

CHAPTER 4

ECONOMIC PRODUCTIVITY INDICATORS FOR AGRICULTURE AND FOOD DISTRIBUTION

JOELLEN SHANNON, MELISSA MATTHEWSON, MICHAEL WACHTEL JR.,
AND JASON SEAGLE

OVERVIEW

Understanding economic productivity and viability in the food and agricultural sector is vital to gaining a complete picture of the food system in Missoula County. In this section, information has been gathered regarding gross agricultural production, direct marketing, and the food distribution system.

The steady growth in the market value of agricultural products sold by Missoula County producers during the late 1980's and early 1990's is encouraging, and despite the slight drop between 1992 and 1997, will hopefully serve as sign that growth will continue in the future. However, the data indicate how small a contribution Missoula County makes to Montana's overall agricultural production. Missoula County's largest contribution over the last few decades to Montana's total agricultural products sold was less than half of one percent in 1978. This is mainly due to the fact that Missoula County simply does not have enough flat and affordable farm land at this time to support large-scale livestock or commodity production, both of which currently make up the largest percentages of Montana's total agricultural products sold.

Direct marketing provides many opportunities for farms to increase their sales. Despite these opportunities, the Census of Agriculture indicates that direct market sales are a small percentage of the value of the county's gross agricultural production. This data comes as a surprise, given Missoula County's thriving farmers' market and other direct marketing programs available to producers. This suggests the census may not include many market gardeners and farmers.

The food distribution system indicators should allow us to understand just how extensive and dynamic numbers of establishments and sales are within this sector of Missoula County's economy. This includes the county's network of food wholesalers, food manufacturers, food retailers, and food servers. Data indicates that the number and sales of food servers has been increasing; however, the other sectors seem to represent deficiencies of infrastructure in the food distribution system.

GROSS AGRICULTURAL PRODUCTIVITY

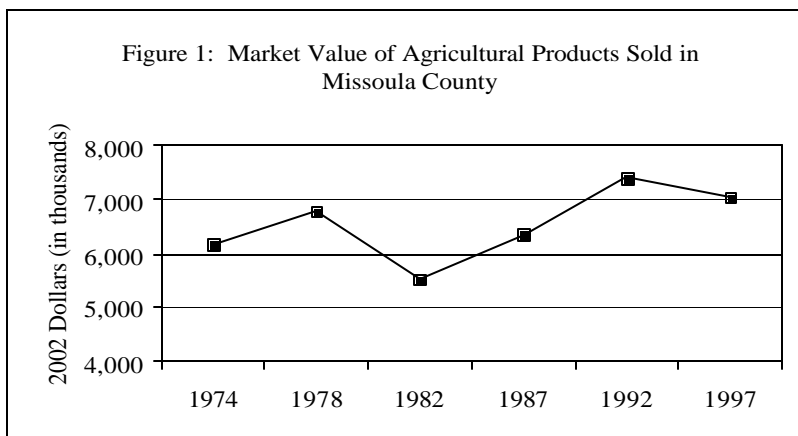
The market value of agricultural products sold was the best and most consistent number available from the U.S. Census of Agriculture to show gross agricultural productivity on both the state and county levels. For comparative purposes across years, we adjusted market value figures for inflation (reporting all values in 2002 dollars). U.S. Census of Agriculture data on market value of agricultural products sold represent the total sales for all agriculture products in the county and state, which includes the following farm products: grains, hay, silage, field seeds, vegetables, fruits, nuts, berries, nursery and greenhouse products, poultry, poultry products, dairy products, cattle, calves, hogs, pigs, sheep, lambs, and wool.

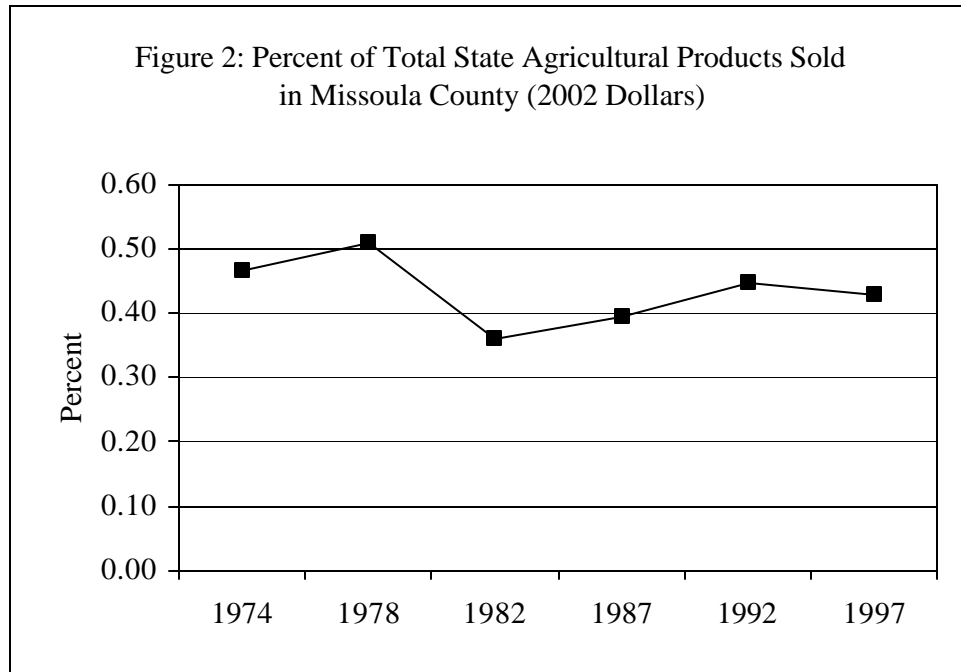
Data presented begins with 1974 because the definition of a farm used by the U.S. Census of Agriculture changed that year making it difficult to compare recent figures to prior years. The definition of the farm used in the 1974 census includes any agricultural operation earning or with potential to earn over \$1,000 annually.

The trends.

The inflation-adjusted market value of agricultural products sold by Missoula County producers increased by approximately 10% from 1974 to 1978 (see Figure 1). Between 1978 and 1982, the market value of agricultural products sold for Missoula County dropped by over 18.5% from 6,783,032 dollars in 1978 to 5,528,160 dollars in 1982. Starting in 1982 the market value of agricultural products sold by Missoula County producers began a steady climb of approximately 2% growth each year until 1992. Finally, between 1992 and 1997 Missoula County's market value of agricultural products sold decreased by 367,014 dollars or approximately 5%.

Missoula County has historically made a very modest contribution to the state's total market value of agricultural products sold, accounting for a high of 0.51 % in 1978 (see Figure 2). It is also important to note how closely Figure 1 and Figure 2 resemble each other. The similarities between these two graphs suggest that agricultural production in Missoula County, despite its many differences from agricultural production in other parts of Montana, is affected in many of the same ways and by the same forces as the rest of the state.





Why are these trends occurring?

The market value of agricultural products sold reflects gross earnings, ignoring the farmer's overhead and expenditures; therefore it is important to note that these earnings are not equivalent to farm profit. The drop in Missoula County's market value of agricultural products sold from 1978 to 1982 (over one million dollars) could be linked to the farm crisis of the early 1980's. Another explanation could be development, which became increasingly popular in Missoula County during the 1980's, causing some large ranches and farms to be subdivided and used for purposes other than farming. Indeed, there was an 11.5% drop in the number of acres farmed in Missoula County between 1978 and 1982, from 282,808 to 250,213 acres (see chapter 2). One factor which may have contributed to the steady increase in Missoula County's market value of agricultural products sold between 1982 and 1992 is the common practice, according to area Horticultural Extension Agent Helen Atthowe, of landowners filling the U.S. Agricultural Census qualifications for a "farm" just to receive agricultural tax breaks. Finally the decrease in agricultural products sold by Missoula County producers between 1992 and 1997 may have been affected by the ever-increasing property values for flat land in Missoula County, enticing or forcing producers to sell or subdivide. These are just a few possible explanations for the fluctuations in Missoula County's market value of agricultural products sold.

Why is this important?

The seemingly small contribution that Missoula County makes to Montana's total agricultural products sold can largely be attributed to the fact that the geography in Western Montana is very different than that of Eastern Montana where most of the state's livestock and commodity production occurs. Livestock and commodity crops, namely wheat, account for the largest percentages of Montana's total market value of agricultural products sold. According to Helen Atthowe, the land values in Missoula County are too

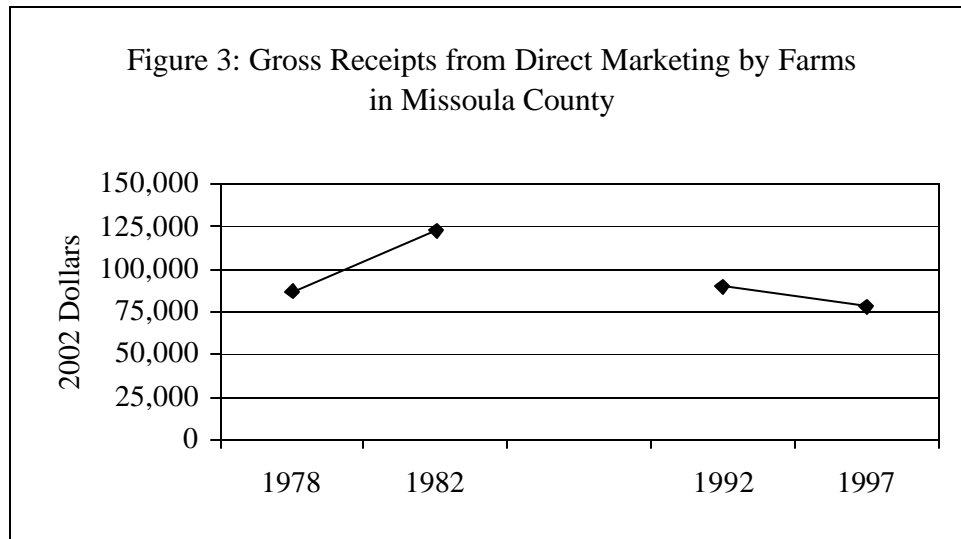
high to support large-scale production of livestock and low value commodity crops such as wheat. Thus, Missoula County's agricultural production relies heavily upon higher value crops such as vegetables, nursery and greenhouse products, hay, and other horticultural crops more suited to Western Montana's social and physical geography.

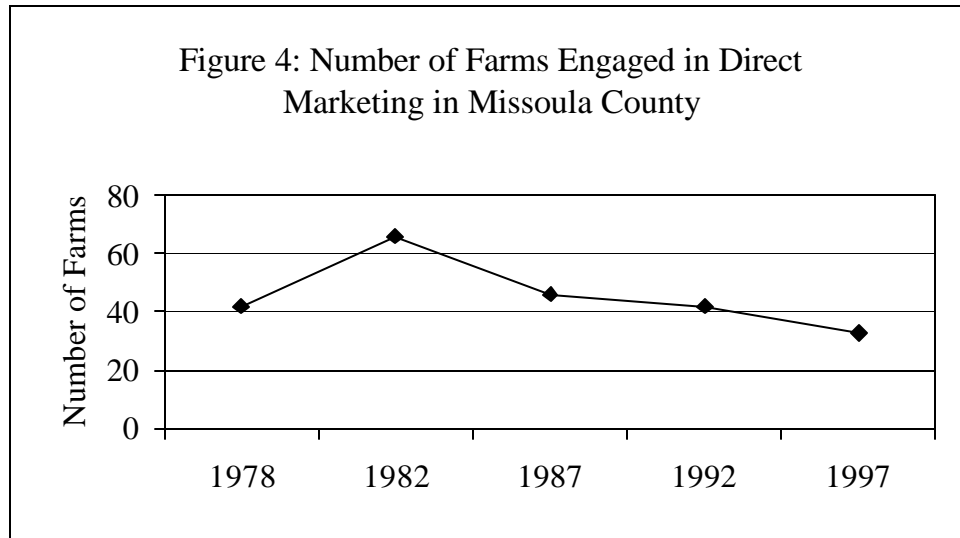
DIRECT MARKETING

The Census of Agriculture began collecting data on direct marketing in 1978, and it defines direct marketing sales as agricultural products sold directly to individuals for human consumption from roadside stands, farmers markets, and other types of direct markets. The data excludes any non-edible products such as nursery products, flowers and wool.¹

The trends.

According to the Census of Agriculture, gross sales in direct marketing peaked in 1982 and declined steadily thereafter. At its peak in 1982, direct sales were \$122,760 which translated into 2% of the market value of the county's gross agricultural production (see Figure 3). The number of farms engaged in direct marketing also peaked in 1982 and then declined (see Figure 4). At the peak, 66 farms participated in direct marketing, which was 15% of Missoula County's farms.





It is important to remember that this data does not include all farmers participating in direct sales, and therefore underestimates the value of direct marketing. For example, no data is collected on the estimated total sales at the Missoula Farmers' Market. The Missoula Farmers' Market was established in 1970, is held twice a week in downtown Missoula, and is a direct link between local producers and consumers. Over its 33-year life span, the Farmers' Market has grown considerably, becoming a highly visible and increasingly key element in the distribution of locally grown produce². During the height of the Farmers' Market in recent summers, some 100 vendors sell directly to consumers, which is at least three times the number of farms reported to be engaged in direct marketing in the Census of Agriculture in 1997 (although certainly some of those vendors farm outside of Missoula County).³

Community supported agriculture (CSA) has also become a popular way to direct market goods in many parts of the country. In CSA, consumers purchase a "share" of a farm's produce and in turn typically receive a box of the produce weekly throughout the growing season. In this county, only two CSA farms currently exist. The Rattlesnake Community Farm and River Road Community Garden are both operated by Garden City Harvest (GCH), a Missoula based non-profit organization. The money from the CSA shares goes directly back into GCH's production costs. It is not appropriate to present gross sales from this CSA program, because this is a non-profit endeavor, much of the Rattlesnake Community Farm work is provided by University of Montana students (enrolled in the PEAS Program), and the CSA members pay according to a sliding scale. It is important to note that the number of CSA members in Missoula County has slowly increased. The number of CSA shares sold to members at the Rattlesnake Community Farm was 68 in 2000, 77 in 2001, 75 in 2002, and 87 in 2003. The River Road Community Farm just got underway in 2003.

Common Ground Farm, based in Arlee, sells from five roadside stands in Missoula, Bonner, Lolo and Arlee. This farm only began their produce stands during the 2003 season, and the gross roadside stand sales from that farm are not yet available.

Why are these trends occurring?

The decline over the last two decades of both the number of farms involved in direct marketing and the sales of products sold through direct marketing may indicate that either these small farms (whose sales are often more dependent on direct markets than larger farms) are going out of business or have shifted to other markets. In Missoula County, farmers may also be investing more time in wholesale and restaurant markets than they are in direct marketing.

As mentioned above, the Census of Agriculture data is probably incomplete and does not show the impact that farm direct marketing has had in Missoula County. In recent years, there has been resurgence in demand for locally grown food. The vigorous turnouts at Missoula's Farmers' Market suggest that County residents appreciate what the market has to offer: community social interaction, the opportunity to support local farmers, and a chance to purchase nutritional food. The success of the Missoula Farmers' Market supports the idea that urban/farm linkages are being reevaluated in the minds of Missoula County residents.

Community Supported Agriculture is another direct marketing technique that has been doing well in recent years. At Garden City Harvest a single share is designed to feed a family of four for one week and the food can be picked up weekly directly from the producer. The number of shares sold at GCH is limited in order to ensure that enough produce remains to donate substantial quantities to local food pantries and other food assistance organizations, and there are more people who would like to be CSA members than who are actually enrolled⁴.

Why is this important?

Selling agricultural commodities through direct markets is an important way to connect the consumer with the farmer. These markets may also be a viable alternative for farmers who cannot break into the wholesale market because of competition or economic concentration. It would be interesting to conduct a survey in order to gather data on whether county residents would like to participate more in CSAs, shop at the Farmer's Market or stop to buy produce at roadside stands instead of shopping at large grocery store chains. A survey tool could also be used to question county farmers on their current market practices and ideas for improving direct markets in the region. There may be opportunities for more farmers to sell in these specific direct markets.

FOOD DISTRIBUTION SYSTEM

The data presented here offer numerical and productivity indicators for the distribution component of Missoula County's food system. This component includes the County's network of food wholesalers, food manufacturers, food retailers, and food servers. While the number of local manufacturing facilities in the County has declined by over one-third since the 1950s, the number of food wholesalers, retailers, and servers has risen.

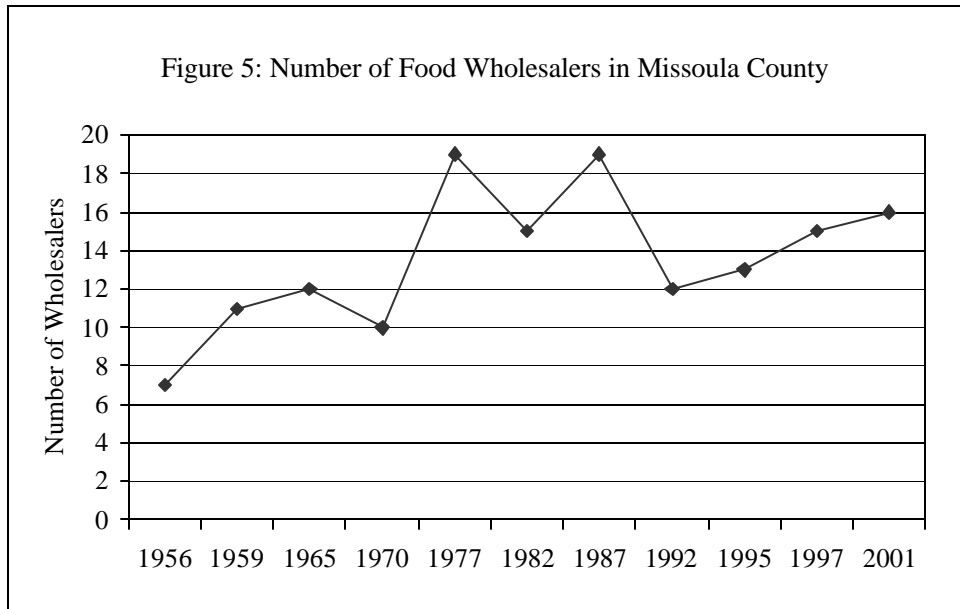
Although data on *numbers* of businesses were available for these categories of food distribution, there were gaps in the *sales* figures for the food distribution network. Data from 1977-1992 were not available in the U.S. Economic Census for Missoula County in terms of *sales* for the following categories: Food Manufacturers, Farm Product Raw Materials Wholesale, and Grocery and Related Products Wholesale. It appears as though the information for Missoula County was not available for the above indicators because an insufficient amount of sales occurred for the county in these areas. For example, the census recorded information on these indicators for Billings and Great Falls and/or Yellowstone and Cascade Counties (1977-1992) because these areas accounted for significant production and/or were designated as Metropolitan Statistical Areas (MSA). Missoula was not designated as a MSA until June 30, 1998. According to Jim Sylvester of the Bureau of Business and Economic Research at the University of Montana, much of the Food Distribution sales data was suppressed due to an insufficient amount being reportable⁵.

The trends.

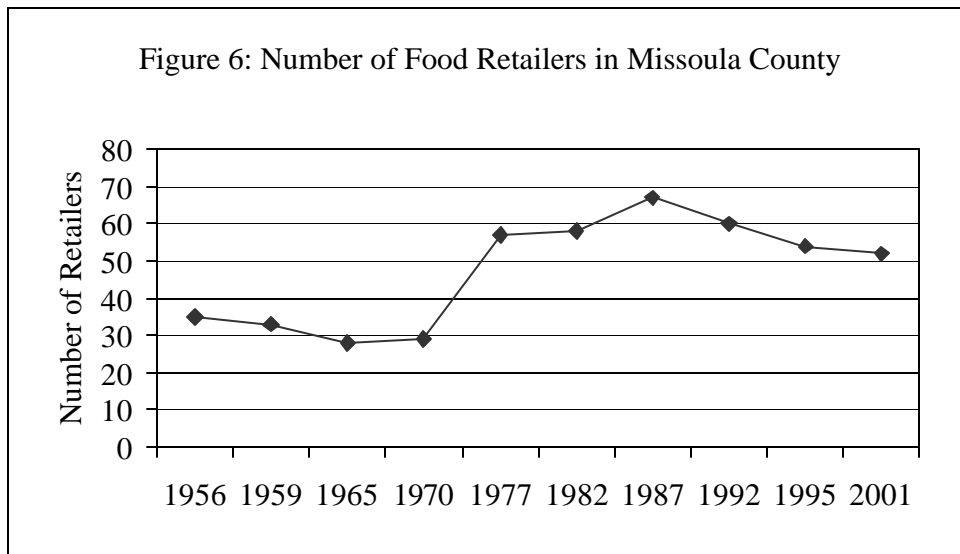
Farm product *raw material wholesalers* are those “establishments primarily engaged in wholesaling agricultural products (except raw milk, live poultry, and fresh fruits and vegetables), such as grains, field beans, livestock, and other farm product raw materials (excluding seeds).”⁶ The County Business Patterns report published by the U.S. Department of Commerce shows a total number of three raw material wholesalers in 1977, four in 1987, and one in 1992, 1997, and 2001. This decrease suggests that raw material wholesalers of farm products are contributing less and less to Missoula County’s food distribution network. Sales data was not available for this sector further demonstrating the insignificant contribution to the food distribution network.

According to the U.S. Census Bureau, industries classified in the *food manufacturing* sector “transform livestock and agricultural products into products for intermediate or final consumption”. The foods processed in these establishments are typically sold to wholesale or retail distributors. The number of Missoula County food manufacturers has declined from a high of 16 manufacturers in 1959 to nine such establishments in 2001. This represents a 44% decline.

Food wholesale establishments are primarily engaged in the wholesale distribution of general-line groceries: packaged frozen foods, dairy products (except canned or dried), confectionery items, fish, seafood and other meat products, fresh fruits and vegetables. During the past five decades, there has been an overall increase in the number of food wholesale businesses operating in Missoula County. Census data indicates that the number of wholesale establishments in the County nearly doubled during the mid-1970s, jumping from 10 in 1970 to 19 in 1977 (see Figure 5). Since 1992 when the number of food wholesaling establishments dropped to 12, the number of these establishments in Missoula County steadily increased to 16 in 2001. Sales figures for these establishments were only available for 1997 in the Economic Census, when they totaled \$60,486,000.

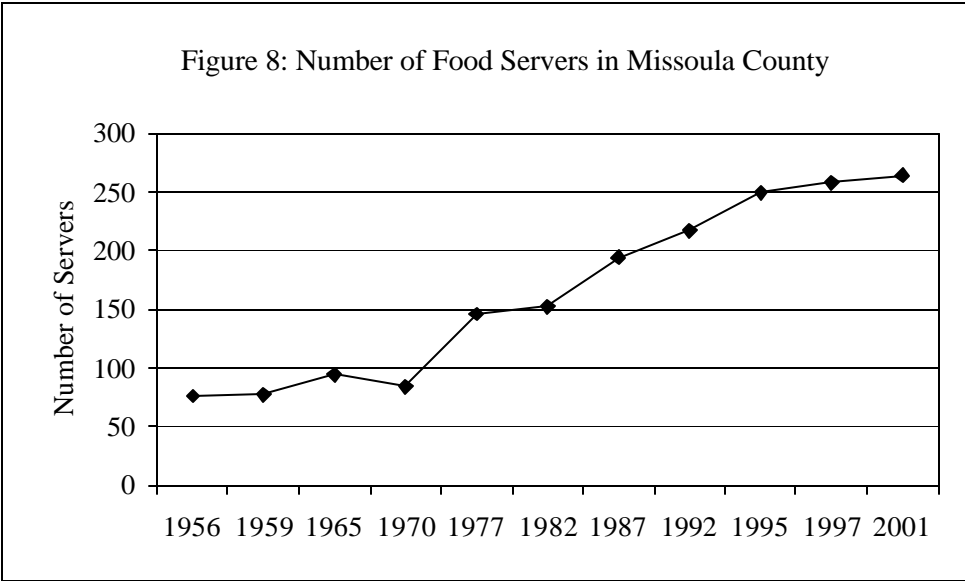


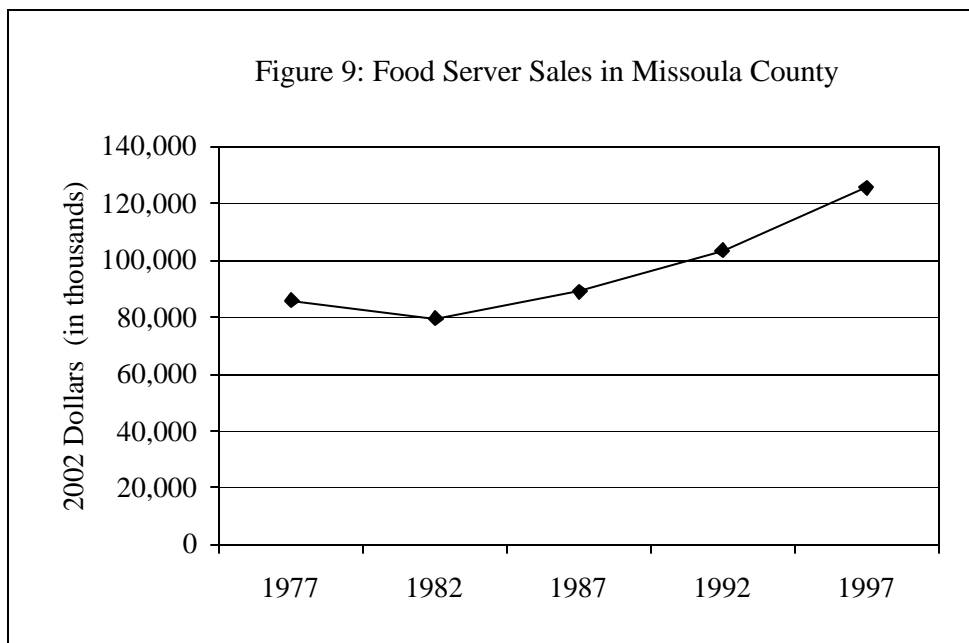
Over the past 50 years, the number of *food retailers* in the County has seen a net increase of 49% (see Figure 6). Food retailers are defined as, “stores engaged primarily in the sale of food items for home preparation and consumption.” Food outlets that are included in this category include: grocery stores, supermarkets, meat and fish markets, fruit and vegetable establishments, and confectionary stores. (Convenience stores are excluded from this classification due to non-food-items accounting for the majority of total sale receipts.) Peaking at 67 establishments in 1987, the number of food retailers had dropped to 52 in 2001, a 22% decline. Sales data also indicate a decline from 1977-1997 (see Figure 7). Sales peaked in 1992 to over \$185 million, but fell again in 1997 to just over \$164 million (all figures are adjusted for inflation to 2002 dollars).





Of all the food distribution indicators represented, the number of *food servers* has seen the greatest jump in numbers since 1956 (see Figure 8). Food servers are retail “establishments selling prepared food and drinks for consumption on the premises”, including “lunch counters and refreshment stands selling prepared foods and drinks for immediate consumption.” The number of food service establishments has grown considerably from 76 in 1956 to over 260 in 2001 (a 242% increase). Sales also increased in the food server sector (see Figure 9), which showed an increase of approximately 47% from 1977 (\$85,831,000) to 1997 (\$125,740,000).





Why are these trends occurring?

The decrease in farm raw materials wholesaling and food manufacturing may be related to the fact that Missoula County has not been a significant agricultural producer for the state and may become less so in the future. Missoula ranks 52nd of 56 counties in the state for total agricultural receipts and less than 1% of the County’s total net income is derived from raising livestock and crops⁷. This modest level of recorded production likely creates an economically unattractive processing environment due to economies of scale.

The dramatic increase in food servers (restaurants) over the past several decades undoubtedly reflects the demographic growth of the County, and the City of Missoula in particular, and perhaps consumers are eating away from home more frequently as well (see Chapter 6). This trend poignantly demonstrates one of the influences food consumers place on the food distribution network. There is a demand for restaurant prepared food that was not present 50 years ago. It is obvious that more and more people are depending on Missoula County’s food servers to nutritionally sustain them. One major contributor may be the student body of the University of Montana, which is located in Missoula, and creates a sizeable market opportunity for new business starts. Accordingly, eating and drinking places ranked 11th in Missoula County for newly established businesses in 1998.⁸

Why is this important?

The integrity of the County’s food distribution network can serve as a reliable indicator for a number of food sustainability and security issues. The overall strength of this network can offer insight into what county assets are being utilized, overlooked, or neglected. The trends illustrated above direct attention to the gaps in our food distribution system and show a need for work on these levels in order to create a more secure and self-reliant food system.

The significant increase in the number of food servers in Missoula County has the potential to provide a strong market for local agricultural producers. Consumers can play a role in this potential by choosing to support restaurants that serve local agricultural goods.

The recession in the number of food manufacturing facilities could limit opportunities for producers in the county. Without a strong processing sector, farmers could be restricted to centralized processing in distant locations, limiting profitability.

¹ United States Department of Agriculture, National Agricultural Statistics Service, Census of Agriculture. 1997. <http://www.nass.usda.gov/census/> (Date accessed: 15 September 2003).

² Parker, Mel: Contact Representative, Missoula Farmers' Market. Personal Correspondence. Sept 28, 2003.

³ Bradford, K. 2003. *Building social relationships, building business : a case study of vendors at the Missoula Farmers' Market*. Missoula: University of Montana.

⁴ Hassanein, Neva. Current research project involving CSA membership. Email. Sept 28, 2003

⁵ Sylvester, Jim, Bureau of Business and Economic Research, phone conversation, October, 2003.

⁶ U.S Department of Commerce. Retrieved September 2003 from the World Wide Web. <http://www.census.gov/epcd/ec97/def/4225.HTM>

⁷ Ibid.

⁸ Missoula County Growth Policy, Chapter 2. August 2002. Office of Planning and Grants, Missoula, MT. <ftp://www.co.missoula.mt.us/opg2/Documents/Long%20Range%20County/Growth%20Policy/Chapter%202a%20Land%20Use%20Economy.PDF>

