

Take Me Out to the Ball Game: Market Areas and the Urban Hierarchy

► INTRODUCTION

Although the uninitiated can look at a map of the United States or any other country and see a hodgepodge of cities—some big, some small, some close together, and others far apart—geographers see an interconnected, logically spaced system of cities (Figure 9.1). The key to understanding the nature of this system is to recognize that cities perform economic functions. Some of these functions are highly particular, for example, automobile production in Detroit, aerospace in Seattle, entertainment in Los Angeles, defense in San Diego, government in Washington, D.C., and tourism in Las Vegas. The growth and decline of cities is often keyed to the fates of their basic industries (see Chapter 6). Houston's celebrated boom and bust during the 1980s was strongly linked to the rapid rise and then spectacular fall of oil-related industries during the decade.

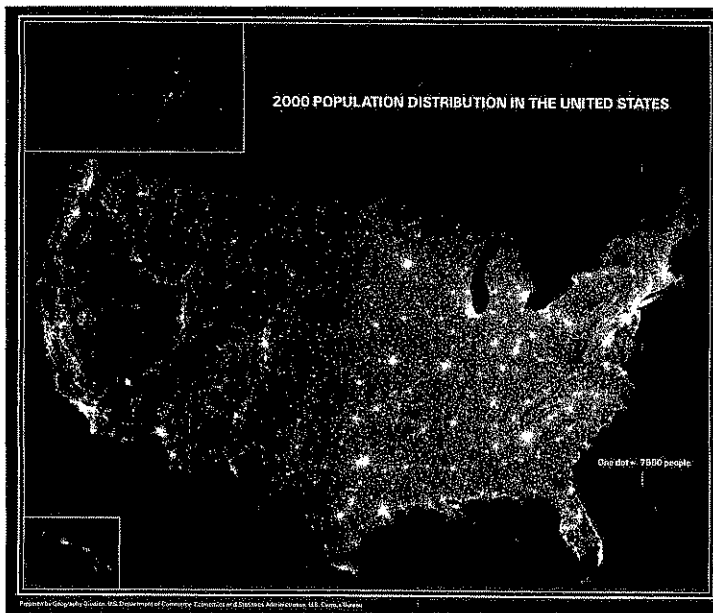


Figure 9.1 Dot map of 2000 U.S. population.

Source: U.S. Census Bureau.

Although these unique functions help us to understand growth and decline of cities in the urban system, the nature of the system itself is more strongly related to the more generic functions that all cities perform. Most cities offer a surprisingly similar array of goods and services for their residents and the people in surrounding areas. The same can be said of towns and villages, although the areas they serve are smaller and the goods they provide are fewer (Figure 9.2). Generally, we can talk about any city or town as a **central place** to which people travel in order to make purchases, and the areas that people travel *from* as their **market areas**. A market area is one example of the functional regions discussed in Chapter 2.

A **central place function** is a good or service that is provided by the central place for its trade area. These functions have an **order** or relative ranking based on how specialized they are, how large a market area is needed to keep them in business (**threshold**), and how far people are willing to travel to obtain them (**range**). A low-order central place function is obtained on a regular basis, it requires only a small market area to be profitable, and people are unwilling to travel far to obtain it. A grocery store is a classic example of a low-order central place function (Figure 9.3a). You probably purchase food regularly; you are reluctant to travel a great distance for these purchases, and the market areas for these products are small. A high-order central place function, such as a hospital, is required less frequently; you are willing to travel farther for it, and it requires a larger market area to remain profitable (Figure 9.3c). A shop selling oriental carpets, a toxicology lab, and an automobile repair shop specializing in Porsches are other high-order central place functions. Medium-order functions, such as lawyers, movie theaters, and shoe stores, require market areas of an in-between size (Figure 9.3b).

Medical doctors can be ordered by their functions, with family doctors, pediatricians, and obstetricians and gynecologists providing relatively low-order functions. We are not saying that their jobs are unimportant. We are saying that they see patients on a fairly regular basis, and they can be found in most small- and medium-sized towns. At the other end of the medical spectrum, a neurosurgeon and a cornea-transplant specialist provide higher-order central place functions and are found only in large cities.

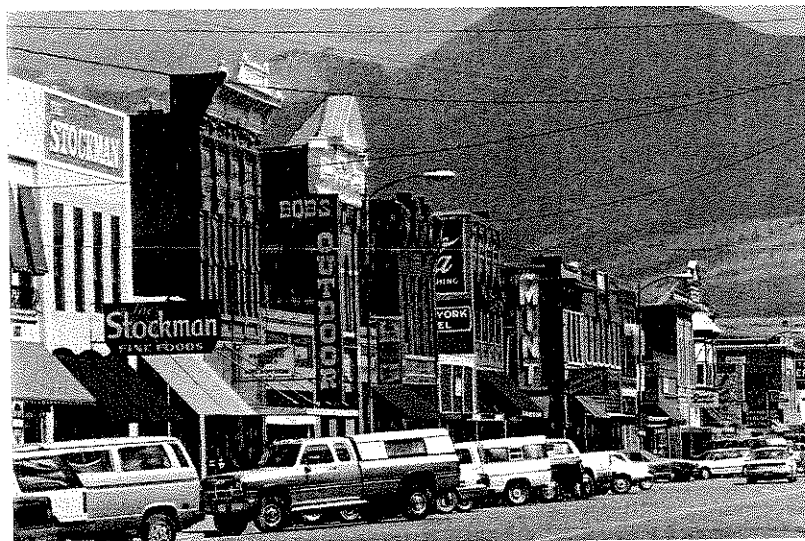


Figure 9.2 Main-street storefronts of Livingston, Montana.

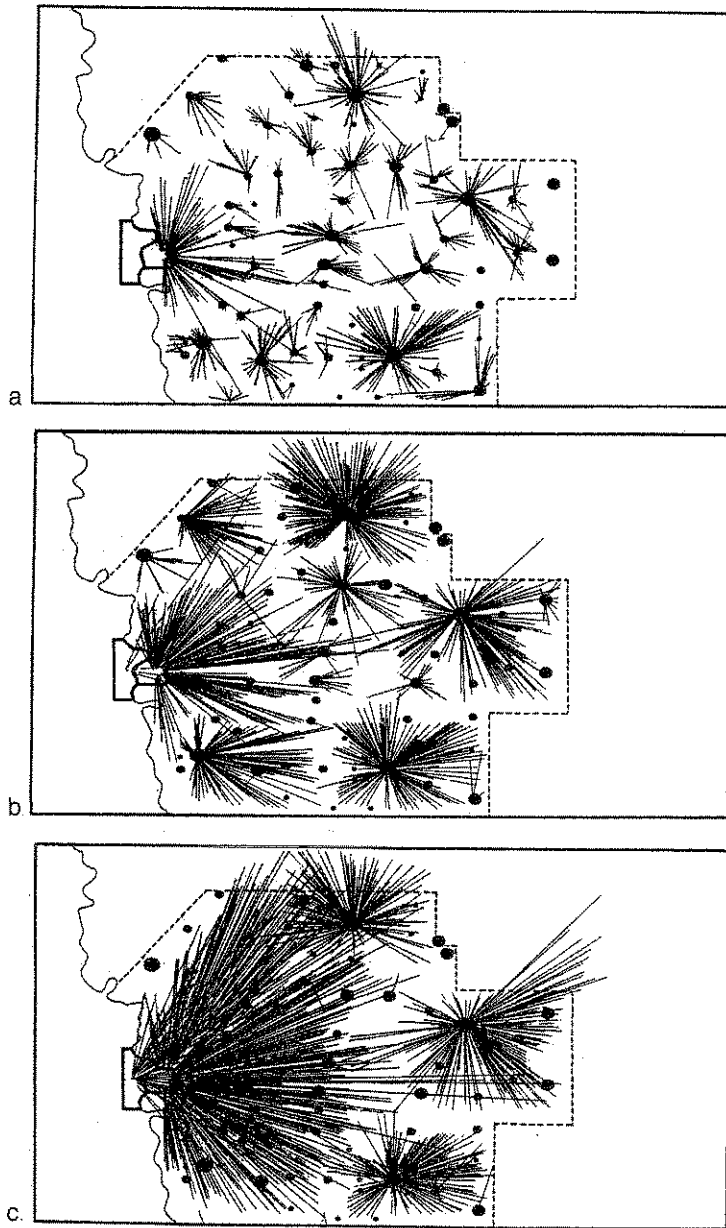


Figure 9.3 Farmers' shopping preferences in southwest Iowa in 1934 for (a) food, (b) lawyers, and (c) hospitals.

Source: Berry, Brian. 1967. *Geography of Market Centers and Retail Distribution*. Reprinted by permission of Pearson Education, Inc., Upper Saddle River, NJ, 07458.

Central place functions are provided in an **urban hierarchy**. We talked about hierarchical effects as they affect spatial diffusion in Chapter 3. The idea is the same here. Cities are organized into a hierarchy according to their size and importance. Importance in this context stems from whether they offer low- or high-order central place functions. Cities at the bottom of the urban hierarchy offer only low-order functions. Low-order cities are small, many in number, and relatively close together. Mid-sized cities offer low-order goods and services for their residents as well as medium-order functions for themselves and for those living in smaller cities within

► CASE STUDY

TAKE ME OUT TO THE BALL GAME

GOAL

To understand the geography of cities and towns as a system rather than as a haphazard distribution. You will analyze the relationship between the size of a city and the goods and services provided there, learn how to estimate thresholds, and use a geographic information system to study the market areas of major- and minor-league teams.

LEARNING OUTCOMES

After completing the chapter, you will be able to:

- Differentiate between low- and high-order goods and services.
- Construct and interpret a scatter diagram using a logarithmic scale.
- Estimate the minimum market size necessary to support a central place function.
- Relate high- and low-order goods and services to a city's position in the urban hierarchy.
- Use a geographic information system (GIS) to modify market areas.

SPECIAL MATERIALS NEEDED

- Calculator
- Computer with high-speed Internet access and Internet Explorer 6.0 and above. Click on *Help* for system requirements and technical support.
- Access to an Internet business telephone directory

BACKGROUND

Where was the game of baseball started? What caused the need for expansion? How did the geography evolve over time?

The origins of baseball are in dispute. Conventional wisdom in the United States is that the modern game was invented by Abner Doubleday in 1839. Doubleday, a cadet at Otsego Academy in Cooperstown, New York, is often credited with drawing the first diagram of the field and writing the first set of basic rules. Historians, however, are skeptical of this scenario because the original diagram and rules cannot be found, and, with the exception of a close friend of Doubleday, no one in the area remembered anything about it.

A more plausible theory, and what most historians believe, is that the game dates back to the late eighteenth century when English boys played a game they called "rounders." Americans had played a version of this game since the early nineteenth century, although the names and rules of the game varied from place to place. Sources report the growing popularity of games called "town ball," "one old cat," "stick ball," "base," and "base ball."

Another myth about baseball is that it is a rural, small-town sport when, in fact, what we now know as baseball began in New York City, the birthplace of so many U.S. innovations. During the summer of 1842, a group of young gentlemen got together

in Manhattan to play some version of the game, depending upon who showed up. At the behest of Alexander Cartwright, a 28-year-old shipping clerk, the group formally established themselves in 1845 as the New York Knickerbocker Base Ball Club. The Knickerbockers developed a standard set of rules, including the diamond-shaped playing field, foul lines, three missed swings make an out, and most important, runners were to be tagged or thrown out—not thrown at. Over the years, the Knickerbockers gradually refined the rules into the game we know today.

In the mid-eighteenth century, thousands of European immigrants flooded New York City—many of them young, male, and unmarried. Seeking leisure-time pursuits, they embraced baseball and began forming clubs. In 1857, a convention of amateur teams was called to discuss rules and other issues, and the following year they formed the National Association of Base Ball Players. Originally, the association contained 10 teams, all based in New York and neighboring areas; but not long after, Boston and Philadelphia franchises joined the league, giving wider coverage around the urban northeastern seaboard.

Baseball continued to gain popularity and to spread outward from its core in the Northeast. By 1861 there were 62 clubs in the National Association of Baseball Players, including clubs in Maine, Oregon, and California. The game was very popular with soldiers from both sides in the Civil War because it could be organized very easily without need for special equipment or facilities.

As the leagues grew, so did expenses. Teams began to charge admission and seek out donations or sponsors to make trips. Although the league was supposed to be composed of amateurs, players were secretly paid, and some were given jobs by sponsors. In 1869 the Cincinnati Red Stockings was the first team to pay players. The team attracted the best players and amassed a record of 65 wins and no losses. The idea of paid players quickly caught on.

The National Association of Professional Base Ball Players (forerunner to the National League) was founded in 1871 with nine teams—the Boston Red Stockings, Chicago White Stockings, Philadelphia Athletics, New York Mutuals, Washington Olympics, Troy (New York) Haymakers, Forest Way Kekiongas, Cleveland Forest Citys, and the Rockford Forest Citys—but quickly grew to 12 teams (Figure 9.6). National League owners maintained a tight grip on the game, crushing competition from other leagues and instituting a so-called reserve clause in players' contracts, restricting them to play for their current employer in perpetuity. When in 1899 the National League dropped its four least-profitable teams, an Ohioan named Ban Johnson, owner of a struggling circuit of minor-league teams, added new clubs in Boston, Philadelphia, Baltimore, and Washington, D.C., and declared his league the American League, competing head-to-head with the National League for players and fans. In 1903 the two leagues signed a national agreement promising to honor each other's contracts and retain the reserve clause.

▶ CASE STUDY (continued)



Figure 9.6 Troy Haymakers.

At the turn of the century, major-league baseball was a big-city monopoly with teams in large industrial cities of the Northeast and Midwest (Figure 9.7). As high-order **central places**, these cities had large market **thresholds** to support a major-league baseball team—a very specialized entertainment activity and high-order central place function. The cities at the top of the **urban hierarchy** in 1900 dominated the sport. In fact, the five largest cities each had large enough populations to support multiple teams. New York, by far the biggest city, had three teams, followed in order by Chicago, Philadelphia, St. Louis, and Boston, all of which had two teams.

Between 1900 and 1950, baseball became one of the biggest entertainment industries in the country. Baseball became the national pastime. It drew huge audiences and fired population interest in charismatic players, such as Ty Cobb, Babe Ruth, Ted Williams, and Joe DiMaggio. Teams were concentrated in the urban Northeast and industrial Midwest, where the **market areas** were large enough to support team payrolls and operating expenses.

When President Roosevelt instituted the military draft at the start of World War II in 1940, every profession, including baseball, was affected. Starring players of both the major and minor leagues responded to their draft notices or enlisted. Despite the loss of many young players, President Roosevelt decreed that the game continue to be played to boost morale and provide entertainment. Baseball also was played overseas

to ease the anguish and boredom of war. Former professional stars played alongside sandlot players and high school athletes, and complicated league structures were established. The war years also introduced baseball to an international audience, particularly in Britain, where U.S. military teams played in local soccer, rugby, and cricket stadiums. To keep the troops occupied after hostilities ended in Europe, the military started a “Personal Athletic and Recreation Program” featuring baseball in May 1944. By midsummer, 200,000 troops were playing in competitive leagues, and military duties were scheduled around their games. More than 50,000 military personnel watched the Overseas Invasion Service Expedition play the 71st Infantry Division in the World Series of Europe that fall.

During the twentieth century, baseball reflected the changing ethnic relations of society in general. In 1947, the white-only segregated status of the game changed when Jackie Robinson of the Brooklyn Dodgers became the first African-American to play in a major-league game (Figure 9.8). Nearly three decades after the color barrier was broken, however, “Hammerin’ Hank” Aaron was taunted and threatened as he eclipsed Babe Ruth’s career home-run record. Earlier, two-time MVP Hank Greenberg had been an important symbolic figure for Jewish Americans during the rise of Hitler and the Nazis. More recently, Latin American, Japanese, and Korean stars have emerged as baseball has diffused around the world, especially to countries with strong U.S. ties.

► CASE STUDY (continued)

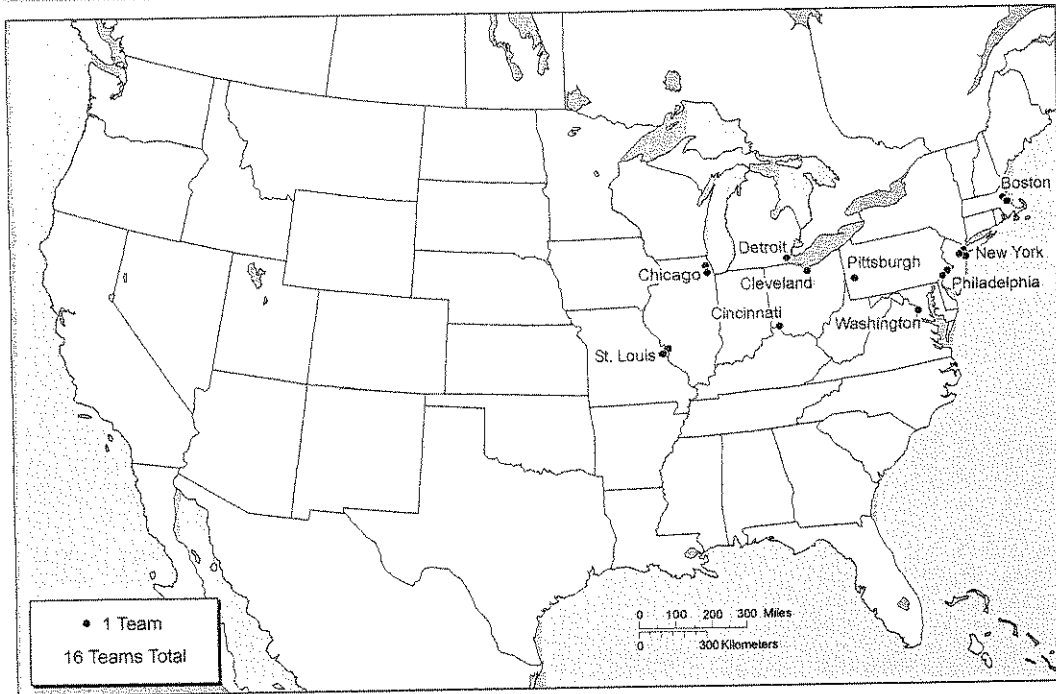


Figure 9.7 Major-league baseball teams, 1903.

Attendance began to fall in the early 1950s (from 21 million in 1948 to 17 million in 1952) because of increased television coverage, shifts in population, and obsolete, inner-city ballparks. Television provided baseball for free and broke people of the habit of going to the ballpark. With the advent of television, many fans shifted from in-park spectators to at-home television viewers, and the idea of a market area moved from a fan base large enough to support ticket sales to a television audience big enough to support television advertisements. The **range** for major-league baseball lengthened, as television allowed people to “consume” baseball farther from their homes. A second factor for reducing attendance at games was white exodus from the older eastern and midwestern cities to suburbs and to cities of the South and West. Third, all but three major-league ballparks had been built between 1915 and 1923 and did not provide the amenities that Americans had come to expect. Many owners tried to modernize their old-fashioned parks with electronic scoreboards. Yankee Stadium’s scoreboard had several men behind it, operating more than five thousand keys!

After five decades of competition, Brooklyn finally won the World Series in 1955 only to be faced with the ultimate heart-break two years later: the move of the beloved Dodgers to Los Angeles. Los Angeles had come from nowhere to become the fourth-largest city in America by 1950. Its market area was well above what was needed to support a major-league baseball team, but California was, at the time, geographically isolated from the baseball heartland of the Northeast. Demographics are destiny, however, and soon there was a move afoot to seed baseball on the West Coast. Walter O’Malley, the Dodgers owner, asked the City of New York to build the Dodgers a new stadium



Figure 9.8 Jackie Robinson remains a symbol of desegregation in sports and an inspiration for baseball fans, especially minorities in the city.

► CASE STUDY (continued)

in Brooklyn. When the city turned him down, he began to look for greener pastures. Los Angeles offered good television potential, and there were promises to build a new stadium. A major impediment was that the Dodgers would be the only team in the West and thus geographically isolated from the rest of baseball. O'Malley approached fellow New Yorker Horace Stoneham, owner of the New York Giants, about the possibility of a two-club move: the Dodgers to Los Angeles and the Giants to San Francisco. With his outdated park, declining attendance, and limited television revenue, Stoneham agreed to the move, and the Giants–Dodgers rivalry was transplanted to the West Coast. New York, the cultural hearth of baseball, was left with only one major-league team.

The moves of the Dodgers and Giants to the West Coast were part of a flurry of moves in the late 1950s and early 1960s that reflected population growth of cities in the Midwest and California (Figure 9.9). The Boston Braves moved to Milwaukee in 1953; the St. Louis Browns became the Baltimore Orioles in 1954; the Philadelphia Athletics moved to Kansas City in 1955; and the Washington Senators became the Minnesota Twins in 1961. Nevertheless, many regions of the country were still not represented. With television offering a wider audience and demand in rapidly growing southern and western cities for teams of their own, the seeds of large-scale expansion and relocation were planted.

In 1960, a rival Continental League was established to serve the needs of Sunbelt cities. The Continental League planned head-to-head competition with the American and National Leagues. Faced with the prospect of losing their monopoly, major-league owners agreed on a compromise: to expand from

16 to 24 teams by the end of the decade. New teams were added in southern California (Angels), Washington (Senators), New York (Metropolitans, nicknamed the Mets), Houston (Colt 45s, who later became the Astros), San Diego (Padres), Montreal (Expos), Seattle (Pilots), and Kansas City (Royals), the last to replace the Kansas City Athletics, who had moved to Oakland, California.

It was inevitable that the absence of baseball in the South would be remedied with the region's post–World War II population growth and economic resurgence. As migrants from the North, with longstanding interest in baseball, relocated to the South, cities grew large enough to support a high-order **central place function** such as baseball. In 1966, the Milwaukee Braves sought to take advantage of a new, low-cost public stadium and the potential for good television ratings in Atlanta. The City of Milwaukee, owners of County Stadium where the Braves played, filed suit asserting that the move violated State of Wisconsin antitrust laws. As the Braves prepared to open their first season in Atlanta, the City of Milwaukee won the case in local court. Higher courts, however, overruled the decision, and the Braves said goodbye to Milwaukee for good. Soon thereafter, a group of local business leaders attracted the Seattle Pilots to Milwaukee and renamed the team the Brewers, after the city's long-standing heritage of beer making.

The 1960s were also a time for building new stadiums. Whereas ballparks had once been the creations of owners, now cities had to pay to attract and keep teams. Twelve new stadiums were built during the 1960s—all but Dodger Stadium with public funds. Many of these stadiums were located in the suburbs



Figure 9.9 Major-league baseball teams, 1960.

► CASE STUDY (continued)

to reflect the suburban exodus of U.S. population, and most were cavernous, concrete multipurpose structures with AstroTurf® fields designed to accommodate professional baseball and football.

Two economic issues defined baseball in the last decades of the twentieth century: continued expansion and the financial struggle between owners and players. Expansion in Seattle (Mariners) and Toronto (Blue Jays) in 1977, Colorado (Rockies) and Florida (Marlins) in 1993, and Tampa Bay (Devil Rays) and Arizona (Diamondbacks) in 1998 changed the game from two 8-team leagues in 1960 to six divisions with between 4 and 6 teams each (Figure 9.10). Through expansion and relocation, today's 30 teams cover a much broader geographic area than in 1900 but continue to be a big-city phenomenon. The huge expense of operating a major-league baseball team requires a large threshold population to support ticket sales and an even larger market area to support television advertisement. In naming themselves after states, the Florida Marlins, Colorado Rockies, and Arizona Diamondbacks are seeking to enlarge their fan base and television audience, while at the same time staying in the big cities that support season ticket sales, single-game ticket sales, and merchandising. Since 1960, players have strengthened their union and eventually won higher pay, independent arbitration, and free agency. By successfully challenging the long-standing "reserve clause," players won the right to shop themselves to the highest bidder. Salaries skyrocketed as owners outbid one another for players. Eventually, owners balked, and adversarial player-owner relations led to several work stoppages. In 1994, when owners tried to limit free agency and impose a "salary cap" on total team salaries, players went on

strike and the World Series was canceled for the first time in 89 years, leaving fans disheartened and disillusioned. Although play resumed in April 1995, it took until November 1996 to reach a labor deal.

Escalating player salaries have significant geographic implications. A more populous market area can translate into higher ticket sales and greater television revenues, which in turn allows the large-market teams to afford higher payrolls, field a more competitive team, win more games, and therefore sell more tickets, get more TV revenue, and afford even higher payrolls. This "positive feedback loop" (see Chapter 14) tends to make the rich teams richer and the poor teams poorer. Payrolls in 2005 ranged from a high of \$208 million for the New York Yankees to a low of \$30 million for the Tampa Bay Devil Rays, and the gap between the rich teams and the poor teams has been widening (Figure 9.11). The World Series winner has had the highest or second-highest payroll in 7 of the last 12 seasons. Every once in a while, however, a small-market underdog comes along and knocks off the big dog, as in 2003 when the Florida Marlins, with the twenty-fifth highest payroll (\$50 million), upset the Yankees, with their league-leading \$153 million payroll.

The economic geography of baseball nearly torpedoed the national pastime once again in 2002, when a threatened August shutdown by baseball owners was averted by a last-minute compromise. A new collective bargaining agreement valid through the 2006 season tried to balance the needs of small-market teams, large-market teams, and players. The small-market teams benefit from increased sharing of the local revenues from the large-market teams. In addition, a luxury tax is assessed on teams exceeding defined payroll thresholds (\$117 million in



Figure 9.10 Major-league baseball teams, 2005.

CASE STUDY (continued)

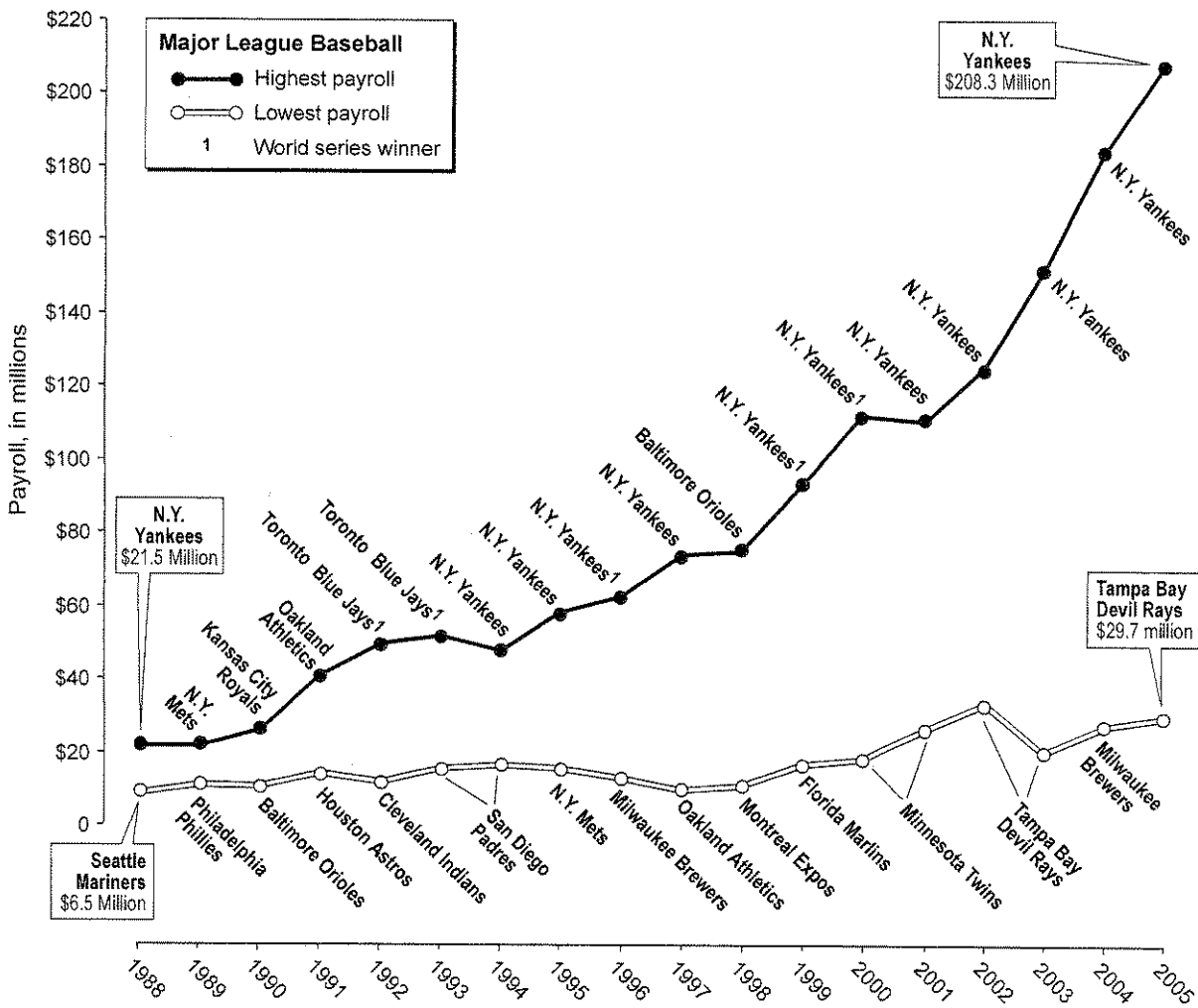


Figure 9.11 The widening payroll gap, shown here, is mirrored by a widening income gap. In 1999, the Yankees earned \$176 million in local revenue compared to just \$12 million for the Montreal Expos.

Source: ©2000, USA Today. Reprinted with permission. 2001–2005 statistics added.

2003 rising to \$136.5 million in 2006) at a rate varying from 17 to 40 percent, which is redistributed to the poorer teams. The large-market teams got something they wanted by avoiding a hard salary cap like the one in the National Football League that strictly limits how much a team can spend on player salaries (and that led to recent Super Bowl appearances by small-market teams in Tampa Bay, St. Louis, and Nashville). The rich teams can still spend what they want to sign the biggest stars. Finally, the players' union got three things they wanted. First, they received a 50 percent rise in the minimum salary from \$200,000 to \$300,000 (compared with an average of \$2.3 million and a high of \$26 million for New York Yankees third baseman Alex Rodriguez). Second, the players' union put off mandatory drug testing for steroids. Third, the owners agreed not to consider contraction—the outright elimination of teams. Contraction became an issue when the Minnesota Twins and Montreal Expos, two money-losing, small-market teams,

offered to let the other owners buy them out and put them out of business, which would have saved the other owners from having to share revenues with them in the future. The players' union objected due to the loss of jobs. Thus each party in the talks got something it wanted, and the fans won the privilege of continuing to bankroll the entire circus. All this talk of contraction seemed to light a fire under the underpaid Minnesota Twins, who then confounded the experts and their own owner by not only making the 2002 playoffs but also winning their first-round series. Thank goodness money isn't everything!

Teams today look to supplement their revenue through merchandise sales, national TV (the Atlanta Braves are owned by Ted Turner, who televises them nationally on the Turner Broadcasting System, or TBS), and corporate boxes at the stadiums. It is not uncommon today for teams to threaten to move to another city unless their host cities build for them, using public funds, a new, baseball-only stadium with many corporate

► CASE STUDY (continued)

boxes. Cities are left with the distasteful choice of subsidizing a private business or losing a significant employer, a part of the city's history, and a substantial measure of status that comes with being a "major-league city."

As of the end of the 2005 season, only Boston's Fenway Park (1912) and Chicago's Wrigley Field (1914) remained of the ballparks built before 1920, and venerable Yankee Stadium, built in 1923, was slated for replacement with a luxurious new venue. Any new locations of teams, through either expansion or relocation, must strike a balance between the financial needs of the team in question and the concerns of the other owners. New teams need to locate in large enough markets to be competitive, but they also cannot eat too much into nearby teams' markets. The Baltimore Orioles organization, which has been able to afford a high player payroll since moving into its new, retro-style stadium (Figure 9.12), surely is not thrilled by the move of the Expos from Montreal, where attendance had dropped precipitously, to Washington, D.C.—only an hour's drive away—where they are now called the Nationals.

The location of professional baseball in North America always was and continues to be a story of **central place theory**

in action. A major-league team requires a huge market area to support players' salaries and team operation expenses. It is the quintessential high-order central place function. Only big cities and large metropolitan regions have the population base and wealth to support such an economic activity. Baseball's farm system, which nurtures young talent, can afford to locate in smaller cities of the national urban hierarchy because these minor-league teams are lower-order central place functions. Baseball has responded to the changing demographics of the nation, relocating to and expanding in regions of rapid population growth and rapid urbanization. Many think of baseball in nostalgic terms as America's pastime and as a metaphor for life, and they bemoan the movement and renaming of teams. Economic and urban geographers, however, see baseball as an economic service that is provided to urban populations with adequate thresholds. As the nation's population is reorganized in response to global restructuring and demographic change, it is inevitable that urban services like baseball will follow suit. Where to locate a new franchise is one of the questions you will answer in the activities that follow.



Figure 9.12 The Baltimore Orioles moved into their new baseball-only stadium, built with state lottery money, in 1992. Its intimate retro style, brick facing, corporate boxes, and downtown location drew so many fans and generated so much revenue that it has inspired a wave of other retro, downtown stadiums in Seattle, Denver, Phoenix, Cleveland, Philadelphia, Detroit, and Pittsburgh. Named for the B&O railroad yards on which it sits, Camden Yards is located two blocks from Babe Ruth's birthplace.