ROCKY MOUNTAIN SKI RESORT RESIDENTIAL REAL ESTATE: MILE HIGH PROFITS OR DOWNHILL RETURNS?

by

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SUBMITTED TO THE DEPARTMENT OF ARCHITECTURE IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF SCIENCE IN REAL ESTATE DEVELOPMENT

September 2001

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ABSTRACT

Is investing in residential properties located in Rocky Mountain ski resorts a prudent financial decision? That is the central question this paper will address.

The author examined sales data from almost 3,000 residential transactions in Whitefish, Montana occurring between 1983 and 2000. Whitefish was chosen partially because this town exhibits many characteristics typical of Rocky Mountain ski resort towns as well as many of the non-ski characteristics that affect second home purchases in the Rockies. The author also gathered tax record information to determine the new number of units constructed during that period. Other external data, ranging from annual visitors in Glacier National Park to national economic data, was also collected. This data was examined in conjunction with the appropriate sales data to determine what factors influence the pricing of residential real estate. Through the use of a hedonic model, many home-specific variables that commonly influence pricing were removed, allowing for an "apples-to-apples" comparison within the data set. Utilizing regression analysis, this data evolved into a representative price index that tracked real property pricing as a function of time. For the 18 years of data collected, the real price index trended cyclically but steadily upwards, confirming the existence of a robust property market.

Using the real price index, a system of equations was developed as the foundation for the econometric model. The New Home Construction Equation (a measure of Supply) and projections for relevant economic and Demand variables were input into the Real Price Equation (a measure of inflation-adjusted housing Price) to predict future housing prices. This model worked very well, with one significant exception. In the detailed analysis comparing price to housing stock, new supply apparently had a positive affect home prices. This apparent violation of Supply/Demand principles can be explained by the housing stock itself: Existing stock is limited and generally outdated, meaning that new stock has little affect on pricing and that overbuilding risk, at least historically, has not been a factor. There is also the possibility that the only supply for which significant demand existed was new supply. This will almost certainly change as the market matures.

Six plausible scenarios of future conditions for the years 2001-2010 were tested using the model. Three simplistic scenarios were run utilizing linear projections for realistic, pessimistic and optimistic scenarios to establish the basic understanding of pricing behavior. Three slightly more complicated scenarios projecting cyclical behavior (more typical of real world conditions) were then run for realistic, pessimistic and optimistic scenarios to predict a more realistic pricing

pattern. The linear pessimistic case predicted a steady downward trend, while the cyclical pessimistic case exhibited a flat trend line through its cyclical pricing behavior. All other cases showed steadily to aggressively upward trends.

This analysis concludes that until new supply begins to lead to a more significant overbuilding risk, prices in Whitefish will likely continue to escalate in all but a significant, prolonged downturn in the economy. Another conclusion drawn from the analysis gathered is that the existing housing stock is outdated and/or in limited supply, leading to an unusual situation where new supply causes an increase in housing prices.

When compared to resorts in the east, these results proved quite different. Over the same time period, real pricing for ski condos in New England fell. The author concludes that a combination of western population growth, greater "four-seasonality" in Rocky Mountain Resorts and a more disciplined supply market created the conditions permitting real estate appreciation in the Western US.

These results were explained to individuals throughout the Rockies to assess their relevance. While the pricing behavior varied somewhat across the region, all individuals surveyed indicated a significant positive trend in pricing over time. Furthermore, the explanations regarding the differences between the east and the west were generally agreed upon. Overall, the consensus was the conclusions taken from this study were generally true across the region.

Thesis Supervisor: William C. Wheaton

Title: Professor of Economics, Massachusetts Institute of Technology

ACKNOWLEDGEMENTS

This thesis would not be complete without expressing my sincere gratitude to the multitude of people who helped and supported me through this tremendous undertaking. First, I would like to thank my thesis advisor Professor William C. Wheaton for the wisdom and guidance he provided throughout this intensive research project. He helped clarify unexpected, often frustrating results and aided in making this an exciting, mind-opening experience.

I would also like to thank a variety of people without whose help it would have been impossible to undertake this analysis from 2,500 miles away. I am indebted to Michael Collins and Pat Wood at The Big Mountain for providing not only the access but also the extensive, friendly and unwavering support needed for this study. I would also like to thank Mr. Tim Grattan for providing not only the hours of guidance, real estate war stories, and local history (not to mention cell phone time), but also the warm handshake of a newfound friend. Mr. Greg Carter with Rocky Mountain Real Estate deserves special thanks for the continued friendship and for providing my introduction and insight to Whitefish, Montana (not to mention for ensuring my comfort during my visits over the years). I would like to especially thank Scott Williams, Kathy Schulte and Jim Kelley for providing the data necessary to analyze this market. Without them this thesis could not exist. I would also be truly remiss if I were to neglect Sandy Bailey and Don Borgeson; despite the fact that I could not find enough data on Angel Fire for a complete study, I gained some useful insights from the information you provided.

I would like to offer my sincere thanks to the following companies and individuals for their help:

- Winter Sports, Inc. – Elaine White, Kristen Stern, Brian Schott, and ever helpful Andrea
- Montana Department of Revenue – Kurt Lewis
- Northwest Montana Association of Realtors –Stan Foy
- Glacier International Airport – Monte Eliason
- Glacier National Park – Amy Vanderbilt
- United States Forest Service – Neil Malkasian
- Angel Fire Resort – Mike Liddle, Jerry Halpern, and Jimmy Linton
- The Canyons – Peter Gutman, Sheri Bichler, and Jenny Ochtera
- Survey Respondants – Pat Wood, Jenny Ochtera, Chris Trevisani, Brinn Colenda, Jim Kelley, Jerry Halpern, and Suzie Royer.

Finally, I would like to thank my family and friends for the support and patience they afforded me throughout this process and during the long school year. I must thank my parents and grandparents for planting within me the interest in real estate and more importantly for providing an environment in which I could flourish in all aspects of life. I owe my kids a huge thanks for enduring much of the year without "dad," as I do their mother for assuming my roles on top of her already tremendous parenting obligations. I must thank my brother Ben for providing perspective and guidance throughout the process (and especially the late night proofreading). I want thank my other brothers and sister for giving me an opportunity to put my newfound knowledge to work. I feel the need to thank my fellow CRE classmates who made the second time around in school well worth doing. I want to thank God for giving me the strength needed. Most of all, I desire to thank my beloved Cindy for having the love, patience and faith to see this first trying year through and for providing some much needed joy and stability along the way.

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CHAPTER 1: INTRODUCTION

Since 1983, the average sales price for a home sold in Whitefish, Montana has risen from approximately $45,000 to approximately $219,000 in 2000. Adjusted for inflation, the value still totals $127,000. This appreciation would equate to a compounded return over 18 years of approximately 9.8% (6.3% minus inflation). This figure is very comparable to long-term stock market returns. (Home ownership in Whitefish, however, offers the opportunity to ski five months per year.) Of course, comparing a home built in 1983 to a home built in 2000 is not a truly fair comparison, given that the average home has certainly changed over this time in terms of both size and quality. Despite these shortcomings for comparison, this information strongly suggests a tremendous increase in real estate values over this time period. But are these recent returns in Whitefish typical in western ski resort towns, or is Whitefish more of an exception rather than the rule?

CENTRAL QUESTION

Is residential development in Rocky Mountain ski resorts a prudent investment?

APPROACH

Using The Big Mountain Ski and Summer Resort and the adjacent town of Whitefish, Montana as the primary area of study, this paper will examine the various factors that influence residential pricing in Rocky Mountain ski resorts. Initially, this study intended to model pricing behavior for at least two ski areas to examine potential regional trends. Unfortunately, the problems encountered in gathering data for the other resorts could not be overcome within the relatively short timeframe of the study. Consequently, the numerical analysis and modeling were

conducted only on The Big Mountain Ski and Summer Resort and the adjacent town of Whitefish, Montana. Through interviews and surveys with real estate professionals from other resorts, this report will attempt to determine whether the market trends and characteristics shown in Whitefish are universal throughout the region or are truly market-specific.

Whitefish was chosen partially because this town exhibits many characteristics typical of Rocky Mountain ski resort towns (destination resort, consistently good snow, etc.) as well as many of the non-ski characteristics (golf, fishing, boating, proximity to natural resources, etc.) that affect second home purchases in the Rockies. Its selection was also due to the author's familiarity with the area and his access to local individuals capable of aiding in the gathering of sometimes difficult-to-acquire information. One minor drawback concerning Whitefish is its lack of overall development. Although the resort has operated since 1947, the resort was only "discovered" within the last twenty or so years, and even then its discovery by the rich and famous has only occurred within the last decade. Due to its early stage of development, the results from this study cannot be directly extrapolated to resorts across the Rockies. However, many resort characteristics revealed within this study are common throughout the Rockies. More importantly, the analysis of Whitefish provides useful insight into how a resort market works in the midst of discovery.

In order to address these issues, the author collected data pertaining to residential sales, new construction, and various independent and exogenous variables that might possibly influence real estate demand and pricing. The author also conducted a number of interviews and surveys with individuals involved in various aspects of resort real estate, ranging from appraisers, sales agents,

resort owners and actual resort developers to obtain the portion of the resort development picture that cannot be explained purely by numbers.

This paper will be divided into four distinct sections. First, a relevant history of the resort and town will explain some of the unique characteristics of the subject location. Second, a price index is created based on historical data that will help identify trends. Next, equations modeling Supply and Price will be created as the basis for the econometric model. Using this model by inputting predictions depicting various future economic and demand related trends, the analysis will reveal likely future pricing behavior under a variety of conditions. Finally, a comparison between Whitefish and resorts from around the country will help assess the applicability of the findings outside of Flathead County, Montana.

THE MODEL

The historical data the author collected was analyzed and sorted. Transactions with missing data or obvious errors were discarded. Utilizing regression analysis on the sales transactions, a hedonic model was created to account for many home-specific variables that commonly influence pricing. (A hedonic model is one that is created utilizing only historical data.) This allowed for an "apples-to-apples" comparison with the typical Whitefish home. This hedonic model created the representative price index to track real property pricing as a function of time.

Utilizing the real price index, a series of regressions were run to determine which external factors affected pricing. From these regressions, a system of equations was developed as the foundation for the econometric model. The New Home Construction Equation (a measure of Supply) as

well as projections for relevant economic and Demand variables were input into the Real Price Equation (a measure of inflation-adjusted Housing Price) to predict future housing prices. Various future scenarios were modeled with these equations to determine future pricing behavior in a variety of socioeconomic conditions.

These results were then discussed with real estate professionals at resorts in New Mexico, Utah, Colorado and Montana to determine their regional relevance. The modeling results and the discussions about them were combined to form conclusions about future housing prices in Rocky Mountain Ski Resorts.

CONCLUSIONS

From this study and analysis, several conclusions will be drawn. First, through construction of the Real Price Index and comparison with actual sales data, it will be illustrated that real housing prices have risen in most of the 18 years studied. Through the many modeling scenarios analyzed on varying future conditions, the paper concludes that price appreciation in Rocky Mountain Ski Resorts will likely continue in all but the most pessimistic situations. Another conclusion reached within the confines of this study concerns the supply market: New supply has a positive affect on real estate pricing. This atypical characteristic could be representative of resorts markets in the midst of discovery. As a result of these quantitative and qualitative analyses, the author concludes that the main difference between the general real estate appreciation at Rocky Mountain Resorts and the more mixed results in the eastern US can be traced to the changing population patterns, the "four-seasonality," and the more disciplined supply markets of western resorts.

CHAPTER 2: HISTORICAL AND BACKGROUND INFORMATION

In order to fully understand what factors influence real estate pricing in a particular market, one needs to understand a little about its history and characteristics.

Whitefish's location provides an abundance of winter and summer recreational opportunities.

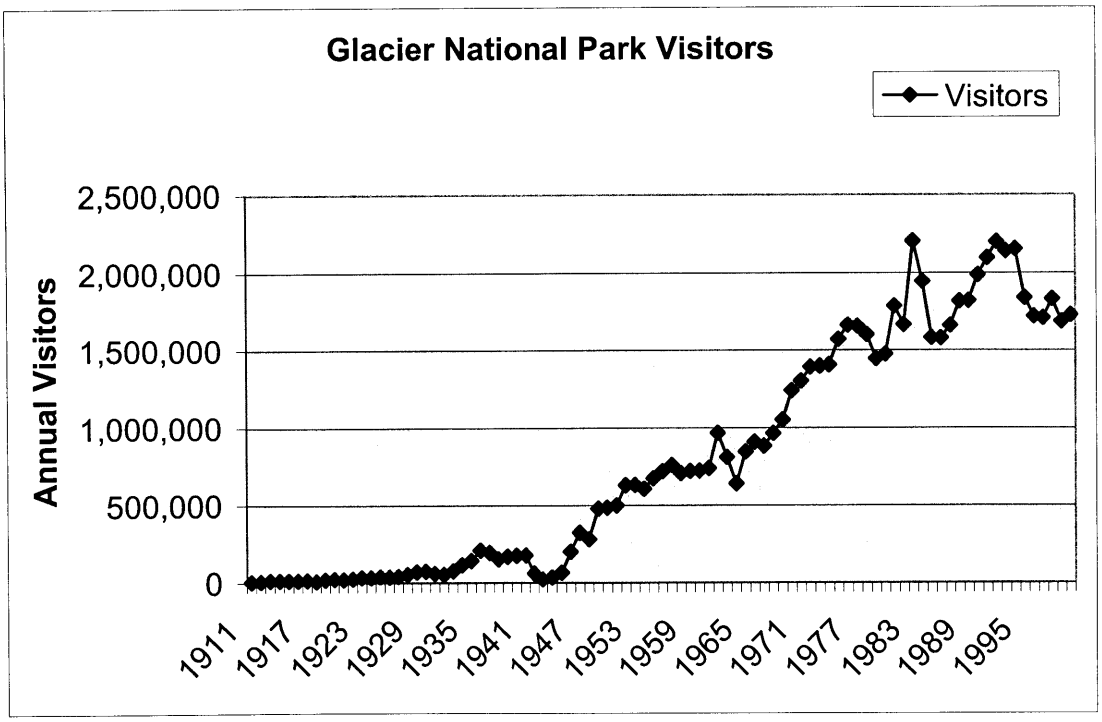
RELEVANT HISTORY OF WHITEFISH

In the early part of the 20th century, Whitefish was a quaint, sleepy collection of tents and boarding houses abutting Whitefish Lake to serve the lumberjacks, hunters and fisherman that frequented the area. In 1901, Whitefish was named a transcontinental "division point" on the Great Northern Railway's "Empire Builder" line traveling from Chicago to Seattle, prompting the birth of a full-fledged railroad boom town.[1] This rail service has been important throughout the history of Whitefish.

[1] Century Tel Website, Flathead Valley Community Portal, referencing the following books: Henry Elwood - *Kalispell, Montana and the Upper Flathead Valley* (1989) and Kathryn McKay – *A Pictorial History of the Flathead Valley, Montana* (1997)

GLACIER NATIONAL PARK

In 1911, Whitefish stood poised to capitalize on tourism from the newly formed Glacier National Park. As the primary stop on the rail line, Whitefish would be the first place from which visitors to the park traveling by rail would disembark. In the park's early years, however, visitors had no way to drive through the park. This was a problem considering the automobile's growing popularity. Consequently, the park's popularity severely lagged that of other National Parks in the Rockies and diminished the park's importance to surrounding communities as a source of tourism. Following 11 years of construction, the Going-to-the-Sun Highway opened in 1932, allowing park visitors to traverse Glacier by car over Logan Pass, prompting a tremendous and steady increase in park attendance. More importantly, this engineering marvel permitted Americans to enjoy the park by personal automobile as well as the railway, giving further legitimacy to Whitefish's growing tourist industry.



Information courtesy of Glacier National Park. (See Appendices for more information.)

RECREATION AND TOURISM

Glacier National Park marked the true beginning of the tourism and recreation that became increasingly important to Whitefish's economy. In addition to its proximity to Glacier Park, Whitefish is located about 15 miles north of Flathead Lake, the largest freshwater lake west of the Mississippi River.[2] Whitefish Lake is much smaller and not as subject to the wind and waves of Flathead Lake, offering a nearby alternative for off-weather days. Consequently, both Whitefish and Flathead County have long been home to summer boating and fishing enthusiasts. Although its latitude inspires visions of blustery and frigid winters, Whitefish enjoys relatively mild temperatures year round. Located at the northern end of the Flathead Valley, Whitefish's elevation of roughly 3,000 feet above sea level confines the more extreme cold temperatures to the surrounding peaks. The Village at the base of The Big Mountain (approximately 4,000 feet) gains just enough altitude to maintain snow levels throughout the Spring Ski Season.

In the 1930's, the locals were able to build a nine-hole golf course and clubhouse using New Deal funds. Although golf courses were not an acceptable use of New Deal money, the local golfing community circumvented the regulations by building an "airport" complete with nine oddly shaped "grass runways" that found use by golfers while waiting for the first plane to land and a small "hanger," which was used as a pro shop.[3] Nine additional holes were built in the 1950's by the town. Private developers expanded the course to 27 holes in the 1970's and later to its current 36 holes in the mid 1990's. Golf remains an important activity throughout the Flathead Valley. Although the season is relatively short compared to warmer climates, its northern latitude provides plenty of daylight, allowing golfers to start as early as 5:30am and

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[2] Source: www.rockymtnre.com
[3] Personal interview – Tim Grattan

finish well after 10pm in late June. Within the last decade, the Flathead Valley has developed into an increasingly popular golfing destination.

THE BIG MOUNTAIN

In the early 1930's, Whitefish skiing enthusiasts drove eight rough miles from town to the base of the Hell Roaring Basin to enjoy the increasingly popular sport of skiing. They would hike uphill, sometimes for hours on end, ski back down, and repeat this process as many times they could until they ran out of energy or daylight. The consistent snowfall created nearly ideal skiing conditions for those bold and energetic enough to endure the hardships. Before long, the Hell-Roaring Ski Club (sic) had built a cabin for overnight lodging and had installed a rope tow.

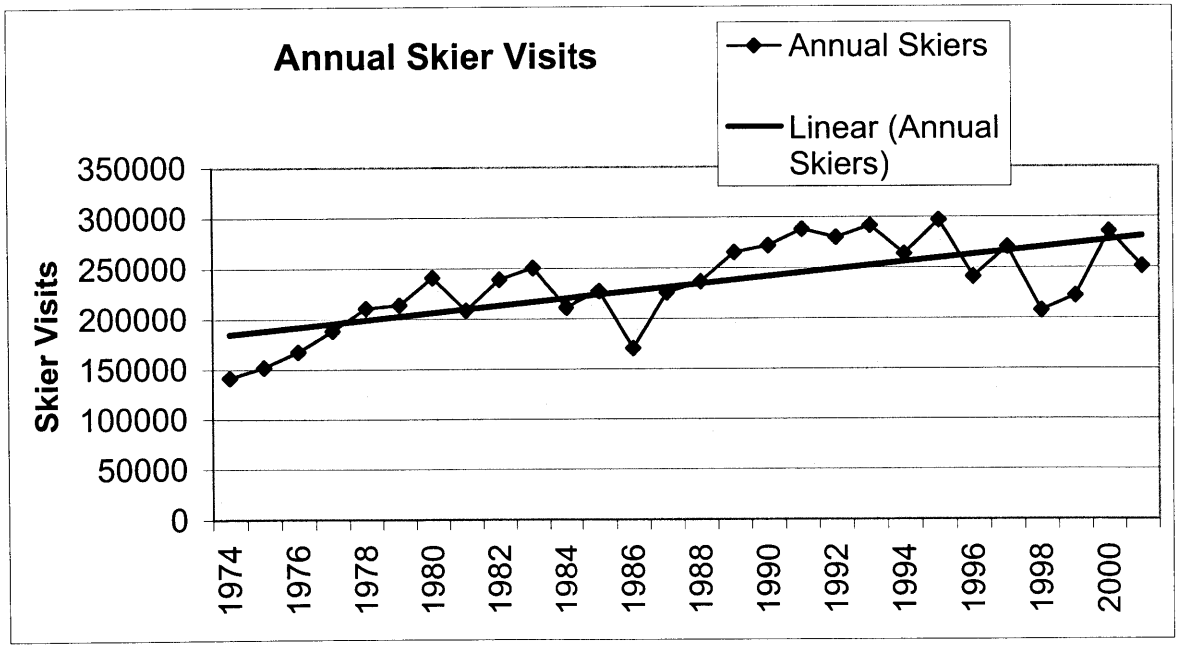
In 1936, Averell Harriman, owner of the Union Pacific Railroad, began developing with the cooperation of the United States Forest Service a destination ski resort served by his rail line in Sun Valley, Idaho - the first winter sport area on national forest service land.[4] Sun Valley became the jewel of the Northern Rockies in the ski resort universe. The Great Northern Railway sent their surveyors to the area to find a suitable ski hill to compete. Their first choice, Heaven's Peak within Glacier Park, required an approval at the Federal level to allow development. Their permit was denied. Coincidentally, the Whitefish Chamber of Commerce began courting winter tourism.

A group of local businessmen, hoping to cash in on the success of Sun Valley, looked to utilize its rail access and proximity to Glacier National Park to generate a significant winter business. The Big Mountain was born in 1947 when a small group of investors pooled $60,000 in

[4] Jean Arthur; *Hellroaring – Fifty Years on The Big Mountain*; page 17

investment capital and incorporated as Winter Sports, Inc. (Ticker: WSKI.OB) The first year of operation featured a ski lodge, the old rope tow and a single T-bar lift. They wasted no time in seeking notoriety for this fledgling ski operation. Despite overwhelming competition, The Big Mountain won the bid to host the 1949 National Downhill, Slalom and Combined Championship Ski Races, launching itself into national prominence in the world of downhill skiing.

In the early years, rail was the primary means of travel many skiers used to reach The Big Mountain, who often came in big groups from Portland, Seattle and Minneapolis. Ski packages purchased for $89 per person provided a round trip rail ticket, lodging, and skiing for a week. The resort finally established itself nationally in 1960 when they built a chairlift all the way to the top. This was a remarkable feat for a locally-owned and established ski resort, considering the lift was one of the longest in the US.[5]



Although the trend is largely upward, the weakening Canadian Dollar has hurt significantly in the 1990's.

[5] Information compiled from interview with Tim Grattan and book by Jean Arthur; *Hellroaring – Fifty Years on The Big Mountain*

Despite the best efforts of Winter Sports, Inc., Whitefish has traditionally been more of a summer destination. In fact, most Rocky Mountain resorts generally attract similar numbers of summer visitors as they do during the ski season.[6] Summer vacationers in the Rockies are commonly residents of southern states with blazing hot summers who travel in large part to escape the heat, enjoy colorful mountain views, and participate in activities not available at home (National Parks and Forests, dude ranches, camping, fishing, etc). This is a stark contrast to New England, where many summer travelers opt for traditional ocean-front destinations in Maine, on Cape Cod and the Islands, or small communities on the Rhode Island or Connecticut shore. Despite good snow conditions on The Big Mountain, Whitefish owes most of its prosperity throughout the decades to its proximity to Glacier National Park and its wealth of summer activities.

As second home ownership in resort towns began to take off in the 1970's and 1980's, the Canadian buyer was particularly important to the ski mountain as well as real estate prices in Whitefish. At this time, the drinking age in Montana was 19 while the Canadian drinking age was 21. Much like many Mexican border towns, Whitefish, Montana and The Big Mountain hosted busload after busload of Canadian youths seeking to ski in a place where they were legally allowed to purchase and consume alcohol. While Canadian adolescents are not traditionally a property buyer or second homeowner, they were very influential in a growing awareness of The Big Mountain among Canadians. Local estimates speculate that roughly half the skiers on the mountain during this time were Canadian citizens. During that same time, the Canadian Dollar enjoyed relative strength vs. the US Dollar.

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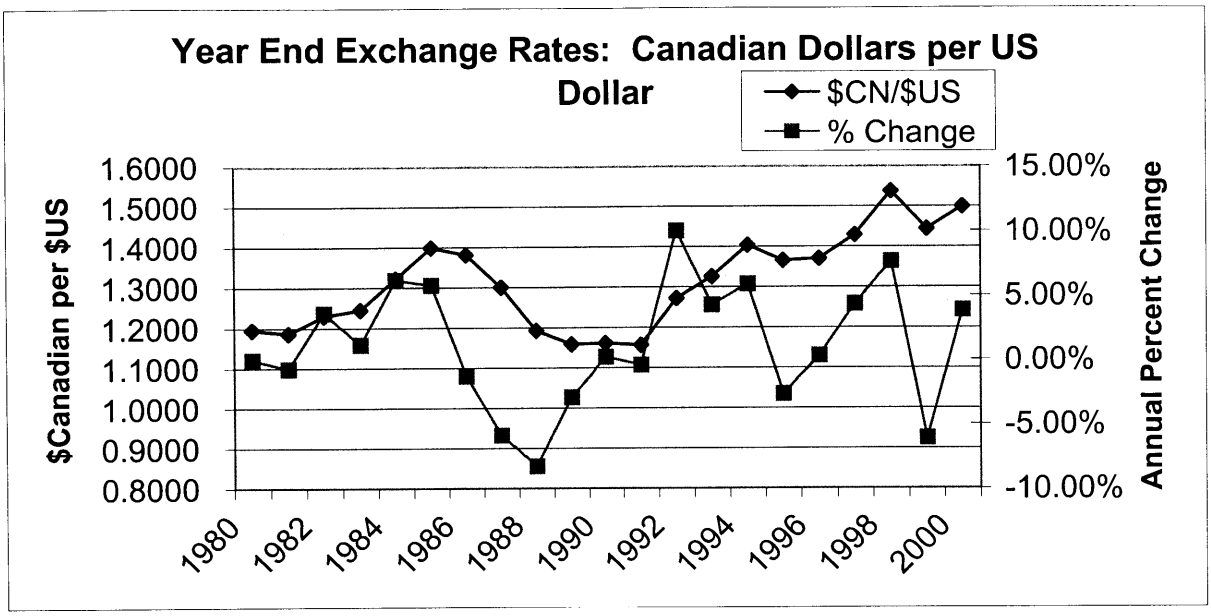
[6] Based on multitude of interviews and surveys conducted during this study.

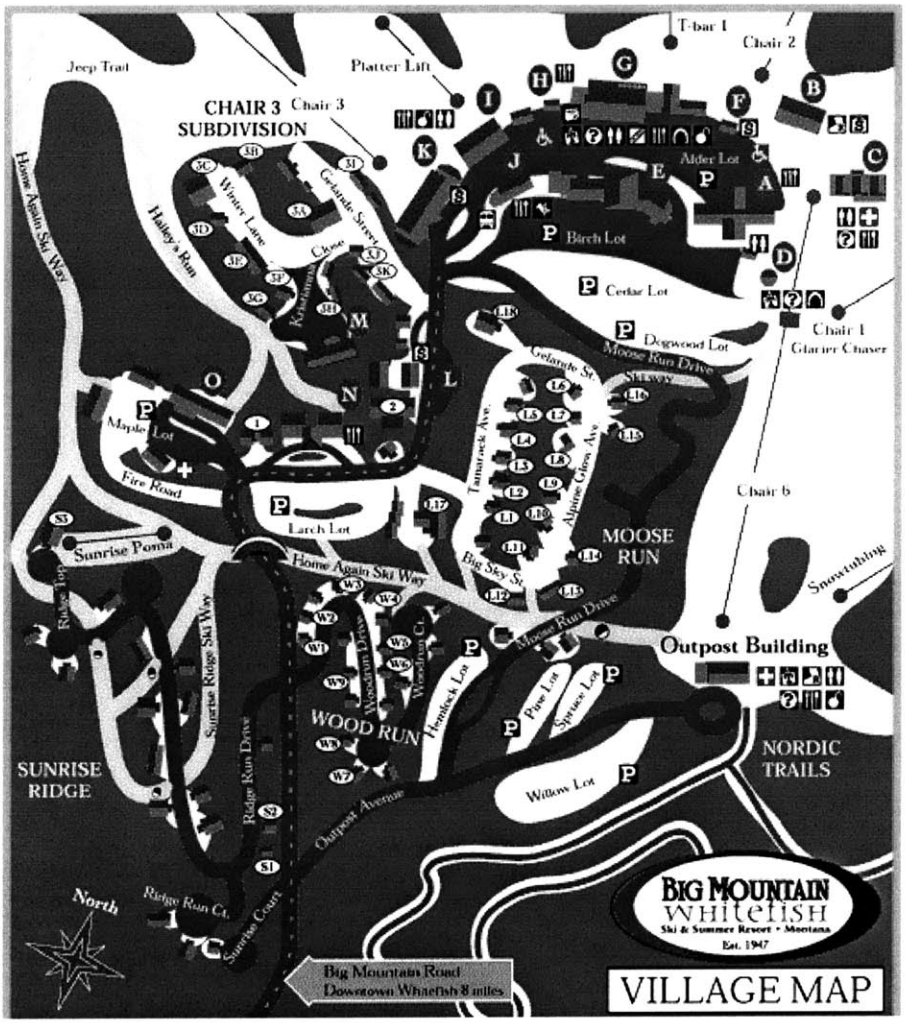


Consequently, Canadians were among the first to purchase resort property in significant numbers in Whitefish and on The Big Mountain.

Within the span of a few years, the Canadian influence on the Whitefish real estate market began to fade. Just as Montana raised its legal drinking age to 21, Canada reduced theirs, stemming the flow of adolescents and their families. Furthermore, the strength of the Canadian Dollar began to wane. Canadians who previously opted to purchase property in Whitefish with relatively strong Canadian dollars increasingly sought the developing resorts within their own country, partly for convenience and partly to avoid the instantaneous loss of value from using their devalued currency. Due to these influential changes occurring over a relatively short period of time, Canadians virtually disappeared from the Whitefish property market as well as from the ski scene by the early 1990's.

Fortunately, the diminishing Canadian influence coincided with an influx of emigrants and buyers from within the US. The 1990's have been tremendous for Whitefish real estate.

WHITEFISH AND THE BIG MOUNTAIN IN 2001



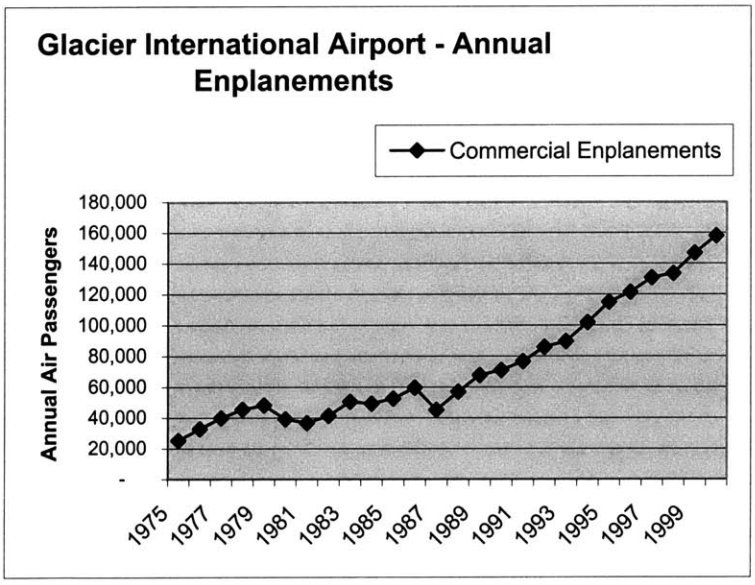
Whitefish and The Big Mountain have prospered in the last decade, especially the local real estate market. Prior to the 1990's, the resort was just another ski resort. Although the resort was over forty years old and a true four-season vacation destination with a wealth of summer activities, it remained largely in the shadows of other resorts. Local boosters and real estate developers instituted a well-orchestrated marketing campaign targeted at travel writers and travel agencies to increase awareness of their largely undiscovered secret. It worked. Flights began to fill, hotel rooms were empty less often, and restaurants and small businesses began cropping up to service the increasing number of Whitefish travelers.

<u>Top Left:</u> Big Mountain Road in the heart of the Village. <u>Top right:</u> the newly constructed Kintla Condominiums. <u>Above:</u> A view of the Village, Whitefish Lake and the adjacent town of Whitefish as seen from the slopes. Most of the village features ski-in/ski-out capabilities thanks to a network of lifts and ski runs surrounding the homes.

Local businesses, hotels and developers petitioned the airlines to expand their service even further with more flights and new cities. As can be seen by the photo and chart below, the

proximity of the airport to the ski mountain and the increasingly positive trend in air travel illustrate why Glacier International Airport is one of the biggest reasons why Whitefish is becoming less and less of a secret. Direct flights are currently available from Salt Lake City, Minneapolis/St. Paul, Seattle and Spokane. Discussions are currently underway to add direct flights from California's Bay Area, Chicago, Dallas/Ft. Worth and Calgary. Addition of these routes will certainly bring continued prosperity to this robust real estate market.

This rising tide in air travel will continue to lift all "boats" in the Whitefish area, bringing the more time-sensitive and big spending rich and famous to the area in increasing numbers. As this occurs, more and more businesses and services will arrive and evolve, providing new and higher paying jobs to the local work force. This in turn will increase the local tax base as more locals upgrade their homes and as businesses expand. As these businesses and services expand, they improve the quality of life for tourists and



residents alike. This in turn encourages not only the rich and famous but also the increasingly mobile population to consider permanent moves to Whitefish and its wealth of recreational possibilities.

Nowhere is this trend more evident than in two recent high profile real estate developments by nationally recognized development companies. Despite a limited supply of competing developable land, world-class four season recreation capabilities and tremendous value compared to higher profile resorts, neither of these developments would be feasible if not for the burgeoning growth in air travel throughout the Flathead Valley and Glacier National Park Region.

The first of these developments is an ultra high-end private golf community built around a Tom Fazio designed golf course. In the late 90's, west coast developers Haas and Haynie formed Discovery Land Company to develop the community a few miles below the ski village overlooking Whitefish Lake. Single-family lots averaging 2 acres were sold for prices ranging from $200,000 to over $1,200,000. The development proved extremely successful. The project sold most of their inventory extremely quickly, despite the fact that the lots did not front on the golf course. Without a significant metropolitan area nearby, this project obviously would not have been feasible without good air access.

The latest development signifying the arrival of Whitefish on the national development scene is Glacier Village (www.glaciervillage.com) at the base of The Big Mountain. Hines Resorts, a subsidiary of the internationally recognized Houston based Hines, is developing the $300 million

Glacier Village in partnership with Winter Sports, Inc. The aim of this partnership is to capitalize on the untapped potential of and increasing awareness about the resort and the region by developing the majority of the remaining base area land into a vibrant pedestrian and ski friendly village. By the end of this 8-10 year project, approximately 700 new housing units will populate the highly accessible ski community. Positive trends in air traffic helped ensure the feasibility of this impressive undertaking.

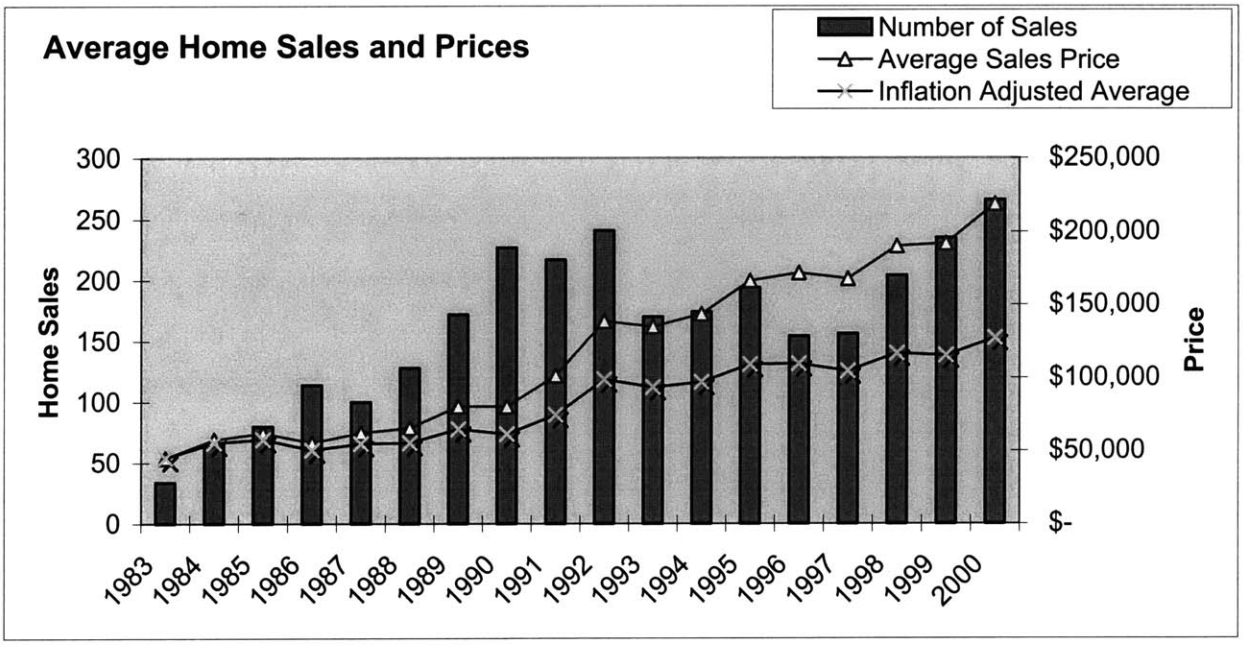
Left: Hines Resorts' plans for Glacier Village include creating a pedestrian friendly ski village utilizing underground parking. Most of the new development will occur on land the Birch, Cedar and Dogwood parking lots currently occupy. Right: Artistic rendering of the freshwater pond located lower part of Glacier Village, one of the many focal points planned within the development.

With a relatively limited supply of developable land in the immediate Whitefish area, growing exposure throughout the country and increasing air accessibility, strong potential for escalating real estate values remains.

CHAPTER 3: REAL ESTATE PRICES

The author accumulated volumes of data in examining this real estate market. Unfortunately, Montana is a "non-disclosure" state, making it difficult to obtain actual sales figures since they are not a matter of public record. This makes it complicated to analyze the prices relative to whatever independent factors may be affecting it. Fortunately, through the local real estate brokerage association and in conjunction with the cooperation of a few local appraisers and developers, the author was able to examine actual data for approximately 3,000 residential real estate transactions occurring in Whitefish since 1983 (the first year data was available).

The average sales price is the logical starting point when looking for trends. The following graph summarizes the average sales price for all transactions.

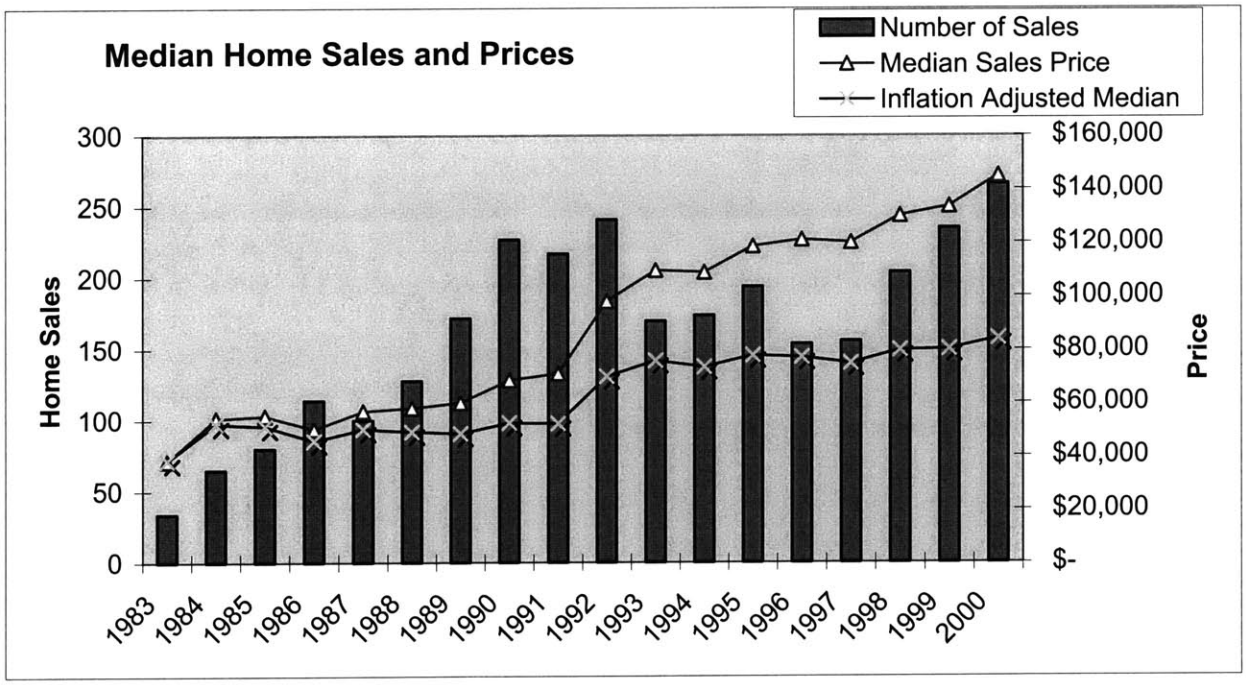


Even adjusted for inflation, the average home sale has increased dramatically between 1983 and 2000.

As one examines the graph, a few things become evident. As indicated by both average price and number of sales per year, demand for residential real estate was already rising dramatically

at the start of this study in 1983. This is evidence that Whitefish, Montana and The Big Mountain were well on their way to being "discovered." Despite the national economic slowdown occurring in the late 1980's and early 1990's, the number of sales and average price continued to grow. Even adjusted for inflation, the average price increased from approximately $45,000 to $127,000.

Discovery ultimately meant an onslaught of sales to the rich and famous. Individuals in this category often are willing to pay more than fair market price for real estate, which can artificially skew the results upward. One appraiser indicated that for a more accurate picture of real estate pricing trends that one also had to examine the median home price. Since the median indicates the "middle" value of home prices, it will not necessarily be as adversely skewed by "above market" sales. The following chart shows both the nominal and inflation-adjusted median prices for the Whitefish area. *(Average and Median Sales charts courtesy of Kelley Appraisal.)*



Adjusted for inflation, the median home price reflects slight upward trends both before and after a spike in 1992.

As expected, the median prices do not escalate as quickly as the average prices, especially once adjusted for inflation. As with average prices, most of the price escalation occurred from a price spike in 1992. This temporary boom resulted from a mass migration from recession-plagued areas such as California. Although the inflation adjusted median prices before and after this spike are much flatter than the average prices, the median continued to escalate in real terms, indicating a positive price trend.

Even though actual sales prices are an interesting starting point, too many variables (size, housing type, skiing/lake access, etc.) exist to rely upon overall sales prices for serious pricing analysis within the market. Accordingly, the need persists to examine the sales data further to determine what variables truly affected real estate pricing in the greater Whitefish market.

Nearly 3,000 transactions occurring from January 1983 to December 2000 in Whitefish, the Village at The Big Mountain, and the areas in between were examined. If key data was missing, if the sale appeared to be a "non-arm's-length" transaction or if an obvious error existed, the transaction was excluded. The data contained only actual residential dwellings; no lot sales were included. Homes built on vacant lots are not integrated until they are resold. Accordingly, many very high-end transactions are not included in the numerical analysis. *Therefore, the results from this analysis should be considered conservative.* These transactions were sorted and dissected to examine home-specific relevant factors in residential pricing. Dummy variables were inserted to account for pricing preferences on everything from water or ski slope frontage, housing type, parking spaces, and even yearly preferences. The following regression formed the basis for the representative price index.

Whitefish Price Index Regression

Regression Summary
LOG(PRICE/SF) vs. 26 Independents

Count	2761
Num. Missing	13
R	.729
R Squared	.532
Adjusted R Squared	.527
RMS Residual	.178

ANOVA Table
LOG(PRICE/SF) vs. 26 Independents

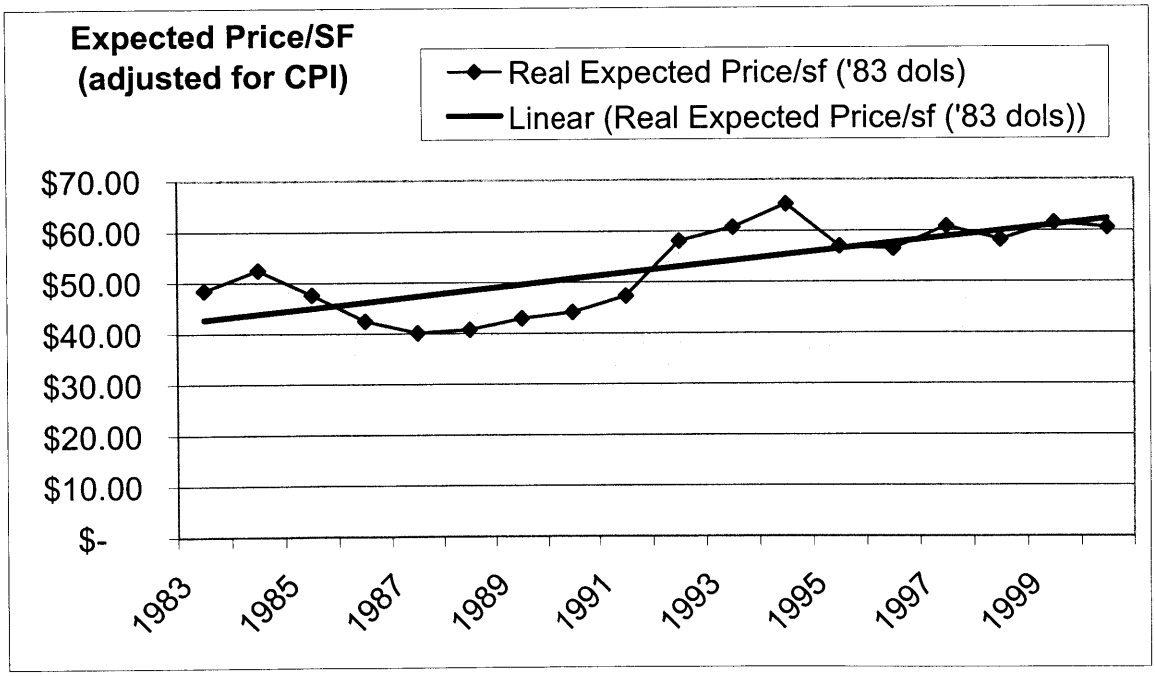
	DF	Sum of Squares	Mean Square	F-Value	P-Value
Regression	26	98.361	3.783	119.426	<.0001
Residual	2734	86.607	.032		
Total	2760	184.968			

Regression Coefficients
LOG(PRICE/SF) vs. 26 Independents

	Coefficient	Std. Error	Std. Coeff.	t-Value	P-Value
Intercept	1.618	.037	1.618	43.298	<.0001
SF	-4.191E-5	5.885E-6	-.108	-7.121	<.0001
BEDROOMS	-.002	.001	-.043	-2.820	.0048
BATHS	.005	.002	.039	2.538	.0112
WF ISD?	.026	.021	.016	1.213	.2251
AGE	-.001	1.094E-4	-.097	-7.112	<.0001
CONDO?	-.051	.011	-.072	-4.482	<.0001
SKI IN/OUT?	.284	.020	.213	14.510	<.0001
WATER ACCESS?	.157	.005	.413	29.081	<.0001
PARKING?	.053	.004	.191	12.952	<.0001
1984	.026	.038	.015	.691	.4894
1985	.010	.036	.006	.277	.7820
1986	-.016	.034	-.012	-.474	.6357
1987	-.025	.035	-.018	-.726	.4676
1988	-4.676E-7	.034	-3.609E-7	-1.373E-5	>.9999
1989	.043	.033	.038	1.306	.1916
1990	.078	.032	.078	2.410	.0160
1991	.126	.033	.121	3.882	.0001
1992	.228	.032	.239	7.090	<.0001
1993	.260	.033	.236	7.911	<.0001
1994	.302	.033	.292	9.265	<.0001
1995	.255	.033	.241	7.776	<.0001
1996	.264	.033	.229	7.928	<.0001
1997	.306	.033	.279	9.289	<.0001
1998	.294	.033	.291	9.030	<.0001
1999	.327	.032	.346	10.171	<.0001
2000	.335	.032	.381	10.512	<.0001

This regression was utilized to create a representative price index for a "typical" Whitefish home. Expected values were incorporated into the equation resulting from this regression. This equation was then tested year-by-year to create a representative price index from 1983 to 2000.

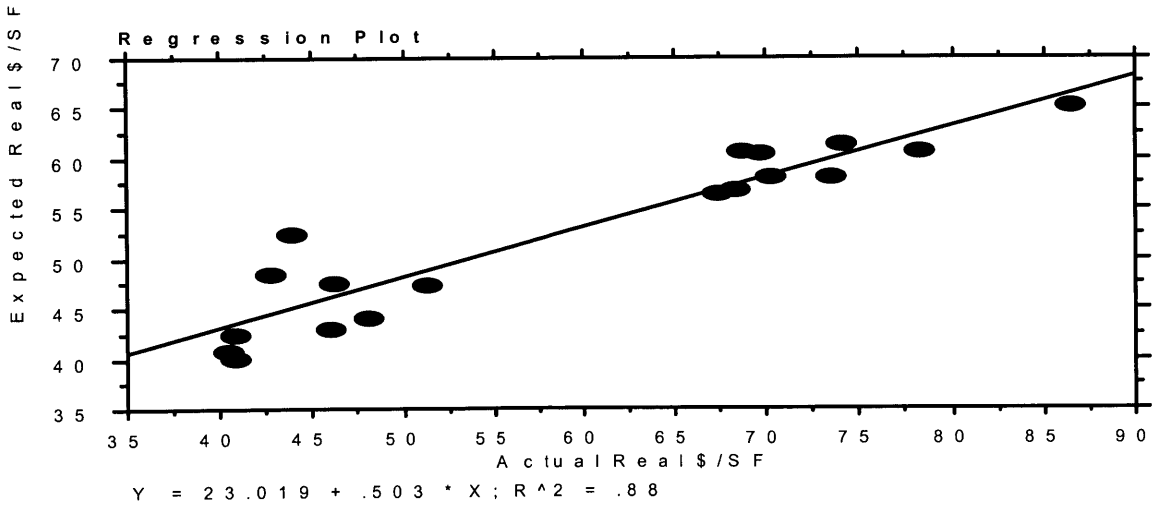
YEAR	log (price/sf) of typ home	Expected $/sf 10^[log(price/sf)]	Yearly CPI	Real expected $/SF of typ home ('83 dollars)
1983	1.68330241	$ 48.23	99.6	$ 48.42
1984	1.73630241	$ 54.49	103.9	$ 52.44
1985	1.70930241	$ 51.20	107.6	$ 47.59
1986	1.66730241	$ 46.48	109.6	$ 42.41
1987	1.65830241	$ 45.53	113.6	$ 40.08
1988	1.683301942	$ 48.23	118.3	$ 40.77
1989	1.72630241	$ 53.25	124.0	$ 42.94
1990	1.76130241	$ 57.72	130.7	$ 44.16
1991	1.80930241	$ 64.46	136.2	$ 47.33
1992	1.91130241	$ 81.53	140.3	$ 58.11
1993	1.94330241	$ 87.76	144.5	$ 60.73
1994	1.98530241	$ 96.67	148.2	$ 65.23
1995	1.93830241	$ 86.76	152.4	$ 56.93
1996	1.94730241	$ 88.57	156.9	$ 56.45
1997	1.98930241	$ 97.57	160.5	$ 60.79
1998	1.97730241	$ 94.91	163.0	$ 58.23
1999	2.01030241	$ 102.40	166.6	$ 61.46
2000	2.01830241	$ 104.30	172.2	$ 60.57



The real price index, coupled with the sales data from earlier in the chapter, reveals much about the transformation of the Whitefish real estate market. Adjusted for inflation, the average price for a home in Whitefish escalated from roughly $45,000 in 1983 to $127,000 in 2000. Our real price index in turn escalated from $48.42/SF to $60.57/SF over the same time period. Utilizing simple math, one can estimate the size of the typical house sold in 1983 at 929 SF, while the typical house sold in 2000 exploded to 2097 SF. This equates to a 126% increase in the size of the average home sold. This data strongly suggests that historically, existing stock has been inadequate for resort buyers and that these buyers are seeking larger units as a whole.

"GOODNESS OF FIT" OF THE FINANCIAL MODEL

This regression yielded a Coefficient of Determination (more commonly known as $R^{2)}$ value of 0.532, indicating that 53.2% of pricing variability can be explained using only these home-specific variables. For such a complex data set, this is a very good result, indicating a high degree of confidence in the index. In fact, when regressed against actual pricing data, the index corresponded at better than 88%, an unusually good fit.



WHAT DOES THE PRICE INDEX TELL US?

From a pricing perspective, real property values have escalated, but perhaps not to the degree one might think purely from looking at sales data. Considering the change in size of the typical home sold, the trend line for real property values on a per square foot basis has escalated from approximately $43 in 1983 to approximately $62 in 2000, an increase of 44% over 18 years. This equates to escalation of just over 2% per year above inflation. When examining actual data, the appreciation in value is even less impressive. From 1983 to 2000, the actual prices escalated from $48.42/SF to $60.57/SF, an increase of only 25% (just under 1.5% per year above inflation). If, however, if the figures are examined only between 1987 and 1999, the typical home would have increased in value by 53% equating to a post-inflationary escalation of over 4% per year. Although the trend is certainly positive, fluctuations throughout each cycle greatly affect actual performance.

When examining the regression of the LOG (price per square foot) in detail, a few trends emerge. A slight negative coefficient on the SF (square footage) variable indicates a decreasing trend, meaning people will pay slightly less for that next incremental square foot in Whitefish. This matches typical pricing behavior elsewhere. Also of interest is that baths appear to be slightly more valuable than bedrooms, although neither are overly important in overall pricing. Whitefish ISD, one of the highest rated school districts in the state, appears to positively affect pricing. Similarly, the age has a correspondingly negative affect on pricing. These results are reasonable and match common sense.

Of further interest are the coefficients indicating housing type, slope and water access, and parking. If a home is a condo (which included townhomes in analyzed sales data), it appears to have a somewhat significant negative affect. (Remember, this is on a logarithmic scale. $10/sf =1, $100/sf = 2, $1,000/sf = 3, etc.) All things equal, people will pay less for a condo than they would for a single-family home of equal size. Conversely, the number of parking spaces seems to have an identical but positive effect on the property. Of greatest interest, however, are the coefficients indicating water frontage/access and ski-in/ski-out capabilities. Common sense suggests that properties with these characteristics will trade at a premium, but this data somewhat quantifies to what degree that premium exists. Lake front properties appear to trade at a fairly significant premium to properties without such access, but ski-in/ski-out properties have the highest positive affect on pricing. Based on the regression table, it appears that the ski-in/ski-out capability adds roughly 80% more value than water accessibility. (This does not mean that the properties themselves will necessarily trade at such a premium. This only relates the relative value of one characteristic to the other.)

This information is particularly useful in quantifying what investments in residential development yield the highest return. For instance, a developer understanding these characteristics might conclude that although condominiums trade at a discount to single-family homes, the ability to construct more ski-in/ski-out condos vs. ski-in/ski-out single-family dwellings makes a slope-side condo or townhome development a wise investment choice.

Following this analysis, it becomes abundantly clear that the past eighteen years have been profitable to the Whitefish area real estate community. In order to utilize this information in

modeling future events, one must compare this past pricing behavior with external influences to understand what variables in the economic environment have the greatest affect on pricing. Once this relationship is understood, one can make reasonable predictions about the future behavior of those factors and understand their likely effect on future pricing.

CHAPTER 4: SUPPLY AND DEMAND

The real price index created from historical price data in the previous chapter provides us an objective overview of past pricing behavior. What external factors were responsible for creating the real estate environment in which those prices and that behavior emerged? Economics reminds us that prices are set when supply meets demand. Accordingly, this study looked to various socioeconomic variables to help determine what factors are important in altering the housing supply within Whitefish and at resorts throughout the Rockies.

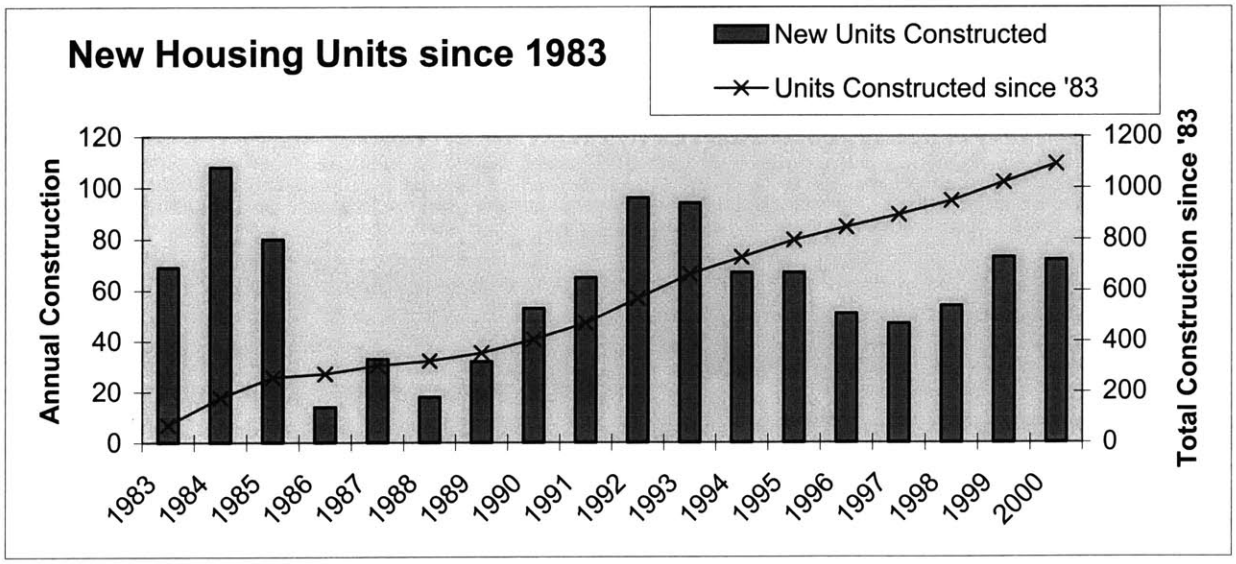
In general the following relationships can be found in any real estate market. As demand for real estate increases, more buyers enter competition for a supply of real estate that is relatively fixed over the short run. These buyers then bid up the prices for this existing supply. As prices escalate, fewer buyers are willing to pay, restoring a temporary equilibrium to the market. Once prices reach a certain level, however, developers become motivated to create new units of supply for the market in order to capture the value between what buyers are currently willing to pay and what the unit can be built for. In theory, an ideal number of units will be built, restoring the market to equilibrium.

Problems arise when an improper number of units of supply are built for the increased demand, leaving the market out of equilibrium. If insufficient units are built, too many buyers are chasing too few units and prices continue to escalate. If too many units are built, supply can easily exceed the new demand, creating a situation where too few buyers are willing to purchase property at a certain price point, causing the prices to drop.

In general, real estate investors seek out opportunities where new supply is constrained in some way, allowing the prices to escalate without a corresponding increase in supply to drive prices back down. In the Whitefish area, due to the high percentage of state and national forest designations on the surrounding properties, a limited supply of land exists for new development. Even if a suitable parcel is available, no guarantees can be made that a new project can be developed. The city and county have maintained a somewhat restrictive "smart growth" philosophy regarding zoning and permitting in and around Whitefish. These barriers to future competing supply were undoubtedly key factors in encouraging developers to proceed.

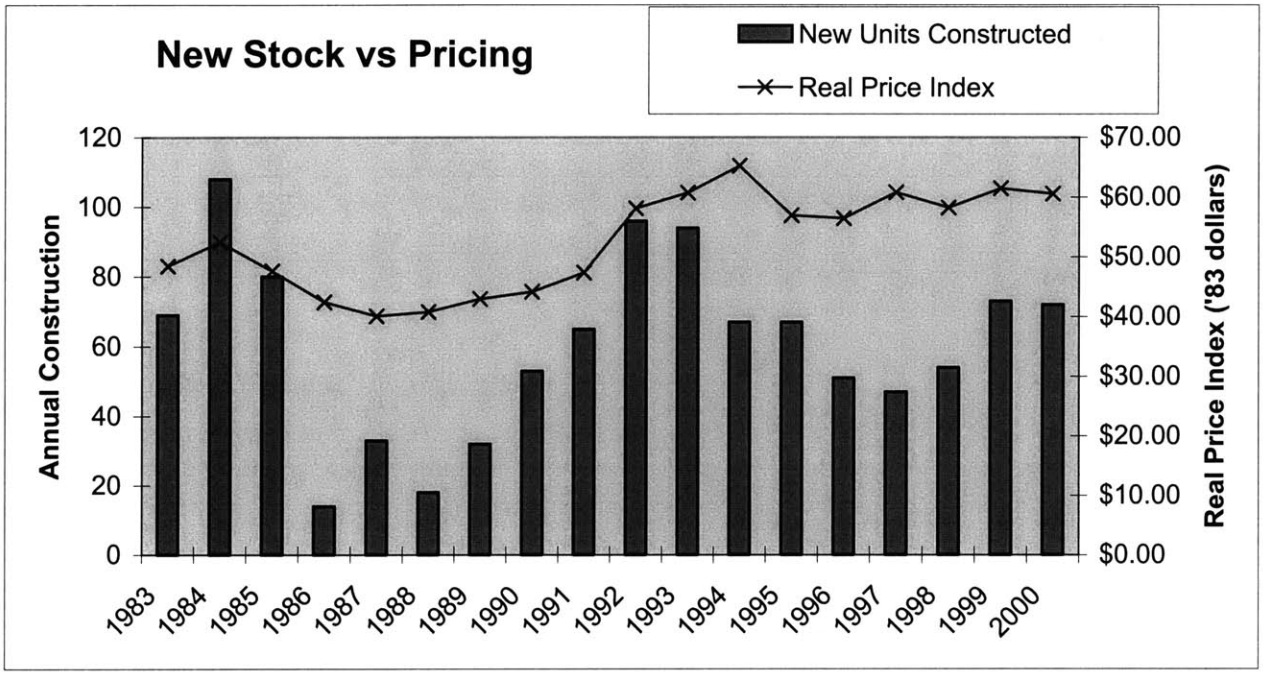
SUPPLY

Supply is an important factor in any pricing scenario. As a buyer's options increase, the buyer's urgency as well as the seller's resolve decreases. Understandably, supply is typically one of the most critical factors in pricing. Since building permit records do not exist back to 1983, tax records were examined and new construction statistics were manually counted.



The chart shows cyclical construction patterns. Tax-based supply data presumably includes all new housing stock.

When residential pricing exceeds the cost of new construction by a considerable amount, it provides incentive to developers and contractors to build anew. This is the primary reason new housing stock is created. Accordingly, it makes sense to understand what was occurring in the pricing market to spark the new construction detailed in the tax data.



When examining the new stock vs. the real price index, one can see the two track reasonably well. Of particular interest is the apparent lack of a negative correlation between new stock and price. (New stock should increase an individual buyer's options, driving prices down.) This suggests a number of interesting possibilities, but the most likely is that the existing stock has historically been so limited and out of date that competition only emerges for newly constructed units. The exercise in the previous chapter revealing the explosive increase in the size of the average home supports this theory. If true, this means that in the short term, very little danger exists of overbuilding, at least if history has any relevance. Obviously, this situation will change

in the future as more new construction occurs, but this is a very interesting observation about the Whitefish market.

"New Home Construction" is the variable created to track how the market supplies more housing in response to changing prices. Since it is difficult to track negative adjustments to existing stock (i.e. demolition), *the data set, as well as this new variable, should be considered "gross" supply/construction.* (Demolishing a house and rebuilding on the lot would "net" a zero change to housing stock, it will register as +1 for this model.) While the net supply and construction figures would provide a more useful factor in this analysis, the following represents the best data available. New construction was regressed against the previous year's running total of new stock, inflation (using the Consumers Price Index) and real residential pricing. The resulting regression shows a reasonable correlation ($R^2 = .573$), meaning that almost 60% of new home construction can be explained by these three variables.

Real estate has long been considered a "hedge" against inflation, meaning that real estate values typically escalate in correlation to inflation. Homeowners and investors felt safe by investing their capital in an asset with security against inflationary change. Furthermore, since the Federal Reserve Board guards heavily against rampant inflation, inflationary trends heavily influence the Board's decisions regarding interest rate and banking policy, which in turn have dramatic effects on the real estate, banking and construction industries. Inflation was viewed as a key factor in the behavior of the supply within the market and thus included in the equation. Pricing is the primary driver of most supply markets. Consequently, pricing is expected to be a key factor in

determining how many new units are built each year. Last year's stock is included since supply is not generally a "random walk;" cyclical behavior indicates a dependence on past results.

Regression Summary
New Home Const vs. 3 Independents

Count	18
Num. Missing	0
R	.757
R Squared	.573
Adjusted R Squared	.482
RMS Residual	18.629

ANOVA Table
New Home Const vs. 3 Independents

	DF	Sum of Squares	Mean Square	F-Value	P-Value
Regression	3	6532.974	2177.658	6.275	.0064
Residual	14	4858.637	347.046		
Total	17	11391.611			

Regression Coefficients
New Home Const vs. 3 Independents

	Coefficient	Std. Error	Std. Coeff.	t-Value	P-Value
Intercept	-111.808	46.285	-111.808	-2.416	.0300
Expected Real $/SF	2.093	.717	.669	2.920	.0112
CPI Growth	1281.591	529.522	.511	2.420	.0297
Home Const -1	.356	.204	.359	1.744	.1031

This regression forms the basis of an equation that models future changes in supply simply by plugging in assumptions about future market conditions regarding these two external economic inputs. This equation will indicate how many units will likely be constructed to compete with existing supply to meet future demand under the assumed conditions.

New Construction = -111.808 + (**Expected Real Price per SF** * 2.093) + (**CPI Growth** * 1281.591) + (**Home Const-1** * 0.356)

In determining which variables had a significant affect on supply, many other data series were regressed against New Construction. The only combination that included elements that commonly affect supply and also had a reasonable (>50%) R^2 was the regression shown above. While other combinations had higher R^2's, they neglected key elements necessary for a valid supply model.

Upon further examination, one can see that the existing stock portion of this equation has a positive coefficient. This matches the observation made in comparing new construction to pricing: New construction has a positive effect on prices. (This observation may generally be true about resorts in the midst of discovery.) While this appears valid in the near term, this situation cannot endure in the long run. Any unreasonable predictions resulting from this model can likely be traced directly to this unique and temporary supply situation.

DEMAND

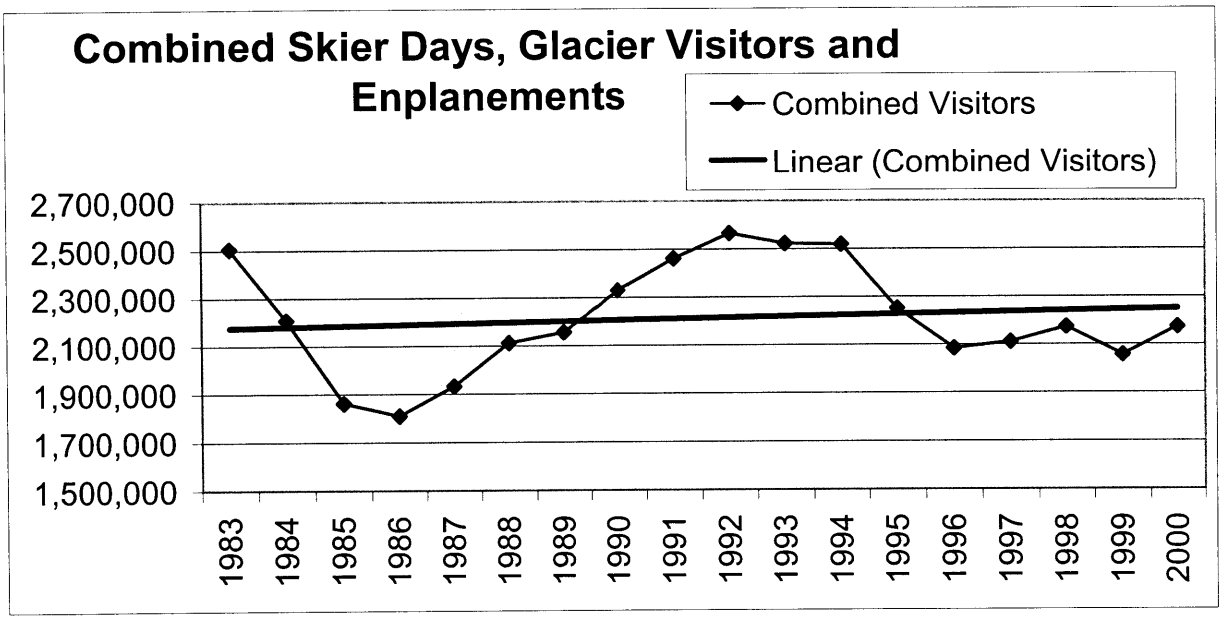
While we can now make reasonable predictions regarding future supply, we must also understand the accompanying demand to understand where the new price equilibrium will occur. This leads to an interesting question: What determines "demand" at a ski resort, especially one with such a wealth of summer activities?

In a survey of real estate professionals from four different western resorts - although answers varied somewhat from resort to resort - most cited property buyers originating from Texas,

California, Florida, and the Southwestern states. Illinois, New York and the Southeast were also commonly mentioned. These professionals indicated most buyers are fairly well-to-do professionals or retirees seeking a mountain retreat and/or retirement home. Many of them indicated that investment potential/return on investment was a key consideration when buying resort property. Also, between 10% and 30% (and in one case 60%) of these property buyers are purchasing the real estate not as vacation or occasional-use property but as their new primary residence. So how do these people become buyers?

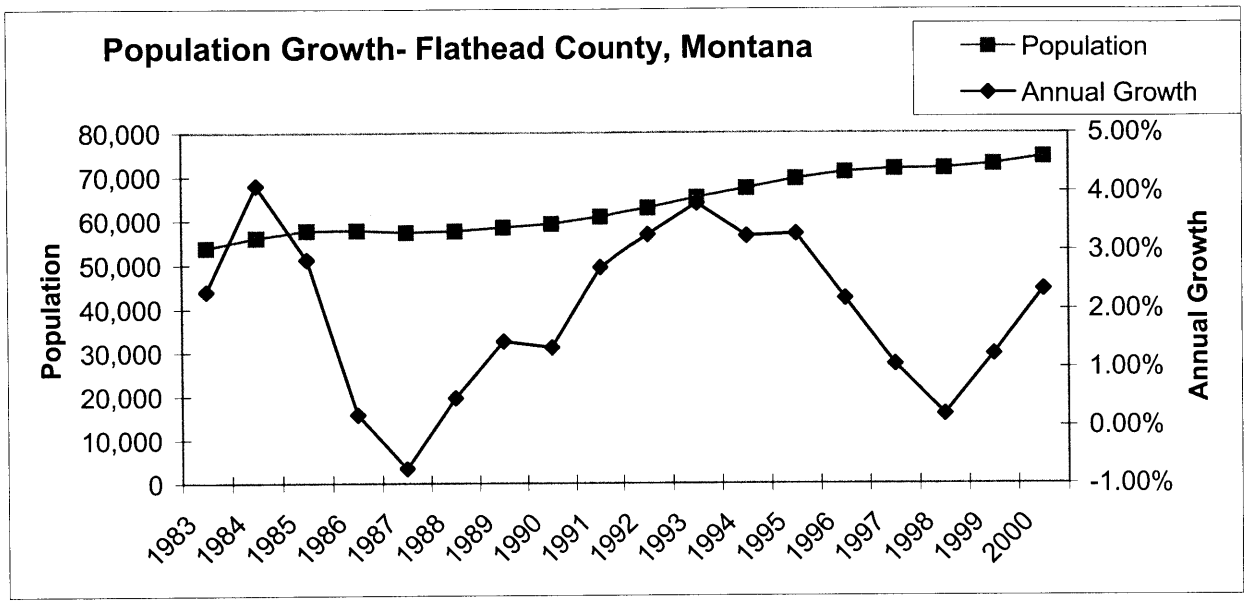
To understand how this information translates into property purchases, one must understand which demand-related "category" or "categories" of buyers are actually purchasing property in the market. First inclinations would likely suggest that skiers (as measure by Skier Days) would be the most appropriate approximation of demand at a ski resort. In other similar studies, Skier Days/Visits provides a good approximation of demand. (See Chapter 7) Unfortunately, almost no correlation was found between Skier Days/Visits and pricing in this instance. One could also argue that the annual visitors to Glacier might be the more valid measure of demand, given the magnitude of the numbers in comparison. (See page 10). Upon analysis, however, Glacier Visitors also yield very little correlation to pricing. Perhaps the most compelling argument can be made for air travel figures. Since people who fly on vacation typically have more money than those who drive, it stands to reason that enplanements at Glacier International Airport might be the best measure of demand for real estate pricing. While enplanements correlated better to pricing than the other two suggested measures of demand, no definitive relationship could be established.

Since neither Skier Days nor Glacier Visitors nor Airport Enplanements clearly established itself over the other two, and convincing arguments can be made for all, these were combined into a single variable - Combined Visitors. This new variable indicates a greater fit than any of the three individually. As seen in the graph below, "Combined Visitors" is prone to considerable cycles, but trends upward slightly over time.



Another possible measure of demand is population growth. Outside of the resort world, population growth is commonly one of the most important contributors to demand. With the western US growing so rapidly, population growth was also examined for its significance in the pricing model. Regrettably, annual estimates for Whitefish's population were not readily available. Such annual estimates for Flathead County, however, were easily accessible. It seems logical that since Whitefish is the county's most exclusive and prestigious town, county population figures would not differ drastically from the city figures. Unfortunately, just as with

visitation, population growth did not correlate well independently as the demand component in the pricing model.



Like much of the western US, Flathead County has seen steady growth in recent decades. Source: Census Bureau

As the numerical analysis progressed, it became clear that no singular measure for demand could be approximated when regressed against the pricing equation; however, Population Growth of Flathead County and Combined Visitors when used in tandem correlated very well to pricing behavior.

Unfortunately, in trying to create equations predicting the future behavior of these demand related variables by regressing them against the same various socioeconomic inputs, no regression produced logical results that accounted for much better than 40% of behavioral variability. Rather than create a potentially drastically flawed equation to predict future Combined Visits and/or Population Growth, reasonable trends will be estimated for these inputs in the future modeling scenarios.

CHAPTER 5: THE REAL PRICE EQUATION

In order to predict future pricing, one must understand the key variables that affect pricing within a particular market. In addition to the supply and demand variables discussed in chapter 4, an array of possible variables and factors exist that may strongly impact residential pricing. While one can always add additional variables, it does little good to incorporate increasing numbers of variables into the price equation. While the equation will likely fit reality better, its use as a tool becomes diminished. Not only do more variables distort the effectiveness of the regression analysis, but they also require the user to make accurate predictions about the future behavior of even more independent variables. The ideal pricing equation is one that has the highest R^2 while utilizing the fewest key variables. After dozens of various regressions, the optimal balance between fit and usability emerged through the following iteration.

Regression Summary
Expected Real $/SF vs. 5 Independents

Count	18
Num. Missing	0
R	.973
R Squared	.947
Adjusted R Squared	.925
RMS Residual	2.266

ANOVA Table
Expected Real $/SF vs. 5 Independents

	DF	Sum of Squares	Mean Square	F-Value	P-Value
Regression	5	1104.035	220.807	42.988	<.0001
Residual	12	61.638	5.136		
Total	17	1165.673			

Regression Coefficients
Expected Real $/SF vs. 5 Independents

	Coefficient	Std. Error	Std. Coeff.	t-Value	P-Value
Intercept	-37.115	14.037	-37.115	-2.644	.0214
Combined Visitors	1.378E-5	3.502E-6	.385	3.934	.0020
$CN/$US	35.018	7.699	.491	4.548	.0007
GNP Growth	43.625	40.640	.089	1.073	.3042
Pop Growth	175.353	53.370	.292	3.286	.0065
New Const since 83 -1	.013	.003	.475	4.167	.0013

It should be noteworthy that with only these five variables, the model explains roughly 95% of pricing variability. For this reason, the following simple equation will serve as a highly effective and usable tool to further analyze the Whitefish real estate market.

Expected Real Price per SF = -37.115 + (**Combined Visitors** * 0.00001378) + (**CN-US Exchange Rate** * 35.018) + (**New Const Since 83 -1** * 0.013) + (**GNP Growth** * 43.625) + (**Population Growth** * 175.353)

As stated in the previous chapter on Supply, it is interesting yet again to see a positive correlation between housing stock and pricing. As discussed before, this suggests the existing stock is severely limited and/or outdated, presenting a situation in which the only properties "in demand" are the newly constructed units. Considering that the ski resort celebrated its 50th anniversary in 1997 and that the town has existed in some form or fashion for over 100 years, this scenario seems quite possible.

Regardless of the current situation, basic economic law states that a positive relationship between new supply and pricing cannot go on forever. Sooner or later, enough "good" stock will exist to adversely affect pricing. When that situation occurs, this pricing model becomes obsolete. As long as the user understands this peculiarity about this real price equation, the model remains very useful.

FUTURE PRICING SCENARIOS

With the system of equations, one can now make assumptions regarding future conditions and feed those assumptions into the five independent variables required for the pricing model. From these equations, the model yields valuable information regarding the behavior of the Whitefish property market under a variety of future conditions.

CHAPTER 6: SCENARIOS

LINEAR SCENARIOS

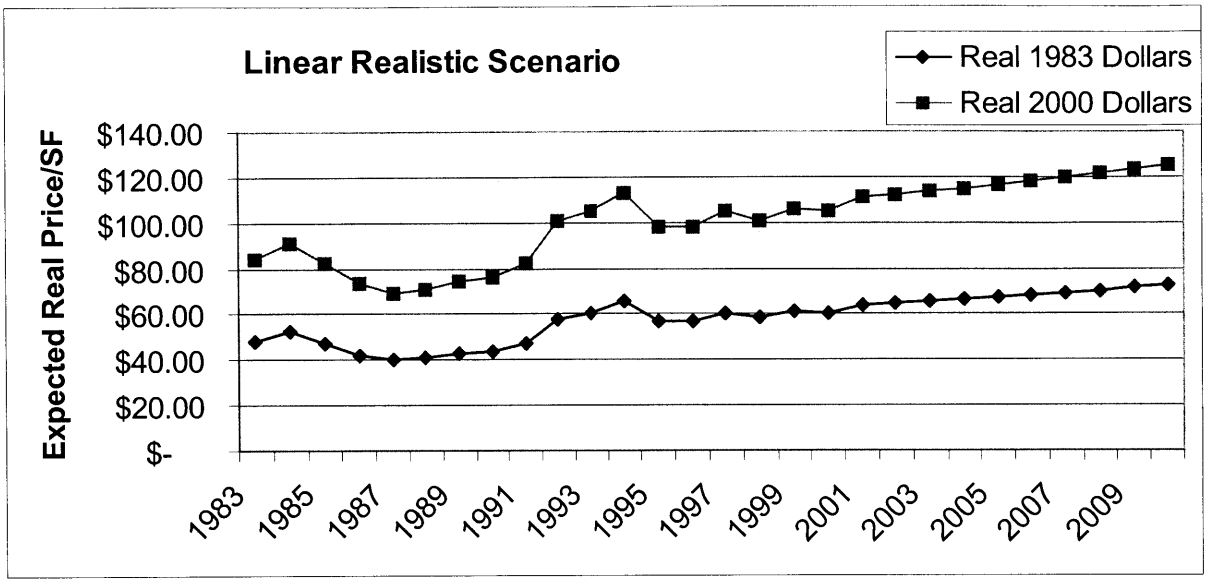
This newly created system of equations, coupled with reasonable predictions on the factors listed below, effectively model future pricing behavior. Simple linear trends allow us to gain a basic understanding of what is generally likely to occur with realistic, pessimistic and optimistic assumptions about future conditions.

Linear Realistic Scenario

Year	Expected Real $/SF	Combined Visitors	GNP Growth	Population Growth	CPI Growth	$CN/$US	New Home Construct	Total Const since '83
AVG 83-00	*$ 52.48*	*2212337*	*6.29%*	*1.95%*	*3.25%*	*1.331*	*61*	*n/a*
TREND '01-'10	***formula***	*0.20%*	*5.50%*	*1.50%*	*3.25%*	*-0.0150*	***formula***	***formula***
1983	$ 48.42	2505030	8.38%	2.29%	2.79%	1.245	69	69
1984	$ 52.44	2207184	11.10%	4.10%	4.32%	1.322	108	177
1985	$ 47.59	1860519	6.81%	2.83%	3.56%	1.399	80	257
1986	$ 42.41	1809337	5.42%	0.18%	1.86%	1.381	14	271
1987	$ 40.08	1931547	6.44%	-0.74%	3.65%	1.300	33	304
1988	$ 40.77	2111414	7.79%	0.47%	4.14%	1.193	18	322
1989	$ 42.94	2154671	7.46%	1.44%	4.82%	1.158	32	354
1990	$ 44.16	2329971	5.86%	1.34%	5.40%	1.161	53	407
1991	$ 47.33	2461679	3.06%	2.70%	4.21%	1.156	65	472
1992	$ 58.11	2565528	5.51%	3.26%	3.01%	1.271	96	568
1993	$ 60.73	2522811	5.11%	3.79%	2.99%	1.326	94	662
1994	$ 65.23	2518412	6.07%	3.23%	2.56%	1.403	67	729
1995	$ 56.93	2251398	4.95%	3.27%	2.83%	1.366	67	796
1996	$ 56.45	2083073	5.53%	2.18%	2.95%	1.370	51	847
1997	$ 60.79	2110024	6.31%	1.05%	2.29%	1.429	47	894
1998	$ 58.23	2172176	5.44%	0.20%	1.56%	1.538	54	948
1999	$ 61.46	2055130	5.51%	1.23%	2.21%	1.444	73	1021
2000	$ 60.57	2172164	6.47%	2.33%	3.36%	1.500	72	1093
2001	**$ 64.10**	**2176508**	**5.50%**	**1.50%**	**3.25%**	**1.485**	**90**	**1183**
2002	**$ 64.80**	**2180861**	**5.50%**	**1.50%**	**3.25%**	**1.470**	**97**	**1280**
2003	**$ 65.60**	**2185223**	**5.50%**	**1.50%**	**3.25%**	**1.455**	**102**	**1382**
2004	**$ 66.46**	**2189594**	**5.50%**	**1.50%**	**3.25%**	**1.440**	**105**	**1487**
2005	**$ 67.36**	**2193973**	**5.50%**	**1.50%**	**3.25%**	**1.425**	**108**	**1595**
2006	**$ 68.30**	**2198361**	**5.50%**	**1.50%**	**3.25%**	**1.410**	**111**	**1707**
2007	**$ 69.29**	**2202757**	**5.50%**	**1.50%**	**3.25%**	**1.395**	**115**	**1821**
2008	**$ 70.31**	**2207163**	**5.50%**	**1.50%**	**3.25%**	**1.380**	**118**	**1939**
2009	**$ 71.38**	**2211577**	**5.50%**	**1.50%**	**3.25%**	**1.365**	**121**	**2060**
2010	**$ 72.49**	**2216000**	**5.50%**	**1.50%**	**3.25%**	**1.350**	**125**	**2185**

All of the figures included in the above chart for the years 1983-2000 are actual data and as such will be consistent throughout the scenarios. Therefore, only the various projections for the years

2001-2010 are shown in subsequent scenarios. Although the calculations are made in 1983 Dollars, the results are also displayed in 2000 dollars for additional clarity.



As this scenario shows (using fairly conservative but realistic trends), with consistent GNP Growth (5.5% annually vs. a 6.3% average), CPI Growth (3.25% vs 3.25% average), Population Growth (1.5% annually vs. 1.95% average) and clear, consistent trends for both Combined Visitors (increase by 0.2% annually) and the Canadian exchange rate (drops by .015 $CN/$US per year) that real prices will continue to increase at a fairly steady rate in coming years.

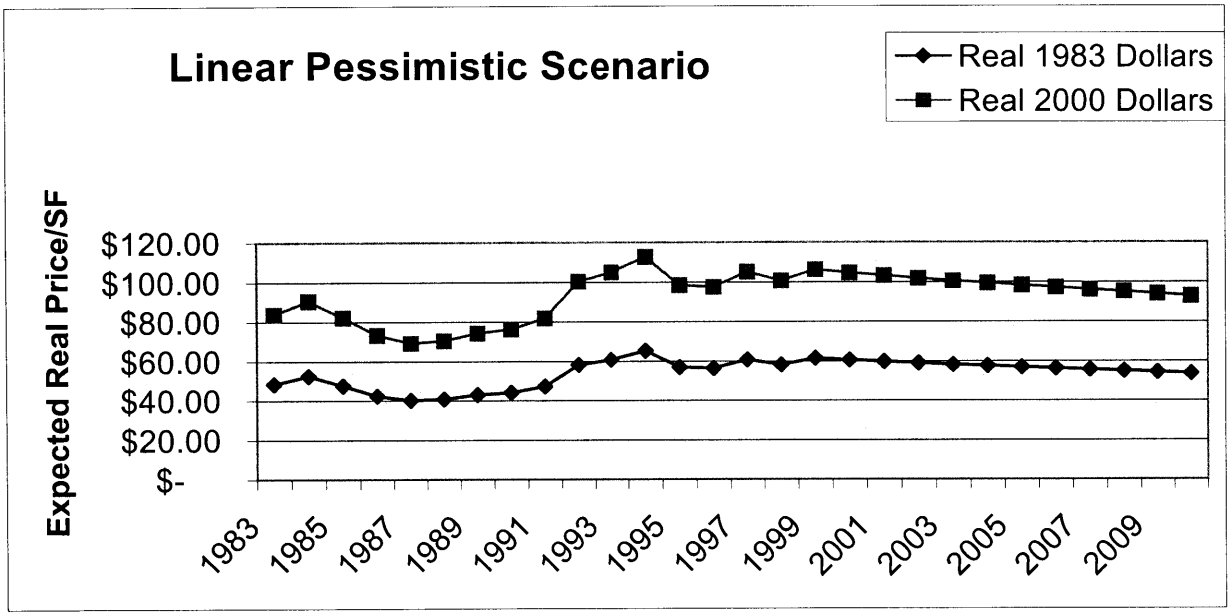
Once again, by examining the scenario in greater detail, the misaligned relationship between new construction and pricing becomes increasingly evident. At some point in the future, new construction will begin to have an increasingly negative effect on pricing, which would skew the pricing trend downward. Conversely, remember that this pricing model also neglects a large percentage of the newly constructed high-end single-family homes on vacant lots. Given the inability to predict which factor is more un-represented by the pricing model, one can rationalize that they roughly cancel each other out and that the pricing model is still reasonable.

By assuming a sub-average 5.5% for GNP growth, the author is indicating that the economy over the past decade has shown a vigor that is not likely to be repeated in the coming decade. Many economists have indicated that periods of high inflation are less likely in the near future; therefore, the average of 3.25% CPI growth appears to be on the conservative side given the current sub 3% performances consistent throughout the 1990's. The population growth figure of 1.5% is also on the conservative side given the average of 1.95% and national trends of increasing westward emigration. (See next chapter for further discussion on population trends.) The 0.2% growth in Combined Visitors roughly matches the trend shown in the graph in the last chapter, and the exchange rate predictions show a gradual strengthening of the Canadian dollar from its current lows. Despite their linear nature, these predictions are reasonable assumptions.

In the next scenario, the model represents pricing behavior in fairly dismal economic conditions. Visitors drop at a fairly alarming 3.5% per year, GNP growth is roughly half of what it averaged over the past 18 years, population grows at an anemic 0.5%, inflation holds steadily and unwelcome at 4.75% and the strength of the $US dollar drops. (While a strengthening Canadian dollar in the past has been a good thing, Whitefish is tied to American buyers. Whitefish and The Big Mountain now face competition from resorts within Canadian borders that are usually closer to the Canadian property buyer.) While it is unlikely that all these conditions would occur at once, it is very conceivable that individual conditions could actually be worse than those depicted. This scenario is intended to show on the worst end of the "reasonable" spectrum of possibilities.

Linear Pessimistic Scenario

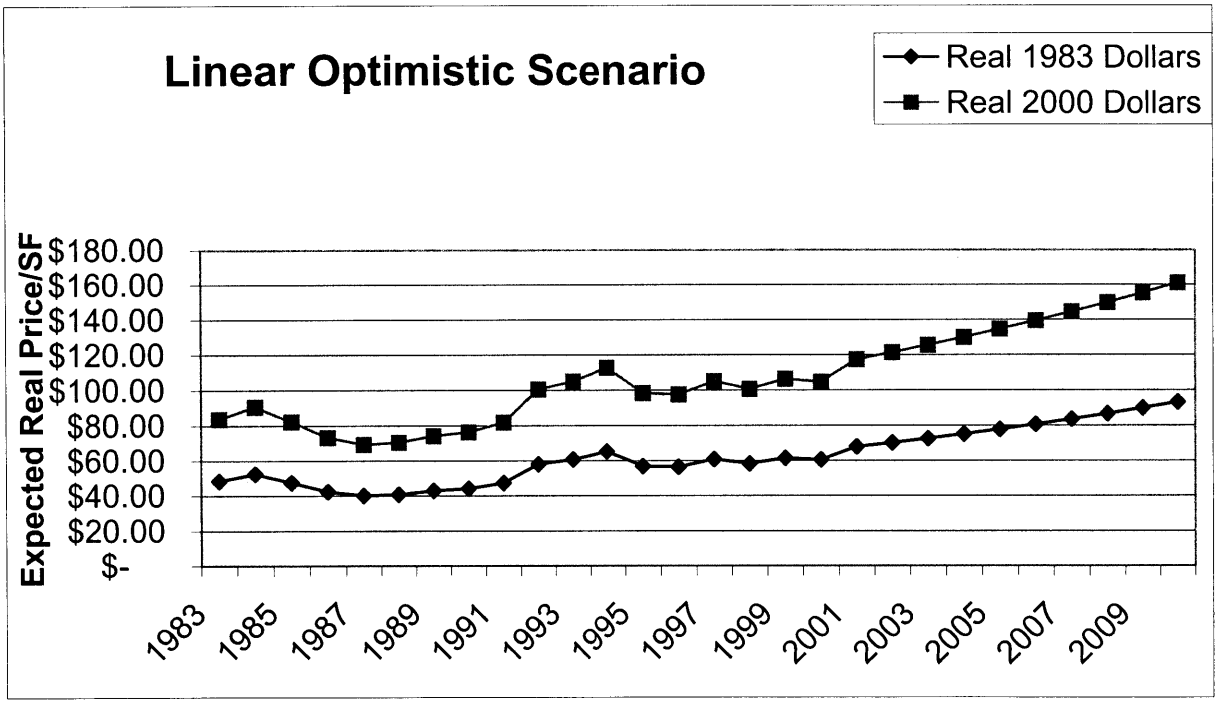
Year	Expected Real $/SF	Combined Visitors	GNP Growth	Population Growth	CPI Growth	$CN/$US	New Home Construct	Total Const since '83
AVG 83-00	*$ 52.48*	*2,212,337*	*6.29%*	*1.95%*	*3.25%*	*1.331*	*61*	*n/a*
TREND '01-'10	***formula***	*-0.035*	*3.50%*	*0.50%*	*4.75%*	*-0.0325*	***formula***	***formula***
2001	$ 59.75	2,096,138	3.50%	0.50%	4.75%	1.467	100	1193
2002	$ 58.90	2,022,773	3.50%	0.50%	4.75%	1.435	108	1301
2003	$ 58.19	1,951,976	3.50%	0.50%	4.75%	1.402	109	1410
2004	$ 57.53	1,883,657	3.50%	0.50%	4.75%	1.370	108	1518
2005	$ 56.89	1,817,729	3.50%	0.50%	4.75%	1.337	107	1625
2006	$ 56.27	1,754,109	3.50%	0.50%	4.75%	1.305	105	1730
2007	$ 55.64	1,692,715	3.50%	0.50%	4.75%	1.272	103	1833
2008	$ 55.03	1,633,470	3.50%	0.50%	4.75%	1.240	101	1934
2009	$ 54.41	1,576,298	3.50%	0.50%	4.75%	1.207	99	2032
2010	$ 53.80	1,521,128	3.50%	0.50%	4.75%	1.175	97	2129



Not surprisingly, real prices begin to fall steadily when subjected to such harsh conditions. When new stock begins to negatively affect pricing, the results from this scenario will be even worse. This is especially true considering the high-end vacant lot construction will be among the earliest casualties of such conditions; there will be nothing to offset the negative affect caused by the adverse stock effect.

Linear Optimistic Scenario

Year	Expected Real $/SF	Combined Visitors	GNP Growth	Population Growth	CPI Growth	$CN/$US	New Home Construct	Total Const since '83
AVG 83-00	$ 52.48	2212337	6.29%	1.95%	3.25%	1.331	61	n/a
TREND '01-'10	formula	2.00%	7.50%	2.25%	2.50%	0.0150	formula	formula
2001	$ 67.88	2215607	7.50%	2.25%	2.50%	1.515	88	1181
2002	$ 70.16	2259919	7.50%	2.25%	2.50%	1.530	98	1279
2003	$ 72.58	2305118	7.50%	2.25%	2.50%	1.545	107	1386
2004	$ 75.14	2351220	7.50%	2.25%	2.50%	1.560	116	1502
2005	$ 77.81	2398245	7.50%	2.25%	2.50%	1.575	124	1626
2006	$ 80.62	2446209	7.50%	2.25%	2.50%	1.590	133	1760
2007	$ 83.55	2495134	7.50%	2.25%	2.50%	1.605	143	1902
2008	$ 86.61	2545036	7.50%	2.25%	2.50%	1.620	152	2054
2009	$ 89.82	2595937	7.50%	2.25%	2.50%	1.635	162	2217
2010	$ 93.17	2647856	7.50%	2.25%	2.50%	1.650	173	2390



Rounding out the linear scenarios is the optimistic case. This scenario represents the best end of the reality spectrum. While this yields a terrific price escalation, these results would also be tempered by the flurry of building activity once the negative supply/pricing relationship takes effect. Nonetheless, results anywhere close to this scenario would please any investor.

CYCLICAL SCENARIOS

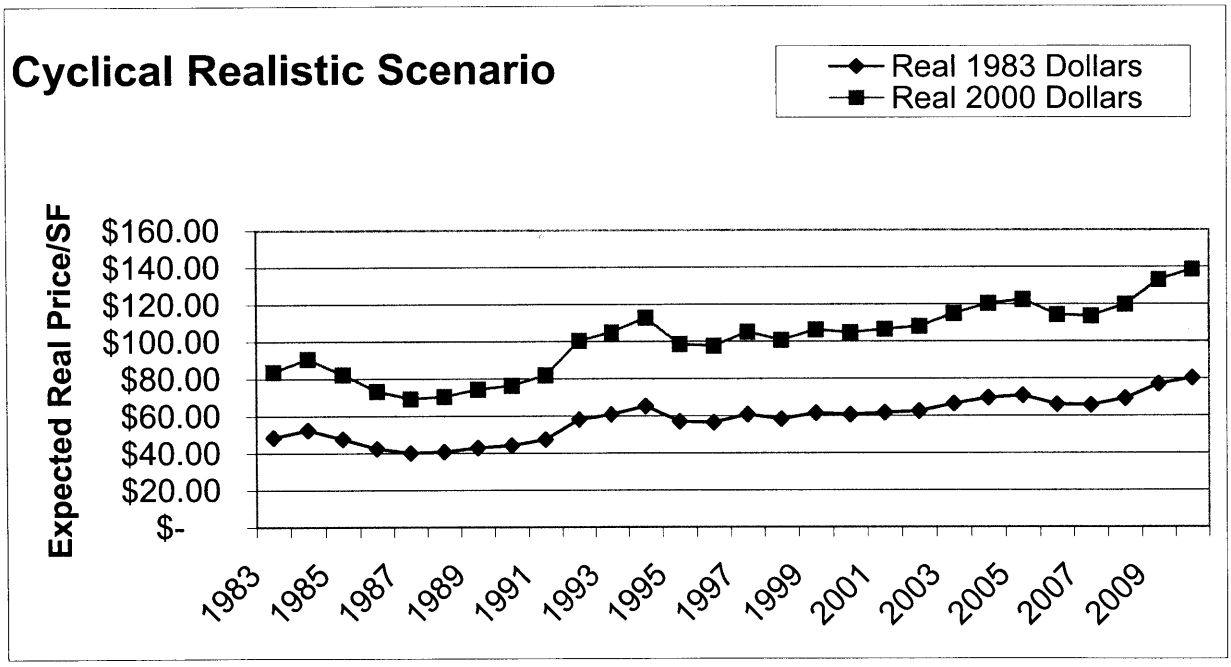
Although linear scenarios are useful in understanding basic pricing trends under varying economic conditions, they do not paint a very realistic picture of how the market actually moves. Rarely do independent variables move in straight lines. In order to more accurately simulate the real world, the variables were input manually to simulate cyclical behavior for each variable, but the cycles were created with an overall trend. This cyclical trend is determined separately for the realistic, pessimistic and optimistic cases. (Trend descriptions ending with a "-" indicate "slightly." For instance: a trend indicated by "cyc: up –" equates to a cyclic trend with a slightly upward overall bias.)

The cyclical trend directions were chosen in much the same way the linear cases were chosen - by making reasonable assumptions about the overall directional behavior occurring in each scenario. Instead of tracking the trend directly, however, inputs for Combined Visitors, GNP Growth, Population Growth, CPI Growth and the $CN/$US Exchange Rate are manually input in cyclical fashion around that trend.

For instance, CPI Growth shows a trend of "cyc: avg." This means that the inputs are manually inserted in a cyclical fashion about the average; in the realistic scenario shown below, the average is 3.25%. This means that the inputs will cycle above as well as below the 3.25% in each individual year, with the cycling generally confined to reasonable bounds above and below the trend. (In this case, the annual growth never ventures above 4.5% nor below 2.0%.) While the overall performance generally tracks the linear cases above, the variability possible from year to year can have significant consequences on an investment, as seen below.

Cyclical Realistic Scenario

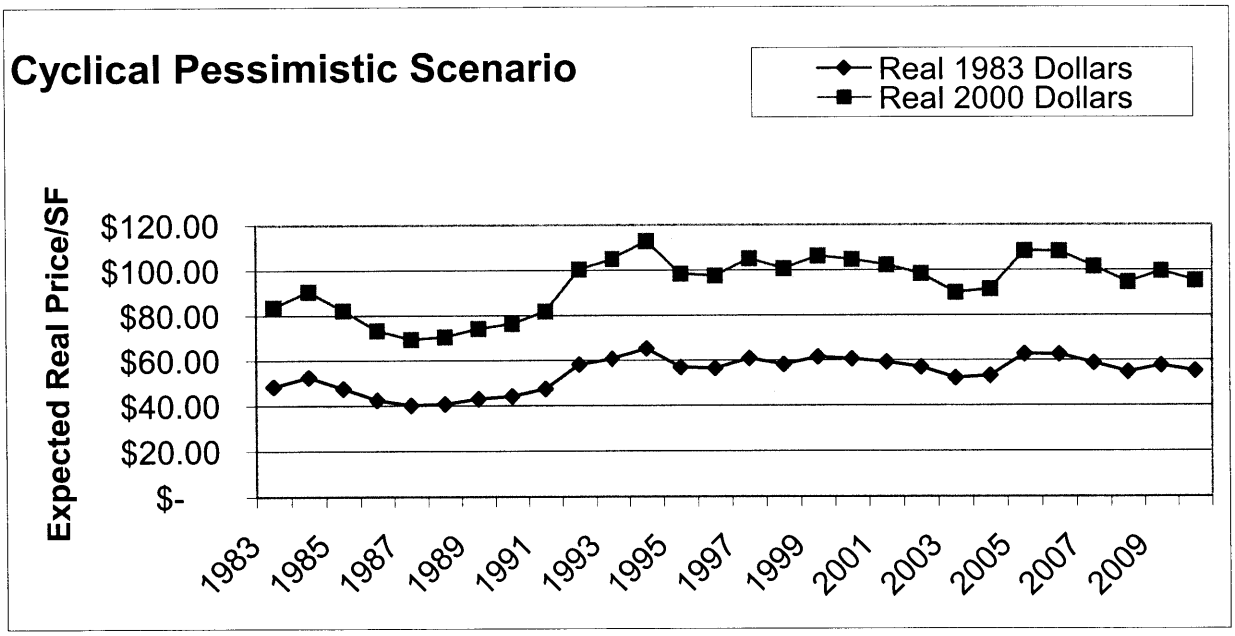
Year	Expected Real $/SF	Combined Visitors	GNP Growth	Population Growth	CPI Growth	$CN/$US	New Home Construct	Total Const since '83
AVG 83-00	$ 52.48	2,212,337	6.29%	1.95%	3.25%	1.331	61	n/a
TREND -'10	formula	cyc: up - cyc: avg		cyc: avg	cyc: avg	cyc: down -	formula	formula
2001	$ 61.59	2,050,000	4.50%	1.50%	4.00%	1.475	94	1187
2002	$ 62.53	1,950,000	5.00%	2.50%	4.50%	1.450	110	1297
2003	$ 66.47	2,100,000	6.00%	3.50%	3.75%	1.400	115	1412
2004	$ 69.58	2,250,000	7.00%	2.00%	3.25%	1.450	116	1528
2005	$ 70.78	2,450,000	6.00%	1.00%	2.75%	1.425	113	1641
2006	$ 66.07	2,200,000	5.75%	0.50%	2.00%	1.375	92	1733
2007	$ 65.68	2,100,000	5.25%	1.50%	2.75%	1.325	94	1827
2008	$ 69.29	2,250,000	6.00%	2.50%	3.25%	1.275	108	1935
2009	$ 76.93	2,400,000	6.50%	3.25%	4.00%	1.350	139	2074
2010	$ 80.17	2,600,000	7.50%	1.75%	3.25%	1.375	147	2221



The realistic scenario shown above, one can see how the cyclical projections more closely track the historical performance from 1983 to 2000. Over the long haul, the results are largely the same; however, the cyclicality produces both boom and bust years along the way. Much like the real world, even if the overall trend is positive, property buyers can and do lose money if they are not patient or careful.

Cyclical Pessimistic Scenario

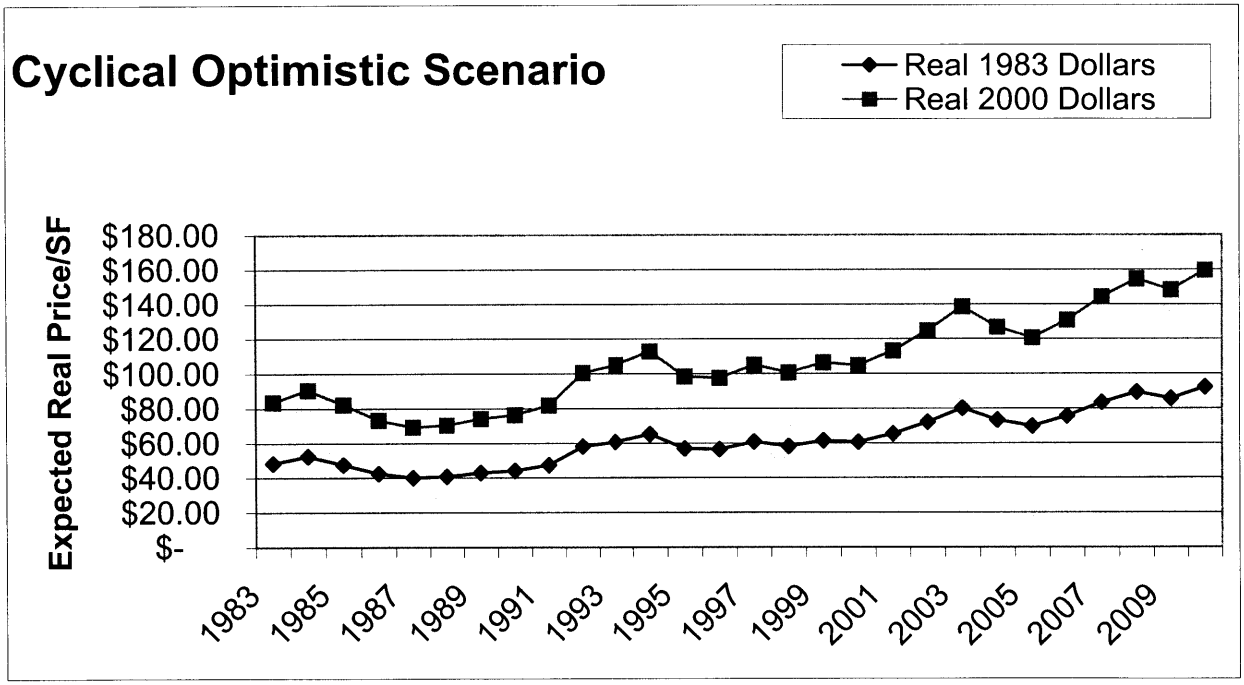
Year	Expected Real $/SF	Combined Visitors	GNP Growth	Population Growth	CPI Growth	$CN/$US	New Home Construct	Total Const since '83
AVG 83-00	$ 52.48	2,212,337	6.29%	1.95%	3.25%	1.331	61	n/a
TREND -'10	formula	cyc: down	cyc: down	cyc: avg	cyc: avg	cyc: down -	formula	formula
2001	$ 59.15	2,000,000	4.50%	1.00%	4.00%	1.450	89	1182
2002	$ 56.92	1,850,000	3.50%	1.50%	4.50%	1.400	97	1279
2003	$ 52.06	1,700,000	4.25%	0.50%	5.00%	1.325	96	1374
2004	$ 52.99	1,900,000	5.25%	0.00%	4.50%	1.250	91	1465
2005	$ 62.70	2,050,000	6.00%	1.00%	3.75%	1.375	100	1565
2006	$ 62.62	1,950,000	5.00%	1.75%	4.00%	1.350	106	1671
2007	$ 58.73	1,750,000	4.25%	1.00%	3.00%	1.325	87	1758
2008	$ 54.73	1,600,000	3.25%	0.50%	4.00%	1.275	85	1843
2009	$ 57.61	1,800,000	4.00%	1.25%	4.25%	1.200	94	1937
2010	$ 55.16	1,550,000	4.50%	0.00%	3.25%	1.250	79	2015



The pessimistic scenario shown above shows a trend that is largely flat to perhaps a very slight decrease in real terms. Once again, due to the non-negative relationship between supply and price within the model, in reality this scenario would fare far worse given a few years of new construction.

Cyclical Optimistic Scenario

Year	Expected Real $/SF	Combined Visitors	GNP Growth	Population Growth	CPI Growth	$CN/$US	New Home Construct	Total Const since '83
AVG 83-00	*$ 52.48*	*2,212,337*	*6.29%*	*1.95%*	*3.25%*	*1.331*	*61*	*n/a*
TREND '-'10	***formula***	*cyc: up*	*cyc: up*	*cyc: up*	*cyc: down*	*cyc: flat*	***formula***	***formula***
2001	$ 65.44	2,250,000	5.00%	2.00%	3.00%	1.475	89	1182
2002	$ 72.13	2,350,000	6.50%	2.50%	2.50%	1.550	103	1285
2003	$ 80.17	2,550,000	7.50%	3.50%	2.00%	1.600	118	1403
2004	$ 73.29	2,400,000	7.00%	3.00%	3.00%	1.450	122	1526
2005	$ 69.75	2,250,000	6.00%	2.00%	2.75%	1.425	113	1639
2006	$ 75.64	2,500,000	7.25%	1.25%	1.75%	1.475	109	1748
2007	$ 83.40	2,650,000	8.00%	2.50%	2.50%	1.525	134	1881
2008	$ 89.39	2,800,000	7.00%	3.00%	2.75%	1.575	158	2039
2009	$ 85.71	2,550,000	6.75%	3.25%	2.50%	1.500	156	2195
2010	$ 92.24	2,750,000	7.75%	3.50%	2.25%	1.525	166	2361



The optimistic case depicted above shows spectacular increases in property values. While the assumptions listed are certainly robust, they represent the high end of reasonable behavior. However, just as the pessimistic scenario is not truly representative considering the relationship between supply and price, the same may also be said for the optimistic case. The performance indicated above will be negatively affected when that troublesome relationship changes.

Despite all the probable future shifts in market behavior, the modeling results forecast excellent potential for appreciation in all but the most pessimistic market conditions. All else equal, the expected outcome for all but the cyclical cases still appear to be largely profitable. This bodes well for would-be developers in the Whitefish area for the foreseeable future.

CHAPTER 7: EAST vs. WEST

In September 2000, MIT Masters Candidate John David Corey studied a similar topic in the Northeastern US in his thesis, *Econometric Model of Ski Condo Prices in New England.* He concluded that for New England, ski condo pricing is almost entirely dependent upon two primary factors—the economy and skier visits, which in turn are directly affected by the quality of skiing (as measured by annual snowfall) in that given year. His research concluded that nominal condo prices have appreciated only slightly or not at all since 1977; however, once adjusted for inflation, the real prices have fallen nearly 40% in that time. Using a similar model derived from historical sales figures using economic, demographic and atmospheric inputs and running several different scenarios, Mr. Corey predicted that over time, New England ski condo prices (adjusted for inflation) would at best remain stable or actually fall slightly depending on New England economic and snowfall conditions. Why would the results prove so drastically different in Whitefish and the Rockies than what was found in New England? There are several reasons why the situation may be different out west.

Reduction of Second Home Ownership in New England

Across the nation, the number of vacation or recreational homes[7] grew by 16% between the 1990 and 2000 census.[8] This trend can likely be attributed to baby boomers reaching "empty nest" status in increasing numbers, prompting the purchase of such property. According to Harry Dent, Jr., in *The Roaring 2000s*, generations buy certain types of real estate at certain ages. This means that typical real estate buying cycles can be tracked by lagging the birth rate a particular number of years. He cites statistics revealing that most people buy vacation homes between the

[7] Comprising any housing units intended for seasonal, recreational or occasional use, including time-share condominiums.

[8] *The Burlington Free Press*, June 10, 2001; Section B Page 1- *Vermont's 2nd Home boom's bust*; Nancy Bazilchuk

ages of 42 and 52. This means that the Baby Boom generation would begin buying vacation homes in 1986 with the peak occurring in 2013. This seems to agree with census data.

The Rockies were at the center of this trend in vacation home ownership. Between the 1990 and 2000 Census, the Mountain West Region (Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, and Wyoming) saw in increase in vacation home ownership of nearly 33%. New England, despite its high per capita wealth, saw only a modest 5.6% increase in vacation home ownership. In particular, New Hampshire and Vermont, home to New England's highest quality ski resorts and those most comparable to western resorts, actually saw their vacation home ownership *reduce* over the same time span. (See chart on next page.) The *Burlington Free Press* speculates that a combination of factors is to blame; potential explanations for this trend include a relatively tight housing market, difficulty of maintaining a second home in a cold climate, and telecommuters converting second homes to primary residences.[9] Nonetheless, the contrast between regions is remarkable.

This reduction in Vermont and New Hampshire vacation home ownership is remarkable when considering the robust economic conditions during much of the 1990's. This combination suggests a drastic difference between New England and the Rockies on ski resort real estate pricing behavior.

(See Chart next page.)

[9] *The Vermont Free Press*, June 10, 2001; Section B Page 1- *Vermont's 2nd Home boom's bust*; Nancy Bazilchuk

	VACATION/RECREATION/ 2nd HOMES				TOTAL HOUSEHOLDS			
	2000	1990	Change	% Change	2000	1990	Change	%Change
New England								
Connecticut	23,379	20,428	2,951	14.45%	1,385,975	1,230,479	155,496	12.64%
Maine	101,470	88,039	13,431	15.26%	651,901	465,312	186,589	40.10%
Massachusetts	93,771	90,367	3,404	3.77%	2,621,989	2,247,110	374,879	16.68%
New Hampshire	56,413	57,135	(722)	-1.26%	547,024	411,186	135,838	33.04%
Rhode Island	12,988	12,037	951	7.90%	408,424	377,977	30,447	8.06%
Vermont	43,060	45,405	(2,345)	-5.16%	294,382	210,650	83,732	39.75%
Region	**331,081**	**313,411**	**17,670**	**5.64%**	**5,909,695**	**4,942,714**	**966,981**	**19.56%**
Mountain West								
Arizona	141,916	96,104	45,812	47.67%	2,189,189	1,368,843	820,346	59.93%
Colorado	72,263	63,814	8,449	13.24%	1,808,037	1,282,489	525,548	40.98%
Idaho	27,478	24,252	3,226	13.30%	469,645	360,723	108,922	30.20%
Montana	24,213	20,481	3,732	18.22%	412,633	306,163	106,470	34.78%
Nevada	16,526	11,258	5,268	46.79%	827,457	466,297	361,160	77.45%
New Mexico	31,990	21,862	10,128	46.33%	780,579	542,709	237,870	43.83%
Utah	29,685	21,023	8,662	41.20%	768,594	537,273	231,321	43.05%
Wyoming	12,389	9,468	2,921	30.85%	193,608	168,839	24,769	14.67%
Region	**356,460**	**268,262**	**88,198**	**32.88%**	**7,449,742**	**5,033,336**	**2,416,406**	**48.01%**

Montana as a whole did not experience the same phenomenal growth that much of the Mountain West did. This can be largely attributable to geography and population distribution within the state. Much like Wyoming to its south, the Rocky Mountain region of Montana occupies the western portion of the state and comprises far less than half of its area. The eastern portion of the state, however, is home not only to Montana's larger cities but also its flattest terrain, resembling the plains of the Midwest and the badlands of the Dakotas. This combination of factors discounts vacation home growth within the state as a whole. This can be observed in particular when examining growth on a county-by-county basis. Flathead County, Montana in particular saw its number of vacation/occasional use homes increase from 2,517 in 1990 to roughly 3,572 in 2000, an increase of 41.9%.

DESTINATION RESORT VS. WEEKEND DRIVE-UP RESORT

When compared to ski areas in New England and the major western ski resorts, most Rocky Mountain ski resorts, including The Big Mountain, do not benefit from proximity to major population centers.

Most New England ski areas are within a reasonably comfortable drive of either Boston or New York City and rely little on airport accessibility. Although benefiting from the presence of major airports nearby, resort areas such as Vail and Summit County, Colorado as well as Park City, Utah are within a few hours of drive of Denver and Salt Lake City respectively. In these cases as with New England, the "drive-up" market represents a significant portion of skiers as well as real estate buyers.

Colorado resorts such as Telluride and Aspen as well as Jackson Hole, Wyoming, however, are more typical of Rocky Mountain ski resorts. Rather than rely upon weekend drive-up traffic for both lift ticket and real estate sales, they rely upon their proximity to a nearby local commuter airport that has connections to major airports.

Telluride is at least a seven-hour drive from Denver, but one can fly into the resort by small commuter aircraft with connections through Denver or Phoenix. Even so, Telluride has seen some of the country's most explosive growth in real estate prices over the past two decades. Another classic example is found a few hours east. In the winter, Independence Pass—the major mountain pass connecting Aspen and Denver/Colorado Springs—is closed, forcing weekend

drivers to detour a considerable distance. This makes a comfortable two-hour summer drive into a less-convenient four (or more) hours through often-unpredictable winter weather. With direct flights to and from many major airports, however, Aspen has become accessible year round to its most important clientele. Jackson Hole is roughly six to eight hours away by car to both Denver and Salt Lake City, but one can also get short direct flights from not only those cities but also from Dallas/Ft. Worth. Resorts with good air access stand poised to capitalize on society's increasing mobility.

With a wealth of attractions and activities, the most significant "drive up" market in the mountain west comes from the summer tourists driving cross-country. Consequently, most buyers of Rocky Mountain resort real estate purchase these properties to utilize only a few times a year, perhaps with the intent of summering there in later, more financially-secure years.

After many interviews and surveys (in addition to much travel over the years), the author has noticed that western resorts are far more active year round when compared to their counterparts in the east. When the following question was asked of real estate professionals from four western ski resorts, "How big of a factor is the summer and its activities in (real estate) sales/pricing," all of them responded that summer was a significant, or even critical, factor. In fact, Angel Fire, New Mexico, experiences most of its sales in the summer months.

POPULATION GROWTH

The Rocky Mountain region of the United States is experiencing unprecedented growth. Beginning in the 1980's, this wave of migration is driven primarily by a burgeoning economy

and revolutionary advances in telecommunications. These factors give citizens not only the discretionary income to seek a simpler life in areas of the country rich in recreational opportunities, but also the means to do so without sacrificing the economic opportunities that the more densely settled areas of the country traditionally offer. This population shift precipitates greater demand for housing of all types, in theory increasing demand and driving up housing prices across all housing types. Ski resorts have been most affected.

Perhaps the most fundamental reason for the pricing differences between New England and the Rockies is the change in market size. While the eight states comprising the Mountain West saw explosive population growth of 33.0% from 1990 to 2000, the six New England states grew only 5.4%. Real Estate prices across the board appreciate as more real estate consumers arrive, creating increased demand both for the existing stock of housing and new housing.

Population Growth- New England vs. the Mountain West

	2000	1990	Change	% Change	Rank
New England					
Connecticut	3,405,565	3,287,116	118,449	3.60%	47
Maine	1,274,923	1,227,928	46,995	3.83%	46
Massachusetts	6,349,097	6,016,425	332,672	5.53%	41
New Hampshire	1,235,786	1,109,252	126,534	11.41%	22
Rhode Island	1,048,319	1,003,464	44,855	4.47%	45
Vermont	608,827	562,758	46,069	8.19%	38
Regional Total	**13,922,517**	**13,206,943**	**715,574**	**5.42%**	
Mountain West					
Arizona	5,130,632	3,665,228	1,465,404	39.98%	2
Colorado	4,301,261	3,294,394	1,006,867	30.56%	3
Idaho	1,293,953	1,006,749	287,204	28.53%	5
Montana	902,195	799,065	103,130	12.91%	20
Nevada	1,998,257	1,201,833	796,424	66.27%	1
New Mexico	1,819,046	1,515,069	303,977	20.06%	12
Utah	2,233,169	1,722,850	510,319	29.62%	4
Wyoming	493,782	453,588	40,194	8.86%	32
Regional Total	**18,172,295**	**13,658,776**	**4,513,519**	**33.04%**	

Over the next 50 years, the western states (including California, Oregon and Washington) are expected to gain 48 million residents and develop 26 million acres.[10] Discounting California's growth (but including Washington and Oregon), approximately 15 million more people will call the western states home. This suggests continued prosperity for real estate developers in the region.

Technological advances have accompanied most significant migrations. According to Jack Lessinger in *PENTURBIA – Where Real Estate will Boom AFTER the Crash of Suburbia,* technology is not the cause of these migrations. He speculates that society's desire to improve its standard of living inspires technology to make the changes necessary to improve living and/or working conditions. The desire to escape the problems accompanying urbanization led to the rise of suburbs, automobiles and freeways. As the very problems (traffic, crime, pollution, etc.) suburbanites sought to escape in moving from the city follow them to suburbia, this is prompting the next major migration (known as penturbia, or the fifth migration) from the suburbs to smaller towns and communities throughout the country.

Citing Dr. Lessinger's research, Harry Dent, Jr. makes the following prediction in 1995: "The powerful confluence of two trends – the next major population migration to small towns and a rise in vacation home buying by aging baby boomers – will make small resort towns and recreational areas the premier real estate buys."[11] In fact, Mr. Dent lists Whitefish, Montana as a town in the "Innovation Phase," the earliest and most speculative growth phase. (Although it appears with its "discovery" over the past decade, it may occupy a later phase.) With the

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[10] *Denver Post*, June 27, 2001; *Mega-sprawl ahead*; Louis Aguilar

[11] Dent, Harry Jr. – The Roaring 2000s; Chapter 10, pg 231

dramatic difference in population growth between the two regions, this statement appears to explain why resort real estate appreciation is occurring in the Rockies but not in New England.

SUPPLY MARKET

In John Corey's thesis on ski condo pricing in New England, he observed that supply markets responded instantly to changes in price. This means that when prices appreciate above construction cost, construction activity will immediately engage, almost instantly reducing prices. He cited that overbuilding in such time was likely further hurting price appreciation.

Whitefish apparently has a more disciplined supply market. Based on the observations about the uniqueness of Whitefish, the author of this paper was left to contemplate the potential differences between the regions on construction behavior. While New England resorts apparently have few barriers permitting new condo supply, western resort towns generally are concerned with more restrictive growth. These differences could also be explained if New England experiences a great deal of speculative building and the Rockies practiced a more "build-to-suit" approach. It is also possible this is merely the difference between the condo market studied in New England and the entire housing market studied in Whitefish. Based on this author's understanding of the two regions, a combination of a more build-to-suit approach and the inherent differences between the condo and general housing supply markets is the most likely explanation.

OTHER CONSIDERATIONS

This paper could not adequately address one of the more interesting phenomena occurring in Rocky Mountain resort residential real estate—low-density private developments featuring a

variety of community amenities. Exclusive developments such as The Yellowstone Club near Big Sky, Montana (www.theyellowstoneclub.com), Piano Creek Ranch outside of Pagosa Springs, Colorado and StockFarm outside of Missoula, Montana offer homeowners/members facilities ranging from private skiing and golf to customized fishing developments. While outside the immediate resort boundary in most cases, these developments will affect the market as a whole. (See Suggested Reading in the Bibliography)

Lastly, development does not occur within a sanitized bubble. In creating residential development, we impact the community in many ways. While development brings in additional tax revenue, it also taxes the resources of the town. While development encourages new visitors and residents to spend more and create economic opportunity for local residents, it also brings new problems that range from increased automobile traffic and pollution to driving up real estate prices so the local labor force serving the resort can no longer live nearby. Shortsighted development can unleash negative influences on both the town and real estate values. Developers should seek to create projects that maximize profits while minimizing these negative impacts to the local community and environment, preserving the charm and feel that draw a homebuyer to purchase in the first place is not destroyed in the process.

CH. 8: CONCLUSIONS

This study examined volumes of economic, demographic and even atmospheric data relating to the real estate market in Whitefish. After constructing a representative pricing index and model utilizing a system of equations, it was determined that by assuming future behavior of five independent inputs and utilizing those assumptions in the model, probable pricing behavior could be developed. Several scenarios were run to assess that behavior in an array of likely future conditions. Following the quantitative analysis and qualitative comparisons, several conclusions may be drawn, both for the Whitefish real estate market as well as Rocky Mountain resorts in general.

First, through construction of the Real Price Index and comparison with actual sales data, it was shown that real housing prices in Whitefish have risen in most of the 18 years studied. A number of interviews with real estate professionals around the region revealed similarly positive trends. Next, the simulations depicting future conditions predicted in all but the most pessimistic conditions that real housing prices (adjusted for inflation) will likely continue to rise. In these pessimistic scenarios, real future-pricing trends remained flat (cyclical) or trended downward slightly (linear). The realistic cases showed real price appreciation in 2000 dollars starting at roughly $105/SF in 2001 and by 2010 reaching approximately $125/SF (linear case) and $139/SF (cyclical case) respectively. The optimistic scenarios yielded some tremendous appreciation in real prices. Both of the optimistic cases showed escalations from 2001 projections of roughly $105 to $160/SF by 2010. Through the many modeling scenarios analyzed on varying future conditions, the paper concludes that price appreciation in Rocky Mountain Ski Resorts will likely continue in all but the most pessimistic situations.

Through this analysis, an interesting conclusion arose about the supply market in Whitefish. An unusual relationship was detected between construction of new housing and pricing. While new units generally depress prices in a real estate housing market, the opposite was seen to occur in Whitefish. (This could be generally true for markets in the midst of discovery.) Because of this relationship, the model will become obsolete the moment sufficient "new" supply exists. The results of the scenarios should be examined accordingly.

The final conclusion drawn from the analysis within these pages involves the apparent differences between eastern and western resort towns. While prices in the Rockies have appreciated in real terms over the last two decades, prices have fallen by 40% in New England. This author concludes the main difference between the general real estate appreciation at Rocky Mountain Resorts and the more mixed results in the eastern US can be traced to changing population patterns (high growth in the Rockies), the "four-seasonality," and more disciplined supply markets of western resorts.

The analysis contained within these pages strongly supports the case for continued price appreciation across the Rocky Mountain Region.

APPENDICES

USEFUL WEBSITES

www.bigmtn.com	The Big Mountain Ski & Summer Resort
www.glaciervillage.com	Website for new development at The Big Mountain
www.rockymtnre.com	Rocky Mountain Real Estate
www.whitefishchamber.org	Whitefish Chamber of Commerce
www.flatheadcounty.com	Flathead County
www.fcvb.org	Flathead County Visitors Bureau
http://flathead.centurytel.net	Flathead Valley Community Portal
http://co.flathead.mt.us/frdo/	Flathead County Regional Development Office
www.digisys.net/appraisal/	Kelley Appraisal
www.census.gov	US Census Bureau
www.bls.gov	Bureau of Labor Statistics
www.federalreserve.gov	Board of Governors – Federal Reserve System

PRICING DATA FROM ANOTHER SMALL ROCKY MOUNTAIN SKI RESORT

ANGEL FIRE, NEW MEXICO

Condo Sales				Calculated	Avg $/SF	Real %	Calculated	Reported	Days
Year	# Sales	Avg Price	Avg $/SF	% Change	(mid '01 dols)	Change	Avg. Size	Avg. Size	on Mkt.
1993	84	$41,842	$41.90	-	$ 51.21	-	999	-	389
1994	59	$52,423	$51.22	22.24%	$ 61.04	19.19%	1023	-	733
1995	79	$58,594	$58.39	14.00%	$ 67.66	10.86%	1003	-	272
1996	71	$62,229	$63.42	8.61%	$ 71.38	5.50%	981	-	309
1997	66	$73,780	$71.30	12.43%	$ 78.45	9.90%	1035	-	237
1998	79	$71,325	$70.46	-1.18%	$ 76.34	-2.69%	1012	-	422
1999	64	$79,211	$75.84	7.64%	$ 80.39	5.31%	1044	-	385
2000	57	$88,347	$83.27	9.80%	$ 85.40	6.23%	1061	-	422
2001	23	$78,567	$77.84	-6.52%	$ 77.84	-8.85%	1009	-	417

Home Sales				Calculated	Avg $/SF	Real %	Calculated	Reported	Days
Year	# Sales	Avg Price	Avg $/SF	% Change	(mid '01 dols)	Change	Avg. Size	Avg. Size	on Mkt.
1993	53	$127,834	$63.22	-	$ 77.26	-	2022	-	931
1994	69	$126,838	$62.35	-0.87%	$ 74.30	-3.84%	2034	-	670
1995	67	$149,931	$73.52	11.17%	$ 85.19	14.67%	2039	-	371
1996	85	$161,770	$84.04	10.61%	$ 94.59	11.03%	1925	-	321
1997	80	$165,057	$86.83	2.82%	$ 95.54	1.00%	1901	-	234
1998	78	$179,124	$89.95	3.16%	$ 97.46	2.00%	1991	-	372
1999	88	$198,157	$95.41	5.47%	$ 101.14	3.78%	2077	-	331
2000	76	$204,877	$103.56	8.23%	$ 106.21	5.01%	1978	-	472
2001	26	$208,429	$108.13	4.41%	$ 108.13	1.81%	1928	-	355

Spec Home Sales				Calculated	Avg $/SF	Real %	Calculated	Reported	Days
Year	# Sales	Avg Price	Avg $/SF	% Change	(mid '01 dols)	Change	Avg. Size	Avg. Size	on Mkt.
1995	3	$236,000	$92.06	-	$ 112.51	-	2564	2,490	451
1996	17	$161,453	$95.20	3.41%	$ 113.44	0.83%	1696	1,693	146
1997	23	$174,985	$98.16	3.11%	$ 113.75	0.27%	1783	1,796	176
1998	17	$172,001	$105.58	7.56%	$ 118.84	4.47%	1629	1,763	230
1999	17	$225,810	$102.27	-3.14%	$ 112.53	-5.31%	2208	2,153	258
2000	16	$212,318	$112.35	9.86%	$ 121.72	8.17%	1890	1,883	174
2001	4	$257,750	$116.02	3.27%	$ 122.98	1.04%	2222	2,230	264

While the data does not span a similar period of time, the pricing behavior shows real property appreciation. Furthermore, a premium appears to exist for both single-family housing and new construction. These trends match those found in Whitefish. Judging from "Days on Market," product does not sell quickly as a rule of thumb. (Sales data courtesy of Don Borgeson- Borgi@afweb.com*)*

Whitefish Condo Price Index Regression

Regression Summary
Log(Price/SF) vs. 25 Independents

Count	378
Num. Missing	0
R	.760
R Squared	.578
Adjusted R Squared	.548
RMS Residual	.162

ANOVA Table
Log(Price/SF) vs. 25 Independents

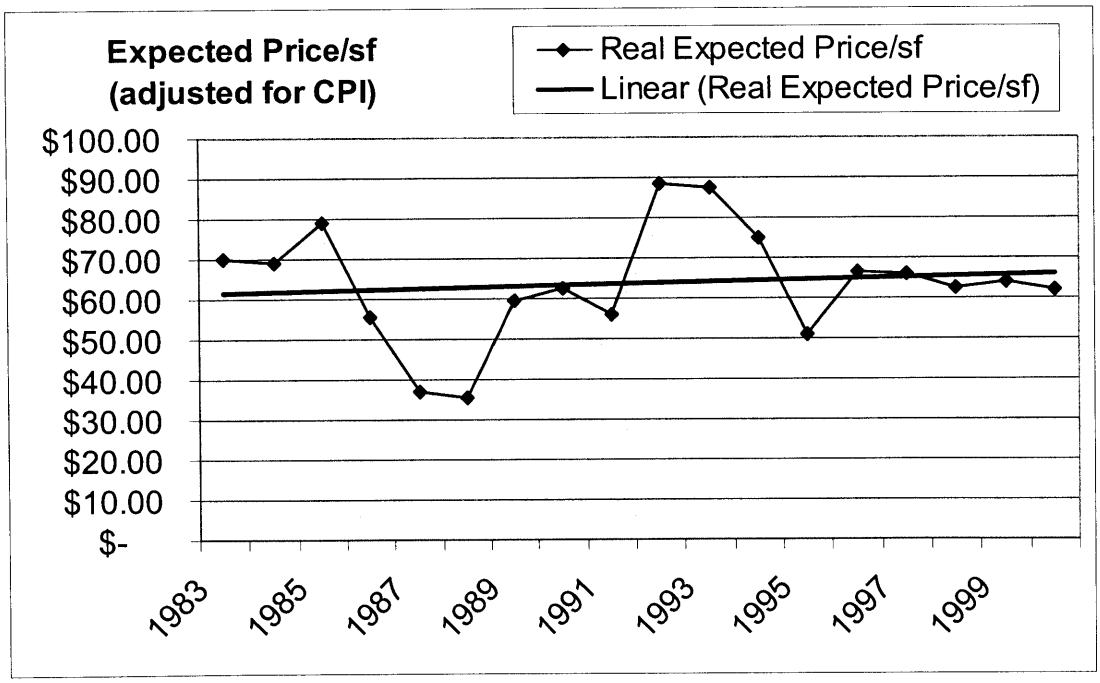
	DF	Sum of Squares	Mean Square	F-Value	P-Value
Regression	25	12.585	.503	19.287	<.0001
Residual	352	9.187	.026		
Total	377	21.772			

Regression Coefficients
Log(Price/SF) vs. 25 Independents

	Coefficient	Std. Error	Std. Coeff.	t-Value	P-Value
Intercept	1.653	.163	1.653	10.121	<.0001
AGE	-.005	.001	-.190	-4.574	<.0001
SF	-9.478E-5	2.534E-5	-.220	-3.740	.0002
BEDROOMS	-.011	.014	-.044	-.752	.4525
BATHS	.115	.022	.359	5.238	<.0001
PARKING?	.032	.017	.088	1.854	.0646
BASEMENT?	.125	.020	.243	6.350	<.0001
LAKE?	.135	.024	.276	5.545	<.0001
SLOPE?	.187	.029	.342	6.566	<.0001
1984	.013	.198	.004	.066	.9472
1985	.086	.199	.026	.435	.6640
1986	-.060	.187	-.022	-.318	.7505
1987	-.220	.171	-.147	-1.283	.2003
1988	-.220	.178	-.105	-1.236	.2172
1989	.026	.167	.022	.155	.8773
1990	.071	.165	.083	.431	.6664
1991	.039	.167	.033	.232	.8168
1992	.252	.165	.270	1.522	.1289
1993	.259	.167	.217	1.551	.1219
1994	.204	.167	.185	1.221	.2229
1995	.049	.165	.054	.299	.7653
1996	.176	.166	.192	1.063	.2884
1997	.181	.165	.224	1.096	.2739
1998	.165	.166	.174	.991	.3223
1999	.187	.164	.266	1.135	.2570
2000	.185	.164	.276	1.126	.2610

WHITEFISH CONDO REGRESSION AND PRICING INDEX (NOT A GOOD FIT)

YEAR	log (price/sf) of typ home	Expected $/sf 10^[log(price/sf)]	CPI	Real expected Price/SF of typ condo
1983	1.8425469	$ 69.59	99.6	$ 69.87
1984	1.8555469	$ 71.70	103.9	$ 69.01
1985	1.9285469	$ 84.83	107.6	$ 78.84
1986	1.7825469	$ 60.61	109.6	$ 55.30
1987	1.6225469	$ 41.93	113.6	$ 36.91
1988	1.6225469	$ 41.93	118.3	$ 35.45
1989	1.8685469	$ 73.88	124.0	$ 59.58
1990	1.9135469	$ 81.95	130.7	$ 62.70
1991	1.8815469	$ 76.13	136.2	$ 55.89
1992	2.0945469	$ 124.32	140.3	$ 88.61
1993	2.1015469	$ 126.34	144.5	$ 87.43
1994	2.0465469	$ 111.31	148.2	$ 75.11
1995	1.8915469	$ 77.90	152.4	$ 51.12
1996	2.0185469	$ 104.36	156.9	$ 66.52
1997	2.0235469	$ 105.57	160.5	$ 65.78
1998	2.0075469	$ 101.75	163.0	$ 62.43
1999	2.0295469	$ 107.04	166.6	$ 64.25
2000	2.0275469	$ 106.55	172.2	$ 61.87

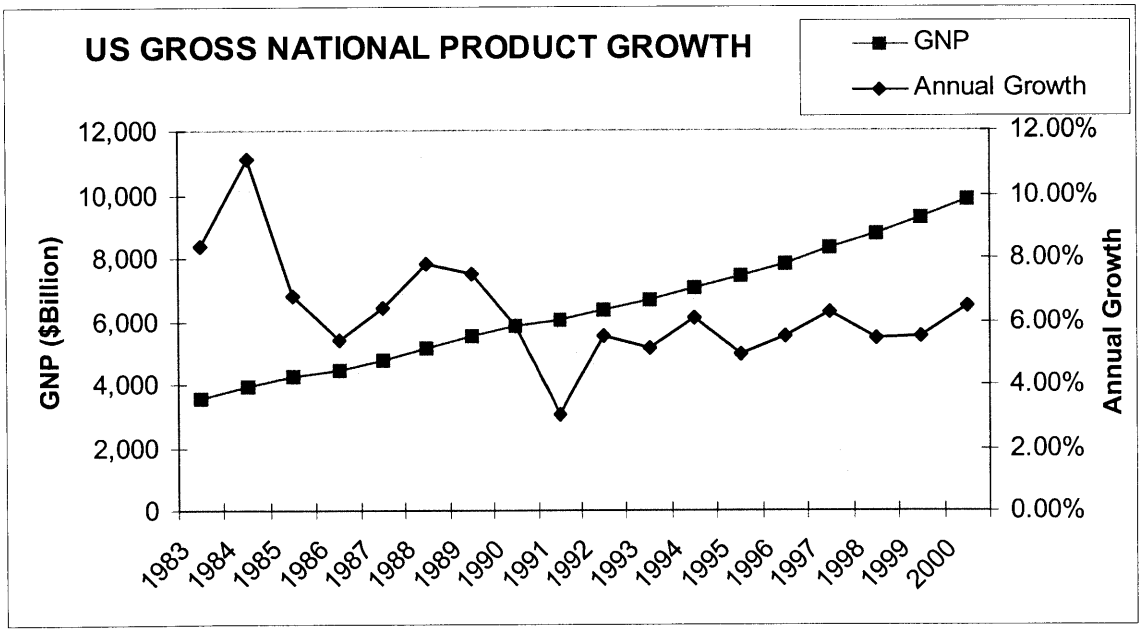


Unfortunately, the small sample size for condos in Whitefish rendered this particular analysis inconclusive. The results of the exercise are shown above.

ECONOMIC DATA

GROSS NATIONAL PRODUCT

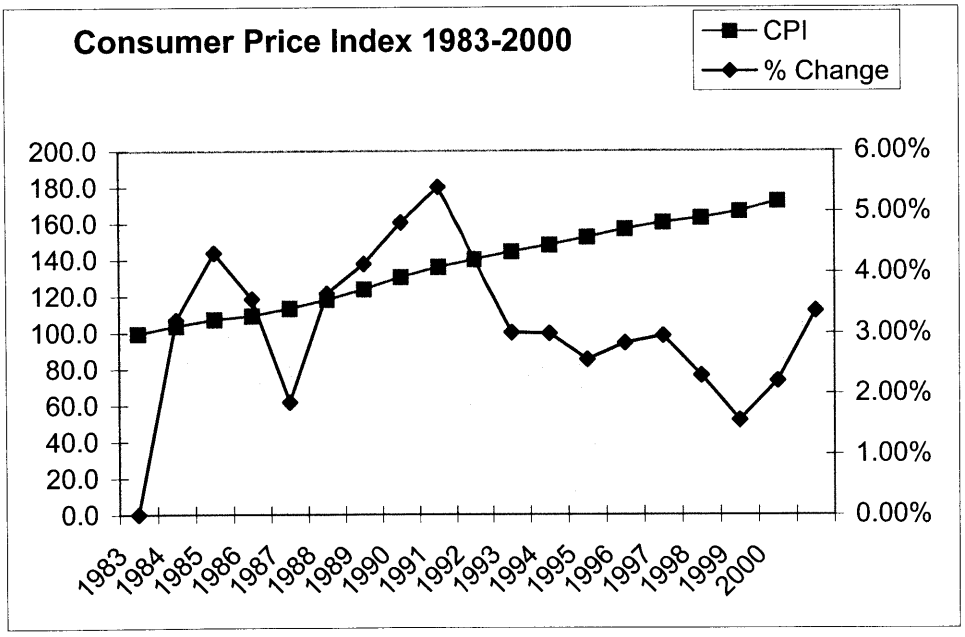
YEAR	GNP ($Billions)	Annual GNP Growth
1983	3571.8	8.38%
1984	3968.1	11.10%
1985	4238.4	6.81%
1986	4468.3	5.42%
1987	4756.2	6.44%
1988	5126.8	7.79%
1989	5509.4	7.46%
1990	5832.2	5.86%
1991	6010.9	3.06%
1992	6342.3	5.51%
1993	6666.7	5.11%
1994	7071.1	6.07%
1995	7420.9	4.95%
1996	7831.2	5.53%
1997	8325.4	6.31%
1998	8778.1	5.44%
1999	9261.8	5.51%
2000	9860.8	6.47%



YEAR END AVERAGES – CONSUMER PRICE INDEX

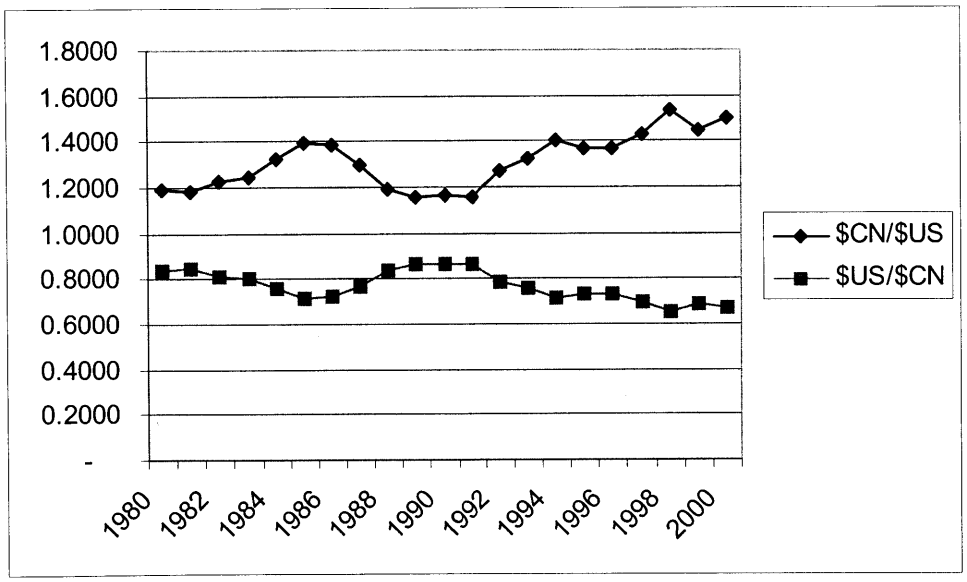
YEAR	CPI INDEX	% CHANGE
1982	96.5	-
1983	99.6	3.21%
1984	103.9	4.32%
1985	107.6	3.56%
1986	109.6	1.86%
1987	113.6	3.65%
1988	118.3	4.14%
1989	124.0	4.82%
1990	130.7	5.40%
1991	136.2	4.21%
1992	140.3	3.01%
1993	144.5	2.99%
1994	148.2	2.56%
1995	152.4	2.83%
1996	156.9	2.95%
1997	160.5	2.29%
1998	163.0	1.56%
1999	166.6	2.21%
2000	172.2	3.36%
2001*	176.6	-

* 1st Half Average



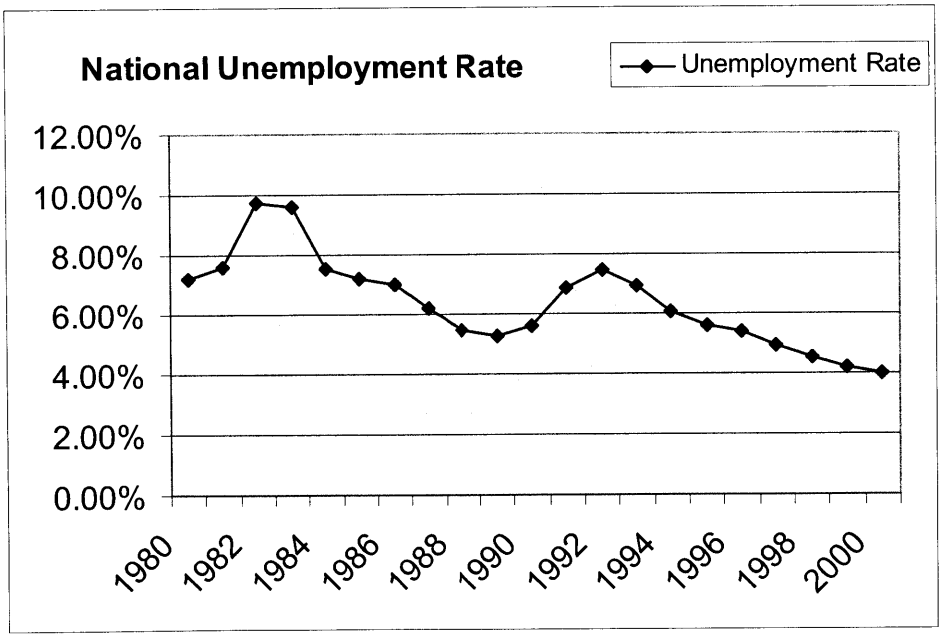
YEAR END EXCHANGE RATES

YEAR	$CN/$US	$US/$CN
1980	1.1945	0.8372
1981	1.1863	0.8430
1982	1.2297	0.8132
1983	1.2445	0.8035
1984	1.3217	0.7566
1985	1.3985	0.7151
1986	1.3810	0.7241
1987	1.3002	0.7691
1988	1.1928	0.8384
1989	1.1580	0.8636
1990	1.1605	0.8617
1991	1.1558	0.8652
1992	1.2714	0.7865
1993	1.3255	0.7544
1994	1.4030	0.7128
1995	1.3655	0.7323
1996	1.3697	0.7301
1997	1.4288	0.6999
1998	1.5375	0.6504
1999	1.4440	0.6925
2000	1.4995	0.6669



US UNEMPLOYMENT INFORMATION

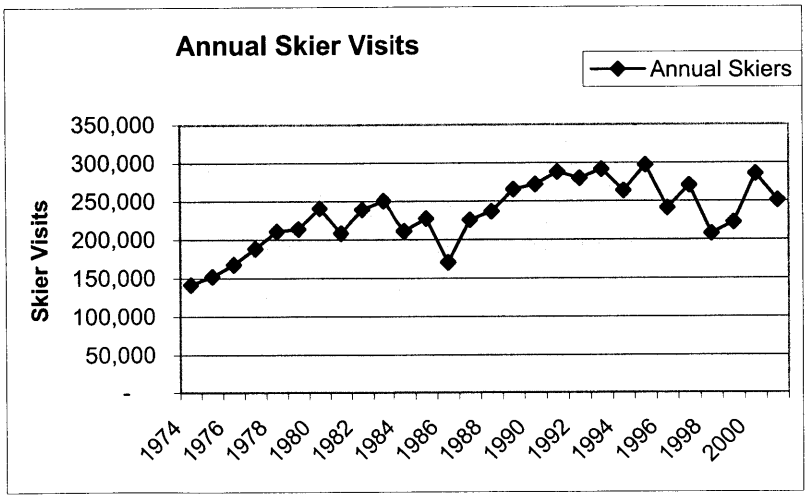
YEAR	UNEMP RATE (avg)	CHANGE IN RATE	AVERAGE EMPLOYMENT	EMPLOYMENT % CHANGE
1980	7.18%	-	99,303	-
1981	7.62%	0.44%	100,400	1.10%
1982	9.71%	2.09%	99,529	-0.87%
1983	9.60%	-0.11%	100,822	1.30%
1984	7.51%	-2.09%	105,003	4.15%
1985	7.19%	-0.32%	107,154	2.05%
1986	7.00%	-0.19%	109,601	2.28%
1987	6.18%	-0.83%	112,439	2.59%
1988	5.49%	-0.68%	114,974	2.25%
1989	5.26%	-0.23%	117,327	2.05%
1990	5.62%	0.36%	118,796	1.25%
1991	6.85%	1.23%	117,713	-0.91%
1992	7.49%	0.64%	118,488	0.66%
1993	6.91%	-0.58%	120,259	1.49%
1994	6.10%	-0.81%	123,071	2.34%
1995	5.59%	-0.51%	124,908	1.49%
1996	5.41%	-0.18%	126,720	1.45%
1997	4.95%	-0.46%	129,572	2.25%
1998	4.51%	-0.44%	131,471	1.47%
1999	4.23%	-0.28%	133,501	1.54%
2000	4.01%	-0.23%	135,215	1.28%



REGIONAL DATA

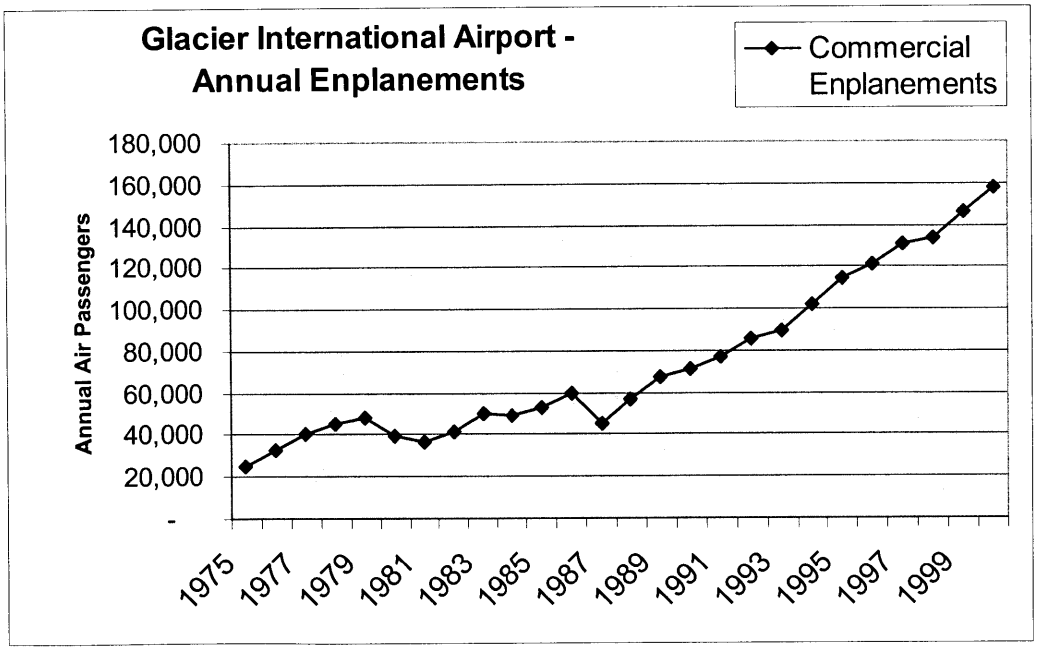
THE BIG MOUNTAIN SKIER DAYS AND PRICING

Season Beginning	Season Ending	Ticket Price	Annual Skiers
1973	1974	$ 6.50	141,520
1974	1975	$ 6.75	152,112
1975	1976	$ 7.50	167,600
1976	1977	$ 8.00	188,300
1977	1978	$ 8.50	210,662
1978	1979	$ 10.00	213,925
1979	1980	$ 10.50	240,923
1980	1981	$ 11.50	208,470
1981	1982	$ 13.00	239,120
1982	1983	$ 15.00	250,433
1983	1984	$ 16.00	211,142
1984	1985	$ 17.00	227,379
1985	1986	$ 18.00	170,581
1986	1987	$ 18.00	225,640
1987	1988	$ 19.50	236,634
1988	1989	$ 21.00	265,366
1989	1990	$ 25.00	271,884
1990	1991	$ 27.00	288,061
1991	1992	$ 29.00	279,808
1992	1993	$ 30.00	291,554
1993	1994	$ 32.00	263,708
1994	1995	$ 35.00	296,909
1995	1996	$ 38.00	241,156
1996	1997	$ 38.00	270,527
1997	1998	$ 40.00	207,717
1998	1999	$ 40.00	222,353
1999	2000	$ 40.00	285,681
2000	2001	$ 44.00	251,136



AIR TRAVEL – GLACIER INTERNATIONAL AIRPORT

Year	Enplanements
1975	25,219
1976	32,758
1977	39,966
1978	45,514
1979	48,183
1980	39,231
1981	36,718
1982	41,391
1983	50,466
1984	49,259
1985	52,520
1986	59,565
1987	45,170
1988	57,047
1989	67,782
1990	71,087
1991	76,652
1992	85,953
1993	89,553
1994	101,715
1995	114,971
1996	121,341
1997	130,620
1998	133,515
1999	146,770
2000	157,850



GLACIER NATIONAL PARK (SEE CHART ON PAGE 10)

Year	Visitors	Year	Visitors	Year	Visitors
		1940	177,307	**1970**	1,241,603
1911	4,000	41	179,082	71	1,303,073
12	6,257	42(3)	63,080	72	1,392,145
13	12,138	43	23,496	73	1,398,958
14	12,168	44	36,192	74(9)	1,406,643
15	13,465	45	67,179	75	1,571,393
16	12,839	46(4)	201,145	76	1,662,678
17	15,050	47	324,396	77	1,656,213
18(1)	9,086	48	281,562	78	1,601,131
19	18,956	49	478,839	79	1,446,236
1920	22,449	**1950**	485,950	**1980**	1,475,538
21	19,736	51	500,125	81	1,786,843
22	23,935	52	630,949	82	1,666,431
23	33,988	53	633,480	83	2,204,131
24	33,372	54	608,230	84	1,946,783
25	40,063	55	674,004	85	1,580,620
26	36,901	56	718,938	86	1,579,191
27	41,745	57(5)	759,161	87	1,660,737
28	53,454	58	706,841	88	1,817,733
29	70,742	59	722,338	89	1,821,523
1930	73,783	**1960**	724,538	**1990**	1,987,000
31	59,846	61	739,982	91(10)	2,096,966
32	53,202	62(6)	966,100	92	2,199,767
33	76,615	63	811,214	93	2,141,704
34	116,965	64(7)	642,100	94	2,152,989
35	143,240	65	847,104	95(10)	1,839,518
36	210,072	66	907,839	96	1,720,576
37	194,522	67(8)	884,049	97	1,708,877
38(2)	153,528	68	964,493	98	1,830,944
39	170,073	69	1,051,165	99	1,686,007

2000 1,728,633

(1) World War I
(2) Changed visitor recording method; actual count only.
(3) Beginning of World War II; travel curtailment.
(4) End of travel curtailment.
(5) US Highway 2 built on S. border of Glacier; all travel through park.
(6) Seattle World Fair
(7) Park not accessible for two weeks because of flood.
(8) Wildfires in remote areas of park; Going-to-the-Sun Road closed two weeks.
(9) World Fair in Spokane, WA
(10) Latest opening of Sun Road; emergency repairs due to avalanche damage.

SNOW MEASUREMENTS (in) – HELL ROARING BASIN, MID MOUNTAIN

Observation:	Jan. 1	Feb. 1	Mar. 1	Apr. 1	May 1	May 15	Jun. 1	1/1-5/1 AVG
1964	38	68	70	98	88	89	53	72.4
1965	78	83	94	95	77	58	38	85.4
1966	36	66	76	68	57	36		60.6
1967	62	92	94	110	95	85	41	90.6
1968	41	60	66	76	60	47	23	60.6
1969	63	92	86	78	60	18	6	75.8
1970	28	77	83	79		35		66.8
1971	64		86		71	42	14	73.7
1972	68	55		100				74.3
1973		62			60			61.0
1974	56	105	114	117	103			99.0
1975	67	83	91	95	88		58	84.8
1976	65	59	82	87	77	38	22	74.0
1977	31	38	57	65	28	16		43.8
1978	58	73	72	66	71	48	35	68.0
1979	45	51	83	87	71	48	35	67.4
1980	35	50	57	80	42			52.8
1981	35	45	65	55				50.0
1982	43	64	80	93	82	68		72.4
1983	50	63	69	78	75	59		67.0
1984	39	50	61	71	59	55	36	56.0
1985	66	58	78	84	64	41		70.0
1986	42	61	71	61	53	48		57.6
1987	32	45	57	74	43	17		50.2
1988	29	42	53	73	45	24		48.4
1989	62	63	74	89	67	36		71.0
1990	34	77	78	69	65	33		64.6
1991	77	88	88	98	78	32		85.8
1992	43	67	68		42			55.0
1993	54	66	67	63	66			63.2
1994	34	52	72	61	42			52.2
1995	53	64	69	78	72	19		67.2
1996	45	75	84	82	84	57		74.0
1997	78	89	105	107	89	42		93.6
1998	33.5	54.2	55	61		34		50.9
1999	59.6	77.6	95.5					77.6
2000	44	66	71	84	63		24	65.6
2001	25	30	47	48	54		1	40.8

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