Boom or Bust: Recreation vs. Mining in Utah

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Introduction

National Monuments located within Utah are being targeted by the Trump administration. Resource deposits are plentiful in national parks and monuments such as Bears Ears, which has incentivized the current administration to roll back restrictions on federal land. Setting aside the multiple ethical concerns the policy change raises, the increase in mining access may negatively impact other sector's of Utah's economy.

The national parks bring many visitors every year. The data collected involves Utah's tourism revenue and income by county. The locations of oil wells, gas wells, and coal deposits will be compared with national park reductions. Our hypothesis states that tourism, rather than mining, serve as a better economic driver for Utah counties.

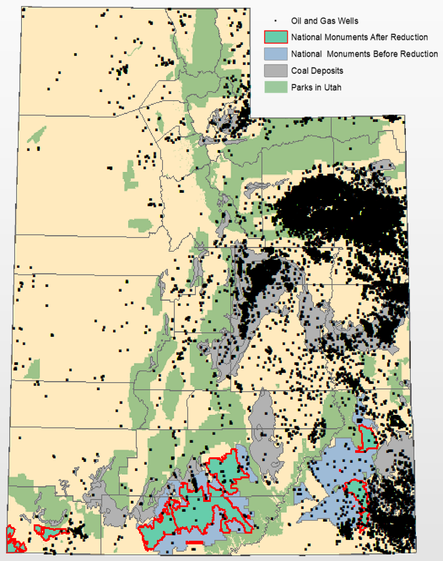
Methodology

We first created a reference map showing the original boundaries of the National Monuments in Utah, and the new boundaries following the decision made by the Trump Administration. This map would also show the location of parks, as well as the location of oil and gas wells.

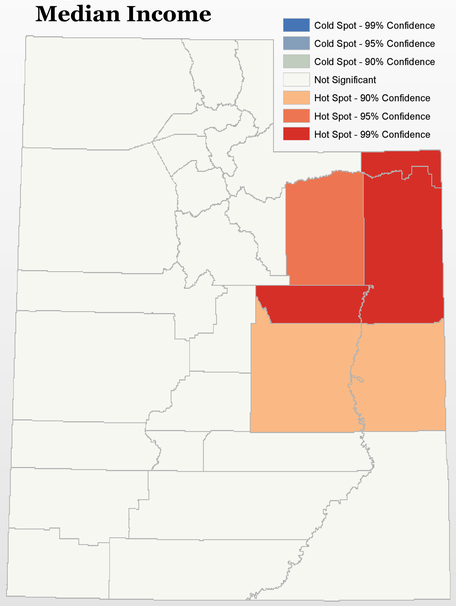
We also conducted Getis-Ord analysis of the Leisure and Hospitality Industry, the Resource and Extraction Industry, and the Median Household Income. This would end up displaying the hot-spots of high values and the cold-spots of low values for each variable. Finally, we conducted a multiple linear regression, with Per Capita Income as the dependent variable. This would show us which variables has a significant effect on Per Capita Income in Utah.

Dependent Variable	Independent Variables	Beta Coefficient	t-statistic	Significance
Per Capita Income	Industry Percentage of Resource Extraction	0.265	1.078	0.302
Per Capita Income	Industry Percentage of Leisure and Hospitality	0.425	2.383	**0.035**
Per Capita Income	Leisure and Hospitality Taxable Sales	0.564	3.036	**0.010**
Per Capita Income	Revenue Collected by County (Natural Resources)	0.024	0.097	0.924

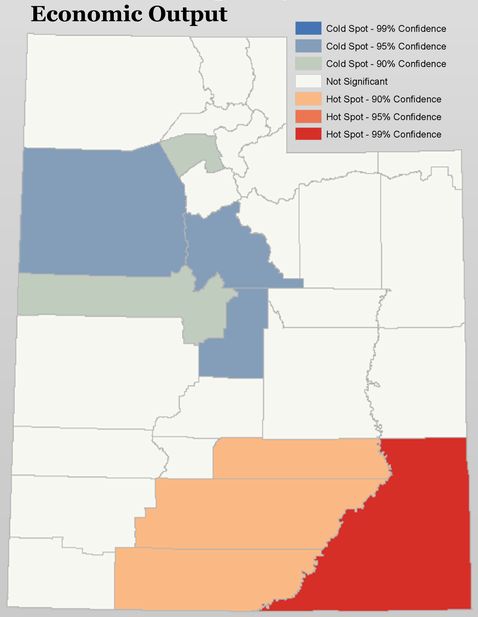
Parks and Natural Resources



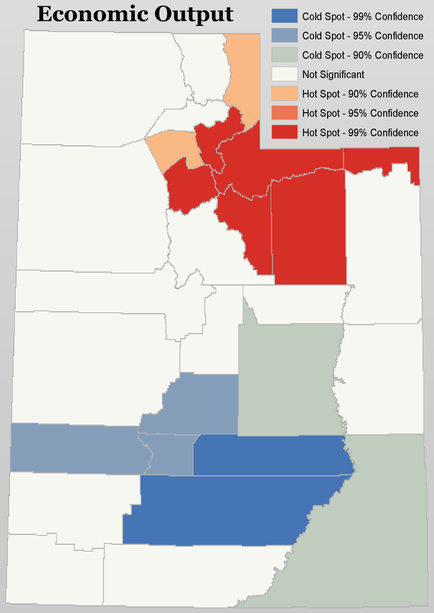
High/Low Areas of Median Income



High/Low Areas of Leisure and Hospitality Economic Output



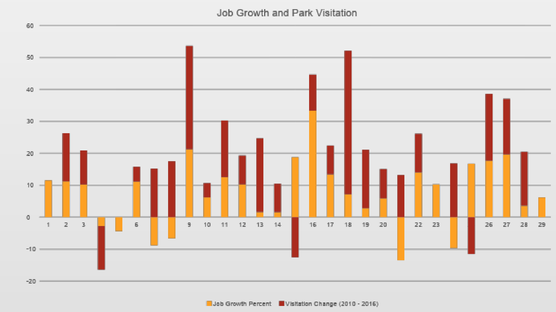
High/Low Areas of Extraction Industries' Economic Output



Results

Our Getis-Ord analysis shows that the Leisure and Hospitality industry has a higher economic output in southeastern Utah where the National Monuments and parks are located. Extraction industries produced their highest economic output in northeastern Utah where the majority of oil and gas wells are located.

Based on the regression analysis conducted, it is apparent that leisure and hospitality industries contribute more to per capita income with a confidence variable (t-statistic) greater than 2.0. Furthermore, resource extraction industries' outputs are significantly less than leisure and hospitality sectors with a t-statistic less than 2.0.



Conclusions

When conducting our analysis, we expected to see a positive correlation between recreation activity and median household income. This prediction was reinforced by regression tests, which found statistical significance between recreation activity and median household income. However, our hotspot analysis appears to contradict the results found in the multilinear regression test. For example, the hotspot for mining activity occurs relatively close to the hotspot for median household income, whereas the hotspot for recreation activity occurs relatively close to the cold-spots for median household income.

Based on our analysis, we cannot say that recreation serves as a better economic engine for Utah counties compared to mining. However, we can suggest, based off our regression results, that investments in recreation can diversify and strengthen economies that are dominated by the mining industry.

References

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