

## **Recreation as an Economic Development Strategy: Some Evidence from Utah**

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An examination of employment patterns in rural Utah counties suggests that those counties which primarily rely on tourism and recreation to maintain economic viability exhibit annual employment variability much greater than those counties which rely on alternative economic activity. Compared to long-run boom/bust employment cycles, which are prevalent in counties that rely on resource extraction, annual recreation and tourism employment cycles are at least as variable and of much shorter duration due to the seasonal nature of tourist visitation patterns. As a result, local infrastructure planning for an economy based on recreation and tourism will likely involve considerable fiscal stress unless counties are able to balance capital needs with inherent short-run employment variability. This may suggest a need for long-term capital finance subsidies to offset capital stress during peak employment seasons in some tourist-based rural economies.

**KEYWORDS:** *Employment, recreation, rural economic development*

### **Introduction**

There is considerable historical evidence that rural communities and counties in the West are and have been subject to economic decline as traditional extractive resource-based industries decline (see West, 1962, for a review of the history of western economic cycles). Cordell, Bergstrom, and Watson (1989) and Bergstrom, Cordell, Ashley, and Watson (1990a and 1990b) suggest that recreation spending can play a significant role in local rural economies. With particular application to rural economies in Utah, Powers (1990) documents a structural transition in selected rural Utah economies that have experienced a change from resource extraction and agriculture to service and trade-based economic activity. He hypothesized that structural change in the particular areas he studied is occurring as a result of increased awareness of recreation amenities, an influx of retired persons, and the relocation of "owners/managers of footloose industries" to rural areas. In partial support of Power's hypothesis, Rudzitis and Johansen (1989, 1991) report that population in rural areas adjacent to recreation areas (specifically, wilderness areas) has grown significantly more rapidly than for other rural and urban areas. Studies that use input/output models<sup>1</sup> find relatively large positive impacts on communities that are able to exploit a comparative

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<sup>1</sup>For example, see Dawson, Blahna, and Keith (1993), Bergstrom et al. (1990a and 1990b), and Cordell et al. (1989) references cited above.

advantage offered by their proximity to recreation amenities by catering to tourism-based economic activity. As a result, many recommendations that rural communities should concentrate development efforts on tourism and associated supporting industries have been seen in the popular press. However, the increasing dependence of rural communities on recreation and tourism may induce employment and infrastructure transitions that are costly and that rival the boom/bust problems associated with traditional extractive resource-based industries. In recognition of the potential negative impacts on local communities impacted from tourism, the Utah Governor's Tourism and Finance Committee was challenged to ". . . facilitate the acceptance and success of the tourism industry in rural Utah by recommending financing options that will compensate local governments for impacts caused by tourists" (Utah State Office of Planning and Budget [UOPB] 1995, p. 1).

Brown and Pheasant (1987) suggest that the trade and service sectors contribute to employment instability in rural counties in Indiana. Our hypothesis is that local planners who pursue a tourist-based development strategy over traditional resource extraction may be trading the long-run boom/bust employment cycles of those markets for short employment cycles determined by tourist expenditure and the length of the annual tourist season. As such, transition to tourist-based economic activity may not be a panacea for eliminating employment instability in rural economies. The Economics Department of Utah State University undertook a study of long- and short-cycle employment variability for rural counties in Utah as a part of a larger study of the economic impact of wilderness recreation. The results of that study are presented below.

### Study Areas and Data Collection

Monthly data on nonagricultural employment for the period from 1973 through 1992 for 24 rural counties in Utah (identified as non-SMSA) were obtained from the Utah Department of Labor Statistics for each of the following sectors: mining; construction; durable and nondurable manufacturing; transportation/communication/utilities; retail and wholesale trade; finance/insurance/real estate; service; and federal, state, and local governments.

Sector data were grouped into five industry "specialization categories" for analysis and defined as: mining (extractive industries), manufacturing (durable and nondurable manufacturing), utilities (transportation/communication/utilities), recreation and tourism (retail and wholesale trade, service), and government (federal, state, and local governments). While retail and wholesale trade and service employment may not be specifically tied to recreation and tourism activity, significant variation in monthly employment in these sectors corresponds to the seasonal cycles associated with tourist visitation patterns. In addition, recreation and tourism expenditures generally occur in the trade (retail goods sold, gasoline, etc.) and the service (hotel, motel, dining, etc.) sectors. Most of the analyses of

tourism and recreation economic impacts have used these sectors, or the subsectors of which they are composed, as the sectors in which recreation and tourism have their direct impact (Bergstrom et al., 1990a, 1990b; Cordell et al., 1989; Dawson, Blahna, & Keith 1993). Chadwick (1987) suggests that recreation and tourism impacts occur primarily in the trade, service, and transportation sectors (specifically, travel arrangement sectors which are insignificant in most of the recreation / tourism-based rural areas in our study). Construction and finance/insurance/real estate (FIRE) sectors were not included in the analysis because construction employment can be stimulated by transitional economic activity in any sector and FIRE sector employment is not large in rural counties.

Counties in which the mean monthly employment share for a specific specialization category exceeded by one standard deviation the mean monthly employment share for that category across all counties in the total sample were classified as being "relatively dependent on" or "specialized in" that employment category.<sup>2</sup> Based on this criteria, there were 5 counties in the mining-dependent category, 5 counties in the manufacturing- and utility-dependent category, 3 counties in the recreation- and tourism-dependent (trade and service) category, and 4 counties in the government-dependent category.

Structural transition in many rural Utah county economies began during the early 1980s. As a result, the full time-series sample (1973-92) had the potential for spanning different economic eras. Chow tests were used to assess evidence of structural breaks in the employment time-series, and these are reported in Fawson, Keith, and Chang (1995). Tests indicated that a structural break occurred in a variety of specialization categories during the 1983-84 time period in most counties. As a result, employment data for the 1983-92 subsample were isolated and independently analyzed in order to focus attention on rural counties which had experienced a structural transition. For the 1983-92 subsample, one county changes from manufacturing- and utility-dependent to no relative dependency, and one additional county was included in the recreation- and tourism-dependent category.

In order to verify our categorization of "recreation- and tourism-dependent," we consulted a tourism financing document prepared by the UOPB in 1995, in which counties were determined to be "tourism-dependent" if the annual transient room tax collected was greater than or equal to 3% of annual total personal income for a county. According to this document, using 1993 transient room tax data, there were 10 counties, including the four we identified, which were classified as tourism-dependent. We assigned two of the counties identified by the UOPB, but not assigned to another category by our criterion, to the recreation and tourism specialization category.<sup>3</sup>

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<sup>2</sup>We use these terms interchangeably in the rest of the paper.

<sup>3</sup>These two counties were "closer" to the recreation and tourism classes than any other classification.

Within the group of counties classified as recreation- and tourism-dependent, one county experienced a growth in population of approximately 87% between 1983 and 1993, another grew approximately 61%, the third 22%, and the fourth 21%. These growth rates are significantly greater than the other tourism-dependent counties and generally much larger than other counties.<sup>4</sup> The largest rate of growth was primarily a result of the in migration of retirees from both southern California and southern Nevada. Four of the counties, including one county in the mining-dependent category, are on what has become known as the "Golden Circle," which generates several million tourist-day visits each year. One tourism-dependent county contains several destination ski resorts.

Comparative analyses of monthly employment across specialization categories were made, using both graphical and simple statistical measures, in order to examine employment growth and stability in these rural counties relative to their dominant employment specialization. It is recognized that employment alone may not be an accurate representation of economic health within a community and that income measures coupled with employment are preferred. Employment was used because no county monthly time-series data exist for income or other measures of economic activity.

### Study Results

Graphical analyses were made for each of the counties examined. One county was selected as representative of the empirical regularities associated with annual employment cycles in tourism-related industry. Figure 1 features both the long-term cycle, resulting from the collapse of the uranium industry, and the short-term (periodic) annual cycle, which we argue is tourism-related (caused by both national park and mountain biking visits). Since the series are nonstationary in the means, variation in employment is calculated with respect to a 12-month centered moving average. Figure 2 demonstrates the increasing deviation between the actual monthly employment and the 12-month moving average for total, mining, manufacturing, and recreation and tourism employment. The data indicate that this pattern is quite typical of the counties which specialize in recreation and tourism. The mean total monthly employment has risen since 1983 in the recreation- and tourism-dependent counties, while the variation in employment has also increased. That tourism is the main influence on total employment patterns seems clear. The season of high employment for the recreation and tourism counties is during the summer period, when visitation to national parks is at a maximum, and during the winter skiing season. Further, employment during the "high" season is frequently 1.4 to 1.7 times larger than off-season employment for the tourism-dependent counties compared to 1.1 to 1.2 for the

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<sup>4</sup>Garfield County had a growth rate of 8% and Grand, -7%. Among the other categories, Cache County grew at 20%; Morgan, 14%; Box Elder, 10%; Millard, 8%; the rest either grew at less than 2% or lost population.

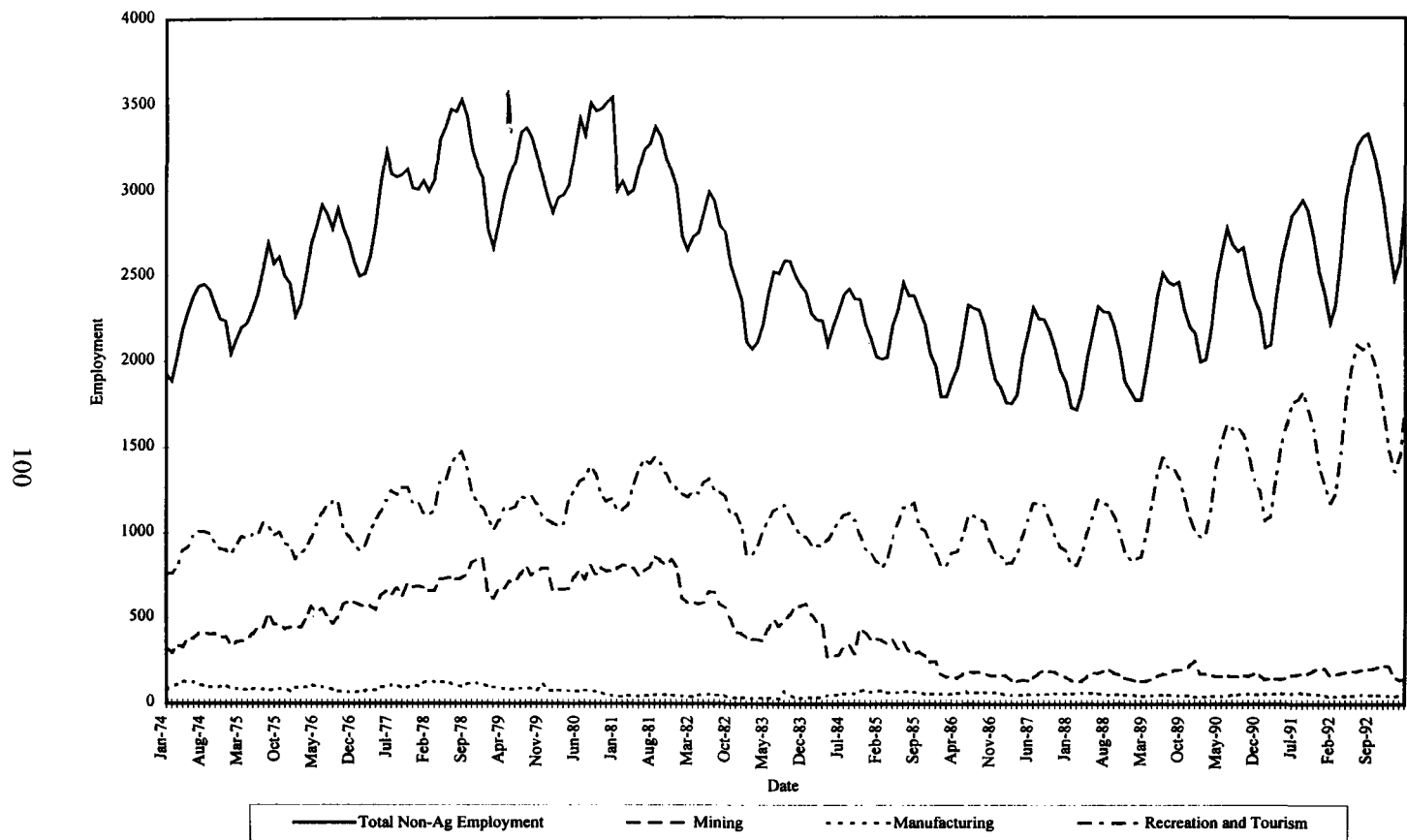


Figure 1. Actual monthly employment for a recreation- and tourism-dependent county in Utah

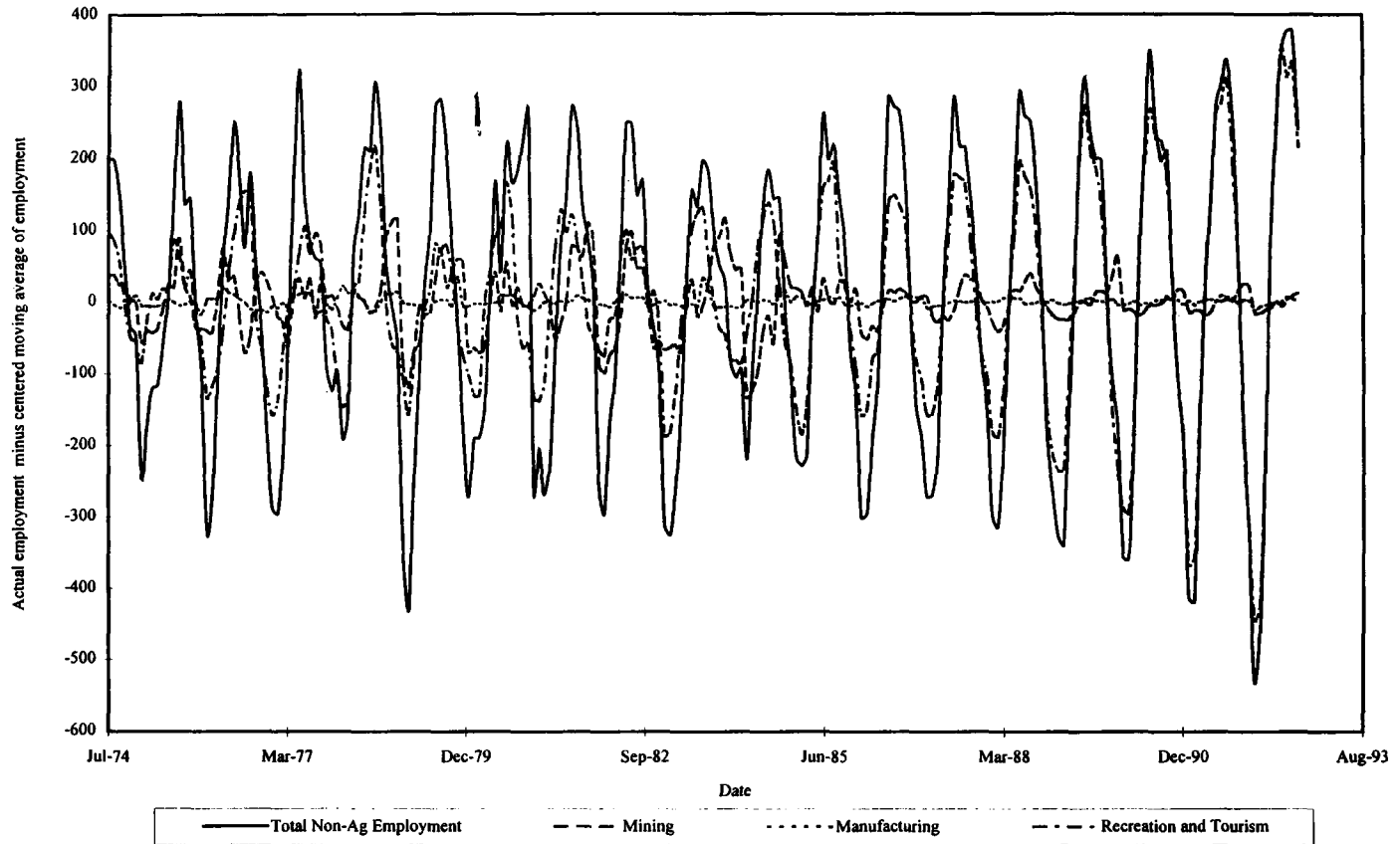


Figure 2. Difference between actual monthly employment and centered moving average of employment for a recreation- and tourism-dependent county in Utah

mining and manufacturing counties. Similar patterns can be observed in the counties identified as recreation- and tourism-dependent by the UOPB but placed in different categories by our criteria.

In work cited earlier, Powers (1990) examines employment over the past decade in two Utah counties included in our recreation and tourism category. He concludes that both of these counties exhibited high economic growth rates and that these environmentally based economies were flourishing. However, our data indicate that employment and population growths in the county most influenced by immigration from Nevada and California have been much more rapid than that of the other county which Powers studied, for which population growth has been negative and employment growth relatively low. Secondly, the annual employment cycle is clearly evident in the latter county, while the former exhibits a much more stable annual pattern.

In order to more clearly document the increasing trend in variance, the variance about the centered moving average was calculated to account for mean nonstationarity in the employment data. Using the annual variances for total employment and for each defined employment category's series, a correlation matrix of employment variance was constructed for each county. The analysis revealed that in 23 of 24 counties, at least one correlation coefficient between mining, durable manufacturing or nondurable manufacturing, and the trade or service sectors was negative. In 19 of the 24 counties, there was a negative correlation coefficient between mining and/or manufacturing and both retail sales and service sectors. These data suggest that the effects of economic activities other than tourism and recreation may serve to "balance" the strong annual cycles from tourism. It must be recognized that mining employment has declined significantly in some of these counties during the two decades examined, and that decline may be one of the factors leading to a negative covariance coefficient. However, it does seem that for those counties with a balanced economy, employment variance, particularly during the past decade, has declined compared to those counties which are heavily dependent on tourism and recreation.

To complete our variance analysis, we examined the trend in annual variance for total employment in each county. Table 1 presents the results of the linear trend analysis, as well as summarizes the correlation described above. Generally speaking, those counties which were defined as recreation- and tourism-dependent by either our measure or the UOPB experienced a statistically significant increasing trend in variance, while almost every other county demonstrated either no significant trend or a decreasing trend. In addition to the trend analysis, we estimated a linear equation in which total annual employment variance was a function of annual employment variance in each of the five employment sectors. The results of this estimation are presented in Table 2 (1972-92) and Table 3 (1983-92). The results indicate that annual variance in service and trade sector employment is significantly and positively related to total annual employment variance in the recreation- and tourism-based counties in both periods. Counties in the other categories

**TABLE 1**  
*Linear Trend Coefficients for Annual Variance of Total Nonagricultural  
 Employment and Sectors With a Correlation Coefficient Between Annual Total  
 Employment Variance and Annual Sector Employment Variance That Exceeds 0.4*

County	1973-92 Trend Coefficient and <i>t</i> -Statistic	Sectors With Correlation Coefficient >.4	1983-92 Trend Coefficient and <i>t</i> -Statistic	Sectors With Correlation Coefficient >.4
<i>Mining:</i>				
Carbon	-5469.34 (-1.21)	Mine (.96) Rec & Tour (.66)	-1025.79 (-2.28)	Mine (.99) Manufact (.97) Utility (.80)
Duchesne	-514.04 (-0.65)	Manufact (.66)	-1882.02 (-0.62)	Manufact (.90)
Emery	-5103.81 (-1.77)	Mine (.98)	-3020.31 (-1.64)	Mine (.85)
San Juan <sup>a</sup>	842.74 (4.68)	Gov't (.77) Rec & Tour (.71)	1357.8 (2.18)	Gov't (.65) Rec & Tour (.46)
Uintah	-1367.0 (-2.02)	None	-2618.5 (-0.75)	Manufact (.88)
<i>Manufacturing:</i>				
Beaver <sup>a</sup>	-61.25 (-0.75)	Utilities (.55)	-207.45 (-0.96)	Utilities (.43)
Box Elder	2226.19 (0.89)	Manufact (.86) Rec & Tour (.72)	6579.71 (1.23)	Manufact (.96) Rec & Tour (.78)
Cache	60381.9 (3.50)	Mine (.62)	111397 (3.18)	Mining (.70)
Millard	776.62 (0.97)	Mine (.89)	-4853.61 (-1.92)	Mining (.90) Utility (.41)
Morgan	-76.53 (-3.85)	Rec & Tour (.62) Mine (.51)	-14.7 (-0.43)	Rec & Tour (.91) Mine (.63)
<i>Recreation / Tourism:</i>				
Garfield	1237.81 (1.74)	Rec & Tour (.63)	3056.06 (1.93)	Rec & Tour (.88)
Grand	2190.05 (3.41)	Rec & Tour (.89)	7377.20 (5.72)	Rec & Tour (.93)
Iron <sup>a</sup>	835.07 (2.49)	Rec & Tour (.46)	-1029.67 (-1.04)	Gov't (.59) Rec & Tour (.55)
Kane	1269.20 (2.82)	Rec & Tour (.82) Manufact (.60)	4264.36 (4.42)	Rec & Tour (.93) Manufact (.69)
Summit	92196 (11.02)	Rec & Tour (.98) Utility (.83) Gov't (.46)	137739 (6.98)	Rec & Tour (.92) Gov't (.83) Utility (.65)
Washington <sup>a</sup>	-1034.3 (-0.40)	Rec & Tour (.94) Manufact (.84)	8178.5 (5.28)	Utility (.75) Manufact (.75) Rec & Tour (.41)
<i>Government:</i>				
Daggett <sup>a</sup>	-176.70 (-0.70)	Gov't (.66)	-412.36 (-0.92)	Gov't (.65)
Piute	-11.03 (-1.82)	Mine (.95)	-24.12 (-3.04)	Mine (.80) Rec & Tour (.75) Gov't (.48)
Rich	-39.84 (-1.05)	Rec & Tour (.60) Mine (.46)	-77.63 (-0.62)	Mine (.51) Rec & Tour (.48)
Wayne <sup>a</sup>	11.19 (0.17)	Mine (.50)	74.90 (0.35)	None

<sup>a</sup>Included in tourism-dependent counties by UOPB.

Note: 1973-92 *t* values for significance of .05 is 2.12 and 2.92, and for 1983-92, .01 is 2.37 and 3.50 for the two periods, respectively.



**TABLE 2**  
*Relation Between Total Variability from the Moving Average and Sectorial Variability, 1972-93*

	Sector				
	Mining	Manufacturing	Utilities	Recreation and Tourism	Government
<i>Manufacturing:</i>					
Beaver <sup>a</sup>	1.26	1.56	5.20**	0.69	2.04
Box Elder	-79.84	2.83***	66.57	1.93**	-5.86**
Cache	554.08	3.87	-511.53	27.56	1.57**
Millard	23.55***	0.29	10.53	3.48*	-1.08
Morgan	-0.50	4.62**	-0.63	1.39***	0.80
<i>Mining:</i>					
Carbon	1.46***	-21.58***	-0.99	1.25	0.26
Duchesne	1.79**	78.08***	3.14	-0.11	-1.96
Emery	0.91***	98.53	8.78	-2.16	7.41
San Juan <sup>a</sup>	0.13	-1.51	4.66	0.34	0.45*
Uintah	1.03	41.73	2.17	0.29	-0.25
<i>Recreation / Tourism:</i>					
Garfield	13.54	12.90	-40.36	1.22***	4.80
Grand	0.82	-91.13	8.77	0.86***	8.52**
Iron <sup>a</sup>	0.85	8.90	-9.16	0.40	1.06**
Kane	-2.79	20.12	5.38***	0.96***	-2.52
Summit	9.41	-24.96	298.47***	0.97***	-11.79
Washington <sup>a</sup>	3.49	9.11**	20.77***	0.67***	-1.41*
<i>Government:</i>					
Daggett <sup>a</sup>	10.82	-132.57	-23.59	2.40	11.91***
Piute	3.06***	-0.39	0.25	0.27	-0.08
Rich	2.53***	11.98	-119.50	0.93**	0.93
Wayne <sup>a</sup>	1.05**	4.99	-60.97	1.80	-2.32

<sup>a</sup>Included in tourism-dependent counties by UOPB.

\*significant at the .10 level.

\*\*significant at the .05 level.

\*\*\*significant at the .01 level.

do not exhibit the same consistency. In fact, the most significant variables in the latter counties often carry a negative sign in the 1983-92 analysis.

Taken together, our results appear to present a preponderance of evidence that, in general, the economies of the tourism-dependent counties are subject to annual variances which are relatively large and appear to be increasing in absolute value. This kind of employment cycle may be difficult to deal with from an annual planning perspective. In contrast, counties whose economic bases are less dependent on the tourism industry appear to have less short-run variation, even though long-run variability may exist.

**TABLE 3**  
*Relation Between Total Variability from the Moving Average and Sectorial Variability, 1983-92*

	Sector				
	Mining	Manufacturing	Utilities	Recreation and Tourism	Government
<i>Manufacturing:</i>					
Beaver <sup>a</sup>	-23.89***	-8.23***	150.37***	-1.69***	6.82***
Box Elder	-136.28*	3.23***	235.61*	0.31	-5.66
Cache	1699.20	-5.10	-1675.32	189.96	2.11
Millard	20.16*	-3.11	-9.53	-0.32	-7.43
Morgan	-2.87	-1.65	-6.08	1.66**	1.31
<i>Mining:</i>					
Carbon	1.03	-2.04	1.31	-0.07	0.44
Duchesne	15.85	59.80	34.06	-1.69	0.43
Emery	1.20**	1163.70	-6.91	-0.89	-3.64
San Juan <sup>a</sup>	1.06	24.46	5.66	0.72	0.48
Uintah	-1.38	128.19*	3.54	0.53	-0.29
<i>Recreation / Tourism:</i>					
Garfield	1.58	11.28	-101.25	1.08***	23.81**
Grand	-6.72*	233.46	18.46**	0.95***	5.77
Iron <sup>a</sup>	7.19*	14.07	-18.58	2.71	1.79
Kane	-49.98	20.04	16.23	1.22***	-1.53
Summit	66.48*	-82.80	401.31**	1.14**	-50.18
Washington <sup>a</sup>	-7.14	7.80	20.53**	-0.04	-3.15
<i>Government:</i>					
Daggett <sup>a</sup>	324.09	-23.81	10.71	1.65**	3.96
Piute	1.91**	0.26	-7.03	3.58***	1.19
Rich	2.60*	-75.56	-46.35	1.20**	3.08
Wayne <sup>a</sup>	17.97	4.67	-39.37	3.66	-14.75

<sup>a</sup>Included in tourism-dependent counties by UOPB.

\*significant at the .10 level.

\*\*significant at the .05 level.

\*\*\*significant at the .01 level.

### Conclusion

Tourism has clearly added to the long-term growth of rural communities in Utah, particularly in those rural communities which are associated with high levels of visitation (skiing and national parks). However, it is also clear that communities dependent upon tourism alone must expect seasonal employment changes rivaling the relative size of the long-run cycles of traditional extractive industries. Alternative paths to less volatile long-term growth

appear to lay in the direction of long-term manufacturing, utilities, diversified economies which include reliance on extractive industries, or attracting a permanent population base such as retirees. This research appears to suggest that those individuals responsible for community and regional development, including planners and researchers, must be cautious about advocating tourism as an economic base.

This study concerned only a limited range of issues. An examination of the patterns of sales and income in these counties would add considerably to the knowledge base on which development decisions are made. Some critics of tourism cite the relatively low salaries in retail trade and service sectors which may exacerbate the problems associated with a tourism-based economy, in that communities must provide for significant increases in population as employment grows but may have limited fiscal resources available from that population. Further research should be undertaken to determine the relationship between community stability in both the long and short terms and various growth-inducing developments.

### References

- Bergstrom, J., Cordell, H. K., Ashley, G., & Watson, A. (1990a). Economic impacts of recreational spending on rural areas: A case study. *Economic Development Quarterly* 4(1, February), 29-39.
- Bergstrom, J., Cordell, H. K., Ashley, G., & Watson, A. (1990b). Economic impacts of state parks on state economies in the South. *Southern Journal of Agricultural Economics*, 29, 69-78.
- Brown, D. J., & Pheasant, J. (1987). Sources of cyclic employment instability in rural counties. *American Journal of Agricultural Economics* 69(4), 819-27.
- Chadwick, R. A. (1987). Concepts, definitions, and measures used in travel and tourism research. In J. R. B. Ritchie & C. R. Goeldner (Eds.), *Travel, tourism and hospitality research: A handbook for managers and researchers* (pp. 47-59). New York: Wiley.
- Cordell, H. K., Bergstrom, J., & Watson, A. (1989). Economic growth and interdependence effects of state park visitation in local and state economies. *Journal of Leisure Research* 24(3), 253-68.
- Dawson, S., Blahna, D., & Keith, J. (1993). Expected and actual regional economic impacts of Great Basin National Park. *Journal of Park and Recreation Administration*, 11(4, Winter), 45-59.
- Fawson, C., Keith, J., & Chang, T. (1995, February). *Employment stability and structural change in resource dependent rural Utah economies*. Paper presented at the Annual Meetings of the Western Regional Science Association, San Diego, CA.
- Powers, T. M. (1990). *Wildland preservation and the economy of Utah*. Paper prepared for Project 2000, Coalition for Utah's Future, Wilderness Task Force, University of Montana, Missoula, MT.
- Rudzitis, G., & Johansen, H. E. (1989). *Amenities, migration, and nonmetropolitan regional development*. Report to the National Science Foundation, Department of Geography, University of Idaho, Moscow, ID.

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- Rudzitis, G., & Johansen, H. E. (1991). *How important is wilderness: Results from a United States survey*. Unpublished manuscript, Department of Geography, University of Idaho, Moscow.
- Utah State Office of Planning and Budget (1995, February). *Utah Tourism Financing: A Status Report From the Governor's Tourism Finance Committee*. Demographic and Economic Analysis Section.