

Baseball Hall of Fame voting: a test of the customer discrimination hypothesis *. (Statistical Data Included)

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Objective. Recently there has been controversy concerning the existence of racial discrimination in Baseball Hall of Fame balloting. This study tests for the existence of discrimination against African American and Latin American players. **Methods.** Using data on players' lifetime performance statistics and career achievements, we estimate models of the determinants of nomination to the Hall of Fame and Hall of Fame voting. **Conclusions.** We find evidence of racial bias against Latin American and African American players both in the nominating process and in voting among baseball writers. However, the magnitude of the discrimination is small enough that it is unlikely to have had a major impact on the composition of the Hall of Fame.

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Introduction

Social scientists have long been interested in discrimination in professional sports. Baseball has been particularly attractive to researchers because of the existence of comprehensive and precise measures of both player productivity and compensation. In addition, the high degree of visibility of professional baseball and the general belief that baseball is an area which allows nonwhites to excel make professional baseball an attractive research area. Previous research on professional baseball has primarily focused on salary discrimination, hiring discrimination, customer discrimination, and positional segregation (Kahn, 1991). However, only two studies have examined discrimination in Hall of Fame voting (Findlay and Reid, 1997; Banaian and Luksetich, 1994), and no study has examined the nomination process.

Our paper extends this research by examining more fully the role that race plays in induction into Baseball's Hall of Fame. Evidence that such a study is needed can be found both in the recent claim made by Tony Perez that sportswriters discriminate against Latin Americans in Hall of Fame voting and in the vociferous defense of the writers made by John Steadman of the Baltimore Sun. (1) Our results indicate that after controlling for a number of measures of lifetime performance and past awards for non-pitchers, there is evidence of discrimination against both Latin American and African American players in both the nominating process and voting. These results are consistent with the findings of Pascal and Rapping (1972), Scully (1974), Gwartney and Haworth (1974), and Medoff (1975) concerning labor-market discrimination against nonwhites in baseball.

The evidence of discrimination found in this study both supports and contradicts the results of Findlay and Reid (1997) on discrimination in Baseball Hall of Fame voting. In a similar analysis of Hall of Fame voting patterns, they find that black players are less likely to receive any votes than their white counterparts and that Latin American players also appear to receive fewer votes than whites. This is consistent with our results. We do not, however, find any significant decline in discrimination over time against either African American or Latin American players. Our study differs from theirs in a number of ways. First, we examine the nomination process. Then, we explicitly control for the selection process onto the Hall of Fame ballot in our estimates of voting discrimination, and we incorporate a more complete set of explanatory variables in estimating the percentage of votes received by a player.

In the following sections of the paper, we discuss a) the eligibility criteria and selection process for induction into the Baseball Hall of Fame, b) the data and model used to test for the existence of racial discrimination in Hall of Fame nominating and balloting, and c) the empirical results.

Eligibility and Selection to the Baseball Hall of Fame

The Baseball Writers' Association of America (BBWAA) annually selects players for the Baseball Hall of Fame based on rules established by the Board of Directors of the National Baseball Hall of Fame and Museum. (2) Election to the Hall of Fame is a two-stage process in which a six-member BBWAA Screening Committee initially prepares a ballot of eligible players. Nomination by at least two members of the Screening Committee is required to place a player on the ballot. Active and honorary members of the BBWAA with a minimum of ten years as active baseball writers are eligible to vote for up to ten players in each election. Approximately four hundred writers cast ballots annually. Nominees are elected to

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the Hall of Fame if they receive votes on 75 percent of the ballots cast.

Currently, eligibility for nomination to the Hall of Fame requires a player to have completed at least ten seasons in the major leagues, and to have been active during a period beginning twenty years and ending five years before a given election. The "Pete Rose" rule, implemented in 1991, makes any player who is on Baseball's ineligible list ineligible for nomination.

Writers are directed to base their votes on a player's record, playing ability, integrity, sportsmanship, character, and contribution to the teams on which he played. Rules prohibit automatic election based on a single outstanding achievement (batting .400 for one season, for example).

Nominees who receive less than 5 percent of the ballots cast in a given year are now (since 1981) eliminated from future consideration for the Hall of Fame. Nominees who receive more than 5 percent of the ballots cast, but less than the 75 percent required for election, are automatically placed on the next year's ballot. A player may remain on the ballot for a total of fifteen years.

Model

In order to test for the existence of discrimination, we estimate two basic models. First, we estimate a probit model for the probability of appearing on the Hall of Fame ballot. Then, we estimate a model of Hall of Fame voting. Because the number of ballots cast varies from year to year and because the criterion for election to the Hall of Fame is based on the percentage of the votes received, our voting model focuses on the percentage of votes received rather than total votes. We estimate a logit model of the log-odds ratio of the percentage of votes received. Because some players appearing on the ballot do not receive any votes, their logodds ratio is truncated from below and we estimate this as a tobit, with a lower bound equal to the log-odds ratio of the percentage of one vote for that year.

Because players frequently appear on the ballot in more than one year, we estimate two versions of the voting model. The first version restricts the sample to the first time the player received votes, while the second includes all the observations on each player, but weights the observations by the inverse of the number of times each player appears in the sample, so as to give each player equal weight in the regression. (3) This is equivalent to estimating a between group regression and captures the effect of the explanatory variables on the average percentage of the votes received by each individual. Finally, in order to control for selection onto the ballot, we include in each voting model the inverse Mill's ratio from the nomination model.

Several general classes of explanatory variables appear in our models. Of primary importance for entry into the Hall of Fame is lifetime performance on the field. To measure lifetime performance we control for a number of lifetime statistics: batting average, runs produced (runs + rbi-home runs), stolen bases, fielding runs, and total years in Major League Baseball. (4) Nonlinearities might occur in these relationships if players whose statistics place them among the all-time leaders received more votes than a linear relationship would suggest. In order to test for these nonlinearities, we include dummy variables for having a lifetime batting average over .300, more than 300 lifetime home runs, more than 2,500 hits, more than 1,350 RBIs, and more than 1,450 runs. (5)

In addition to their lifetime statistics, players may also distinguish themselves during any one season by playing in the postseason, leading the league in batting, or leading the league in home runs. We include variables to measure the number of times a player accomplished these achievements during his career.

Although election to the Hall of Fame is considered the highest honor a player can receive, other awards given during a player's career also reflect his accomplishments. We therefore control for the number of times a player was selected by the fans or the managers to be a member of the AllStar team, received a Gold Glove for fielding excellence awarded by managers and coaches, or was voted the League's Most Valuable Player by the sportswriters.

Several nonperformance variables are included in the model. We include a time trend to determine whether the patterns of voting or nomination have changed over time. In the voting models we include both the number of times the player appeared on the ballot and its square, because we believe that there is an increase in the percentage of votes received

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over time that diminishes as the number of times on the ballot increases. We include dummy variables to indicate the primary position held by the player during his career. Finally, we include dummy variables to indicate whether the player is African American or Latin American and estimate separate models for whites and nonwhites. (6)

Nomination to the Hall of Fame may also depend upon the visibility the players achieve. We include other nonperformance measures to capture this visibility: whether they ever played in a media center (New York, Los Angeles, or Chicago), have relatives in the major leagues, and whether they have ever worked as a manager. These variables also serve to identify the nomination model.

Empirical Results

Variable Descriptions. The data for this study are obtained from Total Baseball (1997) and from Findlay and Reid (1997). (7) Our sample consists of all non-pitchers whose last year of play was 1970 or later, who had at least ten years in the Major Leagues and thus were eligible for the Hall of Fame from 1976 to 1998. In all, 508 non-pitchers (excluding Pete Rose) became eligible to appear on the ballot over the 1976-98 period. (8) Of these, we were able to identify the race of 427 players, including all 218 that appeared on the ballot. Table 1 shows the racial breakdown of players eligible, on the ballot, and inducted into the Baseball Hall of Fame. (9) Fifty-eight percent of the eligible players were white, while 14 percent were Latin American, and 28 percent were African American. These percentages are roughly maintained for those on the ballot. However, although only 32 percent of those on the ballot were African American, more than 50 percent of the inductees were African American. Latin Americans constituted 12 percent of those on the ballot and 4 percent of those inducted.

Table 2 shows the means for all the variables in the analysis for each racial group and by whether or not the players in that group were nominated for induction into the Hall of Fame. We found significantly superior performance for African American and Latin American nominees relative to white nominees, results similar to those found for all players by Pascal and Rapping (1972), Scully (1974), Gwartney and Haworth (1974), and Medoff (1975). Specifically, both Latin American and African American nominees significantly outperformed whites in batting average, runs produced, lifetime batting average over .300, and stolen bases. Latin American nominees had longer careers on average than white nominees, and African American nominees had more batting average titles and Gold Gloves than white nominees. Only in the runs scored dummy category did whites significantly outperform Latin American nominees, and in no category did white nominees significantly outperform African American nominees. Particularly interesting is the finding that the sample of eligible African Americans not nominated had a higher mean lifetime batting average than the white nominees.

Nomination Results

Table 3 presents the results of our nomination models estimated for the 427 eligible candidates in our sample. The lifetime performance variables include length of career, batting average, runs produced, fielding runs, stolen bases, and number of postseasons played. We also include a trend term and the player visibility variables. (10) Models (1-3) contain estimates for the full sample, while models (4) and (5) present estimates for white and nonwhite players, respectively.

In all the models we find that runs produced, number of postseasons played, and having ever been a manager have a positive and significant impact on the probability of getting on the ballot. The trend term is negative in all models, suggesting that it has become more difficult to be nominated.

Model (2) introduces the African American and Latin American dummy variables. We find that both African American and Latin American players are less likely to appear on the ballot than white players, although the coefficients are insignificantly different from zero. Interestingly, in models (1) and (2) stolen bases have a negative and significant effect on one's likelihood of getting on the ballot. This seems particularly counterintuitive. An examination of Table 2 reveals that Latin American and African American players (both nominees and non-nominees) clearly outperform white nominees in this category. It may be that the negative coefficient on stolen bases is masking discrimination against minorities. We estimate the probit excluding stolen bases in model (3). As expected, the coefficients on Latin American and African American variables are negative and significant.

We use the coefficients from models (4) and (5) to obtain another estimate of the impact of discrimination on nomination

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(Table 4). By applying the white coefficients to nonwhite players we can estimate the percentage of nonwhites that would have been nominated if they were treated as whites and vice versa. The results are somewhat mixed. Only 36 percent of white players would have been nominated using the coefficients for nonwhite players; however, when using the coefficients for white players, there is little evidence of discrimination against African Americans since the percentage of African American nominees increases from 57.5 percent to 58.8 percent. However, for Latin Americans the percentage of nominees increases substantially, from 44.9 percent to 50.6 percent. The estimated effects from model (3) with the African American and Latin American dummies is much larger.

Voting Results

Table 5 shows results for the voting models. The dependent variable in model (1) is the log-odds ratio of the number of the votes the player received his first time on the ballot, while in model (2) the dependent variable is the number of votes received at any time on the ballot. Models (3) and (4) are the number of votes received at any time on the ballot for whites and nonwhites, respectively. To control for selection onto the ballot, we include in each model the inverse Mill's ratio from the appropriate nomination model. Each model includes all the lifetime performance measures, single season performance variables, and career awards.

In models (1) and (2) both the Latin American and African American coefficients are negative and significant. With the exception of the runs produced, all the coefficients on the performance variables are positive and significant, as expected. In model (2) there is a parabolic relationship between the number of times on the ballot and the percentage of votes received. Neither home run nor batting titles appear to have a significant effect. In contrast, the lifetime award variables are all significant.

In order to determine the impact of the different returns across racial groups on the percentage of votes received, we applied the coefficients from the regression of the nonwhite players to the characteristics of the white players, and also applied the estimated coefficients of the white players on the characteristics of both Latin American and African American players. Table 6 shows these results along with estimates of the magnitudes of the effects implied by the dummy variable estimates in model (2). Whites would have received slightly fewer votes (4.2 percent versus 6.3 percent) if they had been treated like nonwhites. African American players would have received 44 percent more votes (21.5 percent versus 14.9 percent) if they had been treated like whites, and Latin American players would have received 62 percent more votes (13.1 percent versus 8 percent) if they had been treated like white players.

Conclusion

This study tests the hypothesis that there is discrimination against African Americans and Latin Americans in the Baseball Hall of Fame selection process. In order to test this hypothesis, we estimate models of nomination onto the ballot and of the log-odds ratio of the percentage of votes received if on the ballot. These models control for lifetime performance statistics, single season achievement, career awards, and race. Our results suggest a preference in placing white players on the ballot and a strong voting bias against both African Americans and Latin Americans in Hall of Fame balloting. Our estimates of discrimination are confirmed by separate models estimated for whites and nonwhites. However, it seems unlikely that the magnitude of the discrimination was sufficient to seriously alter the racial composition of the Hall of Fame.

TABLE 1

Baseball Hall of Fame, Summary Measures by Race, 1976-1998

	White	Latin American	African American
Number of individuals eligible for the HOF (a)	248	59	120
Percentage of individuals eligible for the HOF	58%	14%	28%
Number of individuals appearing on the ballot	123	26	69
Percentage of individuals appearing on the ballot	56%	12%	32%

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Number inducted	7	1	9
Inductees as a percentage			
of individuals on the ballot	6%	4%	13%
Number inducted as a			
percentage of total inductees	41%	6%	53%
Number of inductees on their			
First attempt	5	0	8
Fourth attempt	1	0	0
Sixth attempt	0	1	1
Eleventh attempt	1	0	0

(a) This represents the number of individuals eligible for Hall of Fame nomination whose last year of play was 1970 or later and whose race we are able to identify (84 percent of those eligible).

TABLE 2

Variable Means by Race

	White	
	Nominees	Non-Nominees
Percentage of votes	0.06 (0.16)	--
No. of times on ballot	1.31 (1.18)	--
Length of career	15.28 (3.49)	12.47 (2.42)
Batting average (x 1,000)	258.41 (19.15)	249.42 (21.28)
Runs produced (in hundreds)	12.43 (6.17)	6.40 (3.02)
Batting average dummy	0.00 (0.00)	0.00 (0.00)
Home runs dummy	0.15 (0.35)	0.00 (0.00)
RBI dummy	0.08 (0.27)	0.00 (0.00)
Runs scored dummy	0.03 (0.18)	0.00 (0.00)
Fielding runs	0.91 (4.96)	0.10 (4.14)
Stolen bases (in hundreds)	0.57 (0.60)	0.45 (0.64)
No. of postseasons	3.57 (3.23)	1.95 (2.05)
No. of batting average titles	0.02 (0.15)	0.00 (0.00)
No. of home run titles	0.10 (0.76)	0.00 (0.00)
No. of Gold Gloves	0.22 (1.03)	0.05 (0.25)
All-Star appearances	3.01 (3.68)	0.45 (0.84)
No. of MVP awards	0.09 (0.38)	0.00 (0.00)
Media center	0.59 (0.49)	0.62 (0.49)
Relatives in Major League	0.06 (0.23)	0.06 (0.25)
Manager	0.16 (0.37)	0.03 (0.18)
Trend	1,987.9 (4.69)	--
No. of individuals	123	125

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	Latin American	
	Nominees	Non-Nominees
No. of person-years	202	--
Percentage of votes	0.08 (0.10)	--
No. of times on ballot	2.10 (1.49)	--
Length of career	16.38 * (2.47)	12.48 (2.03)
Batting average (x 1,000)	281.04 *** (15.74)	255.88 ** (13.17)
Runs produced (in hundreds)	14.58 ** (4.56)	7.46 * (3.30)
Batting average dummy	0.12 *** (0.33)	0.00 (0.00)
Home runs dummy	0.08 (0.27)	0.00 (0.00)
RBI dummy	0.08 (0.27)	0.00 (0.00)
Runs scored dummy	0.00 ** (0.00)	0.00 (0.00)
Fielding runs	0.24 (3.20)	-0.46 (3.77)
Stolen bases (in hundreds)	1.71 *** (1.74)	0.90 ** (1.08)
No. of postseasons	4.15 (2.80)	1.52 (1.44)
No. of batting average titles	0.08 (0.27)	0.00 (0.00)
No. of home run titles	0.04 (0.20)	0.00 (0.00)
No. of Gold Gloves	0.35 (1.06)	0.00 ** (0.00)
All-Star appearances	3.69 (2.99)	0.70 (1.05)
No. of MVP awards	0.04 (0.20)	0.00 (0.00)
Media center	0.65 (0.48)	0.63 (0.45)
Relatives in Major League	0.15 (0.37)	0.09 (0.30)
Manager	0.12 (0.33)	0.00 ** (0.00)
Trend	1,987.83 (2.98)	--
No. of individuals	26	33
No. of person-years	83	--
	African American	
	Nominees	Non-Nominees
Percentage of votes	0.15 ** (0.21)	--
No. of times on ballot	1.57 (1.41)	--
Length of career	15.96 (3.29)	12.71 (2.35)
Batting average (x 1,000)	276.25 *** (18.40)	263.47 *** (16.74)
Runs produced (in hundreds)	16.33 *** (6.79)	9.38 *** (3.76)
Batting average dummy	0.07 **	0.02

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	(0.26)	(0.14)
Home runs dummy	0.25	0.00
	(0.43)	(0.00)
RBI dummy	0.14	0.00
	(0.35)	(0.00)
Runs scored dummy	0.09	0.00
	(0.28)	(0.00)
Fielding runs	0.76	-0.32
	(3.37)	(3.71)
Stolen bases (in hundreds)	1.68 **	1.34 ***
	(1.71)	(1.05)
No. of postseasons	4.29	2.25
	(3.63)	(2.30)
No. of batting average titles	0.19 **	0.02
	(0.65)	(0.14)
No. of home run titles	0.23	0.00
	(0.79)	(0.00)
No. of Gold Gloves	0.36 **	0.10
	(1.14)	(0.46)
All-Star appearances	3.90	0.71
	(4.60)	(1.12)
No. of MVP awards	0.26	0.00
	(0.56)	(0.00)
Media center	0.65	0.73
	(0.49)	(0.49)
Relatives in Major League	0.06	0.06
	(0.24)	(0.24)
Manager	0.06 **	0.02
	(0.24)	(0.14)
Trend	1,987.86	--
	(3.42)	
No. of individuals	69	51
No. of person-years	147	--

NOTES: Standard deviations in parentheses.

For the percentage of votes, number of times on the ballot, and trend, the means are weighted by the inverse of the number of times each individual appears in the sample. All other means are across individuals.

*** Significantly different from the average value for whites at the 1% level; ** 5% level; * 10% level.

TABLE 3

Probit Analysis for Appearing on the Ballot

	Full Sample		
	(1)	(2)	(3)
Intercept	153.62 *** (25.75)	157.52 *** (26.06)	160.78 *** (25.87)
Latin American	--	-0.38 (0.26)	-0.47 * (0.25)
African American	--	-0.20 (0.21)	-0.33 * (0.20)
Length of career	0.06 (0.04)	0.06 (0.04)	0.06 (0.04)
Batting average	0.03 (0.05)	0.05 (0.05)	0.06 (0.05)

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Runs produced	0.18 *** (0.03)	0.18 *** (0.03)	0.16 *** (0.03)
Fielding runs	0.01 (0.02)	0.01 (0.02)	0.01 (0.05)
Stolen bases	-0.24 *** (0.09)	-0.21 ** (0.09)	--
No. of postseasons	0.10 *** (0.04)	0.10 *** (0.04)	0.09 *** (0.03)
Media center	-0.17 (0.31)	-0.19 (0.17)	-0.24 (0.16)
Relatives in Major League	-0.17 (0.17)	-0.15 (0.31)	-0.11 (0.12)
Manager	1.20 *** (0.37)	1.14 *** (0.38)	1.14 *** (0.38)
Trend	-0.08 *** (0.01)	-0.08 *** (0.01)	-0.08 *** (0.01)
Log-likelihood	-178.77	-177.52	-179.90
N	426	426	426

	White	Latin American and African American
	(4)	(5)
Intercept	135.89 *** (34.36)	186.02 *** (45.97)
Latin American	--	--
African American	--	0.28 (0.31)
Length of career	0.05 (0.05)	0.10 (0.08)
Batting average	-0.04 (0.07)	0.17 * (0.09)
Runs produced	0.21 *** (0.03)	0.14 ** (0.06)
Fielding runs	-0.01 (0.03)	0.03 (0.04)
Stolen bases	-0.27 (0.21)	-0.20 (0.12)
No. of postseasons	0.09 * (0.05)	0.12 ** (0.06)
Media center	-0.06 (0.22)	-0.32 (0.30)
Relatives in Major League	-0.20 (0.43)	-0.03 (0.52)
Manager	1.38 *** (0.43)	0.33 (0.84)
Trend	-0.07 *** (0.02)	-0.10 *** (0.02)
Log-likelihood	-104.64	-67.65
N	248	178

NOTES: (1) to (5) are model numbers.

Standard errors are in parentheses.

Position dummies are included but not shown.

*** Significant at the 1% level, ** at the 5% level, * at the 10% level.

TABLE 4

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Discrimination in Baseball Hall of Fame Nomination

Percentage Nominated for Hall of Fame	White	African American	Latin American
Predicted from White model (4)	50.2	58.8	50.6
Predicted from Latin American/ African American model (5)	36.1	57.6	44.6
Predicted from model with dummies (3)	50.4	66.2	56.0
Actual probability	50.4	57.5	44.9

TABLE 5

First Time Votes Received in Hall of Fame Balloting

Dependent Variable: Log Odds Ratio of the Percentage of Votes Received

	First-Time Votes (1)	All Votes (2)	White (3)
Intercept	23.76 (37.82)	32.31 (34.58)	18.57 (36.40)
African American	-0.43 * (0.24)	-0.38 * (0.23)	--
Latin American	-0.55 * (0.32)	-0.52 * (0.29)	--
No. of times on ballot	--	0.61 *** (0.14)	0.44 ** (0.18)
No. of times squared	--	-0.03 *** (0.01)	-0.02 (0.01)
Length of career	0.16 *** (0.05)	0.16 *** (0.04)	0.13 *** (0.04)
Batting average	0.14 * (0.07)	0.13 * (0.07)	0.04 (0.07)
Runs produced	-0.04 (0.09)	-0.01 (0.08)	-0.06 (0.09)
Batting average dummy	0.79 (0.61)	0.98 * (0.50)	--
Home run dummy	0.76 ** (0.32)	0.73 *** (0.28)	0.48 (0.30)
RBI dummy	1.70 *** (0.48)	1.59 *** (0.38)	1.07 ** (0.43)
Runs scored dummy	0.95 * (0.55)	0.88 * (0.51)	1.03 (0.64)
Fielding runs	0.03 (0.02)	0.01 (0.02)	0.04 ** (0.02)
Stolen bases	0.29 *** (0.11)	0.29 *** (0.10)	0.32 (0.19)
No. of postseasons	0.03 (0.03)	0.04 (0.03)	0.09 *** (0.03)
Batting titles	0.17 (0.25)	0.11 (0.22)	0.57 (0.56)
Home run titles	-0.02 (0.15)	0.06 (0.14)	0.16 (0.18)
Gold Gloves	0.16 * (0.09)	0.19 ** (0.08)	0.31 *** (0.10)
All-Star appearances	0.20 *** (0.04)	0.22 *** (0.04)	0.30 *** (0.04)
No. of MVP awards	0.90 *** (0.34)	0.57 ** (0.28)	0.27 (0.40)
Trend	-0.02 (0.02)	-0.02 (0.02)	-0.01 (0.02)

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Inverse Mill's ratio	-0.23 (0.33)	-0.27 (0.32)	-0.27 (0.31)
Log-likelihood	-191.52	-225.90	-103.16
N	218	431	201

Latin American and African American (4)

Intercept	21.69 (69.85)
African American	--
Latin American	-0.32 (0.33)
No. of times on ballot	0.64 *** (0.21)
No. of times squared	-0.03 ** (0.02)
Length of career	0.22 ** (0.10)
Batting average	0.17 (0.12)
Runs produced	0.05 (0.10)
Batting average dummy	1.34 ** (0.65)
Home run dummy	0.67 (0.51)
RBI dummy	2.52 *** (0.66)
Runs scored dummy	1.30 (0.81)
Fielding runs	-0.11 ** (0.05)
Stolen bases	0.29 ** (0.14)
No. of postseasons	-0.05 (0.05)
Batting titles	0.06 (0.27)
Home run titles	-0.23 (0.26)
Gold Gloves	0.11 (0.12)
All-Star appearances	0.15 ** (0.06)
No. of MVP awards	0.53 (0.42)
Trend	-0.02 (0.04)
Inverse Mill's ratio	-0.17 (0.72)
Log-likelihood	103.70
N	230

NOTES: Standard errors are in parentheses.

Position dummies are included but not shown.

Inverse Mill's ratio for models 1 and 2 from model 1 in Table 3; inverse Mill's ratio in model 3 from model 4 in Table 3; and inverse Mill's ratio in model 4 from model 5 in Table 3.

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*** Significant at the 1% level; ** at the 5% level; * at the 10% level.

TABLE 6

Discrimination in Baseball Hall of Fame Balloting

Percentage of Votes	White	Latin American	African American
Actual	6.3	8.2	14.9
Dummy variables (a)	--	13.1	20.1
Using white coeff. (b)	6.3	12.7	21.5
Using nonwhite coeff. (c)	4.2	--	--

(a) Uses dummy variable estimates from model 2 of Table 3.

(b) Uses white coefficients from model 3 of Table 3.

(c) Uses nonwhite coefficients from model 4 of Table 3.

(*) Direct all correspondence to Michael Robinson, Dept. of Economics, Mount Holyoke College, South Hadley, MA 01075. Data and other materials are available for replication upon request. We would like to thank David Findlay and Clifford Reid for access to their data and the anonymous referees for their helpful comments.

(1.) John Steadman, "Perez Made Rare Bad Swing with His Hall Charge of Racism," Baltimore Sun, January 12, 1997, p. 2C.

(2.) The rules governing Hall of Fame elections have been revised frequently since the Hall's inception. For a history of rule changes, see "Hall of Fame" in Total Baseball (1997).

(3.) Because the player lifetime characteristics and other explanatory variables do not vary over time, it was not possible to estimate a full random effects model. Likewise, because a large number of players appear on only one ballot, it is not possible to estimate a full fixed effects model with dummy variables.

(4.) Runs produced is a measure of the number of runs each player is directly responsible for either by scoring himself or by driving in another runner. The number of home runs is subtracted since it is already counted in runs batted in. The number of fielding runs is a linear weights measure of runs saved beyond how many runs a league average player at that position might have saved. A complete description can be found in Total Baseball (1997).

(5.) These numbers would have placed the player in the top fifty players for each category, respectively, with the exception of the category of batting average. For batting average, we felt the lifetime .300 average was noteworthy.

(6.) We made every effort to accurately determine the racial identity of each player (we acknowledge assistance in this area from the editors of Total Baseball). Our Latin American category includes only those players born in Latin American countries and Puerto Rico. A complete list and racial identification are available upon request.

(7.) Findlay and Reid (1997) provided us with a list of players appearing on the ballot who received no votes.

(8.) We excluded Pete Rose, who appeared on three ballots prior to his being removed from Hall of Fame consideration because of his gambling and tax-evasion problems. Rose's lifetime statistics clearly place him among baseball's elite, though he received very few votes the three times he appeared on the ballot due to his non-baseball problems.

(9.) The number of individuals eligible for the Hall of Fame include those individuals with ten or more years of experience, whose last year of play was 1970 or later, and whose race we were able to identify from Total Baseball or baseball card photographs. We were able to identify 84 percent of those eligible for the Hall of Fame.

(10.) We are unable to include the single season variables and the career award variables because all players achieving those awards were nominated to be on the Hall of Fame ballot.

Baseball Hall of Fame voting: a test of the customer discrimination hypothesis *. (Statistical Data Included)

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