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Efficient Production of Wins in Major League Baseball

Brian Volz
University of Connecticut

University of Connecticut

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University of Connecticut

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341 Mansfield Road, Unit 1063
Storrs, CT 06269–1063
Phone: (860) 486–3022
Fax: (860) 486–4463
http://www.econ.uconn.edu/

Abstract

Data Envelopment Analysis (DEA) is applied to Major League Baseball salary and performance data from 1985 to 2006 in order to identify those teams which produced wins most efficiently and the characteristics which lead to efficient production. It is shown that on average both National and American League teams over allocate the most resources to first basemen. Additionally, it is found that National League teams should allocate significantly more resources towards starting pitching while American League teams should allocate significantly more resources toward second base. It is also observed that efficient teams use younger less experienced players and employ rosters with a greater number of previous all star appearances.

Journal of Economic Literature Classification: L83, D24

Keywords: Baseball, DEA, Efficiency

Introduction

If you ask any baseball fan why their favorite team did not win more games last season they are likely to give you the names of several players which they believe to be a waste of money. They are also sure to have an opinion on what positions their team should have dedicated more resources towards. The goal of this paper is to formally analyze this question by determining how efficiently Major League Baseball teams have produced wins over the past two decades and to identify the characteristics of those teams which produce most and least efficiently.

This analysis is conducted using the method of data envelopment analysis (DEA). The DEA results are based on player salary and team performance data from 1985 to 2006. It is shown that on average both National and American League teams over allocate the most resources to first basemen. Additionally, it is found that National League teams should allocate significantly more resources towards starting pitching while American League teams should allocate significantly more resources toward second base. It is also observed that on average efficient teams use younger less experienced players and employ rosters with a greater number of previous all star appearances.

Previous Literature

The previous research which most directly relates to the analysis presented here is Einolf's (2004) data envelopment analysis of Major League Baseball and National Football League teams. Einolf uses player salary and team performance data to calculate efficiencies for baseball and football teams. He finds that large market baseball teams are most likely to overspend and to be inefficient. The DEA presented here differs from and expands on that of Einolf in several ways.

The first difference is in the inputs chosen. Einolf uses the total salaries paid to pitchers and the total salaries paid to fielders as the inputs to production. Rather than one measure of pitching, this analysis divides the defensive input into relief pitching and starting pitching. Additionally, this analysis utilizes an individual input for each position on the field and the designated hitter. These more specific inputs allow for a more detailed analysis of team performance than is possible under the two input model. Most importantly the use of more specific inputs allows for the identification of those positions which are being over or underutilized. This allows for the identification of strategies for improving team efficiency rather than simply identifying how efficiently teams produce.

This analysis also improves upon that of Einolf by taking into account the level of competition which teams face. In Major League Baseball all teams do not play identical schedules and therefore comparisons amongst teams should include some measure of the competition which a team faces. This problem is addressed by including a measure of the talent on opposing teams as a negative input to the production of wins.

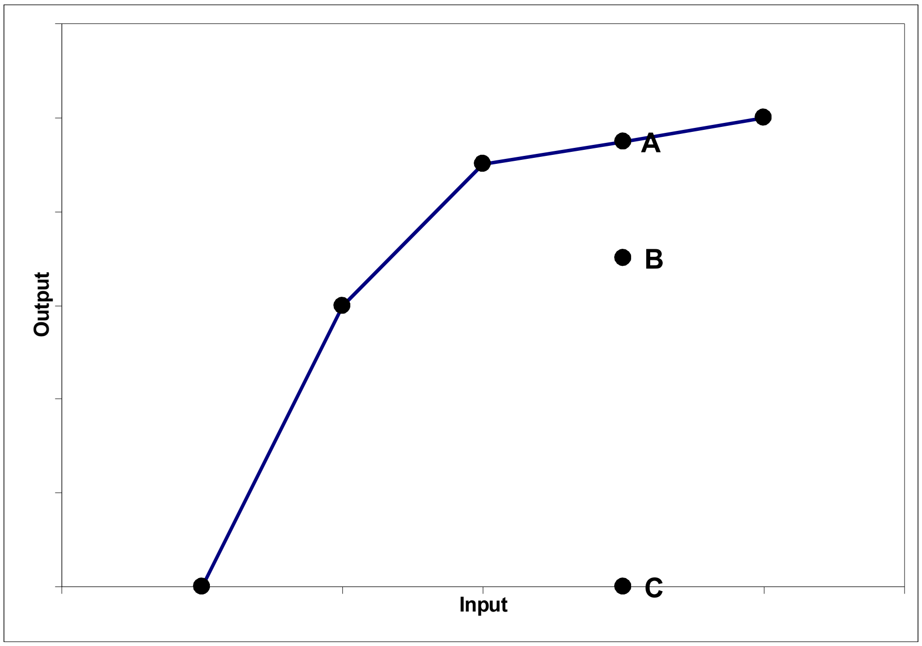
The Data Envelopment Analysis techniques employed in this analysis are based on the methods introduced in Charnes, Cooper, and Rhodes (1978). The specific models used are a variable returns to scale model similar to that presented in Banker, Charnes, and Cooper (1984) and a super efficiency model similar to that proposed by Anderson and Petersen (1993). The specifics of these models are presented in the following section.

Measuring Team Efficiency

For the purposes of this analysis an efficient team is defined as a team which produces the maximum possible output given its level of inputs. Based on this definition of efficiency an efficient team is one whose input output combination lies on the production possibilities frontier. The degree of inefficiency can therefore be measured as the distance from the observed level of output to the maximum level of output holding the observed inputs constant. In order to compare inefficiencies of firms with different inputs the inefficiency is measured as the percentage of possible output which is produced.

In order to calculate this measure of efficiency a production possibilities frontier must be constructed based on the observed data. In DEA this frontier is based on several assumptions about the nature of the underlying technology. The first assumption is that any convex combination of observed points is feasible. In the single input single output case this implies that all points which lie on a line between observed points are feasible. These convex combinations are shown in Figure 1 by the lines connecting points on the frontier. The second assumption is that there is free disposability of inputs. This assumption implies that if a level of input can produce a given output then any level of input which is greater than that or equal to that level of inputs in all dimensions can also produce that output. For the single input single output case presented in Figure 1 this implies that all points to the right of a feasible point are also feasible. The third assumption is that of free disposability of output. This assumption implies that if a given level of input can produce some level of output it can also produce a level of output which is less than or equal to that level of output in all dimensions. For the single input single output case presented in Figure 1 this implies that any point which lies below a feasible point is also feasible.

Figure 1



Once this production possibilities frontier is constructed the percentage of possible output which is being produced can be calculated. For the one input one output case presented in Figure 1 this is calculated by taking the output of the observation under consideration and dividing that output by the level of output directly above that observation on the frontier. As an example we can calculate the efficiency of a firm producing at point B. This firm is clearly below the frontier and therefore not producing efficiently. Using a combination of other observations we can construct an input output combination represented by point A. This observation has the same input but the maximum output possible given the constructed frontier. In order to find the efficiency of firm B we can simply divide the output of firm B by the output of the constructed firm A. Graphically this is the distance from B to C divided by the distance from A to C. This represents the percentage of possible output which firm B could produce given their level of inputs. This is exactly the measure of efficiency which this analysis is concerned with.

For the multiple inputs multiple output case this measure cannot be shown graphically. However, this measure of efficiency can still be calculated through the following maximization problem based on the work of Banker, Charnes, and Cooper (1984).

Maximize θ

Subject to: $\sum \lambda_i Y_{ij} \geq \theta Y_{0j}$

$\sum \lambda_i X_{ij} \leq X_{0j}$

$\lambda_i \geq 0$

$\sum \lambda_i = 1$

Where i indicates the firm and j indicates the input or output.

In this problem θ is a factor by which the observed firms output is multiplied. The goal is to maximize this theta which represents an increase in production. The first constraint states that the linear combination of observed firms must produce a level of output which is greater than or equal to that of the firm under consideration. The second constraint implies that the linear combination of observed firms must have inputs which are less than that of the firm under consideration. The constraint that each lambda be greater than or equal to one eliminates the possibility of any firm having a negative weight in the linear combination of firms. The final constraint that the lambdas must sum to one eliminates the possibility of a scaled up or down version of a single firms input output bundle. This essentially creates a variable returns to scale production possibilities frontier. Variable returns to scale is appropriate for this application as doubling a teams inputs will unlikely double the teams output.

The resulting theta from this maximization problem will represent the factor by which a firm can increase their output while keeping their inputs at or below their observed level. The inverse of this theta is the percentage of possible output which a firm is producing given its level of inputs. This measure is referred to as the output oriented technical efficiency. If a firm is producing on the production possibilities frontier this measure is equal to one and the firm is considered efficient. For any firm not producing on the production possibilities frontier this measure will be less than one and greater than zero.

Variable Selection

The objective of this paper is to analyze the efficiency with which teams have produced wins over the past two decades. However, there are multiple types of wins which teams produce. The first type of win is a regular season win. It is important to produce as many regular season wins as possible as regular season wins determine a team's standing within their division. Therefore, whether a team makes the playoffs and has a chance to win the World Series is based on regular season wins. Additionally, regular season wins increase attendance thereby increasing revenues. Based on this logic regular season winning percentages are used as a measure of output for each team in each year. Winning percentage is chosen over the actual number of wins as it makes comparisons between seasons of slightly different lengths possible.

The second type of win is a playoff win. Some may argue that these wins are even more important than regular season wins as a team can win all of its regular season games but if it does not win any playoff games it cannot win a championship. Therefore, playoff wins for each team in each year are included as a second measure of output. Playoff wins are measured as the combined wins in the League Championship Series and World Series for all teams that made the playoffs each year and zero for the teams who did not make the playoffs. Division Series wins are not included as the Division Series did not exist in the early years of the sample. Also, the year 1994 is dropped from the analysis as there were no playoffs that year due to a player strike.

Baseball is played with a specific number of positions on the field and there is a limited number of total players which are allowed to be members of any given team. Therefore, the inputs to the production of wins are the same for each team. However, while each team has, for example, one starting first baseman the cost of this first baseman can vary. A team can choose to have a first baseman that costs the league minimum or they can choose to have a first baseman that costs 10 million dollars. Therefore, the inputs to production for this analysis are measured as the salaries of the players at each position.

Due to data limitations and in order to reduce the number of inputs for each team some positions are grouped into categories. The outfield variable is the total salary for the players which played the most games at each outfield position. For earlier years the statistics are not broken down into the specific outfield positions. For these years the outfield variable is the total salary for the three players who played the most games as outfielders.

Most teams have five starting pitchers which they rotate between each game. Therefore, the starting pitcher variable is the total salary of the five pitchers who started the most games for each team. Teams have at least six pitchers that are used in relief based on the situation. Therefore, the relief pitcher variable is calculated as the total salary paid to the six pitchers on each team that had the most relief appearances in a given season.

For the positions of first base, second base, third base, shortstop, and catcher the variables are the salary paid to the player on each team who played the most games at that position. Additionally, the American League uses a designated hitter to bat for the pitcher while the National League does not. Therefore, the American League analysis includes an extra input that is the salary of the player who played the most games as the designated hitter.

A team's ability to win is not only influenced by the players which it has but also by the talent of the teams it plays against. Two teams with identical inputs should not be expected to produce the same number of wins if one team plays against better competition. Therefore, the talent of the competition a team faces is included as a negative input to the production of wins. Since teams play the majority of their games within their own division this competition input is measured as the average total team salary of the other teams in each team's division.

As any baseball fan knows, baseball salaries have increased greatly over the past two decades. This makes any comparison between seasons meaningless. To correct for this inflation all salaries are adjusted using a baseball price index. This index is calculated as the average player salary in 2006 divided by the average player salary for each season. This index, presented in Table 1, is then used to convert all salaries into 2006 baseball dollars.

Table 1: Baseball Salary

Price Index

Year	Multiple
1985	5.9531
1986	6.7943
1987	6.5175
1988	6.2569
1989	5.6078
1990	5.5383
1991	3.1781
1992	2.7059
1993	2.9013
1994	2.7006
1995	2.9374
1996	2.7602
1997	2.3236
1998	2.2130
1999	1.9084
2000	1.4222
2001	1.2433
2002	1.1847
2003	1.1014
2004	1.1376
2005	1.0762
2006	1.0000

Team Efficiency Analysis

With the inputs and outputs defined technical efficiencies can be calculated for each team. The team under consideration is evaluated in comparison to the teams in their league from that season and the previous and following seasons. This is based on the assumption that teams from adjacent years are operating under comparable production functions while teams separated by several years are not expected to have the same production technology. This results in efficiencies being calculated for all teams in each league from 1986 to 2005 based on the following model. In this model the infield and designated hitter inputs are grouped together in order to reduce the number of constraints. The presence of the designated hitter also requires that the model be run separately for the American and National Leagues.

Maximize θ

Subject to: (1) $\sum\lambda_i WIN_i \geq \theta WIN_0$

(2) $\sum\lambda_i PWIN_i \geq \theta PWIN_0$

(3) $\sum\lambda_i INF_i \leq INF_0$

(4) $\sum\lambda_i OUT_i \leq OUT_0$

(5) $\sum\lambda_i SP_i \leq SP_0$

(6) $\sum\lambda_i RP_i \leq RP_0$

(7) $\sum\lambda_i COMP_i \geq COMP_0$

(8) $\sum\lambda_i = 1$

(9) $\lambda_i \geq 0$

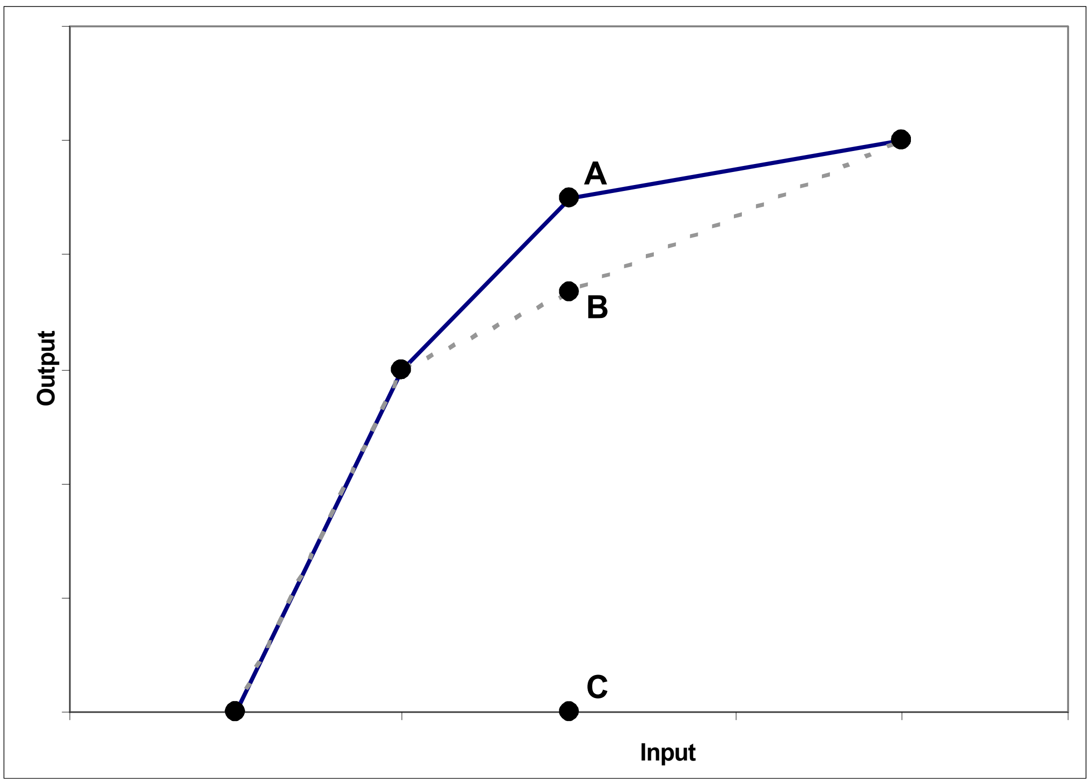
Where 0 indicates the firm being analyzed and i indexes the other firms in the reference group.

In this model, constraints 1 and 2 imply that the linear combination of observations must have at least as many regular and post season wins as the team under consideration. Constraints 3 through 6 imply that the linear combination of observations have inputs less than or equal to that of the team under consideration for each position. Constraint 7 implies that the linear combination of observations face a level of competition greater than or equal to that of the team under consideration. Constraints 8 and 9 ensure variable returns to scale and positive solutions.

The average results for each team from this model are presented in Table 2. The higher the technical efficiency the more efficient a firm is with efficient firms having a technical efficiency equal to one. This model suffers from the shortcoming that there are generally multiple teams in each period which are efficient. Therefore, several teams will have a technical efficiency of one in each period with no way to rank them.

One way to compare amongst efficient firms is determine how much an efficient firm's output can be reduced while it still remains efficient. This can be calculated by simply running the same model with the added constraint that the lambda of the team under consideration be equal to zero. This results in the frontier being based on all observations except that of the firm under consideration. This measure is referred to as super-efficiency and was proposed by Anderson and Petersen (1993).

Figure 2



This model is shown graphically for the single input single output case in Figure 2. In this example firm A is located on the efficiency frontier and therefore has a technical efficiency equal to one. In order to calculate the super efficiency measure for firm A we compare that firm to a frontier created using all firms excluding firm A. This frontier is shown in Figure 2 by the dashed line. Firm A's efficiency relative to this frontier is calculated as the distance from A to C divided by the distance from B to C.

This value will be greater than one for all firms which lie on the original frontier and less than one for all firms which lie below the original frontier. For firms which are inefficient the value of this measure will be the same as that of the output oriented technical efficiency presented previously. The difference in and advantage to a super efficiency measure is that those firms which are efficient will now have a measure greater than one allowing for comparison between efficient firms.

The shortcoming of this model is that under certain conditions there may be no feasible solution to the maximization problem. This results in super-efficiencies only being feasible for 415 of the 534 observations in this sample. The model is run again with this additional constraint and the average results for each team for the years which super-efficiency is feasible are presented in Table 2.

Table 2: Average Efficiency Scores (1986-2005)

	Technical Efficiency		Super Efficiency	
Team	Rank	Average TE	Rank	Average SE
ATL	4	0.9384	1	1.7905
ARI	18	0.8825	2	1.5318
OAK	3	0.9389	3	1.3410
CHA	19	0.8813	4	1.2157
FLO	1	0.9753	5	1.1939
LAA/ANA/CAL	12	0.9025	6	1.1734
MIN	10	0.9142	7	1.0992
SLN	8	0.9166	8	1.0870
BOS	14	0.8956	9	1.0658
NYA	11	0.9073	10	1.0244
HOU	2	0.9475	11	0.9856
TOR	5	0.9250	12	0.9837
CLE	13	0.8992	13	0.9502
SFN	6	0.9202	14	0.9473
SEA	24	0.8716	15	0.9450
WAS/MON	9	0.9161	16	0.9403
TBA	7	0.9187	17	0.9214
PHI	15	0.8947	18	0.9188
SDN	23	0.8735	19	0.9141
LAN	21	0.8785	20	0.9140
NYN	22	0.8771	21	0.8975
MIL	17	0.8831	22	0.8937
PIT	16	0.8906	23	0.8933

CIN	20	0.8790	24	0.8913
TEX	25	0.8647	25	0.8749
COL	26	0.8569	26	0.8569
KCA	28	0.8353	27	0.8512
BAL	29	0.8278	28	0.8469
CHN	27	0.8364	29	0.8467
DET	30	0.8099	30	0.8125

These results are based on a model in which the efficient bundle is that which maximizes output subject to the constraint that the inputs be less than the actual inputs for each individual position. In other words this model assumes that teams may not shift resources between two inputs. It may be more realistic to assume that teams are constrained by their total level of inputs but are free to allocate them as they see fit. Therefore, efficiency scores are also calculated based on the following model.

Maximize θ

Subject to:

(1) $\sum \lambda_i WIN_i \geq \theta WIN_0$

(2) $\sum \lambda_i PWIN_i \geq \theta PWIN_0$

(3) $\sum \lambda_i TOTAL_i \leq TOTAL_0$

(4) $\sum \lambda_i COMP_i \geq COMP_0$

(5) $\sum \lambda_i = 1$

(6) $\lambda_i \geq 0$

As with the previous model, constraints 1 and 2 imply that the linear combination of observations must have at least as many regular and post season wins as the team under consideration. This model replaces the individual constraints on each position with constraint 3 which implies that the total budget of the linear combination of observations be less than or equal to the total budget of the team under consideration. Constraint 4 implies that the linear combination of observations face a level of competition greater than or equal to that of the team under consideration. Constraints 5 and 6 ensure variable returns to scale and positive solutions. The average output oriented technical efficiency scores for each team from this model are presented in Table 3.

Table 3: Average Efficiency Scores (1986-2005)

Team	TE with Reallocation		SE with Reallocation	
	Rank	Average TE	Rank	Average SE
FLO	5	0.9038	1	1.4414
CIN	18	0.8549	2	1.2324
ATL	2	0.9154	3	1.1872
SFN	6	0.9003	4	1.0138
BOS	16	0.8687	5	1.0093
ARI	19	0.8536	6	1.0005
MIN	12	0.8784	7	0.9846
NYA	8	0.8966	8	0.9796
OAK	3	0.9078	9	0.9695
LAA/ANA/CAL	21	0.8414	10	0.9226
PIT	9	0.8935	11	0.9129
WAS/MON	4	0.9062	12	0.9031
HOU	7	0.8985	13	0.9011
CHA	17	0.8601	14	0.8997
TOR	13	0.8782	15	0.8920
SLN	14	0.8738	16	0.8755
SDN	11	0.8792	17	0.8686
MIL	15	0.8690	18	0.8572
NYN	20	0.8458	19	0.8512
CLE	10	0.8823	20	0.8495
TBA	1	0.9219	21*	0.8438*
LAN	22	0.8358	22	0.8425
PHI	25	0.8232	23	0.8230
SEA	23	0.8296	24	0.8171
COL	24	0.8233	25	0.8073
TEX	27	0.7999	26	0.8068
KCA	29	0.7962	27	0.7962
BAL	28	0.7980	28	0.7929
CHN	26	0.8013	29	0.7903
DET	30	0.7780	30	0.7721

* Due to their unusually low payroll half of TB's seasons had no feasable solution for SE.

By allowing teams to shift salary from one position to another it is possible for the constructed efficient bundle to have more or less of any individual input. For inefficient teams the levels of input from the efficient bundle can be compared to the actual inputs to see which inputs are being over utilized and which inputs are being underutilized. The difference between the efficient level and actual level for each input is calculated for each inefficient team in each year. This difference will obviously be zero for all efficient teams and therefore only inefficient teams are included in the analysis. The average differences between the actual level and the efficient level for each input are presented in tables 4 and 5. A positive value implies that on average the input is over utilized while a negative value implies that on average the input is underutilized.

Table 4: Average difference between observed and efficient levels of input
National League (1986-2005)

	Observed Input - Efficient Input ($)			
	Technical Efficiency Model		Super Efficiency Model	
Position	Mean	Median	Mean	Median
Catcher	-382,356	-610,706	-201,967	-514,714
First Base	1,059,300	465,739	924,472	212,115
Second Base	977,676	434,541	750,524	234,827
Shortstop	409,328	-205,069	209,925	-249,453
Third Base	-140,504	-283,274	-33,896	-323,440
Outfield	689,844	205,383	951,600	868,984
Starting Pitching	-3,626,009	-3,069,566	-2,295,165	-2,229,970
Relief Pitching	2,793,179	1,833,744	2,441,992	1,548,096
Designated Hitter	n/a	n/a	n/a	n/a
Total Salary	1,780,460	0	2,747,485	0

Table 5: Average difference between observed and efficient levels of input
American League (1986-2005)

	Observed Input - Efficient Input ($)			
	Technical Efficiency Model		Super Efficiency Model	
Position	Mean	Median	Mean	Median
Catcher	894,220	218,999	807,093	116,594
First Base	1,886,443	651,653	1,570,373	545,375
Second Base	-1,293,075	-1,219,510	-1,037,490	-925,717
Shortstop	614,057	46,193	545,204	35,341
Third Base	408,880	-181,448	617,552	-110,316
Outfield	-294,795	-671,935	199,622	-466,557
Starting Pitching	1,082,737	941,608	1,655,831	1,192,102
Relief Pitching	1,213,592	738,350	1,264,026	578,134
Designated Hitter	940,315	468,905	832,710	105,544
Total Salary	5,452,373	0	6,454,921	0

As with the previous technical efficiency measure, this model suffers from the shortcoming that there are generally multiple teams in each period which are efficient. Therefore, several teams will have a technical efficiency of one in each period with no way to analyze how they could have improved upon their performance. As with the previous model super-efficiencies can be used to determine how much these efficient teams could have reduced their outputs while remaining efficient. This is accomplished by adding the constraint that the lambda of the team under consideration be equal to zero. As with the previous model, under certain conditions this may result in no feasible solution to the maximization problem. This results in super efficiency scores being feasible for 502 out of 534 observations. The average team super efficiency scores for these 502 observations are reported in Table 3.

The results of this super-efficiency analysis also provide optimal inputs for those teams which are efficient as well as those which are not. This allows for comparison between the observed inputs and optimal inputs for both efficient and inefficient teams. As with the technical efficiency model the differences between the observed inputs and optimal inputs for each position are calculated and the averages reported in tables 4 and 5. Unlike the technical efficiency model, these averages include all teams for which a solution was feasible not just those that are inefficient. As with the previous results a positive number implies that teams over utilize that input while a negative number implies that teams underutilize that input. The distributions of these values for each position are presented in Appendices A and B. Additionally, detailed results from the super efficiency model are provided for each individual observation in Appendix C.

Having identified those teams which are efficient and inefficient it is possible to draw comparisons between the two groups. Table 6 provides the averages of several descriptive statistics for both efficient and inefficient teams based on the model allowing for reallocation of resources. These statistics include the total salary of the team, the average age and experience of the players, the number of all-star players in that season, the number of previous all-star appearances by that team's players, the number of rookies on that team, and a dummy variable for if that team had the rookie of the year.

Table 6: Averages for various statistics (1986-2005)

	Inefficient Teams	Efficient Teams
Player Age	29.471*	29.194
Player Experience	425*	401
All-Stars	1.985	2.836*
Past All-Stars	4.519	5.328*
Rookies	2.68*	2.43
Rookies of the Year	0.068	0.082*
Total Salary	72,363,990*	66,922,520
Catcher	3,534,326*	3,086,161
First Base	6,441,926*	4,555,042
Second Base	3,661,823*	3,604,176
Shortstop	3,971,392*	3,195,417
Third Base	4,087,477	4,156,793*
Outfield	14,857,890*	14,249,000
Starting Pitchers	19,650,300	19,973,380*
Relief Pitchers	13,389,590*	12,011,670
Designated Hitter	5,565,533*	4,181,780

*Greater Value

National League Results

In addition to identifying which teams are efficient and inefficient, the models presented provide additional information about each team's performance. Specifically, the efficiency measure provides an input combination which each team could have used in order to produce efficiently within their budget. By comparing this set of inputs to the observed inputs it is possible to identify which positions a team should have spent more or less of their budget on. The average results for each position in the National League are presented in table 4. The distributions for each position in the National League are presented graphically in Appendix A.

The positions of first base, second base, outfield, and relief pitching all have positive values for the mean and median under both models presented in table 4. This implies that teams are spending more than the efficient level on each of these inputs. Therefore, on average National League teams could improve their efficiency by allocating fewer resources to first base, second base, outfield, and relief pitching.

It is also shown that teams have negative mean and median values for the positions of catcher, third base, and starting pitching. This implies that teams are spending less than the efficient level on each of these inputs. Therefore, on average National League teams could improve their efficiency by allocating more resources towards catcher, third base, and starting pitching. The results for shortstop are inconclusive as the means are positive and the medians are negative for both models.

The results suggest that the largest savings may be made by reducing the amount spent on the first baseman. Based on the super efficiency model the average team spends 924,000 dollars too much on their first baseman. The next most overused resource is the shortstop which is on average allocated 750,000 dollars too much. The average team also spends too much on outfielders and relief pitchers. However, the amount of savings available to the average team per player at these positions is relatively small.

While the first baseman appears to be the most overused resource in the National League starting pitchers are the most underutilized resource. The model suggests that the average team should increase the amount of money allocated to starting pitching by 2.3 million dollars. This is equivalent to increasing the allocation to each individual starting pitcher by around 460,000 dollars. The idea that starting pitchers are underutilized is supported by the average team statistics presented in table 6. Starting pitching is one of only two positions on which efficient teams actually spend more than inefficient teams.

In addition to starting pitching National League teams underutilize the catcher and third base inputs. However, the magnitudes of the differences between the efficient and inefficient levels are much smaller than for starting pitching. Specifically, teams should increase the amount allocated to catcher and third base by 203,000 and 34,000 dollars respectively.

American League Results

The results for the American League, presented in Table 5, differ significantly from that of the National League. This is to be expected as the American League uses a designated hitter to bat for the pitcher. This may alter the significance of other batters as well as the use of relief pitching and the overall strategies employed by American League teams.

The positions of catcher, first base, short stop, starting pitching, relief pitching, and the designated hitter all have positive means and medians in Table 5 under both models. These positive values imply that teams are spending more than the efficient level on those positions. Therefore, on average American League teams could increase their efficiency by allocating fewer resources towards catcher, first base, short stop, starting pitching, relief pitching, and the designated hitter.

Second base is the only position for which American League teams have both a negative mean and median value in Table 5. This implies that American League teams on average spend less than the efficient level on second basemen. Therefore, American

League teams could increase their efficiency be allocating more resources towards second base. The results for third base and outfield are inconclusive as the average differences between the efficient and observed inputs have a positive mean but a negative median. The distributions for each position in the American League are presented graphically in Appendix B.

As with the National League, American League teams over allocate the most money to first base. Based on the super efficiency model the average American League team spends over 1.5 million dollars too much on first base. This is the largest average discrepancy for any position in either league. On average, American League teams also allocate over 800,000 too much to both the catcher and designated hitter. Teams also appear to allocate too much money to the shortstop, starting pitching and relief pitching. However, the amount by which they exceed the optimal allocation to these positions is significantly smaller. Specifically, they exceed the optimal allocation by 545,000 for the shortstop, 331,000 for each starting pitcher, and 211,000 for each relief pitcher.

The only position which the average American League team does not spend enough money on is second base. Based on the super efficiency model the average team spends over 1 million dollars too little on their second baseman. This is the largest underutilization of any individual input in either league. There appears to be some evidence that American League teams on average allocate too little money toward the outfield. The mean and median differences are negative for the technical efficiency model and the median difference is negative for the super efficiency model. However, the magnitude of the differences appears to be small.

General Results

In addition to the amount of money which teams allocate to each position, team's efficiency may also be affected by the types of players they utilize. For example, teams may be able to get more for their dollar of input if they use younger unproven players. Teams may also be able to take advantage of a good minor league system by promoting inexpensive rookies up to the Major League level.

In order to test these theories the average player age and experience are calculated for efficient and inefficient teams and presented in Table 6. It is shown that on average players on efficient teams are 3 to 4 months younger than those on inefficient teams. It is also shown that on average players on efficient teams have appeared in 24 fewer games at the Major League level. These statistics provide some evidence that efficient teams do a better job of identifying young unproven talent.

In addition to age and experience teams may also achieve greater efficiency by utilizing inexpensive players brought up from their minor league systems. To test this theory the average number of rookies and rookie of the year winners are calculated for efficient and inefficient teams and reported in Table 6. It is shown that on average efficient teams have fewer rookies but more rookie of the year winners. This implies that in achieving efficient production of wins it is not the number of rookies which a team utilizes but the quality of those rookies which matters most.

In contrast to using young unproven talent teams may also choose to use established proven players. One could argue that teams are much less likely to find a bargain when purchasing proven talent and therefore teams with more proven talent may be inefficient. One way to measure this proven talent is to look at the number of previous all star appearances a team's players have. In addition to providing a measure of proven talent all star appearances may also measure the popularity of players as all star awards are voted on by the fans. While popularity with fans may increase profits it is not expected to increase wins. Therefore, it is expected that all star status could result in players being paid beyond their contribution to wins. In order to evaluate this theory the average number of all stars in that season and previous all star appearances by that teams players are calculated and presented in Table 6.

It is shown that efficient teams have a greater number of current all stars. This is not surprising as current all stars is a measure of how productive those players were in that season and having exceptional players should increase efficiency. It is interesting to see that on average efficient teams also have more past all star appearances on their rosters. This implies that spending money on proven and popular players is not wasteful and may actually be an efficient means of production. Based on this analysis, teams should not only attempt to take advantage of young unproven talent but also rely on proven all stars.

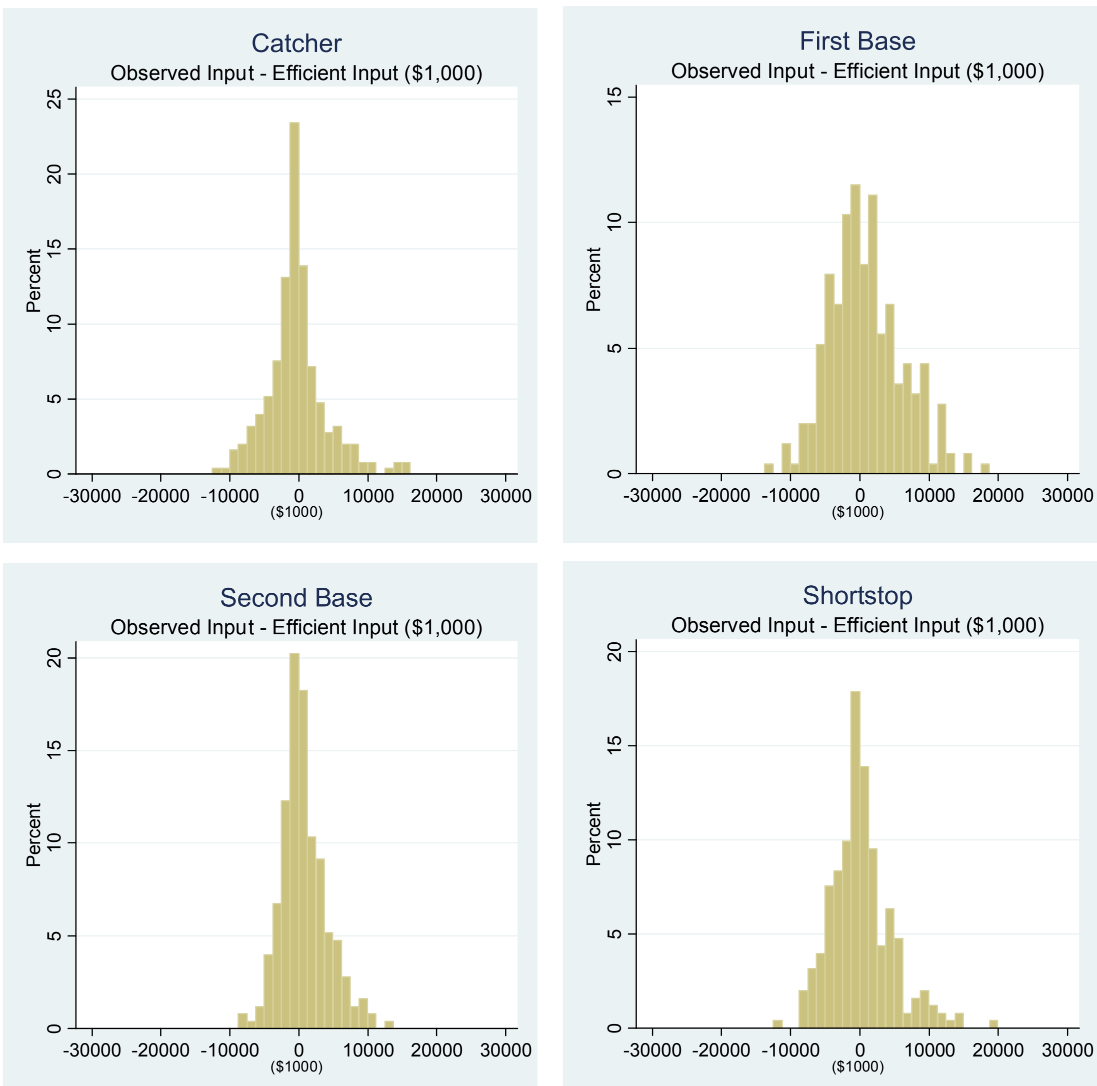
The three teams which are consistently highly ranked under all four models presented are the Florida Marlins, Atlanta Braves, and Oakland Athletics. None of these team's high ranking should be a surprise to baseball fans. The Marlins are certainly known for their use of young talent in order to produce the most wins given their payroll. The team has even been widely criticized for its strategy of selling off young players as soon as they become expensive. It appears that this team's consistently high ranking supports the conclusion that efficient teams should take advantage of younger less experienced players. The Braves successful teams during this sample have been traditionally attributed to their superior pitching rotations. The high efficiency rankings of the Braves are, therefore, consistent with this paper's finding that National League teams should spend more on starting pitching. The Athletics attempts to take advantage of undervalued players are well known to most fans after being described in the popular book, Money Ball. Therefore, the Athletics high efficiency scores are expected as they have made a conscious effort to get the most for their money. For more details on a specific team or season individual analysis for each team in the sample is presented in Appendix C.

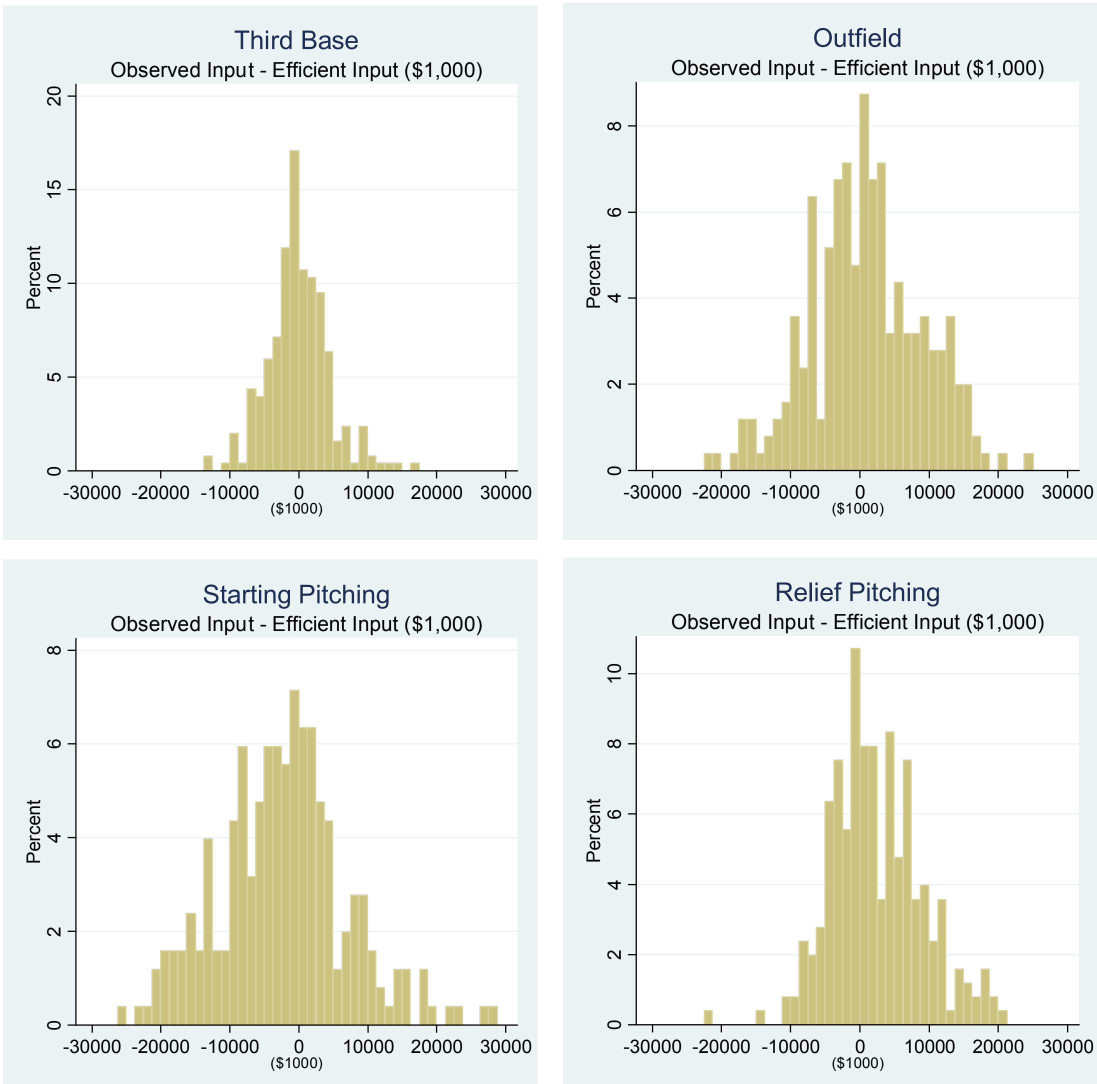
Conclusions

Through the use of various DEA models this analysis has identified those teams which are efficient and inefficient. In addition to identifying which teams are inefficient the models identify the source of such inefficiencies and suggest superior allocations of inputs. It is shown that on average both National and American League teams over allocate the most resources to first basemen. Additionally, on average National League teams under allocate the most resources towards starting pitching while American League teams under allocate the most resources toward second base. It is also found that on average efficient teams use younger less experienced players and employ rosters with a greater number of previous all star appearances. These conclusions are based on salary and team performance data from 1985 to 2006 and identify the Atlanta Braves, Florida Marlins, and Oakland Athletics as the most consistently efficient teams over that time period.

Appendix A: National League (1986-2005)
Observed Input – Efficient Input Distributions by Position

The following graphs display the distributions of observed inputs minus efficient inputs from the super efficiency model allowing for reallocation of resources. Positive values imply teams spent too much on a position while negative values imply a team spent too little on a position.

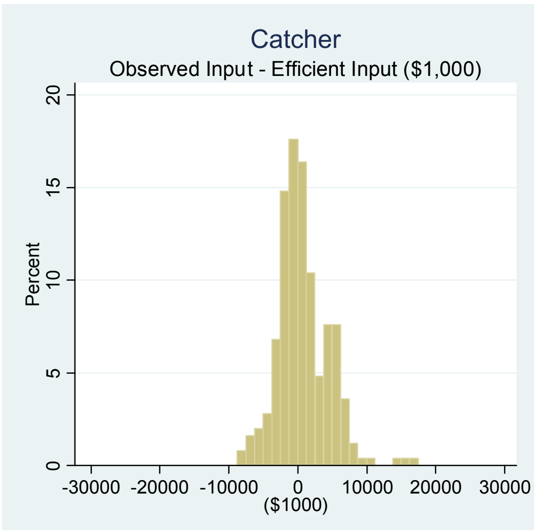


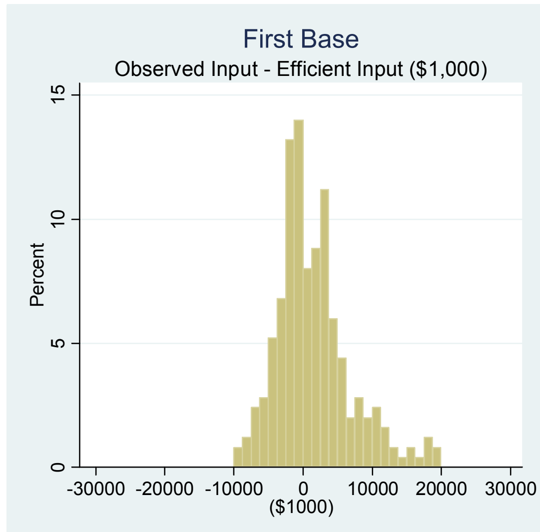


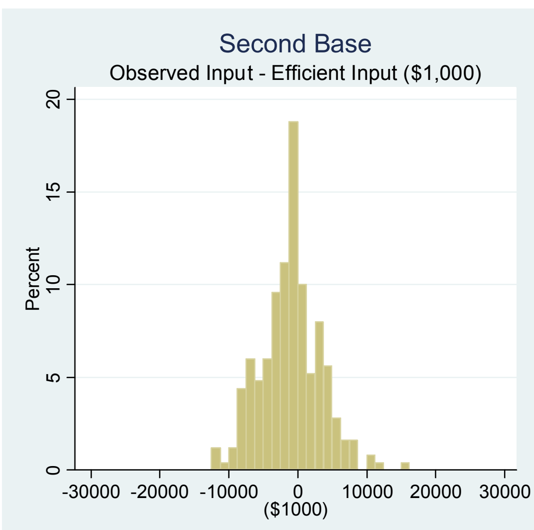
Third Base
Observed Input - Efficient Input ($1,000)
Percent
0
5
10
15
20
-30000 -20000 -10000 0 10000 20000 30000
($1000)
Outfield
Observed Input - Efficient Input ($1,000)
Percent
0
2
4
6
8
-30000 -20000 -10000 0 10000 20000 30000
($1000)
Starting Pitching
Observed Input - Efficient Input ($1,000)
Percent
0
2
4
6
8
-30000 -20000 -10000 0 10000 20000 30000
($1000)
Relief Pitching
Observed Input - Efficient Input ($1,000)
Percent
0
2
4
6
8
10
-30000 -20000 -10000 0 10000 20000 30000
($1000)

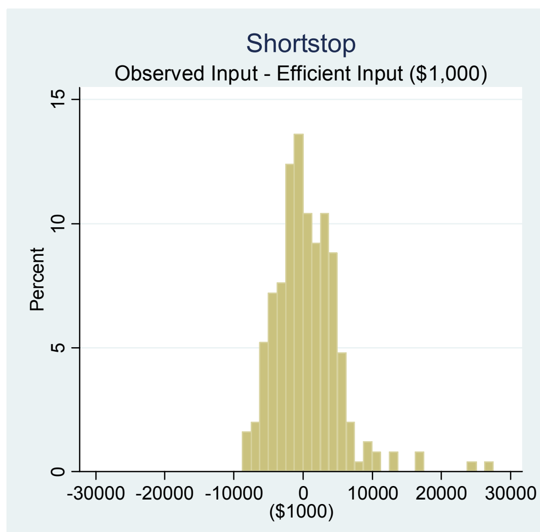
Appendix B: American League (1986-2005)
Observed Input – Efficient Input Distributions by Position

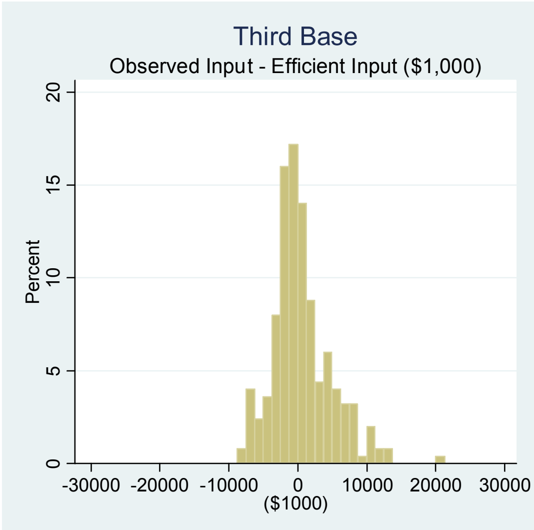
The following graphs display the distributions of observed inputs minus efficient inputs from the super efficiency model allowing for reallocation of resources. Positive values imply teams spent too much on a position while negative values imply a team spent too little on a position.

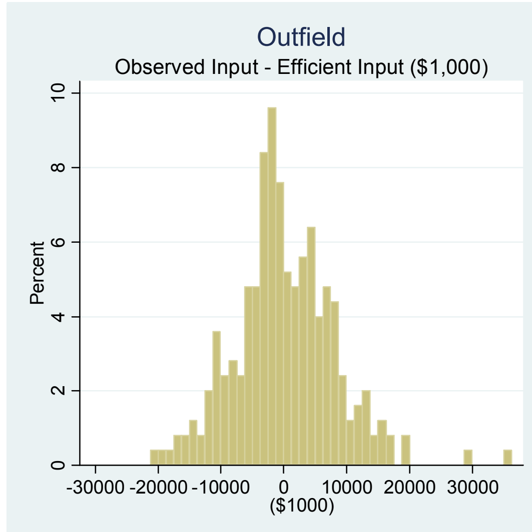


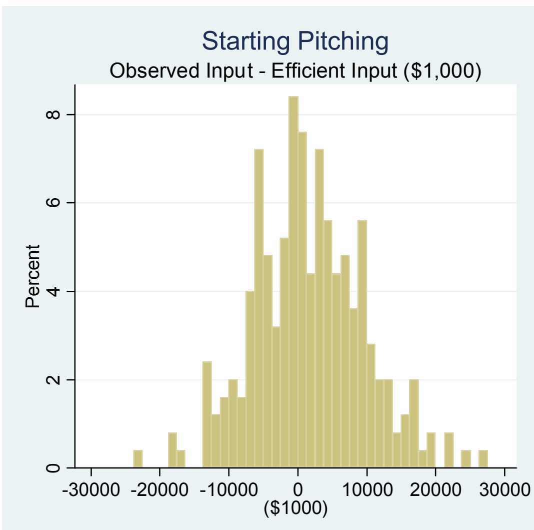


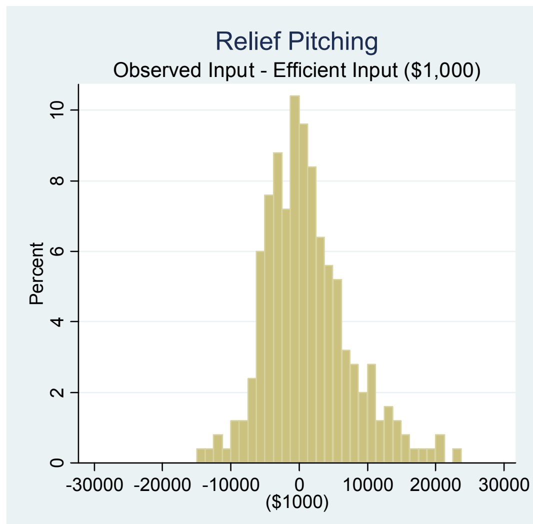


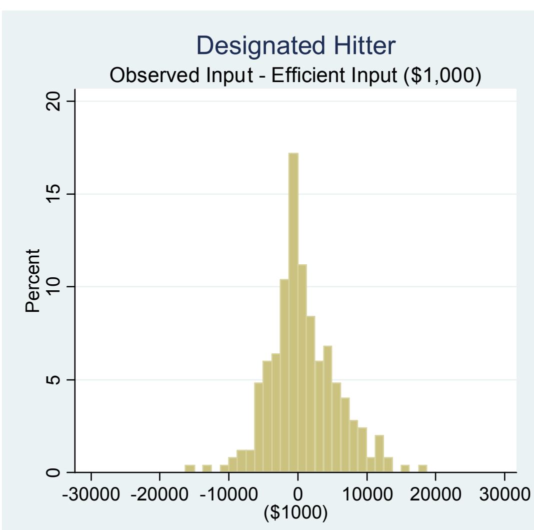



Third Base
Observed Input - Efficient Input ($1,000)
Percent
0
5
10
15
20
-30000 -20000 -10000 0 10000 20000 30000
($1000)


Outfield
Observed Input - Efficient Input ($1,000)
Percent
0
2
4
6
8
10
-30000 -20000 -10000 0 10000 20000 30000
($1000)


Starting Pitching
Observed Input - Efficient Input ($1,000)
Percent
0
2
4
6
8
-30000 -20000 -10000 0 10000 20000 30000
($1000)


Relief Pitching
Observed Input - Efficient Input ($1,000)
Percent
0
2
4
6
8
10
-30000 -20000 -10000 0 10000 20000 30000
($1000)


Designated Hitter
Observed Input - Efficient Input ($1,000)
Percent
0
5
10
15
20
-30000 -20000 -10000 0 10000 20000 30000
($1000)

Appendix C: Team DEA Results (1986-2005)
Super Efficiency Model with Reallocation of Resources

Year	Team	Super Efficiency	Increase in Winning Percentage	Increase in Postseason Wins	Observed Input – Efficient Input ($1,000)								
					C	1B	2B	3B	SS	DH	OF	SP	RP
1986	ATL	0.67	219.10	7.99	-10,675	1,035	1,214	1,254	-1,247	-	4,225	-6,011	10,205
1986	BAL	0.78	130.27	0.44	2,580	3,304	-725	485	5,695	-2,993	2,938	6,184	2,109
1986	BOS	2.49	-71.44	-4.19	1,154	594	-2,599	5,070	-2,161	-1,425	15,675	-3,865	10,425
1986	CAL	1.00	0.35	0.00	1,594	-2,718	-590	2,487	448	3,703	-1,790	10,693	6,356
1986	CHA	0.77	134.91	0.56	1,796	-1,652	27	-3,556	329	-238	-8,693	10,697	1,291
1986	CHN	0.66	229.17	8.00	-9,019	-4,530	2,310	5,130	-917	-	2,927	9,671	7,186
1986	CIN	0.85	97.11	7.10	1,198	-7,610	1,200	4,853	-7,435	-	5,470	6,851	-4,527
1986	CLE	-	-	-	-	-	-	-	-	-	-	-	-
1986	DET	0.92	45.50	0.48	5,351	2,374	2,930	-1,161	1,604	-2,160	5,760	3,243	1,637
1986	HOU	0.94	36.41	5.13	-783	-8,693	548	1,345	-3,600	-	2,605	10,401	-1,822
1986	KCA	0.82	104.39	0.00	-60	-685	-644	4,589	-159	-222	11	6,395	-2,831
1986	LAN	0.69	205.39	7.75	-6,321	-8,520	1,486	2,252	-2,299	-	-4,662	17,781	283
1986	MIN	0.75	145.36	2.55	-2,837	2,973	-3,527	-850	-169	2,457	-861	8,850	-6,036
1986	ML4	0.85	85.47	0.05	2,326	1,451	5,344	6,778	428	1,932	749	1,554	-983
1986	MON	0.82	108.14	5.33	-1,797	-6,906	-735	3,728	-2,411	-	13,721	843	6,973
1986	NYA	0.91	53.56	1.84	3,802	5,533	3,766	-1,359	6,687	955	12,430	-5,233	17,844
1986	NYN	1.14	-59.13	-1.00	9,846	2,291	-2,284	3,412	-8,726	-	6,625	3,017	474
1986	OAK	0.80	115.65	4.03	-2,669	402	-1,687	3,915	2,932	1,935	2,491	-872	-6,448
1986	PHI	0.84	100.85	7.27	-5,318	-5,363	449	12,855	-6,232	-	104	2,191	10,017
1986	PIT	-	-	-	-	-	-	-	-	-	-	-	-
1986	SDN	0.69	200.91	7.79	-5,971	-2,312	-1,139	2,586	4,451	-	-3,297	683	5,000
1986	SEA	-	-	-	-	-	-	-	-	-	-	-	-
1986	SFN	0.91	51.66	3.64	1,832	-3,320	-2,312	-1,477	-2,795	-	2,143	939	4,990
1986	SLN	0.87	74.07	3.83	-1,426	3,177	890	585	7,930	-	1,917	3,348	-1,618
1986	TEX	1.13	-62.72	0.00	1,176	447	3,889	-123	1,274	286	-3,162	959	-4,745
1986	TOR	0.89	65.26	0.72	1,775	3,183	3,231	-243	-1,199	747	1,736	32	10,316
1987	ATL	0.67	213.94	6.91	-6,621	-7,966	1,691	233	-1,037	-	9,527	-246	4,420
1987	BAL	0.67	200.72	2.01	5,842	10,375	-2,310	101	5,695	-1,904	-1,735	-7,948	9,870
1987	BOS	0.77	144.13	3.23	5,763	4,589	1,054	5,340	2,567	7	12,538	312	7,530
1987	CAL	0.74	161.69	3.47	4,397	-986	-976	911	1,717	2,369	-3,577	-372	-3,483
1987	CHA	0.76	152.38	3.54	4,505	-520	-2,215	-2,541	4,246	2,601	2,751	-2,175	-6,652

1987	CHN	0.71	188.74	7.30	-7,945	-3,550	2,483	2,422	-422	-	-2,577	2,962	6,626
1987	CIN	0.88	72.23	4.58	459	-2,098	3,565	942	-869	-	-366	429	-2,064
1987	CLE	0.65	200.06	0.34	1,568	-1,280	2,779	2,500	3,271	268	-2,051	-6,867	-189
1987	DET	1.02	-9.27	1.11	-586	1,237	1,274	-1,696	3,509	1,388	7,359	16,571	1,026
1987	HOU	0.73	170.45	6.78	-7,451	-7,268	2,181	-628	1,198	-	-1,492	8,636	4,823
1987	KCA	0.82	113.75	5.31	-1,310	10,622	2,807	-7,718	-592	584	1,785	1,992	-8,170
1987	LAN	0.68	211.47	7.45	-8,850	-10,312	4,757	-3,971	-491	-	7,681	10,508	679
1987	MIN	1.14	65.37	-1.00	4,122	3,204	5,582	-2,981	3,644	-1,458	-11,843	16,973	-114
1987	ML4	-	-	-	-	-	-	-	-	-	-	-	-
1987	MON	0.96	23.95	3.89	-3,898	-3,944	2,197	1,109	3,721	-	2,814	-3,966	1,967
1987	NYA	0.90	60.10	1.49	1,010	9,678	3,138	-1,915	-1,068	-1,605	4,105	-11,167	6,543
1987	NYN	0.86	92.47	7.24	-1,074	466	-681	-2,438	209	-	1,028	1,488	1,003
1987	OAK	0.81	118.73	3.33	-946	-1,580	577	2,719	3,050	141	91	-1,729	-2,323
1987	PHI	0.75	167.36	7.34	-8,010	-2,786	1,849	9,487	-466	-	-6,739	-8,096	14,761
1987	PIT	-	-	-	-	-	-	-	-	-	-	-	-
1987	SDN	0.65	215.84	5.77	-7,889	-5,839	499	-3,891	6,000	-	-4,961	8,319	7,762
1987	SEA	0.87	74.10	0.23	-497	-1,946	-1,830	769	835	-1,492	2,356	2,586	-781
1987	SFN	3.09	-16.65	-2.03	-1,808	-2,334	-328	3,459	-1,185	-	1,373	1,307	-483
1987	SLN	0.98	19.42	0.13	-654	3,754	2,585	-1,242	9,615	-	-8,440	-2,508	-3,111
1987	TEX	0.74	165.12	4.43	2,144	1,637	-2,304	-6,205	-513	477	3,198	-5,529	7,096
1987	TOR	0.98	10.15	0.95	4,447	2,744	-151	-1,654	-1,242	-4,078	8,622	-6,459	-2,229
1988	ATL	0.58	245.92	2.84	-329	-2,739	-1,807	63	-205	-	4,066	-4,366	5,317
1988	BAL	0.62	206.79	0.00	312	9,887	-4,262	-6,678	9,595	2,398	-4,118	-1,378	6,794
1988	BOS	0.96	22.49	0.23	5,545	-2,291	3,132	8,975	-1,002	10,329	1,417	13,826	20,135
1988	CAL	0.72	177.03	4.92	3,644	351	1,880	-6,766	3,056	2,347	3,023	-2,088	-5,446
1988	CHA	0.74	158.95	2.38	3,273	2,440	-964	-3,325	2,861	3,098	-955	-5,905	-524
1988	CHN	0.82	102.10	1.38	-6,569	1,779	3,127	-435	661	-	532	1,503	-598
1988	CIN	0.94	32.28	2.49	756	-1,450	-1,394	-3,748	-139	-	-3,963	2,457	7,482
1988	CLE	-	-	-	-	-	-	-	-	-	-	-	-
1988	DET	0.99	5.59	0.00	439	2,158	2,749	-2,895	5,364	611	-3,318	16,158	7,341
1988	HOU	0.84	98.16	3.00	-2,731	-6,237	2,709	997	5,106	-	-6,705	3,166	3,693
1988	KCA	0.81	120.24	5.00	219	12,858	2,503	-7,039	469	11,325	9,193	9,182	6,803
1988	LAN	1.14	6.17	-1.00	-1,241	-7,002	-784	-852	-7,951	-	12,651	6,875	5,327
1988	MIN	0.97	18.37	2.43	-144	641	-2,993	5,917	2,120	-8,406	2,605	5,054	-4,794
1988	ML4	1.03	-15.98	0.00	-2,764	1,566	3,652	6,718	-2,864	-2,823	-5,193	-523	2,232
1988	MON	0.87	74.88	1.30	-6,175	-4,784	-462	2,620	-210	-	5,218	-1,318	5,110
1988	NYA	0.92	45.07	0.26	2,909	9,670	4,326	1,745	1,163	5,821	15,541	8,064	10,827

1988	NYN	1.07	-40.56	3.75	6,242	3,326	-1,762	2,977	-11,788	-	9,716	7,409	11,568
1988	OAK	1.09	-50.78	-0.23	542	-1,209	917	3,112	-546	-1,964	-6,181	674	4,654
1988	PHI	0.67	200.91	2.27	-4,294	-1,168	3,443	10,439	820	-	-6,311	-3,307	378
1988	PIT	-	-	-	-	-	-	-	-	-	-	-	-
1988	SDN	0.91	53.68	2.38	-3,068	3,794	-1,272	-2,375	6,204	-	-1,461	2,763	-4,586
1988	SEA	0.73	159.20	1.24	43	3,179	153	553	200	1,007	-1,525	1,763	-5,373
1988	SFN	0.87	73.90	2.93	-5,421	-3,677	-868	-3,075	2,466	-	-1,178	4,465	7,288
1988	SLN	0.76	144.20	2.63	-5,122	-4,471	-1,617	143	14,162	-	-2,957	384	-522
1988	TEX	0.77	132.67	0.36	333	957	845	-422	3,010	236	-5,692	3,434	-2,700
1988	TOR	0.99	7.10	0.00	4,032	-2,636	-3,704	-5,728	4,477	2,552	11,539	9,657	-2,924
1989	ATL	0.71	162.77	0.56	3,896	2,151	-2,327	-1,405	941	-	3,084	-10,746	4,407
1989	BAL	0.90	60.33	1.39	-6,235	-413	-4,179	-2,274	9,721	2,170	2,988	-2,419	642
1989	BOS	0.80	125.96	4.41	-483	-2,376	2,774	2,878	-343	-1,672	-6,997	2,869	3,351
1989	CAL	0.88	75.44	4.32	2,244	-347	3,126	-4,696	4,070	-733	3,463	-4,067	-3,061
1989	CHA	0.73	158.69	0.57	-2,075	3,362	-3,389	-1,033	-467	6,674	-2,212	-411	-449
1989	CHN	1.00	0.26	0.56	-2,137	-1,914	4,057	1,582	2,128	-	-3,564	483	-634
1989	CIN	0.83	97.73	0.75	-126	-565	301	-1,038	-434	-	-1,540	3,319	84
1989	CLE	0.75	149.72	1.63	-5,831	3,043	-3,901	2,377	-3,387	-1,089	6,015	30	2,743
1989	DET	0.57	275.12	4.57	-475	-2,018	3,877	-6,690	5,385	1,780	-2,347	1,575	-1,086
1989	HOU	0.88	71.79	2.13	-7,427	-751	642	-2,744	4,305	-	-3,036	-156	9,168
1989	KCA	0.89	70.92	4.49	1,911	6,233	3,883	-5,679	1,723	-1,371	4,671	595	-4,233
1989	LAN	0.78	134.36	2.76	-4,835	3,627	1,466	-2,600	5,038	-	-6,999	9,251	-4,947
1989	MIN	0.77	145.61	4.59	-1,987	4,409	2,299	5,766	2,431	-5,260	7,883	1,175	-911
1989	ML4	0.80	121.52	3.32	-3,507	2,340	1,544	6,170	-1,736	-2,273	6,435	-3,410	-5,565
1989	MON	0.84	93.86	2.19	-4,625	339	-197	3,986	2,280	-	279	-6,639	4,576
1989	NYA	0.72	179.71	4.57	793	7,886	4,572	-4,450	-399	-1,185	889	-5,301	-2,805
1989	NYN	0.89	63.37	2.36	-6,286	-5,043	-1,864	2,358	-7	-	2,677	12,331	-4,166
1989	OAK	1.85	24.45	-3.66	-1,278	-2,620	954	316	130	-1,420	-1,785	4,506	1,199
1989	PHI	0.74	148.10	1.01	-677	-2,009	3,638	-645	2,458	-	-1,593	-9,231	8,058
1989	PIT	0.80	116.24	1.31	-870	176	-133	3,246	-457	-	1,592	-2,543	-1,010
1989	SDN	0.92	46.30	1.88	-4,136	5,889	-3,729	-833	2,058	-	-5,557	10,511	-4,204
1989	SEA	0.76	139.64	0.81	-6,658	7,133	-1,510	1,553	-4,322	4,326	-3,692	-2,697	5,867
1989	SFN	0.97	17.53	0.12	-246	3,429	-1,635	903	793	-	-2,826	940	-1,358
1989	SLN	0.86	83.11	2.55	-1,990	2,675	44	1,323	11,873	-	-3,047	-16,428	5,551
1989	TEX	0.84	100.79	2.59	-5,353	-1,002	3,613	-2,133	3,872	3,400	-2,017	3,406	-3,787
1989	TOR	0.86	88.79	3.38	1,207	-4,034	-903	-4,880	6,899	-4,365	5,977	2,889	-2,791
1990	ATL	-	-	-	-	-	-	-	-	-	-	-	-

1990	BAL	-	-	-	-	-	-	-	-	-	-	-	-
1990	BOS	0.90	63.61	6.35	6,533	-7,561	-3,531	6,384	-2,386	561	-5,855	2,654	13,395
1990	CAL	0.78	141.21	3.94	6,385	1,492	5,335	-3,358	4,086	-4,013	-11,145	1,132	86
1990	CHA	1.16	-78.07	0.00	6,952	-629	4,185	-263	-3,945	-2,080	-126	-135	-3,960
1990	CHN	-	-	-	-	-	-	-	-	-	-	-	-
1990	CIN	8.14	-69.53	-7.02	-6,605	91	361	-1,002	3,157	-	-1,158	4,702	5,350
1990	CLE	0.83	95.82	4.22	-3,349	276	-4,857	4,131	-4,341	-33	-672	9,533	-688
1990	DET	0.82	106.00	7.12	741	-1,078	2,922	2,021	5,094	-3,195	603	3,733	-10,841
1990	HOU	0.78	127.70	2.23	-1,879	8,627	3,601	-899	4,493	-	-5,447	5,726	16,649
1990	KCA	0.73	169.96	4.00	-3,572	4,181	5,538	-1,516	3,101	-7,408	-5,691	1,209	5,306
1990	LAN	0.90	60.75	2.28	3,617	11,657	5,888	-1,839	4,482	-	-2,714	8,056	6,387
1990	MIN	0.75	151.19	2.00	-4,158	7,206	-1,250	-1,033	1,192	-4,733	7,807	-10,299	5,269
1990	ML4	0.78	126.36	6.17	-318	-2,224	-3,703	-1,092	-4,748	2,289	11,235	4,681	-6,119
1990	MON	0.92	48.57	0.93	963	8,315	-735	1,713	3,936	-	-9,282	-4,997	88
1990	NYA	0.69	186.02	6.93	-1,568	5,571	-1,019	-2,654	-2,968	-1,932	-230	8,945	-508
1990	NYN	0.94	34.44	2.53	-2,381	415	-563	4,919	332	-	7,942	22,379	14,984
1990	OAK	1.05	-31.05	4.00	2,185	4,055	-3,170	800	-980	5,001	6,761	1,713	-4,204
1990	PHI	0.81	108.46	1.79	-581	-1,566	3,115	-882	5,048	-	-750	-16,468	12,084
1990	PIT	1.05	-26.17	5.62	2,608	726	-429	-961	-2,912	-	1,698	2,355	-3,085
1990	SDN	0.78	127.46	2.22	947	8,684	593	1,048	2,004	-	-1,726	2,412	15,714
1990	SEA	0.81	107.91	0.21	-6,709	5,608	67	-304	-4,564	6,695	-2,695	1,694	208
1990	SFN	0.89	64.78	2.16	1,506	9,966	3,434	-727	4,414	-	3,467	-9,023	11,977
1990	SLN	0.76	136.59	0.56	-961	9,171	1,968	3,443	9,623	-	-6,621	-17,908	1,284
1990	TEX	0.83	104.91	2.66	-3,442	-4,057	6,643	-1,842	2,822	-1,355	3,062	-1,260	-572
1990	TOR	0.90	60.91	6.98	-1,773	292	-5,102	3,810	3,289	-5,205	3,857	7,356	-6,524
1991	ATL	5.42	-153.09	-5.71	-890	4,488	-785	-480	-1,014	-	285	-1,692	88
1991	BAL	0.76	133.07	0.00	-6,849	550	-2,069	-511	4,175	-236	-288	1,212	4,015
1991	BOS	0.82	113.71	3.74	2,800	-6,840	1,568	2,097	444	-1,208	4,653	-8,865	5,351
1991	CAL	0.85	87.21	7.94	5,660	-1,590	-7,795	6,420	-727	-408	-170	11,363	-12,035
1991	CHA	1.02	-12.89	1.27	1,875	-4,218	-2,172	-790	3,727	-5,088	7,288	1,156	-1,777
1991	CHN	0.80	119.63	3.70	-2,113	2,216	243	-5,468	5,605	-	-942	-3,687	4,146
1991	CIN	0.76	146.52	5.60	-890	-5,120	7,705	-4,060	5,187	-	-393	-6,062	3,633
1991	CLE	0.59	243.30	1.07	-6,267	-2,316	-3,624	-1,648	-2,574	693	-6,177	8,947	12,967
1991	DET	0.85	93.54	2.29	-1,435	568	3,514	-3,804	3,880	-3,245	-1,484	675	1,332
1991	HOU	-	-	-	-	-	-	-	-	-	-	-	-
1991	KCA	0.85	87.45	7.42	-1,413	-7,761	-6,829	-1,831	-827	3,638	-4,419	10,186	15,796
1991	LAN	0.98	9.08	2.08	3,201	7,402	910	-6,706	776	-	1,264	-13,448	6,601

1991	MIN	2.80	-45.46	-5.15	-342	3,723	1,568	-2,139	4,176	-344	4,751	2,602	10,211
1991	ML4	0.86	85.27	1.25	-4,512	2,954	-2,477	590	-3,419	6,205	-8,276	-1,209	10,144
1991	MON	0.75	149.99	5.39	-1,188	-2,958	6,048	-5,896	-348	-	-3,963	68	8,237
1991	NYA	0.70	190.16	3.47	-2,068	3,591	3,788	-1,325	202	-8,936	-10,016	6,659	8,105
1991	NYN	0.81	111.14	1.65	-4,843	-186	-2,385	2,321	-120	-	-7,935	8,251	4,898
1991	OAK	0.86	83.69	6.72	658	780	-4,091	-1,155	-3,766	-2,900	13,741	11,323	-254
1991	PHI	0.81	115.22	4.41	3,836	1,340	5,022	-6,063	3,047	-	-793	-13,789	7,400
1991	PIT	1.04	-24.52	0.09	-952	-4,590	-1,701	3,682	-677	-	2,523	4,263	-2,548
1991	SDN	0.86	83.51	3.47	2,298	7,412	482	-6,979	5,568	-	-6,627	-8,732	6,579
1991	SEA	-	-	-	-	-	-	-	-	-	-	-	-
1991	SFN	0.78	127.55	2.80	-4,408	11,392	-354	-5,277	1,932	-	-8,388	-14,875	19,978
1991	SLN	0.87	79.01	4.27	-1,374	5,020	1,079	-6,512	6,118	-	-10,919	-4,447	11,034
1991	TEX	0.90	59.58	7.65	-1,739	-3,327	-615	451	1,978	-4,533	4,413	8,729	-5,357
1991	TOR	0.95	31.69	0.06	-7,769	-1,557	-337	7,532	-2,276	-1,080	5,977	-3,872	3,381
1992	ATL	1.08	-47.37	-0.47	149	1,862	174	2,835	632	-	7,278	13,792	10,527
1992	BAL	0.99	7.33	1.25	-1,111	1,315	-2,467	-6,115	2,389	7,239	-7,178	4,165	1,763
1992	BOS	0.76	138.67	6.74	3,782	-1,122	-2,677	-1,933	305	2,208	-11,352	5,898	4,890
1992	CAL	0.78	125.89	4.79	-1,189	-5,150	-5,988	4,065	-4,396	2,619	-7,718	16,988	767
1992	CHA	0.95	29.80	3.22	-766	-2,703	3,981	-1,194	-4,137	7,211	-2,187	4,449	-4,654
1992	CHN	0.79	127.34	3.10	-2,245	4,485	4,108	-6,843	-199	-	-269	981	-18
1992	CIN	0.89	67.17	2.86	-2,080	-2,180	6,106	624	8,134	-	-10,055	-2,382	1,834
1992	CLE	-	-	-	-	-	-	-	-	-	-	-	-
1992	DET	0.80	112.51	1.47	6,259	8,435	3,403	-6,440	-1,363	5,803	-9,898	-4,540	-1,657
1992	HOU	1.02	-11.25	2.59	-1,022	-3,175	3,156	-588	21	-	-1,686	-485	3,778
1992	KCA	0.75	147.25	2.37	-3,234	4,100	498	-39	-1,869	4,064	-8,241	-7,970	12,692
1992	LAN	0.62	233.74	2.20	2,528	-3,201	309	-6,111	-3,492	-	-4,616	-506	15,090
1992	MIN	0.98	9.12	3.87	4,401	3,543	-5,149	-2,583	519	4,503	-2,671	3,135	-5,697
1992	ML4	0.99	4.99	2.47	4,974	2,225	-3,270	-6,566	-2,422	6,053	-5,747	6,761	-2,008
1992	MON	0.94	33.74	5.22	1,714	92	-628	-225	2,858	-	-2,417	1,323	-2,717
1992	NYA	0.81	110.25	2.97	4,034	6,671	-3,415	-6,709	-2,002	-3,198	4,551	-2,280	2,350
1992	NYN	0.69	197.53	2.00	-2,577	6,520	704	-2,757	-3,706	-	827	-3,940	17,521
1992	OAK	1.01	-3.78	6.00	3,282	1,837	-7,689	-1,971	-2,367	-1,436	6,765	13,236	-6,485
1992	PHI	0.73	159.32	6.07	6,095	1,398	-171	-5,267	-1,028	-	3,287	-11,413	7,100
1992	PIT	0.94	35.87	0.18	2,696	-4,472	4,089	524	-2,139	-	5,224	-6,415	493
1992	SDN	0.81	118.15	2.58	5,945	7,986	3,078	-4,933	2,000	-	-14,480	-7,766	8,170
1992	SEA	0.72	152.84	1.16	1,471	3,017	1,237	-996	-3,594	-1,010	-1,728	203	1,400
1992	SFN	0.71	177.96	2.91	-1,768	8,162	2,788	-1,376	-3,333	-	-9,511	-12,864	17,902

1992	SLN	0.86	81.79	5.61	1,492	1,960	3,688	-5,150	4,011	-	-8,800	-9,294	12,092
1992	TEX	0.82	104.32	6.30	-1,384	3,840	-6,576	-3,157	-3,217	-2,023	367	21,621	-9,471
1992	TOR	1.01	-6.09	-0.08	-962	-6,045	-1,959	8,217	-1,812	-772	1,662	5,052	-3,380
1993	ATL	1.04	-23.39	-0.07	1,171	-6,159	-2,205	-919	4,920	-	5,812	19,597	-7,662
1993	BAL	0.86	87.99	3.14	-1,186	-2,734	-1,661	-897	10,146	-4,671	2,205	-5,279	4,077
1993	BOS	0.72	191.25	5.42	4,523	-2,859	-7,477	-1,675	-7,385	4,539	-5,064	12,111	4,855
1993	CAL	0.75	148.21	1.71	-1,440	-4,097	-4,124	256	-2,552	-2,765	-2,649	19,568	-2,198
1993	CHA	0.89	73.85	2.06	2,292	-2,408	-6,782	1,046	-1,074	1,992	6,180	-4,944	3,698
1993	CHN	0.85	92.52	4.12	-221	2,166	13,690	7,123	-5,289	-	-18,510	-17,927	18,969
1993	CIN	0.70	190.24	2.39	742	-1,462	299	2,872	10,602	-	-12,719	-5,322	14,149
1993	CLE	-	-	-	-	-	-	-	-	-	-	-	-
1993	COL	-	-	-	-	-	-	-	-	-	-	-	-
1993	DET	0.77	160.32	5.42	-1,166	8,663	96	-413	-5,915	-6,418	2,010	-3,395	7,993
1993	FLO	0.67	198.21	1.74	9,226	2,702	-3,564	9,116	13	-	-16,690	-21,392	20,591
1993	HOU	0.88	68.27	0.00	-1,673	-9,700	4,274	3,070	86	-	-6,917	15,096	-4,237
1993	KCA	0.77	154.42	4.67	1,106	8,451	-1,868	-1,989	2,719	-2,653	-1,392	-1,816	13,834
1993	LAN	0.78	141.78	2.07	-2,508	-3,469	5,634	3,298	-4,980	-	-4,584	-9,602	17,789
1993	MIN	0.71	177.37	2.62	4,127	4,447	-4,326	-741	-4,178	-2,515	11,874	-11,890	3,202
1993	ML4	0.78	122.78	1.15	-2,124	-2,794	-1,277	5,560	-1,351	-4,687	7,949	-240	-1,036
1993	MON	1.07	-40.19	0.27	-1,682	-4,853	3,649	-4,942	-2,770	-	9,435	2,766	-1,603
1993	NYA	0.79	148.30	5.82	334	7,708	-9,957	6,152	-1,790	5,591	-7,516	3,057	9,897
1993	NYN	0.59	257.03	5.48	-386	823	-2,809	4,490	-7,298	-	173	-5,173	10,180
1993	OAK	0.64	239.29	3.97	5,519	-4,161	-7,521	-1,918	-5,080	-10,925	12,575	3,039	8,470
1993	PHI	1.00	6.39	0.02	6,215	548	161	-6,286	-1,158	-	1,248	-6,033	5,305
1993	PIT	0.92	40.68	0.00	2,876	-604	-3,535	-1,932	8,256	-	-3,068	1,112	-3,104
1993	SDN	0.70	160.23	0.00	-1,741	3,737	-2,928	3,651	-88	-	205	-1,047	-1,789
1993	SEA	0.81	116.52	2.84	4,061	-3,744	-5,737	-1,627	-1,550	-4,152	8,918	2,769	1,064
1993	SFN	1.02	-15.32	1.81	-592	9,344	4,107	325	-4,840	-	-2,222	-15,722	9,600
1993	SLN	0.91	51.56	1.12	6,884	5,570	-3,775	2,368	6,860	-	-13,372	-12,429	7,894
1993	TEX	0.80	136.29	4.32	-1,644	8,593	-7,974	-1,475	-1,140	-2,417	-13,902	4,543	21,092
1993	TOR	1.28	95.55	-1.76	5,590	1,574	3,959	-2,801	-5,341	2,095	7,764	10,873	2,780
1995	ATL	1.33	-32.41	-2.00	-360	-1,382	-469	-1,942	385	-	15,815	4,128	2,126
1995	BAL	0.80	124.55	1.26	4,049	7,294	-3,713	-1,588	16,414	-9,674	-1,692	12,802	387
1995	BOS	-	-	-	-	-	-	-	-	-	-	-	-
1995	CAL	0.86	87.49	2.88	-2,471	-4,098	-5,908	10,745	-2,483	469	-10,860	12,450	2,156
1995	CHA	0.71	192.51	3.76	1,604	16,505	-11,263	11,813	1,800	-4,645	-130	-5,395	7,752
1995	CHN	0.84	98.87	1.87	777	9,349	-1,495	-1,082	7,562	-	1,229	-26,027	9,688

1995	CIN	0.95	28.29	4.42	793	2,266	-2,132	-1,125	10,807	-	-6,698	-12,916	9,005
1995	CLE	1.26	-142.19	-1.23	-4,657	-1,926	66	1,171	5,212	1,669	-1,003	-356	-176
1995	COL	0.95	27.98	0.00	4,016	4,221	-3,183	-9,197	4,748	-	3,077	154	-2,020
1995	DET	0.69	186.18	0.35	-4,355	19,268	-2,097	10,272	-1,625	-12,743	-5,486	-8,971	12,431
1995	FLO	0.80	118.76	0.46	-372	-509	-3,858	3,800	-837	-	3,574	-928	-869
1995	HOU	0.87	79.94	2.25	-723	16,044	10,427	-1,112	-3,562	-	-15,267	-1,976	-3,831
1995	KCA	0.76	155.15	4.52	487	11,291	-8,639	937	5,726	-5,763	-14,770	5,020	5,712
1995	LAN	0.89	68.14	0.00	709	-4,603	3,967	-1,919	3,742	-	-8,878	9,935	-19
1995	MIN	0.69	174.03	2.35	-977	-1,874	2,230	382	-4,528	-2,302	7,439	3,930	-4,300
1995	ML4	0.88	61.75	0.96	-86	-1,131	-4,616	-1,313	-3,221	11,547	-1,547	-3,394	3,763
1995	MON	1.01	-2.83	0.00	-381	3	373	-1,415	-6,364	-	7,284	-732	1,233
1995	NYA	0.89	68.79	1.01	-1,788	5,663	-566	11,899	1,804	-15,330	-2,782	7,408	13,218
1995	NYN	0.81	111.56	1.14	2,182	-1,838	-2,047	-529	1,987	-	-7,707	2,272	5,678
1995	OAK	0.71	191.97	4.02	9,881	15,019	-7,450	-2,990	-2,645	-3,873	-2,572	-4,947	-422
1995	PHI	0.81	115.61	1.95	14,915	2,447	-1,067	3,618	-2,342	-	4,631	-20,653	-1,549
1995	PIT	0.75	135.49	0.00	-130	-2,110	-2,370	4,307	12,554	-	-4,298	-9,313	1,359
1995	SDN	1.12	-50.23	0.00	-1,393	-2,926	448	9,391	3,020	-	20,597	8,853	-3,674
1995	SEA	0.83	112.02	1.83	-2,209	-1,855	-6,451	-181	-4,962	-909	-3,078	4,388	15,259
1995	SFN	0.73	173.54	0.98	2,735	-7,119	6,153	10,619	-1,666	-	9,493	-15,642	-2,755
1995	SLN	0.72	167.52	0.92	-652	-1,828	3,067	2,211	-2,087	-	-2,476	-5,347	7,112
1995	TEX	0.78	144.58	3.88	5,138	11,719	-7,199	-1,127	-5,804	4,364	-3,109	-414	-3,568
1995	TOR	0.61	245.81	2.31	-2,847	10,637	10,598	139	-4,052	-648	19,887	12,469	-1,551
1996	ATL	0.98	14.84	0.15	-432	3,147	1,066	1,073	1,763	-	-11,356	7,877	-3,139
1996	BAL	0.82	120.03	2.15	5,070	10,078	-20	539	9,884	-5,590	1,131	4,047	2,046
1996	BOS	0.77	159.08	5.20	4,081	11,223	-10,655	622	-1,128	4,671	-9,366	-1,283	1,836
1996	CAL	0.69	193.81	4.12	-712	-2,181	-5,707	-1,617	-2,484	4,331	-5,124	8,375	5,119
1996	CHA	0.83	108.79	1.16	113	13,763	-12,226	12,530	2,603	-981	-1,926	-11,011	-2,865
1996	CHN	0.81	107.38	1.92	-614	4,097	4,251	581	-565	-	11,127	-13,464	-5,412
1996	CIN	0.85	89.70	3.32	-531	-4,647	-676	-664	9,972	-	-6,661	-9,007	12,214
1996	CLE	0.89	79.54	6.00	5,590	3,404	2,438	1,993	-100	-3,292	9,324	12,798	576
1996	COL	0.91	51.84	0.27	-2,738	6,861	-1,179	2,506	-445	-	318	-2,374	-2,948
1996	DET	-	-	-	-	-	-	-	-	-	-	-	-
1996	FLO	0.86	81.26	2.78	-1,705	-4,215	-1,386	3,943	-3,811	-	13,049	-224	-5,652
1996	HOU	0.90	55.04	0.84	1,084	7,296	4,079	1,875	-1,853	-	-3,627	-2,505	-6,349
1996	KCA	0.94	29.50	0.31	1,805	-3,080	-1,764	-565	-1,970	-373	-2,779	8,830	-104
1996	LAN	0.94	34.76	1.40	3,536	-560	5,233	4,236	1,520	-	-11,467	-8,856	6,358
1996	MIN	0.93	38.34	0.39	578	-1,944	10,675	287	-4,795	3,802	-9,340	5,277	-4,540

1996	ML4	0.92	44.79	1.40	-332	-2,140	-3,379	-932	-3,925	764	14,757	-5,157	343
1996	MON	1.04	-22.74	0.03	630	1,680	-2,176	-115	-2,908	-	-6,415	7,813	1,490
1996	NYA	1.28	85.26	-1.74	3,735	2,383	-6,519	-419	-7,791	6,801	4,859	4,542	9,721
1996	NYN	0.78	122.30	1.51	2,399	-5,727	4,576	4,945	-2,108	-	1,671	-7,806	2,050
1996	OAK	0.92	40.76	0.28	10,827	18,174	-1,564	-1,474	-484	1,285	-10,902	-13,275	-2,587
1996	PHI	0.75	140.02	0.91	1,846	9,844	4,000	7,025	-861	-	-7,096	-9,833	-4,924
1996	PIT	0.82	99.83	0.16	-3,049	-4,593	2,171	4,208	11,439	-	-911	-4,446	-4,819
1996	SDN	0.97	17.60	0.85	3,887	-827	-636	7,327	-4,778	-	12,475	-13,602	-3,845
1996	SEA	0.77	157.44	5.74	-369	-528	-7,947	-2,023	-7,075	1,214	19,287	-22,535	19,976
1996	SFN	0.73	152.34	0.62	-3,488	-4,138	-2,713	16,863	-4,848	-	10,032	-13,370	1,661
1996	SLN	0.94	34.72	0.19	5,058	-7,262	6	3,754	53	-	6,109	-7,959	242
1996	TEX	0.82	125.21	4.71	8,322	11,658	-7,815	2,669	-7,752	-4,071	3,480	-3,143	-3,349
1996	TOR	0.74	161.32	3.20	-540	12,929	-6,270	2,124	-5,179	-7,623	10,532	-1,342	-4,632
1997	ANA	1.09	-41.25	0.00	120	-6,518	-1,246	-3	3,961	718	7,553	-735	-3,851
1997	ATL	1.01	-3.70	-0.01	1,825	-555	-2,983	-2,087	6,836	-	-6,958	22,897	2,080
1997	BAL	0.91	56.64	3.01	-1,432	4,540	2,621	10,562	1,431	-2,289	-16,434	-5,397	6,399
1997	BOS	0.82	104.74	3.68	-133	8,664	-4,939	-1,012	-1,340	-951	-6,855	6,808	-241
1997	CHA	0.84	97.15	0.79	-4,159	11,613	-8,838	-4,237	3,367	470	1,148	-4,346	4,982
1997	CHN	0.68	193.49	0.00	-275	-4,545	-3,633	-2,591	3,807	-	1,781	-4,008	9,465
1997	CIN	0.83	97.79	0.00	-2,353	-727	-413	-545	-438	-	-1,664	4,534	1,606
1997	CLE	0.98	11.07	0.15	266	388	1,354	10,345	6,715	-743	-4,580	-8,787	-4,959
1997	COL	0.86	86.45	2.56	1,701	2,173	3,193	-508	4,231	-	3,170	-11,049	-2,909
1997	DET	1.10	-43.97	0.76	-1,737	-7,134	-98	13,725	-2,101	12,033	-4,451	-11,279	1,041
1997	FLO	1.68	32.41	-3.25	-595	-3,907	-2,716	7,316	-2,598	-	9,469	-7,500	15,149
1997	HOU	0.87	76.40	0.00	-868	6,443	6,106	2,960	-636	-	-6,271	-4,793	-2,941
1997	KCA	0.75	135.08	0.61	89	3,508	-927	-3,990	5,283	6,344	-11,087	-2,086	2,867
1997	LAN	0.89	64.39	2.36	13,939	-495	-5,558	1,451	4,827	-	-16,865	-4,886	7,587
1997	MIN	0.79	108.63	0.63	5,910	-1,284	11,806	-3,914	-2,202	6,565	-11,486	-9,614	4,219
1997	ML4	1.03	-14.27	0.00	-17	5,548	567	-1,436	1,012	-671	-4,108	-1,066	172
1997	MON	-	-	-	-	-	-	-	-	-	-	-	-
1997	NYA	0.88	78.72	5.08	2,284	1,760	-12,230	-1,386	-2,847	18,221	-2,550	1,367	6,052
1997	NYN	0.92	50.25	3.27	7,822	7,538	8,865	-5,906	-1,703	-	-15,045	-15,623	14,052
1997	OAK	0.83	80.47	0.00	46	10,897	-1,389	5,088	-2,684	9,432	-2,511	-13,119	-5,760
1997	PHI	0.81	96.88	1.03	-315	-3,800	-687	-2,013	1,042	-	12,542	-3,070	-3,698
1997	PIT	1.37	-130.79	0.00	-127	548	-66	-239	-289	-	2,813	-2,017	-623
1997	SDN	0.82	101.36	2.41	369	2,234	-1,966	2,475	269	-	6,447	-7,588	-2,241
1997	SEA	0.99	5.37	0.59	-1,903	-2,102	-3,551	-6,349	-4,686	286	9,917	6,433	1,955

1997	SFN	0.99	5.53	2.18	3,089	-2,053	3,002	-4,049	4,916	-	9,101	-19,114	5,107
1997	SLN	0.75	150.20	0.00	-3,041	-12,787	-5,638	2,395	4,779	-	3,194	9,932	1,166
1997	TEX	0.72	186.28	6.18	15,257	5,701	-6,419	5,539	-2,244	-1,195	-10,186	-8,438	1,986
1997	TOR	0.80	117.55	3.69	5,330	-4,796	-1,117	-3,224	-450	9,379	-4,527	4,528	-5,122
1998	ANA	0.90	56.56	1.20	725	-2,285	-3,585	-5	3,896	9,938	-7,195	4,141	-5,630
1998	ARI	0.73	151.31	0.00	-104	-1,587	-6,665	4,251	8,916	-	-3,623	-718	-469
1998	ATL	1.03	-18.52	2.00	7,318	17,874	-3,985	-2,324	1,025	-	-3,183	15,035	-21,943
1998	BAL	0.71	198.58	6.67	1,110	3,875	732	7,607	5,578	1,049	-12,391	-253	14,487
1998	BOS	0.88	76.46	5.32	-931	6,005	-8,568	7,096	1,139	5,292	-16,996	7,360	-399
1998	CHA	0.89	59.87	0.00	876	-5,964	-3,353	8,739	-2,512	12,554	4,669	-6,898	-8,112
1998	CHN	0.87	83.43	0.68	-985	-5,277	-4,703	-4,985	5,558	-	18,139	-12,318	4,571
1998	CIN	0.85	80.70	0.00	458	-898	4,161	3,438	4,590	-	4,869	-18,889	2,272
1998	CLE	0.95	31.89	0.12	4,299	-1,466	-7,752	1,253	1,224	9,363	-5,403	-4,763	3,245
1998	COL	0.76	147.73	0.01	2,869	-8,043	-3,746	1,107	-778	-	16,130	-11,476	3,937
1998	DET	0.84	77.99	0.00	-669	-219	1,460	408	84	-6,173	7,737	-4,930	2,303
1998	FLO	-	-	-	-	-	-	-	-	-	-	-	-
1998	HOU	1.02	-13.60	0.61	-186	11,537	9,962	-2,256	-4,825	-	9,421	-20,661	-2,993
1998	KCA	0.87	67.23	0.00	-150	4,334	-1,741	10,601	-1,141	-6,039	-2,627	-3,976	738
1998	LAN	0.86	86.27	0.00	-528	9,126	2,494	-8,924	2,735	-	-1,507	-3,931	534
1998	MIL	0.80	116.11	0.00	-115	-345	435	2,157	-3,361	-	7,315	-12,963	6,877
1998	MIN	0.84	84.36	0.00	5,631	-4,263	-5,669	-1,533	4,006	2,754	61	-5,954	4,967
1998	MON	0.82	89.16	0.00	190	-817	-516	488	81	-	-717	433	857
1998	NYA	2.10	-211.87	-4.19	-1,619	-766	7,596	894	-4,972	-4,321	14,478	9,290	445
1998	NYN	0.89	63.91	1.30	-4,683	-4,058	9,359	37	-4,872	-	11,473	-23,678	16,423
1998	OAK	0.85	79.10	0.00	-741	-3,360	-1,162	550	-124	-608	-1,663	6,200	910
1998	PHI	0.83	93.93	0.56	-502	-1,907	3,075	-253	-3,960	-	5,529	-7,759	5,778
1998	PIT	0.92	38.30	0.00	861	1,444	-2,476	-149	-63	-	1,053	-620	-49
1998	SDN	1.05	-30.55	-0.20	838	4,486	-2,186	-3,343	127	-	5,190	-650	-4,463
1998	SEA	0.75	154.87	2.93	5,008	-6,284	-7,608	-4,678	1,386	6,424	817	-284	5,219
1998	SFN	0.90	57.56	0.00	1,148	5,375	57	-8,951	-3,506	-	13,721	-17,656	9,811
1998	SLN	0.81	122.17	0.56	-4,049	4,603	-3,289	-3,832	4,704	-	12,549	-19,941	9,255
1998	TBA	-	-	-	-	-	-	-	-	-	-	-	-
1998	TEX	0.87	78.53	2.59	14,245	1,264	-6,136	-6,569	-188	1,485	-4,819	-3,665	4,384
1998	TOR	0.95	29.25	2.32	-412	-4,266	-3,253	491	2,561	2,795	-10,590	9,678	2,996
1999	ANA	0.73	175.32	3.66	1,124	-4,591	-7,451	-3,417	3,790	8,228	-3,247	7,927	-2,364
1999	ARI	1.10	-53.60	0.00	-426	-5,460	1,847	14,029	-1,334	-	-9,088	27,772	-8,980
1999	ATL	1.04	-26.71	-0.17	-11,960	-10,185	1,367	-1,091	260	-	2,979	4,019	18,749

1999	BAL	0.69	213.20	7.31	6,330	-6,307	-6,195	6,182	3,866	1,450	7,162	-5,305	3,905
1999	BOS	0.87	87.88	5.00	-64	-1,547	-1,497	7,635	1,323	4,151	-15,415	3,947	1,467
1999	CHA	0.82	102.27	0.00	82	-253	166	194	-1,165	4,447	-324	540	-3,688
1999	CHN	0.66	211.05	0.44	-1,074	-5,574	-3,765	618	-489	-	16,329	-5,488	-558
1999	CIN	1.03	-16.38	0.02	85	-10,093	-7,622	-1,810	8,803	-	-2,174	13,412	-601
1999	CLE	0.85	104.94	8.00	-154	6,180	176	4,154	4,161	-982	2,762	-13,491	-1,279
1999	COL	0.76	140.69	0.00	-32	-265	-8,398	-1,012	152	-	14,023	-4,763	296
1999	DET	0.73	161.14	0.10	3,834	1,714	-1,610	7,755	-1,634	-8,077	1,222	-7,157	3,953
1999	FLO	0.77	117.67	0.00	-269	-236	-465	-52	-1,825	-	-7,970	11,712	-895
1999	HOU	0.97	18.33	0.35	-2,172	1,747	5,475	5,980	-4,798	-	-3,087	-6,209	3,064
1999	KCA	0.81	91.99	0.00	1,330	-1,057	-3,275	1,411	1,381	-3,604	2,138	270	1,406
1999	LAN	0.76	147.59	0.30	8,481	7,028	-1,522	-13,549	2,035	-	24,884	-3,881	795
1999	MIL	0.77	134.35	0.06	8,291	608	-1,128	4,931	-3,611	-	2,050	-19,767	8,626
1999	MIN	0.84	71.34	0.00	1,590	-1,457	-2,211	45	-255	3,458	909	-3,287	1,208
1999	MON	0.81	98.86	0.00	864	31	-287	1,980	-2,554	-	-1,323	-2,829	4,118
1999	NYA	1.00	33.64	0.00	-374	-238	64	3,516	2,873	6,964	3,699	13,420	-2,166
1999	NYN	0.97	20.54	0.07	11,193	1,299	2,044	9,159	-2,921	-	-2,504	-17,909	-360
1999	OAK	-	-	-	-	-	-	-	-	-	-	-	-
1999	PHI	0.86	76.28	0.28	3,072	2,113	-923	1,335	-3,363	-	42	-1,439	-836
1999	PIT	0.92	41.82	0.00	1,722	2,527	-1,584	1,841	-1,018	-	-3,821	1,352	-1,018
1999	SDN	-	-	-	-	-	-	-	-	-	-	-	-
1999	SEA	0.76	156.24	4.03	6,467	-557	-8,607	1,382	4,288	1,185	8,418	-13,640	1,065
1999	SFN	1.00	1.19	0.00	1,014	2,487	3,376	-6,515	1,294	-	11,513	-20,105	6,936
1999	SLN	0.77	138.81	0.19	-2,781	11,731	-3,242	-1,116	-4,078	-	6,755	-14,697	7,428
1999	TBA	0.94	26.79	0.00	-1,411	-393	-75	-424	2,313	3,214	-1,031	-5,793	3,601
1999	TEX	0.92	51.06	2.95	16,624	-9,409	-8,809	-2,380	4,302	15,572	-6,376	-6,106	1,663
1999	TOR	1.02	-11.60	2.25	2,785	-124	-3,798	2,369	-2,246	-1,139	-5,108	7,215	46
2000	ANA	0.83	100.40	0.52	-2,216	9,901	-3,434	-2,906	-490	-3,146	6,458	-5,190	1,023
2000	ARI	0.84	97.08	0.99	-220	679	-147	-1,478	1,613	-	-467	3,001	-2,981
2000	ATL	0.94	35.11	2.78	7,355	11,464	262	1,094	-6,778	-	8,468	-7,230	-14,634
2000	BAL	0.72	177.44	2.65	4,259	909	-2,016	665	795	-4,188	15,441	-13,319	-2,546
2000	BOS	0.86	87.13	0.74	-1,678	-6,090	2,530	-5,598	3,897	-202	1,740	8,669	-3,267
2000	CHA	0.98	10.20	0.00	65	-3,147	6,699	-366	24	9,756	-18,474	5,839	-396
2000	CHN	0.66	202.57	1.27	899	7,024	4,294	-2,238	-5,167	-	10,088	-17,055	2,155
2000	CIN	0.88	71.40	0.33	-1,275	124	1,839	-607	-2,209	-	11,842	-12,738	3,023
2000	CLE	0.79	146.35	1.89	-1,019	3,313	5,252	4,231	2,743	-3,180	-2,617	206	-8,929
2000	COL	0.84	92.96	0.00	2,165	-4,688	360	2,905	899	-	-10,375	1,706	7,027

2000	DET	0.70	212.12	0.81	1,191	-1,944	2,285	7,589	2,047	-4,052	-1,777	-38	-5,302
2000	FLO	-	-	-	-	-	-	-	-	-	-	-	-
2000	HOU	0.74	155.77	0.96	-1,723	8,754	7,879	199	-8,064	-	1,577	-13,311	4,689
2000	KCA	0.94	32.17	0.00	482	2,608	-147	1,054	2,881	5,368	-1,069	-12,745	1,571
2000	LAN	0.85	93.68	1.57	7,961	6,900	-4,979	-11,097	19,698	-	14,239	-3,068	-7,845
2000	MIL	0.83	89.01	0.00	-927	-61	-181	4,360	-1,420	-	3,270	-8,967	3,924
2000	MIN	-	-	-	-	-	-	-	-	-	-	-	-
2000	MON	0.79	107.40	0.00	973	4,627	-59	2	-3,032	-	1,506	-2,848	-1,170
2000	NYA	1.19	36.52	-1.25	1,170	-428	-1,390	-1,037	6,124	-6,668	-2,527	-6,540	11,296
2000	NYN	0.95	31.76	0.27	15,827	4,436	-940	2,467	-666	-	-5,321	-8,599	-7,205
2000	OAK	0.98	9.52	0.12	-1,215	-308	2,864	-393	-382	2,325	-3,790	5,312	-4,413
2000	PHI	0.70	171.93	0.00	4,896	-112	545	3,517	-8,066	-	1,048	-1,323	-505
2000	PIT	0.80	106.48	0.00	2,027	7,638	-111	-52	144	-	-3,358	-7,692	1,404
2000	SDN	-	-	-	-	-	-	-	-	-	-	-	-
2000	SEA	0.87	85.59	0.30	3,507	2,199	-1,220	-1,490	2,323	3,815	-19,327	-1,004	11,197
2000	SFN	1.02	-14.55	0.00	-128	5,786	-219	-9,725	1,589	-	10,058	-15,486	8,125
2000	SLN	0.98	13.20	0.02	-962	12,748	1,479	-1,219	-5,834	-	5,854	-7,822	-4,245
2000	TBA	0.73	156.29	0.50	2,429	2,786	-3,950	4,417	1,730	442	4,876	-18,441	5,711
2000	TEX	0.66	223.73	0.89	8,495	4,834	-3,996	-4,380	5,465	70	-8,531	3,360	-5,316
2000	TOR	0.91	48.19	0.29	2,214	4,459	-1,222	-2,723	3,393	-2,198	8,688	-8,010	-4,601
2001	ANA	0.83	96.52	0.00	125	62	-925	835	-1,060	786	6,777	-7,389	789
2001	ARI	2.07	-33.94	-4.13	83	-3,791	3,694	9,487	1,376	-	911	15,661	-7,080
2001	ATL	0.91	50.94	0.09	4,005	-6,193	-146	8,829	-4,797	-	12,865	2,094	11,815
2001	BAL	0.76	125.01	0.00	-2,493	-5,552	-1,851	7,450	1,293	8,512	-1,104	4,883	2,722
2001	BOS	0.80	129.69	0.04	521	-859	80	-2,278	3,633	8,088	8,247	22,378	5,681
2001	CHA	0.80	131.29	0.31	1,670	-1,845	7,717	-29	3,947	-5,039	-10,563	10,221	-6,079
2001	CHN	0.92	45.41	0.44	345	-3,002	-938	-1,019	332	-	8,639	-55	-4,302
2001	CIN	0.75	134.74	0.00	-1,313	1,953	1,818	-511	1,347	-	12,440	-16,670	937
2001	CLE	0.78	154.32	1.00	-4,989	1,461	5,595	4,414	3,376	207	5,491	9,267	-1,781
2001	COL	0.74	158.66	0.00	-2,593	1,729	-3,982	3,556	2,649	-	-10,745	17,838	-8,452
2001	DET	0.60	266.62	0.51	-2,641	-1,197	4,069	-1,490	2,969	5,643	-6,395	2,144	-3,102
2001	FLO	0.92	43.27	0.00	5,879	-1,237	576	-69	-416	-	-1,755	-2,116	-863
2001	HOU	1.02	-11.48	0.71	4,324	-1,514	7,172	1,946	-2,263	-	-4,975	-8,749	4,059
2001	KCA	0.74	138.21	0.00	51	5,478	-391	2,455	2,140	-766	-1,640	-12,343	5,015
2001	LAN	0.86	89.64	0.00	-5,195	7,169	2,393	-1,601	-594	-	-377	8,277	11,527
2001	MIL	0.78	118.24	0.00	-618	-261	-45	753	1,691	-	5,279	-8,685	1,886
2001	MIN	1.06	-27.53	0.00	-103	-1,372	-3,772	-454	-1,047	-1,465	-865	9,162	-85

2001	MON	0.80	105.69	0.00	-394	3,105	1,264	-503	-1,013	-	-2,818	-3,186	3,545
2001	NYA	0.98	12.46	0.15	3,593	3,204	-2,542	1,208	11,135	6,027	7,234	16,927	1,104
2001	NYN	0.84	97.63	0.82	13,180	2,761	2,796	7,612	-965	-	-16,280	6,964	2,198
2001	OAK	1.02	-10.72	0.09	-623	3,673	-7,048	-660	-220	-5,407	16,881	-6,450	-146
2001	PHI	0.99	7.01	0.00	-554	-1,070	-1,083	5,863	-1,853	-	1,509	-6,577	3,765
2001	PIT	0.66	196.27	0.15	1,488	-95	-3,876	-2,346	-1,268	-	8,974	-6,814	3,936
2001	SDN	1.02	-11.03	0.00	-15	760	-3,894	960	276	-	-1,732	618	3,026
2001	SEA	1.13	-81.62	-0.11	2,235	3,178	-879	-2,641	-8,000	6,030	-2,761	-856	3,695
2001	SFN	0.95	29.81	0.00	-60	1,664	1,072	-1,300	1,657	-	-7,182	1,699	2,450
2001	SLN	0.95	27.93	0.74	-3,081	7,294	1,032	-2,373	203	-	3,722	-292	-6,504
2001	TBA	-	-	-	-	-	-	-	-	-	-	-	-
2001	TEX	0.63	260.08	0.93	5,050	3,344	-3,952	-2,469	26,735	-6,076	-15,393	5,677	-12,916
2001	TOR	0.77	143.41	0.02	3,706	15,775	-5,241	1,581	1,060	2,637	2,352	13,732	2,116
2002	ANA	2.46	-132.54	-4.74	-2,105	-1,236	-263	1,477	-7,243	-173	9,006	-43	580
2002	ARI	1.01	-7.51	1.87	-1,629	-3,431	-6,195	-2,210	989	-	-3,994	27,433	-10,961
2002	ATL	1.02	-9.86	0.19	163	-1,379	-552	-1,533	-2,696	-	1,495	-4,876	9,378
2002	BAL	0.72	163.20	0.00	-1,107	2,831	-915	3,069	1,901	-460	-2,371	3,610	-6,558
2002	BOS	0.84	107.95	0.58	746	674	-5,098	-2,335	8,637	-3,260	12,566	18,963	9,610
2002	CHA	0.76	155.63	0.35	-1,862	-1,556	5,824	4,289	3,666	8,650	-10,627	-5,201	-3,183
2002	CHN	0.67	199.16	0.00	5,133	3,110	-2,629	1,032	-1,045	-	8,329	-9,295	-4,635
2002	CIN	0.92	39.61	0.00	-1,146	3,828	1,703	-3,366	10,395	-	-9,282	-3,467	1,335
2002	CLE	0.65	245.12	0.83	-3,334	1,815	-1,117	4,434	4,560	2,136	-11,930	3,550	-114
2002	COL	0.77	134.00	2.20	-5,549	822	-3,875	5,381	-2,743	-	8,634	-1,814	-857
2002	DET	0.53	300.12	0.07	5,980	-1,367	-757	1,021	-2,226	-491	-8,781	8,183	-1,562
2002	FLO	0.90	56.36	4.43	-611	248	-109	-2,263	-871	-	4,281	-633	-43
2002	HOU	0.87	75.27	2.06	752	9,187	8,799	-2,012	-4,054	-	-3,112	-14,434	4,873
2002	KCA	0.62	234.54	0.05	2,008	4,894	347	3,267	2,760	-1,408	-14,799	942	1,989
2002	LAN	0.94	38.62	0.00	-2,413	4,255	5,180	1,277	-5,183	-	10,847	-15,313	1,348
2002	MIL	0.64	191.02	1.51	-1,698	2,011	1,077	-4,391	3,393	-	1,676	931	-3,000
2002	MIN	1.03	-16.58	-0.03	-616	-1,844	-164	486	607	-2,377	-12,826	15,656	1,078
2002	MON	1.01	-5.28	2.91	-5,237	-2,943	1,584	3,132	1,856	-	3,195	976	-2,565
2002	NYA	0.90	68.81	0.91	3,278	4,703	-3,710	7,355	16,575	-5,971	5,535	24,237	9,528
2002	NYN	0.74	159.75	0.00	6,860	11,789	7,290	3,553	5,131	-	-21,050	3,768	-10,615
2002	OAK	1.20	-104.05	0.00	-1,965	-2,638	6,677	-622	186	-762	8,168	-121	-8,923
2002	PHI	0.85	91.07	3.94	900	-6	-2,376	6,929	-2,268	-	318	-10,913	7,417
2002	PIT	-	-	-	-	-	-	-	-	-	-	-	-
2002	SDN	0.75	133.75	2.11	-2,116	4,789	-1,885	-2,831	31	-	-4,758	-1,496	8,267

2002	SEA	0.85	103.91	0.53	2,176	3,349	3,326	4,921	-565	4,633	-3,905	654	10,472
2002	SFN	1.02	-10.82	-0.13	-975	3,580	-1,066	-7,243	2,228	-	4,611	-8,611	7,476
2002	SLN	0.98	14.08	0.02	-202	-199	-315	-2,181	931	-	-6,448	14,390	-5,975
2002	TBA	0.79	91.87	0.00	-325	-385	-313	-189	-82	-202	3,954	-1,453	-1,005
2002	TEX	0.65	241.97	0.63	7,706	4,675	-5,388	-1,589	24,255	3,612	-1,602	7,600	-6,121
2002	TOR	0.73	181.16	0.33	-1,985	19,488	-6,765	-2,353	-2,698	1,949	770	4,122	-4,311
2003	ANA	0.75	161.78	0.00	-1,537	-74	-3,460	3,000	-8,076	777	5,412	10,285	-3,710
2003	ARI	0.86	86.21	5.43	-6,645	-6,137	-2,005	-4,342	-2,467	-	2,191	17,536	1,868
2003	ATL	1.01	-5.40	1.13	50	-171	-1,017	1,879	1,747	-	7,761	9,365	-7,384
2003	BAL	0.69	199.45	0.00	1,189	112	-1,251	2,634	-6,761	6,996	-3,425	-6,106	6,613
2003	BOS	0.94	40.25	0.21	877	-3,513	-618	-2,739	2,237	581	8,839	6,154	-11,819
2003	CHA	0.87	76.54	0.00	-799	-2,130	-236	-539	-665	-833	5,542	-3,729	3,389
2003	CHN	0.85	93.25	0.99	-2,590	2,337	5,192	-7,155	-625	-	12,738	-8,341	-1,556
2003	CIN	0.70	180.18	4.34	-4,030	-625	-1,075	-3,459	2,746	-	17,442	-5,596	-5,403
2003	CLE	0.76	129.72	0.00	-229	-4,080	-737	-97	-5,883	4,555	-293	-5,204	11,968
2003	COL	0.81	109.48	4.96	1,060	6,071	-2,730	-4,454	-5,432	-	15,614	-10,207	77
2003	DET	0.51	256.54	0.00	-93	-1,608	-1,192	1,346	-6,134	5,936	4,293	-5,060	2,511
2003	FLO	5.85	-115.38	-6.63	10,200	2,665	-2,095	2,372	-4,481	-	934	-3,555	-6,040
2003	HOU	0.90	59.55	4.17	797	7,727	6,363	-6,765	-6,892	-	14,072	-15,209	-93
2003	KCA	0.91	48.65	0.00	2,428	-4,777	-155	4,454	-5,749	8,274	2,908	-7,239	-144
2003	LAN	0.82	112.64	2.61	-2,938	-1,241	823	-4,037	-5,607	-	11,630	3,423	-2,053
2003	MIL	0.89	52.30	0.00	-5,054	4,390	227	-1,542	-2,287	-	2,291	-2,344	4,319
2003	MIN	0.87	80.64	0.00	-959	-269	-7,341	471	-2,816	-2	-9,523	15,331	5,107
2003	MON	0.94	30.83	6.55	-8,830	-3,263	512	3,209	1,199	-	7,035	3,539	-3,402
2003	NYA	1.00	-1.32	-0.01	6,415	7,462	361	-573	12,582	-3,211	10,207	18,423	22,758
2003	NYN	0.67	203.92	1.24	-7,877	-1,328	7,686	-4,951	14,813	-	-22,342	4,109	9,889
2003	OAK	1.00	-0.26	0.00	-1,408	-666	-3,158	1,811	282	-266	-3,885	2,611	4,681
2003	PHI	0.90	55.85	4.76	-1,692	9,067	-154	-1,130	-1,600	-	-8,553	-5,225	9,287
2003	PIT	0.88	60.40	2.92	5,299	-3,416	162	-412	-7,277	-	7,075	-552	-880
2003	SDN	-	-	-	-	-	-	-	-	-	-	-	-
2003	SEA	0.90	61.83	0.00	105	2,404	3,887	1,905	-6,927	3,771	-2,434	-5,771	3,061
2003	SFN	0.98	13.42	2.97	-4,037	2,011	5,057	-3,642	933	-	56	-12,627	12,249
2003	SLN	0.82	112.92	3.81	-1,931	1,475	34	-364	215	-	-2,310	-2,439	5,320
2003	TBA	-	-	-	-	-	-	-	-	-	-	-	-
2003	TEX	0.69	197.51	0.00	-2,322	-6,232	-3,758	-5,721	13,530	9,196	-3,593	-17,833	16,733
2003	TOR	0.84	101.00	0.00	249	18,479	-7,090	-1,600	-3,646	-831	-8,696	7,932	-4,798
2004	ANA	0.93	42.62	4.79	-3,335	2,933	1,248	-7,599	-6,011	8,231	7,004	2,008	-4,479

2004	ARI	0.60	247.51	5.46	-2,534	-3,619	7,129	-6,965	-5,316	-	10,467	833	5
2004	ATL	0.97	19.86	1.43	-7,943	-1,398	-749	12,190	1,884	-	-2,164	3,263	7,238
2004	BAL	1.11	-59.00	0.00	5,001	2,381	38	-903	1,757	-964	-1,764	-4,154	-1,393
2004	BOS	2.10	-97.41	-4.20	5,597	-1,458	-803	1,197	-2,081	2,635	28,931	27,274	13,776
2004	CHA	1.01	-7.91	1.92	-4,973	3,384	-529	-1,734	809	3,775	3,463	2,184	-6,378
2004	CHN	0.85	98.77	4.00	-2,787	-948	1,649	-2,986	-7,223	-	15,922	1,450	4,698
2004	CIN	0.87	69.59	2.15	-2,048	5,111	622	-2,747	-1,304	-	165	-3,462	3,662
2004	CLE	0.97	14.28	0.00	-29	-80	-716	-1,795	6,410	-19	6,586	-6,714	-3,641
2004	COL	0.76	131.38	4.90	2,448	9,531	-2,778	-1,276	-1,352	-	-7,479	1,683	-778
2004	DET	0.74	153.87	0.00	7,228	-7,409	-332	945	-2,194	2,962	5,733	-8,940	2,008
2004	FLO	1.04	-18.11	4.36	-5,223	-2,390	-1,227	4,398	-944	-	2,461	4,356	5,276
2004	HOU	0.88	76.17	0.93	-3,430	10,437	11,002	-9,129	-7,597	-	15,324	-7,346	-9,262
2004	KCA	0.66	183.66	0.00	36	-59	-1,084	975	46	12,120	-857	-7,176	-4,000
2004	LAN	0.91	59.25	3.03	-1,456	13,468	738	-2,281	-5,456	-	-15,352	-960	11,299
2004	MIL	-	-	-	-	-	-	-	-	-	-	-	-
2004	MIN	0.94	37.26	0.43	-85	-5,892	1,229	4,710	-1,268	-6,083	4,226	3,667	-504
2004	MON	-	-	-	-	-	-	-	-	-	-	-	-
2004	NYA	1.01	-6.95	3.43	1,631	-9,854	212	20,183	7,453	-289	2,055	14,142	8,180
2004	NYN	0.75	149.77	4.59	-9,244	15,127	-2,864	-3,872	3,618	-	-3,951	10,397	3,109
2004	OAK	0.93	40.37	3.33	-1,965	-3,539	-904	2,571	-5,210	-790	11,930	-193	-1,900
2004	PHI	0.88	71.25	2.72	-300	11,523	2,449	-16	522	-	-11,662	3,830	5,974
2004	PIT	1.04	-18.03	0.23	8,700	-152	-2,181	-1,489	-1,104	-	-9,408	5,923	-289
2004	SDN	0.96	22.75	5.00	-4,359	5,591	-168	-3,811	-2,249	-	7,556	-5,836	3,277
2004	SEA	0.64	218.52	4.48	-1,318	2,509	7,569	-2,799	-3,324	231	4,016	-4,611	-2,273
2004	SFN	0.90	59.05	4.65	-2,772	-4,512	6,434	-283	-2,984	-	9,774	-3,301	-2,356
2004	SLN	1.08	-46.71	-0.29	1,159	-1,834	-1,952	3,995	5,918	-	-9,006	9,545	2,011
2004	TBA	0.91	41.09	0.00	-3,039	6,162	676	1,323	-1,462	-538	-330	87	-2,879
2004	TEX	0.96	20.18	0.00	-2,980	541	4,729	-2,108	-2,469	-367	-2,049	9,727	-5,023
2004	TOR	0.71	171.67	0.44	-6,017	17,936	-131	-2,952	-5,691	-2,223	-4,860	6,857	-2,919
2005	ARI	0.80	115.69	2.51	-2,812	-4,754	292	2,217	-4,309	-	13,766	3,931	-8,331
2005	ATL	0.97	18.39	1.12	-1,292	-2,119	27	6,266	1,123	-	5,419	-851	-8,572
2005	BAL	0.78	127.14	0.00	564	-823	-1,397	1,392	4,813	13,521	-20,327	-859	3,117
2005	BOS	1.07	-37.18	0.00	4,331	-251	2,567	-452	5,269	-799	35,246	10,364	8,055
2005	CHA	1.58	-24.22	-2.92	-8,125	8,966	-2,023	-2,554	-2,582	3,840	-12,533	16,901	-1,890
2005	CHN	0.76	150.69	3.76	-952	737	2,350	370	-6,705	-	-4,062	-4,266	12,527
2005	CIN	0.79	122.33	2.13	480	4,004	311	-3,129	-4,095	-	11,690	-6,165	-3,095
2005	CLE	1.03	-18.75	0.00	-1,430	-4,082	1,945	2,375	-5,829	-2,831	-4,754	9,357	5,248

2005	COL	0.72	160.32	2.08	-2,406	9,255	-902	-6,266	-4,634	-	5,605	-4,875	4,223
2005	DET	0.72	168.97	4.78	6,162	-167	4,828	784	635	3,762	4,296	-17,395	-2,904
2005	FLO	0.94	32.49	0.98	3,191	2,083	1,614	280	-689	-	1,053	-1,378	-6,154
2005	HOU	1.08	-42.10	-0.31	2,487	4,628	2,891	-5,668	-1,524	-	-9,099	14,967	-8,682
2005	KCA	0.67	167.10	0.00	-1,308	-46	-737	-555	-5,983	11,008	-2,013	-1,023	656
2005	LAA	0.97	20.49	2.49	-2,995	3,644	1,966	-7,261	-2,122	-1,822	16,417	6,455	-14,281
2005	LAN	0.72	174.25	3.04	-3,297	-5,755	6,865	1,565	-4,438	-	2,504	6,342	-3,786
2005	MIL	0.94	34.42	1.27	1,575	-2,272	15	-2,578	-2,503	-	12,740	-3,133	-3,844
2005	MIN	0.85	92.71	3.34	-2,323	-7,957	-900	-482	-3,204	-4,137	13,260	7,707	-1,965
2005	NYA	0.95	32.94	4.11	2,128	1,465	15,991	7,960	4,425	12,412	-631	9,452	-1,997
2005	NYN	0.86	83.81	1.12	15,675	1,557	-200	-13,453	-4,830	-	-2,378	5,941	-2,311
2005	OAK	0.91	54.78	1.56	6,280	-3,519	-364	7,254	-4,653	-941	2,692	-2,237	-4,512
2005	PHI	0.92	45.39	1.12	6,394	-1,888	-1,251	-7,796	-948	-	4,472	-9,854	10,871
2005	PIT	0.79	111.46	1.05	-1,358	-1,300	21	-2,566	1,101	-	4,798	-619	-76
2005	SDN	0.87	75.13	2.27	1,716	5,703	1,747	-5,178	-4,934	-	10,988	-7,803	-2,239
2005	SEA	0.70	182.84	4.37	-5,276	652	8,195	4,942	4,177	1,740	3,925	-10,742	-7,612
2005	SFN	0.78	131.71	2.60	-1,089	-3,137	6,608	418	-2,433	-	558	2,611	-3,537
2005	SLN	0.96	28.13	1.80	-3,995	4,251	728	-3,676	-5,537	-	14,508	-6,990	713
2005	TBA	-	-	-	-	-	-	-	-	-	-	-	-
2005	TEX	0.81	114.83	3.67	-3,107	-2,562	6,732	-2,067	-2,340	-2,373	-603	2,054	4,268
2005	TOR	1.00	-0.73	0.00	-3,724	727	-698	1,523	-4,974	8,694	-8,950	7,488	-87
2005	WAS	0.96	18.40	0.33	945	590	3,445	-3,232	1,388	-	1,203	1,434	-5,772

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