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Where Should Major League Baseball Relocate the Montreal Expos?

Major League Baseball

Major League Baseball (MLB) has a Congressionally granted monopoly on professional baseball in the United States. At present, MLB is comprised of 30 clubs, 28 in the United States and 2 in Canada. The 30 owners collectively have most of the decision making power. The owners have limited veto power over decisions, though in the case of relocation, an owner can veto the move if it infringes on the owner's pre-existing market. The commissioner of baseball runs day-to-day operations at the behest of the owners. The commissioner is responsible for national advertising and media deals, maintaining the state of the game and enforcing the rules, and building the MLB brand.

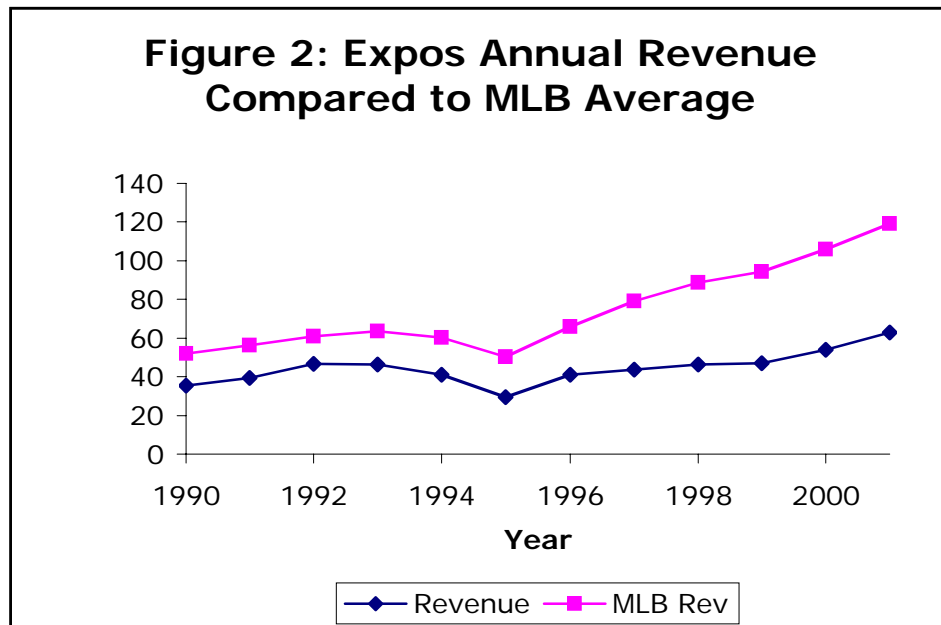
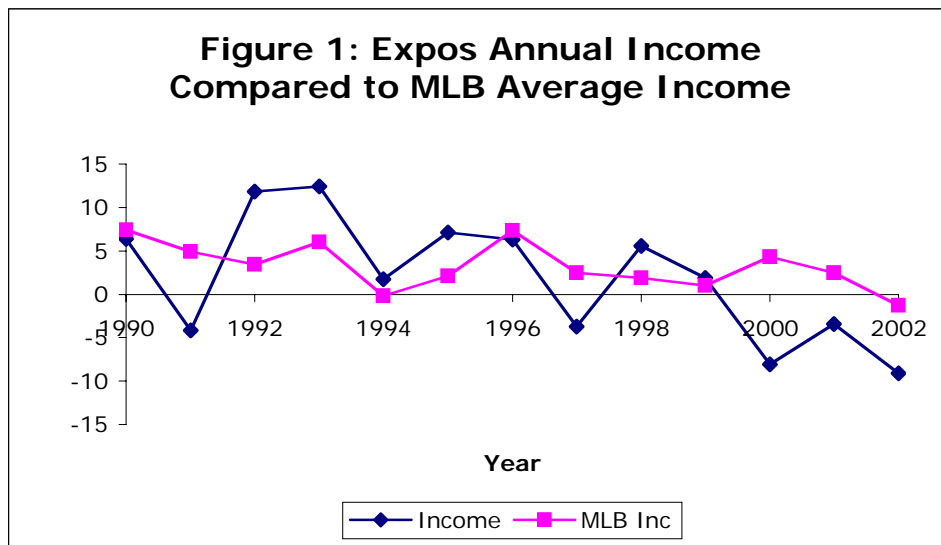
The last three years have been tumultuous years from a business perspective. The last year for which we have independent data (2001) shows that ten major league are teams losing money despite MLB's strong revenue growth overall. Issues of competitive balance and quality of play led the Commissioner's office to recommend that two teams be disbanded. The 29 other owners bought out the owner of the Montreal Expos with the intention of disbanding the club; however, MLB's strong player's union was unwilling to accept a 7% reduction in employment and the plan was abandoned, at a high cost to public relations. Faced with owning a franchise they do not want, the owners must collectively decide what to do with the team they have bought.

The Montreal Expos

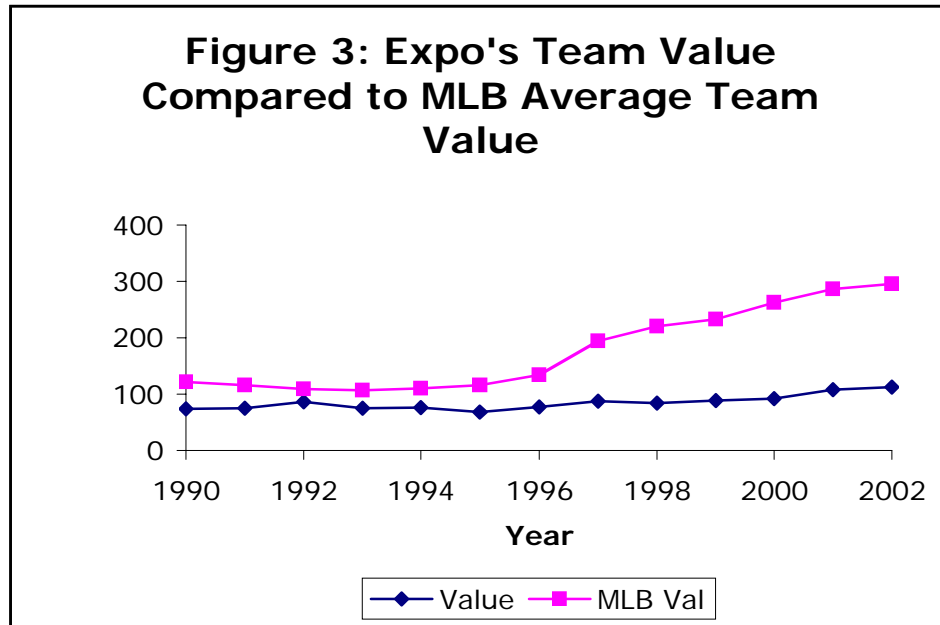
The Expos had a losing record since 1997 until the two most recent years when they have eked out winning records. At present, the team's 5-20 record (0.200 winning percentage) easily

makes them the worst in the National League (next worst, NY Mets, with 0.375, nearly twice the Expo's winning percentage). The continuing departure of their star players (most recently Vladimir Guerrero) and poor success has made it difficult for them to maintain fan loyalty. The Expos have drawn the fewest fans annually in MLB since 2001 and the trend is not abating (they are currently drawing only 13,000 fans per game).

The team's lack of success on the field and in the stands is reflected in its financial performance. The team has lost money each year from 2000-2002 (see figure 1). Revenue for the Montreal Expos has also lagged far behind that of the rest of MLB, even when the Expos performed well (1992-1994), as shown in figure 2.



Despite this historical poor performance, the Expos could be an outstanding investment. Baseball franchises are limited by MLB's monopoly: there are only thirty and there will not be more for the foreseeable future. Over the last decade, baseball franchises have skyrocketed in value; the average team has increased in value by 150% over the twelve-year period. Meanwhile, the Expos' value has only gone up 50% (see figure 3).



An Analytical Model

Given the collapse of the Montreal market, MLB is searching for buyers in new markets. MLB's ideal buyer will supply a publicly financed stadium in a new media market that will make the Expos into a viable franchise and increase the overall demand for MLB. We propose an analytical framework to find the most profitable location for the relocation.

We started by compiling a relevant data set to create a simple regression model to give us a simple, easily understood model that still predicts well. We took winning percentages from ESPN, we took independent measurements of profits, revenues, and team value¹. We found two different metrics for market size: local population and a composite metric for media market size² that is superior because it takes into account differences between teams like the New York Mets

¹ This data is also released by the teams, but widely believed to be accounting nonsense meant to prevent the player's union from capturing the team's value. Our variables came from an independent analysis of MLB done by *Forbes*.

² <http://home.nycap.rr.com/nickandaj/marketsize.html>

and New York Yankees due to different media deals. The first step in the analysis was to choose what variable to include in the model. We did this by computing how correlated each of our variables was with a team's revenue.

Table 1: Correlations with Revenue

CORRELATIONS	Revenue	Income	Win Pct 2001	Mkt Pop	Mkt Size	Value
Revenue	-	-	-	-	-	-
Income	0.2359	-	-	-	-	-
Win Pct 2001	0.4771	0.0719	-	-	-	-
Mkt Pop	0.5034	0.0254	0.2696	-	-	-
Mkt Size	0.6645	0.0201	0.2420	0.8766	-	-
Value	0.9647	0.1857	0.4030	0.5731	0.7298	-

The first consideration is just how poorly income (profits) correlates with any other variable. Profitability cannot be predicted by winning percentage or market size in any meaningful way. Revenue and profitability are linked, but even that is a weak link. This indicates that some baseball teams are either operated as loss-leaders for media companies (not an implausible assumption; the Braves could be unprofitable if their broadcasts fill TBS' coffers) or as "rich man's hobbies" (the Diamondbacks lost a whopping \$22 million in 2002 because the team's owner valued winning the World Series above anything else).

We therefore will examine *revenue* maximization on the hypothesis that the market with the highest revenues could have the highest profitability as long as the team is run effectively. A simple regression gives:

SUMMARY OUTPUT –
2001 Winning Percentage &
Market Size

<i>Regression Statistics</i>	
Multiple R	0.7401
R Square	0.5478
Adjusted R Square	0.5143
Standard Error	23.4337
Observations	30.0000

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	2.0000	17960.6551	8980.3276	16.3535	0.0000
Residual	27.0000	14826.7116	549.1375		

Total	29.0000	32787.3667
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	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>
Intercept	12.0920	27.5052	0.4396	0.6637
Win Pct 2001	140.7575	55.8943	2.5183	0.0180
Mkt Size	0.3686	0.0843	4.3725	0.0002

This is the best, most simple model for revenue we could create. It successfully predicts over 50% of the variation using just *last year's* winning percentage (we were wary of including historical data due to the difficulties incurred using correlated variables, since winning percentages are correlated from year to year) and our metric for media market size. We do not have media market size estimates for all potential markets, so we have also prepared a model based only on local population that predicts revenue less accurately, but allows us to still make an informed estimate.

SUMMARY OUTPUT –
2001 Winning Percentage &
Market Population

<i>Regression Statistics</i>	
Multiple R	0.6157
R Square	0.3790
Adjusted R Square	0.3330
Standard Error	27.4603
Observations	30.0000

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	2.0000	12427.5548	6213.7774	8.2404	0.0016
Residual	27.0000	20359.8119	754.0671		
Total	29.0000	32787.3667			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>
Intercept	25.0719	32.2447	0.7776	0.4436
Win Pct '01	154.2473	65.9955	2.3372	0.0271
Mkt Pop	0.0000032	0.0000013	2.5662	0.0161

This model only predicts 1/3 of the variance, and will only be used when we do not have a market size estimate. It is still a significant model, with the same sign on all the variables as predicted (both winning percentage and market sizes variables increase with revenue).

Other variables, like previous performance of minor league teams, performance of other sports teams, “fanaticism” of the fans, we believe would be good predictors of revenue but are problematic because they do not exist for all markets or are very difficult to measure³.

It is important to remember that profitability is not the only goal behind a successful relocation. MLB’s other motives include bringing new fans into the game, expanding visibility, and strengthening the brand. These intangibles are difficult to measure. We will be including them and other factors (like the success of other sports teams) qualitatively in relation to our quantitative analysis.

The Short List and the Short Term

Since the MLB purchased the Montreal Expos there have been whispers among the baseball community about where the team would be relocated. Reading through the many articles published on the debate, we have determined that the list currently consists of the following cities: D.C., Las Vegas, Monterrey (Mexico), Norfolk, Portland, and San Juan (Puerto Rico). At various points in the process the list also included North Jersey, Orlando, Sacramento, Indianapolis, and North Virginia. In order to choose from this list, we believe there are two logical approaches. The first is to simply choose the city with the highest revenue potential, based on the model proposed earlier. The second is to combine revenue potential with factors like : FANATICISM SPREADING THE GAME, ETC. and to make a more subjective decision. Lets look at the quantitative method first.

Given the amount of correlation between market size and revenue, breaking the cities on the short list down by market size seems like a good idea. Due to the nature of the data we gathered, we only have market sizes for teams already in existence. Thus we have chosen to use population as a substitute for market size, and supplemented it with Nielsen Rankings, where the data is available.

Table 2: Market Size of Potential Sites

	Population	Metro Area (2000)	Nielsen Rank
D.C.	572,059	7,608,100	8
Las Vegas	478,434	1,563,300	51

³ How does one measure fanaticism? We considered attendance/market size to see what fraction of the population attends games, but this would be a poor variable because Yankees fans, anecdotally as fanatical as any, would be diluted by the enormous population of New York given that their stadium cannot be built bigger. Polling data of local markets could be used to ascertain this ahead of time, were this a real business case (with a budget to spend).

Monterrey	1,236,900	3,469,000	
Norfolk, Virginia	234,403	1,569,500	41
Portland	529,121	2,265,200	24
San Juan, Puerto Rico	421,958		

From this table, it is clear that D.C. beats out any other city on the list when considering the size of its metro area and its Nielsen ranking. However, the population of Monterrey is strictly larger than the population of D.C., and while its metro area is smaller than D.C.'s, it is substantially larger than the next closest city, which is Portland. From this analysis, it seems clear that Las Vegas, Norfolk and San Juan are probably just too small to justify relocating the team there, although there are some special considerations with Las Vegas that we will discuss later.

Subjective Analysis and Future Growth

Monterrey, Mexico

Although we will interpret Mexico's adoration of soccer as beneficial to a future baseball team, it potentially stands as a substantial barrier to entry. The failure of the Expos in Montreal is often attributed to the dominance of hockey in Canada. While this is a valid concern, and might be a deal breaking problem in other parts of Mexico, we think that the success of minor league and little league baseball in Monterrey indicate that the market would accept a team. Monterrey is home to 58 of Mexico's approximately 160 little leagues.⁴ Furthermore, based on the wild commitment to their soccer teams, Mexican baseball fans promise to be adamant supporters of a team assuming they accept it. In support of this claim, the Mexican minor league had the 5th best attendance of the 11 minor leagues and Monterrey's minor league team had the 10th highest per game attendance of all 176 minor league teams in 2002.⁵

More so than other locations, Monterrey provides MLB with new fans it otherwise could not attract. Monterrey is at least four hours from the nearest MLB team, the Houston Astros, not counting the border crossing. The simple distance and border hassle preclude most Mexicans from attending major league games (except perhaps in San Diego, although we have no data on that), so virtually no fans (at least in Mexico) would be drawn away from other teams. In addition to expanding into the Mexican market, a Monterrey team could also attract Mexican-

⁴ http://www.charleston.net/stories/021004/spo_fk342109.shtml

⁵ http://www.ballparkwatch.com/features/attendance_by_average.htm

American fans across the country. An overall increase in the number of Mexican-American baseball fans would benefit every team in the league making a Mexican team a sensible addition for the baseball owner's trade association (MLB), which represents the interests of all teams. Just as Tiger Woods and Freddy Adu draw golf and soccer fans whether they perform well or not, a Major League team in Monterrey would attract Mexican-American fans simply because Mexico has never had a team before. Thus, in addition to having the second highest metropolitan area population in our model, Mexico potentially offers MLB devoted fans and an increase in baseball attendance and revenue around the country.

Las Vegas

Although our model does not rank Las Vegas very well due to its relatively small population, it does not take into account the 36 million tourists expected to visit Vegas this year.⁶ The casinos provide other interesting incentives for a MLB team. Baseball specifically prohibits casinos from owning a team. However, their strong presence in Las Vegas would nonetheless be advantageous. Famous for providing "compensations" ranging from free food and drink to hotel rooms and airfare, casinos could potentially buy large blocks of tickets to give to gamblers and their families. This would provide a constant base of ticket sales over the long term. Of course, once one major sports team locates in Las Vegas, it is likely that teams from other sports would come as well. However, given that the proposed new stadium would be built just off the Strip, on land owned by the Caesars Entertainment Inc. the casinos would have an incentive to continue to buy tickets.⁷

Also, we would like to note that sports betting in Las Vegas is heavily regulated and that it seems highly unlikely that the close geographic proximity of an MLB team to the casinos would truly present any new problems, particularly in the age of the Internet.

Washington, D.C.

Although Washington D.C. is clearly the best choice based on our model, they don't differentiate themselves from other cities in any way other than their population. Historically, the fact that they have had two teams in the past, both of which moved (becoming the Minnesota

⁶ <http://www.foxsports.com/content/view?contentId=2373282>

⁷ <http://archive.showmenews.com/2004/May/20040523Spor015.asp>

Twins and the Texas Rangers), does not bode well for a new team.⁸ Admittedly, the last time D.C. had a team was 1971 and the reasons the first two teams left are not clear from our research.

In addition, our model includes an estimate of the DC metro area, part of which is Baltimore. Thus a new team in DC would likely compete with the Baltimore Orioles. The owner of that team has vigorously lobbied against DC getting the Expos, and relocating the team to Washington could lead to prolonged legal battles.

Portland, Oregon

Beyond their performance in our model, we have no reason to favor or disfavor Portland.

Norfolk, Virginia

As with Portland, we have no reason to favor or disfavor Norfolk outside of the model.

Table 3: Population Growth

Population Model Evaluated in 2010 and 2025⁹

	2010	2025
Washington D.C.	8,292,900	9,300,000
Monterrey	>3,469,000*	>3,469,000*
Portland	2,621,500**	3,122,900
Las Vegas	1,890,500	2,253,400
Norfolk	1,646,900	1,739,600
San Juan	>421,958*	>421,958*

*Current population figures. We assume increasing population.

**Given that the 2010 population figure is less than the 2000 figure, we assume that this is an error in the data.

From the above table, we see that aside from Las Vegas surpassing Norfolk in population size, there is not much difference in population rankings among these cities. We feel that it is important to note that Portland remains significantly larger than Las Vegas, despite Vegas's population increase. This data still does not take tourism into account, or the fact that the Washington D.C. metropolitan area includes Baltimore. Given that Washington D.C. is and will remain nearly twice the size of the nearest city, it is unlikely that separating the Baltimore from Washington D.C. would change the numerical rankings.

⁸ http://en.wikipedia.org/wiki/Washington,_DC

⁹ <http://www.demographia.com/db-2025metro.htm>

Conclusions

Relocating the Montreal Expos has caused a great deal of controversy among the owners, and an equally large amount of speculation among baseball fans. Our model takes into account the correlation between a team's revenues and the hometown's media market size and population. However, it is often dangerous to make decisions based solely on numbers, so we felt it necessary to analyze potential sites by looking at factors that are more difficult to quantify without generous funding. Admittedly, Washington D.C. does come out on top in our model, however we were unable to include any measurement of how the Baltimore Orioles being in the same metro area would impact a potential D.C. team's success. On the other hand, Monterrey does do fairly well in our model. In addition, the first Mexican MLB team brings with it the opportunity to reach out to a fresh new fan base in a way that no location in the United States would allow. We think that considering the enormous opportunity for growth associated with moving the Expos to Monterrey, that this Mexican city makes the best long term relocation plan for the Montreal team.