

**Becoming the hard ball league:
The racial integration of baseball and the effects of monopoly on market systems**

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Introduction

In 1947 Jackie Robinson became the first African American to play baseball in the major leagues in the modern era. That event has taken on a sense of legend, transcending the narrow world of baseball, as a major landmark in the evolution of race relations in the United States. While Robinson rightly has become the principal in the legend and it is his number “42” that is posted on stadium walls across the major leagues, he was, in fact, not the agent of the events that unfolded. Robinson did not seek particularly to play in the major leagues, although he surely wanted to. In an era in which racial minorities were afforded virtually no protection of civil rights, Robinson, as an African American, had no basis, legal or otherwise, to enter the employee ranks of major league baseball.

The chief agents of Robinson’s heroism were the general manager and part-owner of the Brooklyn Dodgers, Branch Rickey, and the fellow Brooklyn ownership that allowed his path breaking experiment to move forward. Robinson did not burst suddenly upon the major league scene in 1947 and, in fact, the Brooklyn Dodgers were not the only major league organization contemplating using African Americans on their major league team. As early as 1945 Branch Rickey of the Dodgers and Bill Veeck of the Cleveland Indians had begun considering the use of African American players. In the case of the Dodgers, Rickey had Jackie Robinson closely scouted in 1945, allowed him to play in the relatively permissive northern city of Montreal for the 1946 season, and then brought him to the Dodgers beginning with spring training of the 1947 season. Larry Doby was moving through a similar process with the Indians by that time and was destined to be the first black player in the American League during the middle of the 1947 season – a few months after Robinson.

While the details of Robinson’s inspirational story have been told and retold in numerous books and biographies, a very important aspect of the story remains unclear – and it is an aspect of the story perhaps of most importance to sociologists, economists and organizational theorists – the motivation behind breaking the major league color barrier for African Americans. The traditional telling of the story generally places Branch Rickey, a deeply religious man, in the position of someone seeking justice and fairness. A man who recognized that extraordinary athletic talent was being underemployed in the Negro Leagues and that his team would benefit from using African American players. World War II had provided unprecedented opportunities for African Americans to serve alongside whites in the American armed forces and the American participation in the war was represented as yet another bold statement of the American belief in freedom for peoples across the world. As the legend goes, Robinson endured his heroic first season with the Dodgers, proceeded to become a star, and the worst predictions of the opposition – that blacks would prove inept, that there would be riots, that attendance would fall – were proven wrong. Baseball then, as if in some sense “naturally,” proceeded to desegregate itself. And much of this may well be how and why it happened.

Yet, this traditional telling of the story falls short of a satisfactory explanation for the integration of baseball. First, we need an explanation for the grossly uneven pace of integration both among teams within the same league, and across leagues. As will be

shown below, teams such as the Dodgers, Giants, Braves, Reds and Indians integrated quickly and thoroughly, while the Athletics, Tigers and Red Sox fell decades behind the others in their pace to integration. And that National League integrated far more thoroughly and far more quickly than the American League.

Second, given the opposition to racial integration of so many institutions across American society and culture, and that legal protection of minorities in employment was not to be provided meaningfully until passage of the Civil Rights Act of 1964, nearly 20 years later, why did the major leagues choose to integrate at all? During owners meetings held prior to the introduction of Robinson, owners professed nearly unanimously that they were satisfied with the quality of their players and that even if it were true that black players would not harm a team, there was no reason to think that they would help a team.

The significant difference in the pace of integration between the American and National Leagues affords us a clue that the story of baseball's integration involves another layer of complexity. Why should the pace of integration have been different? This article hypothesizes that the answer lies in conceiving of the National and American Leagues as two separate social and economic systems wherein perceived rewards for risk-taking were different. As a result, managers within the two systems reacted differently to the risk opportunity that was created in 1947 when Brooklyn and Cleveland integrated their baseball teams.

The pace of integration

Conditions of the two leagues

Analysis of the participation of African American players in major league baseball from 1947 through 1959 indicates a wide disparity in the pace at which the two leagues integrated with the National League integrating at a much more rapid pace. One way of measuring the relative levels of participation by blacks is to compare season by season the number of African Americans on teams in the two leagues pitching at least 20 innings or batting at least 50 times. These standards provided a baseline for participation, effectively controlling for the instances where teams may have put black players on their rosters so as eventually to appease civil rights advocates, but may have had no intention of ever letting them play.

Table 1 indicates that over the period, the American league experienced 55 team seasons in which no player met this minimal standard, while the National league experienced 43. The American League had 14 team seasons where a team had only one such player, compared to just 4 in the National League. Conversely, the National League had 22 team seasons where a team used 5 or more black players to that extent, compared to only 1 such season in the American. Leaders by this standard were the Brooklyn/Los Angeles Dodgers which had 7 seasons where they used at least 4 players extensively, the Boston/Milwaukee Braves, and the New York/San Francisco Giants, which each had 6

seasons where they used at least 4 black players extensively, No National League team failed to have at least one season where it used at least 5 players.

Conversely, during from 1947 to 1959, only the St. Louis Browns/Baltimore Orioles had a single season where the franchise used at least 5 black players extensively. The Boston Red Sox and Detroit Tigers were notorious for having only a single season where they used a single black player. Clearly by this measure, African American players had far more opportunity in the National than in the American League.

Number of Seasons with Black Players by Franchise and League 1947-1959

	Number of Black Players 20 Innings or 50 At-Bats							
National League	0	1	2	3	4	5	6	8
<i>Boston/Milwaukee</i>	3	1	3		2	2	2	
<i>Brooklyn/Los Angeles</i>		1	2	2	2	3	3	
<i>Chicago</i>	7		2	2	1	1		
<i>Cincinnati</i>	7		1		1	4		
<i>New York/San Francisco</i>	2		2	1	4	2		
<i>Philadelphia</i>	10		2				1	
<i>Pittsburgh</i>	7		2	1	2	1		
<i>St. Louis</i>	7	2	2		1		1	
Total National League	43	4	16	6	13	13	7	2
American League								
<i>Boston</i>	12	1						
<i>Chicago</i>	4		6	3				
<i>Cleveland</i>	1	2	4	2	4			
<i>Detroit</i>	12	1						
<i>New York</i>	8	2	3					
<i>Philadelphia/Kansas City</i>	6	1	1	4	1			
<i>St. Louis/Baltimore</i>	4	4	1	3				
<i>Washington</i>	8	3	2					
Total American League	55	14	17	12	5	0	1	0

Table 2 shows that whereas integration started haltingly in both leagues from 1947 through 1949, from 1950 on it proceeded steadily in both leagues, but with the National League consistently out-pacing the American. In 1949 the National League was first to have a team use 3 black players, in 1951 it was first to have a team use 4, in 1953 2 National League teams used 5 while only 1 American League team did and in 1955 it was

the first to have a team use 6, when the most an American League team was using was 4. In 1954, over half of American League teams failed to use a black player extensively while only 2 National League teams did. After 1956, no National League team had fewer than 2 black players.

Number of Black Players per Team by League and Season

Year	Number of Black Players 20 Innings or 50 At-Bats							
	0	1	2	3	4	5	6	8
1947 American	7		1					
1947 National	7	1						
1948 American	7	1						
1948 National	7		1					
1949 American	7	1						
1949 National	6		1	1				
1950 American	5	1	2					
1950 National	5	1	1	1				
1951 American	6	1	1					
1951 National	5		2		1			
1952 American	5	1	2					
1952 National	5		1	1	1			
1953 American	5	1	1		1	1		
1953 National	4		2			2		
1954 American	5		1	2				
1954 National	2		3		2	1		
1955 American	2	3	1	1	1			
1955 National	1	1		2	2	1	1	
1956 American	2	1	3	1	1	1		
1956 National	1	1	1		2	2	1	
1957 American	2	1	1	2	2	1		
1957 National			3		1	3	1	
1958 American	1	2	1	3			1	
1958 National			1	1	2	2	1	1
1959 American	1	1	3	2	1		1	
1959 National					2	2	3	1

Simply to report the differences in the pace of baseball's integration is to understate badly the differences between the two leagues. The black players rapidly came to dominate the National League. The first generation of black stars in the National League, Jackie Robinson, Roy Campanella, and Don Newcombe of the Dodgers and Monte Irvin of the Giants, was soon followed by Willie Mays, Hank Aaron, Ernie Banks, Frank Robinson, Vada Pinson and Roberto Clemente, and in the 1960s by Willie McCovey, Bob Gibson, Lou Brock, Dick Allen, Juan Marichal, Maury Wills and Willie Stargell, to name only the

best of them. Compared to this, the American League could field only Minnie Minoso, Larry Doby and Elston Howard of comparable ability.

These stars dominated the leaders of the different statistical categories. As Table 2A below shows, in the National League by the late 1950s virtually all of the leaders in the statistical categories were black players. Mays, Aaron, Banks and Robinson developed during the early 1950s and by the late 1950s were among the greatest players in baseball history. By 1962, 4 of the top 5 National Leaguers in batting average were black, all of the top 5 in total bases, 4 of the top 5 in runs batted in, all of the top 5 in home runs, and 4 of the top 5 in stolen bases. Not until 1962 and 1965 do we see black players begin to appear among the leaders in any number in the American League.

The African American players represented a type of player rarely seen before in baseball, combining extraordinary running speed with remarkable power in batting. Among whites, only Mickey Mantle before he was injured had comparable physical skills to Mays, Aaron, Banks, Robinson or Clemente. That the future of baseball competition was playing for National League teams in the form of black athletes must have seemed inescapable by the early 1950s. Still the American League teams either failed to hire black athletes, or uniformly hired those of lesser skills. Once the black National League players reached their peaks, the American League paid a price, winning only 2 of 26 All-Star games between 1960 and 1982, statistically inferior by comparison during the 1970s, and probably at least in part because of the clear difference in quality of play, coming to be known as the “curveball” league, as opposed to the more competitive “fastball” National League. Why, then, did the American League teams proceed so slowly to employ black players?

**Number of Black Players in Top Five:
Key Batting Categories by League and Season, 1947-1965**

National League						American League				
Year	BA	TB	RBI	HR	SB	BA	TB	RBI	HR	SB
1947	0	0	0	0	1	0	0	0	0	0
1948	0	0	0	0	1	0	0	0	0	0
1949	1	1	1	0	1	0	0	0	0	0
1950	1	0	0	0	1	1	0	0	0	0
1951	3	1	2	1	2	1	0	0	1	1
1952	1	0	0	0	2	0	1	1	1	1
1953	0	0	0	0	2	1	0	0	0	1
1954	1	1	0	1	0	1	2	2	1	1
1955	3	2	2	2	2	1	2	0	0	2
1956	2	3	0	2	2	0	1	1	0	1
1957	3	4	2	3	2	0	0	1	0	1
1958	2	4	3	3	2	1	0	0	0	1
1959	4	4	3	4	5	1	0	0	0	0
1960	2	4	4	3	5	2	1	1	0	1
1961	3	5	4	3	5	0	0	0	0	3
1962	4	5	4	5	4	2	1	2	1	3
1963	4	5	4	4	5	0	0	0	1	2
1964	4	3	1	4	5	3	1	0	0	2
1965	4	4	4	4	5	3	2	3	2	4

Methodology

Analysis of the literature of baseball for the period yields few clues as to reasons for the disparate pace of integration. Initially, owners in both Leagues expressed opposition to the Dodgers' experiment. It is also hard to know what credence to grant public statements on the issue, given that even in the 1940s statements pertaining to race often were likely couched in language that a public figure felt would be most satisfactory to his audience. But Major League baseball is nearly unique among social structures that can be analyzed in that the statistical record is nearly complete. As a result, more so than perhaps in any other field, it is possible to infer intent from behavior.

Ownership

That said, one of the assumptions behind the use of data in baseball, particularly that from the games that are played, is that the participants are all competing with equal incentive and intensity. It is that assurance that has underpinned organized sports

opposition to gambling and is considered essential to the integrity of the game. It is not, however, the case. Professional baseball has always been characterized by a wide variety of types of owners, each of whom have had different motivations for how they handled their teams.

Three types of ownership can be identified, each with a potentially different interest in their teams. These may be labeled Old family, business, and baseball

- 1) “Old family” owners were successions of ownership dating back to the early days of the professional sport. These included men such as Phillip Wrigley, Clark Griffith, Charles Comiskey and Connie Mack. While they were certainly motivated to make a profit where they could, many of them had a sentimental attachment to the game based at least in part on having played it, and they considered themselves the cornerstones of a national institution. Upon their deaths, some such as Phillip Wrigley, Bob Carpenter, Clark Griffith and Walter Briggs passed their teams on to sons, who continued to run the teams, with varying degrees of interest.
- 2) “Business” owners were men who purchased into the sport after it was well-established. Most notable of these was the succession of owners of the Yankees – long considered baseball’s unsentimental, corporate model, and the Dodgers, who were eventually taken over by Walter O’Malley who led the way west to Los Angeles. These men had in common that they had made their fortunes in business prior to purchasing baseball and while they were generally sportsmen, their principal financial interests were elsewhere.
- 3) “Baseball men” were new owners for whom baseball was their central purpose in life. There were two during this period, Bill Veeck and Branch Rickey, and it is not a coincidence that they were the two leaders in integrating baseball. Neither was much of a businessman in the conventional sense, both were regarded as eccentrics, both thoroughly knew the game and wanted to win. In addition to integrating baseball, Rickey is credited with refining the “farm system” to the major leagues, the network of contractual relationships among minor league teams, and Bill Veeck is considered baseball’s greatest entertainer and father of the myriad promotions found in most ballparks today.

Principal Baseball Ownership – 1945-1960

<i>American League</i>	
Yankees	Dan Topping/Del Webb
Indians	Bill Veeck (46-51), <i>Ellis Ryan, Myron Wilson, William Daley</i>
Red Sox	Tom Yawkey
Tigers	Walter Briggs Sr/Jr. <i>John Fetzer (56)</i>
Athletics	Connie Mack, family (50-54), <i>Arnold Johnson</i>
Senators	Clark Griffith, Calvin Griffith
White Sox	Charles Comiskey , Chuck, Bill Veeck (58-61)
Browns/Orioles	<i>Richard Muckerman, Bill/Charles DeWitt, Bill Veeck, Clarence Miles</i>
<i>National League</i>	
Dodgers	<i>Walter O'Malley 42/50, John Smith, Branch Rickey</i>
Giants	Horace Stoneham
Phillies	Bob Carpenter
Pirates	John Galbraith, McKinney, Johnson, Crosby
Cardinals	<i>Sam Breeden, Fred Saigh& Bob Hanegan, August Busch (53)</i>
Reds	Powell Crosley
Braves	Lou Perini
Cubs	Phillip Wrigley

Bold=Old family/inherited

Italic=Business

Face=New baseball

It is important to distinguish the three types of ownership because they had different potential interests regarding their teams and baseball, and different motivations. As a general rule, we might surmise that the baseball men and business men would have less regard for baseball's traditions, and so might be more likely to violate an age-old practice in order to get ahead. On the other hand, the business men might be assumed to have the greatest interest in protecting an investment – although in the context of racial integration that could mean either making sure you had the best product by hiring the best players, whatever their race, or conservatively taking no chances with the fan base and civic goodwill by hiring a player who might not be popular with fans.

Competition

Immediately following the Second World War, none of the baseball franchises were free spenders by today's standards. A number of the owners were not independently wealthy, and a number of franchises were perpetually on shaky financial ground. Salaries were kept low and even stars routinely had a second job during the off-season to help make ends meet. Like the business community in general, and the male athletic community

today, baseball owners tended to be social conservatives. A few, judging from the few public statements attributed to them on race, were likely racially bigoted. The question then becomes, given a tendency toward conservatism, aversion to risk-taking and little financial cushion to hedge against mistakes, under what conditions would an owner undertake a risky choice such as the decision to integrate his baseball team?

We might hypothesize that minimally to take that risk, an owner would want to believe that his team could win. And how likely was that? The view for the owner and team's general manager were very different in 1946 between the American and National Leagues. An American League owner contemplating his chances of getting to the World Series would look at the past twenty seasons or so, and readily see that the League was dominated by the New York Yankees. He would have observed that in the 20 years from 1926 to 1945, the Yankees had won the American League 11 times. If he discounted the last two war years, 1944 and 1945 when St. Louis and Detroit won, he would see that the Yankees had won 7 of the last 8 championships.

Going forward, as the American League baseball executive continually reassessed the chances for his team, unless he were the Yankees, he would conclude that winning was increasingly unlikely. From 1947 through 1964, the conclusion of the Yankee dynasty, the Yankees won the American League 15 of the 19 seasons. While it was certainly possible for another team to win, one could only have concluded at the time that it was highly unlikely. Significantly, after 1947, it was only teams that had had association with the risk-taker Bill Veeck – Cleveland and Chicago – that would break the Yankee string.

The National League could not have been more different. An owner calculating his chances in 1946 would have observed that 6 of the 8 teams had won the National League during the previous 20 years. St. Louis was the most successful, winning 8 times, but several of those were during the war years. Five different teams won between 1936 and 1945. Clearly there was no dominant team.

Looking forward, the Dodger franchise would clearly be the best, but was also short of dominant. Dodger teams in Brooklyn and Los Angeles won 9 times, but so, too did six other franchises, meaning that only the Chicago Cubs failed to reach the World Series from the National League during that period, and they did in 1945. So clearly any National League team could win – they all did. While we cannot know with certainty how owners and general managers calculated their chances or planned their strategies at the time, the evidence certainly suggests that taking a risk in order to win should have appeared far more likely to pay off in the National League than in the American League.

The view backwards from 1945

	National League	American League
1926	St. Louis	New York
1927	Pittsburgh	New York
1928	St. Louis	New York
1929	Chicago	Philadelphia
1930	St. Louis	Philadelphia
1931	St. Louis	Philadelphia
1932	Chicago	New York
1933	New York	Washington
1934	St. Louis	Detroit
1935	Chicago	Detroit
1936	New York	New York
1937	New York	New York
1938	Chicago	New York
1939	Cincinnati	New York
1940	Cincinnati	Detroit
1941	Brooklyn	New York
1942	St. Louis	New York
1943	St. Louis	New York
1944	St. Louis	St. Louis
1945	Chicago	Detroit

The apparent reality from 1946 to 1964

	National	American
1946	St. Louis	Boston
1947	Brooklyn	New York
1948	Boston	Cleveland
1949	Brooklyn	New York
1950	Philadelphia	New York
1951	New York	New York
1952	Brooklyn	New York
1953	Brooklyn	New York
1954	New York	Cleveland
1955	Brooklyn	New York
1956	Brooklyn	New York
1957	Milwaukee	New York
1958	Milwaukee	New York
1959	Los Angeles	Chicago
1960	Pittsburg	New York
1961	Cincinnati	New York
1962	Los Angeles	New York
1963	Los Angeles	New York
1964	St. Louis	New York

While it seems unlikely that the general managers at the time made the following calculations, given that analysis of baseball statistics was in its infancy before the 1970s, we can use the standard deviation of the number of wins per season per team to measure the difference in central tendency of the two leagues. As Table 4 below indicates, however one divides the period from 1947 to 1959, the American League had a greater standard deviation in games won than did the National League. In each League, the leader Brooklyn/Los Angeles in the National, and New York in the American averaged seven more wins per season than the second winningest team over the period, but the Dodgers won fewer than the Yankees and so the central tendency was greater in the National League, underscoring the perception that the baseball executive would have observed of the teams that went to the World Series. National League teams also averaged fewer “games behind” (the count of how many fewer wins a team has than the winning team).

Aggregate standings of National and American Leagues, 1946-1959

	Average Wins		Average Wins
National League		American League	
Brooklyn/Los Angeles	92	New York	95
Boston/Milwaukee	85	Cleveland	88
St. Louis	82	Boston	85
New York/San Francisco	80	Chicago	79
Philadelphia	75	Detroit	77
Cincinnati	72	Philadelphia/Kansas City	65
Chicago	68	Washington	63
Pittsburgh	64	St. Louis/Baltimore	62
National League		American League	
Standard Deviation, 1946-1959	9.2	Standard Deviation, 1946-1959	12.4
Standard Deviation, 1946-1952	10.5	Standard Deviation, 1946-1952	13.3
Standard Deviation, 1953-1959	9.4	Standard Deviation, 1953-1959	13.5
Mean Games Behind, 1946-1959	18	Mean Games Behind, 1946-1959	21
Standard Deviation, GB 1946-1959	13	Standard Deviation, GB 1946-1959	16

Geography

Another possible determinant of the pace of racial integration of a team might be its location within the nation relative to the south. While most social institutions and employment were at least nominally integrated in the north by the end of World War II,

the south continued to be dominated by Jim Crow social standards that segregated virtually every business, institution and facility. College sports teams in the north had been integrated for years, yet workplace discrimination prevailed, and blacks largely attended separate schools and lived in segregated neighborhoods. Nonetheless, the north was for the most part nothing like the south in terms of degree of physical separation or bigoted attitudes toward race – as the coming civil rights struggle across the south would soon make evident.

Among the objections raised by owners to integration when the Dodgers broached the possibility of promoting Jackie Robinson were that race riots could result or that white fans might be discouraged from attending because of a presumed increase in black fans. In 1946 baseball had no teams in the deep south: Washington in the American League and St. Louis, with an entry in each league, were the southern-most teams. However, we might consider that integration would have proceeded more slowly in those more southern cities, or in Cincinnati in southern Ohio, than in northern cities such as Boston, Chicago, Cleveland, Detroit or New York.

Analysis

Classical economic theory argues that there is a relationship between the willingness of a person or a business to undertake a risk, and the likelihood or magnitude on the potential reward. In the context of a business, that reward usually takes the form of profit, or viability that will allow it to survive in a competitive environment. The corollary to this economic principle is that businesses operating in competitive markets will innovate when faced with competition.

The following analysis allows us to test this theory within the business of baseball. In this instance, innovation and risk take the form of racial integration of major league baseball teams. As we have observed above, the pace of innovation and risk taking in that respect occurred disparately between the American and National Leagues between 1947 and 1959 with likely long term outcomes for the two Leagues. Can we account for the differential risk-taking, innovative behavior of members of the two Leagues with classical economic theory? Is it possible that National League teams chose to take the integration risk because their internal market – i.e. the likelihood that they could win enough games to win the National League championship – presented both an opportunity, and possibly an imperative to do so? Conversely, might the apparently monopolistic position of the Yankees as market leader have so effectively discouraged most meaningful competition as to render risk-taking and innovation moot?

The following analysis utilizes multiple regression analysis to model behavior of teams in each of the National and American Leagues, so as to test whether variables that might be associated with competition, or lack thereof, are more likely than other reasonable explanations to have guided decisions by major league baseball teams to engage in the risk of racial integration.

The formal analysis is built on a set of variables potentially descriptive of causes of decision making by major league baseball teams of the post-war era. These are as follows:

Characteristics of places

North/Border – A dummy variable coded to identify whether the city in which a team was located was along the historical border of the “old south,” Washington, St. Louis or Cincinnati. The variable is aimed at testing whether sensitivity to Jim Crow segregation standards might have contributed to management decisions regarding team integration.

Pop Percent Black – A variable measuring the population of each major league city in 1950. The variable is aimed at testing whether the size of the African American population in a baseball city might have influenced the likelihood of integrating the city’s baseball team(s). Conceivably, owners might have either welcomed the possibility of attracting additional black fans to the ball park, or feared that an increase in black fans might discourage white attendance at games.

Characteristics of ownership

Owner Years – A variable contains the number of years that an owner owned the team. One might hypothesize that owners who had held teams longer were more invested in traditional baseball practices that had excluded racial minorities, whereas relatively new owners would be more open to innovation.

Owner characteristics – The analysis contains three dummy variables describing the three types of ownership discussed above: Old family owners whose ownership line dated back to the turn of the century or who had inherited the team from such an owner, Business owners who made their fortunes independently of baseball and bought into it as a business proposition more recently, and Baseball Men, who were not independent business men and had purchased controlling shares of teams recently and were interested primarily in baseball. Data was collected from monographs, team web-sites, newspaper articles and obituaries that provided biographical information on the owners.

Characteristics of markets and competition

Two types of variables were constructed to measure the extent to which a team might have been sensitive to pressures or opportunities of competition.

Prior Year Wins: Two variables were created that included the number of games the team won in the year prior to measurement of the number of black players, and the number of games the team won two years prior to measurement of the number of black players. These variables attempt to account for the potential lag time of decision making regarding the composition of a team. Decisions to sign and promote black players onto the major league team were made deliberately at that time and a decision that took effect

in 1951, for instance, may well have been made effectively one or two years before, and based on evidence and perceived probability of winning from those years.

Prior Year Games Behind: Two variables were created that included the number of games a team was behind the winner in the year prior to measurement of the number of black players, and two years prior to measurement of the number of black players. The concerns over decision lag are the same for this variable as for Prior Year Wins. Games behind is a measure of how team management may have gauged their likelihood of winning their league in near future years.

League: A dummy variable was created for National or American League for the first equation in order to formally account for the observed difference in rate of integration between the two Leagues.

Years: Because the number of African American players on teams tended to be additive, in part because players once having joined a team and succeeded tend to persist, it was necessary to account for the accrual of black players, not because new ones were added, but in part because many persisted. Additionally the variable accounts for an undefined notion of social progress. The variable was, therefore, constructed as the inverse number of years considered in the analysis.

Data Base

A database was constructed such that each team had a separate data record for each year of the analysis. This record contained the relevant data for each variable for the year. Thus the years of ownership accrued through team records for each year.

Findings

Zero-order correlations

Review of the zero-order correlations between the selected variables and the number of black players on a team in a given year reveal significant relationships for some of the ownership variables, competition variables, and the team's league. Relationships were the same whether the dependent variable was the total number of blacks on the team, irrespective of whether they played in games, or the measure we have used to this point, 20 innings pitched or 50 at-bats.

Business owners had significantly more blacks per team (2.04) than average, while owners who were baseball men had significantly less (.76). However, this was a statistical artifact due to the small number of baseball men owning their teams earlier in the period when no team had very many.

National League teams averaged significantly more black players (2.2 per team per season) than American League teams (1.06 per team per season). The correlations indicate further the importance of the difference between the two leagues. In the

National League, there was a significant correlation between the number of wins a team had and the number of black players. The number of games behind in the current year and the prior year correlated negatively with the number of blacks, indicating that the closer a team was to the top of the standings, the more likely it was to have black players.

**Correlates with Black Players on Teams
1947-1959**

	Total Blacks	Sig.	Blacks 20In/50 AB	Sig.
Owner Self-Made (n=97)	2.49	.003	2.04	.004
Owner Baseball Man (n=29)	.97	.008	.76	.009
Owner Inherited (n=82)	1.78	.263	1.45	.288
City North	2.03	.786	1.68	.531
City Border	1.93		1.49	
American League	1.33	.000	1.06	.000
National League	2.67		2.20	
Correlation Wins – American League	.074	.458	.047	.639
Correlation Wins – National League	.300	.002	.313	.001
Corr. Games Behind – American	-0.90	.364	-.083	.403
Corr. Games Behind - National	-.356	.000	-.365	.000
Corr. GB Prior Year – American	-.048	.629	-.052	.600
Corr. GB Prior Year - National	-.260	.008	-.295	.002

Multiple regression

A series of regression equations were run in order to formally assess the relative strength of predictors of the number of black players teams had. The initial two equations, (see below) combined all seasons and teams of the period and includes variables characterizing the social environment of the cities (location and percent black), the owner characteristics (type and tenure) and the competition variables (wins and games behind). They also contained a variable for whether the team was in the National or American League in order to test for possible differences in behavior associated with conditions unique to each League. Finally, the first equation included no variable accounting for the year of a team’s data, while the second equation did.

Combining all variables for teams from both Leagues produced a significant but weak equation. (Adjusted R square = .099) The only variable attaining significance was the league in which a team played. The equation correctly predicted that National League

teams would have approximately twice as many black players as American League teams.

The second equation introduced an additional variable, the inverse number of years since 1946 to account for the accrual of players, as discussed above. Introducing that variable improved the overall strength of the equation substantially, bringing it to an adjusted R squared of .511. The strength of the League variable increased and remained significant and the inverse years variable showed the expected negative coefficient and was significant. Also as would have been expected, the equation reflected the impact of Branch Rickey on the Dodgers and Bill Veeck on the Indians in the early years, producing a significant positive coefficient for their owner type.

**Variables Predictive of Number of Black Players:
American and National Leagues, 1947 to 1959**

	Coefficient B	Sig.	Coefficient B	Sig.
North/Border	-.414	.366	-.176	.601
Pop Percent Black	-2.711E-02	.387	-3.897E-02	.092
Owner Years	1.484E-03	.925	-2.113E-02	.073
Owner Baseball Man	-.652	.255	1.113	.013
Owner Inherited	-.527	.133	-.339	.189
Owner Self-Made				
Prior Year Wins	1.201E-02	.767	5.059E-02	.092
2 Prior Year Wins	4.399E-02	.252	-4.027E-03	.888
Prior Year Games Behind	-6.741E-03	.858	3.320E-02	.234
2 Prior Years Games Behind	4.358E-02	.220	-5.010E-02	.850
League	1.226	.001	1.553	.000
Years			-2.882	.000
Constant	-2.695	.634	.869	.835
Adjusted R Square	.099	.001	.511	.000

In order to explore further the possibility that the competitive culture of the two leagues differed, and to control for the problem of accrual of players with time, four additional sets of equations were run. These separated the analysis into two time periods, 1947 through 1952, when no team had a lot of black players, and 1953 through 1959 when a number of teams had five or more. A separate set of equations based on these two time periods was then run for each league.

National League

The Table below contains regression equations for the two measures of black participation from 1947 through 1952 for the National League. Both attain reasonably strong adjusted R squares, .340 and .429 respectively. Indeed the first teams to integrate were those in cities where the black population tended to be relatively smaller as indicated by the significant negative coefficients for the variable Population Percent Black.

Variables Predictive of Number of Black Players: National League, 1947 to 1952

	1947-1952 Total Blacks		1947-1952 Blacks 20In/50 AB	
	B	Sig	B	Sig
North/Border	-.673	.444	-2.5E-02	.973
Pop Percent Black	-.196	.008	-.116	.059
Owner Years	-2.2E-02	.632	1.7E-02	.677
Owner Baseball Man	.307	.726	.725	.275
Owner Inherited			.354	.581
Owner Self-Made	-.935	.221		
Prior Year Wins			-1.0E-02	.832
2 Prior Year Wins	-8.8E02	.167	-9.3E-02	.078
Prior Year Games Behind			-4.6E-02	.311
2 Prior Years Games Behind	-.111	.064	-9.8E-02	.051
Constant	13.203	.058	12.372	.141
Adjusted R Square	.340	.001	.429	.000

The nature of ownership made little difference, however several of the competition variables were close to statistical significance, the number of wins in the second prior year and the number of games behind in the second prior year, with the expected negative coefficient.

Table XX below provides the same type of analysis for the second period, 1953 through 1959 for the National League. Like the first equations, these equations also produced strong Adjusted R Squares of .399 and .483 respectively. In these equations, the negative correlation of the number of black players with the proportion of a city's population that was black becomes even stronger with every 5 percent black of a city's population decreasing on average the number of black players by one. The competition variables increased in strength, with prior year games behind a strong predictor, as well as prior year wins being a strong negative predictor.

Insert Table xx

**Variables Predictive of Number of Black Players:
National League, 1953 to 1959**

	1953-1959 Total Blacks		1953-1959 Blacks 20In/50AB	
	B	Sig	B	Sig.
North/Border	-1.247	.097	-.693	.270
Pop Percent Black	-.237	.003	-.209	.002
Owner Years	5.0E-02	.184	7.0E-02	.030
Owner Baseball Man				
Owner Inherited	-3.62	.549	-.265	.603
Owner Self-Made				
Prior Year Wins	-.164	.020	-.142	.017
2 Prior Year Wins	-.114	.131	-5.9E-02	.351
Prior Year Games Behind	-.184	.005	-.159	.004
2 Prior Years Games Behind	-.126	.079	-9.1E-02	.131
Constant	35.199	.001	26.197	.002
Adjusted R Square	.399	.000	.483	.000

American League

Table x below contains the regression equations for the American League for the years 1947 through 1952. The equations have significant, but relatively low adjusted R Squares of .241 and .221 respectively. Unlike with the National League equations, in the American League the competition variables did not even approach significance. The strongest predictor of the number of black players was the negative correlation with the number of owner years, indicating that newer owners were indeed more likely to risk integration. For the dependent variable for total black players, the farther north a team was, the more likely it was to integrate.

Variables Predictive of Number of Black Players: American League, 1947 to 1952

	1947-1952 Total Blacks		1947-1952 Blacks 20In/50 AB	
	B	Sig	B	Sig
North/Border	1.105	.042	.343	.331
Pop Percent Black	4.9E-02	.137	1.4E-02	.507
Owner Years	-4.9E-02	.000	-3.1E-02	.000
Owner Baseball Man				
Owner Inherited	-.628	.154	-.451	.123
Owner Self-Made	-1.44	.453	-.811	.010
Prior Year Wins	-9.8E-02	.369	-6.3E-02	.383
2 Prior Year Wins	-5.7E-02	.337	-3.6E-02	.351
Prior Year Games Behind	-.109	.318	-6.9E-02	.331
2 Prior Years Games Behind	-5.2E-02	.363	-3.2E-02	.401
Constant	15.510	.328	10.502	.317
Adjusted R Square	.241	.017	.221	.024

Table XX below presents the equations for the American League for the later period, from 1953 through 1959. Again, the adjusted R Squared was weak for both equations,

(.248 and .192 respectively) indicating the relative inability to predict black integration in the American League. The number of years an owner had a team continued to be significant predictor of integration but the location of the city ceased to be as Boston and Detroit, two of the northern cities proved to be the longest hold outs. The Business owners tended to have more African Americans on their teams and the relationship approached significance (.061 and .088) for the two equations. Again, none of the competition variables even approached significance, and several approached almost complete randomness (.937 and .904).

**Variables Predictive of Number of Black Players:
American League, 1953 to 1959**

	1953-1959 Total Blacks		1953-1959 Blacks 20In/50AB	
	B	Sig	B	Sig.
North/Border	-1.107	.177	-.830	.275
Pop Percent Black	2.0E-02	.542	1.3E-03	.965
Owner Years	-4.9E-02	.043	-4.9E-02	.030
Owner Baseball Man	.138	.857	.345	.631
Owner Inherited				
Owner Self-Made	.986	.061	.835	.088
Prior Year Wins	1.2E-02	.731	5.9E-04	.988
2 Prior Year Wins	1.6E-02	.729	8.2E-03	.849
Prior Year Games Behind	-1.2E-02	.731	-2.4E-02	.469
2 Prior Years Games Behind	3.1E-03	.937	4.4E-03	.904
Constant	.282	.961	1.887	.725
Adjusted R Square	.248	.007	.192	.023

Discussion

The multiple regressions strongly indicate to the existence of two types of market systems in the American and National Leagues. In the National League, the data was consistent with teams integrating further with quality black players as they had greater chances of winning. Teams that were closer to the top were significantly more likely to integrate and after the initial years, owners appeared less likely to consider the racial composition of the city where the team was located in their operational decisions. The strong R Squares indicate that the system tended to operate consistently.

The American League could not have been more different. The low R Squares indicate that owner behavior was more idiosyncratic and less attributable to a consistent set of decision principles. Business-oriented owners were more likely to integrate their teams after the initial period and owners appeared somewhat sensitive to how removed their team was from southern culture. However, a team's place in the standings made no difference whatsoever. This would have been consistent with a set of management calculations wherein the Yankees had a constant supply of talented white players, a long track record of winning, and therefore, little incentive to take the risk of integrating their team, while the other teams may well have calculated that with little chance of winning, there was nothing to be gained by potentially alienating their fans in a losing cause.

The overall pattern of the findings is consistent with the hypothesis that the internal markets of the two leagues were sufficiently different so as to alter the team's propensity to perceived risk-taking.

Attendance

Clearly the accrual of black players in the National League had the result of raising the quality of play generally, and at the very top, as discussed above in the introduction, but were the contrarian owners correct that it could damage their attendance?

The zero-order correlations between key variables and team attendance indicated that the Business owners had the highest attendance, averaging 1.3 million per season, significantly higher than the attendance attained by the other two types of owners. Northern cities out-drew the border cities by 1.2 million to around 900 thousand per season, a statistically significant difference. National League teams outdrew American League teams by about 150,000 fans per season. There was no bi-variate correlation between the number of black players on a team and attendance.

Correlates with Attendance

	Attendance	Significance
Owner Self-Made (n=97)	1,363,671	.004
Owner Baseball Man (n=29)	960,407	.244
Owner Inherited (n=82)	981,552	.036
City North (n=151)	1,255,671	.017
City Border (n=57)	894,892	
American League	1,080,225	.259
National League	1,233,383	
Total Blacks on Team	.016	.819
Blacks 20IN/50AB	.025	.719

A single regression equation was run including all of the variables pertaining to characteristics of the teams' cities, owners, integration, competitive strength and League. The resulting equation indicated that all things considered, only a team's games behind during their current year correlated with attendance, indicating that what fans liked more than anything else was a close pennant race. A second equation utilizing the Stepwise Entry method isolated the most significant variables and further identified the Business-oriented owners as those with the highest attendance. We may conclude, then, that the presence of black players had no impact *per se* on team attendance. It may have indirectly in that the black players who played the most were among the best who ever played the game and were, therefore, more likely to lead their teams into the more highly attended pennant races.

**Variables Predictive of Attendance
American and National Leagues, 1947-1959**

	Coefficient B	Significance
North/Border	57461.184	.774
Pop Percent Black	-9953.703	.794
City Population	2.507E-02	.397
Owner Years	-9787.190	.147
Owner Baseball Man		
Owner Inherited	-214155.9	.351
Owner Self-Made	63476.905	.794
League (1=National)	92567.892	.549
Total Black Players	-38285.180	.715
Black Players 20IN/50AB	-16154.394	.896
Prior Year Wins	7281.497	.671
Wins Year	-21998.257	.197
Prior Year Games Behind	1348.930	.932
Games Behind Year	-34367.392	.028
Constant	3190003.0	.147
Adjusted R Square	.122	.000
Stepwise Entry		
Constant	-566437.2	.129
Wins Year	20473.869	.000
Owner Self-Made	280353.25	.032
Adjusted R Square	.112	.000

Conclusion

Evidence from the integration of the American and National Leagues following World War II indicates that the two leagues operated as classical economic theory would suggest: one responding to relatively unfettered market conditions and the other to monopolistic conditions. Clearly, in this case, individual teams in the competitive system fared better than did those in the monopoly-dominated system. So too, therefore, the competitive system as a whole likely reached a higher level of performance than did the system dominated by the monopoly. This difference is confirmed by the objective evidence of the All-Star games, where the best performers of each market (league) are annually pitted against one another, but analysis comparing performance of players who played in both Leagues, and by observation of contemporary experts who generally implied that the National League was the more competitive.

All-Star Game Winners and distinguished players

	NL/AL	
1960	5-3	NL – Banks, Crandall, Mays, Boyer, Face AL – Kaline
1960	5-4	NL – Matthews, Mays, Musial, Boyer
1961	5-4	NL – Altman, Clemente, Aaron, Mays AL - Killebrew
1961	1-1	NL – White, Matthews AL - Colavito
1962	3-1	NL – Wills, Clemente
1962	4-9	NL – Roseboro AL – Colavito, Runnels, Wagner
1963	5-3	NL – Mays AL - Pepitone
1964	7-4	NL – Mays, Cepeda, Callison, Williams, Boyer
1965	6-5	NL – Mays, Torre, Stargell, Santo AL – Mcauliffe, Killebrew
1966	2-1	NL - Wills, McCarver, Marichal AL – B. Robinson, McClain
1967	2-1	NL – Allen, Perez, Jenkins, Marichal AL – B. Robinson, Hunter
1968	1-0	NL – Mays, Seaver
1969	9-3	NL – Bench, McCovey AL – Freehan, Howard
1970	5-4	NL – Dietz
1971	4-6	NL – Bench, Aaron, Clemente AL - Jackson, F. Robinson, Killebrew
1972	4-3	NL – Aaron, Morgan AL - Rojas
1973	7-1	NL – Bonds, Davis, Bench
1974	7-2	NL – Smith, Garvey
1975	6-3	NL – Garvey, Wynn, Madlock AL - Yastrzemski
1976	7-1	NL – Foster, Cedeño AL - Lynn
1977	7-5	NL – Morgan, Garvey, Luzinski AL - Scott
1978	7-3	NL – Garvey
1979	7-6	NL – Mazzilli AL - Lynn
1980	4-2	NL – Griffey AL - Lynn
1981	5-4	NL – Carter, Parker, Schmidt AL - Singleton
1982	4-1	NL - Concepcion

Comparing World Series winners over the period, and thereafter, would suggest a rough balance between the two Leagues, as each league won about as many as it lost. However, one must consider that in most World Series from 1947 through 1959, it was the American League monopolist, the Yankees, playing against a team from the National League. By the very nature of the monopoly-driven market system, the monopolist does not represent the quality of the overall market in the same way that a competitor in a more open market might. As a result, the World Series was not a good indicator of the comparative strength of the two leagues as long as one league was dominated by a single team.

This study also indicates the ascendance of the business approach to baseball ownership and management. For a number of teams, the period represented the transition from the team's long-time initial ownership in a family to ownership that may have viewed the game less from a sentimental perception of baseball as tradition, than as a business. Certainly owners from the very beginning were conscious of the need to at least break even, but it was the newer owners of the 1950s who had made their money outside the game and were new to its traditions, who generated the highest attendance, won the most games and, at least in the American League, were a little more likely to take the risk of integration. While old-time owner Horace Stoneham did move his Giants from New York to San Francisco, it was new owner Walter O'Malley who led the way with his Dodgers and, at Branch Rickey's initiative, led the way in the integration of baseball.

To the extent that the integration of baseball was indicative of the eventual gains in racial integration of society at large, several lessons can be observed. As the boycotts common to protests against Jim Crow across the south during the late 1950s and early 1960s were one of the strongest levers southern blacks had against powerful whites, it appears that market incentives probably led the National League teams to integrate sooner, and more thoroughly, than the American League teams. Race relations in baseball yielded less to sentiment than to economics. Professional sports are thoroughly integrated today and, this analysis would argue, that at least part of the reason may be because of the clear and measurable contributions made by black athletes. Perhaps the most similar counterpart to this outside the world of sports is the military, where Charles Moskos has demonstrated that in an environment largely devoid of prejudice in decision-making, where performance is valued above all else, and outcomes are fairly measurable, high levels of racial integration will occur at all levels. Once blacks got their start in professional sports, where winning is attached directly to compensation and performance is clearly measurable, the sports became thoroughly integrated. In this context, it is not surprising that fewer blacks have penetrated sports management, from coach to ownership. At those levels, appointment and promotion continue to be dominated by the so-called "old boys network," largely, I would argue, because whereas we know exactly how much each player contributed to the success or failure of his team, no one really knows how much the coach, manager, general manager or owner contributed to winning or losing. The "manager of the year" or "coach of the year" is generally the one whose team won, as there is little independent means of judging which was really the most skilled. Lacking much objective measurement of quality, the systems fall back on personal relationships and all of the prejudices these often entail.

Appendix

Owner Type and Winning

	Average Wins per Season	Significance
Owner Self-Made (n=97)	79.8	.006
Owner Baseball Man (n=29)	74.2	.248
Owner Inherited (n=82)	74.6	.050

Comparison of performance of players traded between National and American Leagues one year prior to and one year following trade, 1970 to 1983

	Performance in National League of traded players	Performance in American League of traded players	Significance of difference
Batting			
Batting Average	.253	.359	.079
At-bats per home run	51.3	46.8	.253
Struck out per 100 at-bats	15.3%	14.1%	.008
Pitching			
ERA difference from league	.182	-.013	.034
(League ERA)	3.64	3.79	
Pitcher winning pct	47.8%	48.4%	.601

Attendance

City Population – The population of each major league city in 1950. The size of a city could have influenced a decision to integrate the team irrespective of the number of African Americans who lived there. Larger markets might have placed more pressure on ownership to field the best possible team. Owners in larger, and presumably more cosmopolitan places may have felt less pressure to uphold archaic standards of racial separation.