

Considerations For
**Community
 Decision Making**

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Potential for Retail Trades in Rural Communities

Jay Simon and Curtis Braschler, Department of Agricultural Economics; John A. Kuehn, Economics and Statistics Service, U.S. Department of Agriculture;
John Croll, Department of Community Development

Rural communities developed primarily as trade centers for the surrounding farm area. As farming became more mechanized and the demand for farm labor diminished, many retail trade firms ceased to operate in rural communities.

During the last two decades, however, many manufacturing firms located in rural areas, recreation and retirement became important rural industries, and many people migrated to small towns and rural areas. These developments can increase the demand for retail products supplied in rural towns.

Local decisionmakers in rural trade centers are faced with a number of questions concerning future growth of retail trades.

- What types of retail businesses can a community support?
- How many firms can thrive in the community?
- How many employees will there be?
- In which trades is there already an overcapacity?
- In which trades is there potential for expansion?

To help answer these questions, the numbers of firms and employees in nonmetropolitan towns for 33 retail trades were obtained from Dun and Bradstreet data files for Missouri, Arkansas, and Oklahoma.

Central Place Theory

At first glance, everyone notices that some towns have only a few types of retail trades while other towns have many types of trades. For example, most of the very small communities may have only grocery stores and possibly general merchandise stores. But large communities have several of these types of businesses and also other types like large department stores, carpet stores, and music stores. Central place theory attempts to explain the location of and numbers of different types of trades and services according to a hierarchy of towns and their market areas.

The threshold and the range of a product are two major concepts important in central place theory.

Before a business can locate and operate profitably in an area, there must be a demand for the products it sells. The threshold is the minimum level of demand needed before a type of business can operate profitably in an area. Potential sales revenue is often measured in terms of population. This population threshold is drawn from both the town center where the business is located and also from the surrounding rural market area. Because costs of doing business vary by type of business, different products or services will have different thresholds.

The range (or radius) of the market area for a product is the maximum distance most consumers will travel to purchase the product at its usual prices. The consumer's price includes not only the price of the product but also the consumer's costs in traveling to the business. As the distance the consumer must travel to a market increases, the total price to the consumer for each product purchased at that market increases. For example, most people shop for groceries within a few miles of their homes but will travel farther to shop for televisions. Different products have different market ranges.

Different thresholds and different market ranges lead to a central place hierarchy of towns based upon the number of different types of products sold in each town. Trade-center specialization alludes to the fact that it is more efficient to supply some products from small centers while it is more efficient to supply other products from larger centers.

The general classification scheme used is that consisting of lower-order centers and higher-order centers. Numerous studies have shown a relationship between the population of a central place and the numbers and types of businesses located in that central place. A lower-order center is usually smaller both in terms of population and market area and supplies products and services that are demanded on a day-to-day basis, for example, gasoline and groceries. The higher-

order center is larger in population and market area and also supplies more specialized products, for example, bicycle stores and hobby shops. It should be noted that (1) all functions performed in lower-order centers are found in higher-order centers as well, and (2) higher-order centers are functionally more complex than lower-order centers.

As the thresholds and market ranges of products progress from lower- to higher-order, we find a network of overlapping market areas, increasing in size. One such mapping of central places and their trade areas is presented in *Decongesting Metropolitan America* from which the figure below is drawn. The higher-order center will have not one but two market areas—that for the higher-order products and that for the lower-order products.

In addition to the above concepts of central place theory, economies of size may also affect the number of firms of a specific business type found in a town. Economies of size refer to the fact that, as a firm increases its sales, its cost per unit of product sold may

decrease. Given the possible cost advantages of large scale operation and the effects of distance which isolate the firm from competitors, a firm may enjoy a monopoly over its spatial market area. Potential competitors may be wary of entering the market area and splitting the demand for a product. For some types of businesses, the population needed to support two firms profitably without ruinous competition may be more than twice the population needed to support one store.

Market Ranges

In *Decongesting Metropolitan America*, the maximum market area radii have been determined for trade centers based upon the population sizes of the various towns and their location relative to larger towns. Probable market ranges for different types of businesses can be determined using table 1. For example, only 24 percent of the towns with market ranges of 8 miles or less had lumber dealers; however, 87 percent of the towns with market ranges of 16 miles had lumber dealers. Therefore, we infer that the probable market

TABLE 1. PERCENTAGE OF NONMETROPOLITAN TOWNS BY MARKET AREA SIZES HAVING ONE OR MORE FIRMS IN SELECTED RETAIL TRADES IN 1975.

STANDARD INDUSTRIAL CLASSIFICATION AND INDUSTRY TITLE	MARKET AREA RADIUS			
	8 MILES OR LESS	16 MILES	32 MILES	64 MILES
5211 LUMBER & BUILDING MATERIALS DEALERS	24	87*	99	100
5231 PAINT, GLASS, & WALLPAPER STORES	2	22	71*	95
5251 HARDWARE STORES	22	73*	94	95
5261 LAWN & GARDEN SUPPLY STORES & NURSERIES	6	22	46	52
5271 MOBILE HOME DEALERS	4	22	70*	86
5311 DEPARTMENT STORES	2	25	61	86*
5399 GENERAL MERCHANDISE STORES	43	83*	95	95
5411 GROCERY STORES	62	98*	100	100
5511 MOTOR VEHICLE DEALERS, NEW & USED	7	82*	100	100
5521 MOTOR VEHICLE DEALERS, USED ONLY	5	44	76*	90
5531 AUTO & HOME SUPPLY STORES	14	84*	99	100
5551 BOAT DEALERS	2	17	49	71*
5561 RECREATION & UTILITY TRAILER DEALERS	1	6	22	48
5571 MOTORCYCLE DEALERS	1	9	59	90*
5611 MEN'S & BOYS' CLOTHING STORES	2	38	89*	100
5621 WOMEN'S READY-TO-WEAR STORES	9	74*	99	100
5641 CHILDREN'S & INFANTS' WEAR STORES	1	16	62	71*
5661 SHOE STORES	4	50	95*	100
5712 FURNITURE STORES	14	75*	99	100
5713 FLOOR COVERING STORES	4	29	73*	90
5714 DRAPERY & UPHOLSTERY STORES	1	5	20	48
5722 HOUSEHOLD APPLIANCE STORES	7	45	89*	100
5732 RADIO & TELEVISION STORES	8	46	90*	95
5733 MUSIC STORES	1	13	66*	95
5912 DRUG STORES & PROPRIETARY STORES	19	91*	100	100
5941 SPORTING GOODS OR BICYCLE STORES	7	38	82*	90
5942 BOOK STORES	1	7	46	76*
5943 STATIONERY STORES	0	9	47	71*
5944 JEWELRY STORES	4	58	96*	95
5945 HOBBY, TOY, & GAME SHOPS	1	9	23	67*
5947 GIFT, NOVELTY, & SOUVENIR SHOPS	6	37	81*	90
5949 SEWING, NEEDLEWORK, & PIECEGOODS STORES	7	47	71*	90
5992 FLORISTS	8	68*	97	100

*Probable market range for business type.

range for lumber dealers is 16 miles. Customers will be willing to travel 16 miles to purchase lumber. Note that 99 percent of the towns with a maximum radius of 32 miles had lumber dealers. But remember that higher-order trade centers also include lower-order functions also. That is, the 32 mile trade area also includes a 16 mile trade area.

Population Thresholds and Numbers of Firms

Table 2 lists the median combined populations of towns and their rural market areas for towns having one, two, or three firms. As noted earlier, retail firms draw upon both a town and its surrounding rural area for their customers. For example, towns which had one, and only one, lumber dealer had a median total population of 2,595 people living in either the town itself or in its rural market area.

A median is a type of average which equals the mid-point of a set of numbers. This means that half of the trade centers having one lumber dealer had total trade area populations less than 2,595 people and half had total trade area populations greater than 2,595 people. The probable entry threshold for a lumber dealer was 2,595 people in 1975.

Trade centers having two lumber dealers had a median total population of 8,748 people living in the town and rural market area. For this type of business, it appears that two firms require more than twice as many people as one firm requires for profitable operation.

As noted in table 1, the probable market range for lumber dealers is 16 miles. In calculating the population of rural market areas associated with individual towns, the market area was restricted to 16 miles or less even if the town was a higher-order center having a market range of 32 or 64 miles for some of its businesses. Naturally, if the town was a very low-order center having a market range of 8 miles or less, the market area used was 8 miles, not 16 miles.

Evaluating Your Town's Potential for Retail Trades

Your town's potential for retail trades can be compared with the averages presented in table 2 by obtaining the following data.

- *Your town's latest population,
- *the rural population density of your county,
- *the maximum market range associated with your town's highest-order retail trade or service.

Population data are available in the U.S. Census

TABLE 2. MEDIAN POPULATION OF NONMETROPOLITAN TOWNS AND MARKET AREAS AND MEDIAN EMPLOYMENT BY NUMBER OF FIRMS IN SELECTED RETAIL TRADES, 1975

STANDARD INDUSTRIAL CLASSIFICATION AND INDUSTRY TITLE	TOWNS WITH 1 FIRM ENTRY THRESHOLD			TOWNS WITH 2 FIRMS			TOWNS WITH 3 FIRMS		
	POPULATION			POPULATION			POPULATION		
	TOWN ONLY	TOWN PLUS MARKET AREA	LABOR	TOWN ONLY	TOWN PLUS MARKET AREA	LABOR	TOWN ONLY	TOWN PLUS MARKET AREA	LABOR
5211 LUMBER & BUILDING MATERIALS DEALERS	915	2,595	4	2,129	8,748	10	3,278	12,854	15
5231 PAINT, GLASS, & WALLPAPER STORES	3,103	11,528	2	7,831	23,220	5	9,923	54,047	8
5251 HARDWARE STORES	959	3,709	2	2,330	9,925	6	3,839	15,818	11
5261 LAWN & GARDEN SUPPLY STORES & NURSERIES	1,736	5,845	3	4,017	20,082	7	NR	NR	NR
5271 MORTLE HOME DEALERS	2,944	11,625	3	3,907	19,553	6	NR	NR	NR
5311 DEPARTMENT STORES	3,103	11,626	6	10,057	51,721	30	NR	NR	NR
5399 GENERAL MERCHANDISE STORES	385	1,536	2	683	2,147	5	1,763	7,662	9
5411 GROCERY STORES	329	1,250	2	575	1,883	6	1,030	3,575	11
5511 MOTOR VEHICLE DEALERS, NEW & USED	1,234	4,761	7	1,990	8,266	19	2,515	11,197	27
5521 MOTOR VEHICLE DEALERS, USED ONLY	2,137	9,642	2	3,230	14,290	4	NR	NR	NR
5531 AUTO & HOME SUPPLY STORES	1,083	4,000	2	1,863	7,307	6	2,998	12,719	10
5551 BOAT DEALERS	3,496	12,887	2	NR	NR	NR	NR	NR	NR
5561 RECREATION & UTILITY TRAILER DEALERS	6,689	10,574	2	NR	NR	NR	NR	NR	NR
5571 MOTORCYCLE DEALERS	5,000	31,485	2	10,500	49,940	7	NR	NR	NR
5611 MEN'S & BOYS' CLOTHING STORES	2,355	9,798	3	5,201	20,452	7	7,311	45,747	11
5621 WOMEN'S READY-TO-WEAR STORES	1,325	5,449	2	2,369	8,680	5	3,543	12,643	8
5641 CHILDREN'S & INFANTS' WEAR STORES	5,057	18,633	2	NR	NR	NR	NR	NR	NR
5661 SHOE STORES	2,268	10,352	2	3,729	15,781	5	6,056	20,426	9
5712 FURNITURE STORES	1,173	4,013	2	2,553	9,297	7	3,021	12,530	11
5713 FLOOR COVERING STORES	2,100	8,806	2	5,784	31,034	6	NR	NR	NR
5714 DRAPERY & UPHOLSTERY STORES	4,443	20,178	2	NR	NR	NR	NR	NR	NR
5722 HOUSEHOLD APPLIANCE STORES	1,812	7,802	2	3,469	15,214	5	5,340	18,673	10
5732 RADIO & TELEVISION STORES	1,467	5,952	2	3,757	20,056	5	7,125	34,707	8
5733 MUSIC STORES	5,420	23,442	2	8,203	42,382	4	NR	NR	NR
5912 DRUG STORES & PROPRIETARY STORES	957	2,939	3	2,106	8,702	9	3,362	11,923	17
5941 SPORTING GOODS OR BICYCLE STORES	1,831	6,932	2	3,729	16,326	4	5,463	44,973	6
5942 BOOK STORES	7,831	41,478	2	NR	NR	NR	NR	NR	NR
5943 STATIONERY STORES	7,948	40,424	4	NR	NR	NR	NR	NR	NR
5944 JEWELRY STORES	2,027	9,151	2	4,745	19,574	5	7,967	42,382	10
5945 HOBBY, TOY, & GAME SHOPS	3,885	17,085	2	NR	NR	NR	NR	NR	NR
5947 GIFT, NOVELTY, & SOUVENIR SHOPS	2,112	9,131	2	4,684	17,084	4	6,630	20,725	6
5949 SEWING, NEEDLEWORK, & PIECEGOODS STORES	1,922	8,261	2	3,942	19,173	5	5,211	23,220	7
5992 FLORISTS	1,848	7,079	2	3,717	12,796	6	7,429	18,286	9

NR = Not reported because only a few towns had such firms or the population distribution was widely dispersed.

Bureau's publications *Current Population Reports, Series P-25*. Check for the latest year available. Maximum market ranges are available in *Decongesting Metropolitan America*. Next, calculate the rural market area population associated with this maximum range and for each lower range listed in table 1 using the formula:

$$3.14 \times \text{Range} \times \text{Range} \times \text{Rural Population Density}.$$

For example, suppose a town of 3,700 people has a maximum market range of 32 miles and the county has a rural population density of 15 people per square mile. The total combined populations of the town and its market areas are 6,714 people for products with an 8 mile market range; 15,758 people for products with a 16 mile market range; and 51,930 people for products with a 32 mile market range. This town has no 64 mile market area because of the proximity of higher-order trade centers.

Using the information presented in tables 1 and 2, we compare this town's market population at various ranges with the median levels for all towns. Note that the population used should be based on a radius not exceeding the probable market ranges listed in table 1 and not exceeding the town's maximum market radius.

For example, the probable market range for lumber yards is 16 miles. Comparing this town's total trade area population of 15,758 people within 16 miles with median levels listed in table 2 for lumber dealers, we would expect this town to have three lumber dealers employing 15 workers.

As another example, the probable market range for motorcycle dealers is 64 miles. However, this town's maximum market area is 32 miles. Comparing this town's total trade area population of 51,930 people within 32 miles with median levels listed in table 2, we would expect this town to have two motorcycle dealers employing seven people.

Points To Ponder

Remember that comparisons of your town's potential for retail trades with information presented in table 2 are based upon median population levels. This median is only a mid-point average for a three state area. Half of the towns and market areas with a certain number of firms in a business type have less population and half have more population.

What these comparisons allow are questions. If your town has fewer firms than expected, is there potential for new firms to enter the market or are there unique local conditions which adversely affect demand for the products studied? Towns experiencing rapid population growth may have fewer firms than expected as retailers evaluate and adjust to growing markets. If your town has more firms than expected, is there overcapacity, are the firms profitable, or are there

unique demands in your area? Rising energy prices may decrease the market ranges of products and lead to more dispersal of retail trades.

As an area's population increases, significant changes may occur in the economies of size available with different types of operation in the same business. For example, a grocery chain may build a large supermarket which forces the closure of several small independent grocery stores. On the other hand, some types of businesses may profit from the entry of a new firm. For example, a new discount department store may attract new customers who previously shopped in other towns. These new customers may also shop in the previously established stores located nearby. Customers may also combine their shopping trips to conserve travel costs. A shopping center provides a variety of products in one location.

References

More detailed industry definitions are available in the U.S. Government publication *Standard Industrial Classification Manual, 1972*. Additional information about central place theory and a method for mapping trade areas are available in the University of Missouri report M82 *Decongesting Metropolitan America* available from local University extension centers. Also available are the following guides about other topics related to community economics:

- DM 3005 The Community Economic Base
- DM 3006 Economic Base Multipliers and Community Growth.

