Measuring Community Retail Activity

Dave Shideler
Community Development Specialist

Trey Malone
Graduate Assistant

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As a consumer of retail products and services, every household makes daily economic decisions about where to buy food, clothing, and other everyday items. Community residents can choose to spend those retail dollars within the local economy or elsewhere. If community residents choose to spend the dollars in the local economy, those dollars will potentially re-circulate locally, thereby supporting the provision and diversity of goods and services available in that locale. Alternatively, if residents spend their dollars outside of the community, there is a much lower chance of those dollars returning to the community. While no person can make the choice to purchase all goods and services within their own city or town, healthy local economies generally attract a large portion of residents' retail spending.

It should be noted that this fact sheet is not advocating an attitude of "shop at home at all costs." Consumers should not be expected to support a local merchant who offers low quality merchandise at high prices. Instead, the purpose is to help community leaders understand available tools that can help them understand the composition of their local retail market. The tools presented here will assist leaders in identifying strong and weak retail sectors, so they might be able to plan suitable responses to develop retail in their communities.

In recent years, organizations like Oklahoma Main Street[1] have played an important role in educating local citizens about issues such as retail competitiveness and economic development. Discussions of tax reform and the "Great Recession" have also made local leaders and citizens more aware of local tax options, reaffirming the significance of retail sales and the sales tax revenue these sales may generate. As a result, small cities and towns have placed a renewed emphasis on economic development through the retention of local retail dollars. In addition to the significant funding opportunities, municipality and county governments might find within retail sales, these values can also be a barometer for the overall condition of a local economy.

Efforts in this area have led to the development of various techniques for measuring how area residents spend their retail dollars. Does a city create surplus retail dollars by attracting shoppers from outside the area to the local retailers?

Alternatively, does the city face a leakage of retail dollars as area shoppers leave the local economy to make their retail purchases? Are some industries performing better than others at capturing local or external customers? Sometimes this information can be inferred from area consumer surveys. In other cases, secondary data may be utilized to indicate such leakage or surplus.

One such technique for determining retail surpluses and leakages is called pull factor analysis (also known as sales gap analysis when applied to specific retail sectors). The technique is a relatively simple one. Members of local economic development committees are certainly capable of performing the analysis for their community. (See Bates, 1998). The following sections indicate data requirements, suggest likely sources for locating data and describe how to perform the analysis.

What is Pull Factor or Sales Gap Analysis?

A pull factor is a number used to determine the relative health of a community's retail sector. Essentially, the analysis compares per capita spending in a community to an expected level of spending. When actual spending exceeds the expected spending, the community is drawing sales and shoppers to the community; this would cause the local retail market to be larger than what could be supported by the local population alone. If actual spending is less than the expected spending, the community is experiencing "retail leakage;" that is to say, sales that could occur locally are not. Sales gap analysis is similar in concept, except it utilizes data available from the Oklahoma Tax Commission as reported by Standard Industrial Classification (SIC) codes for eight separate retail sectors (see Table 1). Therefore, sales gap analysis allows a community to identify which specific areas of retail may be subject to leakages.

The usefulness of sales gap analysis comes from knowing the strengths and weaknesses of the local retail economy. It is a first step. Local residents must decide for themselves whether a retail gap is acceptable. If it is deemed not acceptable, then community leaders can work to devise a competitive strategy for meeting the shopping needs of the community. A common misconception, however, is to assume that if a gap exists, then it must be filled. For instance, residents of one community indicated on surveys that they wanted a retail bakery, and a gap analysis showed a large gap in this market. Unfortunately, feasibility studies indicated that the town's market area was not large enough to support this kind of retail establishment.

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1 Oklahoma Main Street (often referred to simply as "Main Street") is part of the Oklahoma Department of Commerce and is the local National Main Street Center program provider. The national program works with over 2,000 communities nationwide with the goal of encouraging preservation-based economic revitalization; as of 2013, 37 communities participated in the Oklahoma Main Street program.

Table 1. SIC Codes for Oklahoma Sales Tax Collections FY 2012.

SIC	Category	% of Total Sales Tax Collections
52	Lumber, Bldg. Materials, Hardware	6.2%
53	General Merchandise	17.9%
54	Food Stores	7.9%
55	Auto, Accessories and Gasoline Service Stations	3.6%
56	Apparel and Accessories	2.9%
57	Furniture, Home Furnishings and Equipment	4.8%
58	Eating and Drinking Places	11.3%
59	Miscellaneous Retail	8.0%
52-59	Total Retail Expenditures	62.5%

Nevertheless, the information was useful because it gave local restaurant owners the idea to offer more baked goods for sale.

Getting Started

Table 1 presents the SIC codes of the eight retail sectors. Retail sectors collected 62.5 percent of total sales tax collections in OK during FY 2012; the remainder was collected by other sectors of the economy subject to sales taxes. Also presented are percentages that indicate the proportion of sales tax collections from each retail sector. For instance, in fiscal year 2012, Oklahoman grocery stores captured 7.9 percent of total sales tax collections. It is useful to note that General Merchandise collects the largest share of sales tax collections of the retail sectors. General Merchandise is the category which captures any store that sells multiple types of goods, such as Wal-Mart or Dollar General. These stores often sell groceries, apparel, furniture and other items, and all of the sales are reported in this one category. Another clarification is that gasoline is not subject to sales tax, so the collections that are reflected in the "Auto, Accessories and Gasoline Service Stations" are from the sales of drinks, food, auto parts, and convenience items. Miscellaneous Retail is a broad category that includes most stores that specialize in a particular good or service such as: drug stores and pharmacies, liquor stores, used merchandise and antique stores, hobby and sporting goods stores, florists, card and stationery stores, book stores, sewing/piece goods stores, cosmetic stores, bottled gas dealers, and art dealers; miscellaneous retail also includes mail order and e-commerce sales.

The first step in conducting a gap analysis is to collect the required data. Three pieces of data are needed:

1. Sales tax collections for the city by SIC code and the applicable city and state sales tax rates available from Oklahoma Tax Commission (OTC). This type of data is available to the public online at the following Internet address: http://www.oktax.state.ok.us/. The data is located by selecting "Reports," then "Ledger Reports," and thirdly "archived reports" at the bottom of the page. Next, select the month of June (the last month of the fiscal year) for the year to be analyzed. Then select "City Sales Tax Collections by SIC Code." Finally, select the desired community and scroll to the bottom of the generated report

and sectors' labeled "FYTD Totals" in the column heading and Total City Collections in the row heading. Also collect the retail group totals, number 52-59 in the far left column; these data will be used later for computing gap coefficients for specific retail categories. The "Total City Collections" for this example is recorded in Table 2, line A, while the city sales tax rate is recorded as a decimal value in Table 2, line B.

To retrieve the Total State Sales Tax Collections data, follow the procedure for gathering city sales tax collections, with these deviations:

a) After selecting the appropriate June report month, choose "Total State Sales Tax Collections by SIC."

b) And, select "9999-State of Oklahoma." Gather the group and total collections similar to what was already gathered for the desired community.

State retail sales tax collections are recorded in Table 2, line C, while the state sales tax rate is recorded in Table 2, line D.

Estimates of retail sales for the city and state are calculated by dividing the sales tax collections by the sales tax rate, as illustrated in Table 2, lines E and F.

2. The latest population data for Oklahoma communities is available from the U.S. Census Bureau's American FactFinder (http://factfinder2.census.gov). One can use FactFinder's "Guided Search" option to easily find the "Population Total" topic under "Basic Count," and narrow the search to only the state and city of interest. Use the most recent data available from the Census, which will likely be from the Population Estimates program. Be sure to get both the state's population and the population for the desired community. For the example below, city population is found in Table 2, line G, while state population is found in Table 2, line H.

3. County and state per capita income from the U.S. Department of Commerce's Bureau of Economic Analysis (BEA). This data is accessible from the BEA Interactive Data site, http://www.bea.gov/itable/. Select "GDP & Personal Income" under Regional Data, and click "Begin Using the Data." Under Tables, select "Local Areas Personal Income and Employment" and choose "Personal Income, Per Capita Personal Income and Population (CA 1-3)." Follow the remaining prompts to select the state and county of interest (per capita income is not available on the municipal level), time period and data item (i.e., "Per Capita Personal Income"). These per capita income values for both county and state are recorded in Table 2, lines I and J respectively.

Several methods for estimating gap coefficients are acceptable. Outlined here is the standard practice for the Oklahoma Cooperative Extension Service (OCES). Conceptually, this methodology compares community per capita spending to state level per capita spending to identify retail surplus or leakage; it does include a modification for differences in income levels between a community and the state. The remainder of this fact sheet provides step by step instructions to calculate the pull factor and sales gap coefficients for any community in Oklahoma; these steps are illustrated using data for an unnamed city in Tables 3 and 4. Comparisons can be made to averages by population categories, which are available in a separate fact sheet entitled, "Retail Trends in Oklahoma for FY 2012."

Calculating the Pull Factor for Specific Communities[2]

To calculate the pull factor in a specific community, follow these steps, which are illustrated in Table 3.

1. Calculate the state per capita retail spending by dividing state retail sales (Table 2, line F) by state population (Table 2, line H). This is the value in Table 3, line 1.
2. Divide the county per capita income (Table 2, line I) by state per capita income (Table 2, line J); this is the ratio of county to state per capita income recorded in Table 3, line 2.
3. Multiply the state per capita retail spending by the ratio of per capita incomes to generate an estimated level of per capita spending, as illustrated in Table 3, line 3.
4. Calculate the trade area capture, an estimate of the annual number of shoppers that sustain retail activity in the community, by dividing the city's estimated retail sales (Table 2, line E) by the estimated per capita retail sales in the previous step (Table 3, line 3). Table 3, line 4 contains the trade area capture for this example.
5. Divide the trade area capture (Table 3, line 4) by the city's population (Table 2, line G) to yield the pull factor, in Table 3, line 4.

The pull factor is an index that will indicate the degree to which a retail market either attracts non-local or loses local customers. A coefficient of 1.0 indicates that the city is capturing the expenditures of its own residents but is not drawing any trade from outside the area. A number greater than 1.0 suggests that area residents as well as shoppers from outside the area shop in the local economy. Any number less than 1.0 is an indication that area residents may tend to shop for retail items outside of the local economy. The pull factor in line 5 of Table 3 (0.94) indicates that residents may

be leaving the city to shop for a few retail items, but the retail activity is roughly serving the population of this town.

Any community that registers a gap coefficient below 1.0 should recognize that retail dollars are leaving the area. Leaders in these towns should determine whether or not the leakage is consistent with the community's plans for economic growth. If not, they should determine if the leakage is large enough to cause concern. If the leakage is large enough to cause concern, strategies to help recapture those dollars should be developed and implemented.

Calculating and Interpreting Gap Coefficients for Specific Retail Categories[3]

It is often helpful to know detailed information about specific retail sectors. To differentiate them from pull factors, these more detailed values are known as sales gap coefficients. Sales gap coefficients are calculated for specific retail categories and are computed in the same way as the pull factor except sales tax collections by category are used instead of total sales tax collections. These specific retail category gap coefficients are also interpreted the same way as the pull factors. A value greater than 1.0 suggests people from outside the community shop there, while a value less than 1.0 means that community residents are shopping in other towns for goods in that category.

Notice from Table 4 that the sample city registered a gap coefficient equal to 3.29 in the category of "Food Stores." Because this number is greater than 1.0, it indicates that food stores in this city tend to attract customers from among city residents as well as from residents outside the city. In fact, the number of shoppers for food stores in this town is 329%

2 The pull factor indicates the health of the entire retail sector.

3 Beginning in November 2012, OTC began using the North American Industrial Classification System (NAICS) to record sales tax collections. NAICS and SIC are incompatible systems, so no year-to-date data for FY2013 will be available.

Table 2. Required Data for Computing a Pull Factor.

	Title	Description	Value
A	Total City Sales Tax Collections	From the OTC Ledger Report	$317,408
B	City Sales Tax Rate	From the OTC Ledger Report	0.0225
C	Total State Sales Tax Collections	From the OTC Ledger Report	$2,203,993,462
D	State Sales Tax Rate	From the OTC Ledger Report	0.045
E	City Retail Sales	Line 1 ÷ Line 2	$14,107,023
F	State Retail Sales	Line 3 ÷ Line 4	$48,977,632,480
G	City Population*	Available online from the U.S. Census Bureau	1,348
H	State Population	Available online from the U.S. Census Bureau	3,814,820
I	County Per Capita Income*	Available online from the BEA	$32,965
J	State Per Capita Income*	Available online from the BEA	$37,679

* Use the most recent data available; at the time these calculations were made, 2011 data for these values were the most recent available.

Table 3. Pull Factor Calculations.

Step	Calculation	Description	Value
1	Line F ÷ Line H	State per capita Retail Sales	$12,839
2	Line I ÷ Line J	Ratio of County to State per capita income	0.87
3	Step 1 x Step 2	Estimated per capita retail sales for the representative community	$11,170
4	Line E ÷ Step 3	Trade Area Capture	1,263
5	Step 4 ÷ Line G	Retail Pull Factor	0.94

of the town's population. While additional retail development in this sector may not be warranted, town leaders could consider why people are drawn to their community to purchase food. These leaders might then ask themselves, "What goods or services are complementary to food stores upon which the community can capitalize?" In this case, the leadership may consider pursuing a general merchandiser, like Dollar General or Family Dollar, which would provide additional goods and services beyond what a grocer provides but are similarly consumed (e.g., beauty and hygiene products, essential clothing, cleaning or craft supplies).

By way of comparison, the same city registered a gap coefficient of 0.083 for "apparel and accessories," calculations not shown. Literally interpreted, the apparel and accessories spending of 8.3 percent of the town's residents took place within the city. The city was facing a substantial leakage of retail dollars from the local economy in this category. While opportunities to capture these leakages may exist, some caution must be heeded. First, the community should determine the extent to which demand for apparel and accessories may be met in other categories, specifically General Merchandise. Community leaders who understand the local business landscape can best discern whether retail sales in a category is truly leaking, or if it is being captured by another sector. Second, because of community size, resident preferences and other factors, not every community will have sufficient retail activity to meet all local demand, and even attract outside customers, in every sector. Therefore, community leaders may want to look for opportunities in which existing retail businesses might be able to expand the types of goods sold to meet local demand, as in the bakery example given earlier.

Conclusion

This paper has described tools for measuring the retail activity in a community: pull-factor and sales gap analysis. The goal of this paper was to describe the technique so community leaders such as a Chamber of Commerce, a merchant's coalition, an economic development committee, or a planning commission might be able to conduct such an analysis and begin to assess the results. Data requirements were given and ideas for locating the necessary data were discussed.

Sample worksheets for calculating gap coefficients were also included.

Conducting a gap analysis can be a valuable method for identifying the strengths and weaknesses in an economy's retail sector. However, the analysis simply indicates the possible areas of leakage. While straightforward to calculate, sales gap coefficients are not a perfect indicator that local economic development policy is in need of a change. It does not indicate why the leakage is occurring, whether or not the leakage is desirable or acceptable, or how to stop the leakage from occurring. In fact, each individual community can only really answer these questions itself. Pull factor and sales gap analysis, therefore, merely represents the beginning of an on-going conversation that should incorporate all community stakeholders. As these values will change annually, sales gap analysis can be revisited each year so as to engage in a continuous process of action and evaluation. In order to optimize the value of sales gap and pull factor analysis, community leaders should carefully interpret the information and utilize it to stimulate further discussion, to devise appropriate strategies for action, and to evaluate the progress of these strategies over time. The Oklahoma Cooperative Extension Service is available to further educate local leadership on retail trends, and they can provide facilitation services to initiate the conversation.

Resources

Bates, J. A. (1998, May 1). "Stop the 'sales gap' with a downtown retail analysis". Downtown Idea Exchange, 3.

Joncas, K. (1995). Step-by-step market analysis: A workbook for downtown business development. Washington, D.C.: National Main Street Center/National Trust for Historic Preservation.

Shaffer, R., S. Deller, and D. Marcouiller. 2004. Community Economics: Linking Theory and Practice. Ames, IA: Blackwell Publishing, 273-274.

The reader is encouraged to explore OCES' retail trade analysis website at http://agecon.okstate.edu/retailtrade/ to find for reports for specific communities throughout the state as well as personnel contact information.

Table 4. Required Data for Sales Gap Analysis.

	Title	Description	Value
1	City "Food Stores" Sales Tax Collections	From the OTC Ledger Report	$88,417
2	City Sales Tax Rate	From the OTC Ledger Report	0.0225
3	State "Food Stores" Sales Tax Collections	From the OTC Ledger Report	$174,085,023
4	State Sales Tax Rate	From the OTC Ledger Report	0.045
5	City "Food Store" Sales	Line 1 ÷ Line 2	$3,929,644
6	State "Food Store" Sales	Line 3 ÷ Line 4	$3,868,556,067
7	Line 6 ÷ Line 8 (Table 2)	State per capita sales in "Food Stores"	$1,014
8	Line 7 (Table 3) x Line 2 (Table 3)	Estimated per capita "Food Stores" sales adjusted for income	$886
9	Line 5 (Table 4) ÷ Line 8 (Table 4)	Estimated number of consumers who make purchases in "Food Stores"	4,435
10	Line 9 (Table 4) ÷ Line 7 (Table 2)	Sales gap coefficient	3.29