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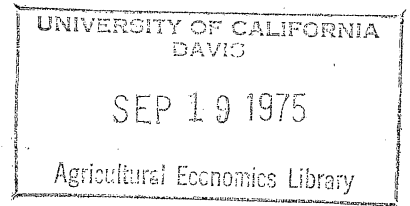
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RETAIL SALES RETENTION AND MIGRATION
IN RURAL COUNTIES IN THE NORTH CENTRAL REGION

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RETAIL SALES RETENTION AND MIGRATION
IN RURAL COUNTIES IN THE NORTH CENTRAL REGION

When the modern functional economic area concept was being developed and unveiled in the early 1960's (Fox, 1966), some of the rationale was "that a typical cornbelt county is too small to comprise a relatively self-contained economic area" and economies of size studies indicate "some services which only a central city could provide." Analysis of secondary data illustrated a diversity among Iowa counties and towns in the distribution of educational characteristics, occupations, export sectors, commuting patterns, and product lines and per capita levels of retail sales (Fox, 1966, 1974).

The retail related diversity is the major concern of this paper. Many extension-oriented contacts indicate that both consumers and retailers in rural towns and counties are intensely concerned with the future of retail trade in their localities. Merchants are naturally concerned because retail volume is the source of their incomes. Consumers in rural counties are concerned with availability of retail consumer goods. Rural merchants may think in terms of sales retention. Availability and retention are two sides of the same coin for the purposes of this paper.

Availability of retail consumer goods may be one of the dimensions of quality of life in rural areas. If this availability was uniform everywhere we might expect that retail consumption sales in any delineated area could be estimated from a knowledge of the incomes of households in the area. County retail trade data from the U.S. Census of Business, however, exhibits a wider variation than income estimates reported by the Survey of Current Business. One cause for this wider variation could be differences among counties in the availability of consumer goods at retail.

Availability may be perceived in two or more dimensions by consuming households. Proximity of the retail outlet to the residence location is one plausible dimension. Availability in a proximity sense may be perceived to increase as the distance between residence and outlet decreases.

A second possible dimension is the amount of price differential for a good at a nearby outlet and for the same good at a more distant outlet when the nearby price is equal to or greater than the distant price. Presumably, the smaller the price penalty for buying at the nearby outlet the greater is the availability. The limit of local unavailability is reached when the price of a good, if stocked, would be so high compared to its price at more distant outlets that no local merchant will stock it.

The failure to stock some goods can create an additional "market basket" dimension of availability. As the number of different goods that are offered is decreased the average availability rating of a shopping location is lowered in relation to any shopping list that includes some of the unoffered goods.

Each buyer may somehow process the various dimensions of availability into an overall measure for selecting a preferred shopping location for the basket of goods that is desired for each shopping trip. For some trips the locations will be within his residence region, and for other trips the locations will be outside the region. Brian Berry found, by household survey, that rural consumers in Southwest Iowa do travel to different shopping locations for food, dry-cleaning and clothing. Relative availability could be measured in a revealed sense by observing the percentage of total retail expenditures by a household that are made in the region of residence.

We can also make an aggregate estimate of availability by observing the relationship between total retail sales of consumption goods in a region and the estimate of total expenditures for consumption goods by the households of the region. Retail trade census data from the quinquennial Census of Business provides the sales information for each county. Expenditure information must be derived indirectly. A part of this derivation for this study is the assumption that, for each state, the total of retail consumption expenditures is equal to the total retail sales of consumption goods. Income and population estimates are then brought into the analysis to create expenditure per capita and income per capita ratios.

Counties will differ from the state in income per person. Consumer theory suggests that, in cross sectional observation, consumption expenditure will be positively related to income but the proportion of income used for consumption will be negatively related to income. These conditions are embodied in the Keynesian consumption line with positive

intercept and positive slope. In this study a similar consumption expenditure function is created by using five-tenths (0.5) of the state ratio of consumption expenditure to population as the intercept value and five-tenths (0.5) of the state ratio of consumption expenditure to income as the slope coefficient.

The independent variable in each county expenditure function is income per person. The estimate of expenditure per person in county i of state s is

$$\frac{e_i}{p_i} = 0.5 \frac{e_s}{p_s} + 0.5 \frac{e_s y_i}{y_s p_i} \quad (1)$$

where e is expenditure, p is population and y is income.

Total expenditure in a county is derived by multiplying both sides of equation (1) by p_i to yield

$$e_i = 0.5 \left[\frac{e_s p_i}{p_s} + \frac{e_s y_i}{y_s} \right] \quad (2)$$

This estimate of total consumption expenditure of county i households can be divided into total retail consumption sales of the county. The resulting quotient or its percentage equivalent is an aggregate estimate of relative availability within the multi-county territory surrounding county i . As previously suggested, this availability measure may be viewed by a merchant or group of merchants as a sales retention measure.

The U.S. Census of Business provides several advantages as a data source. It is nationwide and provides aggregate sales data for every county of the nation. An analysis can, therefore, be extended to all

counties and a specific result of the analysis is available for each county. This is valuable for extension teaching assignments.

The assignment of product lines to more general categories of the Census of Business is such as to permit relatively satisfactory elimination of agricultural input retail sales and consumer capital retail sales from aggregate sales totals. The elimination of agricultural input sales is desirable because these do not relate directly to consumer welfare and because they tend to be more heavily concentrated in rural retail centers and their volume may swamp the data on consumption sales. The elimination of consumer capital sales (primarily lumber, building materials, hardware and mobile homes) is desirable because these may exhibit cyclical tendencies that randomly hit or miss a census year and they can also swamp current consumer expenditures in some counties.

This study is concentrating first on the North Central Region and in this preliminary report the look is at a slice of the region consisting of the states of Minnesota, Iowa and Missouri. The total set of data gives results for each county of each state for sales retention in 1963 and in 1972, retail consumption sales change during 1963-1972 and percent of 1972 sales potential realized. The potential is defined as the sales retention percentage of 1963 applied to estimated 1972 expenditures with adjustment for market size and relative income shifts.

For this report, counties are grouped into rural, small semirural, large semirural, semimetro, metro and large metro categories. Allocation of a county to a category is based on 1970 population of the largest place or part of a place in the county. The dividing points between categories are at populations of 2,500, 5,000, 10,000, 50,000 and 150,000.

Tables 1, 2 and 3 present unweighted averages of the retail characteristics of counties by groups for Minnesota, Iowa and Missouri, respectively. For rural development purposes, our main interest is in the counties from rural through semimetro. The sales retention percentages are below 100 percent on the average in all rural and semirural counties in the three states in both 1963 and 1972. Semimetro counties, which include a city of 10,000 to 50,000 population, tend to average near or above 100 percent sales retention. This indicates that they serve most or all of the needs of their residents and also capture some of the retail expenditures of outlying counties. Sales retention declined on the average in rural counties between 1963 and 1972 in all three states. This was true also for the small and large semirural counties in Minnesota and Iowa. The 23 large semirural counties in Missouri maintained the same 94 percent sales retention status that they had in 1963. In general, the declines in sales retention were smaller in Missouri counties than in Minnesota and Iowa. This is reflected also in the higher percentage of 1972 potential sales realized on the average in all types of rural counties in Missouri. The average 1972 potential realized for Iowa and Minnesota counties ranged from 82 to 94 percent while in Missouri the averages ranged from 95 to 99 percent. A more detailed study may show that many Missouri areas do not exhibit a concentration of shopping patterns in central cities to the degree that apparently occurs in Iowa and Minnesota. This at least may indicate a need to study rural area interaction patterns separately in each area of the country and perhaps within each state. It may be that centralization

of shopping and services is an active phenomenon in some states and parts of states and not in others. Income levels and past settlement patterns may have unsuspected effects on these interactions. If lower income areas exhibit more localized than area interaction, we may be faced with special problems in rural development in lower income areas of the nation.

Another aspect of this investigation not reported in the tables is the variability of counties within the categories. The counties which behaved much differently from the average of their types are identified in the analysis and could, therefore, become the subjects of special on-site investigations. We might learn much more about the reasons that some rural counties do much better than expected in sales retention while others do much worse than the group average. To this point, no simple locational or economic characteristic has been identified with these outlying observations of performance.

Table 1. Consumer Retail Characteristics of Minnesota Counties

<u>Characteristic</u>	<u>Type of County</u>					
	<u>Rural</u> <u>(n=19)</u> (%)	<u>Small</u> <u>semi-</u> <u>rural</u> <u>(n=27)</u> (%)	<u>Large</u> <u>semi-</u> <u>rural</u> <u>(n=19)</u> (%)	<u>Semi-</u> <u>metro</u> <u>(n=18)</u> (%)	<u>Metro</u> <u>(n=2)</u> (%)	<u>Large</u> <u>metro</u> <u>(n=2)</u> (%)
Sales retention, 1963	89	88	98	94	104	113
Sales change, 1963-72	44	76	75	122	101	85
Sales retention, 1972	72	82	90	104	109	106
1972 potential realized	82	94	93	112	105	94

Table 2. Consumer Retail Characteristics of Iowa Counties

<u>Characteristic</u>	<u>Type of County</u>					
	<u>Rural</u> <u>(n=18)</u> <u>(%)</u>	<u>Small</u> <u>semi-</u> <u>rural</u> <u>(n=31)</u> <u>(%)</u>	<u>Large</u> <u>semi-</u> <u>rural</u> <u>(n=29)</u> <u>(%)</u>	<u>Semi-</u> <u>metro</u> <u>(n=14)</u> <u>(%)</u>	<u>Metro</u> <u>(n=6)</u> <u>(%)</u>	<u>Large</u> <u>metro</u> <u>(n=1)</u> <u>(%)</u>
Sales retention, 1963	78	87	98	105	105	114
Sales change, 1963-72	49	57	64	91	97	112
Sales retention, 1972	67	77	89	108	112	131
1972 potential realized	87	89	91	103	106	115

Table 3. Consumer Retail Characteristics of Missouri Counties

<u>Characteristic</u>	<u>Type of County</u>					
	<u>Rural</u> <u>(n=43)</u> (%)	<u>Small</u> <u>semi-</u> <u>rural</u> <u>(n=25)</u> (%)	<u>Large</u> <u>semi-</u> <u>rural</u> <u>(n=23)</u> (%)	<u>Semi-</u> <u>metro</u> <u>(n=17)</u> (%)	<u>Metro</u> <u>(n=4)</u> (%)	<u>Large</u> <u>metro</u> <u>(n=3)</u> (%)
Sales retention, 1963	80	88	94	94	112	112
Sales change 1963-72	71	67	78	106	112	77
Sales retention, 1972	76	80	94	101	115	104
1972 potential realized	97	95	99	111	104	98

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Abstract

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Retail Sales Retention and Migration in Rural Counties in the North Central Region.

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Retail consumption sales are a smaller proportion of consumption expenditures in more rural counties. The proportion tended to decline in all rural types during 1963-1972. These tendencies were less evident in Missouri than in Minnesota and Iowa. Sales retention and variation from potential are shown for six county types.

Key words: rural development, retail retention, retail migration