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Direct valuation of a community's amenities

Sean M. Murphy
The University of Montana

THE DIRECT VALUATION OF A COMMUNITY'S AMENITIES

By

Sean M. Murphy

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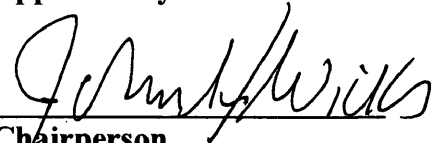
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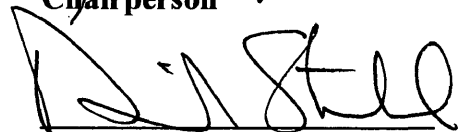
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The Direct Valuation of a Community's Amenities

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Up to this point researchers have valued amenities using hedonistic regression analysis. These authors feared bias in their results due to econometric problems, most notably omitted variable bias. This study took a new approach to the valuation of amenities, using a direct estimation technique. The direct estimation technique valued amenities that had been unobtainable (e.g. "family and friends" and "quality of people"), while avoiding econometric problems. The data confirmed that previous studies did experience omitted variable bias. This paper also investigated the validity of the assumption that interregional equilibrium exists with respect to migration, an assumption crucial for studies valuing amenities through hedonistic regression analysis. Amenity values were regressed on socioeconomic variables producing information that has not existed before now. Amenity variances tested the ability of the measures of central tendency to capture the values of the typical individual.

This paper also provided evidence against some common perceptions. Many think that an individual's well-being is greatly influenced by his/her financial status. The study's results show that amenities are also very important. People also tend to believe that the government can directly alter individual well-being. The data suggests that the direct affect politicians have on quality of life is limited. However, this data could prove to be beneficial to politicians, guiding them in indirect ways to either increase or protect residents' well-being.

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INTRODUCTION

The theory of compensating differentials posits that individuals vote with their feet, and because of this will be willing to accept lower wages, and/or pay higher land rents in order to live in an area rich in amenities. An amenity is defined as something in the area that provides the individual with comfort or convenience. Placing a value on an area's local amenities is and has been an issue of great interest to economists. Economists have valued amenities for use in quality of life or cost of living indices, which were used to compare different regions across the country.

Previous studies have used aggregate data from a cross-section of cities in so-called hedonistic regression analysis to obtain implicit amenity values. The majority of these studies have focused on larger cities, mostly Standard Metropolitan Statistical Areas (SMSA's), due to limitations of data. Data limitations have also led previous researchers to fear omitted variable bias. These studies had other econometric problems as well, e.g. multicollinearity, and the assumption that interregional equilibrium exists with respect to migration. If the latter assumption is invalid, current wage and rent differentials do not represent compensating differentials.

This study used the compensating differentials model. Unlike the previous studies using this model, the data was obtained from individuals using a direct estimation technique. An assumption used in previous literature, as well as this study, is that from an individual's point of view the amenities of a city are "tied features of locational choice" (Rosen, 1979). In this study individuals were interviewed in the city of Missoula, Montana to find the mean differential values placed on Missoula's amenity bundle and its particular amenities, relative to elsewhere in the United States.

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There are advantages to using microeconomic data to value an area's local amenities. Because this method was not limited to directly measurable amenities, I was able to compile a much more extensive list of amenities. The regional equilibrium assumption was avoided, as well as the assumption that the individual being surveyed was the marginal entrant to the community. I was able to study the variance of individuals' preferences to determine how well the measures of central tendency captured the values of the entire population. The thirty cities to which respondents compared Missoula were ranked. And finally, regression analysis was used to test the effects of the socioeconomic variables on Missoula's amenity values.

The specific data obtained in this study may apply to Missoula, but I believe many of the results are illustrative of regions elsewhere. Some respondents felt very strongly about the Missoula area and its amenities, pulling the mean differential values to the right. It would be difficult to stereotype Missoulians because, while individuals listed some amenities as important more frequently than others, overall, people's amenity preferences were quite broad. Every amenity received some attention from respondents. However, there were still indications that individuals with similar interests tend to locate in areas rich in the types of amenities they prefer. There was also evidence that amenity values from prior studies were indeed biased.

LITERATURE REVIEW

In their book, *Post Cowboy Economics,* Thomas Power and Richard Barrett discuss the perceived problems and economic well-being of individuals in the region known as the Mountain West. The Mountain West consists of the states of Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, and Wyoming. In 1998

Montana ranked last among all 50 states in real pay per job. At this time Montana was also well below the national average in per capita income. As income and pay were declining so too was the importance of natural resource industries as a source of employment and income. The natural resource industries once drove the local economies of the Mountain West region and are often still perceived in that light by many residents. When residents of Montana and other regions heard these statistics, they interpreted them to imply that their economy was in peril. At the same time, however, there was a great deal of in-migration and job growth. For example, "from 1988 to 1998, total employment in the Mountain West grew by 42 percent, compared with 19 percent for the country as a whole. During the same period, population in the region grew by 26 percent, compared with 11 percent for the rest of the country" (Power and Barrett, 2001).

Economic opportunity was once believed to be the most influential factor behind people's migration decisions. Edward Ullman (1954) was one of the first to recognize the effect amenities had on the location decisions of migrants. According to Ullman, California's large in-migration beginning in the 1920s and continuing on into the 1950s was the first "to be drawn by the lure of a pleasant climate." Ullman credited other amenities as being influential as well, but focused primarily on climate arguing that without nice weather it would not be possible to get out and enjoy the other amenities. He also stated that areas should take the "amenity factor" into account when "predicting future regional population and development," and that regions should be careful to protect their amenities by not crowding the area with "population and industry," which could lead to traffic congestion, pollution, etc.

Early efforts to measure the quality of life in one area relative to another assumed that high wages and low housing costs were a sign of high quality of life. In the late 1970s economists began to use a different method of measuring areas' quality of life, which reversed the interpretation of land rents and wages (Gyourko, 1991). Sherwin Rosen (1979) and Jennifer Roback (1982) developed regional equilibrium models. According to these models, each city has a fixed bundle of amenities, wages, and rents (Hoehn, et al., 1987). The bundle is fixed for each city, but it varies among different cities (Rosen, 1979).

The models state that a region rich in amenities tends to draw people in, thereby increasing the labor supply as well as the demand for land. The increase in the labor supply drives down wages, while the increase in the demand for land drives up land prices. This process continues until equilibrium is attained, at which point regional wages and rents "fully capitalize the value of local amenities, thus making the area no longer attractive to migrants" (Brady, 1995). The opposite is also true. Individuals moving into an area with few amenities require compensation through higher wages and/or lower land rents. Therefore, any remaining interregional wage and rent differentials represent compensating differentials for different levels of amenities that exist between regions. This explains why people continue to move to Montana and the rest of the Mountain West region despite relatively low wages and per-capita income; they are voting with their feet. In a study of return versus new migrants to Montana Christiane von Reichert (2002), using logistic regression analysis, tested "whether or not reasons for moving depend on migrant attributes, namely on age and migrant type after controlling for socio-economic differences in education and income." She determined

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that after controlling for age, education, and income both sets of migrants moved for similar reasons. This finding provided further evidence that people with similar preferences tend to locate in regions rich in those types of amenities. Family ranked the highest on the list of reasons for both return migrants and new migrants (Von Reichert, 2002) Christiane von Reichert and James T. Sylvester (1998) also found family to be the number one motive for migration among new and return migrants to Montana.

A second study done by Sylvester (1999) asked Montana residents to define quality of life. Researchers believe that peoples' preferences vary by the size of the location in which they reside. For example, it is believed "that those in large cities value cultural amenities, such as museums and art galleries, over weather and scenery" (Sylvester, 1999). Responses to the quality of life question were grouped into six categories: "urban dread," "environmental amenities," "positive people comments," "outdoor recreation opportunities," "economic prosperity," and "freedom from regulation." This is also the order in which they were ranked as reasons for moving to or staying in Montana. A study by Christiane von Reichert and Gundars Rudzitis (1992) produced similar results when studying migrants to and residents of "15 fast-growing wilderness counties." They found that amenities and quality of life were more important to the migrants' moving decisions than employment opportunities. Von Reichert and Rudzitis (1992) also discovered that about 50 percent of the surveyed migrants in the labor force accepted lower incomes in the move.

Von Reichert and Rudzitis (1994) tested the "relative role of rents and wages on the destination choice of migrants in and out of the labor force," while focusing on migrants to amenity-rich, non-metropolitan areas. They found that individuals who were

not in the labor force, e.g. retirees, tended to prefer low-wage areas where the values of the amenities were captured in the labor market, while those who were in the labor market preferred higher-wage regions where the amenity values were not captured in the labor market. These preferences were not significant for migrants originating from non-metropolitan areas. Reichert and Rudzitis believed this might have been because these migrants were already used to low wages, and that many of them had moved from nearby locations so their family and friends may have influenced their decision. On the whole, the parameter estimates were much larger and relatively much more significant for wages than for rents. Rent levels had the most influence on low-income and non-metropolitan migrants.

One problem with measuring how much people are willing to pay for certain amenities is that these are generally not goods that can be "traded in a visible market" (Gyourko, 1991). Since there is no explicit price for these types of goods, the implicit price must be observed.

> Assume you are considering moving into either Community A or Community B. These communities are alike in all respects except that Community A tends to experience one more day of sunshine per year than Community B. Because sunshine is something you like, you are willing to pay some positive dollar amount for more of it. For example, if you are willing to pay $100 more to move into Community A, then that is the price of the added sunshine you expect to enjoy in Community A. Because the added sunshine is the only difference between the two communities, your willingness to pay the extra $100 must be due to the sunshine differential. (Gyourko, 1991)

Gyourko also pointed out that for this to be the true implicit price, it must be determined by the marginal entrant.

Much of the literature developed using the Rosen/Roback models created quality of life indices to measure the value individuals place on a region's amenities relative to a

hypothetical city (Blomquist et al., 1988; Gyourko & Tracy, 1991). Data is gathered for each city in the study including some form of average wage data, housing values, a number of measurable amenities, and other relevant variables (e.g. government services, the unemployment rate, etc.). The implicit prices of the amenities and other variables are then obtained through so-called hedonic wage and rent regressions. The full implicit prices of the amenities are then calculated by subtracting the annualized amenity values obtained through the hedonic wage regression from those acquired using the hedonic rent regression. As mentioned above amenities tend to have a positive effect on land prices and a negative effect on wages. A disamenity will have the opposite affect on wages and land values. By subtracting the wage impact from the land impact the positive or negative full price for the amenity is obtained. The full implicit amenity prices are then weighted by the respective amenity quantities in each city and added together to compute a quality of life index. The index is standardized on a hypothetical city possessing the average variable measures of all the SMSAs used in the study. Thus, the index values reflect the dollar amount that individuals would be willing to pay through wages and/or land rents, to live in any given city relative to the hypothetical city (Gyourko & Tracy, 1991). Gyourko and Tracy (1991) and Blomquist et al. (1988) found that for many amenities, "the full price largely reflects capitalization in the labor rather than in the land market" (Gyourko & Tracy, 1991).

The amenity values are calculated with the assumptions that the value of a region's amenities is captured in its wages and rents, and that the regions are in equilibrium at any given time. If these two assumptions do not hold true, current interregional wage and rent differentials will not represent compensating differentials,

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thus biasing the implicit amenity values. For the equilibrium assumption to hold, markets are assumed to adjust quickly, firms and households must be mobile enough to take advantage of any interregional wage and/or rent differentials that represent an opportunity for economic gain (Greenwood et al., 1991). As discussed above, Von Reichert and Sylvester (1998), and Von Reichert (2002) found that family was the top reason for moving for both new and return migrants. This, in addition to many migrants returning to an area in which they previously lived, suggested that Americans get attached to certain areas and might not be as mobile and willing to instantly move for a better opportunity as previous studies assumed (Von Reichert, 2002).

Once the quality of life index values are obtained, the cities are ranked. The range allows one to compare the additional dollar amount, per year, that an entrant would be willing to pay to live in the top ranked city relative to the bottom ranked city. Gyourko and Tracy (1991) also looked at the interquartile range, allowing them to compare the additional amount an entrant would be willing to pay to live in a city ranked in say the 25th percentile versus the 75th percentile. However, due to omitted variable bias, the estimation errors were so large that one "can confidently differentiate among qualities of life only when comparing the top-ranked cities to the lowest ranked cities" (Gyourko, 1991). The omitted variables are amenities such as cultural and recreational opportunities, for which a value had yet to be captured (Gyourko, 1991).

Greenwood, Hunt, Rickman, and Treyz (1991) tested the validity of the regional equilibrium assumption when calculating compensating differentials. In this study the equilibrium income value of each area was estimated relative to elsewhere in the United States. Accounting for amenities, the equilibrium income value represented the point at

which there was no net migration. A relative income value of less than equilibrium implied that an area still possessed amenities that appealed to individuals enough to convince them to accept lower wages and/or pay higher land rents in order to consume them. A relative income value greater than equilibrium implied the area had fewer "attractive characteristics," and individuals would require compensation in the form of higher wages and/or lower land rents to reside there. The study found that out of fifty-one areas tested only one was in equilibrium. The extent of the "disequilibrium by state" was measured by calculating the difference between the state's relative real after-tax income and its point-estimated equilibrium relative income value (Greenwood et al., 1991). The authors also claimed that in amenity-rich states "amenity valuations based on the assumption of regional equilibrium will overstate (understate) the compensating differential when the actual relative income value is less (more) than the estimated equilibrium relative income value," and visa versa for amenity-poor states (Greenwood et al., 1991). The reason overvaluation occurs in an amenity-rich area is because, *ceteris paribus*, if the actual relative income is less than the equilibrium value, people will be expected to move out of the area until wages are bid up and land rents fall enough to bring relative income up to the equilibrium point (Greenwood et al., 1991). Most states were found to have understated compensating differentials, but only a few areas were shown to contain this problem at a statistically significant level.

Peter Brady (1995) examined the validity of using current interregional wage and rent differentials as equilibrium compensating differentials. In order to do this he incorporated the Rosen/Roback model into a migration model. According to Brady, in the Rosen/Roback models amenities may attract migrants, but the level of local wages

and rents determines their actual movements. He argued that movements should be determined by the differences that exist between the actual level of wages and rents and the wage and rent values that the migrant would be willing to pay for the amenities that he/she gets at the new location. Consequently, according to Brady, migrants would move for amenities only when they are priced below their market value.

In order to test how close current wage and rent values were to equilibrium values Brady ran hedonic wage and rent regressions. The difference between the actual values and the equilibrium values was represented by the residuals from the equations. Brady then used these residuals in a conditional logit model to predict location decisions. The migration model assumes that individuals will choose the metropolitan area that gives them the highest level of utility, which should be the areas with higher than predicted wages and lower than predicted rents. The migration data was obtained from the National Longitudinal Study of Youth (NLSY), which consists of individuals ranging in age from 14 to 21 in Standard Metropolitan Statistical Areas (SMSAs). To be included in the study the individual had to live in one of the 185 SMSAs for which Brady had data for wages and rents. Brady then removed any respondent who was "less than 18 years of age, was enrolled in school, was in the armed forces or living in military housing, and was not living in their own dwelling unit" (Brady, 1995). His exclusions were made to ensure that he was studying individuals who were making location decisions on their own, without influence from parents or the military.

Brady's results showed that individuals tend to locate in regions with higher than predicted wages, which was consistent with the model. However, the study also showed that individuals are more likely to locate in areas with higher than predicted rents, which

was inconsistent with the model. The data did not support the theory that current wage and rent values represent compensating differentials. Brady gave two possible explanations for the results. These residuals could measure the effect of an omitted amenity. The other explanation offered was that regions were in equilibrium, but the hedonic regression was misspecified.

David Figlio (1996) created a cost of living index that controlled for measurable amenities. He argued that this was a better method of comparing living costs across cities than cost of living indices that do not take amenities into account. A more precise cost of living measurement could affect academic research as well as public policy.

> Differences in the cost of living may influence academic research findings on a variety of topics from the distribution of income to estimating the returns to education, among others, since the dollar values compared may really be denominated in different units. And cost of living differences may have public policy implications for determining, for instance, Federal government salaries or transfer payments in different cities, in addition to setting income taxation policy that holds for different parts of the country. (Figlio, 1996)

According to Figlio (1996), the amenity controlled cost of living index also allows for the comparison of different wages across the country.

The first thing Figlio did was to regress the natural log of the American Chamber of Commerce Research Association's (ACCRA) cost of living index on fourteen amenities. These fourteen amenities accounted for over eighty-six percent of the variation in living costs. Included in the list of amenities were a recreation score and a cultural score from the *Places Rated Almanac*. The recreation score is "a composite of variables representing a MSA's availability of (or proximity to) coastline, public recreation land, good restaurants per capita, golf courses per capita, movie theaters per capita, zoos, aquaria, family theme parks, professional and college sports seats per capita,

and pari-mutuel betting. The score (was) weighted heavily in favor of the outdoor recreation activities" (Figlio, 1996). The cultural score was the same as the recreation score, rating instead the "MSA's availability of (or proximity to) a lively arts calendar, art museums and galleries, and public libraries" (Figlio, 1996). Both variables had a positive sign and were significant.

Figlio then constructed a cost of living index based on the variable representing the part of living costs not explained by amenities or economic fluctuations (e.g. the unemployment rate). He determined that some cities originally thought to be expensive were much more reasonable once amenities were factored in. Figlio's paper showed that even after controlling for inter-city amenity differences, substantial cost of living differentials still existed. However, he admitted that his paper contained potential problems. First of all, Figlio argued that the American Chamber of Commerce Research Association cost-of-living index could contain flaws. He also acknowledged that part of the reason the inter-city cost of living differentials may not have disappeared once amenities were taken into account could have been due to omitted variable bias.

One problem with most studies is that they have focused only on "relatively populous areas (SMSAs or larger counties)" due to limitations with data (Graves et al., 1999). However, due to variables that are difficult to measure quantitatively (e.g. outdoor recreation, family and friends, etc.), even focusing on populous areas has not solved the data limitation problem. Since previous studies have relied on regression analysis to obtain implicit amenity values, they have also had to deal with questionable assumptions such as that all regions were in equilibrium. Because I am using a direct

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estimation technique to value the amenities of Missoula, this study will be able to avoid these potential forms of bias.

For variables that are not directly measurable, the contingent valuation method may be the only way to determine their value, which may be "essential for sound policy" (Hanemann, 1994). Michael Hanemann (1994) argues that while it is possible for researchers to capture some effects of a change in a non-marketable good through hedonic regression analysis, people "may also value those items in ways not reflected in wages or property values."

The National Oceanic and Atmospheric Association (NOAA) put together a panel to determine the best way to obtain reliable results using the contingent valuation methodology. "The NOAA Panel recommended in-person interviews for their superior reliability" when conducting contingent valuation surveys (Hanemann, 1994). The panel also suggested that the surveys should take place in a comfortable setting for the individual, such as their home, so that they can give an honest and well thought out response. In addition to these methods, the best way to get an accurate value is to present the interviewee with a realistic situation (Hanemann, 1994). "The emerging consensus of skeptics and practitioners (is) that CV studies are able to measure meaningful values for "familiar" goods..." (Mitchell & Carson, 1989).

There are many studies that have compared contingent valuation results to those obtained through indirect methods. This is possible when the contingent valuation is being used to measure direct use values (Hanemann, 1994). Hanemann referenced Carson et al., 1994a, stating that in general the contingent valuation results were slightly lower than and highly correlated with the indirect estimates. Hanemann went on to

review several of these previous comparison studies finding many results favorable to the contingent valuation methodology.

Priya Shyamsundar and Randall Kramer (1996) used the willingness to accept format of the contingent valuation methodology to estimate the loss to villagers as a result of being denied access to the Mantadia National Park in Madagascar. The villagers who lived in close proximity to the park used the land for economic activities such as agriculture and forest products. The researchers used a closed-ended dichotomous choice version of willingness to accept because they felt that it would be easier for the villagers to respond to the question, and to make sure that they kept a budget constraint in mind. However, Shyamsundar and Kramer admit that by doing this they are not observing the true valuation function because the interviewees did not provide a value. To estimate the valuation function, the authors regressed the yes/no responses on some of the socioeconomic variables that were obtained from the villagers.

DATA

A random sample of 500 individuals, ages eighteen and over, were surveyed in person at their homes in the Missoula urban area by predetermined geographic boundaries using the willingness to accept version of the contingent valuation methodology. Five hundred was determined to be the maximum sample size for which I had resources to gather data for the basic purpose of quantifying the comparative value of Missoula's amenities. Missoula neighborhood council districts represented the geographic boundaries, and the number of people surveyed in each area depended upon the population within that district.[1] Each surveyor was given a map of one of the

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[1] Missoula area geographic boundaries and population within the boundaries was obtained from Missoula County Office of Planning and Grants

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neighborhood council districts from which he/she would randomly pick starting points. From each starting point he/she would proceed in a predetermined direction until someone was home, then the surveyor would go on to another starting point. To ensure a random sample of adults, surveyors were instructed not to survey until after 5:00 p.m. during the weekdays, and anytime Saturday and Sunday. Occasionally the maps were redistributed in order to avoid surveyor bias in an area.

The survey respondent was first given a brief introduction explaining that they would be asked to compare Missoula to other locations as a place to live and work, and that to do so they would have to consider living somewhere other than Missoula. A survey is included in the appendix. Thirty comparison cities were chosen so that they were distributed as evenly as possible across the continental United States by population and geographic location. See Table 6 for a list of the comparison cities. A tradeoff had to be made when choosing the number of comparison cities. I wanted to generalize the results by comparing Missoula to the United States, which would not be possible if the city selections were biased as a result of population or location. The list had to be large and diverse to avoid these potential forms of bias. A larger list of cities meant fewer respondents per city, so any statistical test involving individual cities would be subject to larger confidence intervals.

Each questionnaire contained a specific comparison city, and the distribution process was set up to obtain an approximately equal number of interviews for each comparison city. The respondent was also furnished with a sheet of information on Missoula and the predetermined comparison city (e.g. population, housing costs, cost of living, etc.). On the back of the sheet containing information about Missoula and the

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comparison city was a list of amenities. To obtain the amenities for this study, amenity lists from previous studies were observed to see what were used and determine what was missing. The chosen amenities were then defined, and additional ones generated during group discussions among the surveyors.

The interviewee was first asked how much more or less take-home income he/she would require to move to the comparison city, assuming moving costs would be covered. See the attached survey in the appendix for the definition of take-home income. The respondent was allowed to list this figure as a weekly, bi-monthly, monthly, or annual value, but the final figures were all converted to annual values. This figure represented the respondent's differential value of Missoula's amenity bundle. Consider a respondent requiring additional income: Such a respondent would choose up to four amenities from the provided list that would be most influential in making them require additional income to move to the specified city. The individual was then asked to apportion the total differential value (i.e. value he/she placed on Missoula's amenity bundle) among the chosen amenities. If there was any money left over it was placed in "all other reasons." The values placed on the chosen amenities represented the differential values of the amenities. Next, the respondent was asked to list any amenities that he/she preferred about the comparison city over Missoula. Assuming the individual listed some disamenities, he/she was asked to consider each one alone and place a value on it. The entire process was just the opposite for those who would accept less take-home income in order to move to the specified city. The final portion of the survey consisted of socioeconomic data gathered for regressions to analyze the affect that an individual's characteristics had on amenity values.

Most studies valuing non-marketable goods through contingent valuation have only done so with one good. Many of them used a dichotomous closed-ended willingness to pay method if possible for fear of strategic responses and because it is often believed that this type of question is easier to answer than an open-ended question. However, as Shyamsundar and Kramer (1996) stated, by using a closed-ended approach researchers do not observe the true valuation function because the interviewees do not provide a value. This study used an open-ended willingness to accept form of the contingent valuation methodology to gather data; however, it accomplished more than the typical contingent valuation studies by valuing up to 4 amenities per interviewee. To do this a specific number was required from each interviewee, which could not be acquired using dichotomous choice. The question of how much one would require to move is a question that people have and continue to answer in real life, and there was no incentive for respondents to give strategic responses.

As discussed in the literature review, previous studies have obtained amenity values by estimating the implicit wage and land rent values associated with an amenity and then subtracting the wage value from the rent value. Cost of living, an amenity, includes housing costs, which in part reflect land rents. When individuals were surveyed, both cost of living and housing values were included in the information furnished to interviewees to compare Missoula to the comparison city. Therefore, when respondents listed the amount of take-home income that they would require to move from Missoula to one of the comparison cities, one would expect them to have taken housing price differentials into account. Because of this the total differential value reflects the total comparative value of all amenities, including land rent costs. As discussed in the

literature review, Gyourko and Tracy (1991) and Blomquist et al. (1988) found that the prices of many amenities were reflected in wages rather than housing values. And the parameter estimates for wages were generally much larger and more significant than the rent parameters in Von Reichert and Rudzitis's (1994) paper, which tested the "relative role of rents and wages on the destination choice of migrants in and out of the labor force." These results provide further justification for focusing on wage differentials.

As was mentioned in the preceding paragraph, studies using hedonistic regression analysis obtain the full implicit price for an amenity (A) by subtracting the amenity's implicit wage value (W) from its rent value (R), so $A = R - W$. In this study rents are captured by "cost of living," which was included in the bundle of amenities. So the rent variable was moved to the other side of the equation and the result: $W = (R - A)$. So ceteris paribus, an improvement in either amenities or rents will affect the wage variable (i.e. individuals' total differential values, because the wage values listed in this study reflect the total comparative value of all amenities) in the same way. Some may argue that wages were represented on both sides of the equation since "job opportunities" was included in the bundle of amenities. However, this was unlikely. Per-capita income values were included in the data on Missoula and the comparison city given to interviewees at the time of the survey. Therefore, the respondent would hopefully have taken income differentials into account when listing his/her total differential value. So if a respondent valued "job opportunities" as an amenity, he/she most likely would have been valuing non-wage characteristics about their current or prospective job.

RESULTS AND ANALYSIS

Missoula has a negative "average wage per job" (Bureau of Economic Analysis, 2001) differential of $5,577, relative to the thirty comparison cities used in this study. However, 85 percent of the individuals surveyed would still require additional income to move to one of the comparison cities. For all individuals surveyed, the mean of this required income was $19,850. The two most frequently cited reasons for not wanting to leave Missoula were "family and friends" and "outdoor recreation." Some of these individuals had very strong preferences for the Missoula area and its amenities, which resulted in most of the amenity distributions being skewed to the right, i.e. the area of the tail on the right was greater than the area of the tail on the left. However, there was no reason to believe the outliers were invalid. The people who listed these values were most likely comfortable with their income level and thoroughly enjoy the Missoula area. Also, there was no incentive for the individuals to give a strategic response to the question of how much they would require to move from Missoula to one of the comparison cities.

AGGREGATED RESULTS

As discussed in the literature review, each city possesses a fixed bundle of amenities. When an individual chooses a location, they are essentially choosing one amenity bundle over others. One of the primary goals of this paper was to determine the value local individuals place on Missoula's amenity bundle, relative to elsewhere. Both the mean and median differential values of Missoula's amenity bundle were obtained by combining the positive and negative values that individuals said they would require to move from Missoula. See Table 1 for these mean and median differential values. Individuals were also divided into two groups, those who preferred Missoula and those

who preferred the comparison cities. Four hundred twenty six out of the 500 respondents (85 percent) preferred Missoula to the comparison cities. The remaining 74 interviewees (15 percent) preferred the comparison cities. Observing the two groups separately facilitated the understanding of individuals' migration patterns. Mean and median differential values of Missoula's amenity bundle were then calculated for individuals in each group. Table 2 displays the group mean and median differential values of Missoula's amenity bundle. The mean and median differential values are important for different reasons. Since the outliers are valid, the mean differential value lets us see the value that the average Missoulian places on the local amenity bundle. However, as has been pointed out, small groups of passionate individuals can pull mean values to the right or left. Median values are not affected by outliers and may be more representative of the typical individual, unless the distribution is very spread out.

While individuals placed an average of $19,850 on Missoula's amenity bundle relative to elsewhere in the United States, the median differential value of the amenity bundle was $11,700. The distribution of values for Missoula's amenity bundle can be seen in Graph 1. The 85 percent of individuals who preferred Missoula placed a mean differential value of $24,590 on the amenity bundle, while those who preferred the comparison cities valued it at -$7,470. Graph 2 displays the distribution of values placed on Missoula's amenity bundle by the group of individuals preferring Missoula, while Graph 3 does the same for the respondents who preferred the comparison cities. The median differential values for the two groups were $13,200, and -$6,050, respectively. As is evident in the numbers and the graphs, the means are being pulled to the right, and the medians seem to better describe the typical Missoulian. In reality the mean

differential values for the aggregate and for those who preferred Missoula may actually

be even further right because approximately twenty individuals, many of whom were

retired, would not participate for the reason that there was no amount of money they

could be paid that would convince them to move from Missoula. These implicit high

values were not included in the reported results because respondents did not quantify

their evaluations.

DISAGGREGATED RESULTS

To calculate the mean differential values of individual amenities and disamenities

all of the positive and negative values were combined for each variable. Column 3 of

Table 1 shows these values. The percentage of individuals who listed a variable as

important was also calculated for each amenity and disamenity. Column 4 of Table 1

displays these percentages. Next the conditional means, medians, and standard

deviations were calculated. These values are conditional because they were calculated

using only the data of individuals who listed a variable as important. The interviewee

was only allowed to list his/her top four amenities, so the values that did not equal zero

are in the conditional residual. Column 5 of Table 1 shows the conditional medians for

each amenity and disamenity, Column 6 contains the conditional means, and Column 7

presents the conditional standard deviations. The conditional values were computed in

order to observe the variance of individual amenities and disamenities. Conditional

values were necessary for this task, because otherwise the zeros from the individuals who

did not list a variable as important interfered with the calculations. For example, in our

sample the median would always equal zero. The majority of respondents often did not

list many of the particular amenities due to the fact that there were such a variety of amenities that he/she could list in the top four.

Table 2 presents the amenity values for individuals who preferred Missoula, and those who preferred the comparison cities. In addition to finding the mean differential values, the mean percentage of the total differential that individuals apportioned to each amenity and disamenity was also calculated for the two groups of respondents. See Columns 3 and 6 for the mean differential values placed on each amenity and disamenity by the two groups of individuals. Columns 2 and 5 show the mean percentages of the total differential that respondents from each group placed on particular amenities. Observing the percentage of the total differential apportioned to each amenity allowed for a more precise look at which amenities were most important to individuals in each group. This method is more precise because the percentages allow the comparison of the values placed on particular amenities without the influences of very large numbers.

The highest valued local amenity was "outdoor recreation," receiving a mean differential value of $3,836 from the 47.2 percent of the total sample who listed it as important. The survey attached to the end of the appendix contains definitions of the amenities. "Family and friends" was just behind with a value of $3,806, but was listed as important by 58.4 percent of respondents. "Quality of people" and "scenery" came in third and fourth with values of $1,793 and $1,626 by 28.2 and 33 percent of all respondents, respectively. The most intriguing thing about the top four amenities is that they have all been excluded in previous studies, with small exceptions. Previous literature has included a dichotomous "coast" variable, measuring whether or not a city bordered a major body of water such as an ocean or one of the Great Lakes; Figlio (1996)

also included access to public recreation land. These variables may have served as somewhat of a proxy for "scenery" and "outdoor recreation." Only "job opportunities," "entertainment" and "cultural events" were disamenities for the Missoula area. "Job opportunities" was valued at -$212 with 28.4 percent of respondents listing it as influential in their decision of how much they would require to move. An average value of -$35 was placed on "entertainment" by 31.4 percent of the individuals surveyed. "Cultural events" received a mean differential value of -$23, for the 13.4 percent of respondents labeling it as important.

The conditional means, medians, and standard deviations imply that the mean differential values do not do a satisfactory job of capturing the values of the typical Missoulian. As was the case with the amenity bundles, the amenity distributions are skewed to the right and the median seems to be more representative of the typical Missoulian. For example, "outdoor recreation" had a conditional mean of $8,128, and a median of $3,000. Graph 4 shows the distribution for this amenity. "Family and friends" had a conditional median of $4,013, and a conditional mean of $6,517. This distribution can be seen in Graph 5. Nevertheless, many of the mean amenity values may still be undervalued. The "all other reasons" variable had a mean value of $986, which was 4.97 percent of the total differential. For example, "outdoor recreation" was likely included in this residual by the 50 percent of respondents who did not list it in their top four amenities. And the values that would have been placed on "outdoor recreation" by those who could not be paid enough to leave Missoula were not included in this mean value.

Turning now to those who preferred Missoula to the comparison cities, "family and friends" and "outdoor recreation" were by far the most important amenities. "Family

and friends" was listed as important by 61.7 percent of the individuals in this group, who placed an average of 22.73 percent of their total differential value on it. The mean differential value for this variable was $4,510. Forty-nine percent of those who preferred Missoula placed an average of 13.28 percent of their total differential and a mean differential value of $4,520 on "outdoor recreation." "Job opportunities" was the only disamenity for this group of interviewees, receiving a mean differential value of only -$34. This variable was listed as important by 24.2 percent of respondents preferring Missoula, but they placed an average of only 1.63 percent of their total differential on it.

There were three disamenities that stood out above the rest for those who preferred the comparison cities to Missoula. "Job opportunities" was the most frequently cited disamenity, with 55.4 percent of the individuals in this group listing it as influential in their moving decision. "Job opportunities" received a mean differential value of -$1,232, and an average of 18.9 percent of the total differential. The other two disamenities receiving considerable attention from those who preferred the comparison cities were "entertainment" and "climate." On average, individuals who listed these two variables as important placed 16.55 and 12.7 percent of their total differential values on them, respectively. The differential values for these two variables were relatively high, with "entertainment" receiving a value of -$1,271 and "climate" a value of -$1,179. "Scenery" and "crime" both received positive values from respondents preferring the comparison cities. Almost 42 percent of the individuals in this group listed "scenery" as important, while only 14.9 percent did the same for "crime."

Graphs 6 and 7 illustrated differences in amenity preference patterns between those who would require additional income to leave Missoula and those who would

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accept less income. Graph 6 shows the percentage of respondents who placed positive values on particular amenities. The red bars in back represent respondents preferring Missoula, and the blue bars in front represent the respondents preferring the comparison cities. Graph 7 is set up similarly, showing the percentages of respondents who placed negative values on the amenities. The only difference in the way the graphs are set up is that on Graph 7 the red bars representing the individuals who preferred Missoula are in front.

With respect to individuals listing positive values for amenities, both groups appear to roughly agree on the relative importance of "family and friends" and "outdoor recreation." With the exception of those two amenities, the preference patterns were quite different. Individuals who preferred the comparison cities did not appear to be as concerned about population density as the group that chose Missoula. The respondents preferring Missoula felt that Missoula's quality of people was relatively more important than did those who preferred the comparison cities. "Climate" was another amenity that individuals who would require additional income to leave felt stronger about as a positive attribute for the Missoula area. There are also six amenities that were not labeled as important by the group of respondents preferring the comparison cities, that did receive some attention from respondents who chose Missoula.

Respondents from both groups agreed that Missoula's top three disamenities were "entertainment," "job opportunities," and "climate." The interviewees who preferred the comparison cities seemed less pleased with Missoula's "scenery" and its recreational opportunities than did the individuals preferring Missoula. The individuals who would require additional income to leave Missoula did not appear to have as many family and

friends elsewhere as the other group of interviewees. "Population density" and "quality of people" received no negative values from individuals preferring Missoula, but were labeled as disamenities by 8 percent of respondents preferring the comparison cities.

AMENITY GROUPS

For the total sample, amenities with similar characteristics were grouped together and their mean differential values were averaged for each amenity group. The same was done for the group of individuals who would require additional income to leave Missoula and those who would accept less. Table 3 displays the amenities contained in each group, and the mean differential values just described. The results of the amenity groupings provided easier understanding and interpretation than individual amenity results. Amenities that are subject to public policy decisions are an example.

The rankings of the amenity groups for the aggregate category were identical to the rankings for individuals who preferred Missoula. As might be expected, the only dissimilarity was that the differential values were higher for the group preferring Missoula. "Active" amenities ranked first with an aggregate mean differential value of $2,151, and a value of $2,573 for those who would require additional income to leave Missoula. The "people" amenities group was second with an aggregate differential value of $1,467, and a group differential of $1,739. "Passive" amenities received a negative aggregate value of -$29, but remained positive for respondents preferring Missoula.

The group of individuals preferring the comparison cities to Missoula had a different set of rankings for the types of variables that would be most influential in their decision to move. "Passive" amenities ranked first on their list of Missoula's disamenities with a mean differential value of -$808. "Natural" amenities came in

second on the list with a value of -$378. "Policy" amenities proved to be relatively unimportant among Missoulians. The rankings for this group of amenities were second to last in all three categories of individuals. "Policy" amenities were those dealing with infrastructure that could be directly altered through public policy decisions. The reason that amenities such as "outdoor recreation" and "scenery" were not included in this group is that the government cannot create these types of amenities; they can only choose whether or not to protect them.

ANALYSIS OF RESULTS

Researchers as well as the public have been interested in city rankings for quite some time. As discussed earlier, previous studies have incorporated amenities into quality of life indices (Rosen, 1979; Roback, 1982; Blomquist et al., 1988; Gyourko & Tracy, 1991) or a cost of living index (Figlio, 1996) in order to rank cities. These researchers were interested in the variation of quality of life or cost of living across regions, and in how the different areas compared to one another. People are also curious about how cities rank in relation to these categories. For instance, individuals may want to be well informed when making a decision to move.

Before ranking the thirty comparison cities, the Kruskal-Wallis (KW) test was performed to ensure the variation of differential values among the cities was significantly greater than within them. If this were not the case ranking the cities would make little sense; they would all be essentially the same when compared to Missoula. The Kruskal-Wallis test is the nonparametric equivalent to the ANOVA. The primary difference between the two is that the KW test compares population medians as opposed to means. Medians were chosen because, as was mentioned earlier, they appear to capture the

values of the typical Missoulian better. The null hypothesis for the KW test was that values from the different cities were not significantly different from each other. The test statistic, H, was 375069668, which was far greater than the chi-critical statistic, 42.5569. Therefore, I rejected the null hypothesis.

Mean and median differential values were used to rank the thirty comparison cities. Column 2 of Table 4 presents the rankings of the cities using median differential values, and Column 3 displays the city rankings using mean values. Between 15 and 18 individuals were surveyed per city. When an individual placed a value on Missoula's amenity bundle, he/she did so relative to one of the comparison cities. The more the individual said he/she would require to move, the less the city was liked when compared to Missoula. Therefore, the city with the lowest average total differential was ranked first. The rankings in this study were also compared with those in previous studies using cities that this paper and the comparison study had in common. To do this I attempted to use variables from my study as proxies for the variables in two other studies (Blomquist et al. 1988, and Gyourko & Tracy 1991). For example, in Blomquist et al. (1988), the authors used several variables (e.g. precipitation, sunshine, etc.) for which I was able to substitute "climate" from this study. Table 5 contains a list of substituted variables. Substitutions were made for as many variables as possible, and then the cities were ranked using the proxied variables from a particular study. Columns 4 and 6 of Table 4 display the city rankings from the studies of the authors listed. Columns 5 and 7 of Table 4 contain the city rankings obtained with data from my study by using the proxied variables.

Comparing the rankings from earlier papers to those obtained using my methodology with the substituted variables, i.e. Column 4 compared with Column 5 and Column 6 with Column 7, tested for differences in methodology. Next, one may compare the rankings that used the substituted variables (Columns 5 and 7) to the city rankings containing all the variables from this study (Column 2) to test for the effect of the amenities that had been omitted. None of the rankings matched up, which could be the result of several factors. It is possible that the rankings from previous studies were biased due to non-equilibrium between the regions they studied, an inherent problem with earlier methodology. In the test for differences in methodologies, the dissimilarities could also reflect the differences in preference patterns that may exist between Missoulians and the rest of the United States in the aggregate. When comparing the rankings from previous studies to those using the substituted variables, part of the difference could be due to the variables that I was not able to proxy, shown in the last row of Table 5.

To avoid biased results, previous amenity researchers have had to assume that equilibrium existed between the regions they were studying. The direct estimation technique used in this study avoided the equilibrium assumption. Testing the equilibrium hypothesis for Missoula and the thirty comparison cities provided a test of validity of this hedonic regression assumption. Testing the equilibrium hypothesis also allowed for the prediction of future migration trends when an area was not in equilibrium.

The equilibrium test involved testing whether a city's wage differential value was within the 95 percent confidence interval of Missoula's mean and median total differential values, which were calculated without the "family and friends" variable. The

wage differential values were calculated by subtracting Missoula's "average wage per job" (Bureau of Economic Analysis, 2001) figure from the one obtained for each city. Column 6 of Table 6 lists these differential values for each comparison city. Columns 3 and 5 of Table 6 contain the median and mean confidence intervals, in that order. As was mentioned in the data section, the confidence intervals are very wide due to the small number of respondents per city. Columns 2 and 4 present the median and mean differential values without "family and friends" for each comparison city, respectively. If the wage differential was within the confidence interval then Missoula and the comparison city were approximately in equilibrium. The mean and median values for this test were calculated without the "family and friends" variable because an asymmetry in influential variables exists between those who would move to Missoula and those who would leave Missoula. "Family and friends" is a variable that is unique to the individuals living in the area being tested. The availability of family and friends in Missoula is not likely to affect the typical non-Missoulian's decision to move to the region. "Family and friends," which would be left behind by moving, would likely have a sizeable impact on many Missoulians' decision to leave the area. Graph 6 shows that a relatively large number of individuals from both groups listed "family and friends" as a positive amenity for the Missoula area. Graph 7 confirms that "family and friends" was also a relatively important factor in attracting respondents to the comparison cities. Therefore, if Missoula was not in equilibrium with a city, the mean and median values without "family and friends" would probably give a better idea of how much wages would have to adjust to make the two roughly equal.

The equilibrium hypothesis for Missoula cannot be rejected. See Column 6 of Table 6 for the results of the equilibrium test. The wage differentials of all but five cities were within one or both of the confidence intervals. Of the five cities that were not in equilibrium, four had wage differentials that fell below the confidence interval.

REGRESSIONS

The amenity values were regressed on the socioeconomic variables using the total differential values and the amenity group differentials as dependant variables. I estimated these regressions separately for the total sample, those preferring Missoula, and those preferring the comparison cities. Amenity group differentials were used instead of individual amenity values because they made the interpretations more comprehensible by allowing the effects that socioeconomic variables had on certain types of amenities to be observed. The regression information is important for several reasons. It can help develop a better understanding of leisure behavior. It can also guide the marketing efforts of certain companies, or even assist civic boosters with their efforts. This data is unique since this specific information is not available elsewhere. Table 7 shows significant regression results for all individuals surveyed. Tables 8 and 9 respectively give significant results for those who preferred Missoula and those who preferred the comparison cities.

The aggregate results and the results for individuals requiring additional income to leave Missoula were quite similar. Tables 7 and 8 show that, both the significant variables, and the relative size of the coefficients were very much alike. Tables 7, 8, and 9 provide definitions of the socioeconomic variables. "Age" was significant in every regression, both aggregate and for the individuals preferring Missoula. The older the

respondent, the higher the value he/she placed on the amenities; however, the size of the coefficient was usually relatively small. "Enroll," "workhrs," and "howlong" were frequently significant for both groups. The first two of these variables had a positive sign, and "howlong" had a negative sign. Newcomers seem to value local amenities more than longtime residents, suggesting that amenities influence their move to Missoula. Of all the variables that were always or usually significant, "enroll" had the largest effect. If the respondent was enrolled in the University of Montana at the time of the survey, he/she tended to place a relatively high value on the local amenities. The number of hours an individual worked tended to have a positive, but relatively small effect on the price he/she placed on different amenities.

There were very few significant variables in the regressions for respondents preferring the comparison cities. "Howlong" and "sex" were the only two socioeconomic variables that showed up as significant more than once. The signs on "howlong" remained negative, and the coefficients were still relatively small. Females preferring the comparison cities tended to place more value on "people" amenities than did the males, while the males placed a higher value on "active" amenities.

SUMMARY AND CONCLUSIONS

The direct estimation technique used in this paper yielded unique amenity data. I was able to find the differential values of amenities that up until this point had been unobtainable using hedonistic regression analysis. Computing variances of the amenity bundle and the individual amenities allowed testing of the ability of the measures of central tendency to capture the values of the typical individual. Amenity values were regressed on socioeconomic variables to provide information on the affect that an

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individual's characteristics had on the values he/she placed on particular amenities. And the equilibrium assumption, which was crucial in previous econometric studies, was not only avoided but its validity was tested for Missoula.

Most Missoulians are passionate about their city and its amenities. The mean differential value of Missoula's amenity bundle for the study's 500 interviewees was $19,850; the median was $11,700. The excess of the mean differential over the median reflected the particularly strong preferences of some Missoulians for these amenities. It also indicated the median as the better measure of the valuation of the typical resident. According to the 2000 Census, Missoula's mean household earnings were $36,901, and its median household income was $30,366. The mean differential value placed on Missoula's amenity bundle accounted for 54 percent of households' mean earnings, while the median amenity bundle differential was 39 percent of the Missoula's median household income value.

The socioeconomic variables obtained in this study were compared to the characteristics of the Missoula area as indicated by the 2000 Census. The average age in this study was 33 and the median age was 30; the median age for the Missoula area was 33. The Missoula area was 50 percent male, and 47.4 percent of households contained married couples. This study was made up of 56.8 percent male respondents, and 45.8 of the interviewees were married. Also, 24.8 percent of respondents were enrolled in the University of Montana, compared to 22.4 percent of individuals over 18 years of age in Missoula. Ninety-six percent of individuals were employed both in my study and the Missoula area. Overall the socioeconomic variables from this study were similar with the characteristics of Missoula. If a characteristic was discovered that varied a great deal

between this study and Missoula, it could be plugged into the regressions to see how it would affect the amenity values.

People often give government a great deal of credit for being able to affect individual well-being, either positively or negatively. According to this study, politicians may not have much of a direct influence on individual well-being. When variables with similar characteristics were grouped together and their differential values averaged, "policy" amenities were those dealing with infrastructure that could be directly altered through public policy decisions. "Policy" amenities ranked fourth out of five amenity groups. This was also the case for those who would require additional income to leave Missoula and those who would accept less income to move.

It was once believed that an individual's quality of life depended mostly on his/her financial situation. The data in this paper indicated that this is not the case. The highest valued amenities, "family and friends," "outdoor recreation," "quality of people," and "scenery," had little to do with financial well-being. It is noteworthy that the top four amenities had been largely omitted in previous studies. The fact that these amenities were so important and had been absent in previous studies confirms the omitted variable bias fears of previous authors.

In addition to omitted variable bias, researchers using hedonistic regression analysis to value amenities have feared bias attributable to the nonexistence of equilibrium between the regions being studied. The equilibrium hypothesis was tested for Missoula and the thirty comparison cities and could not be rejected. Twenty-five out of the thirty comparison cities were not demonstratably in disequilibrium with Missoula. The wide confidence intervals that resulted from a small number of interviewees per city

may have led to the failure of the null hypothesis to be rejected, when in reality it might have been rejected had there been a larger sample size. This leaves room for an additional study to be done with more respondents. Four out of the five cities that were not in approximate equilibrium with Missoula had wage differentials that were below the confidence interval. As Table 6 shows, for 22 of the 30 cities the median amenity differential excluding "family and friends" exceeded the wage differential, and the mean amenity differential net of "family and friends" exceeded the wage differential for 26 of the 30 cities. This evidence suggests that Missoula's amenities may be undervalued relative to some cities and, as a result, the area may experience some in-migration.

The fact that politicians may have little direct effect on individual well-being does not mean that they cannot affect it indirectly. According to Power and Barrett (2001) many residents of the Mountain West perceive state and federal policies intended to protect the environment as a bad thing. Such policies are thought to affect the profits of local natural resource industries, believed by many to be the source of good, high wage jobs. Forty-seven percent of the individuals surveyed listed "outdoor recreation" as important, placing an average value of $3,836 on it. The mean differential value placed on "scenery" was $1,626, and was listed as an important variable by 33 percent of respondents. The values and percentages placed on these amenities suggest that by defending the environment, the government is actually protecting and possibly improving the well-being of local individuals.

"Family and friends" is a unique amenity because it really only applies to the residents of the area being tested. As mentioned earlier, this variable creates an asymmetry in influential variables between residents and potential in-migrants. It is not

likely to have much of an affect on the typical non-Missoulian's decision to move to the area, but would have a large affect on the typical Missoulian's decision to leave. Fifty-eight percent of respondents listed "family and friends" as important, placing an average value of $3,806 on it. The importance of this variable coupled with the fact that many individuals would not be able to find a substitute for it elsewhere, indicates that many Missoulians may be mobile one-way only, in.

There were only three disamenities for the Missoula area: "job opportunities," "entertainment," and "cultural events." "Job opportunities" was the only one of the three affecting an individual's financial well-being. Almost 29 percent of the individuals surveyed listed "job opportunities" as important giving it a mean differential value of -$212. Despite the importance of this disamenity to some Missoulians, it may not be a good idea for politicians to try to increase the number of well-paying jobs. Increasing the number of well-paying jobs would allow more potential in-migrants to be able to afford to move to Missoula to enjoy the amenities. The percentage of new migrants taking these jobs would be even greater if individuals in the community do not have the skills to take the new high-wage jobs (Power and Barrett, 2001). This would increase the labor supply, thereby erasing any increase in real wages that had occurred as a result of the new jobs. The area would also experience an increased population, which could possibly adversely affect other amenities that ranked relatively high (e.g. "crime" and "population density"). It is also possible that people's perception of the quality of people would change for the worse since individuals often feel that as the size of a town grows people become more impersonal. Those Missoulians living in Missoula before the new migrants arrived

would be limited in their ability to regain their original satisfaction by the one-way

mobility described above and by the moving costs.

Graphs 5 and 6 compare the preference patterns of individuals preferring

Missoula to individuals preferring the comparison cities. Both groups of individuals

tended to agree on Missoula's top two or three amenities and disamenities. After the first

few variables, the preference patterns began to deviate from each other. For example,

individuals who preferred Missoula seemed to feel that "quality of people" and

"population density" were more important amenities than the individuals who preferred

the comparison cities. Where the two groups differed the most was on the amenities

having the largest influence on their decision of how much income they would require to

leave Missoula. The 85 percent of respondents who preferred Missoula to the

comparison cities chose "active" amenities (e.g. "outdoor recreation" and "recreation")

and "people" amenities (e.g. "family and friends," "quality of people") as the amenities

most influential in their decision about how much income they would require to move.

Individuals who selected the comparison cities over Missoula chose "passive" amenities

such as "entertainment," and "natural" amenities like "climate" as the amenities that

would play the biggest part in their moving decision. Respondents who said they would

accept less income to move from Missoula, did so assuming away moving costs. These

individuals would likely have moved from Missoula were it not for these costs. The

results seem to indicate people vote with their feet and individuals with common interests

move to areas that suit their preferences. Individuals who prefer Missoula like the area

because their families and friends are here, they enjoy the outdoors, and they appear to

like Missoula's small town atmosphere (i.e. its population density and the quality of its

people). Respondents preferring the comparison cities appeared to prefer amenities of

which a bigger city would have more, such as "entertainment" and "job opportunities."

"Entertainment," which includes such things as major league sporting events, was listed

by 54.1percent of these individuals.

The group that preferred the comparison cities consisted of 65 percent males,

compared to 55 percent among those preferring Missoula. Also 61 percent of those who

would accept less income to move were single compared to only 49 percent of the

respondents who would require additional income to leave. Ninety-eight percent of those

preferring Missoula were employed, while only 86 percent of those preferring the

comparison cities had a job. Three percent fewer individuals preferred the comparison

cities in the medium-income bracket and 4 percent more in the low-income bracket. It

appears that more of the individuals preferring the comparison cities do not have to

consult with a significant other when making the decision to move, and may either need a

job, or not be satisfied with the one they have.

When the amenity values were regressed on the socioeconomic variables, "age"

was the only variable which was always significant. The older the respondent the more

value they placed on the local amenities. The smallest "age" coefficient was on

"passive" amenities, and was but one-sixth of its next biggest coefficient. Older

respondents placed almost twice as much value on "active" amenities as they did on

"policy" amenities. Some conclusions that could be drawn from this information would

be that as individuals age they are less concerned with money, schools, and being

entertained, and would prefer to entertain themselves with such activities as hiking,

fishing, and playing golf. University students tended to place relatively high values on

the local amenities, with the exception of "passive" amenities. So it is likely that university students choose to come to school here because they feel strongly about the local amenities, and/or the university has a large influence on their values once they get here. University students placed their highest values on "active" and "policy" amenities, implying that college students are very active both physically and in the community. There were not many significant differences between males and females. In the aggregate, females placed more value on "policy" amenities than did males. Among those preferring the comparison cities, women placed a higher value on "people" amenities, and men placed a higher value on "active" amenities. Another interesting result was the negative sign on "howlong." The longer a respondent had lived in Missoula the less they valued the local amenities. This could mean that people take an area's attributes for granted the longer they remain.

The data in this study should be useful in both academic and political arenas, although there are probably more uses for it in politics. Local politicians should find it especially useful when trying to increase the well-being of individuals in their area, even if that means simply knowing what not to change. Politicians should also note that even though there were some amenities that received considerably more attention than others, overall, people's preferences for amenities were quite broad. Therefore, politicians should be cautious when focusing on particular amenities or disamenities they may want to change because, as was mentioned above, altering an amenity may have unfavorable repercussions which could actually decrease individual well-being. If this type of data were collected in cities around the country, many of the academic and political uses that were discussed in the literature review (Figlio, 1996) would apply. For example, the data

could possibly be used for helping to determine federal government salaries, transfer payments, or comparing wages in different cities across the country, "…since the dollar values compared may really be denominated in different units" (Figlio, 1996).

One weakness with the data in this study is that the amenity values are average values as opposed to marginal values, consequently they do not reflect how much wages will be affected when an amenity is altered. Nevertheless, the marginal values from previous studies would be no more useful in this manner considering the omitted variable bias they most likely experienced. How the marginal and average values of amenities compare is unknown. However, the statistically significant regression evidence that recent arrivals to Missoula place higher values on its amenities than long term residents suggests that the marginal values exceed the average values. This study has not only done a more thorough job of revealing which amenities are most important to local individuals, but it has also provided useful information that previous studies could not.

APPENDIX

TABLE 1
Descriptive Statistics

VARIABLES	% OF TOTAL DIFFERENTIAL	MEAN DIFFERENTIAL VALUE	% OF INDIVIDUALS LISTING VARIABLE AS IMPORTANT	CONDITIONAL MEDIAN	CONDITIONAL MEAN	CONDTIONAL STANDARD DEVIATIONS
Amenity Bundle		$19,850		$11,700		40,560.52
Outdoor Recreation*	19.33%	$3,836	47.2%	$3,000	$8,128	24,079.93
Family & Friends*	19.17%	$3,806	58.4%	$4,013	$6,517	9,025.53
Quality of People*	9.03%	$1,793	28.2%	$2,640	$6,359	13,570.74
Scenery*	8.19%	$1,626	33.0%	$2,000	$4,929	14,143.05
Population Density	8.13%	$1,614	27.6%	$2,888	$5,848	14,747.49
Crime	6.48%	$1,286	27.8%	$2,600	$4,627	10,169.69
Cost of Living	6.13%	$1,218	26.8%	$2,400	$4,544	7,249.50
Other	4.97%	$986	27.8%	$1,500	$3,549	6,199.83
University*	4.95%	$983	19.4%	$2,600	$5,066	8,009.39
Climate	3.85%	$764	35.2%	$1,300	$2,171	10,665.15
Recreation*	2.35%	$466	15.0%	$1,375	$3,109	6,874.67
Air Quality	1.26%	$250	7.6%	$1,500	$3,291	5,577.36
Quality of Public Grade and High Schools	1.21%	$240	7.4%	$2,400	$3,238	4,197.87
Health Care	1.12%	$222	8.6%	$1,425	$2,581	4,949.56
Cultural Diversity*	0.97%	$193	7.8%	-$150	$2,473	13,544.50
Political Atmosphere*	0.55%	$110	6.6%	$1,200	$1,661	3,523.23
Transportation	0.32%	$63	4.4%	-$870	$1,424	5,817.62
Cultural Events*	-0.11%	-$23	13.4%	-$630	-$168	4,569.23
Entertainment*	-0.18%	-$35	31.4%	-$800	-$111	4,655.34
Job Opportunities	-1.07%	-$212	28.8%	-$1,000	-$735	6,983.58

NOTE: See attached survey for amenity definitions

* indicates amenity was usually omitted in previous literature

Conditional values calculated using only the values for those listing a variable as important

TABLE 2

	Descriptive Statistics for Those who Listed a Positive Differential Value for Missoula			Descriptive Statistics for Those who Listed a Negative Differential Value for Missoula		
VARIABLES	Mean % OF TOTAL DIFFERENTIAL	MEAN DIFFERENTIAL VALUE	% LISTING VARIABLE AS IMPORTANT	Mean % OF TOTAL DIFFERENTIAL	MEAN DIFFERENTIAL VALUE	% LISTING VARIABLE AS IMPORTANT
Amenity Bundle		$24,590 ($13,200)	85.0%		-$7,470 (-$6,050)	15.0%
Family & Friends	22.73%	$4,510	61.7%	4.47%	-$247	40.5%
Outdoor Recreation	13.28%	$4,520	48.8%	2.84%	-$103	39.2%
Population Density	7.59%	$1,913	30.5%	1.27%	-$106	12.2%
Scenery	7.54%	$1,897	31.5%	0.74%	$69	41.9%
Crime	7.45%	$1,500	30.0%	-0.38%	$53	14.9%
Quality of People	7.32%	$2,112	30.8%	0.89%	-$43	14.9%
Cost of Living	7.17%	$1,463	27.7%	1.37%	-$192	21.6%
University	6.43%	$1,162	20.7%	0.39%	-$51	12.2%
Climate	5.20%	$1,100	35.2%	12.70%	-$1,179	36.5%
Other	4.88%	$1,219	29.3%	2.98%	-$359	18.9%
Recreation	2.00%	$626	13.1%	5.82%	-$452	25.7%
Job Opportunities	1.63%	-$34	24.2%	18.90%	-$1,232	55.4%
Quality of Public Grade and High Schools	1.55%	$290	8.0%	0.90%	-$49	4.1%
Air Quality	1.40%	$298	8.2%	0.36%	-$24	4.1%
Health Care	1.39%	$265	9.4%	0.13%	-$26	4.1%
Cultural Diversity	0.99%	$254	7.7%	2.48%	-$163	9.5%
Political Atmosphere	0.74%	$147	6.3%	1.81%	-$104	8.1%
Entertainment	0.24%	$180	27.2%	16.55%	-$1,271	54.1%
Transportation	0.18%	$89	4.2%	1.01%	-$91	5.4%
Cultural Events	-0.03%	$33	12.2%	4.95%	-$345	20.3%

NOTE: See attached survey for amenity definitions
Mean % of Total Differential is the average percentage of the total differential that individuals placed on an amenity
Median values in paranthesis

TABLE 3
Amenity Group Values & Definitions

GROUPS	AMENITIES	MEAN Dif.	MEAN Dif.: Those Who Prefer Missoula	MEAN Dif.: Those Who Prefer Comparison Cities
Active Amenities	Outdoor Recreation and Recreation	2151	2573	-277
People Amenities	Family & Friends, Cultural Diversity, Quality of People, and Political Atmosphere	1467	1739	-102
Natural Amenities	Climate, and Scenery	880	1098	-378
Policy Amenities	University, Transportation, Quality of Schools, Health Care, Job Opportunities, Cost of Living, Air Quality, Crime, and Population Density	629	772	-191
Passive Amenities	Entertainment and Cultural Events	-29	107	-808

NOTE: See attached survey for amenity definitions

MEAN Dif. Values are the averages of the mean differential values for all amenities in the group

TABLE 4
City Rankings Using Methodology From This Study & Papers of Various Authors

Cities	Median Dif. Values (Murphy)	Mean Dif. Values (Murphy)	Gyourko & Tracy	Murphy w/Gyourko Variables	Blomquist et al.	Murphy w/Blomquist Variables
Boise, ID	1	25	18	3	11	5
Wichita, KS	2	28	15	18	14	16
Jacksonville, FL	3	19	6	23	20	20
Columbus, GA	4	24	12	19		
Knoxville, TN	5	26	4	21	10	17
Springfield, MO	6	21	7	22		
ElPaso, TX	7	14	5	11	6	14
Dayton, OH	8	22	23	13	23	12
Tacoma, WA	9	10	13	9	16	10
Fresno, CA	10	16	2	5	7	13
Pueblo, CO	11	3	9	4	1	2
Des Moines, IA	12	20	20	20	13	19
Rockford, IL	13	15	24	15		
Tucson, AZ	14	12	3	14	3	9
Pittsfield, MA	15	30			8	23
Lincoln, NE	16	18	19	1	17	1
Goldsboro, NC	17	7				
Tulsa, OK	18	5	22	8		
Baton Rogue, LA	19	27	21	17	19	8
Richmond, VA	20	23	8	24	4	18
Saginaw, MI	21	2	25	2	22	7
Ft. Wayne, IN	22	6	14	7	15	6
Bangor, ME	23	8				
Rochester, NY	24	29	17	25	12	22
Louisville, KY	25	17	16	12	21	15
Harrisburg, PA	26	13	11	26	9	21
Minneapolis, MN	27	1	26	6	18	3
San Diego, CA	28	9	1	10	5	4
Cheyenne, WY	29	11				
Reno, NV	30	4	10	16	2	11

NOTE: Cities ranked using mean differential values
2nd column displays rankings of comparison cities, using median differential values from this study. 3rd column contains rankings using mean differential values from this study. Columns 4 & 6 with just authors' names have rankings of cities from the corresponding study. Columns 5 & 7 contain rankings using variables from this study which were substituted for similar variables from the authors' study.

TABLE 5
Murphy Amenities & Corresponding Amenities from Previous Studies

Variables (Murphy)	Gyourko & Tracy	Blomquist et al.
Population Density	SMSA Population	Central City
Crime	Violent Crime	Violent Crime
Cost of Living	Cost of Living	
Climate	Precipitation, Cooling degree days, Heating degree days, Relative Humidity, Sunshine, and Windspeed	Precipitation, Humidity, Heating degree days, Cooling degree days, Wind Speed, & Sunshine
Air Quality	Particulate Matter	Visibility and Total Suspended Particulates
Quality of Public Grade and High Schools	Student/teacher ratio	Teacher-Pupil Ratio
Health Care	Hospital Beds	
Job Opportunities	Percentage working in other SMSA	
Variables for which there was no substitute	Coast & Fire Rating	Coast; Landfill Waste; Superfund Sites: & Treatment, Storage, and Disposal Sites

TABLE 6
Amenity Differential Values of Missoula Relative to Comparison Cities & Equilibrium Test Results

City	MEDIAN TOTAL DIF. (W/O FAMILY & FRIENDS)	95% Confidence Intervals for Median Total Dif. (W/O Family & Friends)	MEAN TOTAL DIF. (W/O FAMILY & FRIENDS)	95% Confidence Intervals for Mean Total Dif. (W/O Family & Friends)	WAGE DIF.
Boise	10750	-1005 to 19205	18257	8152 to 28362	5439*
Wichita	10333	-22902 to 37702	31993	1691 to 62295	6438***
Jacksonville	14301	-10323 to 24173	15240	-2008 to 32488	6747***
Columbus	9100	-11867 to 21867	17215	348 to 34082	2689***
Knoxville	9313	-13312 to 29934	21757	134 to 43380	4166***
Springfield	10440	2032 to 21968	16030	6062 to 25998	1248
ElPaso	6760	2868 to 14792	12904	6132 to 18866	192
Dayton	12000	2667 to 18213	16038	8265 to 23811	7568*
Tacoma	7800	1289 to 12231	11696	6225 to 17167	6483***
Fresno	8938	2022 to 16458	13660	6442 to 20878	2069*
Pueblo	6480	2729 to 9019	6997	3852 to 10142	1055
Des Moines	8830	-4690 to 15088	15852	5963 to 25741	7957***
Rockford	9240	779 to 20581	13491	3590 to 23392	6111***
Tucson	7800	469 to 17407	12476	4007 to 20945	4378***
Pittsfield	5600	-48813 to 60013	41860	-12553 to 96273	5310***
Lincoln	7400	-11580 to 20540	14890	-1170 to 30950	3514***
Goldsboro	9833	4184 to 11850	8991	5158 to 12824	128
Tulsa	8017	3585 to 10115	6978	3712.6 to 10243.1	5658***
Baton Rogue	8311	-2919 to 23585	24017	10765 to 37269	3726*
Richmond	5199	-3148 to 21773	16300	3840 to 28760	9674***
Saginaw	5874	-1082 to 8682	6881	1999 to 11763	9007**
Ft. Wayne	7500	3674 to 11326	8610	4784 to 12436	5213***
Bangor	6850	1447 to 14153	10598	4245 to 16951	1763*
Rochester	5512	-45626 to 56650	34114	-17024 to 85252	8208***
Louisville	5000	6705 to 21897	14795	7199 to 22391	6886*
Harrisburg	6925	3187 to 18313	12737	5174 to 20300	7399***
Minneapolis	6000	668 to 11332	6799	1467 to 12131	14506
San Diego	4480	4839 to 14827	10688	5694 to 15682	11929***
Cheyenne	10680	1484 to 14116	12281	5965 to 18597	2648*
Reno	3800	2533 to 10427	7079	3132 to 11026	9199***
AVERAGES	**7969**		**15374**		**3426**

NOTE: Wage differential values calculated for comparison city relative to Missoula
'*=city value within 95% confidence interval for median values without family and friends (implies approximate equilibrium between Missoula & given city)
'**=city value within 95% confidence interval for mean values without family and friends (implies approximate equilibrium between Missoula & given city)
***=city value within 95% confidence intervals for both mean & median values without family & friends

TABLE 7
Regression Results of Amenity Values on Socioeconomic Variables

VARIABLES	DEFINITION	Require	Dependant Variables				
			Natural Amenities	People Amenities	Active Amenities	Passive Amenities	Policy Amenities
REQUIRE	The amount an individual would require(accept) to move from Missoula to the given location.	--Not Applicable--					
AGE	Individual's age at time of survey	1203.0***	219.67***	223.27***	398.87***	33.173*	203.96***
MARRIED	dichotomous, 1 if married at time of survey					-1274.4*+	
SINGLE	dichotomous, 1 if single, as contrasted with residing with roomate(s) at time of survey		4351.8*+				
UNIVMT	dichotomous, 1 if University of Montana is or was a motivation for moving to Missoula (includes technical school)	6080.0**					2411.8**
ENROLL	dichotomous, 1 if enrolled at the University	31414***	2520.2**	4368.1***	13487***		9034.7***
ENPLOY	dichotomous, 1 if employed at time of survey	1677.3**	822.51***				
WORKHRS	Average number of hours worked per week	581.98***		87.44**	237.6***		152.31***
HOWLONG	Number of Years Individual had lived in Missoula	-454.23**	-122.76**		-201.17**		
LOWINC	dichotomous, 1 if income below $20,000	-10069*+					-5285.9***+
MEDINC	dichotomous, 1 if income between $20,000 & $50,000						-3592.9**+
SEX	dichotomous, 1 if male						-2027.7*

NOTE: * = statistically significant at the 10% level
** = statistically significant at the 5% level
*** = statistically significant at the 1% level
+ = significantly different from zero

TABLE 8

Results of Amenity Values for Those who Prefered Missoula over the Comparison Cities, Regressed on Socioeconomic Variables

VARIABLES	DEFINITION	Require	Natural Amenities	People Amenities	Active Amenities	Passive Amenities	Policy Amenities
			Dependant Variables				
AGE	Individual's age at time of survey	1272.7***	218.13***	234.92***	407.12***	33.36*	231.85***
MARRIED	dichotomous, 1 if married at time of survey					-1505.2**+	
SINGLE	dichotomous, 1 if single at time of survey		4957.2*+				
EDUCAT	Number of Years of Education Individual had	-1563.9*					-505.75*
UNIVMT	dichotomous, 1 if University of Montana is or was a motivation for moving to Missoula (includes technical school)			1820.5*			2150.2**
ENROLL	dichotomous, 1 if enrolled at the University	33016***	2605**	4476.3***	14210***		9485.1***
ENPLOY	dichotomous, 1 if employed at time of survey		768.31***				
WORKHRS	Average number of hours worked per week	685.38***		104.01**	261.38***		177.99***
HOWLONG	Number of Years Individual had lived in Missoula	-565.19***	-137.39**		-222.77**		
LOWINC	dichotomous, 1 if income below $20,000	-13995**+					-6162.9***+
MEDINC	dichotomous, 1 if income between $20,000 & $50,000						-4772.7**+

NOTE: * = statistically significant at the 10% level

** = statistically significant at the 5% level
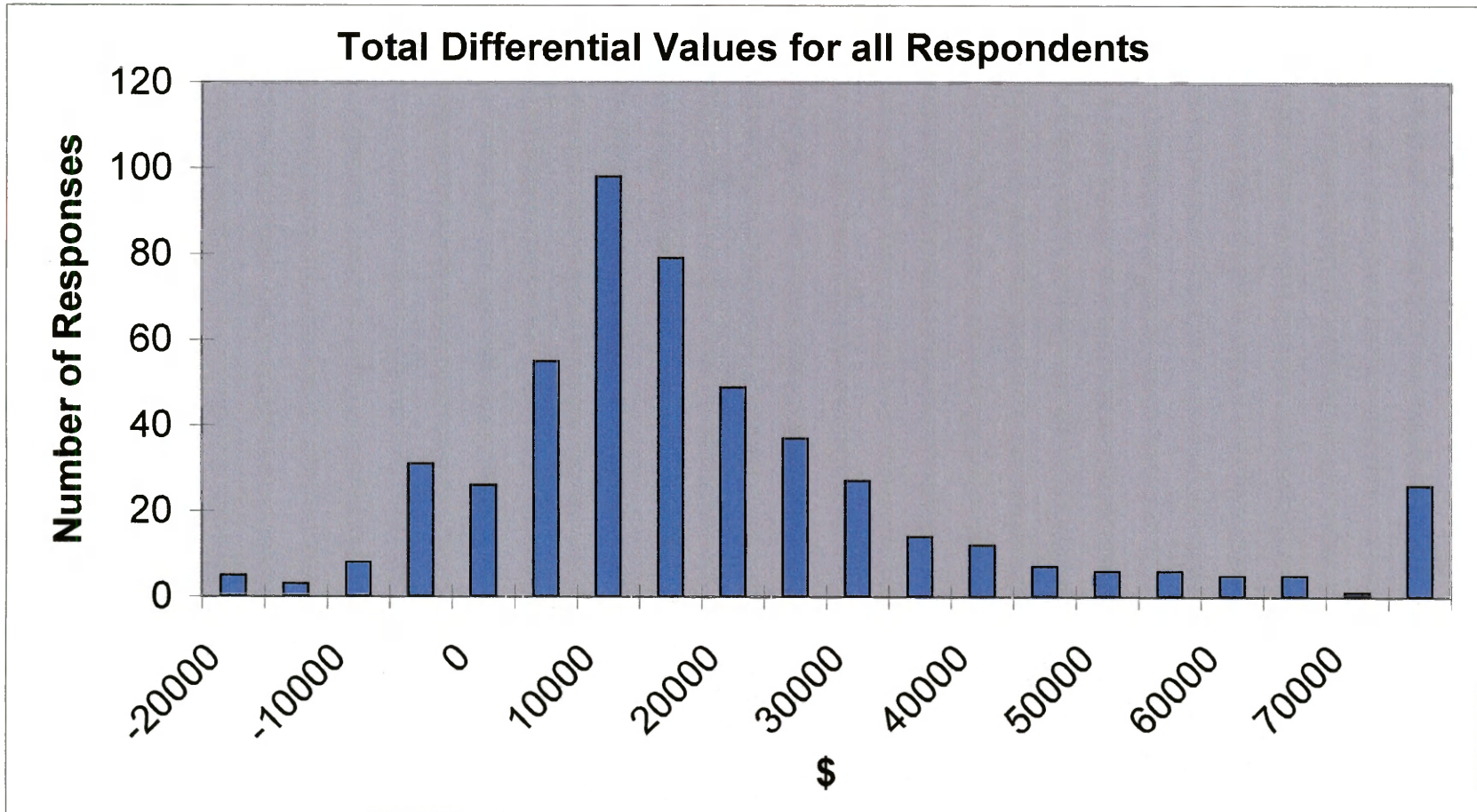
*** = statistically significant at the 1% level

+ = significantly different from zero

48

TABLE 9

Results of Amenity Values for Those who Prefered the Comparison Cities over Missoula, Regressed on Socioeconomic Variables
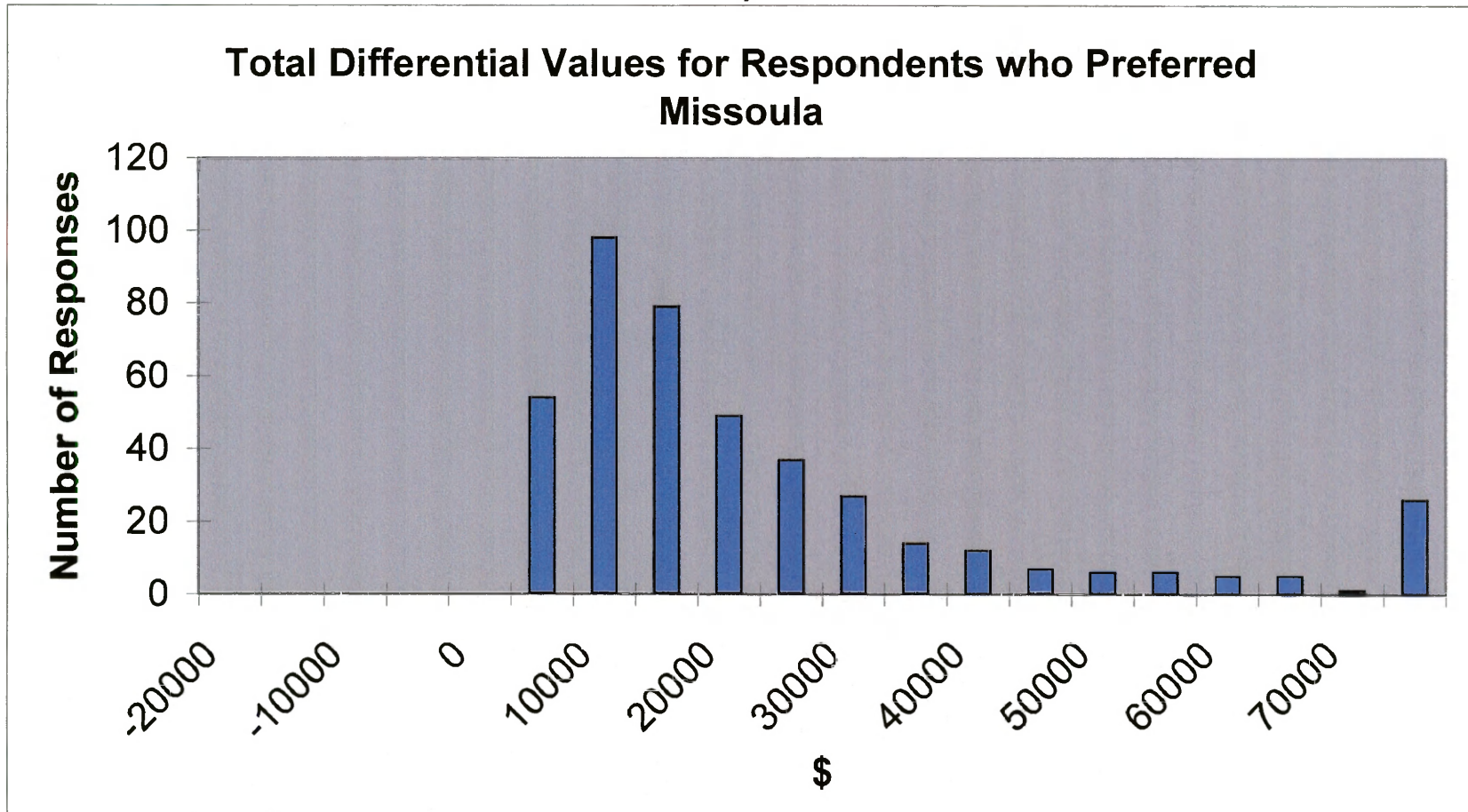
VARIABLES	DEFINITION	Dependant Variables			
		Natural Amenities	People Amenities	Active Amenities	Policy Amenities
AGE	Individual's age at time of survey	184.64**			
WORKHRS	Average number of hours worked per week		62.335*		
HOWLONG	Number of Years Individual had lived in Missoula	-115.37***		-54.898**	146.7***
LOWINC	dichotomous, 1 if income below $20,000			2161.8**+	
SEX	dichotomous, 1 if male		-1369.2**	834.63*	

NOTE: * = statistically significant at the 10% level
    ** = statistically significant at the 5% level
    *** = statistically significant at the 1% level
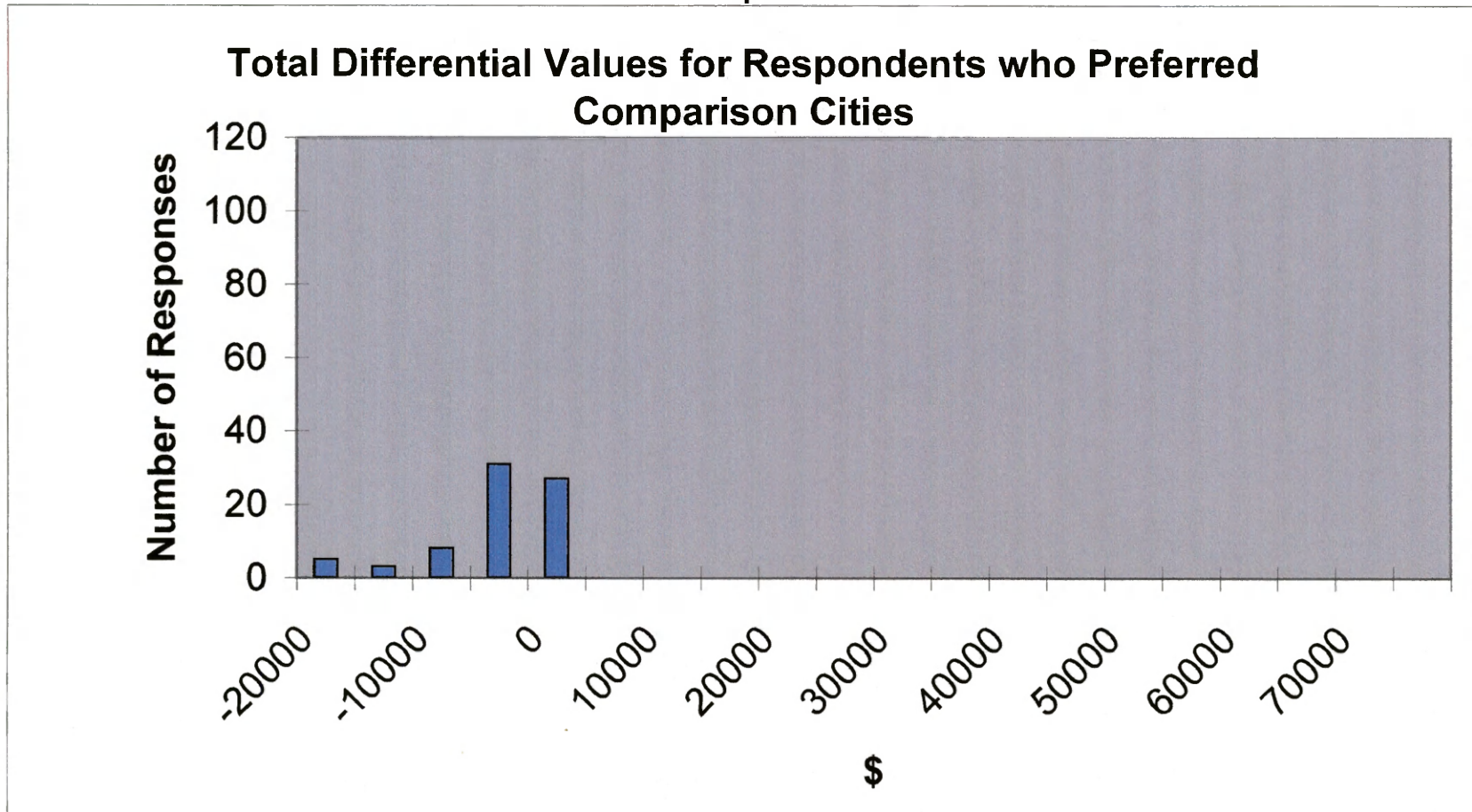   + = significantly different from zero

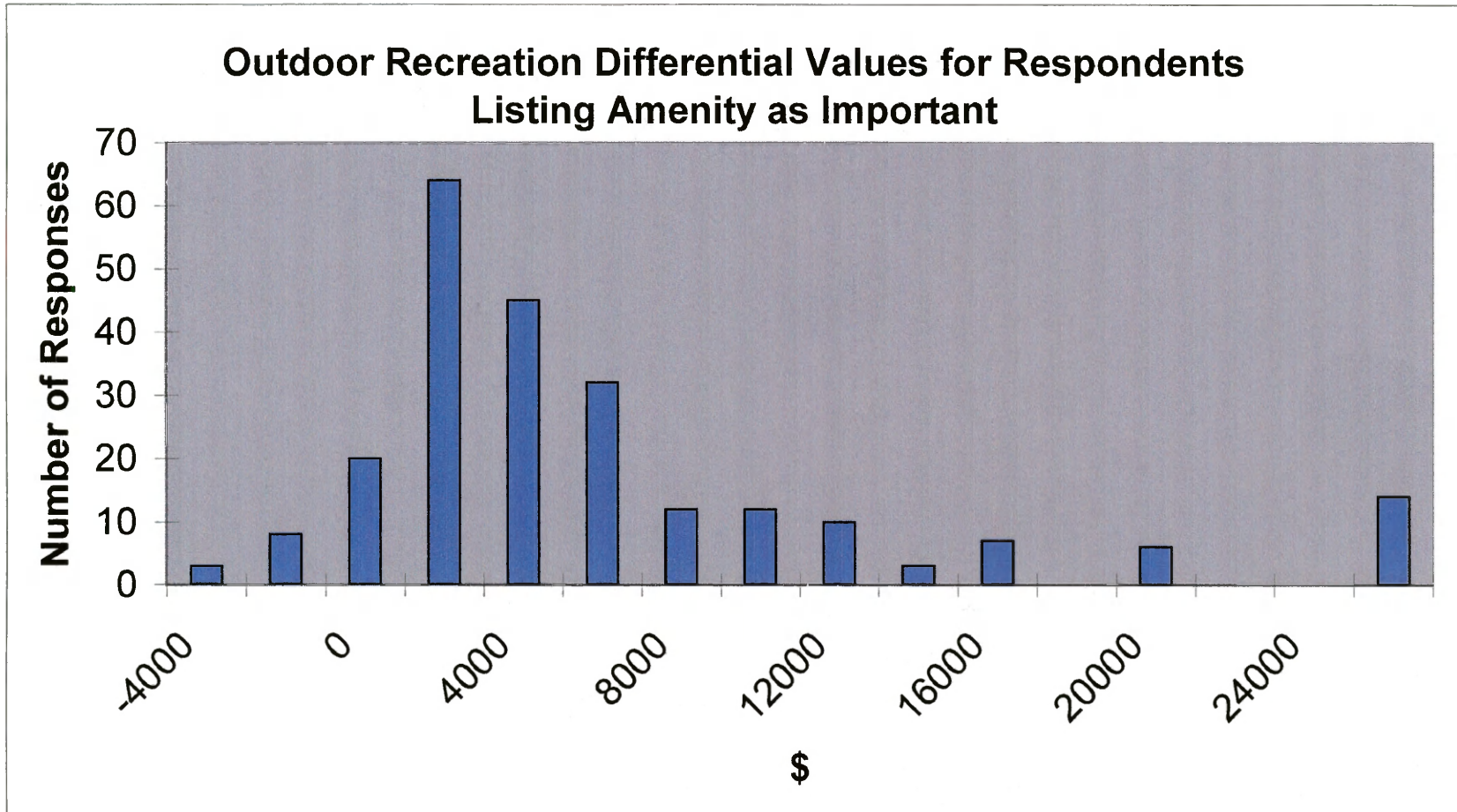GRAPH 1

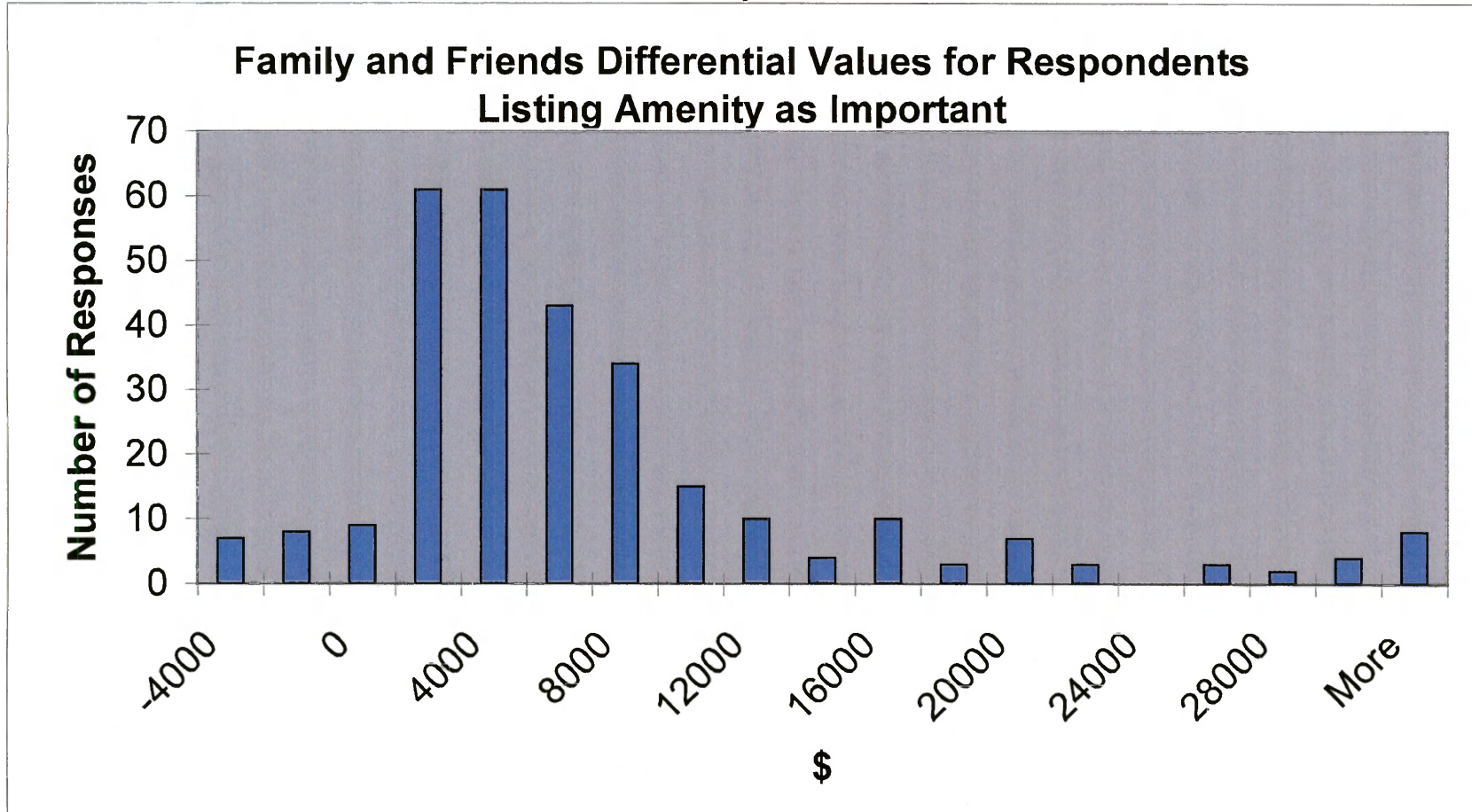
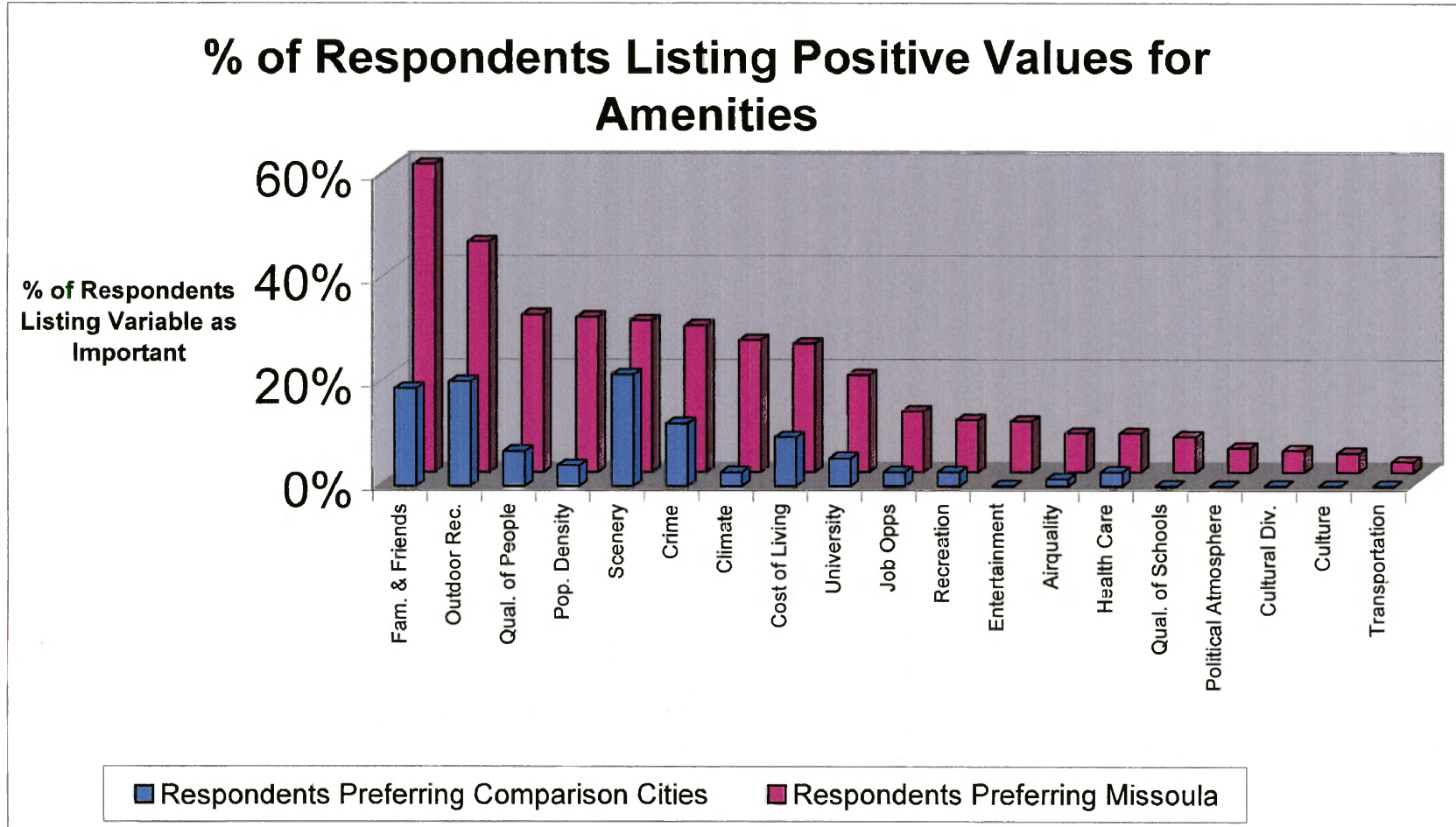**Total Differential Values for all Respondents**

Graph 2

Total Differential Values for Respondents who Preferred Missoula

Graph 3

Total Differential Values for Respondents who Preferred Comparison Cities

GRAPH 4

Outdoor Recreation Differential Values for Respondents Listing Amenity as Important

Graph 5

Family and Friends Differential Values for Respondents Listing Amenity as Important

GRAPH 6

% of Respondents Listing Positive Values for Amenities

% of Respondents Listing Variable as Important

■ Respondents Preferring Comparison Cities   ■ Respondents Preferring Missoula

GRAPH 7

% of Respondents Listing Negative Values for Amenities

% of Respondents Listing Variable as Important

Categories (left to right): Entertainment, Job Opps., Climate, Recreation, Scenery, Fam. & Friends, Culture, Outdoor Rec., Cost of Living, Cultural Div., Pop. Density, Qual. of People, Political Atmosphere, University, Transportation, Qual. of Schools, Crime, Airquality, Health Care

Legend: ▪ Respondents Preferring Missoula ▪ Respondents Preferring the Comparison Cities

In this project we are comparing Missoula to other locations as a place to live and work. To do this I will be asking you to consider living somewhere other than here. This information is completely confidential and will be used only to determine statistical information such as the average.

I will be asking you to consider moving to _____.
Here is some information about both _____ and Missoula.

Please assume that your moving costs would be taken care of. Moving costs include: packing your possessions, transporting them and members of your family including pets, and paying any real estate commission. It would not include different housing prices.

Now consider your current amount of take-home income. Take-home income includes: employment income, retirement benefits, trust funds, Social Security and any other form of government payments, interest, money from other family members or relatives, and money from any other source not mentioned above.

Think about how much more or less take-home income you would require to move to

_____.

1. If you would require <u>more</u> take-home income to move to _____, then how much more would you require?_____

        Is that amount: weekly_____

                               every two weeks_____

                               monthly_____

                               annually_____

(If you would require <u>less</u> take-home income to consider moving to _____ please skip to #4)

Now please consider the list of amenities and choose up to four that would be most influential in making you choose Missoula over _____. Write these in the blanks below.

2. Now apportion the amount from #1 among the amenities that you have chosen. If you have any left over please put that amount next to the "All other reasons" category.
Please make sure that the amounts you apportion add up to the total from #1.

        1. _____   amount: _____

        2. _____   amount: _____

        3. _____   amount: _____

        4. _____   amount: _____

        5.   <u>All other reasons</u>   amount: _____

            <u>Total (from #1)</u>   amount: _____

3. Please look over the list of amenities one more time. Is there one or more of these <u>if</u> <u>considered by themselves</u> that may lead you to prefer _____ over Missoula? If so, please list them below. Then estimate the amount that each, considered alone, would lessen the figure you listed in #1.

      1. _____   amount: _____

      2. _____   amount: _____

      3. _____   amount: _____

      4. _____   amount: _____

            <u>Total</u>   amount: _____

(skip to #7)

4. If you would require <u>less</u> take-home income to move to _____, then how much less would you require?_____

    Is that amount: weekly_____

                     every two weeks_____

                     monthly_____

                     other_____

Now please consider the list of amenities and choose up to four that would be most influential in making you choose _____ over Missoula. Write these in the blanks below.

5. Now apportion the amount from #4 among the amenities that you have chosen. If you have any left over please put that amount next to the "All other reasons" category. Please make sure that the amounts you apportion add up to the total from #4.

      1. _____   amount: _____

      2. _____   amount: _____

      3. _____   amount: _____

      4. _____   amount: _____

      5.   <u>All other reasons</u>   amount: _____

            <u>Total (from #4)</u>   amount: _____

6. Please look over the list of amenities one more time. Is there one or more of these _if considered by themselves_ that may lead you to prefer Missoula over _____?
If so, please list them below. Then estimate the amount that each, considered alone, would lessen the figure you listed in #4.

    1._____   amount:_____

    2._____   amount:_____

    3._____   amount:_____

    4._____   amount:_____

        Total   amount:_____

7. Your age_____

8. Gender: Male____   Female____

9. Marital status: Married_____   Single_____   Other_____

10. Years of formal education (e.g. high school grad = 12) _____

11. Was/is attending the University of Montana a motivation for being in Missoula? (This includes
    the votech) Yes_____   No_____

12. If you answered _Yes_ to question #11, are you currently enrolled? Yes____   No____

13. Are you currently employed or self employed for compensation? Yes____   No____

14. If you answered Yes to question #13, what is the average amount of hours you work per week?_____

15. Your yearly take-home income, as defined above:

    Less than $20,000____
    $20,000 - $50,000____
    Over $50,000   ____

16. Do you: Own_____ or rent_____

17. How long have you resided in Missoula?_____

_____First Name (Optional)   Date of Interview:_____

_____Phone Number (Optional)   Neighborhood #:_____

Interviewer:_____   Address:_____

Amenities

_____Climate

_____Crime

_____Outdoor Recreation involving natural surroundings (includes: hiking, fishing, hunting, rafting, skiing, camping, boating, and swimming)

_____Recreation (includes: tennis, golf, softball, parks, sporting events, and major league sporting events)

_____Entertainment (includes: sporting events, movie theatres, good restaurants, good nightlife, zoos, aquariums, and family theme parks)

_____University (existence of local colleges, universities, and trade & technical schools)

_____Air Quality

_____Population Density

_____Scenery

_____Family and Friends

_____Transportation (includes: inner-city public transportation, national highways, air service, passenger rail service)

_____Cultural Diversity

_____Job Opportunities

_____Quality of People (includes: friendliness and helpfulness of strangers)

_____Quality of public grade and high schools

_____Health Care

_____Cost of Living (includes: average house prices, utilities, property taxes, college tuition, food at home, health care, and transportation)

_____Political Atmosphere (includes: liberal, middle of the road, conservative)

_____Cultural Events (includes: theatre plays and musicals, symphonies and orchestras, operas, museums, and art galleries)

Boise, Idaho
    Population (metro area): 435,931
    Unemployment rate: 3.9%
    Violent Crimes per 100,000 People: 64.46
    Cost of Living: 3.2% below the national average
    Average January Daily Temperature: 29
    Average July Daily Temperature: 74
    Average Annual Precipitation: 12.11 inches
    Average Annual Snowfall: 20.9 inches
    Median Single-Family Home Sale Price: $118,100
    Personal Income per Person: $28,329
    Student/teacher ratio: 18.7
    People per Physician: 775.68

Missoula, Montana
    Population (metro area): 96,009
    Unemployment rate: 3.6%
    Violent Crimes per 100,000 People: 167.69
    Cost of Living: 24% below the national average
    Average January Daily Temperature: 23
    Average July Daily Temperature: 69
    Average Annual Precipitation: 13.46 inches
    Average Annual Snowfall: 46.3 inches
    Median Single-Family Home Sale Price: $126,500
    Personal Income per Person: $24,111
    Student/teacher ratio: 15.8
    People per Physician: 502.67

Boise is the Idaho state capital, and is located approximately 45 miles east of the Oregon border. Boise sits in the Treasure Valley near the foothills of the western edge of the Rocky Mountains and the Boise River runs through the middle of downtown. Boise is known for its many outdoor recreational opportunities, such as: world famous white water rafting, both downhill and cross-country skiing, hunting, fishing, backpacking, and camping. However, it also offers many cultural events, as well as public art and galleries. Boise is the home of Boise State University, ITT technical institute, and Idaho State University – Boise branch.

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