintain and/or increase local public services.

General Conclusions

Certain public policy implications follow from the findings in this report. Most important is the conclusion that citizens employed outside of the community in which they live purchase a greater percentage of their retail goods and services outside of their community of residence than those locally employed. This would seem to suggest that retail merchants interested in increasing local retail sales may wish to become involved in projects designed to increase local employment. A second major policy implication, related to the first, is that county-wide development projects be re-evaluated in light of the inter-relationship between local retail sales and local employment availability. It may well be that such proposals need to specifically consider alternatives to current local business and property taxation policies. As local retail activity declines, a traditionally important source of local tax funds also declines. If local residents wish to maintain and/or increase public services, other sources of funds must be found. Finally, the results in this study would seem to be of particular interest to specific local retail merchants. The purchase of certain retail goods such as food, clothing and consumer durables (refrigerators, furniture, etc.) is related more directly to employment location than is the purchase of other products (automobile supplies). Retailers selling such goods may find the results of this study most useful. A section describing the shopping behavior of study area respondents is included specifically for this purpose.

Introduction

Most community leaders in Indiana look favorably towards growth as a goal for their community. Frequently, however, the concept of growth itself is not well defined or understood. Incomes may increase too slowly to support family units as costs increase. Population may be declining. Public services may not be adequate. Suitable employment may not be readily available locally. To local citizens each of these conditions may indicate that something is wrong -- that the community is not growing. Community leaders may even disagree on priorities. Probably more damaging, the complex nature of economic growth leaves local citizens and their leaders with a genuine feeling of helplessness.

One frequently asked question is, "Should we encourage industrial development within our community or should we en-
encourage our residents to commute outside the community for employment?" The purpose of this report is to consider some aspects of this important question. The nature of economic growth will be discussed. Research evidence will be presented which indicates the inter-relationship between the location of employment and the extent of local retail sales within a rural community. In addition, the relationship of other socio-economic characteristics to local retail sales will be presented.

The Rural Community and Economic Growth

Since the growth (increase) of economic activity within specific communities is the major focus of this report, the basis of such activity is briefly reviewed. The economic activity of a community occurs through the interaction of certain economic entities, and the interaction of these entities is depicted in Figure 1. As indicated, a community's economy can generally be conceived as being composed of the following entities: (1) households, (2) production units, and (3) retail outlets. Money and goods flow among them and create economic activity. In simplest terms, households provide labor for the production units and in return receive wages and salaries for services rendered. Production units sell finished goods to retail outlets and use the money from such sales to purchase additional raw material and labor. Households use the money they receive to purchase the goods and services they need from the retail outlets. There can be "leakages" in the cycle. A small community may not have sufficient demand to consume all the items it produces. It may also have a demand for products not produced within the local community. Items will be both sold and purchased outside the local community. The smaller the community being considered, the more important these leakages become. Consequently, many of the benefits from economic development can accrue to persons living outside the community being studied.

In the past, many small communities served as distribution centers for the agricultural hinterland. Agriculture effectively served as the production sector for these communities. However, as farm efficiency increased, fewer farmers were needed and farm numbers declined. Rapid improve-

![Diagram](image-url)
ments in the transportation system made it easier for the remaining farmers to travel longer distances for the services and production inputs they needed. Small town business districts were by-passed, and small towns began to face serious economic problems.

As indicated, economic growth depends in part on the interaction of three identifiable sectors of the community (households, production units, and the retail sector). Many small communities are unable to provide sufficient employment production sectors for their residents. In fact, some communities have even expressed the desire to remain "industry free" and avoid the problems industries create (i.e. pollution, noise, congestion, etc.). It is often believed that economic growth for the community will continue so long as local residents have jobs (income) regardless of where that job is located. Little or no explicit consideration is given to the effect of changes in job location upon the pattern of economic activity between and among the economic agents within the community. Especially important may be the resulting impact upon the retail sector. In the past this sector of the economy has been: (a) an important source of local employment opportunities; (b) an important source of local business and property taxes which help provide needed community services; (c) an indication (physical appearance of buildings, attitudes of local entrepreneurs, etc.) of the overall development potential of the community.

In light of these contributions and the continued interest in what factors seem to be responsible for the economic growth and decline of communities, this study was undertaken to isolate and identify the relationship between local retail sales and the location of employment. Specifically, an attempt was made to answer the question -- What happens to local retail sales as local employment opportunities change?

Study Results

An analysis was made of the local retail purchasing patterns for ten items generally available both within and outside the two rural communities studied, Dale and Petersburg, Indiana. Items included were: food, clothing, automobile supplies and services, medical supplies and services, home furnishings and appliances, secondary personal services (barber, repair, etc.), insurance, contributions to non-profit organizations, recreation and entertainment, and home heating.

Family units surveyed were placed in one of three categories: (1) employed locally, (2) employed externally, or (3) unemployed or retired. Table 1 shows the result. About 20 percent of all families in both communities were surveyed.

Each family surveyed was asked to report how much they purchased and whether the purchase was made in the community in which they lived. A graphic summary of the responses by location of employment in both communities appears in Figure 2. Those families employed outside the community of residence had a tendency to (1) purchase slightly more, and (2) purchase a greater percentage of the total purchases outside the local community. The annual mean purchases of the combined communities are summarized in Table 2.

Combining the information contained in Table 1 with the purchasing behavior reported in Table 2, it is possible to calculate the approximate annual commodities purchased in each of the communities. In Dale, with 25 percent of all families employed ex-

<table>
<thead>
<tr>
<th>Employment category</th>
<th>Percent of total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Dale</td>
</tr>
<tr>
<td>Employed locally</td>
<td>70</td>
</tr>
<tr>
<td>Employed externally</td>
<td>25</td>
</tr>
<tr>
<td>Unemployed or retired</td>
<td>5</td>
</tr>
<tr>
<td>TOTAL</td>
<td>100</td>
</tr>
</tbody>
</table>
ternally, 22 percent of all food purchases were computed to be made outside the local community. While in Petersburg, with 32 percent of its families working outside the community, 26 percent of all food purchases were made externally. Assuming internal employment was available in Petersburg, a 7 percent reduction in external employment could result in a 4 percent increase in local food purchases. This could mean an additional $30,000 in retail food sales for the merchants in Petersburg.

The distance traveled to work each day also made a difference in purchasing behavior. In general, the farther the distance to work, the less the tendency to purchase locally. For each additional mile driven to work a $9.50 decrease in annual local purchases resulted. Therefore, those families employed ten miles from their community of residence would be expected to purchase $95 less per year locally while those employed thirty miles from their residence would be expected to purchase $285 less per year locally.

The only case where the group of externally employed families spent more in the local community was on automobile supplies and services. Persons employed outside their local community require additional mobility. Higher total expenditures for automobiles and automobile services probably reflect these increased transportation needs. Since the prices and qualities of these services are similar and local purchases may be more convenient, higher local expenditures are to be expected. In addition, greater external purchases of other commodities probably require additional transportation expenditures.

The locally employed respondents purchased $3,467 locally and $2,263 externally for the entire market-basket of goods analyzed. Those employed externally, although purchasing slightly more in total, purchased $322 less in the community of residence.

For those communities in the study (2,500 population) and with 50 percent of the families externally employed, this could mean an annual loss in potential first round retail sales of between $50,000 and $100,000. If total annual retail sales are around two million dollars, which is generally the case for communities of this size, the effect of employment location is substantial. This is especially true if the impact of a local multiplier is considered. (Money spent in an economy tends to generate more annual income than the sum of the dollars spent. The expanded dollars become "income" to another community resident who also spends some of the money locally.)
Table 2. Mean annual purchases by location of employment, in dollars, Dale and Petersburg, Indiana, 1971.

<table>
<thead>
<tr>
<th>Item</th>
<th>Locally employed (n = 86)</th>
<th>Externally employed (n = 43)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Local purchases</td>
<td>External purchases</td>
</tr>
<tr>
<td>Total purchases*</td>
<td>$2628.94</td>
<td>$1476.12</td>
</tr>
<tr>
<td>Food</td>
<td>$1405.52</td>
<td>$345.88</td>
</tr>
<tr>
<td>Clothing</td>
<td>93.08</td>
<td>476.07</td>
</tr>
<tr>
<td>Auto</td>
<td>757.10</td>
<td>245.10</td>
</tr>
<tr>
<td>Medical</td>
<td>163.49</td>
<td>157.78</td>
</tr>
<tr>
<td>Home furnishings</td>
<td>130.51</td>
<td>214.70</td>
</tr>
<tr>
<td>Services</td>
<td>79.24</td>
<td>36.59</td>
</tr>
</tbody>
</table>

*Total purchases were calculated by adding the reported household expenditures for food, clothing, automobile supplies and services, medical supplies, home furnishings and secondary personal services.

This ability of dollars spent to generate income is indicated by the value of the local multiplier. Therefore, those public policies which encourage rural residents to seek employment in nearby medium and large size cities (encourage people to move to jobs) and yet maintain their rural residency (to avoid further rural to urban migration) may in fact be causing a reduction in local retail sales. To the degree that retail sales are subject to a local multiplier, local economic expansion is further reduced.

Shopping Behavior of Study Area Respondents

Although the relationship between local retail purchases and the location of a family's employment was of primary importance, certain other socioeconomic variables were also found to influence local retail sales. These include: total family income, age of the principal wage earner, educational level and the number of persons in the household. An attempt was made to determine specifically which local retail items would be affected most adversely by changes in these socioeconomic characteristics.

The percentage that each purchase category is of average annual local purchases is reported in Table 3.

Local Food Purchases. Purchases of food items accounted for slightly more than 40 percent of the total local expenditures reported. Family units in the two communities spent about $1,638 per year on food. More than 2/3 of all food was purchased locally ($1,276). Food eaten out of the household was recorded as an expenditure for recreation.

Table 3. Average annual local purchases, in dollars.

<table>
<thead>
<tr>
<th>Category</th>
<th>Total local purchases</th>
<th>Dollar amount</th>
<th>Percent of total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aggregate</td>
<td>3,089</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>Food</td>
<td>1,276</td>
<td>41</td>
<td></td>
</tr>
<tr>
<td>Clothing</td>
<td>76</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Automobile supplies and services</td>
<td>673</td>
<td>22</td>
<td></td>
</tr>
<tr>
<td>Medical supplies and services</td>
<td>139</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Secondary personal services</td>
<td>68</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Home furnishings and appliances</td>
<td>97</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

*Total purchases were calculated by adding the reported household expenditures for food, clothing, automobile services and supplies, medical services and supplies, secondary personal services, household appliances and furnishings, insurance, recreation, contribution to non-profit organizations and home heating. Separate equations were not estimated for the latter four commodity groups since their purchase appeared to present the consuming unit with less of a choice in the location decision.
The location of employment had a significant impact on the location of food purchases. While purchasing more food in total ($1,901) than those locally employed ($1,750), externally employed household units purchased about $200 less per year on local food items.

As would be expected, the number of persons in the household explained a significant amount of the variation in local food purchases. The addition of one adult member to a family generally resulted in an additional $350 spent locally on food.

Local Purchases of Clothing. In general, most clothing purchases were not made in the local community. Households reported that an average of only $76, of the total $497 spent each year on clothing, was spent locally. Study respondents often complained about the lack of variety and the "high price" of local clothing items.

Although the influence of employment location did not seem to be significant in explaining variation in local clothing purchases, other socioeconomic variables did.

There was a curvilinear relationship between total clothing purchases and age and income. The relationship indicated that both young families and the very poor tend to purchase more clothing locally. It is the middle income, middle aged persons who are purchasing clothing items outside the community.

Local Purchase of Automobiles and Automobile Services. The location of employment was not important in determining the local purchase of automobiles or automobile services.

An average family unit, regardless of employment location, spent $673 on automobile supplies locally each year. About 70 percent of such items are being purchased locally. Such a result seems logically consistent. Since most major gasoline companies service small communities with somewhat standardized products, little more in variety or improvement in quality could be gained from an external purchase. Also, price could be expected to be about the same regardless of location. To the extent that these products are representative, it appears that when all other things are equal, (i.e. price, quality, information, etc.) people prefer to purchase locally.

Local Purchases of Medical Supplies and Services. Attempts to explain the variation in local expenditures for medical supplies and services were largely unsuccessful. However, households locally employed tended to spend more in the local community for these services than the externally employed groups.

One explanation may well be that the choice of a doctor is decided more on the basis of personality, previous contact, convenience, etc.

The average local expenditure per family was $139 for medical supplies and services. Almost 50 percent of this total was made in the local community, regardless of socioeconomic or demographic characteristics. Attempts to explain the differences by such things as "time in the community" and "occupation" were also unsuccessful.

Local Purchases of Secondary Personal Services. Secondary personal services were defined as those expenditures made in payment for hired domestic help, barber, beauty operator, minor repairs on household items, etc.

The results indicated that both the very poor and the very wealthy residents purchased greater quantities of these services locally than did those families in the middle age and income class. Local purchases of secondary personal services declined when the household head was 47 years of age or older, probably because less total money is spent on such items at this stage in the life cycle. The location of employment did not appear to influence significantly the local purchase of these services.

Local Purchase of Household Furnishings and Appliances. Although generally considered as durable rather than consumption goods, household furnishings and appli-
ances are often available in small communities. This was the case in both study communities.

The mean local purchases for these durable goods was $97, about one-third of the total reported expenditures for these items. It appears that widespread external purchasing of durables is common among rural residents. However, the effect of employment location is important in determining the location of such purchases. For each mile the household head drives outside the community for work, a $2.50 decrease in local purchasing of household furnishings and appliances may be expected. This could mean a substantial reduction in local sales in some rural communities.

Considerations for Small Community Economic Development

The objective has been to determine if the location of employment is related to the location of retail purchases. The results indicated that locally employed residents purchased about $322 more in the local community than did residents employed elsewhere during 1970. This finding suggests the following considerations for those interested in small community growth:

1. The extent to which a family is employed locally does affect purchase location decisions. Those families employed externally can be expected to purchase proportionately less in the community of residence than those locally employed. Therefore, public policies which encourage rural residents to seek employment in the nearby medium or large size cities and maintain residence in rural communities may lead to a reduction in the overall purchasing in rural community retail trade sectors. To the degree that these purchases are subject to the multiplier effect, local economic expansion is further reduced.

2. Merchants interested in increasing retail sales locally may wish to become involved in projects designed to increase local employment availability. Local business groups involved in projects designed to attract industry are correct, based on the results of this study, in thinking that local job opportunities will lead to increased retail sales.

3. Current policy proposals for county-wide economic development which, for the sake of economic efficiency, decentralize many of the production and distribution functions traditionally performed by small communities should be evaluated in light of the inter-relationship between local employment and local purchasing suggested by the results of this study.

As rural community leaders and policy personnel consider alternative proposals for local economic development, it is important to keep in mind the inter-relationship between local employment and local purchasing. Without local employment opportunities available, local retail trade and service sectors will continue to decline. As they decline in economic importance, their contribution to local development also diminishes. Since local retail businesses have traditionally been an important source of local business and property taxes, their decline in relative economic importance means that alternative taxing strategies must be considered if local residents wish to maintain and/or increase public services.

4. The effect of income on local purchasing appears to be curvilinear. As income increases, more is purchased locally until some point when local purchasing begins to decline. Policy makers and local retail merchants should realize that as local income increases, local retail purchasing will increase at a decreasing rate. The calculation of multiplier effect will be in error if propensities to consume locally are considered fixed over all income classes.

5. There appear to be two stages in the family life cycle when local retail purchasing is frequent. Young families (married 10 years or less) and the very old were observed to purchase most generally in the local community. Local retailers aware of this fact may wish to alter current inventory and buying habits so as to insure a competitively priced stock of items generally de-
manded by these age groups and thus increase overall retail sales.

(6) When price, quality and variety appear to be the same from one market to another, as is probably the case with automobile supplies and services, there appears to be a greater tendency for all households to purchase locally regardless of socioeconomic or demographic characteristics. Study results indicated that roughly 75 percent of all automobile supplies and services were purchased locally. These products appear to be very similar from market to market.

(7) Retailers interested in increasing their sales need to be aware of competing markets, prices, qualities and varieties. As consumers become more and more mobile it will be continually more difficult to increase sales with "stock in trade" items.

Conclusion

The results in this study may only be applicable to the two small southern Indiana communities studied. Care must therefore be exercised when general policy recommendations, based on the study results, are presented. However, the results obtained do indicate an important relationship between local employment and local retail purchasing. The effect of this relationship should be considered in the evaluation of development projects designed to alter employment patterns.