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A BENEFIT-COST ANALYSIS OF THE REDEVELOPMENT
OF MISSOULA'S CENTRAL BUSINESS DISTRICT

By

Ann K. Leamon

B.A., University of Kings College/Dalhousie, 1983

Presented in partial fulfillment of the requirements

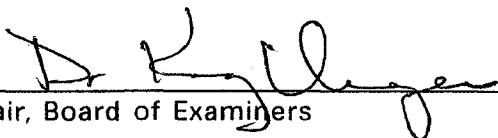
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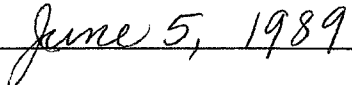
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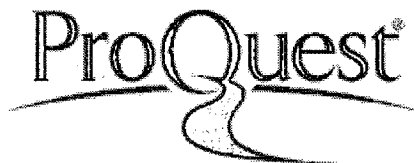


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Leamon, Ann K., M.A., April 1989

Economics

**A Benefit-Cost Analysis of the Redevelopment of Missoula's
Central Business District (123 pages)**

Director: Kay C. Unger



This study examines the role of the Missoula Redevelopment Agency (MRA) in the resurgence of Missoula's CBD. Benefits from redevelopment were defined as jobs, increased investment, and increased property tax revenues. Attracting people to the CBD and increasing building maintenance there would help to alleviate the dual market failures of blight and inefficient infrastructure use.

Three groups of fifteen businesses represented three different states of the world: one group was located in the CBD and used the MRA's programs, another did not use the MRA despite location in the CBD and the third operated beyond the limits of the CBD and was thus ineligible for the MRA. These groups were chosen from the records of building permits issued for exterior renovation between 1984 and 1988. Interviews with business owners over a two month period provided information on site preference, reasons for renovation, employment change after renovation, and the amount of investment the project entailed. The County Treasurer's office supplied information on property tax changes. Mean benefits for each group were compared using T- and F-tests to establish significant differences. The excess of MRA-firm benefits over those of other firms and the cost of the program was estimated by a cost-benefit equation. The stream of net benefits was discounted to the present by a present-value formula.

Firms in the MRA group easily met the criteria of benefits exceeding their competition's and the cost of the program. Employment generation was too varied to show concrete statistical differences in the means, but total new positions were greater for the MRA firms than for any others. The differences in property tax revenue and investment indicated that MRA firms generated significantly more revenue and invested more money than did firms in the other groups. Since the MRA firms surpassed the others in these three benefits and met the criteria of benefits greater than program costs and competing benefits, the MRA program can be said to be an effective use of funds.

Table of Contents

| | |
|--|-----|
| Abstract | ii |
| List of Figures | v |
| List of Tables | vi |
| Acknowledgements | vii |
| 1. Introduction | 1 |
| 1.1. Background | 2 |
| 1.2. Proposed Research | 12 |
| 1.3. Expected Findings | 18 |
| 2. Literature and Theory | 20 |
| 2.1. Revitalization Studies | 20 |
| 2.2. Location Studies | 25 |
| 2.3. Cost-Benefit Analysis and Present Value Criteria | 30 |
| 2.4. Logit Analysis of the Decision to Locate in the CBD | 32 |
| 3. Chapter III: The Data | 35 |
| 3.1. Selection of Businesses | 35 |
| 3.2. Other Data Sources | 39 |
| 3.3. Biases | 43 |
| 3.4. Other Considerations | 46 |
| 3.5. Explanatory Variables of the Logit Model | 49 |
| 4. Analysis and Results | 53 |
| 4.1. Job Creation by Classification | 54 |
| 4.2. Income Generation from Jobs | 60 |
| 4.3. Taxes | 67 |
| 4.4. Amount of Investment | 70 |
| 4.4.1. Investment per Job | 75 |
| 4.5. Social Costs and Benefit-Cost Findings | 77 |
| 4.6. Present Value | 79 |
| 4.7. Regressions | 80 |
| 4.7.1. Employment | 81 |
| 4.7.2. Taxes | 83 |
| 4.8. Conclusion | 85 |
| 5. Logit Analysis of Location and Participation Decisions | 86 |
| 5.1. Results of Business and Site Characteristic Questions | 86 |
| 5.2. Logit Analysis of Location Data | 92 |

| | |
|---|-----|
| 5.3. Logit Analysis of Decision to Participate in MRA Program | 95 |
| 6. Conclusions and Implications for Policy | 98 |
| 6.1. Avenues of Further Research | 103 |
| 6.2. Conclusions | 105 |
| Appendix A. Questionnaires | 106 |
| Bibliography | 113 |

List of Figures

Figure 3-1: Boundaries of the Central Business District

37

List of Tables

| | | |
|--------------------|---|-----------|
| Table 3-1: | Size of Sample Compared to Valid Cases in Population | 47 |
| Table 3-2: | Variable List | 49 |
| Table 4-1: | Job Creation by Type | 56 |
| Table 4-2: | Pre- and Post-Project Wages, in Dollars | 59 |
| Table 4-3: | (Dollar Value of Created Jobs (\$1,000s)) | 62 |
| Table 4-4: | (Dollar Value of Created & Retained Jobs (\$1,000s)) | 63 |
| Table 4-5: | Average Annual Wage for Created Positions (\$1,000s) | 66 |
| Table 4-6: | Tax Levels, Pre- and Post-Project (\$1,000s) | 69 |
| Table 4-7: | Investment in Projects, (\$1,000s) | 71 |
| Table 4-8: | Types of Financing, Loan Amounts (\$1,000s) and Interest Rates | 73 |
| Table 4-9: | Investment per Job (in \$1,000s) | 76 |
| Table 4-10: | Net Benefits of MRA over NCBD Projects, (in \$1,000s) | 78 |
| Table 4-11: | Present Value of Net Benefits Due to MRA (\$1,000s) | 80 |
| Table 5-1: | Business Characteristics | 87 |
| Table 5-2: | Importance of Site Characteristics | 88 |
| Table 5-3: | Reasons for Renovation | 91 |
| Table 5-4: | Coefficients on Variables in Logit Model of CBD Location | 93 |
| Table 5-5: | Coefficients on Variables in Logit Model of MRA Participation | 96 |

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I would also like to thank my father for his moral and financial support during the last six months. Most of all, I thank my partner, Charles Banks, for his encouragement, his computer expertise, his ability to make me laugh and his unflagging support. In small return for the grumpy distraction, the nightmares, the weekends spent on research, Charles, this thesis is dedicated to you.

Chapter 1

Introduction

This study attempts to evaluate critically the performance of the Missoula Redevelopment Agency (MRA). Supporters of the agency ascribe increased jobs and property tax revenue to the program, while detractors see an unproductive diversion of tax funds to a small area from the county and city as a whole. The social benefits of this particular program can also be debated: perhaps the money should be given as direct grants to jobless individuals and to the local government, rather than being funnelled through business owners as intermediaries.

Evaluating public investment programs often requires that one construct an alternative reality, comparing what happened with what might have occurred in different circumstances. This study takes a slightly different approach, contrasting the experiences of business owners in varying locations throughout the city as they renovated their buildings. These different locations serve as proxies for different realities; one is downtown with government assistance, another downtown without government assistance, and the last outside the downtown and unassisted. The net benefits of redevelopment, jobs for the private sector and increased property tax revenues for the public sector, will be calculated by measuring only those benefits which can be directly ascribed to the redevelopment program, and those costs which stem directly from it. It is hoped that contrasting

differences among the three business groups will yield a realistic evaluation of the MRA's contribution to local growth.

A second problem will also be analyzed; namely, whether there is any particular set of characteristics which can indicate if a business will locate in or out of the CBD, and if there is any way to predict participation in the MRA's programs. Answering these questions may help to establish identifying characteristics for location and participation decisions and to confirm differences which might have only been hinted at in other analyses.

1.1. Background

Since the 1950's, the deterioration of America's central cities has occupied at least a portion of the nation's consciousness. For almost as long, national, state, and municipal governments have tried to reverse the relative decline.

The Central Business District (CBD) in general has suffered a decline in its economic importance. Tastes have changed, favoring children, ranch-style houses, and backyard barbecues. Post-WWII public investment in roads allowed inexpensive commuting, which made living outside the CBD both possible and desirable. The advent of the forklift changed warehouse orientation from the vertical to the horizontal. Firms in all industries began to leave the city center for the suburbs to find the large amounts of cheap land necessary for their sprawling operations. Highways, cars, and trucks allowed employees and customers to travel longer distances to work or to shop, and facilitated the delivery of goods manufactured at a distance. With rising per capita income, the income-elastic

demand for residential space increased. The nation moved to the suburbs; downtown was passé

If flight to the suburbs represented an exercise in freedom of choice with no social side-effects, it would pose no economic problem. Instead, the exodus from downtown may present society with two types of market failure which must be corrected to achieve allocative efficiency.

First, the pattern of commercial activity in the downtown may promote a more efficient resource use than that which occurs in the scattered arrangement of firms on a strip. Strip developments, whether for retail sales or for production, may inefficiently duplicate such things as parking lots,¹ and require more miles of roadway, and thus more publicly provided maintenance, snow removal, and traffic control than would a more concentrated central market area. The automobile use engendered by a strip increases congestion, with a concurrent time cost for travelers, while the "park-and-walk" emphasis of a downtown helps to reduce car use and its attendant traffic snarls and pollution. Sewerage and water facilities in the CBD were designed with a certain capacity in mind; as businesses leave the city core, this capacity goes under-utilized and is inefficiently duplicated in the other location. Because businesses had been concentrated in the CBD, the large

¹It has been pointed out that the shortage of parking in the CBD is one of its problems. The contention here is that each business on a strip paves its own island of parking around it. In order to accommodate peak parking demand, each business would tend to build more parking than was efficient. The tendency of neighboring stores to refuse parking to any but patrons inhibits the attainment of efficiency. If, for example, a Wendy's and a Checker Auto Parts shared a lot, the fairly even customer flow of the latter would allow a constant 30% use of the available parking while the surges of the restaurant would bring use up to 70% or 80% at times. When each has its own parking area, use at Wendy's varies from 5% to 60% while that at Checker hovers around 30%, an inefficient use of the resource.

fixed investments in jails, courts, and fire and police stations were headquartered downtown too. As the firms disperse to outlying areas, response times may increase and/or additional stations may have to be built while the old ones are under-utilized. Additionally, the block layout of the CBD may allow more efficient protection of a given number of businesses than is possible for the same number of firms strung out on a strip.

In a free market, firms do not consider the social efficiency of their private location decisions because they bear only a portion of the costs of this inefficiency and that indirectly, through taxes. When urban flight occurs, the entire population subsidizes the duplication of services by paying higher property taxes. For ease of reference, this type of market failure will be called Type A.

The second type of market failure, Type B, is that of urban blight, which economists call the neighborhood externality. In any given neighborhood, there may be an incentive to under-maintain one's property. The individual property owner can increase her rate of return by under-maintaining her building as long as all the other owners keep their buildings in repair. This one property owner cannot lose; if her neighbor improves his building, she receives a higher rate of return because she is in a "nice" neighborhood. If a neighbor starts neglecting his property, her return is still higher because she started under-maintaining first. This pits owners against one another in a variation of the Prisoners' Dilemma. As more neighbors realize that the shabby property reaps the benefits of their efforts to create a "nice" block, a downward spiral may develop in which each competes to have the shabbiest building -- and thus the highest profit margin -- on the block.

Jerome Rothenberg, in his seminal evaluation of urban renewal projects, notes that "pockets of low quality exert a stronger influence to decrease quality than pockets of high quality influence a general increase in quality."² When it happens, this under-maintenance of property, while benefiting the individual property owner, does not represent a socially optimal outcome. Society benefits when all buildings are optimally maintained because this yields the maximum return on the social investment in structures. In an effort to bring about a more socially desirable outcome, city, state, and federal governments have become involved in the urban renewal/rejuvenation/redevelopment process.

The city of Missoula, Montana has had to cope with problems similar to those just described. Here, however, the process of under-maintenance occurred precipitously with the establishment of a 103-store mall on the edge of town in 1978. This new facility led to a veritable exodus of retailers from the CBD. Already in that year, the City Council had declared the downtown³ blighted, based

²Jerome Rothenberg, Economic Evaluation of Urban Renewal: Conceptual Foundation of Cost-Benefit Analysis, The Brookings Institute Studies of Government and Finance series, (The Brookings Institution, Washington, D.C., 1967), p. 44.

³The Missoula Planning Board in its Urban Renewal Plan of November, 1978, defined downtown as

...two portions, the majority to the north of the Clark Fork River and a smaller portion to the south of the river. The northern portion ...is bounded on the north by the Burlington Northern Railway, on the east by Van Buren Street, on the south by the Clark Fork River, and on the west by the Bitterroot Branch Line. The southern portion is bounded on the north by the Clark Fork River. The southern boundary originates at the intersection of the Bitterroot Branch Line and River Road. From there it follows a stairstep pattern eastward to the junction of Third and Myrtle Streets... then extends southward, encompassing one block on either side of Higgins Avenue up to the intersection of Connell and Roosevelt...continues eastward from Gerald along the alley between South Fifth East and South Fourth East to Van Buren.

on what have come to be understood as the usual symptoms: a high incidence of crime and fire, and dilapidation in the housing stock and infrastructure. The Planning Board noted that in the first six months of 1977, 13.9% of all major crimes in Missoula were committed in the downtown and considerably more fire calls originated there than in any other area of the city. A housing survey in 1974 had found 76% of the area's residences in less than good condition. Sewer conditions were, in their words, "less than desirable,"⁴ meaning that the sanitary and storm sewers which had been installed in 1910 were showing their age. As early as 1974, traffic volume had exceeded the capacity of the Orange, Higgins and Madison Street bridges. Downtown sidewalks, traffic control devices and off-street parking were also deemed deficient for a healthy commercial center.⁵ Although the loss of firms to the mall might have meant reduced pressure on sewers, streets, and parking, these would have to be repaired or upgraded in order to compete effectively. In a short period, Missoula showed the qualities attendant to a derelict CBD. Under the auspices of the Missoula Redevelopment Agency (MRA), the city undertook a program which had proved, during the 1970's, to be a popular plan of revitalization

The MRA program addresses the divergence between social and private optimization by subsidizing external refurbishment of downtown buildings. In this way, the agency hopes to reverse the forces driving the under-maintenance

⁴Missoula Planning Board Staff, Urban Renewal Plan: Downtown Missoula Redevelopment Program, November 21, 1978, unpub. doc., pg. 3.

⁵ibid.

process, or blight. As one building is refurbished with MRA money, those businesses surrounding it are informally encouraged to increase maintenance as well. If the MRA is effective in combating Type B market failure, some businesses will invest in maintenance without MRA funding, simply as a response to the neighborhood externality. These owner-financed renovations represent a pure social gain due to the MRA.

The agency also tries to correct Type A market failure by urging firms to move to or stay in the CBD. Grants for sewer and water line repair, phased-in property tax increases, and coordination of events with the Missoula Downtown Merchants Association combine to offset some of the drawbacks business owners perceive about the CBD. Some types of business such as law firms and banks have historically located in the CBD. Others, car and mobile home dealerships among them, have historically chosen the suburban ring. Big retail stores and newspaper companies are examples of a third type, which is locationally footloose. These are the firms, usually found in the CBD, whose exodus the MRA has tried to prevent through minimizing the drawbacks and maximizing the advantages of doing business downtown.

The MRA receives its funding from tax increment financing (TIF). First developed in the 1950's by Santa Monica, California, TIF is a financing method which allows a city to redevelop without depending on federal or state funding. Once an area is declared blighted, use of TIF for redevelopment freezes its property taxes at the then-current level. In Missoula's case, the base year is 1978. Any increases in tax receipts from the CBD, whether due to changes in assessed

value or to higher rates in general, go to a public fund administered by the MRA and earmarked for downtown projects. The projects which use MRA money have generated enough incremental funds through increased taxable values to support the program. Indeed, MRA currently receives \$999,000 to \$1 million annually,⁶ from initial tax funding of \$266,000.⁷ TIF funds are spent on items that affect all firms in the area such as sidewalk repairs, street lights, Christmas decorations, and flower baskets for downtown streets. It can also be spent on more prosaic projects such as sewer replacement and water line repair in partnership with private property owners.

Perhaps the biggest TIF project is the Riverfront Parkway, a green belt along that section of the Clark Fork River which flows through the center of town. Formerly either privately owned or part of a defunct railroad, the city acquired the rights to the land but lacked the funds to improve it. The MRA has installed lights and placed benches along the paths and sown wildflowers on the areas of the banks where nothing else would grow.

Finally, TIF money can be used in conjunction with individual businesses through the Commercial Rehabilitation Loan Program (CRLP). This program explicitly addresses the neighborhood externality involved in blight. Any merchant in the area who wishes to renovate the exterior of his or her building can qualify for a subsidy of 50% of the interest up to 7% on a loan of not more than \$20,000

⁶ conversation with Geoff Badenoch, Director, Missoula Redevelopment Agency, Missoula, MT, Jan. 15, 1988.

⁷ conversation with Debi Cloyd, MRA Redevelopment Specialist, Missoula, MT, Jan. 12, 1989.

for no longer than 10 years. These monies have been used for awnings and brick cleaning as well as more comprehensive remodeling efforts. According to MRA figures for 1987, the most recent available, \$94,655 in public CRLP funds have leveraged \$5,162,045 in private investment, a ratio of 54.5 to 1.⁸

It is commonly accepted that the Missoula CBD has undergone a resurgence.⁹ Less well established are the reasons for this phenomenon. The mall is ten years old now, and the pendulum of popularity may have swung back toward the downtown. In that case, surplus commercial space in the city at large would not have disappeared, but simply changed places. Several locally-owned firms which left the CBD for the mall¹⁰ have returned to the downtown, unhappy with the rents and the loss of autonomy there. In this case, the MRA's role is small, confined to maintaining the downtown until disillusionment with the mall sets in.

Firms in such fields as financial and legal services, traditionally concentrated in the CBD might have benefited from a business-cycle upswing. Perhaps the severe downturn ten years ago forced downtown merchants to discover and exploit their competitive advantages. In these scenarios, the MRA would have played only a minor part in the CBD resurgence.

⁸Missoula Redevelopment Agency, "Commercial Rehabilitation Loan Program Participant List", inter-agency listing, 1987.

⁹In interviews with 45 business owners, 30 answered the question "What are the three biggest changes you have noticed in the downtown in the past few years?" by citing increased traffic, increased business, or a more confident attitude.

¹⁰This is not to say that the national chains are leaving.

Lastly, the business-cycle upswing may have been a city-wide phenomenon, due to the growth of Missoula's hinterland. Business ventures anywhere in town may have become more profitable, inspiring the business owners to put some of their profits into renovation. Here, the MRA would be given credit for encouraging revitalization when in fact, revitalization would have occurred regardless of the agency's efforts.

On the other hand, the MRA may have been central to the resurgence of the downtown. The MRA staff's enthusiasm for downtown might have convinced discouraged downtown business owners that their properties were valuable and that their businesses would flourish if everyone cooperated. The staff's knowledge of funding sources may have helped to establish and sustain marginal business ventures. The agency's staff is skilled at guiding business owners through the network of the local government regulations, decreasing the time and frustration of the permit process. Knowing that such help was available might have encouraged more business owners to invest in renovation.

Of course, one must consider the possibility that the agency might have been unnecessary. The MRA might have achieved similar results by simply giving each downtown businessperson a check for \$1000 to spend in any way he or she pleased. In view of ongoing redevelopment efforts, both here and elsewhere, it is important to know what role, if any, the MRA has played in any resurgence which may have taken place.

Geoff Badenoch, director of the MRA, speculates that the downtown would have rebounded eventually. Urban blight causes falling profits and correspondingly

depressed property values. There is some property value low enough to encourage investment in renovation. In the absence of the Prisoners' Dilemma, this investment could foster renovation in neighboring properties as well. If, however, neighborhood redevelopment is curtailed by a Prisoner's Dilemma situation, the wait for the trough of the business cycle to spur investment may be interminable.

This laissez-faire approach to redevelopment, however, appears to entail significantly greater trauma for several parties. First, most of the previous business owners either lose their businesses and buildings or have to sell in a depressed market. Secondly, a blighted core still requires city services, while the expanding suburban ring puts new demands on the system. Police and fire calls tend to be more frequent in a blighted district than in a healthy one, and the social costs of slums, in terms of drug abuse, poverty, illness, and abuse, are significant. The city would be forced to spend large amounts of money on an area generating little property tax revenue. Finally, the community itself suffers from the deterioration of its historic center. Missoula's unique appeal is not due to the mall or the strip, but to the looming mountains, the river, the surprising variety of cultural life and recreational opportunities, and the architectural diversity of the collection of brick buildings in the downtown. Should those become blighted, the community as a whole would lose part of its identity.

Evidence does exist that the CBD has revived. Firms are now leaving the mall for the downtown, rather than vice-versa. Several large buildings which have long stood empty are being converted into office space. Business owners are quick to volunteer that volume is up 12%, 15%, 30%, over the previous year.

The relationship between the MRA and the CBD resurgence is tangled. One can credit the MRA for arranging the financing for some, but not all, of the building conversions. A number have occurred without public involvement. The MRA does not participate in the active recruitment of mall business; that is done by the Missoula Downtown Association (MDA), a group unconnected with the agency. The increased business volume surely cannot all be ascribed to the MRA alone, but to a combination of factors including downtown-wide events, more aggressive promotion, changing tastes in the population, more precise targeting of markets, and recognition of the diversity and color of the downtown. Yet much of this color is due to the awnings installed with MRA help.

If the downtown's renaissance would have occurred in time, the MRA's job has been to act as a catalyst. Badenoch cites enthusiasm as his agency's unique contribution to the process. "The MRA's enthusiasm that the CBD is the most interesting, most exciting area of town, with the best restaurants and nightclubs, may have helped to make it so."¹¹

1.2. Proposed Research

Very little work addresses the question of the benefits and costs of redevelopment, largely because the benefits tend to be intangible and difficult to measure. The benefits from Type A correction exist more as expenditures avoided than as benefits directly attributable to one particular program. Likewise, the correction of Type B market failure includes the nebulous concept of preservation

¹¹Conversation with Geoff Badenoch, June 20, 1988.

of the downtown's identity. The improvement of any neighborhood is extremely difficult to measure.

This study proposes to estimate the benefits of the MRA program as objectively as possible, and to establish that contribution which even the most skeptical critic would grant as uniquely due to the agency. Two potential sources of data existed: individual applications to the MRA and independent empirical observation. This study chose not to look at the applications because they might be biased. For example, the business owner most likely believes in his or her business and its future and will portray the project in the rosiest possible light. Jobs created and preserved may tend to be over-estimated, as might the spin-off effects on neighboring firms.¹² The MRA itself does little continuous monitoring of the long term impact of the investment projects.

As with employment, property tax increases in the application are estimated. These estimates are prepared by the County Appraisers and are fairly accurate, assuming that the project is completed according to the initial plan. Changes in the renovation project can change the final appraisal of the property.

This study will evaluate critically the MRA's contribution to the revitalization of Missoula's CBD. The underlying assumption here is that going out into the community and talking with the business owners about their development experiences will produce more accurate results than would examining MRA applications, because the applications are forced to speculate on future events. Ex

¹²The spin-off effect arises through employees at one firm eating lunch or buying goods at other firms in the area.

post interviews can assess actual changes in employment, taxes, and investment, rather than relying on forecasts in a funding application.

This study is not comprehensive, since a thorough examination of all the costs and benefits of redeveloping downtown would entail more time, data, and money than are available. The direct benefits of business investment include jobs, both short-term construction work and long-term positions in expanded firms, renovation investment, and increased property tax revenue to the city. In the CBD, these benefits are connected with the correction of the market failures discussed above. More jobs in the CBD means that more firms are operating there, using the infrastructure at its intended capacity. Additionally, jobs anywhere in the city supply income, putting money into the economy, and this per capita income is one measure, albeit an imperfect one, of welfare. Only in the CBD is increased per capita income through increased numbers of jobs accompanied by the social benefit of Type A market failure correction.

Increased tax revenue will also accrue to the city from any investment project. Only in the CBD, however, might the impact of one business's renovation spread along the block, as others followed suit. The tax revenue serves as an imperfect proxy for the social benefit of arresting the downward spiral of blight. Regardless of location, the renovation of a structure generates increased property taxes, helping to pay for city services. In the CBD, it is hoped, and there is some evidence to indicate, that renovation of one building can inspire renovations of others nearby.

Another social benefit of redevelopment is the value of the project. From a private point of view, this is the cost of the renovation, but to society, it represents an investment. This investment helps to reduce blight by repairing structures. By extending the useful life of existing buildings, renovation investment helps society to recoup its initial investment in the structure many times over. Because a well-kept building can be used fully, instead of having parts condemned as uninhabitable, it need not be duplicated until the entire structure has reached the end of its life; a span which can exceed 200 years.

Indirect benefits of redeveloping downtown would include the more efficient delivery of city services as Type A market failure is corrected. Unfortunately, it is almost impossible to measure any of these with the data at hand. As blight is eliminated, not only does the area become more attractive, but the social ills such as crime, decay, hopelessness, drug use, and unemployment, which are drawn to blight and concentrated geographically, may be alleviated as well. Commercial vacancy rates would go down. Vacancy rates in low income housing would increase as vacant buildings are converted to apartments through Federal programs. As the stock of low-cost housing in the CBD expands, the poor are allowed a greater selection and can avoid the most dilapidated dwellings.

Delivery of police and fire protection would be more efficient since both these headquarters are located in the CBD. Street maintenance outlays per firm should be smaller downtown than on the strip because there is less roadway per firm in the CBD. Sewers and water mains would be used at intended capacity. The architectural diversity of the city would be preserved along with the sense of Missoula's identity.

Direct costs of revitalization include actual interest subsidy for each project and a share of the overhead cost of administering the CRLP. This study will only look at these costs. Indirect costs of this effort would be increased street congestion and wear on bridges and roads, increased competition for parking places, a need for more street and traffic lights, and a possible change in neighborhood character. Ideally, one ought to examine the impact of downtown's resurgence on the mall and strip area, to ascertain whether the CBD's renewed health has come at the expense of these other areas, or whether the new business vitality is city-wide, but such considerations lie outside the scope of the present study.

The data was obtained through a series of questionnaires administered in person to a sample of 45 business owners who had renovated or remodeled their buildings between 1984 and 1988. Businesses were chosen on the criteria that they were locally owned or at least fairly autonomous branches of a national chain and had obtained a building permit in the specified time period. This excluded projects such as painting or cleaning brick unless accompanied by some type of structural change. To ensure some measure of comparability, the project had to be such that it would have qualified if the business owner had applied for MRA assistance.¹³ Nine firms were chosen from each of the five years: three downtown firms which had used MRA programs, (MCBD), three downtown firms which had not used the MRA, (NMRA), and three firms which were not in the downtown and were

¹³The primary criterion is that the facade of the building must be improved in some manner.

therefore ineligible for the MRA (NCBD). For copies of each type of questionnaire, see Appendix A.

Information from the questionnaire, supplemented with property tax data from the County Assessors' Office, was analyzed to yield the differences in benefits created by each group of firms. These differences were tested for significance using F- and T-tests. A significant difference would indicate that one group had an advantage over the others in terms of location, business acumen, or investment plan.

If the MRA has contributed to the revival of downtown, the benefits from these projects should exceed those of the other groups and also exceed the costs of the program. The benefit-cost analysis focusses on this difference, while the present value computation examines the stream of benefits from this difference. The rate on 6-month Treasury bills at that time was chosen as the discount rate. This may be low, in view of the investment's riskiness, but it has precedent [Sewell 61] and was easy to find. F- and T-tests could not be computed for these two analyses, because the figure of interest was already a difference.

The survey also provided information on the importance of various site characteristics in the location and renovation decisions. This data was analyzed in a logit model to establish the influence of these attributes on the location decision. This method was also applied to the question of participation in the MRA program.

1.3. Expected Findings

Intuitively, one can posit several different findings. The MRA could be subsidizing marginal businesses. In this case, NCBD (non-CBD) firms would have higher net benefits than any other group because they are on the "cutting edge" of the city. They have no coordinating body to arrange promotional events for them. Survival alone requires a healthy business, and remodeling may be the mark of a superior firm. MCB (MRA) firms may have the lowest net benefits because they are marginal businesses who need a subsidy to undertake the risky venture of renovating in a shaky market. NMRA (CBD,non-MRA) would be in the middle, strong enough to renovate without subsidies, but too weak to survive on the strip.

The MRA might have played catalyst to an inevitable change of tastes back to the CBD. MCB, with the benefit of MRA advice and money, would have the highest net benefit. These firms would have been willing to risk investment in the CBD using MRA expertise to find a niche to fill. As specialty shops, these would be able to enjoy a limited monopoly on their service. NMRA, feeling the spillover from MCB's customers, would then have invested and might have the second highest level of benefits. NCBD, exposed to the rigors of competition, might have been forced into renovation as a form of advertising, an attempt to get a prospective customer going 30 mph to stop. In this situation, these firms would have the lowest net benefit.

Finally, the MRA may have played no discernible role. Its function as a clearing house for information and a generator of enthusiasm may have been more important than the money it contributed. If this is true, all three groups would exhibit similar levels of net benefits.

The logit analysis will probably confirm the initial suspicion that firms for whom space is important will tend to locate outside the CBD, and that those concerned with neighborhood amenities and spin-off business from other firms will choose sites in the city center. Results of the MRA participation analysis are more difficult to predict. The amount of dilapidation in the building may be influential, leading firms with more run-down structures to apply to aid. A concern with cost may also incline a business to seek out the least expensive way to pursue a project, and bring it to the MRA. Few other variables seem immediately significant.

Establishing the importance of the MRA will lay the groundwork for a more detailed study of Missoula's revival. Residents in the city appear to agree that the downtown has revived. There are more shoppers, more traffic, more confidence and excitement now than in the past ten years. As supporters -- willingly or not -- of the MRA, they might reasonably wonder why this revitalization has occurred and whether or not the agency was crucial. This study hopes to shed some light on these very practical questions.

Chapter 2

Literature and Theory

A critical evaluation of the Missoula Redevelopment Agency requires the use of several different branches of economic theory. Urban and regional theory contribute to an understanding of the dynamics of the situation Missoula faced in 1978. Examining the theories behind cost-benefit analysis and the present value criterion is necessary to establish the validity of these techniques for this study. In addition, it is useful to inspect evaluations of other revitalization efforts, to see if any have used techniques or made findings which will be helpful in the project at hand.

In order to study the effect of site and business qualities upon location and participation in the MRA, it will be necessary to build a model of the business's choice. Probit and logit models are best suited for this type of explanation.

2.1. Revitalization Studies

The majority of the literature on revitalization efforts is descriptive rather than analytical in nature. Studies on Trenton, New Jersey; [Weisbrod 84] Canton, Illinois; [Henderson 80] Providence, Rhode Island; [Atash 80] Baltimore, Maryland; [Levine 87] and Indianapolis, Indiana [Baumberger 84] have described how public/private partnerships have built sports arenas, transformed tracts of slums into fashionable restaurant and hotel districts, and given face-lifts to shabby small towns.

Weisbrod and Pollakowski compared eight downtown revitalization projects, in this case, pedestrian malls, in various cities to discover what effect the projects have had upon retail businesses. Their time-series analysis found that the impact varies tremendously; some malls greatly increased retail activity while others did little or nothing to change the negative trends of the past. Differences in the local economy and in the design and management of the project contributed greatly to the differences in project effects.

In contrast to Weisbrod and Pollakowski's even-handed appraisal of revitalization projects, Baumberger and Parham were decidedly partisan as they described the transformation of Indianapolis from a district of dying heavy industry to the sports center of the nation. Their paper suffered from a lack of attention to the possible costs of redevelopment. They mentioned briefly the possibility that some displacement of urban poor occurred as slums were replaced by condominiums and townhouses. They never effectively refuted the criticism that too much land was included in tax-increment districts, thereby leading to increased taxes for the rest of the area to offset the frozen revenues. The analysis also failed take into account the possibility that jobs associated with the "amenity infrastructure" might be low-paying service positions, and make poor substitutes for those lost when General Electric left the city. The authors seemed to believe that the most important role of the city administration is preservation of the healthy business climate "that Indianapolis's leaders have taken such care to create."¹⁴

¹⁴Rita J. Baumberger and David W. Parham, "Leveraging Amenity Infrastructure: Indianapolis's Economic Development Strategy", Urban Land, November 1984, pg. 18.

Mark Levine's study of Baltimore was considerably more critical. Baltimore's waterfront redevelopment also arose as a public/private partnership intended to revitalize the urban core through convention and tourism business and corporate headquarters. While the Inner Harbor complex became a glittering example of redevelopment success, the mayor used decidedly undemocratic methods to achieve it. Levine cites Census statistics which reveal that few of benefits from redevelopment have spilled over into nearby neighborhoods, especially black ones, and that most of the new jobs have gone to commuters from the suburbs rather than residents in the central city. Faulting the city for corporate-centeredness, at the expense of small- to medium-sized firms with greater entry-level opportunities, as well as excessive deference to the business community in the public/private partnership and inadequate linkages between downtown and neighborhood economies, Levine proposes an alternate agenda for redevelopment. Cities, he contends, should plan the use of under-utilized resources, plant, and equipment for the production of alternate goods with clear social need and potential economic demand rather than riding rough-shod over traditions and public opinion to attract new industries which may not be in the long-term best interests of the community.

Atash's study of Providence, Rhode Island was another descriptive work. He reviewed the city's history and its attempts to plan and revitalize the CBD. Despite three decades of programs, nothing has been a particularly startling success, a fact which the author attributed to the sheer number of projects, each with different aims and methods.

The Canton, Illinois, paper discussed the uses of tax-increment districts drawing on the experience of this small (population 14,217) mid-western town. More than a description of Canton's redevelopment effort, Henderson provides a comprehensive guide to tax-increment financing. Some of his warnings -- against the city doing too much for potential investors or doing something that private investors would have done anyway -- address the situations described in the redevelopment efforts of larger cities so precisely that this article should be recommended reading for any mayor interested in revitalization.

While most of the recent work in revitalization literature is descriptive, the seminal evaluation of urban renewal with respect to housing is twenty-one years old [Rothenberg 67]. Rothenberg first proved that slums constitute a sub-optimal land use due to their social costs, then investigated how one could measure the benefits of five urban renewal housing projects in Chicago. He grouped these benefits under three headings: those attributable to the internalization of externalities, those due to any income redistribution which may occur, and those arising from any decrease in the social costs of slums. The social costs Rothenberg defined are fire hazard, crime, personality difficulties such as despair, violence and bitterness, and health menace, which particularly affects society because so many slum dwellers are on Medicare and their increased medical costs are borne by the taxpayer. As he admitted, the cause-and-effect relationship here is not direct and, indeed, is often circular. Better housing alone would not serve to cure all of them, but it might help to diminish their effect.

The externality question refers to the spillover effect of low-quality buildings, the so-called contagion of slums. In his study, Rothenberg finds that the spillover of improved quality extends for only a few blocks around the renewed area and quickly dissipates.

The amount of income redistribution depends on the amount of new construction and the rents charged for it. Creation of middle-income housing while decreasing the supply of low-income residences clearly distributes income regressively, as poor people face reduced choice in housing and must pay more for it. Rothenberg found that this was very difficult to measure without close and continuous monitoring of the housing and rent situation in the city. Lacking the necessary data, he was unable to arrive at any firm conclusion, except that the lag between demolition of slums and construction of new low-income housing must be as short as possible.¹⁵

To estimate the effects of renewal on the social costs of slums, Rothenberg suggested a regression equation with a variable for slum effect, the percentage of substandard buildings in the area. Unfortunately, he was unable to find adequate data for numerical analysis. From his earlier theoretical analysis and from sociological and psychological studies, he concludes that reduction of slum living is sure to cause social costs associated with it to decline, but he is unable to quantify the benefits precisely.

¹⁵In the case of widespread abandonment, the supply of low-income housing may increase due to a falling CBD population. Whether abandoned buildings constitute acceptable low-income housing, however, is doubtful.

No one has followed Rothenberg's method in the examination of CBD revitalization. The controversy surrounding urban renewal projects of the '60's and early '70's sparked interest in its effects on housing and neighborhoods, but the dynamics of business revitalization have been ignored to a large extent, except for descriptive articles of the type mentioned above.

2.2. Location Studies

Location theory is directly relevant to downtown redevelopment. For a firm, location is a long-run decision, and a site is chosen in order to maximize profit. When the location of customers and competitors is fixed, site choice becomes a matter of cost-minimization, usually of transportation, but sometimes of production inputs.¹⁶ In his text on urban economics [Heilbrun 87], Robert Heilbrun discusses the input costs involved in the location decision and refines the transportation/production cost division.

A firm will be transport-cost oriented if its product either gains or loses substantial amounts of weight, perishability, or fragility in the production process. If transport costs of material and product are roughly the same, a firm will choose its site based on minimization of a cost of production.

A transport-cost oriented firm may be market- or materials-oriented. Market orientation occurs if the product gains weight, fragility, or perishability, qualities which increase transportation costs. Soft drinks and beer have these

¹⁶Hugh O. Nourse, Regional Economics: A Study in Economic Structure, Stability, and Growth of Regions, Economics Handbook Series, (McGraw-Hill, New York, NY, 1968) pp. 75-77.

characteristics and one finds a plethora of bottling companies licensed to major producers in most good-sized towns. Materials orientation results from weight-losing processes such as mining and lumbering. These industries generate a large amount of waste during processing and transporting the raw material would mean incurring significant costs for something which is then thrown away.

Production-cost orientation can be broken into several sub-groups. Energy, amenity, labor or agglomeration cost minimization is a major aim of many firms whose products neither lose nor gain much weight. Aluminum refiners locate in places which offer abundant cheap energy, research and development firms try to find attractive pleasant places for their skilled and mobile workforce to live. Labor costs are paramount to the textile industry, and financial firms try to minimize the costs of face-to-face interactions with large segments of the population by locating where large numbers of firms already exist.¹⁷

Location, then, is not a casual decision. Firms have rational economic reasons for narrowing a range of site choices. Certain firms, such as corporate headquarters, banks, and law partnerships, have historically located in the city center. This is due to economies of agglomeration, the savings in input costs each achieves by the concentration of firms in the CBD. Other firms will chose sites outside the city center. These include car dealerships and manufacturers, whose large tracts of land would be prohibitively expensive in the CBD. Since these businesses do not require close contact with firms in the downtown, the

¹⁷Robert J. Heilbrun, Urban Economics and Public Policy, 3rd edition, (St. Martin's Press, New York, NY, 1987), pp. 75-80.

savings in land costs far outweigh the time cost of an occasional commute to the city center. Still other firms have no particular preference between the CBD and the suburb. Newspaper publishers, electronics stores, and specialty stores in general derive no particular cost advantage from location in or out of the CBD.

Part of the MRA's role involves retaining or increasing the number of firms located in the CBD. Even those businesses which have traditionally chosen to locate in the CBD will leave for cheaper or more spacious quarters if the differential becomes great enough, while those with no particular preference are very likely to move in response to parking problems, high rent, or lack of space. The MRA tries to convince firms to locate or remain in the downtown by emphasizing its advantages and using subsidies and tax abatements to reduce its drawbacks.

While evaluations of urban business revitalization are hard to find, studies of attempts to attract industry to a given location do exist. This question was of interest as early as 1961, the date of a survey in Michigan [Nourse 68]. In an unpublished report on a student internship [Faust 80], John Faust examined the performance of various state and local agencies in influencing the location decisions of firms. A study of the same topic was performed in Canada in 1983 by J. Rick Ponting and Nigel Waters [Ponting 85]. In a study published the same year, Timothy Bartik [Bartik 85] examined the impact of differing state characteristics, including unionization, corporate income taxes, and various socio-economic factors, in the location decision for branch plants. Three of these four authors finds little evidence of the attractive powers of local tax concessions or a "better"

(ie, lower) tax situation for a large job-creating industry. Bartik, the only one who finds corporate income tax significant, concedes that the effect is small.

The Michigan, Canadian, and Bartik studies lend intriguing insights into those factors which do influence firm location. The Michigan study ranked chance and personal reasons as the most important locational factors for a firm of any size. Less than 1/2 of 1% of those firms with 1 to 4 plants mentioned subsidies or the tax situation as major factors in their decisions. In Michigan as a whole and with firms having 5 or more plants, the percentage influenced by local concessions was only slightly higher, 2% and 4%, respectively, the tax situation 1% and 4%, respectively.¹⁸

The Canadian study found that the most important factors in location were proximity to customers, transportation facilities, cost of land or rent, wage or salary costs, and prior involvement of the firm or its principals in that geographic area.¹⁹ Government incentives or inducements held secondary importance, and provincial and municipal tax policies were minor factors. Ponting and Waters compare their results to a survey conducted in 1981 for Fortune magazine in which the USA's 500 largest firms were asked to cite important locational attributes. These firms shared the Canadian concern with good transportation facilities, net labor costs, and proximity to customers. The Fortune 500 firms placed great importance on community receptivity and state or local attitude toward taxing

¹⁸Eva Mueller, Arnold Wilken, and Margaret Wood, Location Decisions and Industrial Mobility in Michigan, (Institute of Social Research, Ann Arbor, 1961) cited by Nourse, p. 16.

¹⁹Ponting and Waters, p. 739.

industry, which would seem to be at odds with the Faust, Michigan, and Canadian studies but in common with Bartik's.²⁰ Akin to the others, though, this study places only secondary importance on any sort of financing inducements and minor weight on the state and/or local income tax structure.²¹

In his study, Bartik used a logit model of location choice and found that state corporate income taxes did indeed affect the business location decision, at least with branch plants. He examined the decision to locate a new branch plant in a given state using Dunn and Bradstreet data on individual firm expansions. As independent variables, he used attributes such as percentage of unionization, land area, various tax rates (unemployment insurance, corporate income and property tax, and workers' compensation insurance rate), and other socio-economic factors (education of population, miles of roads, construction costs and the like). The most important determinant of branch plant location appeared to be the amount of unionization in the state, along with existing manufacturing activity, corporate income taxes, and wages. The other variables proved insignificant.

Bartik's study makes location choice appear much more rational and researched than do the preceding articles. Yet neither the Michigan study's personal choice factor nor the Canadian prior involvement element should be

²⁰Perhaps it can be explained by the size differences of the firms in the sample. One could imagine that the taxes on GE or IBM would be larger and therefore more important than those on a firm with 1 to 4 plants, such as many in the Michigan study, or on the majority of firms in the Canadian study, which required a minimum of 100 employees for inclusion. There might also be a question of moral hazard, with firms trying to use the survey as a bargaining chip for concessions. This is just conjecture, however.

²¹Fortune Market Research Survey Report, "Why Corporate America Moves Where", *Fortune*, 1981. Survey conducted by Belknap Data Solutions Limited, cited in Ponting, pp. 738-739.

interpreted as meaning that those particular location decisions were made irrationally. Nourse points out that choosing a location on grounds of personal preference simply reflects the value the firm owner places upon the non-pecuniary gains from that place.²² More broadly, Ponting and Waters suggest that

...the location decision is a very complex one in which many firms have very specialized and/or idiosyncratic needs. Thus, the ability of public policies to influence locational decisions is twice constrained, first by the complexity of the process and hence the absence of readily identifiable points of policy leverage, and secondly by unique or idiosyncratic locational needs that may be imperfectly addressed by broadly designed public policies.²³

Bartik's article indicates that some policies, such as right-to-work legislation, may be influential in attracting industry. On the other hand, such efforts might alienate a strongly pro-union constituency to the point where the benefits of increased business activity might be outweighed by the drawbacks of losing political office.

2.3. Cost-Benefit Analysis and Present Value Criteria

Cost-benefit analysis and the present value criteria are closely related. Both examine the excess of benefits over costs of a given project. In cost-benefit analysis, the practitioner can simply subtract the costs from the benefits to determine which is greater, or she can substitute the benefits and costs into the following formula:

²²Nourse, p. 17.

²³Ponting and Waters, p. 739.

$$\frac{\sum_{t=0}^T \frac{B_t}{(1+i)^t}}{\sum_{t=0}^T \frac{C_t}{(1+i)^t}}$$

where:

B_t = the benefits of the jth project at time t

C_t = the costs of the jth project at time t

i = the interest rate

t = time

For the present value, a similar formula is used:

$$\sum_{t=0}^T \frac{B_t - C_t}{(1+i)^t}$$

where: B_t = the benefits of the jth project at time t

C_t = the costs of the jth project at time t

i = the interest rate prevailing at the time the project was undertaken

T = the life of the project

The cost-benefit ratio yields a number whose value should be greater than one if the benefits are greater than the costs and the project a rational use of funds, while the present value of a project is given in dollar terms. The project with the highest of either of these measures would be undertaken first.

This study will use both the simple benefit-cost equation, in which costs are subtracted from benefits, and the present value criterion. J. Hirschleifer [Hirschleifer

58] found that the present value criteria's ability to remain unambiguous in the face of variations in the future interest rate, imaginary roots in the present value criteria, and oddities in the nature of the investment opportunity (high start-up and shut-down costs, for example) far exceeded that of the other available methods, such as Keynes' internal rate of return. The present value also has the desirable quality of computational ease relative to the internal rate of return.

2.4. Logit Analysis of the Decision to Locate in the CBD

Conventional econometric analysis tries to explain phenomena which occur along a continuum, answering questions of "how much" to produce or consume, to demand or supply. Questions of human choice, however, sometimes involve decisions which are not continuous but discrete, with answers of yes/no, for/against, to buy or not to buy. Modeling these discrete responses is best done using a probabilistic qualitative response model.

Two choices are considered here: whether or not to locate in the CBD and whether or not to participate in MRA programs. The responses are assumed to depend on the characteristics of the individual firm. Let the dependent variable, Y_i , equals 1 if the firm locates in the CBD or participate in the MRA, and 0 if it does not. The value of Y_i is determined by P_i , the conditional probability of Y_i being 1 given the various attributes contained in the independent variables.²⁴ Following the methodology of Timothy Bartik, suppose that the probability of a firm's

²⁴Henry Yoshimura, A Probabilistic Qualitative Response Estimation of the Spatial Market for Powder River Basin Coal, unpublished master's thesis, University of Montana, 1983, pp.39-40.

decision to locate in the CBD depends on the profits to be derived from the characteristics of that site as compared to those of any other. The probability of a firm's participation in the MRA depends on the profits to be realized from that course of action, which depend in turn upon the characteristics of the site, in particular, the dilapidation of the building. Thus, in either case, the profits of firm i at site j are a function of a vector of site characteristics as observed by the firm X_j , along with the disturbance term, e_{ij} :

$$\text{Profits}_{ij} = \{B\}'X_j + e_{ij}$$

The error term is assumed to be normally distributed around a zero mean, which allows us to ignore it. With this assumption, the probability of a firm's locating in the CBD or participating in the MRA becomes the following logit model:

$$\begin{aligned} P_{ij} &= F(B_0 + B_1 X_{1j} + B_2 X_{2j} + \dots + B_n X_{nj}) \\ &= [1 + e^{-(B_0 + B_1 X_{1j} + B_2 X_{2j} + \dots + B_n X_{nj})}]^{-1} \end{aligned}$$

The probability of firm i locating at site j , the CBD, is seen to be a function of the n -fold aspects of the site, and a constant. Likewise, the probability of the firm participating in the MRA's program is a function of the same site and firm characteristics, assuming that the qualities of the site help to determine the scope of the project the firm is willing and required to undertake. Theoretically, there are a very large number of observations on each site, which at the limit, will approach infinity and thus resemble the cumulative normal probability function. Because the cumulative logistic probability function is computationally simpler than the

cumulative normal function, and its results equally valid,²⁵ this study will use the logit model based upon it.

The estimation procedure attempts to choose the β which would maximize the probability that the model would have given rise to the observed pattern of choices (Y_i), given the observations on X_{ij} . In this case, the method of choice is that of Maximum Likelihood, in which parameters are estimated to maximize the joint probability of observing the sample values, or, mathematically, $P\{Y_i|X_{ij}\}$.²⁶ These estimates are consistent, asymptotically normally distributed, and asymptotically efficient.²⁷

²⁵See Yoshimura, pages 43-52, for a detailed discussion of the differences between the two distributions.

²⁶A. Koutsoyiannis, Theory of Econometrics, 2nd edition, (Barnes & Noble Books, Totowa, NJ, 1977), p.438. Cited in Yoshimura, p. 50.

²⁷R. Pindyck and D. Rubinfeld, Econometric Models and Economic Forecasts, (McGraw-Hill, New York) 1981. Cited in Yoshimura, p.51.

Chapter 3

Chapter III: The Data

A series of face-to-face interviews with Missoula business-owners provided most of the data for this paper. This chapter discusses the selection and interview process, the method of collecting the data, and the biases which may be present.

3.1. Selection of Businesses

Selecting the firms for the study was a multi-step process. The City Engineers Office maintains records of all individuals and businesses who obtain building permits. From these files, the name of the firm and the date and type of project were obtained. Because the Engineering Office keeps its records by street address, a list of streets on which renovation had occurred was compiled. This list was expanded as it became evident that too few projects had been undertaken on the streets in the original group. In the end, the surveyed businesses were located on the following streets: Broadway, Brooks, Front, Higgins, Kensington, Main, Pine, Russell, Ryman, South, Spruce, and South Third. In addition to location on one of these streets, the business must have obtained a building permit between January 1984 and July 1988.

The second step involved classifying the type of project which had been undertaken. Because of the interest in the neighborhood externality of blight, the project must have altered the exterior of the building, even by adding a dormer or

replacing a window. This requirement also helped assure a degree of uniformity among the different projects, in that each would have initially qualified for MRA funds, which required exterior alteration. Interior renovations were thus excluded, as were those projects which had not obtained a building permit, either through ignorance of the law or because the project did not involve structural change.²⁸

Firms were grouped by location: those within the CBD who used the MRA's programs (MCBD), those within the CBD who did not use the MRA (NMRA), and those outside the CBD (NCBD). This study's definition of the CBD changed slightly from that used by the Missoula Planning Board in their earlier report (see page 6, footnote). In one particular case, the business-owner's definition of downtown excluded his firm by one block, although the Planning Board would have included it.²⁹ For the purposes of this study, downtown includes the area between Madison Street on the east, Spruce Street up to Pattee and the Burlington-Northern tracks on the north, Orange Street to South Third Street on the west, and on the south, Third to Myrtle, up Myrtle to Roosevelt and Connell, Gerald to S. Fifth East and along that street to Madison [Figure3-1]. Using the terminology defined above, MCBD and NMRA firms are those within this boundary; NCBD are those outside it.

Only locally-owned businesses, or ones where the manager had a great deal of autonomy, were considered. Out-of-town owners were unavailable for a

²⁸A coat of paint can alter a building's appearance greatly, but one need not obtain a building permit before applying it.

²⁹The interviewer felt it only proper to defer to the owner's sense that he was not in the central business district.

personal interview, except on the telephone, and the questionnaire had not been designed with telephone interviews in mind. In addition, absentee owners might not be influenced by the neighborhood dynamics of Missoula, so the spin-off effects of revitalization would have had less impact on their renovation decision.

The time period of 1984 through 1988 brought some problems. An interval longer than five years would have been preferable for tracking employment and identifying other trends, but that proved to be impossible for two reasons. First, the MRA did not begin significant renovation work until 1983. Secondly, before 1984, the method of recording building permits at the City Engineering Department was sporadic and unreliable. Beginning in 1984, all documents pertaining to a given project were microfilmed, and, although they can be difficult to read, the information is much more complete and dependable.

Five years may be too long an interval. The optimal study might involve interviews with 45 business owners who began their projects on the same day or year, in order to minimize the impact of changes in business cycles and larger economy. The size of the Missoula area and business community, however, preclude this.

Lastly, a firm had to be in operation at the time of the study. Several ambitious and suitable projects had been undertaken by businesses which had subsequently failed. Although the owners may have remained in the area, the small sample size required the most complete information possible, especially regarding employment and property tax generation. Failed firms would be unable to provide this. The sample is thus biased toward successful investments, but at least the bias is uniform for all three groups.

Having met these criteria, the firms were listed by year. From each year, three businesses in each group, or nine firms in all, were chosen. The method was far from random. In some cases, only three firms which met the criteria existed, which meant all were interviewed. In other cases, the owner was on vacation, or did not return frequent telephone calls. These were excluded. One individual refused to grant an interview. In this manner, an approximation of randomness ensued. When the three individuals in a given year's group (MCBD, NMRA, NCBBD) had been interviewed, the process of finding subjects in that group would switch to another year.

The interviews, which lasted between 15 minutes and an hour, usually occurred at the business. The interviewee was assured of confidentiality, and because of this, no businesses or interviewees are mentioned by name. A list of questions can be found in Appendix A.

3.2. Other Data Sources

One item of data that was unavailable from interviews was property tax generation. Although owners were asked this question in the interview, very few could recall the figure and even when they did, it was confounded by inclusion of SID's (Special Improvement Districts for lighting and parking). Since property tax increase is a primary reason behind municipal redevelopment efforts, taxes had to be measured as accurately as possible.

Property taxes are computed using the following formula which allows all levels of government to interfere:

$$\text{Taxes} = \text{Market Value} * \text{Taxable Percentage} * \text{Mill Levy}$$

The County establishes the market value of a given structure and site through the Appraiser's Office. The taxable percentage, based on one of twenty classes of use, is set by the Legislature. The City Council sets the mill levy.³⁰

The County Assessor's office provided access to property taxes for 1984-1988. SID levies and any other city attachments were ignored, because they vary so widely. Within the CBD, some firms pay SID's for lighting and for parking in order to allow their customers free parking places. Outside the CBD, this rarely happens. Using the tax bill which the business owner actually pays, then, would have introduced bias. To reduce this, only the taxes on the real estate and the structure itself were used.

Property taxes are assessed with a lag. Any improvements completed this year are appraised and the increased value in the property is reflected in the taxes of the following year. All appraisals on renovated property must be completed by January of the year after the project was begun. This means that renovations conducted in 1988 would not be reflected in property taxes until 1989. If the project is not finished at the time of the appraisal, the value of the work completed to that date is assessed and the property reappraised the following year.

The market value of most downtown land in Missoula has stayed relatively

³⁰Conversation with Jim Fairbanks, Director, Missoula County Assessor's Office, Missoula, MT, October 31, 1988.

constant since the early '80's.³¹ It is the taxable percentage which changes. Every five years, all real estate in the state is reappraised to reflect changing market conditions. This last occurred in 1986, affecting the property tax generation of projects undertaken in 1985. To keep tax payments unchanged, the Legislature compensated for increased state-wide market value with a lower taxable percentage on each class. The taxable percentage on commercial class 4 real estate, with which this paper is concerned, dropped from 8.55% to 3.86%. Because of the general stability of market values in Missoula County, property tax revenues actually decreased overall, despite the legislature's efforts to stabilize them. In some cases, despite 1985 improvements, 1986 tax collection decreased due to the overall change in the property value. One can only surmise that tax receipts would have dropped even lower without the renovations.

In other cases, tax receipts will drop despite continuity in the market value and taxable percentage. This is due to the dynamic nature of the tax base. Renovation offsets the annual depreciation that occurs as the structure ages and loses its value, but sometimes the project in question is not large enough to raise the appraised property value above the amount of depreciation. The project may only serve to slow a decline. A coat of paint, an awning, or a flower box, although it may not appear on the tax rolls, may nonetheless affect the investment decisions of nearby business owners through the neighborhood externality/spillover effect. Such a small change may slow or even reverse a general trend of under-maintenance.

³¹Conversation with Steve Wake, Missoula County Appraiser's Office, Missoula, MT, 5 November 1988.

The lag in property tax assessment complicated data gathering because of the nine projects initiated in 1988. Initially, the property taxes on these nine projects were unobtainable because the reappraisals would not be completed until January of 1989. However, the appraisers had completed updates for three of the projects, and three more could be estimated from records at the MRA. These estimates come directly from the Appraiser's Office and should be free from bias. To cope with the three missing cases, the following method was employed:

1. For all projects with complete information, the difference in taxes before and after renovation was computed, $D = A - B$
2. The new level of taxes was taken to be a function of the cost of the renovation, $A = F(\text{Cost})$
3. For all projects, the new level of taxes was regressed against the cost of the renovation, $A = a + B(\text{Cost})$. B was expected to be positive and significant, assumptions which were proved correct. Estimated B was significant at the 95% level.
4. For the missing projects, the values of a and B were substituted into the equation above to yield an estimated new level of taxes. From this, the approximate difference in taxes could be computed.

A second data item unavailable from the interviews was the construction wage rate. Non-construction wages posed no problem, as business owners provided the necessary data. Due to the poor memories of business owners, the presence of sub-contractors, and the different types of workers involved in any given project, the individual construction wage rate for each job was difficult to find. Therefore, the scale established in the handbook for state-funded projects³²

³²Montana State Department of Labor and Industry, Employment Relations Division, Guide To Construction Wages According to the Davis-Bacon Act, (Government Printing Office, Helena, MT.) January, 1989.

was used. This book lists all the possible crafts which can be involved in a construction project and gives the corresponding union scale wage. It is broken down by region to reflect of cost-of-living differences. The average construction wage was computed by averaging the wage rates for the different crafts. While this might seem a fairly crude approach, any closer approximation would entail finding and interviewing at least 45 subcontractors for projects completed up to five years ago.

The average obtained through this process, \$13.83 per hour, is on the low end of the construction scale. This is due to the number of comparatively low-paying (\$5.95 to \$9.95 per hour) construction jobs counterbalancing the higher-paying (\$18.95 and \$21.95 per hour) ones. This procedure may underestimate the number of higher paying skilled positions created by a given project, but it is consistent with the intent of providing a conservative evaluation of the impact of redevelopment.

3.3. Biases

Survey data is always subject to the biases of recall, interviewer personality, saliency, and misrepresentation. In this study, few questions could be construed as threatening to the subject, since they concerned a project in which he or she had some amount of pride. One individual preferred not to answer the question on the size of a bank loan, but no one else refused to respond to any question.

Few questions had socially desirable answers,³³ which also increases the reliability of the response.

Recall bias, of course, is present. Individuals remember recent events much more clearly than those of the more distant past, and tend to telescope the past, collapsing a number of previous events into a short time span. This particularly affected the question regarding the number of renovations within sight of the business in the years before, during, and after the business's own remodeling. Although the subject was "led" back to that time through questions regarding increasingly distant events, this item produced a wide range of responses even from firms on the same block. Since we are concerned with the perceptions of the renovator, rather than an objective number, this should not affect the results severely.

Recall bias may have affected the memory of the length of the construction period and number of construction workers. Some individuals combined the actual construction time with time spent demolishing an existing structure. This is understandable, but the Building Office issues separate permits for each process. The project is dated from the issue of the construction permit, even though the business owner may believe that the process had been under way for a considerably longer time.

³³Questions regarding such subjects as spouse abuse, integration, and women's rights sometimes produce responses geared more toward what is perceived as correct than what the respondent actually believes. Seymour Sudman and Norman M. Bradburn, Response Effects in Surveys: A Review and Synthesis, (Aldine Publishing Co., Chicago, IL, 1974), pp. 119-128, passim.

The problem with recalling numbers of construction workers, especially when several sub-contractors were involved, is reduced by the use of ranges in the answers. Subjects were asked whether less than 5, 6-10, 11-15, or more than 16 people worked on their job, which hopefully reduced the bias.

A few questions may have been affected by saliency bias. People recall events which interest them much more clearly than they do those which do not affect them. The number of renovations question may be influenced by this. A business owner may not have noticed neighborhood change before he or she remodeled. Once the renovation investment had been made, the individual may have been much more aware of neighborhood redevelopment. But, as stated above, perceived neighborhood change is more important in this study than actual numbers of renovations.

The problem of interviewer bias should be minimal. Since all the interviews were conducted by the same person within a two-month time period, consistency of delivery can be assumed. Studies cited by Sudman [Sudman 74] have shown that the sex, race, class, and age of the interviewer have a minor effect on response unless the questions asked pertain directly to one of these characteristics. A woman interviewing a man on women's issues, or a black interviewer asking a white subject about race relations would tend to introduce a bias toward acceptable, "pleasing" answers. Since the sex, race, class, and age of the interviewer did not enter into the questions in any way, this bias probably does not affect the data.

3.4. Other Considerations

Since this study involves time-series data, the price level may have changed. This would affect the real wage rates, making wages in earlier projects worth more than the same wage in a later one. This should not be a major consideration, however, because inflation has been a reasonably low and uniform 4% per year during the period of the study. Although this means that there could be an error of 20%, the stability of the minimum wage seemed to indicate that the price level has not changed to such an extent that wages had responded markedly. Nor has Missoula suddenly faced a labor shortage. The majority of the businesses interviewed employ skilled, retail, or service workers, of which Missoula has an ample supply. Wages, therefore, should be comparable across the 5 years.

The data includes three anomalous cases, which were inevitable due to the small number of firms suitable for interview compared to the number of interviews which had to be conducted. The accompanying table [Table 3-1] shows the number of possible interview subjects compared to the actual number needed for each group in each year.

The anomalous firms exhibited either radical increases or sharp decreases in firm scale and size of the work force. Despite these deviations from Missoula's historical trend of slow but positive growth, these firms were included in the study for lack of an alternative.

Table 3-1: Size of Sample Compared to Valid Cases in Population

| Year | MCBD | | NMRA | | NCBD | |
|--------------|---------|-------|---------|-------|---------|-------|
| | Sampled | Valid | Sampled | Valid | Sampled | Valid |
| 1984 | 3 | 4 | 3 | 6 | 3 | 3 |
| 1985 | 3 | 4 | 3 | 10 | 3 | 9 |
| 1986 | 3 | 3 | 3 | 5 | 3 | 3 |
| 1987 | 3 | 4 | 3 | 3 | 3 | 5 |
| 1988 | 3 | 3 | 3 | 3 | 3 | 3 |
| All Years | 15 | 19 | 15 | 27 | 15 | 23 |

Two of the firms significantly reduced the size of their operations at the time of their renovation. These businesses were both in the non-CBD area and involved in the large consumer durable retail market, a characteristic which made them particularly sensitive to uncertainty about the local economy. They had over-expanded earlier, and were forced to reduce the scale of their operations in order to increase efficiency and, thereby, profits. One firm terminated 39 positions and the other, eight, and the impact on the employment data is pronounced.

Two methods have been used to cope with this situation. Sometimes, two sets of figures were computed, one including all cases and one with the outliers excluded. When this occurs, it will be plainly marked. In others, the median will be included along with the mean. The median has the advantage of being fairly immune to the effects of large outliers in a sample, or robust, while the mean becomes unreliable in such a situation.

One of the projects entailed an increase in employment which was unusually large relative to the Missoula economy. The establishment of this very large firm skewed the distribution upward. When dealing with the entire sample, this firm

acts as a counterbalance to the two mentioned above, but when individual groups are examined, its presence is more noticeable. This firm will not be excluded from calculations because it is only due to the sampling procedure that just one of these large establishments was surveyed. Several others exist in that group and could have been included.

The method used to finance the project is of interest. The importance of the renovation decision and the relatively large amount of money it cost helped subjects remember it vividly. When a project was financed through a bank loan, the individual recalled the amount, term, and interest rate clearly. Quite a few individuals, however, financed their remodeling from savings. In this case, their cost is not interest paid to the bank, but opportunity cost of the foregone interest on their savings. The Keynesian internal rate of return would have allowed greater recognition of this opportunity cost than does the present value criterion, but for consistency across all cases in this study, the average rate for six-month T-bills in the year of the project will be used to reflect this cost. Although this may differ from the rate the depositor had received, it is in keeping with the attempt to measure the costs and benefits of redevelopment critically.

Two firms obtained loans with varying interest rates. Usually these are pegged to the T-bill rate or to a fixed number of percentage points above the bank's prime rate. The average rate for all firms in that year was computed and used as a proxy. Given the uncertainty about future movements in the interest rate, this figure seems to be acceptable.

3.5. Explanatory Variables of the Logit Model

Many logit programs in computer packages require explanatory variables that are continuous. The locational data from the survey, unfortunately, was recorded on a scale from 1 to 5, indicating strength of feeling. These discrete observations were averaged with similar ones in order to make them continuous, even if only over a limited range. The variables used in the analysis are listed below [Table 3-2].

Table 3-2: Variable List

| Variable | Definition | Expected Effect | Source |
|--------------|--|-----------------|-----------|
| Cost | Interest rate and cost of space | - | Interview |
| Neighborhood | Nearby businesses and traffic volume | + | Interview |
| Space | Need for parking, amount of space, crowding, available parking, and floorspace | - | Interview |
| Appearance | Neighborhood improvements and dilapidation of building | + | Interview |

These aggregated variables were averages of the original ones. This method had the advantage of conserving on degrees of freedom, which were at a premium due to the small sample size.

It was expected that the Cost variable would exert a negative impact on the decision to locate in the CBD, as land and buildings are less expensive in the outlying areas. If the cost of space were extremely important to the business owner, he or she would have to locate outside the CBD because that land is

approximately one-third the price of land in the city center. While the interest rate does not change with location, the importance of that consideration may influence location preference. Again, a firm whose owner felt strongly about minimizing the interest paid on a loan would probably choose the least expensive area in which to build, already defined as that outside the CBD.

The importance of neighborhood considerations would incline a business owner toward the CBD, because of the proximity of other firms and the tendency of the Downtown Association to organize group activities and promotions, which foster both a sense of community and increased profits. The Southgate Mall Merchants' Association serves the same function, but this study was designed expressly to exclude the mall. Aside from these two, there are no coordinating associations for any other merchant groups in the city. Traffic volume, one of the components of this variable, would seem to incline a merchant to the area outside the CBD. Traffic is more consistently heavy on Rt. 93 than in the downtown, but the study is not concerned with absolutes. The question referred to the importance of the perceived volume of foot and bicycle as well as automobile traffic in location choice, rather than the number of cars per hour on the street outside.

The Space variable would work against downtown location, as space is much more available outside the CBD. This increased availability leads to a lower price, as discussed with reference to the Cost variable above. All the questions which make up this variable referred to the importance of the physical amount of space, not to the actual square footage of the site.

The two components of the Appearance variable may seem to work against one another, since an improving neighborhood might be attractive but a dilapidated building certainly would not be so. It must be remembered that the data regarded the importance of building dilapidation in the location decision. A building which looked fine on the strip might appear quite shabby when next to the newly-cleaned brick of the Knowles block or near the Northern Pacific depot. The proximity of other buildings in the CBD might emphasize a structure's dilapidation. Secondly, because the older structures are located in the CBD, they have a tendency to be more run down. Lastly, in many cases, the only way to afford a building in an improving district is to buy one that has not yet been improved. Either the renovated structures will be occupied by the businesses which renovated them, or the investor who does the work will have leasehold interests on hand. A late-comer will have little choice but to refurbish his or her own building. The building might therefore be dilapidated and yet that very trait may have been an important factor in the attractive power of the CBD, because it allowed the merchant to enter a desirable neighborhood affordably.

The business in which a firm is involved might also serve to incline a business toward location in or out of the CBD. As has been discussed, certain operations are almost precluded from location in the CBD due to noise generation, space requirements or specialized transport needs. The limitations of the available computer software, SPSSx,³⁴ with regards to the data made it difficult, if not

³⁴The Logit procedure on SPSSx requires that the explanatory variables be continuous and numeric, while the data was alphabetic and discrete.

impossible, to include this variable. The Space variable acts as a proxy to some degree; obviously, a car dealer would list space as a very important quality for a site to possess, while a boutique owner would be less concerned with it. Hopefully, later studies can incorporate this variable into a similar analysis.

Chapter 4

Analysis and Results

Part of the rationale for downtown redevelopment is the correction of the market failure connected with the economic inefficiencies of urban sprawl, which this paper calls Type A. More jobs in the CBD helps to encourage full and efficient use of that area's existing infrastructure. As the number of people working in the CBD increases, the spin-off effects of noon-time errands and meals out increases, and small businesses spring up. Frequently, these business owners renovate their buildings as they compete to attract customers and Type B market failure, the neighborhood externality problem, is also reduced. If the MRA is exerting a noticeable influence on downtown, benefits from the projects of MCBF firms should exceed that in either of the other two groups. This is a strict test. The MRA will have served its purpose if it inspired any investment in the CBD over that which would have occurred. Since it is impossible to measure what would have happened, the NCBD and MNRA firms are used as references. This may work to bias the results against the MRA, because the strip is thriving and the MNRA investments may have been triggered by MCBF projects. Since the aim of this study is conservative estimation of the MRA's contribution to CBD revitalization, this strict test does not appear to be overly harsh.

4.1. Job Creation by Classification

The survey requested information on the number of employees both before and after the renovation project. These were grouped in six different categories. Clerical workers included secretaries, legal secretaries, and bookkeepers. Skilled implied that the workers were trained but did not have a professional degree, such as bakers, installers of car windshields, or mechanics. The professional category included those who had obtained a professional degree, such as doctors, lawyers, dentists and optometrists, and, in the case of artists, those who made their livings with their art rather than pursuing it as amateurs. Service workers were primarily waiters and waitresses. Retail covered those individuals employed in retail sales. Some of these received an hourly wage, others a commission. Semi-skilled, the final category, applied to laborer-type jobs, dishwashers, janitors, and washers of cars. In many cases, this categorization scheme involved some necessary limitation of the scope of a person's responsibilities, but it appeared the only way to achieve a degree of comparability across the sample.

As a project's benefits, the MRA counts the number of jobs "retained" in the CBD as well as the number created. Retained jobs are defined as those jobs which previously existed at the firm, as well as a certain number estimated to arise from what the agency saw as a multiplier effect. This study chose not to follow this exact approach in measuring job creation for two reasons. First, calculating an accurate multiplier in order to estimate the spin-off jobs from a project was beyond the immediate scope of this study. Given the small size of most of the firms, the impact of the multiplier would probably be quite small. Secondly,

counting previously-existing jobs as a benefit of renovation implies that the jobs would have disappeared without the project. In the survey, business owners were asked what they would have done without the renovation and only 5 of the 45 opted for the choice "Closed the Business" or "Moved Elsewhere". In the results reported here, a category called "created and retained" is included. These retained positions are confined to jobs that previously existed at the firm, in deference to the MRA's contention that they would have moved elsewhere. These figures appear only as a companion to the "created" category, which lists only the jobs due to the renovation project. In a strict evaluation of the benefits of renovation, only these jobs are unquestionably due to the project. In all cases, "created" applies to staff and construction jobs arising from the renovation; "retained" jobs are previously-existing staff positions. The category "Retained and Created" refers to the total number of staff positions currently at the firm, as well as those construction jobs which arose during the process of renovation.

Ten of the 45 business owners in the study renovated a building in order to start a business. Thus, only 35 businesses had pre-existing jobs to retain. The following table [Table 4-1] details the jobs which were created as opposed to those created and retained. The first column for each group shows the mean number of jobs of that type per project, the second, the total number of positions in that category. When the 15 firms only create one clerical position, as occurred with the MCBBD businesses, the mean will be very small indeed. Information for the NCBD firms and for all businesses is presented both with and without the firms which scaled back their operations. When the loss of 47 positions is excluded, job creation for the NCBD group turns from negative to positive.

Table 4-1: Job Creation by Type

| Type | Created Positions | | | | | | | | | | | |
|-------|-------------------|------|------|------|-------|------|-----------|------|-------|------|------------|------|
| | MCBD | | NMRA | | NCBD | | All Firms | | NCBD* | | All Firms* | |
| | Mean | Jobs | Mean | Jobs | Mean | Jobs | Mean | Jobs | Mean | Jobs | Mean | Jobs |
| Cler | 0.07 | 1 | 0.20 | 3 | -0.47 | -7 | -0.07 | -3 | 0 | 0 | 0.09 | 4 |
| Skil | 0.67 | 10 | 1.40 | 21 | -0.13 | -2 | 0.64 | 29 | 0.38 | 5 | 0.84 | 36 |
| Prof | 1.60 | 24 | 0.53 | 8 | 0.20 | 3 | 0.78 | 35 | 0.38 | 5 | 0.86 | 37 |
| Serv | 4.90 | 74 | 0.80 | 12 | 0.87 | 13 | 2.20 | 99 | 1.00 | 13 | 2.30 | 99 |
| Retl | 0.80 | 12 | 0.30 | 5 | -1.07 | -16 | 0.01 | 1 | 0.69 | 9 | 0.59 | 26 |
| Semi | 0.27 | 4 | 0.27 | 4 | 0.33 | 5 | 0.29 | 13 | 0.84 | 11 | 0.44 | 19 |
| Const | 7.30 | 110 | 4.00 | 60 | 4.30 | 65 | 5.20 | 235 | NA | NA | NA | NA |
| Total | | | | | | | | | | | | |
| Staff | 8.30 | 125 | 3.50 | 52 | -0.27 | -4 | 3.80 | 173 | 3.30 | 43 | 5.10 | 220 |
| Total | | | | | | | | | | | | |
| w/Con | 15.70 | 235 | 7.50 | 112 | 4.10 | 61 | 9.10 | 408 | 7.80 | 102 | 10.40 | 449 |

Created & Retained Positions

| Type | Created & Retained Positions | | | | | | | | | | | |
|-------|------------------------------|------|-------|------|-------|------|-----------|------|-------|------|------------|------|
| | MCBD | | NMRA | | NCBD | | All Firms | | NCBD* | | All Firms* | |
| | Mean | Jobs | Mean | Jobs | Mean | Jobs | Mean | Jobs | Mean | Jobs | Mean | Jobs |
| Cler | 1.07 | 16 | 0.67 | 10 | 0.53 | 8 | 0.76 | 34 | 0.62 | 8 | 0.79 | 34 |
| Skil | 1.47 | 22 | 2.73 | 41 | 1.47 | 22 | 1.89 | 85 | 1.40 | 18 | 1.90 | 81 |
| Prof | 4.20 | 63 | 1.40 | 21 | 1.73 | 26 | 2.40 | 110 | 1.70 | 63 | 2.50 | 106 |
| Serv | 6.47 | 97 | 2.00 | 30 | 1.40 | 21 | 3.29 | 148 | 1.62 | 21 | 3.40 | 148 |
| Retl | 1.87 | 28 | 0.97 | 14 | 1.73 | 26 | 1.52 | 69 | 1.80 | 24 | 1.50 | 67 |
| Semi | 0.33 | 5 | 0.27 | 4 | 1.13 | 17 | 0.58 | 26 | 1.46 | 19 | 0.65 | 28 |
| Const | 7.30 | 110 | 4.00 | 60 | 4.30 | 65 | 5.20 | 235 | NA | NA | NA | NA |
| Total | | | | | | | | | | | | |
| Staff | 15.40 | 231 | 7.93 | 119 | 8.00 | 120 | 10.40 | 470 | 8.60 | 112 | 10.70 | 462 |
| Total | | | | | | | | | | | | |
| w/Con | 22.70 | 341 | 11.90 | 179 | 12.30 | 185 | 15.70 | 705 | 13.10 | 171 | 16.10 | 691 |

*: Indicates exclusion of the 2 retrenching firms

NA: Not Applicable

Clearly, the MCBF firms created far more new positions than did either of the other groups. The variation among the individual firms was so large, however, that only a few differences were significant. Differences in total created employment, including construction, were significant at the 95% level for MCBF and NCBF and at 89% for MCBF and NMRA. When the NCBF retrenching firms are excluded, the difference from MCBF drop to the 87% significance level. Differences in total created staff employment were significant at the 91% level between MCBF and NCBF. Differences in the creation of clerical positions between MCBF and NCBF were significant at the 84.5% level, between NMRA and NCBF at 91.3%, and between NMRA and NCBF with retrenching firms excluded, at 90.6%. Differences in skilled position creation were significant at 95.9% for NMRA and NCBF, a level which dropped to 87.3% when the firms which scaled back their operations were excluded. MCBF clearly created more professional positions than the others; the differences were significant at 81.9% between MCBF and NMRA, at 90.6% between MCBF and NCBF, and at 85.8% between the same two when the retrenching firms are not included. Construction jobs proved significantly different between MCBF and NMRA (98.8%) and between MCBF and NCBF (95.8%). There is not reason to exclude the retrenching firms here, because their hiring practices with respect to construction firms are consistent with the general trend.

The differences between groups in created and retained positions are very slight, except for the total position category with construction jobs included. Here, the number of construction workers and the large staffs of the MCBF firms combine to make the difference significant at more than 90% for MCBF and NMRA

(93.8%), MCB and NCBD (92.7%), and MCB and NCBD without retrenching firms (90.0%).

The ten firms which were newly established frequently hired fairly large work forces, offsetting the more modest employment increases of the pre-existing businesses. The predominant presence of new firms in the MCB group may contribute to the large number of positions created there. That the NMRA firms increased their clerical workers by a significant number may be attributed to the nature of the firms. Most businesses in the NMRA group were smaller operations with a small work force. Once business had increased to a certain level, the owner was able to shift the burden of book-keeping and reception work to another individual. Both MCB and NCBD businesses were large enough that they already employed a book-keeper/secretary at the time of their renovation and did not need to hire another one.

The NMRA firms also hired more skilled workers than the other groups. Many of these businesses provided goods or services which required skilled workers to produce; baked goods, arts and antiques, fine printing and the like. When such a business expands, it will hire more skilled workers to help it produce its product.

The MCB businesses clearly tended to be professional or service oriented, as can be seen in their hiring. Given the high number of construction jobs created by these firms, one can believe that these projects tended to be more extensive than those of the other firms. These businesses may have had more money and more time and seen their renovation as a quantum leap in business size, often involving a move to new quarters or a major addition.

Knowing the types of positions created is intriguing, but it is also necessary to examine the wages these paid. Has greater job growth occurred among MCBF firms at the cost of lower wages? Information was collected about average wages for employees, using the following bands: less than \$3.50, \$3.50 to \$5.00, \$5.01 to \$7.50, and over \$7.50. To guard against the possibility that a business owner might round his or her wages up to give a better impression to the interviewer, and to estimate benefits conservatively, the following wages were used in calculation: \$3.35 (Federal and Montana minimum wage), \$3.50, \$5.01, and \$7.51. For some positions, especially professional ones, even the \$7.51 figure is low, but this is an acceptable bias.

The following table [Table 4-2] details the hourly wage before and after renovation.

Table 4-2: Pre- and Post-Project Wages, in Dollars

| Group | Pre-Project | | | Post-Project | | |
|-----------|-------------|---------|------|--------------|---------|------|
| | Mean | Std.Dev | Med. | Mean | Std.Dev | Med. |
| MCBD | 6.21 | 1.67 | 7.50 | 6.21 | 1.67 | 7.50 |
| NMRA | 5.36 | 1.80 | 5.00 | 4.50 | 1.60 | 3.50 |
| NCBD | 6.20 | 1.60 | 7.50 | 5.60 | 1.60 | 5.00 |
| All Firms | 5.94 | 1.70 | 7.50 | 5.47 | 1.74 | 5.00 |

Although the NCBD and MCBF firms paid wages almost a dollar higher than those of NMRA before renovation, the difference is not statistically significant due to the variation in the sample. It is interesting to observe, however, that the median of the NMRA wage almost coincides with the mean, indicating a distribution which close resembles the normal curve, while the distributions of the other two are skewed to the right.

After renovation, wages change substantially except for those in the M CBD group. In all respects, the wage for those firms is unchanged. The decreases in the N CBD and NMRA wages are marked, 50 and 80 cents, and differences between means become significant. The difference between M CBD and NMRA is significant at 97.9%, but that between N CBD and M CBD does not even reach the 70% level. NMRA and N CBD differ significantly at 89.1%, which presents the interesting spectacle of the two downtown firms differing more from one another than either does from firms outside the CBD. This is undoubtedly due to the number of highly paid workers, either salaried or on commission, in many of the businesses in the M CBD and N CBD groups. The NMRA firms hired skilled, hourly labor, many of whom might have required training and thus earned a lower initial wage. In any event, it is clear that the NMRA and N CBD firms created jobs at less than the average wage.

4.2. Income Generation from Jobs

Jobs are important not simply from the personal viewpoint, but also from that of society. The local economy benefits from a high employment rate. Welfare payments fall and the multiplier spreads the impact of the income throughout the community. Tables [4-3] and [4-4] shows the annual wage bill in thousands of dollars for the jobs created by the renovation projects. These were calculated using the numbers of positions and the wage rates from the section above. Employers were asked whether the positions were seasonal or full-time; part-time laborers were assumed to work 26 weeks each year and full-time employees 50

weeks. The position was multiplied by the hourly wage rate, 40 hours (20 if the position was part-time), and the number of weeks assumed to be worked, arriving at the annual wage bill. The "Retained and Created" section includes income from previously-existing jobs as well as that from created positions, in deference to the theory that the jobs would have gone elsewhere without the project. The "Created" column counts income only from those positions which evolved directly from the renovations.

Table 4-3: (Dollar Value of Created Jobs (\$1,000s))

| Group | Seasonal | | | Construction | | | Staff | | |
|-----------|----------|-------|-------|--------------|-------|--------|-------|-------|--------|
| | Mean | S.D. | Total | Mean | S.D. | Total | Mean | S.D. | Total |
| MCBD | 0.3 | 1.3 | 5.2 | 89.0 | 124.4 | 1335.4 | 66.9 | 91.9 | 1003.7 |
| NMRA | 0 | 0 | 0 | 18.1 | 14.7 | 271.8 | 28.2 | 25.7 | 423.0 |
| NCBD | 1.1 | 3.1 | 17.6 | 24.7 | 42.0 | 370.8 | -21.6 | 161.8 | -325.3 |
| All | | | | | | | | | |
| Firms | 0.5 | 2.0 | 22.8 | 43.9 | 81.2 | 1978.1 | 24.4 | 108.5 | 1101.4 |
| NCBD* | 1.3 | 3.3 | 17.6 | NA | NA | NA | 28.4 | 27.2 | 369.6 |
| All | | | | | | | | | |
| Firms* | 0.5 | 2.0 | 22.8 | NA | NA | NA | 41.7 | 60.0 | 1796.4 |
| All Firms | | | | | | | | | |
| | Group | Mean | S.D. | Total | | | | | |
| | MCBD | 155.9 | 208.5 | 2339.1 | | | | | |
| | NMRA | 46.3 | 32.3 | 694.9 | | | | | |
| | NCBD | 45.5 | 170.5 | 45.5 | | | | | |
| | All | | | | | | | | |
| | Firms | 68.4 | 156.6 | 3079.0 | | | | | |
| | NCBD* | 53.9 | 59.0 | 701.4 | | | | | |
| | All | | | | | | | | |
| | Firms* | 86.8 | 128.9 | 3735.5 | | | | | |

*:indicates exclusion of 2 retrenching firms from calculation

Table 4-4: (Dollar Value of Created & Retained Jobs (\$1,000s))

| Group | Seasonal | | | COstruction | | | Staff | | |
|--------|----------|------|-------|-------------|-------|--------|-------|-------|--------|
| | Mean | S.D. | Total | Mean | S.D. | Total | Mean | S.D. | Total |
| MCBD | 0.3 | 1.3 | 5.2 | 89.0 | 124.4 | 1335.4 | 142.7 | 152.9 | 2141.7 |
| NMRA | 0 | 0 | 0 | 18.1 | 14.7 | 271.8 | 68.6 | 61.2 | 1029.0 |
| NCBD | 1.9 | 4.4 | 28.6 | 24.7 | 42.0 | 370.8 | 88.9 | 72.9 | 1334.6 |
| All | | | | | | | | | |
| Firms | 0.8 | 2.7 | 33.8 | 43.9 | 81.2 | 1978.1 | 100.1 | 104.0 | 4505.3 |
| NCBD* | 2.2 | 4.7 | 28.6 | NA | NA | NA | 93.8 | 76.4 | 1220.6 |
| All | | | | | | | | | |
| Firms* | 0.8 | 1.3 | 33.8 | NA | NA | NA | 102.1 | 108.3 | 4391.3 |

All Firms

| Group | Mean | S.D. | Total |
|--------|-------|-------|--------|
| MCBD | 231.8 | 252.4 | 3477.1 |
| NMRA | 86.7 | 66.4 | 1300.9 |
| NCBD | 113.6 | 96.9 | 1705.4 |
| All | | | |
| Firms | 144.0 | 169.5 | 6483.5 |
| NCBD* | 119.4 | 102.5 | 1552.3 |
| All | | | |
| Firms* | 147.2 | 172.7 | 6330.4 |

*:indicates exclusion of 2 retrenching firms from calculation

The importance of tourism in Missoula's economy might have led one to expect a significant change in the income from seasonal jobs. Due to the sample selection process or a lack of renovation among firms with seasonal business, very few firms employed workers which they classified as seasonal, either before or after renovation. Some business owners indicated that their employees worked more hours at Christmas or in the summers, but few hired people only for those

seasons. Only two MCB and NCBD firms created new positions for seasonal help, and these had very low annual wages.

Construction workers were one type of seasonal labor which all renovating firms employed. MCB firms paid far more money in construction wages than did either of the other groups. Despite the large standard error, the difference between the means of MCB and NMRA is significant at 95.5%, while that for MCB and NCBD reaches the 92.5% level of significance. This result is not unexpected, as the MCB firms employed substantially more construction workers than did the firms in either of the other groups.

Income from created staff positions differed much more between groups than it did when retained jobs are included. Here the retrenching firms in the NCBD group exert a marked influence as the loss of 47 positions is reflected in negative values for both mean and total income. Exclusion of these two firms changes the sign and brings the value of the wage bill close to the NMRA's. It also changes the level of significance in the difference between the means; including the retrenching firms makes the NMRA differ from NCBD at the 74.3% level and excluding them lowers this drastically to 1%.

The number of new positions, the professional ones in particular, explain the MCB's large wage bill. It is significantly higher than both the NMRA's (86.4% level) and the NCBD's regardless of the treatment of the retrenching firms (92.1%, included, or 85.9%, excluded). Taking the information about wages and numbers of positions from above, the MCB firms not only created more staff positions, but also paid higher wages than did firms in the other groups.

When retained positions are added to the created ones, the smoothing effect noticed before occurs again. As the wage bill for staff positions comes to \$4 million, the retrenching firms lose much of their impact. Differences are insignificant except between MCB and NMRA, which proves significant at 91.2%. This indicates that the MCB firms not only created more positions and paid them better after renovation, but initially had more positions with higher pay than did the other CBD group. Given this, it is not surprisingly that the NMRA results have been consistently less spectacular than those of the MCB.

The wage bill for all created jobs, staff, construction, and seasonal, is largest for the MCB businesses. The difference in the means is significant for MCB and NMRA (93.7%), and for MCB and NCB including and excluding the retrenching firms (96.4% and 91.2%, respectively). Since the MCB firms employed more construction workers and more staff personnel, this can hardly come as a surprise. When the retained positions are added, the levels of significance change slightly but not much; MCB and NMRA rise to 95.3%, while MCB and NCB with and without the firms which scaled back drops to 89.2% and 86.9%, respectively. The difference between NMRA and MCB increases because of the NMRA firms' initially smaller work force, whose impact was overshadowed by the number of MCB retained employees. The difference between the means of the MCB and NCB firms without the retrenching firms is lower than when the retrenching firms are included because the loss of 47 jobs through scale reduction is ignored in the former case. This increases the wage bill for the NCB firms by \$6,000 and reduces the statistical significance between the NCB's \$119,000 and the MCB's

\$231,800. Again, this shows the MCBBD's consistently higher wages and larger number of positions.

While the total annual wage bill allows some insights into the contribution of different groups to the local economy, another aspect of job creation can be seen in the the average annual wage. Table [4-5] shows the average annual wage per position.

Table 4-5: Average Annual Wage for Created Positions (\$1,000s)

| Annual Wages, with Construction | | | | |
|--------------------------------------|------|------|--------|-------|
| Group | Mean | S.D. | Median | Total |
| MCBD | 9.5 | 3.5 | 8.8 | 142.8 |
| NMRA | 5.7 | 3.0 | 5.8 | 86.8 |
| NCBD | 7.5 | 5.1 | 5.8 | 113.3 |
| All Firms | 7.6 | 4.2 | 6.6 | 342.9 |
| Annual Wages, Excluding Construction | | | | |
| Group | Mean | S.D. | Median | Total |
| MCBD | 10.3 | 4.0 | 10.0 | 113.8 |
| NMRA | 7.7 | 2.7 | 7.0 | 85.1 |
| NCBD | 9.3 | 4.4 | 10.0 | 121.8 |
| All Firms | 9.1 | 3.8 | 8.3 | 320.8 |

When construction positions are included, the average annual wage appears quite meager, especially for the NMRA employees. Due to the highly aggregated nature of this data, even a small majority of lower- or higher-paying jobs will affect the mean, so the median has been provided as an accompaniment.

Again, the MCBF firms provided the highest mean wages. The difference between MCBF and NMRA means is significant at the 99.6% level, which, when one observes the \$4200 gap, is not surprising. No other groups exhibit substantial differences. Once again, then, the two downtown groups prove to differ more from one another than either does from the group outside the CBD.

When the average annual staff wage is considered, much the same is true. The NMRA differs from the MCBF at the 91.9% level, while the differences between NCBF and either of these two are insignificant. Although the two retrenching firms may have eliminated a number of well-paying jobs, those which have been created pay an adequate wage. Indeed, the median wage for NCBF firms is the same as that for those in the MCBF group. The latter group includes some firms which pay a very high average annual wage, which explains how the means can differ while the medians are the same.

4.3. Taxes

The second measure of the success of the redevelopment effort is the increase in property values. Property taxes are used as a proxy for property value, and their increase can be assumed to reflect increased valuation of the site, due to renovation. Especially where public funds are involved, property tax increases can be seen as a return on investment from society's point of view. Admittedly, no business owners undertake renovation projects in order to increase the tax base of the community, and a potential rise in taxes may serve as a disincentive to such investment. In this survey, however, business owners did not seem to consider

property tax changes in the investment decision unless the change was unexpectedly large or small. Only three of the 45 business owners remembered the approximate amount by which their taxes changed, and in one of these cases, the taxes had decreased appreciably despite renovation. Property taxes appear to have little impact on the renovation decision, at least in terms of interrupting a project to which the owner has already committed.³⁵ In this closely defined way, increased property tax receipts can be seen as a spillover benefit to society of the private renovation decision. In an area targeted for redevelopment where public services are already in place and redevelopment may reduce rising public costs, these increased tax revenues can be seen as a net gain to the community.

In this section, two terms with similar names but different meanings will be used: the mean difference and the difference between the means. The latter measure subtracts one mean from another; for example, the mean tax paid before renovation from the mean tax paid afterwards, thus arriving at the difference between the two measures. The mean difference in taxes is found by calculating the difference in taxes for each firm and taking the mean of this. Clearly, this is a far different number, because it takes into account the full variation of the sample, while the difference between the means looks at the change in two aggregates.

Table [4-6] shows the mean tax bill for each group in the year before the project and the year after. Additionally, the mean difference and the range of values into which it falls are presented. Each group has at least one firm whose

³⁵Because of the difficulty of gathering data, this study could not address the deterrent effect of property taxes upon renovation investment.

taxes fell after renovation. This can be ascribed to either of two phenomena; the value of the project may not have fully offset the building's annual depreciation, or it may have been caught in the 1986 reappraisal which altered the appraised value of the building according to current market conditions. (See Chapter 3 for details).

Table 4-6: Tax Levels, Pre- and Post-Project (\$1,000s)

| Group | Pre-Project | | | | | Post-Project | | | | |
|-----------|-------------|------|------|------|-------|--------------|------|------|------|-------|
| | Mean | Med. | Min. | Max. | Total | Mean | Med. | Min. | Max. | Total |
| MCBD | 3.7 | 2.4 | 0.66 | 16.4 | 55.7 | 4.9 | 3.3 | 1.20 | 16.6 | 74.1 |
| NMRA | 4.3 | 2.3 | 0.80 | 19.9 | 64.8 | 4.8 | 3.1 | 0.88 | 20.3 | 73.0 |
| NCBD | 3.6 | 2.3 | 0.35 | 13.7 | 54.9 | 4.1 | 3.0 | 0.58 | 13.6 | 61.9 |
| All Firms | 3.8 | 2.3 | 0.35 | 19.9 | 175.4 | 4.6 | 3.1 | 0.58 | 20.3 | 211.0 |

| Group | Difference | | | | |
|-----------|------------|------|-------|------|------|
| | Mean | Med. | Min. | Max. | Tot. |
| MCBD | 1.20 | 0.71 | -0.24 | 8.0 | 18.3 |
| NMRA | 0.54 | 0.10 | -0.06 | 4.0 | 8.2 |
| NCBD | 0.46 | 0.25 | -0.17 | 1.7 | 6.9 |
| All Firms | 0.74 | 0.25 | -0.24 | 8.0 | 33.6 |

No significance was found in the differences between any of the means of the three groups. The highest level of significance occurred between MCBD's and NCBD's mean differences in taxes, at 79.1%. Part of this lack of significance stems from the radical variation in the projects; some involved replacing a window, others renovation of a burned-out or long-vacant structure. With such a pronounced variation in each group, it is difficult to exclude any value from the range of possibilities.

This also means that, although the MCBF firms had the highest mean tax difference, they also had some very low and even negative ones. The median values are consistently lower than the means for all groups, indicating that the mean is pulled upward by a few very large changes, and that the majority of the differences are much smaller. The fact that this change is usually small, coupled with the seeming arbitrariness of appraisal, may help to explain the owners' seeming disregard for property tax changes resulting from their projects. The mean and total tax bills did increase for all groups, which implies that renovation investment confers social benefits across the board, regardless of the funding mechanism behind it. The lack of significant differences between groups indicates that public funding does not seem to stimulate tax increases particularly.

4.4. Amount of Investment

The major impediment to renovation is the cost of the project, or the amount of the investment. Interest write-downs such as the CRLP³⁶ aim to reduce this and to encourage larger projects than the individual would undertake alone. TIF grants try to reduce the drawback of locating downtown by helping to refurbish the aging infrastructure of the CBD.

³⁶The Commercial Rehabilitation Loan Program (CRLP) is one of two MRA programs designed to encourage renovation. This particular one offers a subsidy of half of the interest rate (up to 7%) on a loan of no more than \$20,000 for no more than 10 years on a project to improve the facade of a downtown building. Painting, brick cleaning, light fixtures and awnings, as well as complete face-lifts are eligible for this support. The other MRA program, tax increment financing (TIF), provides grants to be used for curb, gutter, and sidewalk repair, streetlight installation, repair of sewer mains, or tree planting.

The following table [Table 4-7] details the types of financing and the amounts raised through each method, as well as the interest rate each group faced for the use of funds. Firms using savings are assumed to face an opportunity cost equal to the average annual rate for 6-month T-bills in the year the project was undertaken. Information on project costs was obtained from the interview. The business owner was asked to place the cost of his or her project in one of a series of bands: less than \$5,000, \$5000-\$10,000, \$10,000-\$20,000, \$20,000-\$30,000, \$30,000-\$40,000, \$40,000-\$50,000, or more than \$50,000. For calculation, \$4,000 was assigned as the lowest value, \$75,000 as the highest, and the range was averaged for the others.³⁷ This may have set some investments too low or too high, but hopefully, the errors averaged out. When the loan was larger than the cost, the loan was taken to represent the actual amount invested in the project.

Table 4-7: Investment in Projects, (\$1,000s)

| Group | Mean | Std.Dev. | Median | Total |
|-----------|------|----------|--------|--------|
| MCBD | 52.3 | 26.5 | 75.0 | 785.0 |
| NMRA | 18.7 | 11.9 | 15.0 | 280.5 |
| NCBD | 31.5 | 22.0 | 35.0 | 472.5 |
| All Firms | 34.1 | 21.0 | 25.0 | 1538.0 |

These figures show that the MCBD firms undertook considerably more expensive projects than did those in either of the other groups. NMRA projects

³⁷\$7,500, \$15,000, \$25,000, \$35,000, and \$45,000.

consistently entailed less investment than anyone else's; the mean differs from M CBD's at the 99.9% level and from N CBD's at 93.9%. The median confirms this. The middle value for NMRA firms is \$15,000, implying that at least 7 firms put less than this amount into their projects. Contrast this with the M CBD median of \$75,000, and a difference in project scope becomes very evident. M CBD firms employed the largest number of construction workers and embarked upon the most ambitious projects of any of the groups. Some of these firms rejuvenated landmark buildings which had fallen into disrepair, others made dilapidated structures into landmarks. NMRA businesses tended to limit their projects to awnings and cosmetic repairs, although a few did pursue major renovation. N CBD firms often built additions to existing structures, an option to the pattern of "move and renovate" which is observed in the CBD. Only in less built-up areas like the strip are additions feasible. These firms fall in the middle with their project investments; the median is \$35,000. The mean is different from that of M CBD at the 93.9% level, which indicates that the latter firms unquestionably spent more money on their projects.

The different scopes of projects brought about different methods of financing. The following table [Table4-8] presents the various types of funding used by the three groups and the amounts of money raised through each.

As might be expected with the higher cost of M CBD projects, all of these were funded through a combination of business savings and bank loans. Only four firms in each of the other groups used this method; by far the majority here relied solely upon savings. A few had outside private investors, as listed under the "other" category.

Table 4-8: Types of Financing, Loan Amounts (\$1,000s) and Interest Rates

| Group | Savings | | Savings&Loan | | Other | |
|-------|---------|--------|--------------|--------|-------|--------|
| | Mean | #firms | Mean | #firms | Mean | #firms |
| MCBD | 0 | 0 | 52.3 | 15 | 0 | 0 |
| NMRA | 19.0 | 10 | 16.2 | 4 | 25.0 | 1 |
| NCBD | 32.8 | 8 | 45.0 | 4 | 10.0 | 3 |

| Group | Loan | | | Interest Rate | | | Rate After Subsidy | | |
|-------|-------|-------|--------|---------------|------|--------|--------------------|------|--------|
| | Mean | S.D. | Median | Mean | S.D. | Median | Mean | S.D. | Median |
| MCBD | 108.2 | 232.3 | 17.7 | 12.5% | 3.9% | 13.0% | 6.6% | 2.4% | 6.5% |
| NMRA | 5.4 | 8.6 | 0 | 8.6% | 2.4% | 9.0% | NA | NA | NA |
| NCBD | 40.3 | 99.3 | 0 | 6.9% | 3.7% | 6.4% | NA | NA | NA |

NA: Not Applicable

All groups varied substantially in the amount of the loan. The mean MCBBD loan is almost five times the size of the median, indicating widely differing amount of private investment in the project. At least half the NMRA and NCBD firms borrowed no money at all, according to the median, and relied solely on savings to finance their renovation. The mean value of the loans for the NMRA firms indicates that they were usually small, while a few NCBD firms borrowed substantial amounts. The large mean loan for MCBBD firms is in keeping with the higher cost of their projects, but the smaller median value and the large standard deviation show that a majority of this group borrowed less than \$20,000, the upper limit for the MRA interest subsidy. Differences between the mean loans for MCBBD and NMRA firms are significant at the 89.1% level, and those for NMRA and NCBD reach the 80.4% level. This confirms the observation that NMRA projects tended to be the smallest and least expensive. MCBBD and NCBD differences are not

significant, due largely to the variation within each sample. For statistical purposes, then, the MCB and NCB projects entailed loans that did not differ.

The MCB firms used loans as financing because the MRA project was designed as an interest write-down. Without a loan, a business could not participate in the program because it did not try to offset the loss of interest on savings when used in the project. The interest foregone on savings is nonetheless a cost of the project, and is treated as such. The interest rate on savings was derived from the Federal Reserve Bank's rate on 6-month T-bills on the year in which the project was undertaken. Businesses may prefer to invest in riskier savings instruments with higher returns, but the survey did not ask about interest rates on savings used to finance renovation. Although the rate may be too low, it would help assure that, if anything, the discount rate favors non-MRA projects.

The preponderance of savings-financed projects in the NMRA and NCB groups make their bank interest rates far lower than those of the MCB firms. Differences are significant at 99.9% for MCB and NMRA, at 84.5% for MCB and NCB, and at 84.3% for NMRA and NCB. When the subsidy from the MRA is factored in, however, MCB rates become competitive with the other's. The MCB rate is still different from NMRA at the 96.3% level, but now it is lower, not higher. The difference from the NCB rate becomes insignificant, while that between NMRA and NCB has not changed.

This pattern has interesting implications. Although the NMRA firms used business savings to finance their projects to a greater extent than did firms in either of the other groups, their interest rate is higher than the MCB's subsidized

one. The few loans NMRA firms obtained may have had higher rates because these were smaller, more marginal operations. As the size of the loan increased, the interest rate kept pace. This probably reflects the bank's assessment of the riskiness of NMRA projects. Several of the MCBBD business owners mentioned that the MRA's involvement in a project made banks much more cooperative, and this may also be reflected in the interest rate/subsidy differential between the two downtown groups. The similarity between the MCBBD post-subsidy rate and NCBD interest rate indicate that even the use of their savings did not suffice to lower the NCBD interest rate substantially. Perhaps the MRA's participation served to reduce the risk of the MCBBD projects to the point where it was comparable to that of projects outside the city center.

4.4.1. Investment per Job

Another concern must be the amount invested per job, or the cost of a job. Table [4-9] shows the mean and median cost of created and created and retained jobs. Obviously, when the cost of a project is spread over both created and retained positions, the result will be smaller than when one only looks at created jobs.

The differences between the means and the medians indicate substantial variation within some of the samples and the presence of some large outliers. The MCBBD firms, as expected, have the highest investment per job regardless of whether created and retained or just created positions are considered. The difference in investment per total jobs is significantly higher (92.4%) for MCBBD

Table 4-9: Investment per Job (in \$1,000s)

| Group | Created Jobs | | | Created Staff Jobs | | |
|-----------|--------------|----------|--------|--------------------|----------|--------|
| | Mean | Std.Dev. | Median | Mean | Std.Dev. | Median |
| MCBD | 6.25 | 6.17 | 5.00 | 17.0 | 21.1 | 12.5 |
| NMRA | 2.87 | 1.89 | 3.00 | 6.4 | 4.7 | 5.0 |
| NCBD | 3.72 | 3.82 | 3.00 | 9.6 | 10.1 | 8.3 |
| All Firms | 4.28 | 4.47 | 3.13 | 10.9 | 13.9 | 7.5 |

| Group | Created & Retained Jobs | | |
|-----------|-------------------------|----------|--------|
| | Mean | Std.Dev. | Median |
| MCBD | 6.8 | 6.6 | 3.7 |
| NMRA | 3.3 | 2.5 | 2.1 |
| NCBD | 4.5 | 2.9 | 3.7 |
| All Firms | 4.9 | 4.5 | 3.5 |

opposed to NMRA, but the level falls after that to 74.8% between MCBD and NCBD and to 76.0% between NCBD and NMRA. When only created positions are considered, the MCBD mean is pulled up by some huge outliers, as the much smaller median demonstrates. Significance levels fall to 86.6% for MCBD and NMRA, and below 70% for the other two.

This evidence indicates that the NMRA firms created and retained jobs at less cost than the other firms did. Most of these positions, however, were low-paying jobs as skilled labor. The MCBD firms, which invested the most per job, also created those with the highest wages and provided the greatest number of opportunities for professional personnel and for the students who usually hold the service/wait-person jobs.

4.5. Social Costs and Benefit-Cost Findings

The cost to society of the redevelopment effort was determined to be the interest subsidy from MRA and that portion of the costs of the agency which were involved in the administration of the CRLP program. The non-MRA projects did not incur any direct social cost, although society may have funded the effort indirectly.

The benefits of redevelopment have been identified here as the dollar value of the created jobs, the increase in tax revenues, and the value of the investment. For redevelopment to be an efficient use of society's funds, the benefits of MRA projects should exceed those of the privately-funded projects, even when the costs of administering the program are included. It is quite clear that the NMRA projects were inspired to a large extent by those of the MRA. For that reason, NMRA firms will be ignored in the benefit-cost computations.

The formula used here is as follows:

$$\sum_{j=1}^{15} B_j - \sum_{i=1}^{15} B_i - C_j$$

where: B_j = Benefits of a given MRA project
 B_i = Benefits of a given NCBD project
 C_j = Costs associated with the MRA program

If the MCBBD projects pass the test, as a group, the benefits of the MRA program will have exceeded the costs and in that sense the program will appear to be socially rational.

The table below [Table 4-10] details the results of the computation.

The "Created Only" category shows higher values in several columns than does

Table 4-10: Net Benefits of MRA over NCBD Projects, (in \$1,000s)

| Jobs | MCBD | | | NCBD | | |
|--------------------|---------------|-----------------|----------------|---------------|-----------------|----------------|
| | Mean Benefits | St Dev Benefits | Total Benefits | Mean Benefits | St Dev Benefits | Total Benefits |
| Created | 288.5 | 333.7 | 4327.6 | 63.3 | 208.6 | 950.0 |
| Created & Retained | 364.3 | 432.7 | 5465.6 | 174.0 | 139.5 | 2609.9 |

| Jobs | Mean Net Benefits | Total Net Benefits | Average Cost | Total Cost | Net Ben.- Av. Cost | Total Ben.- Total Cost |
|--------------------|-------------------|--------------------|--------------|------------|--------------------|------------------------|
| Created Only | 225.2 | 3377.6 | 57.8 | 868.0 | 167.3 | 2509.5 |
| Created & Retained | 190.4 | 2855.6 | 57.8 | 868.0 | 132.5 | 1987.6 |

that for "Created and Retained". This is due to the large difference in created positions between MCBD and NCBD groups, 125 positions for the former as opposed to a net loss of 4 for the latter. When the previously-existing positions are included, this difference is reduced.

Not only did MCBD firms provide more net benefits to society than those in the NCBD group; they also provided more benefits across the board. When only created positions are counted, MCBD benefits are over four times those of the NCBD, and when retained positions are added, the MCBD still supplied twice the dollar value of benefits of NCBD firms. Standard deviations reflect considerable variation within the sample. Nonetheless, the differences in the means are significant at a level greater than 85% in both cases; MCBD benefits differ from NCBD's at the 87.8% level for created and retained positions, and at 96.7% when only created jobs are considered.

From a policy perspective, it is more interesting to observe the results in the totals column than those in the mean, which show that society gains a total of \$2.5 million in benefits from the MRA program, over and above the costs of administering it and even above the benefits of NCBD projects. The mean surplus of benefits over costs and NCBD benefits per firm was \$167,000 when created positions are considered; \$132,000 when retained jobs are included in the calculation.

4.6. Present Value

The costs and benefits discussed above exist not only in the present but also in the future. This stream can only be meaningfully interpreted when it is discounted to the present. This formula was used:

$$PV_{MRA} = \sum_{t=0}^{10} \frac{B_{Mt} - B_{Nt} - C_{Mt}}{(1+i)^t}$$

where: B_{Mt} = the benefits of an MRA project at time t
 B_{Nt} = the benefits of an NCBD project at time t
 C_{Mt} = the costs of an MRA project at time t
i = the interest rate prevailing at the time the project was undertaken (6-month T-bill rate)

A time period of 10 years was chosen, because most of the loans had terms of ten years. Two versions of this figure were computed; the first counted only the created positions and the second, created and retained. The following table [Table 4-11] shows the mean and total values.

Table 4-11: Present Value of Net Benefits Due to MRA (\$1,000s)

| Positions | Mean | Total |
|--------------------------|-------|---------|
| Created | 694.8 | 10422.5 |
| Created & Retained | 452.6 | 6789.1 |

Again, the result for created positions is greater than that seen with created and retained positions. Unfortunately, it is impossible to test for statistical significance, as the standard deviation cannot be calculated in this case.

Even without a T-statistic, both the total and the mean present values of show that social funds invested in the MRA were used effectively; the total present value exceeded \$1 million when only created positions are considered. The mean or average present value figure indicates that the expected value of the excess of MCBF benefits over the benefits of NCBF firms and the costs of the program was over \$600,000. This finding confirms the previous pattern in which the MCBF firms created more jobs, paid higher wages, invested more heavily, and generated more property taxes, on average, than did firms in the other two groups.

4.7. Regressions

In an effort to establish some degree of correlation between the three groups of businesses and the benefits of redevelopment, a few regressions were run. These do not attempt to model any phenomena, but only examine the relationships between variables.

4.7.1. Employment

Regressions were used to explain both the change in employment and the level of new employment. The best fit was obtained by a log-linear relationship of the following form:

$$E=F(O,C,DUM1,CDUM1)$$

where: E=level of employment after investment

O=level of old employment

C=cost of project

DUM1=dummy indicating restaurant or service business

CDUM1=dummy indicating participation in the MRA

Performing the regression produced the following results, with significant t-statistics in parentheses:

$$\ln E = 1.523 + .555 \ln(\text{Old}) - .042 \ln(\text{Cost}) + .169 \text{DUM1} - .233 \text{CDUM1}$$

(.0992)
(.0001)
(.792)
(.504)
(.426)

$$R^2=.457 \quad \text{Adj } R^2=.384 \quad F=6.31 \quad \text{Signif } F=.0008$$

While the goodness of fit measurement is low, the F and significant F are adequate. The cost coefficient has the wrong sign; *a priori*, one would expect that, as a project becomes more expensive, it will employ more people. The coefficient is small and insignificant, so it is not particularly important. Neither of the dummies is significant, so restaurants and service businesses and participation in the MRA have no noticeable effect on employment. As one would expect, the number of previous employees has a significant impact on the final number, so the high significance of the Old variable is unsurprising. It appears that there is a two-to-one relationship between old and new employees, that for every 10% increase in previous positions, there will be a 5% increase in total positions. The

constant term is insignificant. n Trying to explain the change in employment is more difficult. Here, the linear version of the equation below worked better than the log-linear or functional form or any other combination of variables. This is close to the formulation used in the total employment regression:

$$NJ = f(OLD, COST, CDUM1)$$

where: NJ=change in employment
 OLD=number of old jobs
 COST=cost of the project
 CDUM1=dummy indicating MCB D project

This version of the relationship produced the following coefficients. Again, significant t-statistics are in parentheses.

$$NJ = 11.22 - .60Old - .0002Cost + 5.441CDUM1$$

(.0002) (.0008) (.0369) (.1572)

$$R^2=.29765 \quad \text{Adj. } R^2=.24625 \quad F=5.7917 \quad \text{Signif. } F = .0021$$

All four coefficients are significant at the 84% level at least. The constant is positive and significant, implying that a new business which did not undertake any renovation would immediately hire a work force of 11. This seems to be high, but may reflect the influence of a few firms which hired very large work forces. The negative coefficient on Old indicates that the more previous employees the firm had, the fewer new ones it will hire. Since established firms hired fewer employees after renovation than did new ones, this conforms to observed behavior. The sign on the Cost coefficient is puzzling since one would think that larger projects would involve hiring more people. The size of the coefficient is so small, though, that it may reflect the influence of those large projects which resulted in hiring only a few workers much more than those few large ones which

hired 20. The dummy for MRA shows that participation in the MRA resulted in hiring an additional five workers.

In an effort to improve the fit of the equation, the logs of the variables were used. The adjusted R^2 plummeted to the negative numbers³⁸ and that option was abandoned. A dummy for being in the restaurant business was tried, but proved insignificant and small.

Given the wide variation of the employment changes the survey observed, it is not surprising that the regression equations explained so little of it. The establishment of a business and the hiring of a staff entails so many decisions based on hunches and intuition that a clear relationship is difficult to discern.

4.7.2. Taxes

As previously discussed, the trend of taxes has a discontinuity where the 1986 reappraisal arbitrarily shifted the pattern of depreciation. A dummy for 1985 projects, which would have been affected by this change, was not significant. Initially the new level of taxes as well as the change in taxes were examined, but the regressions for the tax changes exhibited R^2 s of .004 and adjusted R^2 s which were negative. This is not surprising, as the tax system is capricious and unsystematic. It simply goes to show that, given this sample, the variation in tax changes is inexplicable by the variables at hand.

³⁸The adjusted R^2 measures the goodness of fit, taking into account the number of explanatory variables. When the independent variables are, in fact, decreasing the explanatory power of the model, the adjusted R^2 will be negative.

The new level of taxes proved to be a more tractable relationship. In general form, the tax level equation looks like this:

$$T1 = f(\text{TAX01}, \text{COST}, \text{CDUM1})$$

where: T1=new level of taxes.
 TAX01=previous level of taxes
 COST=cost of the project
 CDUM1=dummy for MCBF firm

A dummy variable for the year of the project was tried, but lacked any size and significance. The specified form of the equation, including all years, is as follows with significance levels in parentheses:

$$T1 = -93.36 + .974\text{TAX01} + .025\text{COST} + 253.79\text{CDUM1}$$

(.8038) (.0000) (.0097) (.5924)

$$R^2=.915 \quad \text{Adj. } R^2=.909 \quad F=147.61 \quad \text{Sign. } F=.0000$$

Although the constant term is insignificant, its sign indicates that, when there are no previous taxes and no renovation, the new tax level will be a subsidy from the government. This interpretation must be used with caution, as the term is not significant, but it is intuitively appealing.

The MCBF dummy is also insignificant. Its large size would seem to substantiate the earlier finding that MCBF firms tended to have higher taxes than did firms in the other groups. In neither case was this significant, because the deviation about the mean was very large.

At the 99% level, the cost variable and the level of previous taxes are significant. One would expect that previous taxes would influence the current year's, but at a smaller percentage due to depreciation. The coefficient in the equation suggests that 97% of the previous year's taxes will be reflected in the

new year's. The cost variable indicates that the value of the project will have an impact on the new level of taxes, but that it will not be very large. This corresponds to the earlier findings, where taxes were found to change arbitrarily and, usually, in small amounts.

4.8. Conclusion

The present value and benefit-cost analysis gives the MRA projects a considerable edge over the others. The investments tend to be larger and to employ more people at higher wages, although the property tax generation is not significantly different from that of the other firms. The results of the logit equations addressing the location question will be presented in the following chapter.

Chapter 5

Logit Analysis of Location and Participation Decisions

In addition to evaluating the effect of the MRA on downtown redevelopment, this study examines the role of site characteristics in determining firm location within or outside the CBD. This chapter will discuss the responses to questions in the survey which dealt with business and site characteristics and with reasons for undertaking renovation. The results of the logit model of both the CBD–non–CBD location decision and the MRA–non–MRA funding decision will also be presented.

5.1. Results of Business and Site Characteristic Questions

Questions 2 through 5 and 9 on the survey form (see appendix A) asked business owners about their business, their location, and their reasons for taking on the expensive and inconvenient task of renovating their structure. Tables 5-1, 5-2, and 5-3 display the mean response to each question. Except for the questions about business characteristics, owners were asked to rate attributes by their importance in the decision to locate or renovate. The scale ran from 1 to 5, with 1 meaning that the attribute was vital and 5 that it was not even considered. The closer the mean is to 5, the less important the characteristic was judged by the entire group of businesses.

Table 5-1: Business Characteristics

| Characteristic | MCBD | NMRA | NCBD | All Firms |
|--------------------|-------|-------|-------|-----------|
| Firm Age (Yr.) | 26.19 | 15.64 | 15.49 | 19.10 |
| Yrs. in Place | 10.31 | 6.75 | 7.69 | 8.15 |
| Yrs. in Industry | 15.00 | 9.04 | 15.59 | 13.21 |
| # with Prev. Loc. | 8 | 6 | 9 | 22 |
| In CBD | 6 | 4 | 4 | 14 |
| Not in CBD | 2 | 1 | 5 | 8 |
| Yrs. at Prev. Loc. | 12.30 | 3.64 | 10.72 | 9.69 |

MCBD firms tended to be older and to have spent more time at their locations. Those who had been in previous locations had often stayed there longer than had firms in the other two groups. It is evident that owners often bought firms already in existence, as the mean length of tenure in the industry is less than the mean firm age. NCBD firm owners had a longer mean industry tenure, and one might guess that many of those businesses had been started by their current owners, as the mean firm age is very close to the mean industry tenure. NMRA firms had the least experienced owners and the shortest tenure at the current and at any previous locations.

Due to the variation within each group, none of these differences is highly significant; nonetheless, they may help to explain some of the variation encountered in job creation and project size. MCBD firms may have been more willing to undertake risky projects because they were older and had a longer credit history, a more established clientele, and a better idea of the potential for their operations in Missoula. NMRA businesses, which tended to be more conservative in their projects, were often owned by people with less experience. The firms

were almost ten years younger than those in the MCBBD group, which may have contributed a sense of uncertainty. Owners may have still been paying off start-up debts and been unwilling to risk more money in ambitious renovation projects. NCBBD firms tended to be no older than those of the NMRA, but, in general, their owners had more experience. This experience may be the crucial element in determining the size of the project that the firm will undertake. Seasoned business owners may have a sense of the type of project that will work, while less experienced owners may try to err on the side of caution in their early years.

As has been discussed earlier, certain firms will locate in one area and not in another because of the nature of the business itself. Each owner seemed to have a good idea of the peculiar site needs of his or her firm and believed that his or her site uniquely met those needs. The following table [Table 5-2] presents the mean ranking given to six site characteristics.

Table 5-2: Importance of Site Characteristics

| Characteristic | MCBD | NMRA | NCBD | All Firms |
|------------------|------|------|------|-----------|
| Am't of Space | 2.80 | 1.93 | 2.07 | 2.27 |
| Cost of Space | 1.67 | 1.73 | 1.93 | 1.78 |
| Parking | 3.20 | 2.47 | 3.13 | 2.93 |
| Traffic Volume | 2.53 | 2.13 | 2.07 | 2.24 |
| Compatible Firms | 2.80 | 2.20 | 2.73 | 2.58 |
| Taxes | 4.33 | 4.00 | 4.53 | 4.29 |

Mean ranking 1 to 5, Vital to Not Considered

The cost of space proved to be the most important consideration for all three groups. MCBBD firms gave it the highest rating of the three, perhaps because

some of them had undertaken their extensive renovation operations only because the initial cost of the building was low. The relatively low rating given taxes substantiates the observation (Chapter 4 p. 67.) that most business owners do not give taxes much consideration in the decision to renovate, or, as shown here, to locate in a certain area. MCBF firms ranked the remaining four attributes, amount of space, parking, traffic, and compatible firms nearby, as less important than did firms in either of the other two groups. In part, this may be due to the nature of these operations. MCBF firms often provided professional or specialty services for which a customer is willing to go out of his or her way. This may mean searching for a parking space or making a special trip, but if the customer wants a unique service – the best lawyer, the nicest home furnishings, a meal in a fine restaurant – he or she will endure minor inconveniences. This theory does not explain the relative unimportance of the amount of space criteria. MCBF firms might place less importance on this because they may have a fairly elastic need for space, within a certain range. Above a minimum square footage, office size is nice but not necessary, unlike manufacturing operations in which excess space decreases efficiency. The skilled and light-manufacturing businesses in the NMRA and NCBF groups may have recognized this in the importance they placed on the amount of space quality. Another explanation may lie in the fact that many NMRA firms started in very small quarters and made space a priority when they looked for a new location. NCBF firms may have felt the same way, but responded by building an addition rather than moving.

The importance of traffic and compatible firms was higher for the NMRA firms. This may be due to the retail/light-manufacturing nature of many of these businesses. The demand for many of their goods is fairly elastic; one can buy bread at a bakery or in the supermarket depending on the relative weight of convenience and taste. Thus, traffic volume for advertising and impulse stops, parking to facilitate stop-and-go shopping, and compatible firms for spin-off customers had greater importance for these firms than the more specialty-oriented businesses in the M CBD group.

NCBD firms doubtless gave little importance to parking because any given site outside the CBD has its own parking area. This also explains the unimportance of compatible businesses. When each firm is a small island in its own parking lot on a busy street, spin-off customers who just happen to wander by are fairly rare. If spin-off customers are rare, heavy traffic volume gains importance as a means of advertising and encouraging potential customers to think of the firm as a destination.

The reason for renovation was another area of interest. By understanding why a firm will endure the risk and inconvenience of remodeling, policy-making bodies can try to target programs to address these concerns and help translate a vague impulse toward renovation into a completed project. The following table [Table 5-3] shows the mean importance given to seven different reasons for renovation. Again, the scale is from 1, vital, to 5, not even considered.

In both of the downtown groups, building dilapidation was the most important reason for renovation. Since the buildings in the CBD are considerably

Table 5-3: Reasons for Renovation

| Reason | MCBD | NMRA | NCBD | All Firms |
|------------------|------|------|------|-----------|
| Interest Subsidy | 2.67 | 4.73 | 4.67 | 4.02 |
| Interest Rate | 3.00 | 4.73 | 4.60 | 4.11 |
| Crowding | 3.47 | 4.20 | 2.93 | 3.53 |
| Parking Need | 4.87 | 4.47 | 4.27 | 4.53 |
| Nrby Improvement | 3.27 | 3.13 | 3.87 | 3.42 |
| Dilapidated Bldg | 1.67 | 2.20 | 2.67 | 2.18 |
| Inefficiency | 3.00 | 3.27 | 2.27 | 2.84 |

Mean ranking 1-5, Vital to Not Considered

older than those in other parts of the city, they also tend to be more dilapidated. Additionally, firms which locate in the CBD may do so because they like the older buildings and are aware of their potential. The interest subsidy was important to the MCBD firms, the only ones which qualified for it, and the interest rate was also more important for these businesses. Part of this concern may have sprung from the size of the typical loan, and part from the MRA programs themselves, which required that the business owner be aware of that particular cost. The NCBD and NMRA businesses placed very little importance on the interest rate; possibly because so many of them relied on savings to fund their projects and possibly because they decided to do the project and got the loan without considering the interest rate. Crowding figured more predominantly in NCBD renovations than in any other group's. This may be due to the fact that NCBD firms frequently build an addition for extra space, while firms in the CBD must move. Therefore, downtown firms are less likely to renovate in response to crowding. A need for

parking was not important in any group's renovation decision. Although downtown businesses may complain about a lack of parking, they seem to regard it as a problem for local government to address. Improving neighborhoods were most important for NMRA firms. This may be due to the impact of the MRA's programs, which made firms who were not participating aware of the dilapidation of their buildings in relation to the newly-refurbished structures nearby. NCBD firms do not give the neighborhood characteristic much importance, probably because of the lack of neighborhood identity discussed earlier. They also felt that building dilapidation was less important, probably because buildings on the strip tend to be newer than those in the CBD and therefore less run-down. Inefficiency of floorspace ties in with the crowding aspect. Again, firms outside the CBD have more opportunity to renovate in response to inefficient or crowded quarters, while those in the downtown must move. CBD firms may renovate as a response to the move which was a response to crowding or inefficiency, but renovation will rarely be a direct response to inefficient floorspace.

5.2. Logit Analysis of Location Data

The logit analysis performed here was handicapped by the small sample size. Logit software packages perform best when there are multiple observations on the same variable. When these are not available, the coefficients are still unbiased, efficient and consistent, but the goodness of fit criterion, the chi-square, is no longer reliable. Therefore, the chi-square statistic will not be reported.

The variables used in the analysis were combinations of those discussed above. The following table [Table 5-4] presents the variables, the anticipated signs, actual signs, and the coefficients.

Table 5-4: Coefficients on Variables in Logit Model of CBD Location

| Variable | Definition | Expected Effect | Actual Effect | Coeff. |
|--------------|--|-----------------|---------------|--------------------|
| Cost | Interest rate and cost of space | - | - | 1.38 ^{^*} |
| Neighborhood | Nearby businesses and traffic volume | + | + | 0.64 |
| Space | Need for parking, amount of space, crowding, available parking, and floorspace | - | + | 1.09 [^] |
| Appearance | Neighborhood improvements and dilapidation of building | + | | 1.57 ^{^*} |

[^]: significant at 75% confidence level
^{*}: significant at 90% confidence level

The results were somewhat unexpected. The neighborhood variable has the correct sign, but is insignificant. The survey did not reflect strong importance of the neighborhood variable, which may explain this. The space variable is significant at a low level, but has the wrong sign. To understand its meaning, one must recall that the index ranked the importance of the attribute on a scale from 1 to 5, with increasing values reflecting decreasing importance. A rating of 1 meant that the quality was more important than if it were rated 3. Therefore, as the importance of the space variable increases in size, reflecting decreasing importance, the log of the odds of the firm's locating in the CBD decreases.

The cost variable comes in with the correct sign and significant. As a firm is increasingly concerned with cost, the log of the odds of its locating in the CBD decreases. As has been noted, firms outside the CBD were less concerned with the cost of space because of its availability and corresponding inexpensiveness, and they also exhibited a lack of concern about the interest rate. Much of this may be attributable to the many projects funded through business savings rather than bank loans.

The coefficient on appearance is significant, large, and of the wrong sign. The two components of this variable, the importance of an improving neighborhood and of a run-down building, may have worked against one another with the attractive effect of an improving neighborhood overwhelmed by the repulsive effect of the dilapidated building. On the other hand, one must again consider the nature of the index numbers involved in the analysis. As the value increased, the importance given the characteristic decreased. The firms which felt that the neighborhood was not important tended to be those who located outside the CBD in buildings, which, by virtue of being newer, were less likely to be dilapidated. Streets in the survey such as South and Russell are not homogeneous neighborhoods. They include schools, residential houses, multi-family dwellings, and various businesses. An increase in the value of the appearance index means that the importance attached to its components is decreasing, going from 2, say, to 4. The sign of the coefficient, then, would imply that as the importance attached to neighborhood improvement and building dilapidation decreases, and the index numbers go up, the log of the probability of the firm's locating in the

CBD will decrease. Because of the findings about neighborhood and structure dilapidation already discussed, this is not a surprising conclusion, although it is somewhat counter-intuitive.

These firm characteristics appear to be fairly good at explaining the observed location choice. The model gave 12 of the 15 M CBD firms a probability of locating in the CBD that was higher than 60%. For 10 of the firms, the probability was more than 80%. Likewise, only four of the N CBD firms received a probability of CBD location that was over 50% and 8 had probabilities of less than 16%.

Other variables have been left out of the model due to data constraints. Chief among these is the type of business, a factor which obviously explains a large amount of the location decision in itself. As reported in this paper, however, it was quite intractable for analysis and was omitted.

5.3. Logit Analysis of Decision to Participate in MRA Program

Using the same aggregated variables as above, the model sought to explain the decision of firms in the CBD to participate in the programs of the MRA. The following table [Table 5-5] reports the coefficients and their signs. The reduced sample size (30 observations) undoubtedly contributed to the lack of significance.

Two of the variables, appearance and space, have the wrong sign and are insignificant. Since both groups are located in the CBD, one can assume that they would have approximately the same concern with these characteristics. Firms in the downtown have clearly accepted the limitations on space; if one of them felt required to provide 20 parking places, it would have to move outside the CBD. One

Table 5-5: Coefficients on Variables in Logit Model of MRA Participation

| Variable | Definition | Expected Effect | Actual Effect | Coeff. |
|--------------|--|-----------------|---------------|---------|
| Cost | Interest rate and cost of space | - | - | 2.19 ^* |
| Neighborhood | Nearby businesses and traffic volume | + | + | 1.17 ^ |
| Space | Need for parking, amount of space, crowding, available parking, and floorspace | - | + | 0.66 |
| Appearance | Neighborhood improvements and dilapidation of building | + | | 0.28 |

^: significant at 75% confidence level

*: significant at 95% confidence level

would, however, expect that the appearance variable would have been significant, reflecting the concern with dilapidation which inspired the MCBF firms to undertake their project. That it is so small, insignificant, and of the wrong sign may indicate that the components of the aggregate work in opposition to one another.

The neighborhood variable is significant at 75%, and has the correct sign. As discussed earlier in the chapter, NMRA firms placed a considerable amount of importance on traffic volume and were also concerned with compatible businesses. MCBF businesses did not share these concerns, as they tended to be professional or specialty-service operations. Therefore, one would expect that, as the index reflects decreasing importance (values increase), the probability of the firm's participation in MRA programs would also increase.

The cost aggregate is large, significant at the 95% level and has the correct sign. MCBF firms rated both the cost of space and the interest rate important. NMRA firms, although concerned about the cost of space, were less aware of the interest rate because many of them financed their projects through savings. Thus, as the values of the index of importance increase in size, (importance placed on the attribute decreases), the log of the odds that the firm will have participated in the MRA's programs will decrease.

Again, there are many other variables which would help to explain participation, among them the type of business and the cost of the project. The same problem encountered with business type in the CBD-non-CBD analysis occurred here, forcing that variable to be abandoned. The cost variable was discrete, because of the bands in which it was recorded, and with its inclusion, the maximum likelihood model would not converge. A differently designed survey could solve these problems.

Chapter 6

Conclusions and Implications for Policy

This study set out to investigate the role played by the Missoula Redevelopment Agency in bringing about the resurgence of the central business district. As has been discussed, questions of timing and marketing strategy as well as possible changes of taste complicate efforts to credit the changes in the downtown to any one agency or program. Insofar as possible, given the data and analysis at hand, let us attempt to do so.

As discussed earlier, the test used to assessing effectiveness of the MRA is a very stringent one. The agency may be satisfied with having stimulated more investment than would have ordinarily occurred in the CBD. The cost-benefit equation in Chapter 4, however, shows that the benefits of the MCBBD firms exceeded not only those of the firms on the booming strip, but also the costs of the program. Clearly, this is an effective use of funds. In the present value analysis, the dollar value of the MCBBD excess over ten years totals more than \$10.4 million when only created jobs are considered and \$6.7 million when the smoothing effect of retain jobs are included.

In terms of employment, the results are mixed. MCBBD firms did provide significantly higher incomes and hourly wages than did the other two groups, with a larger amount of investment per job. Differences in the mean number of jobs created, however, are insignificant, despite the fact that MCBBD firms created over

twice the number of positions as the other two groups. The mean job creation is less interesting than the total, and here the MCBF firms excelled, with a total twice that of the other two firms. The lack of significance between the means is probably due to the enormous variation within MCBF: one business alone created 60 positions. Looking at specific categories shows that MCBF firms created positions for construction workers and professional people at a far greater rate than did the other groups. The higher private cost per job is clearly the result of the large projects the MCBF group undertook.

The second benefit of interest was the increase in the tax base. Here again, although MCBF's average taxes rose by the greatest amount and became the highest of the three groups, the change is only significant at the 79% level. Again, the total tax revenues from MCBF firms exceeded those from the other groups, indicating that overall, the goal of increased tax base was met.

The hypothesis that those firms which turned to the MRA were the weaklings of the business world cannot be accepted. These tended to be specialty service or professional organizations, while the others were often involved in less specialized service, light manufacturing, or retail. MRA businesses tended to sell small-ticket soft goods, food, and less-expensive services such as copying. They also tended to be much younger and less experienced firms. MCBF businesses frequently sold big-ticket items: furniture, recreational supplies, electronics and cars. These characteristics are far from uniformly applicable, but the trend is distinct. Current economic folk wisdom holds that the service sector of the economy, to which most of the MCBF firms belong, is expanding rapidly and profitably. The profile of the MCBF businesses seems to bear this out.

If one uses the cost of the renovation as an indicator of the firm's financial health, MCBD firms would clearly emerge as the healthiest. Their mean expenditure on projects is significantly higher than that of the other two groups. Indeed, their fellow denizens of the CBD, the NMRA firms, had the lowest costs of the three. Since NMRA firms tended to be the youngest, with the least experienced owners, this may indicate the youth of the business and the number of start-up debts it faced and a likelihood to err on the side of caution.

Cost of the project seemed to interact with use of the MRA program, so the relationship above may not be as direct as it initially appears. Firms which are planning to embark on major enterprises are much more likely to research the funding options than is a business owner who wants to install a \$2,000 awning. As the knowledge of the MRA's program spread, more firms may have taken advantage of the agency's programs to realize their ambitious dreams rather than settling for the second-best which was all they could afford on their own. The substantial time investment in applying to the MRA may also have dissuaded the investor with a small project or a time limitation from participating.

As expected, the reasons for redevelopment varied markedly with location in or out of the CBD. Both groups in the downtown were influenced by dilapidated buildings to a much greater extent than were the businesses on the outskirts. One of the deciding factors in NCBD's renovations was crowding, which did not play a major role with either of the downtown firms. The existence of large amounts of space would seem to explain these phenomena: MCBD and NMRA firms have to be more aware of the appearance of their buildings because they stand closer

together. This proximity makes a business owner sensitive to renovation of a neighboring building; there is an image to maintain. Thus, although clumsy wording or duplicate questions may have blurred the results, the statements of the interviewees indicate that the MRA's aim of inspiring privately-funded renovations through public funding has enjoyed a degree of success. It may have arisen out of conscious competition with a neighboring store or from a sudden realization that one's own building now looked terribly run-down compared to the facades in the rest of the neighborhood. In either case, the MRA's initial support of renovation provided the initial impetus to break the downward spiral of blight.

Those firms which operate outside the CBD are much more dispersed and the renovation of a neighbor half a mile away has little impact. Their primary reason for remodel seems to be a response to internal conditions, such as crowding, rather than external competition. Additionally, these firms possess the space to add to an existing building. In most cases, CBD firms must move when they outgrow their quarters and usually end up in a larger, but older and more dilapidated, building. The reason given for renovation then may be dilapidation, when the underlying cause of the entire process is crowding.

The logit analysis confirmed some initial suspicions and confounded others. It showed that businesses who were concerned about space and cost would be found outside the CBD; those for whom neighborhood improvement was important would be in the city center. Participation in the MRA was determined by the importance of cost criteria but neighborhood characteristics such as traffic volume were unimportant.

According to this analysis, the MRA has made a substantial contribution to the revitalization of the downtown. Average property taxes have increased with moderate significance among those firms using their programs. Wages and annual income are higher in this group than for either of the other two. Highly skilled professionals are provided with more positions by MCBF firms than by any others. Investment in renovation is highest among the MCBF firms. The social costs of the CRLP interest subsidy and the program administration are substantially exceeded by the additional benefits the MCBF firms generate. Many interviewees, even those outside the CBD, mentioned MRA-funded or -initiated projects such as the street trees, the parks, the awnings, or the sense that "things are happening there" as recent changes in the downtown. A few cited the emergence of boutiques disparagingly, despite the credit that these boutiques must receive for helping the downtown to compete with the mall. There seems to be a pervasive awareness that the downtown has changed, and in definite ways which are due to the MRA. The statistical significance of the difference between the MCBF firms' average benefits and the NCBFs' offers proof that the MRA did help to alleviate any disadvantage of CBD location, while at the same time stimulating the socially desirable aim of increased investment in the downtown. Lastly, while it may be that people with large projects went in search of the MRA's programs, it may also be that the programs encouraged people to pursue big projects, with a subsequently greater gain to society in terms of property tax revenue.

6.1. Avenues of Further Research

This subject provides many opportunities for further research. In particular, these firms should be observed over a longer time period. Instead of relying on the owner's memory, periodic visits to track employment would improve the accuracy of the study. A thorough study of the relationship between the volume of business or the profits of the company and renovation would provide valuable information.

Several of the major MRA projects have encountered financial difficulties. While these problems are not connected with the agency in any way, it would be interesting to see how the firms come through their reorganizations.

A larger sample would have avoided several problems. The anomalous firms could have been excluded. The logit analysis would have produced meaningful chi square statistics for goodness of fit. Standard deviations would have been reduced, increasing the levels of significance difference between the various groups. All in all, the results would have been more robust had the sample size been doubled.

There may have been a problem of self-selection in the sample. Firms may have come to the MRA because they were considering ambitious, expensive projects and were willing to invest the necessary time to research all financing options. NMRA firms, whose projects were usually less expensive, may have been reluctant to undertake the application process. Firms considering a small repair or alteration may be more likely just to go ahead and complete the project than might businesses contemplating an investment of several hundred thousands of

dollars. It would be helpful to be able to review applications to the MRA and deny funding to half, which would serve as a control.

To discover whether Missoula was unique in its experience in some way, this study could be expanded to include other towns, such as Kalispell or Bozeman. Reducing the scope of the sample to a particular type of project -- renovations of their original building by extant businesses, or of an old structure by a newly established firm -- might serve to reduce the variation in the sample and thus increase the significance of the results. Again, this requires a larger population than the one available in Missoula.

The broader community impact of downtown renovation might also be examined. Contrasting the CBD's experience with the mall's would offer some interesting clues regarding the existence of the "musical firms" effect; whether vacant commercial space is simply increasing in the mall as it decreases downtown, with no net change to society.

The MRA's mandate expires in 1990. It would be interesting to observe the effects of its demise on the CBD. Perhaps the downward cycle of blight will set in, or perhaps a sense of pride has been instilled in downtown business-owners which will perpetuate the improvements in the area.

The exact nature of the blight cycle could also be investigated. With a chosen neighborhood, one might have householders record maintenance expenditures as one building is allowed to deteriorate. This would help to determine the exact degree of the contagion under-maintenance is supposed to incur.

6.2. Conclusions

Based on this study, the Missoula Redevelopment Agency can be credited with a considerable degree of success in achieving its goals of increasing investment and decreasing blight. Jobs increased among M CBD firms by much more than they did among others. The amount of investment was larger by far among these businesses, and, as one would expect, total tax receipts also grew the most and reached the highest total.

By reducing the cost of investment to the private firm, the MRA helps to combat urban blight, or Type B market failure. It seems logical that a physically attractive CBD would attract new or keep existing businesses. In so doing, Type A market failure, the inefficiency problem, would also be corrected. This cannot be stated with certainty, however, due to lack of data and an insufficient time horizon.

It can be concluded that the MRA does indeed perform its duty in a way that is socially beneficial. From an economic point of view, the Missoula Redevelopment Agency has played an important and unique role in the resurgence of the downtown.

Appendix A

Questionnaires

The interviews with business owners used the following form. The first 24 questions were identical for all three groups; differences are noted.

This interview is part of an effort to assess government policies for stimulating growth and to pinpoint those factors which influence a business person's decision to invest. As someone who has expanded or refurbished a building in the past ten years, you have important insights into this process. Your thoughts, perceptions, and experiences are vital to my study.

I'd like for you to be assured that all answers will be strictly confidential. No one will know who said what.

As we go through this interview, if you have any questions about why I'm asking anything in particular, please feel free to ask. If there is anything you don't want to answer, just say so. Again, the purpose of this interview is to get your insights about your experience as a business person in Missoula.

1. What business are you in?
2. How long have you been in business as (company name)? How long at this address?
3. How long have you been involved in this type of work?
4. Have you been in this type of business elsewhere in Missoula? Where and for how long?
5. Which were important considerations about this location? Please use a scale from 1 to 5, Very Important to Not even Considered:

* Amount of Space

1 2 3 4 5

* Cost of Space

1 2 3 4 5

* Parking

1 2 3 4 5

* Taxes

1 2 3 4 5

* Traffic Flow

1 2 3 4 5

* Compatible Businesses Nearby

1 2 3 4 5

* What other factors am I missing?

6. If this building became unavailable tomorrow, where would you first look for space?

* Downtown

* City, not downtown

* County

* Other (specific)

7. Let's talk about the renovation you did a while back. You got a building permit on (date) to do (brief description). How long did it take?

8. How much did it cost?

| | | | |
|---------|-------------------|-------------------|-------------------|
| <\$5000 | \$5000-\$10000 | \$10,000-\$20,000 | \$20,000-\$30,000 |
| | \$30,000-\$40,000 | \$40,000-\$50,000 | >\$50,000 |

9. Which of the following were important in deciding to do this project at that particular time? Please rank them from 1 to 5 as Very Important to Not Even Considered:

| | | | | | |
|---|---|---|---|---|---|
| * Interest Rate | 1 | 2 | 3 | 4 | 5 |
| * Availability of low cost financing | 1 | 2 | 3 | 4 | 5 |
| * Crowding in existing facilities | 1 | 2 | 3 | 4 | 5 |
| * Need for Parking | 1 | 2 | 3 | 4 | 5 |
| * Neighborhood improving/competition increasing | 1 | 2 | 3 | 4 | 5 |
| * Looking Rundown | 1 | 2 | 3 | 4 | 5 |
| * Inefficient floorspace | 1 | 2 | 3 | 4 | 5 |

10. If you had not done this project, would you have

Moved Looked elsewhere in same area Stayed in the same location
 Sold the business Closed the business Never bought the business

11. How has your volume of business changed each year since the project?

First year after:

Up <5% Up >5% Unchanged Down >5% Down <5%

Second year after:

Up <5% Up >5% Unchanged Down >5% Down <5%

Third year after:

Up <5% Up >5% Unchanged Down >5% Down <5%

Fourth year after:

Up <5% Up >5% Unchanged Down >5% Down <5%

12. How many renovations can you recall occurring within sight of your store

* within a year before your renovation?

* in the same year?

* in the year following it?

13. Now let's talk about jobs. Some of the jobs your renovation created were construction jobs, others staff positions at your business. How many construction workers were on your job?

<5 6-10 11-15 >16

14. How long did they work?

15. How many employees did you have before the project?

16. Are these full-year or seasonal jobs?

17. Are these Clerical Skilled Professional Retail Service Semi-Skilled positions?

18. Following is a list of wage groups. Into which group does the average wage for your employees fall?

<\$3.50/hr \$3.50/hr - \$5.00/hr \$5.01 - \$7.50/hr >\$7.51/hr

19. How many new positions have been created since the construction was completed?

20. Are these full-year or seasonal jobs?

21. Are these Clerical Skilled Professional Retail Service Semi-Skilled positions?

22. Following is a list of wage groups. Into which group does the average wage for your employees fall?

<\$3.50/hr \$3.50/hr - \$5.00/hr \$5.01 - \$7.50/hr >\$7.51/hr

23. Answers to the following two questions were substantiated by reference to County property tax records.

24. What was your annual property tax before you renovated?

25. After you did so?

The following questions applied to firms participating in the MRA's programs.

26. As did many other firms, you used the MRA's programs. Without these programs, would you have

- a. Done the project on a larger scale Done the project just as you did it Done the project on a smaller scale Not done the project at all

27. How did you hear about the MRA?

28. What is the most useful service the MRA provided for you?

29. On balance, was it worth it for you to use the MRA?

30. What are the three biggest changes you have seen in the downtown in the past ten years?

These questions applied to those firms which did not use the MRA's programs, despite being located in the central business district.

How did you finance your project?

* Personal/Business Savings

* Bank Loan

- Amount

- Interest Rate

- Term

Other

31. If you had been given financial or technical assistance for this effort, would you have

- a. Done the project on a larger scale
- b. Done the project just as you did it
- c. Done the project on a smaller scale

Were you aware at that time that the MRA was a source of financing for projects like yours?

32. Why did you choose not to use the MRA?

33. What are the three biggest changes you have seen in the downtown in the past ten years?

These questions applied to firms located outside the CBD.

34. How did you finance your project?

* Personal/Business Savings

* Bank Loan

- Amount

- Interest Rate

- Term

Other

35. If you had been given financial or technical assistance for this effort, would you have

- a. Done the project on a larger scale
- b. Done the project just as you did it
- c. Done the project on a smaller scale

36. What are the three biggest changes you have seen in the downtown in the past ten years?

37. What are the three biggest changes you have seen in your area in the past ten years?

38. and one last question: If financial or technical assistance were available, would you consider relocating your business to the downtown?

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