Gambling and Crime

The Issue and the Data

Are gambling and crime related? Clearly, as was previously reported, pathological gamblers are more likely to be involved in crime and more likely to be handled by the criminal justice system. But given their relatively small numbers, the overall impact on crime rates is likely to be small. In addition, much of the crime admitted by pathological gamblers involves drug use or driving under the influence of alcohol. It is quite possible that rather than pathological gambling "causing" criminal behavior, pathological gambling and criminal behavior are both the product of other problems in the person's life.

Two statistical tests were devised to analyze the relationship between gambling and crime in Montana. The first was a matched cities comparison, designed to determine if Montana cities with gambling had larger increases in reported crime rates over time compared to similar cities in the region with less access to gambling. The second was a cross-sectional analysis of Montana counties, designed to determine if counties with more gambling per capita also tend to have higher crime rates.

When analyzing the relationship between gambling and crime, it is important to remember that crime statistics must be interpreted cautiously because many crimes never come to the attention of the authorities and accuracy is often compromised by incomplete and/or inaccurate record keeping. Crime data on Montana American Indian reservations was not reported here because preliminary analysis of these data found serious problems with accuracy.

Throughout this report, crime is expressed as rates per 100,000. These rates are calculated by dividing the number of reported crimes in an area by the number of residents and multiplying the result by 100,000.

Findings from the Matched Cities Comparison

While gambling may have caused an increase of certain types of crime, Montana's overall crime rate increase is not any higher than the increases in matched cities with little or no legal gambling. In fact, in almost three-quarters of the specific comparisons carried out, crime rates rose more (or decreased less) in the matched cities than in the Montana cities.

Each of the seven largest Montana cities was matched with an out-of-state city in the region with similar population size, similar population growth rate, similar racial composition, but with little or no legal gambling. The percentage change in crime rates for three indices of crime (total serious crime, property crime, and violent crime) was computed for three time periods. Table 1 shows the matched cities, the comparison periods, and the crime categories included in the indices.

Because of some missing data, the city-crime-period combinations yielded 60 pair-wise comparisons of changes in crime rates. Figure 1 presents 14 examples that compare growth rates for violent and property crimes between 1984 and 1994. These charts illustrate the lack of a systematic pattern in crime rate changes between Montana cities and those in states with little or no gambling. For example, the violent crime rate grew faster in Cheyenne, Wyo., than in Great Falls between 1984 and 1994, yet the index of property crime decreased in Cheyenne while it increased in Great Falls during the same period.

Table 1
Matched Cities comparison

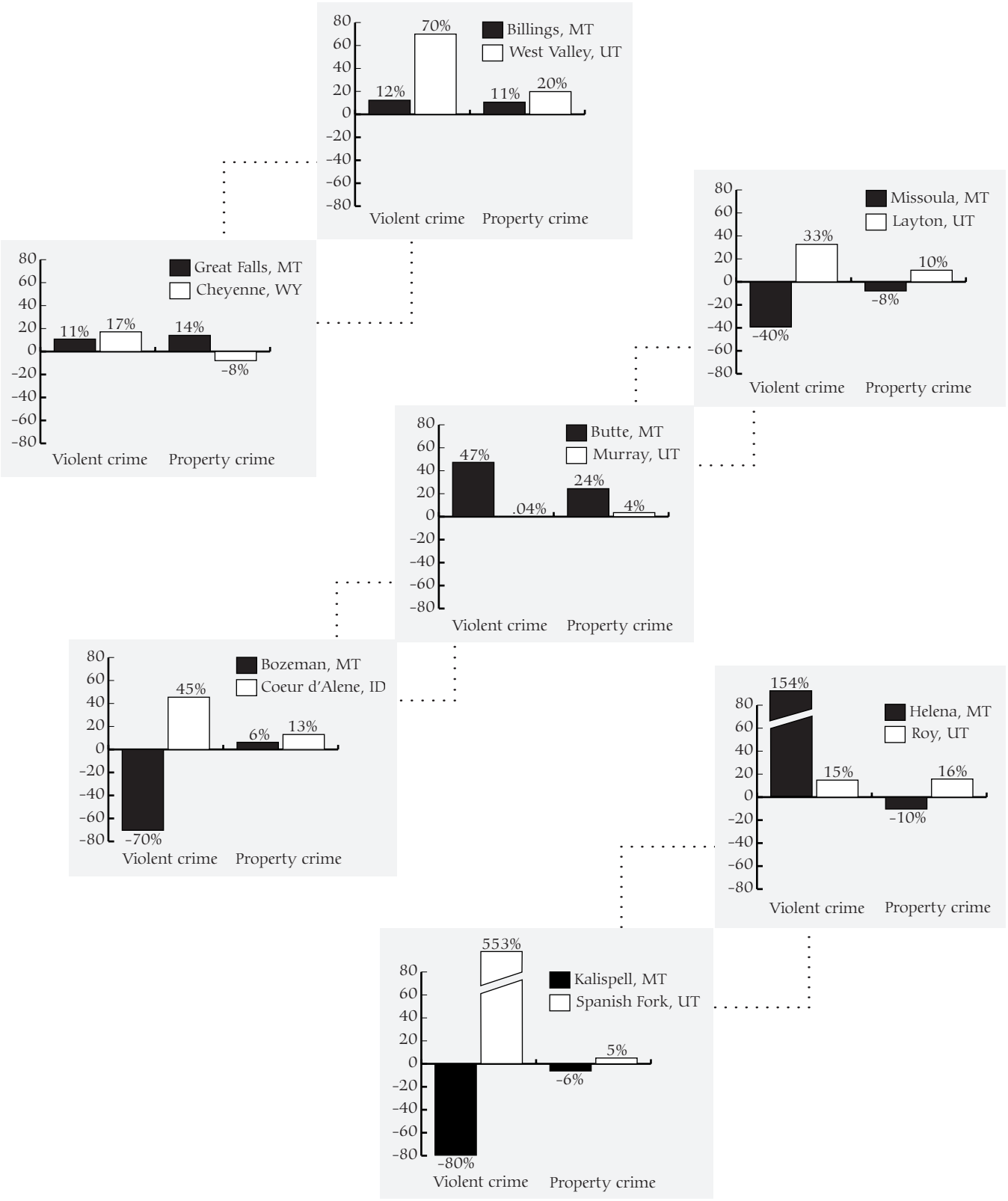
Montana Cities	Matched Cities
Billings	West Valley, UT
Great Falls	Cheyenne, WY
Missoula	Layton, UT
Butte	Murray, UT
Bozeman	Coeur d'Alene, ID
Helena	Roy, UT
Kalispell	Spanish Fork, UT

Time Periods
1984-88: Video gambling begins
1990-94: Video gambling expands
1984-94: Video gambling era

Index of property crime
Burglary
Larceny/theft
Motor vehicle theft

Index of violent crime
Murder
Aggravated assault
Rape
Robbery

Percent Change in Crime Rates
Violent and Property Crime
1984-1994



Sources: Montana Department of Justice; and Federal Bureau of Investigation, Uniform Crime Reports.

Findings from the Cross-sectional Analysis

For a few types of offenses, crime rates tend to be higher in those Montana counties with more gambling. Per capita VGM tax revenues are correlated in a statistically significant manner with the property crime index and rates of six other crimes: burglary, larceny-theft, robbery, vandalism, driving under the influence, and weapons offenses. These correlations held even when a number of other possible explanations were incorporated into the models and statistically controlled. Analysis showed that tax revenues are not correlated with the violent crime index or 18 other crime categories.

These findings are based on a regression analysis of counties in Montana. The amount of gambling in a county was measured using per capita VGM tax revenue. These figures do not include other forms of gambling. Average reported crime rates for 1994 through 1996 were used to calculate indices of property and violent crime as well as rates of 24 specific crime categories. Table 2 shows the explanatory factors tested, the regression analysis results for the property and violent crime indices, and a listing of crimes that are correlated or not correlated with per capita VGM tax revenues.

The findings from the cross-sectional analysis suggest that a hypothetical statewide $1 million increase in VGM expenditures (which were $219 million in 1997) would be associated with about 17 more burglaries, approximately 78 more larcenies, roughly 25 more DUIs, 43 more acts of vandalism, 6 to 7 more weapons offenses, and 1 or 2 more robberies. The hypothetical $1 million increase in VGM expenditures would increase VGM taxes by $150,000 or about $0.17 per capita.

Table 2
Cross-sectional Analysis

Explanatory factors	Index violent crime	Index property crime
VGM tax revenue per capita*	Not significant	Significant at .005
Population size	Not significant	Significant at .001
Percent population change	Significant at .01	Not significant
Ratio of males to females	Not significant	Not significant
Percent age 18-24	Not significant	Not significant
Percent Indian	Not significant	Not significant
Percent black	Not significant	Not significant
Percent Hispanic	Not significant	Not significant
Percent unemployed	Not significant	Not significant
Median household income	Not significant	Not significant
Bed tax per capita	Not significant	Not significant
R^2	.455	.745

*Measures gambling activity
Index violent crimes include: murder, forcible rape, robbery, and aggravated assault.
Index property crimes include: burglary, larceny-theft, and motor vehicle theft.

Gambling is correlated with:

Burglary (R^2= .563)
Larceny-Theft (R^2= .760)
Robbery (R^2= .745)
Vandalism (R^2= .492)
Driving Under the Influence (R^2= .294)
Weapons Offenses (R^2= .611)

Note: R^2 is a mesure of statistical correlation.

Gambling is not correlated with:

Murder
Rape
Aggravated Assault
Simple Assault
Motor Vehicle Theft
Domestic Abuse
Arson
Forgery
Fraud
Embezzlement
Stolen Property
Prostitution
Sex Offenses
Drug Offenses
Illegal Gambling
Family Offenses
Liquor Offenses
Disorderly Conduct

Crime Costs

It is difficult to reliably estimate small increases in criminal justice system costs that might be associated with increased gambling. Given the large volume of crime presently handled by the justice system (e.g. about 5,000 burglaries, 33,000 larcenies, and 1,000 robberies in 1995) small increases in crime are not apt to have a significant impact on total justice system expenditures. Also, most reported crimes do not result in an arrest, only a fraction will result in a conviction, and very, very few will result in incarceration.

The estimated victim costs associated with a hypothetical $1 million increase in VGM expenditures is at least $32,250. This figure is based on the U.S. Department of Justice estimate that in 1992, the average burglary resulted in a net loss to the victim of $834. The corresponding amount for larceny and robbery were $221 and $555. Victim cost estimates are not available for other types of crime. The $32,250 figure is a likely a low estimate since it is based on reported crimes which represent less than half of serious crimes that actually occur.