

Relocation Patterns of North American Sports Franchises

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Table of Contents

<i>Abstract</i>	3
<i>Introduction</i>	4
<i>Related Literature</i>	4
<i>Data/Methodology</i>	7
<i>Data Analysis</i>	10
<i>Bottom Teams</i>	19
<i>Discussion/Limitations:</i>	19
<i>Conclusion</i>	20
<i>Appendix</i>	22
<i>References</i>	30

Abstract

In North American sports, having a sports franchise provides a city with a unique identity and a team to support. However, there have been numerous instances of franchises relocating to other cities, sometimes multiple times, which means that a team's presence in a city is not necessarily permanent. This paper aims to examine the factors that might affect franchises decision to relocate in the four major North American sports leagues - NBA, NFL, NHL, and MLB. I test whether MSA income, states' income and population might increase a team's probability to relocate. The results suggest that a team is more likely to locate in an area where the MSA per capita income is higher than the per capita income of the state in which the team is located. This suggests that a team is more likely to locate in an area where the MSA per capita income is higher than the per capita income of the state in which the team is located. When it comes to the population, franchises that do relocate to more populated areas and where is much higher population growth compared to teams that do not relocate at all.

Introduction

Sports is considered to be a huge part of North American life. They have sports franchises in many different locations. Having a sports franchise in a city gives its people an opportunity to support them and give the city an identity that is different to other cities across North America. This does not mean that franchises will stay in one city forever. Teams can relocate to a different location when they see fit or due to unfortunate circumstances. Teams depending on where they are located can make more profit than other teams solely because of the city that they are located in. My question is what the location patterns for all franchises for the main North American Sports Leagues are. Those leagues are the National Basketball Association (NBA), the National Football League (NFL), Major League Baseball (MLB), and the National Hockey League (NHL). This paper is divided into two sections. How a city is affected when their team relocates to another city and leaving the previous city behind; and how teams are affected depending on the market size.

Related Literature

There have been previous articles talking about NBA team relocations and how that affected the cities involved. The most recent relocation was in 2008 from the Seattle SuperSonics moved to Oklahoma City and became the Thunder. There was a study conducted by Morris (2009) about the Oklahoma City Thunder relocating from Seattle analyzing the entire journey. He analyzes the “social drama” between city officials and team owners. Then, the author looked at the fans and the medias’ role. What happened was that it looked like the SuperSonics owners show no concern for the public and act instead in their own interests. At the end of the day, most teams like the SuperSonics mostly care about making money, being a business and not so much about the fans who supported them throughout many decades. Also, an example of how this got messy is when Morris (2009) found “the owners had privately communicated their excitement to one another about moving the team to Oklahoma, even while they were publicly stating that they were trying to keep the team in Seattle” (pg. 34). This could indicate that the owners inside knew the move to Oklahoma City would benefit them money wise while not thinking about the fans of Seattle. The

problem with staying in Seattle is that local governments in the state of Washington refused to help pay for a \$500 million dollar arena. The result was that the team cut economic ties with the city of Seattle. That's just one example of how a team relocating have an impact on a city.

Another city that went through something similar is Charlotte. In 2002, the Charlotte Hornets relocated to New Orleans. An author looked at how the move affected nearby residential property values. He used a repeat sale regression model and a hedonic price model to analyze the move. According to Humphreys (2017), "the departure of the Charlotte Hornets resulted in positive excess price appreciation for single family homes located within two miles of the Charlotte Arena" (pg. 47). Also, another negative effect was "the traffic, crowds, noise, trash, and other activities associated with professional sports events represented a disamenity in the immediate neighborhood" (pg. 47). While having a sports franchise can be a nice thing for a city to have, there could also be downsides to that too. Sticking with the city of Charlotte, in 2003, the NBA gave Charlotte an expansion team called the Charlotte Bobcats. Branch Jr, D. (2008) wanted to see how the positioning strategies used by the Bobcats franchise to gain basketball fans in Charlotte who were disgusted with the previous ownership because of the decisions they made with the Hornets. In further detail, the study examines the Bobcats' and market consumer analysis via the Marketing Management Process (MMP). The results were very poor. The Charlotte Bobcats were near the bottom of the league in season ticket sales for its first two seasons Even though the fans in Charlotte were given a new team to support, the ticket sales showed that they were not that interested because it did not feel the same as supporting their previous team. That can depend on many factors like team success and getting used to a new team in your location.

The NFL also had relocation situations. Fenn, A., Crooker, J. (2009) did a study looking at the situation with the Minnesota Vikings who was an NFL team under the threat of relocation. They wanted to look at the welfare contribution of the Minnesota Vikings to Minnesota households due to the threat of relocation. The authors used an unbiased approach in their research. The main result was that the authors found a 95 % confidence interval on the welfare contribution of the Vikings to households in Minnesota is \$435.4 million-\$1,499.1 million meaning that "researchers interested in valuing a sports franchise must pay attention to the beliefs of the respondent vis a vis the credibility of relocation "(pg.29). The Vikings had to look for a new stadium because they

were in such a bad state to the point where their old stadium limited their revenue. Vikings fans voiced their concerns which ultimately influenced the ending result. These three articles have two different results which can be due to the different cities involved and the authors' different approaches to their respective studies. All the cities discussed in this section had unique situations leading to different conclusions and outcomes.

There are cases where being in a smaller market for example Cleveland or Portland have a disadvantage economically speaking. Small market teams must come up with marketing strategies to try to increase game attendance or attract more supporters. For example, Dick & Sack (2003) did a study to examine marketing techniques and compared the perceived effectiveness of various techniques in small versus large market franchises. Their method was to look at two specific seasons which were the 1988-1989 and the 1997-1998 seasons. They looked at those two specific seasons because the 1989 season was when NBA attendance began to be ahead of the NHL in terms of average game attendance and the 1998 season was Michael Jordan's last season as a Chicago Bull before he left the team which would lead to a downward spiral for the NBA. Their main findings were that "there appear to be significant differences in the perceived effectiveness of various marketing techniques in large and small market franchises in the NBA. The consensus of the sports executives interviewed in this study was that smaller market franchises must take a more innovative approach to marketing than is the case in large market franchises. It was, therefore, not surprising that this study found small market franchises were more likely to emphasize television advertising, market research, special events, a package of options with tickets, open houses, and special member clubs" (pg. 96). Smaller markets must really think outside the box and come up with smart ideas to attract fans who support a small market team and even that does not guarantee success. All that a big market team must do is put up a sign promoting their team maybe for an upcoming exciting game and tickets would be easier to sell.

Along with that, Ronkartz (2019) did a study wanting to know the differences of NBA marketing directors' perceived values of marketing techniques. He wanted to compare the ratings of marketing strategies by marketing directors in the NBA of both small and large market teams. He found that there were differences and similarities between the two market size groups. Some

techniques were rated higher than others. It looks like that teams in smaller markets must spend more money on marketing their team to a smaller population compared to a team in a big market who don't have to worry as much because the size of their population already helps them out. Another marketing study was done by Dick, R. J., & Turner, B. A. (2007) where they looked at the NBA marketing directors and their marketing techniques. They wanted to know if their way of marketing or promoting their teams to increase game attendance was effective. Also, the authors wanted to see if the NBA fans and the marketing directors were on the same page on the importance of marketing techniques. They examined 20 marketing techniques. The authors found that "ticket holders and directors of marketing significantly disagreed on the importance of 15 of these techniques" (pg. 143). It can be a huge concern when fans and the marketing directors disagree on the marketing techniques because the marketing directors can become very untrustworthy and unpopular creating a disconnect. That creates a disconnection between the supporters and the franchise. When fans become disconnected, it could go to a point where game attendance will go down meaning the team will generate less revenue. Especially in small market teams where they are not as attractive to top NBA free agents as big market teams are. Being in a big city is very attractive to both superstars and fans which is why they make the most money having an advantage over the smaller cities.

Data/Methodology

I have a list of data about all 124 North American franchises from the top four leagues relocation history. In more detail, I looked at a number of different variables in all the cities that the teams played chronologically, the city population during the 1st year of being in that location, the population of the Metropolitan Statistical Area, if there were any other sports teams in their respective city showing there was competition of other professional sports teams taking over the city and some data about the per capita personal income (adjusted for inflation) for the MSA if a team relocated to another city after 1970 since that was the information I could find. The per capital personal income for my data has 2021 as the base year. I also manually collected data about all the sports teams for two years 1970 and 2021. It includes the team's name, their location during those respective years, the MSA population of where that team is located, the state population of were

the team is located, the per capita personal income of the MSA, the per capita personal income of the state that the team is in, and the percent change of the per capita personal income of the MSA compared to the state. A negative percent means a percent decrease and a positive percent means a percent increase. I also looked at the population growth of the MSA for the sports franchises from 1970 to 2021 depending on where they were located at that time meaning how much it grew during that period. All the data was founded from Basketball Reference, Pro Football Reference, Baseball Reference, Hockey Reference, Macro Trends, Fred, and BEA.

Gathering all the information from these articles, a way of going into answering this research question is to looking at different data. One source of data is to look at all the different relocations of the North American sports league teams and their current locations in general. More specifically, checking seeing any trends of moving to a bigger population vs smaller population. Was there a significant difference between MSA per capita personal income and the state per capita personal income? How much different was the per capita for both categories income in 2021 compared to 1970. I also separated all franchises for each league individually into two groups. A group that represents sports franchises that have relocated at least once throughout their history and the other group is sports franchises that have never relocated before. This is shown by tables showing the differences in certain descriptive statistics. For example, there is a table showing data about NBA franchises that have relocated and then the other table shows about NBA franchises that have never relocated before. The same idea goes for the other sports leagues. The reason why I picked 1970 as the first year is because back then, the NBA was not the sports league we know it today to be. Before 1970, there was two different professional basketball leagues, the NBA, and the ABA. Some teams that are in the NBA now were not there before 1970 and were instead in the ABA. After, the two leagues merged creating the NBA and the four main North American Sports leagues as we know it today. Also, when collecting data about relocated teams, for the NHL, there was only one team that relocated before 1970 so it would not be a fair representation of that group. So, it is not feasible to make a comparison of relocated teams vs teams that did not relocate for the NHL for that reason.

Table 1: North American Sports Relocation Statistics

League	# of Teams	# of Teams that Relocated at least Once	# of Teams that relocated only before 1970	# of Teams that relocated after 1970	# of Individual Relocations	% of Teams that Relocated
NFL	32	9	3	6	15	28.13%
NHL	32	8	0	8	8	25.00%
NBA	30	14	4	10	25	46.67%
MLB	30	9	6	3	12	30.00%
Total	124	40	13	27	60	32.26%

Table 1 shows the statistics individually about the four North American Sports Leagues. Only 40 franchises out of the 124 have ever relocated at least once. When looking at the leagues individually, less than 50% of their respective franchises have relocated. The NBA and the NFL has the most quantity of relocations.

Table 2: Most Frequent Relocating Franchises

Team	League	# of Relocations	Year of 1st Relocation	Year of Last Relocation
Atlanta Hawks	NBA	4	1949	1968
Brooklyn Nets	NBA	3	1968	2012
Golden State Warriors	NBA	3	1962	2019
Sacramento Kings	NBA	3	1957	1985
Arizona Cardinals	NFL	3	1960	1994
Las Vegas Raiders	NFL	3	1982	2020
Los Angeles Rams	NFL	3	1945	2016

Table 2 shows franchises who have relocated at least three times. Only seven franchises have done that, and one has done it four times. All these franchises come from either the NFL or the NBA.

Data Analysis

This data only involves three sports leagues and has six variables. The sports leagues included are the NBA, the NFL, and the MLB. The six variables are the MSA population, the MSA per capita income in 2021 \$, the State per capita income in 2021 \$, the average difference percentage of the MSA per capita income compared to the state income, the population growth from 1970 to 2021, the MSA to State population ratio. Also, all the sports franchises are divided into two separate groups. One group represents franchises that have relocated at least once. The other group represents franchises that have never relocated before. The following tables will compare the data collected for all six variables for the years 1970 and 2021. When looking at the two groups for one league, I mainly looked for which one had the highest average for the MSA population, the MSA per capita income, and the State per capita income. Along with that, which group had a higher increase in the average percent difference of the MSA per capita income compared to State per capita income. For franchises that have relocated, that can show if the new area that they were in 2021 is in a richer part of the state that the team is compared to 1970. The population growth is how much the population grew from 1970 to 2021. For the relocated group, this means that in most cases, if a franchise is in one area in 1970, then in 2021, they are in a different location. For the group that has franchises that has never relocated, they are in the same area in 2021 as they were in 1970. For the MSA to State population ratio, that is calculating the ratio of the MSA population to the state population and seeing which group had a bigger increase. For all these variables, I observed the differences between the two groups in the average increase or decrease of these variables. I also compared the two years and see which group had a higher increase or decrease in all variables for all three leagues separately. Then, I put all relocated franchises together and the non-relocated franchises together and look at the general trend to see if it matches the results from the previous tables. In the appendix, it shows all the sports franchises individually and their individual statistics about all the variables, except population growth and MSA to State population ratio.

Table 3: NBA Relocated Franchises Data

	1970	2021
MSA Population		
Average	3,772,750	5,905,286
Min	1,084,000	998,000
Max	16,191,000	18,823,000
Median	1,790,500	4,454,000
Standard Deviation	4,445,671	5,281,927
MSA Income Per Capita (2021 \$)		
Average	\$32,561	\$72,871
Min	\$24,786	\$56,568
Max	\$39,978	\$123,711
Median	\$32,228	\$65,405
Standard Deviation	\$4,130	\$18,559
State Income Per Capita (2021 \$)		
Average	\$31,742	\$67,322
Min	\$26,465	\$53,870
Max	\$34,744	\$96,477
Median	\$32,424	\$62,072
Standard Deviation	\$3,111	\$12,653
Average Difference MSA compared to State Income (%)	2.77%	8.24%
Population Growth		56.52%
MSA to State Population Ratio	0.31	0.32
# Of Observations	14	14

Notes:

MSA stands for Metropolitan Statistical Area

Dollars and population numbers are rounded to the nearest whole unit

1970 \$ converted to 2021 \$ using CPI

Table 3 shows the descriptive statistics about the NBA franchises that have relocated comparing 1970 to 2021.

Table 4: NBA Stayed Teams Data

	1970	2021
MSA Population		
Average	3,363,455	4,487,533
Min	821,000	998,000
Max	16,191,000	18,823,000
Median	1,706,000	2,862,000
Standard Deviation	4,625,904	4,545,864
MSA Income Per Capita (2021 \$)		
Average	\$32,353	\$69,097
Min	\$29,138	\$53,102
Max	\$37,018	\$92,290
Median	\$32,406	\$66,727
Standard Deviation	\$2,297	\$10,261
State Income Per Capita (2021 \$)		
Average	\$29,514	\$63,307
Min	\$26,465	\$54,217
Max	\$34,729	\$83,653
Median	\$28,810	\$61,596
Standard Deviation	\$2,525	\$8,405
Average Difference MSA compared to State Income (%)	9.78%	9.16%
Population Growth		33.42%
MSA to State Population Ratio	0.43	0.41
# Of Observations	16	16

Notes:

MSA stands for Metropolitan Statistical Area

Dollars and population numbers are rounded to the nearest whole unit

1970 \$ converted to 2021 \$ using CPI

Table 4 shows the descriptive statistics for NBA franchises that have never relocated before comparing 1970 and 2021.

Table 5: NFL Relocated Franchises Data

	1970	2021
MSA Population		
Average	2,754,000	5,109,444
Min	1,086,000	1,272,000
Max	8,378,000	12,459,000
Median	1,882,000	3,530,000
Standard Deviation	2,283,436	4,379,461
MSA Income Per Capita (2021 \$)		
Average	\$34,041	\$69,256
Min	\$29,670	\$58,276
Max	\$40,629	\$96,873
Median	\$32,273	\$65,805
Standard Deviation	\$4,161	\$12,410
State Income Per Capita (2021 \$)		
Average	\$32,004	\$65,587
Min	\$26,465	\$55,325
Max	\$38,683	\$96,477
Median	\$34,058	\$56,560
Standard Deviation	\$4,294	\$14,493
Average Difference MSA compared to State Income (%)	6.74%	7.29%
Population Growth		85.53%
MSA to State Population Ratio	0.28	0.40
# Of Observations	9	9

Notes:

MSA stands for Metropolitan Statistical Area

Dollars and population numbers are rounded to the nearest whole unit

1970 \$ converted to 2021 \$ using CPI

Table 5 shows the descriptive statistics for the NFL franchises that have relocated before comparing 1970 and 2021.

Table 6: NFL Stayed Franchises Data

	1970	2021
MSA Population		
Average	3,821,162	4,795,627
Min	202,758	323,417
Max	16,191,000	18,823,000
Median	1,954,000	2,946,000
Standard Deviation	4,920,388	4,974,707
MSA Income per capita (2021 \$)		
Average	\$31,704	\$72,172
Min	\$24,786	\$56,808
Max	\$39,978	\$123,711
Median	\$32,406	\$66,727
Standard Deviation	\$4,287	\$15,167
State Income Per Capita (2021 \$)		
Average	\$30,121	\$65,809
Min	\$22,358	\$54,217
Max	\$34,744	\$83,653
Median	\$28,950	\$64,279
Standard Deviation	\$3,348	\$8,399
Average Difference MSA compared to State Income (%)	5.49%	9.51%
Population Growth		25.50%
MSA to State Population Ratio	0.35	0.44
# Of Observations	23	23

Notes:

MSA stands for Metropolitan Statistical Area

Dollars and population numbers are rounded to the nearest whole unit

1970 \$ converted to 2021 \$ using CPI

Table 6 shows the descriptive statistics of NBA franchises that did not relocate comparing 1970 and 2021.

Table 7: MLB Relocated Teams Data

	1970	2021
MSA Population		
Average	2,644,375	4,832,556
Min	1,182,000	1,443,000
Max	8,378,000	12,459,000
Median	1,865,500	3,313,000
Standard Deviation	2,373,425	3,316,337
MSA Income Per Capita (2021 \$)		
Average	\$33,364	\$84,252
Min	\$24,786	\$63,219
Max	\$39,978	\$123,711
Median	\$32,473	\$71,912
Standard Deviation	\$5,073	\$24,433
State Income Per Capita (2021 \$)		
Average	\$31,299	\$70,855
Min	\$26,465	\$55,786
Max	\$34,744	\$96,477
Median	\$31,490	\$69,817
Standard Deviation	\$3,584	\$12,510
Average Difference MSA compared to State Income (%)	6.73%	18.55%
Population Growth		82.44%
MSA to State Population Ratio	0.28	0.30
# Of Observations	9	9

Notes:

MSA stands for Metropolitan Statistical Area

Dollars and population numbers are rounded to the nearest whole unit

1970 \$ converted to 2021 \$ using CPI

Table 7 shows the descriptive statistics for MLB teams that have relocated comparing 1970 and 2021.

Table 8: MLB Stayed Teams Data

	1970	2021
MSA Population		
Average	4,740,412	6,056,650
Min	1,054,000	1,698,000
Max	16,191,000	18,823,000
Median	2,141,000	3,922,500
Standard Deviation	4,886,747	5,229,668
MSA Income Per Capita (2021 \$)		
Average	\$32,902	\$71,386
Min	\$28,628	\$58,308
Max	\$37,018	\$92,290
Median	\$33,274	\$71,992
Standard Deviation	\$2,688	\$10,348
State Income Per Capita (2021 \$)		
Average	\$30,670	\$65,944
Min	\$26,465	\$55,325
Max	\$34,744	\$83,653
Median	\$29,390	\$64,279
Standard Deviation	\$2,819	\$8,956
Average Difference MSA compared to State Income (%)	7.46%	8.36%
Population Growth		27.91%
MSA to State Population Ratio	0.41	0.42
# Of Observations	21	21

Notes:

MSA stands for Metropolitan Statistical Area

Dollars and population numbers are rounded to the nearest whole unit

1970 \$ converted to 2021 \$ using CPI

Table 8 shows the descriptive statistics for MLB franchises that have never relocated before comparing 1970 and 2021

Table 9: Total Relocated Teams Data

	1970	2021
MSA Population		
Average	3,129,933	5,379,750
Min	1,084,000	998,000
Max	16,191,000	18,823,000
Median	1,953,500	3,530,000
Standard Deviation	3,252,925	4,440,739
MSA Income (2021 \$)		
Average	\$33,242	\$75,055
Min	\$24,786	\$56,568
Max	\$40,629	\$123,711
Median	\$32,273	\$68,377
Standard Deviation	\$4,300	\$19,358
State Income (2021 \$)		
Average	\$31,701	\$67,828
Min	\$26,465	\$53,870
Max	\$38,683	\$96,477
Median	\$34,058	\$62,246
Standard Deviation	\$3,516	\$12,883
Average Difference MSA compared to State Income (%)	5.10%	10.68%
Population Growth		71.88%
MSA to State Population Ratio	0.30	0.34
# Of Observations	32	32

Notes:

MSA stands for Metropolitan Statistical Area

Dollars and population numbers are rounded to the nearest whole unit

1970 \$ converted to 2021 \$ using CPI

Table 9 shows the descriptive statistics for all the franchises that have relocated comparing 1970 and 2021.

Table 10: Total Stayed Franchises Data

	1970	2021
MSA Population		
Average	4,056,550	5,168,604
Min	202,758	323,417
Max	16,191,000	18,823,000
Median	1,954,000	3,372,000
Standard Deviation	4,761,623	4,878,516
MSA Income (2021 \$)		
Average	\$32,315	\$71,106
Min	\$24,786	\$53,102
Max	\$39,978	\$123,711
Median	\$32,406	\$67,551
Standard Deviation	\$3,284	\$12,324
State Income (2021 \$)		
Average	\$30,180	\$65,208
Min	\$22,358	\$54,217
Max	\$34,744	\$83,653
Median	\$28,950	\$62,270
Standard Deviation	\$2,936	\$8,521
Average Difference MSA compared to State Income (%)	7.28%	9.02%
Population Growth		27.41%
MSA to State Population Ratio	0.39	0.42
# Of Observations	60	60

Notes:

MSA stands for Metropolitan Statistical Area

Dollars and population numbers are rounded to the nearest whole unit

1970 \$ converted to 2021 \$ using CPI

Table 10 shows the descriptive statistics for all the franchises that have never relocated comparing 1970 and 2021.

Bottom Teams

Since this paper is about relocations, another question could be what franchises are at risk of relocating next. One way that I looked at is by looking at the bottom 10 for both the MSA population and the MSA per capita income for all four sports leagues. I found that for all four leagues. At least five franchises for each league are in the bottom 10 for both categories. These teams include the Charlotte Hornets, the Oklahoma City Thunder from the NBA. The Jacksonville Jaguars and the Cleveland Browns from the NFL. The Cincinnati Reds and the Tampa Bay Rays and the Carolina Hurricanes and the Columbus Blue Jackets. Due to their low population and their low average MSA per capita income, this could indicate that the owners of those respective franchises could possibly be looking elsewhere to locate their team in the near future. This can result in being in areas with higher average MSA per capita income and an area where the area has a higher population.

Discussion/Limitations:

When collecting this data and separating the two groups, there were some consistent trends. First, the population growth for franchises that have relocated were always higher from 1970 to 2021 for every sports league. This could indicate that franchises that move to different areas move to areas where there is a higher population compared to their old location. For teams that did not relocate, the population growth was nowhere near as much as for teams that did relocate. To give an example, for the NFL, when comparing the two groups, the population growth for teams that have relocated from 1970 to 2021 was 85.53% whereas for teams that did not relocate, it was 25.50%. To put this in perspective, I looked at the population growth of the entire United States from 1970 to 2021 which is 63.25%. The population growth for NFL franchises that have relocated was even larger than that as well as being more than triple the population growth of NFL franchises that have not relocate. As a matter of fact, the average population for MLB franchises that have relocated was also bigger than of the United States.

The average percent difference between MSA and State per capita income increased for teams that have relocated for all three sports leagues from 1970 to 2021. Franchises when relocating will most likely end up in a richer area of the state that the MSA is located in. However, this was not the case for teams that did not relocate. For example, for the NBA not relocated teams' group, the difference decreased from 9.78% to 9.16% meaning from 1970 to 2021, the MSA became less rich. Other than that, for the other two sports leagues, the difference did increase in that time span. The group that had the highest percent difference was the MLB relocated group which increased from 6.73% to 18.55%. So, all of this could mean that depending on a franchises' situation when it comes to their current location, it might be beneficial for them often than not to relocate to a different area if the new area is a rich part of the state and where there is a higher population growth.

While finding the data for this project, there were some limitations that came into play. First, for Table 2, notice how for some franchises, it says DNE in 1970. That is because teams like the Charlotte Hornets, and the New Orleans Pelicans were not franchises in 1970. They became into existence after 1970 so there will be less data available for the year 1970. Also, for all the data other than the population for the MSA in Canada, there was not a lot of information about the per capita income for Canadian cities and metro areas. Also, when separating the franchises into the two groups, the number of observations is sometimes very different specifically the stayed franchises group always have more observations than the group where teams have relocated.

Conclusion

This paper was examining the factors of sports franchises relocating for the four North American sports leagues. Based on these findings, what sports franchises look for when deciding to relocate are to go to areas with higher populations and to areas where the per capita income of the Metropolitan Statistical Area is higher than the per capita income of the State that the MSA is located in. This indicates that teams that have relocated before are more likely to be in a richer area of a state. When the franchises were put into the two groups, in 2021 the teams that have

relocated were in an area where the population growth for all sports leagues were higher than for franchises that never relocated by a huge difference. This can indicate that in the future, whenever a franchise wants to relocate somewhere else; they will look at where there is a higher population as well as where an area is rich. For future research, the politics behind the relocations can be looked at. There is a process when a franchise tries to relocate. It must be discussed with city officials, team owners, fans of the team. Sometimes, it must be approved by their respective sports leagues. So, learning about the politics behind relocations and in some instances a franchise deciding to stay and not move can be something that can be researched in the future. Also, specifically looking at stadiums, arenas and seeing the differences in capacity between the old and new stadiums and arenas can be researched. The differences in capacity could be a factor in a franchise deciding to move there.

Appendix A:

The appendix contains data about the metro population, MSA income, State income, the % increase or decrease of the MSA income compared to the state income for the teams of the four main North American sports leagues. For all four leagues, the two years being looked at are 1970 and 2021

Table 1: NBA Data from 1970

NBA Team ID	Team	1970 Location	MSA Population	MSA Income (Base Year 2021)	State Income (Base Year 2021)	% Change
1	Atlanta Hawks	Atlanta, Georgia	1,182,000	\$24,785.87	\$28,921.51	-14.300%
2	Boston Celtics	Boston, Massachusetts	3,187,000	\$33,379.05	\$31,853.55	4.789%
3	Brooklyn Nets	Long Island, New York	16,191,000	\$37,017.85	\$34,728.70	6.592%
4	Charlotte Hornets	DNE in 1970	DNE in 1970	DNE in 1970	DNE in 1970	DNE
5	Chicago Bulls	Chicago, Illinois	7,106,000	\$34,603.65	\$32,413.37	6.757%
6	Cleveland Cavaliers	Cleveland, Ohio	1,954,000	\$32,406.37	\$28,949.50	11.941%
7	Dallas Mavericks	Dallas, Texas	2,025,000	\$30,335.05	\$26,465.32	14.622%
8	Denver Nuggets	Denver, Colorado	1,054,000	\$33,281.08	\$30,020.15	10.862%
9	Detroit Pistons	Detroit, Michigan	3,966,000	\$32,273.41	\$29,390.36	9.810%
10	Golden State Warriors	San Francisco, California	2,529,000	\$39,977.88	\$34,743.60	15.065%
11	Houston Rockets	San Diego, California	1,209,000	\$35,968.20	\$34,743.60	3.525%
12	Indiana Pacers	Indianapolis, Indiana	821,000	\$29,138.44	\$26,934.16	8.184%
13	Los Angeles Clippers	Buffalo, New York	1,084,000	\$29,348.37	\$34,428.70	-14.756%
14	Los Angeles Lakers	Los Angeles, California	8,378,000	\$35,422.38	\$34,743.60	1.954%
15	Memphis Grizzlies	DNE in 1970	DNE in 1970	DNE in 1970	DNE in 1970	DNE
16	Miami Heat	DNE in 1970	DNE in 1970	DNE in 1970	DNE in 1970	DNE
17	Milwaukee Bucks	Milwaukee, Wisconsin	1,251,000	\$31,979.51	\$27,906.84	14.594%
18	Minnesota Timberwolves	Minneapolis, Minnesota	1,706,000	\$32,966.18	\$28,809.55	14.428%
19	New Orleans Pelicans	DNE in 1970	DNE in 1970	DNE in 1970	DNE in 1970	DNE
20	New York Knicks	New York, New York	16,191,000	\$37,017.85	\$34,728.70	6.592%
21	Oklahoma City Thunder	Seattle, Washington	1,556,000	\$33,295.08	\$30,789.90	8.136%
22	Orlando Magic	DNE in 1970	DNE in 1970	DNE in 1970	DNE in 1970	DNE
23	Philadelphia 76ers	Philadelphia, Pennsylvania	4,396,000	\$32,182.44	\$28,935.51	11.221%
24	Phoenix Suns	Phoenix, Arizona	874,000	\$29,565.30	\$28,130.77	5.100%
25	Portland Trail Blazers	Portland, Oregon	829,000	\$31,209.76	\$28,445.67	9.717%
26	Sacramento Kings	Cincinnati, Ohio	1,202,000	\$28,655.60	\$28,949.50	-1.015%
27	San Antonio Spurs	Dallas, Texas	2,025,000	\$30,335.05	\$26,465.32	14.622%
28	Toronto Raptors	DNE in 1970	DNE in 1970	DNE in 1970	DNE in 1970	DNE
29	Utah Jazz	DNE in 1970	DNE in 1970	DNE in 1970	DNE in 1970	DNE
30	Washington Wizards	Baltimore, Maryland	1,555,000	\$31,468.68	\$34,057.83	-7.602%

Table 1 shows the information about the NBA franchises in 1970. The team that had the highest per capita personal income belonged to the Warriors which was in San Francisco,

California. The team that had the lowest per capita personal income belonged to the Hawks which was in and still in Atlanta. So, the highest per capital personal income belonged to a big market area but surprisingly, the lowest belonged to a quite big market area.

Table 2: NBA Data from 2021

NBA Team ID	Team	Location	MSA Population	MSA Income (Base Year 2021)	State Income (Base Year 2021)	% Change
1	Atlanta Hawks	Atlanta, Georgia	5,911,000	\$63,219	\$55,786	13.324%
2	Boston Celtics	Boston, Massachusetts	4,315,000	\$92,290	\$83,653	10.325%
3	Brooklyn Nets	Brooklyn, New York	18,823,000	\$85,136	\$76,837	10.801%
4	Charlotte Hornets	Charlotte, North Carolina	2,132,000	\$62,056	\$56,173	10.473%
5	Chicago Bulls	Chicago, Illinois	8,877,000	\$71,992	\$67,244	7.061%
6	Cleveland Cavaliers	Cleveland, Ohio	1,760,000	\$61,948	\$56,879	8.912%
7	Dallas Mavericks	Dallas, Texas	6,397,000	\$66,727	\$59,865	11.462%
8	Denver Nuggets	Denver, Colorado	2,862,000	\$78,150	\$70,706	10.528%
9	Detroit Pistons	Detroit, Michigan	3,530,000	\$60,965	\$56,494	7.914%
10	Golden State Warriors	San Francisco, California	3,313,000	\$123,711	\$76,614	61.473%
11	Houston Rockets	Houston, Texas	7,210,000	\$64,837	\$59,865	8.305%
12	Indiana Pacers	Indianapolis, Indiana	1,833,000	\$65,805	\$56,497	16.475%
13	Los Angeles Clippers	Los Angeles, California	12,459,000	\$75,821	\$76,614	-1.035%
14	Los Angeles Lakers	Los Angeles, California	12,459,000	\$75,821	\$76,614	-1.035%
15	Memphis Grizzlies	Memphis, Tennessee	1,156,000	\$56,568	\$56,560	0.014%
16	Miami Heat	Miami, Florida	6,167,000	\$73,522	\$62,270	18.070%
17	Milwaukee Bucks	Milwaukee, Wisconsin	1,443,000	\$65,803	\$59,626	10.360%
18	Minnesota Timberwolves	Minneapolis, Minnesota	2,946,000	\$71,912	\$66,280	8.497%
19	New Orleans Pelicans	New Orleans, Louisiana	998,000	\$61,327	\$54,217	13.114%
20	New York Knicks	New York, New York	18,823,000	\$85,136	\$76,837	10.801%
21	Oklahoma City Thunder	Oklahoma City, Oklahoma	998,000	\$57,150	\$53,870	6.089%
22	Orlando Magic	Orlando, Florida	2,002,000	\$53,102	\$62,270	-14.723%
23	Philadelphia 76ers	Philadelphia, Pennsylvania	5,734,000	\$72,379	\$64,279	12.601%
24	Phoenix Suns	Phoenix, Arizona	4,584,000	\$58,308	\$55,487	5.084%
25	Portland Trail Blazers	Portland, Oregon	2,174,000	\$68,374	\$61,596	11.004%
26	Sacramento Kings	Sacramento, California	2,155,000	\$65,972	\$76,614	-13.890%
27	San Antonio Spurs	San Antonio, Texas	2,368,000	\$60,187	\$59,865	0.538%
28	Toronto Raptors	Toronto, Canada	Couldn't Find Info	Couldn't Find Info	Couldn't Find Info	
29	Utah Jazz	Salt Lake City, Utah	1,180,000	\$61,551	\$56,019	9.875%
30	Washington Wizards	Washington D.C.	5,378,000	\$96,873	\$96,477	0.410%

Table 2 shows the information about the franchises in 2021. The team that had the highest per capita personal income belonged to the Warriors which is in San Francisco, California. That is just like how it was in 1970. The Bay area was the seventh biggest market size area in 2021. The team that had the lowest per capita personal income belonged to the Magic which is in Orlando. Orlando has the 17th highest market size area in 2021. The lowest per capita

personal income belonged in the middle of the pack. The highest MSA population is 18,823,000 which belongs to the Tri-State area. The New York Knicks and the Brooklyn Nets are in that area. The lowest MSA population is 998,000. That belongs to 2 different metro areas. The New Orleans metro area and the Oklahoma City metro area. They are the 4th and 5th smallest market size areas. Both the New Orleans Pelicans and the Oklahoma City Thunder are in those metro areas respectively.

Table 3: NFL Data from 1970

Team ID	Team	Location	MSA Population	MSA Income (Base Year 2021)	State Income (Base Year 2021)	% Change
1	Arizona Cardinals	St. Louis, Missouri	1,882,000	\$30,544.98	\$27,605.94	10.646%
2	Atlanta Falcons	Atlanta, Georgia	1,182,000	\$24,785.87	\$28,921.51	-14.300%
3	Baltimore Ravens	DNE in 1970	DNE in 1970	DNE in 1970	DNE in 1970	DNE
4	Buffalo Bills	Buffalo, New York	1,084,000	\$29,348.37	\$34,428.70	-14.756%
5	Carolina Panthers	DNE in 1970	DNE in 1970	DNE in 1970	DNE in 1970	DNE
6	Chicago Bears	Chicago, Illinois	7,106,000	\$34,603.65	\$32,413.37	6.757%
7	Cincinnati Bengals	Cincinnati, Ohio	1,202,000	\$28,655.60	\$28,949.50	DNE
8	Cleveland Browns	Cleveland, Ohio	1,954,000	\$32,406.37	\$28,949.50	11.941%
9	Dallas Cowboys	Dallas, Texas	2,025,000	\$30,335.05	\$26,465.32	14.622%
10	Denver Broncos	Denver, Colorado	1,054,000	\$33,281.08	\$30,020.15	10.862%
11	Detroit Lions	Detroit, Michigan	3,966,000	\$32,273.41	\$29,390.36	9.810%
12	Green Bay Packers	Green Bay, Wisconsin	202,758	\$24,869.84	\$27,906.84	-10.883%
13	Houston Texans	DNE in 1970	DNE in 1970	DNE in 1970	DNE in 1970	DNE
14	Indianapolis Colts	Baltimore, Maryland	1,555,000	\$31,468.68	\$34,057.83	-7.602%
15	Jacksonville Jaguars	DNE in 1970	DNE in 1970	DNE in 1970	DNE in 1970	DNE
16	Kansas City Chiefs	Kansas City, Missouri	1,086,000	\$30,412.02	\$27,605.94	10.165%
17	Las Vegas Raiders	Oakland, California	2,529,000	\$39,977.88	\$34,743.60	15.065%
18	Los Angeles Chargers	San Diego, California	1,209,000	\$35,968.20	\$34,743.60	3.525%
19	Los Angeles Rams	Los Angeles, California	8,378,000	\$35,422.38	\$34,743.60	1.954%
20	Miami Dolphins	Miami, Florida	2,141,000	\$33,274	\$28,907.52	15.105%
21	Minnesota Vikings	Minneapolis, Minnesota	1,706,000	\$32,966.18	\$28,809.55	14.428%
22	New England Patriots	Boston, Massachusetts	3,187,000	\$33,379.05	\$31,853.55	4.789%
23	New Orleans Saints	New Orleans, Louisiana	964,000	\$26,241.39	\$22,357.66	17.371%
24	New York Giants	Bronx, New York	16,191,000	\$37,017.85	\$34,728.70	6.592%
25	New York Jets	Queens, New York	16,191,000	\$37,017.85	\$34,728.70	6.592%
26	Philadelphia Eagles	Philadelphia, Pennsylvania	4,396,000	\$32,182.44	\$28,935.51	11.221%
27	Pittsburgh Steelers	Pittsburgh, Pennsylvania	1,845,000	\$28,627.61	\$28,935.51	-1.064%
28	San Francisco 49ers	San Francisco, California	2,529,000	\$39,977.88	\$34,743.60	15.065%
29	Seattle Seahawks	DNE in 1970	DNE in 1970	DNE in 1970	DNE in 1970	DNE
30	Tampa Bay Buccaneers	DNE in 1970	DNE in 1970	DNE in 1970	DNE in 1970	DNE
31	Tennessee Titans	Houston, Texas	1,693,000	\$29,670.27	\$26,465.32	12.110%
32	Washington Commanders	Washington D.C.	2,488,000	\$40,628.67	\$38,683.31	5.029%

Table 3 shows the information about the NFL franchises in 1970. The team that had the highest per capita personal income belonged to the Washington Commanders which plays in

Washington D.C. The team that had the lowest per capita personal income belonged to the Atlanta Falcons which is in Atlanta, Georgia. This is a very similar result to the NBA findings where also in 1970, the city with the lowest per capita personal was also Atlanta where the Hawks played in

Table 4: NFL Data from 2021

NFL	2021		MSA Population	MSA Income (Base Year 2021)	State Income (Base Year 2021)	% Change
Team ID	Team	Location				
1	Arizona Cardinals	Glendale, Arizona	4,584,000	\$58,308	\$55,487	5.084%
2	Atlanta Falcons	Atlanta, Georgia	5,911,000	\$63,219	\$55,786	13.324%
3	Baltimore Ravens	Baltimore, Maryland	2,333,000	\$70,490	\$69,817	0.964%
4	Buffalo Bills	Buffalo, New York	886,000	\$56,808	\$76,837	-26.067%
5	Carolina Panthers	Raleigh, North Carolina	1,498,000	\$66,428	\$56,173	18.256%
6	Chicago Bears	Chicago, Illinois	8,877,000	\$71,992	\$67,244	7.061%
7	Cincinnati Bengals	Cincinnati, Ohio	1,754,000	\$63,116	\$56,879	10.965%
8	Cleveland Browns	Cleveland, Ohio	1,760,000	\$61,948	\$56,879	8.912%
9	Dallas Cowboys	Dallas, Texas	6,397,000	\$66,727	\$59,865	11.462%
10	Denver Broncos	Denver, Colorado	2,862,000	\$78,150	\$70,706	10.528%
11	Detroit Lions	Detroit, Michigan	3,530,000	\$60,965	\$56,494	7.914%
12	Green Bay Packers	Green Bay, Wisconsin	323,417	\$58,240	\$59,626	-2.324%
13	Houston Texans	Houston, Texas	7,210,000	\$64,837	\$59,865	8.305%
14	Indianapolis Colts	Indianapolis, Indiana	1,833,000	\$65,805	\$56,497	16.475%
15	Jacksonville Jaguars	Jacksonville, Florida	1,297,000	\$59,271	\$62,270	-4.816%
16	Kansas City Chiefs	Kansas City, Missouri	1,698,000	\$61,410	\$55,325	10.999%
17	Las Vegas Raiders	Las Vegas, Nevada	2,772,000	\$58,276	\$60,213	-3.217%
18	Los Angeles Chargers	Los Angeles, California	12,459,000	\$75,821	\$76,614	-1.035%
19	Los Angeles Rams	Los Angeles, California	12,459,000	\$75,821	\$76,614	-1.035%
20	Miami Dolphins	Miami, Florida	6,167,000	\$73,522	\$62,270	18.070%
21	Minnesota Vikings	Minneapolis, Minnesota	2,946,000	\$71,912	\$66,280	8.497%
22	New England Patriots	Foxborough, Massachusetts	4,315,000	\$92,290	\$83,653	10.325%
23	New Orleans Saints	New Orleans, Louisiana	998,000	\$61,327	\$54,217	13.114%
24	New York Giants	East Rutherford, New Jersey	18,823,000	\$85,136	\$77,016	10.543%
25	New York Jets	East Rutherford, New Jersey	18,823,000	\$85,136	\$77,016	10.543%
26	Philadelphia Eagles	Philadelphia, Pennsylvania	5,734,000	\$72,379	\$64,279	12.601%
27	Pittsburgh Steelers	Pittsburgh, Pennsylvania	1,700,000	\$65,730	\$64,279	2.257%
28	San Francisco 49ers	San Francisco, California	3,313,000	\$123,711	\$76,614	61.473%
29	Seattle Seahawks	Seattle, Washington	3,461,000	\$89,274	\$73,775	21.008%
30	Tampa Bay Buccaneers	Tampa, Florida	2,911,000	\$58,315	\$62,270	-6.351%
31	Tennessee Titans	Nashville, Tennessee	1,272,000	\$70,026	\$56,560	23.808%
32	Washington Commanders	Washington D.C.	5,378,000	\$96,873	\$96,477	0.410%

Table 4 shows the information about the NFL franchises in 2021. The team that had the highest per capita personal income belonged to the 49ers who plays in San Francisco, California. The Bay area was the seventh biggest market size area in 2021. The team that had the lowest per capita personal income belonged to the Bills which plays in Buffalo, New York. Buffalo is the

31st biggest market in the NFL or the 2nd lowest market. Here, the team that plays in a city with the lowest per capita personal income is in a really small market. The highest MSA population is 18,823,000 which belongs to the Tri-State area. The New York Giants and the New York Jets are in that area. The lowest MSA population was 323,417 which belongs to Green Bay, Wisconsin where the Green Bay Packers play in. Green Bay is the smallest market in the NFL.

Table 5: MLB Data from 1970:

MLB Team ID	Team	1970 Location	MSA Population	MSA Income (Base Year 2021)	State Income (Base Year 2021)	% Change
1	Arizona Diamondbacks	DNE in 1970	DNE in 1970	DNE in 1970	DNE in 1970	DNE
2	Atlanta Braves	Atlanta, Georgia	1,182,000	\$24,785.87	\$28,921.51	-14.300%
3	Baltimore Orioles	Baltimore, Maryland	1,555,000	\$31,468.68	\$34,057.83	-7.602%
4	Boston Red Sox	Boston, Massachusetts	3,187,000	\$33,379.05	\$31,853.55	4.789%
5	Chicago Cubs	Chicago, Illinois	7,106,000	\$34,603.65	\$32,413.37	6.757%
6	Chicago White Sox	Chicago, Illinois	7,106,000	\$34,603.65	\$32,413.37	6.757%
7	Cincinnati Reds	Cincinnati, Ohio	1,202,000	\$28,655.60	\$28,949.50	-1.015%
8	Cleveland Guardians	Cleveland, Ohio	1,954,000	\$32,406.37	\$28,949.50	11.941%
9	Colorado Rockies	Denver, Colorado	1,054,000	\$33,281.08	\$30,020.15	10.862%
10	Detroit Tigers	Detroit, Michigan	3,966,000	\$32,273.41	\$29,390.36	9.810%
11	Houston Astros	Houston, Texas	1,693,000	\$29,670.27	\$26,465.32	12.110%
12	Kansas City Royals	Kansas City, Missouri	1,086,000	\$30,412.02	\$27,605.94	10.165%
13	Los Angeles Angels	Anaheim, California	8,378,000	\$35,422.38	\$34,743.60	1.954%
14	Los Angeles Dodgers	Los Angeles, California	8,378,000	\$35,422.38	\$34,743.60	1.954%
15	Miami Marlins	Miami, Florida	2,141,000	\$33,274.08	\$28,907.52	15.105%
16	Milwaukee Brewers	Milwaukee, Wisconsin	1,251,000	\$31,979.51	\$27,906.84	14.594%
17	Minnesota Twins	Minneapolis, Minnesota	1,706,000	\$32,966.18	\$28,809.55	14.428%
18	New York Mets	Queens, New York	16,191,000	\$37,017.85	\$34,728.70	6.592%
19	New York Yankees	Bronx, New York	16,191,000	\$37,017.85	\$34,728.70	6.592%
20	Oakland Athletics	Oakland, California	2,529,000	\$39,977.88	\$34,743.60	15.065%
21	Philadelphia Phillies	Philadelphia, Pennsylvania	4,396,000	\$32,182.44	\$28,935.51	11.221%
22	Pittsburgh Pirates	Pittsburgh, Pennsylvania	1,845,000	\$28,627.61	\$28,935.51	-1.064%
23	San Diego Padres	San Diego, California	1,209,000	\$35,968.20	\$34,743.60	3.525%
24	San Francisco Giants	San Francisco, California	2,529,000	\$39,977.88	\$34,743.60	15.065%
25	Seattle Mariners	DNE in 1970	DNE in 1970	DNE in 1970	DNE in 1970	DNE
26	St. Louis Cardinals	St. Louis, Missouri	1,882,000	\$30,544.98	\$27,605.94	10.646%
27	Tampa Bay Rays	DNE in 1970	DNE in 1970	DNE in 1970	DNE in 1970	DNE
28	Texas Rangers	Arlington, Texas	2,025,000	\$30,335.05	\$26,465.32	14.622%
29	Toronto Blue Jays	DNE in 1970	DNE in 1970	DNE in 1970	DNE in 1970	DNE
30	Washington Nationals	Montreal, Quebec, Canada	2,684,000	Couldn't Find Info	Couldn't Find Info	DNE

Table 5 shows the information about the MLB franchises in 1970. The team that had the highest per capita personal income belonged to the Giants which played in San Francisco in 1970. The team that had the lowest per capita personal income belonged to the Atlanta Braves which is in Atlanta, Georgia. This is a very similar result to the NBA and the NFL findings where also in 1970, the city with the lowest per capita personal was also Atlanta where the Braves played in.

Table 6: MLB Data from 2021

MLB Team ID	Team	2021 Location	MSA Population	MSA Income (Base Year 2021)	State Income (Base Year 2021)	% Change
1	Arizona Diamondbacks	Phoenix, Arizona	4,584,000	\$58,308	\$55,487	5.084%
2	Atlanta Braves	Atlanta, Georgia	5,911,000	\$63,219	\$55,786	13.324%
3	Baltimore Orioles	Baltimore, Maryland	2,333,000	\$70,490	\$69,817	0.964%
4	Boston Red Sox	Boston, Massachusetts	4,315,000	\$92,290	\$83,653	10.325%
5	Chicago Cubs	Chicago, Illinois	8,877,000	\$71,992	\$67,244	7.061%
6	Chicago White Sox	Chicago, Illinois	8,877,000	\$71,992	\$67,244	7.061%
7	Cincinnati Reds	Cincinnati, Ohio	1,754,000	\$63,116	\$56,879	10.965%
8	Cleveland Guardians	Cleveland, Ohio	1,760,000	\$61,948	\$56,879	8.912%
9	Colorado Rockies	Denver, Colorado	2,862,000	\$78,150	\$70,706	10.528%
10	Detroit Tigers	Detroit, Michigan	3,530,000	\$60,965	\$56,494	7.914%
11	Houston Astros	Houston, Texas	7,210,000	\$64,837	\$59,865	8.305%
12	Kansas City Royals	Kansas City, Missouri	1,698,000	\$61,410	\$55,325	10.999%
13	Los Angeles Angels	Los Angeles, California	12,459,000	\$75,821	\$76,614	-1.035%
14	Los Angeles Dodgers	Los Angeles, California	12,459,000	\$75,821	\$76,614	-1.035%
15	Miami Marlins	Miami, Florida	6,167,000	\$73,522	\$62,270	18.070%
16	Milwaukee Brewers	Milwaukee, Wisconsin	1,443,000	\$65,803	\$59,626	10.360%
17	Minnesota Twins	Minneapolis, Minnesota	2,946,000	\$71,912	\$66,280	8.497%
18	New York Mets	Queens, New York	18,823,000	\$85,136	\$76,837	10.801%
19	New York Yankees	Bronx, New York	18,823,000	\$85,136	\$76,837	10.801%
20	Oakland Athletics	Oakland, California	3,313,000	\$123,711	\$76,614	61.473%
21	Philadelphia Phillies	Philadelphia, Pennsylvania	5,734,000	\$72,379	\$64,279	12.601%
22	Pittsburgh Pirates	Pittsburgh, Pennsylvania	1,700,000	\$65,730	\$64,279	2.257%
23	San Diego Padres	San Diego, California	3,372,000	\$72,637	\$76,614	-5.191%
24	San Francisco Giants	San Francisco, California	3,313,000	\$123,711	\$76,614	61.473%
25	Seattle Mariners	Seattle, Washington	3,461,000	\$89,274	\$73,775	21.008%
26	St. Louis Cardinals	St. Louis, Missouri	2,216,000	\$64,769	\$55,325	17.070%
27	Tampa Bay Rays	Tampa, Florida	2,911,000	\$58,315	\$62,270	-6.351%
28	Texas Rangers	Arlington, Texas	6,397,000	\$66,727	\$59,865	11.462%
29	Toronto Blue Jays	Toronto, Ontario, Canada	6,202,225	Couldn't Find Info	Couldn't Find Info	DNE
30	Washington Nationals	Washington D.C.	5,378,000	\$96,873	\$96,477	0.410%

Table 6 shows the information about the MLB franchises in 2021. The team that had the highest per capita personal income belonged to the Giants who plays in San Francisco, California. This result is the same just like in 1970. The team that had the lowest per capita personal income belonged to the Diamondbacks which plays in Phoenix, Arizona. The highest MSA population is 18,823,000 which belongs to the Tri-State area. The New York Yankees and the New York Mets are in that area. The lowest MSA population was 323,417 was belongs to Milwaukee, Wisconsin where the Milwaukee Brewers play in.

Table 7: NHL Data from 1970

NHL Team ID	Team	1970 Location	MSA Population	MSA Income (Base Year 2021)	State Income (Base Year 2021)	% Change
1	Anaheim Ducks	DNE in 1970	DNE in 1970	DNE in 1970	DNE in 1970	DNE
2	Arizona Coyotes	DNE in 1970	DNE in 1970	DNE in 1970	DNE in 1970	DNE
3	Boston Bruins	Boston, Massachusetts	3,187,000	\$33,379.05	\$31,853.55	4.789%
4	Buffalo Sabres	Buffalo, New York	1,084,000	\$29,348.37	\$34,428.70	-14.756%
5	Calgary Flames	DNE in 1970	DNE in 1970	DNE in 1970	DNE in 1970	DNE
6	Carolina Hurricanes	DNE in 1970	DNE in 1970	DNE in 1970	DNE in 1970	DNE
7	Chicago Blackhawks	Chicago, Illinois	7,106,000	\$34,603.65	\$32,413.37	6.757%
8	Colorado Avalanche	DNE in 1970	DNE in 1970	DNE in 1970	DNE in 1970	DNE
9	Columbus Blue Jackets	DNE in 1970	DNE in 1970	DNE in 1970	DNE in 1970	DNE
10	Dallas Stars	Dallas, Texas	2,025,000	\$30,335.05	\$26,465.32	14.622%
11	Detroit Red Wings	Detroit, Michigan	3,966,000	\$32,273.41	\$29,390.36	9.810%
12	Edmonton Oilers	DNE in 1970	DNE in 1970	DNE in 1970	DNE in 1970	DNE
13	Florida Panthers	DNE in 1970	DNE in 1970	DNE in 1970	DNE in 1970	DNE
14	Los Angeles Kings	Los Angeles, California	8,378,000	\$35,422.38	\$34,743.60	1.954%
15	Minnesota Wild	DNE in 1970	DNE in 1970	DNE in 1970	DNE in 1970	DNE
16	Montreal Canadiens	Montreal, Quebec Canada	2,684,000	Couldn't Find Info	Couldn't Find Info	DNE
17	Nashville Predators	DNE in 1970	DNE in 1970	DNE in 1970	DNE in 1970	DNE
18	New Jersey Devils	DNE in 1970	DNE in 1970	DNE in 1970	DNE in 1970	DNE
19	New York Islanders	DNE in 1970	DNE in 1970	DNE in 1970	DNE in 1970	DNE
20	New York Rangers	New York, New York	16,191,000	\$37,017.85	\$34,728.70	6.592%
21	Ottawa Senators	DNE in 1970	DNE in 1970	DNE in 1970	DNE in 1970	DNE
22	Philadelphia Flyers	Philadelphia, Pennsylvania	4,396,000	\$32,182.44	\$28,935.51	11.221%
23	Pittsburgh Penguins	Pittsburgh, Pennsylvania	1,845,000	\$28,627.61	\$28,935.51	-1.064%
24	San Jose Sharks	DNE in 1970	DNE in 1970	DNE in 1970	DNE in 1970	DNE
25	Seattle Kraken	DNE in 1970	DNE in 1970	DNE in 1970	DNE in 1970	DNE
26	St. Louis Blues	St. Louis, Missouri	1,882,000	\$30,544.98	\$27,605.94	10.646%
27	Tampa Bay Lightning	DNE in 1970	DNE in 1970	DNE in 1970	DNE in 1970	DNE
28	Toronto Maple Leafs	Toronto, Ontario, Canada	2,535,000	Couldn't Find Info	Couldn't Find Info	DNE
29	Vancouver Canucks	Vancouver, British Columbia, Canada	1,045,000	Couldn't Find Info	Couldn't Find Info	DNE
30	Vegas Golden Knights	DNE in 1970	DNE in 1970	DNE in 1970	DNE in 1970	DNE
31	Washington Capitals	DNE in 1970	DNE in 1970	DNE in 1970	DNE in 1970	DNE
32	Winnipeg Jets	DNE in 1970	DNE in 1970	DNE in 1970	DNE in 1970	DNE

Table 7 shows the information about the NHL franchises in 1970. The team that had the highest per capita personal income belonged to the Rangers which played in New York City in 1970. The team that had the lowest per capita personal income belonged to the Pittsburgh Penguins which is in Pittsburgh, Pennsylvania. There is a lot of missing information from this table. Most NHL franchises that exist now did not exist back in 1970. A grand total of 19 teams did not exist in 1970 and only 13 did exist.

Table 8: NHL Data from 2021

NHL		2021				
Team ID	Team	Location	MSA Population	MSA Income (Base Year 2021)	State Income (Base Year 2021)	% Change
1	Anaheim Ducks	Anaheim, California	12,459,000	\$75,821	\$76,614	-1.035%
2	Arizona Coyotes	Glendale, Arizona	5,484,000	\$58,308	\$55,487	5.084%
3	Boston Bruins	Boston, Massachusetts	4,315,000	\$92,290	\$83,653	10.325%
4	Buffalo Sabres	Buffalo, New York	886,000	\$56,808	\$76,837	-26.067%
5	Calgary Flames	Calgary, Alberta, Canada	1,581,000	Couldn't Find Info	Couldn't Find Info	DNE
6	Carolina Hurricanes	Raleigh, North Carolina	1,498,000	\$66,428	\$56,173	18.256%
7	Chicago Blackhawks	Chicago, Illinois	8,877,000	\$71,992	\$67,244	7.061%
8	Colorado Avalanche	Denver, Colorado	2,862,000	\$78,150	\$70,706	10.528%
9	Columbus Blue Jackets	Columbus, Ohio	1,666,000	\$59,867	\$56,879	5.253%
10	Dallas Stars	Dallas, Texas	6,397,000	\$66,727	\$59,865	11.462%
11	Detroit Red Wings	Detroit, Michigan	3,530,000	\$60,965	\$56,494	7.914%
12	Edmonton Oilers	Edmonton, Canada	1,519,000	Couldn't Find Info	Couldn't Find Info	DNE
13	Florida Panthers	Sunrise, Florida	6,167,000	\$73,522	\$62,270	18.070%
14	Los Angeles Kings	Los Angeles, California	12,459,000	\$75,821	\$76,614	-1.035%
15	Minnesota Wild	St. Paul, Minnesota	2,946,000	\$71,912	\$66,280	8.497%
16	Montreal Canadiens	Montreal, Quebec, Canada	4,247,000	Couldn't Find Info	Couldn't Find Info	DNE
17	Nashville Predators	Nashville, Tennessee	1,272,000	\$70,026	\$56,560	23.808%
18	New Jersey Devils	Newark, New Jersey	18,823,000	\$85,136	\$77,016	10.543%
19	New York Islanders	Long Island, New York	18,823,000	\$85,136	\$76,837	10.801%
20	New York Rangers	New York, New York	18,823,000	\$85,136	\$76,837	10.801%
21	Ottawa Senators	Ottawa, Canada	1,408,000	Couldn't Find Info	Couldn't Find Info	DNE
22	Philadelphia Flyers	Philadelphia, Pennsylvania	5,734,000	\$72,379	\$64,279	12.601%
23	Pittsburgh Penguins	Pittsburgh, Pennsylvania	1,700,000	\$65,730	\$64,279	2.257%
24	San Jose Sharks	San Jose, California	1,799,000	\$136,338	\$76,614	77.954%
25	Seattle Kraken	Seattle, Washington	3,461,000	\$89,274	\$73,775	21.008%
26	St. Louis Blues	St. Louis, Missouri	2,216,000	\$64,769	\$55,325	17.070%
27	Tampa Bay Lightning	Tampa, Florida	2,911,000	\$58,315	\$62,270	-6.351%
28	Toronto Maple Leafs	Toronto, Ontario, Canada	6,255,000	Couldn't Find Info	Couldn't Find Info	DNE
29	Vancouver Canucks	Vancouver, British Columbia, Canada	2,606,000	Couldn't Find Info	Couldn't Find Info	DNE
30	Vegas Golden Knights	Las Vegas, Nevada	2,772,000	\$58,276	\$60,213	-3.217%
31	Washington Capitals	Washington D.C.	5,378,000	\$96,873	\$96,477	0.410%
32	Winnipeg Jets	Winnipeg, Manitoba, Canada	825,000	Couldn't Find Info	Couldn't Find Info	DNE

Table 8 shows the information about the NHL franchises in 2021. There is a significant increase in the number of teams that the NHL had in 2021 compared to 1970. The team that had the highest per capita personal income belonged to the Sharks who plays in San Jose, California. The team that had the lowest per capita personal income belonged to the Sabres which plays in Buffalo, New York. The highest MSA population (excluding Canadian teams) is 18,823,000 which belongs to the Tri-State area. The New York Rangers and the New York Islanders are located in that area. The lowest MSA population (excluding Canadian teams) was 886,000 which belongs to Buffalo, New York where the Buffalo Sabres play in.

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