# Rockies 2017 - Week #5

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Carlos Gonzalez is the highest paid Rockies player this year. His salary and bonus compensation is \$20,478,571.

"I'd play for half my salary if I could hit in this dump [Wrigley Field] all the time." – Babe Ruth

Table 1: NL West Standings

Tm	W	L	W-L%	GB
Colorado Rockies	20	12	.625	_
Los Angeles Dodgers	17	14	.548	2.5
Arizona Diamondbacks	18	15	.545	2.5
San Diego Padres	12	20	.375	8.0
San Francisco Giants	11	21	.344	9.0

Table 2: Current Rockies Results as of 2017-05-08

Wins	Losses	Win.Pct	Runs	Runs.Ag	Predicted Season Wins
20	12	62.5	152	145	85

#### Week #5

I did get some favorable feedback on the W/L Margin charts showing the game-by-game success or failure and comparison to the 2007 season. We will incorporate that into the **Dashboards** section and continue publishing this information weekly.

On the otherhand, I will discontinue updating the Fielding statistics. The reason being that I am still looking for an automatic way to refresh the data each week. There appears to be a glitch in the link to this information at baseball-reference.com. Until I get that resolved, I will include it as a special when requested. Don't worry Cath, Nolan is proving himself to be a consistent defensive player at third base.

You might have noticed on the first page in addition to the picture and quote of the week, I have included a couple of summary tables showing the progress thus far this season. If you just look at this first page, you should get a sense of the Rockies are doing.

The featured Graphics and Tables this week will address the MLB team payrolls and their steep increases over the last ten years. Additionally, there is a breakdown of the Rockies salary budget.

Here is a synopsis of what is included this week.

#### • Featured Graphics

- MLB Team Payrolls
- Rockies Payroll Detail
- Colorado Rockies Dashboards
  - Rockies Win/Loss Graphs for 2017 and 2007
  - National and American League Standings
  - Game-by-Game Results of the past week.
  - Pythagorean Theorem prediction of the number of wins.
  - Batting Statistics
  - Pitching Statistics

Most of the source data for this article can be found at URL http://baseball-reference.com.

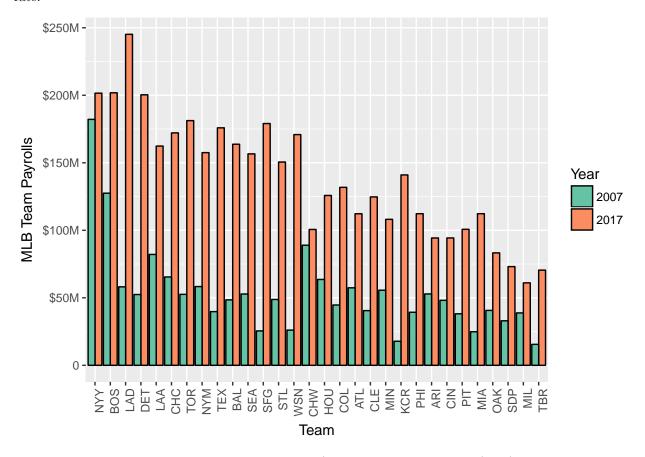
Let me know what other special interest statistics you might like to see. Remember to refer to the Glossaries at the end of the document if unfamiliar with one or more of the statistic abbreviations in the tables.

#### Featured Graphics

# MLB Team Payrolls 2017

The total 2007 MLB Payroll was \$ 1.62 Billion. The total 2017 MLB Payroll is \$ 4.16 Billion.

This is a big increase between 2007 this season. How does one express this increase in terms of the total growth over that time. One way that investors use is to express the change as a compound annual growth rate.

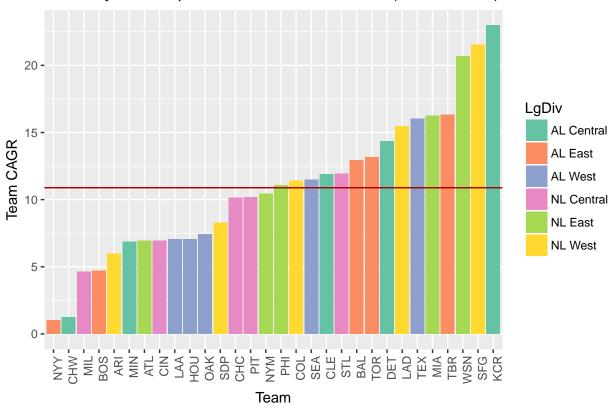


Colorado ranks 16th out of 30 with a total payroll of \$131.80 Million this season (2017). The Rockies payroll in 2007 was \$44.66 Million. This represents a CAGR of 11.43 percent. This outpaces the MLB as a whole but how does it compare to the rest of the league?

Compound annual growth rate (CAGR) is a measure of growth applied to investment and funding matters. Note to all of you who consider yourselves formula-phobes, this is a very useful formula. You can apply this to your investments, your fantasy baseball winnings and other money, time-sensitive investments. The formula for CAGR is:

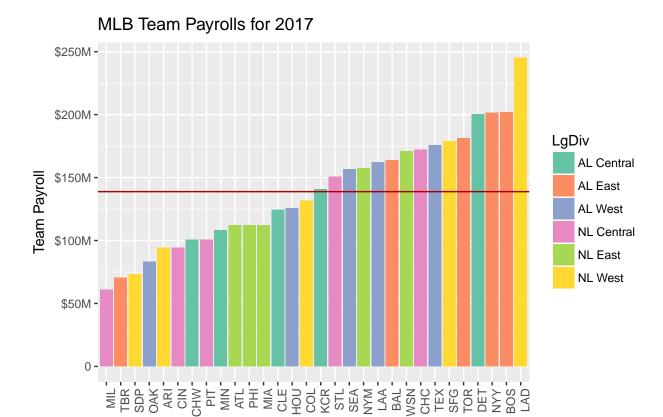
$$CAGR = \left(\frac{EndValue}{BeginningValue}\right)^{\frac{1}{Years}} - 1$$

### MLB Payroll Compound Annual Growth Rate (2007 - 2017)



The average team CAGR for payroll between 2007 and 2017 is 10.89 percent. The graph above shows that the Kansas City Royals, San Francisco Giants and the Washington Nationals have made the largest investment in payrolls over the past decade. Of late, it appears the Nationals are getting real returns in their number of wins thus far this season.

# MLB Payrolls for 2017



In terms of overall investment in payroll, the Los Angeles Dodgers, Boston Red Sox and the New York Yankees are the top three.

Team

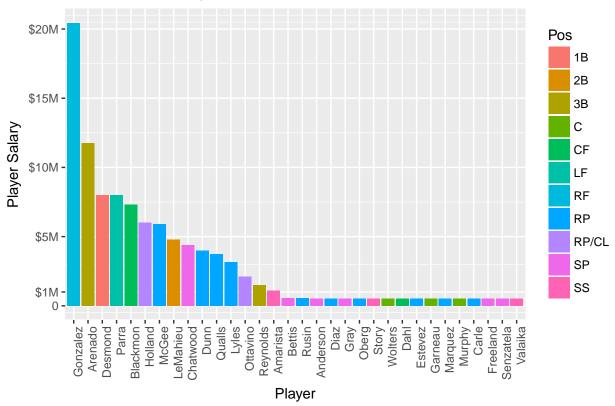
# Rockies Payroll Detail 2017

# Player Salaries

Table 3: Rockies 2017 Player Salary Details

First	Last	Age	Pos	Base (\$)	Bonus (\$)	Total (\$)	Adjusted (\$)
Alexi	Amarista	28	SS	1,100,000		1,100,000	1,100,000
Tyler	Anderson	27	SP	540,000		540,000	540,000
Nolan	Arenado	26	3B	11,750,000		11,750,000	11,750,000
Chad	Bettis	28	SP	545,000		545,000	545,000
Charlie	Blackmon	30	$\operatorname{CF}$	7,300,000		7,300,000	7,300,000
Shane	Carle	25	RP	535,000		535,000	499,833
Tyler	Chatwood	27	SP	4,400,000		4,400,000	4,400,000
David	Dahl	23	$\operatorname{CF}$	537,000		537,000	537,000
Ian	Desmond	31	1B	8,000,000		8,000,000	8,000,000
Jairo	Diaz	25	RP	540,000		540,000	540,000
Michael	Dunn	31	RP	4,000,000		4,000,000	4,000,000
Carlos	Estevez	24	RP	537,000		537,000	537,000
Kyle	Freeland	23	SP	535,000		535,000	535,000
Dustin	Garneau	29	$\mathbf{C}$	537,000		537,000	537,000
Carlos	Gonzalez	31	RF	20,000,000	$428,\!571$	$20,\!428,\!571$	$20,\!428,\!571$
Jon	Gray	25	SP	540,000		540,000	540,000
$\operatorname{Greg}$	Holland	31	RP/CL	6,000,000		6,000,000	6,000,000
D.J.	LeMahieu	28	2B	4,800,000		4,800,000	4,800,000
Jordan	Lyles	26	RP	3,175,000		3,175,000	3,175,000
German	Marquez	22	RP	537,000		537,000	489,978
Jake	McGee	30	RP	5,900,000		5,900,000	5,900,000
Tom	Murphy	26	$\mathbf{C}$	537,000		537,000	537,000
Scott	Oberg	27	RP	540,000		540,000	540,000
Adam	Ottavino	31	RP/CL	2,100,000		2,100,000	2,100,000
$\operatorname{Gerardo}$	Parra	29	$\operatorname{LF}$	8,000,000		8,000,000	8,000,000
Chad	Qualls	38	RP	3,250,000	500,000	3,750,000	3,750,000
Mark	Reynolds	33	3B	1,500,000		1,500,000	1,500,000
Chris	Rusin	30	RP	545,000		545,000	545,000
Antonio	Senzatela	22	SP	535,000		535,000	535,000
Trevor	Story	24	SS	540,000		540,000	540,000
Pat	Valaika	24	SS	535,000		535,000	488,141
Tony	Wolters	24	С	540,000		540,000	540,000





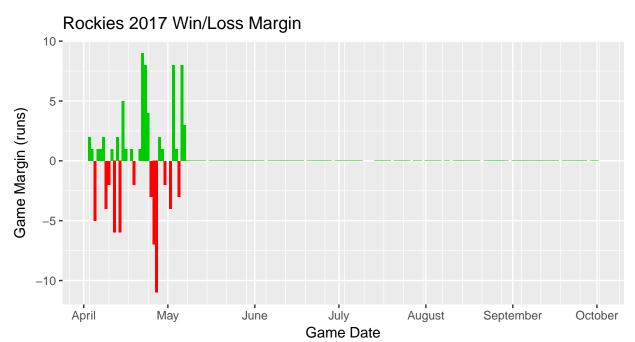
The striking feature of the graph above is the three-tier nature of the salary structure. New players receive, what would be considered a very lucrative salary of more than \$500,000 per year. The next tier consists of about 12 players making between \$1M and \$7M per year. Then there are the very-highly paid superstars, Arenado at \$11,750,000 and Carlos Gonzalez brings in a whopping \$20,428,571! If we look deeper into this, we would find the economic reasonong that drive teams to this stratified pay structure. Not least of the factors is salary arbitration. A player is eligible in particular situations for arbitration. The minimum salary for a MLB player in 2017 is set by MLB and is \$535,000 per year.

#### Rockies Dashboard

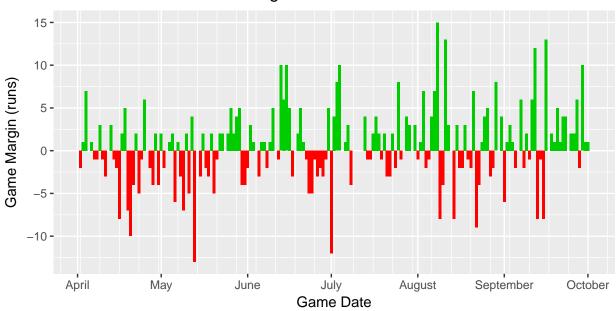
# Win Loss Margin

One of the many ways to visualize a teams performance is to show wins and losses as the margin of the win (positive) or loss (negative). In the graphs below, we show the current season performance. For emphasis, wins are displayed as green (above the zero) and losses as red (below).

Following the current season's graph, I have included the Win/Loss margin chart for our benchmark season of 2007 when the Rockies won the National League pennant.



# Rockies 2007 Win/Loss Margin



# National League Standings

Table 4: NL East Standings

Tm	W	L	W-L%	GB
Washington Nationals	21	10	.677	_
New York Mets	14	16	.467	6.5
Miami Marlins	13	17	.433	7.5
Philadelphia Phillies	13	17	.433	7.5
Atlanta Braves	11	18	.379	9.0

Table 5: NL Central Standings

Tm	W	L	W-L%	GB
Cincinnati Reds	17	14	.548	_
St. Louis Cardinals	16	14	.533	0.5
Chicago Cubs	16	15	.516	1.0
Milwaukee Brewers	16	16	.500	1.5
Pittsburgh Pirates	14	17	.452	3.0

Table 6: NL West Standings

Tm	W	L	W-L%	GB
Colorado Rockies	20	12	.625	_
Los Angeles Dodgers	17	14	.548	2.5
Arizona Diamondbacks	18	15	.545	2.5
San Diego Padres	12	20	.375	8.0
San Francisco Giants	11	21	.344	9.0

# American League Standings

Table 7: AL East Standings

$\overline{\mathrm{Tm}}$	W	L	W-L%	GB
New York Yankees	20	9	.690	_
Baltimore Orioles	20	10	.667	0.5
Boston Red Sox	17	14	.548	4.0
Tampa Bay Rays	16	17	.485	6.0
Toronto Blue Jays	11	20	.355	10.0

Table 8: AL Central Standings

Tm	W	L	W-L%	GB
Cleveland Indians	17	13	.567	_
Minnesota Twins	15	14	.517	1.5
Chicago White Sox	15	15	.500	2.0
Detroit Tigers	15	15	.500	2.0
Kansas City Royals	10	20	.333	7.0

Table 9: AL West Standings

Tm	W	L	W-L%	GB
Houston Astros	21	11	.656	_
Los Angeles Angels of Anaheim	16	17	.485	5.5
Seattle Mariners	15	17	.469	6.0
Oakland Athletics	14	17	.452	6.5
Texas Rangers	13	19	.406	8.0

#### Rockies Game-by-Game Schedule/Results

Gm#	Day	Date	H/A	Opp	W/L	R	RA	Win	Loss	Save	$\mathrm{D/N}$	Streak
1	Mon	Apr 3	A	MIL	W	7	5	Estevez	Marinez	Holland	D	+
2	Tue	Apr 4	A	MIL	W	6	5	Anderson	Davies	Holland	N	++
3	Wed	Apr 5	A	MIL	${ m L}$	1	6	Peralta	Chatwood	Feliz	N	-
4	Thu	Apr 6	A	MIL	W	2	1	Dunn	Feliz	Holland	D	+
5	Fri	Apr 7	Η	LAD	W	2	1	Freeland	Ryu	McGee	D	++
6	Sat	Apr 8	Η	LAD	W	4	2	Dunn	Kershaw	Holland	N	+++
7	$\operatorname{Sun}$	Apr 9	Η	LAD	L	6	10	Maeda	Anderson		D	-
8	Mon	Apr 10	Η	SDP	L	3	5	Diaz	Chatwood		N	_
9	Tue	Apr 11	Η	SDP	W	3	2	Senzatela	Diaz	Holland	N	+
10	Wed	Apr 12	Η	SDP	L	0	6	Lee	Freeland		D	-
11	Thu	Apr 13	A	SFG	W	3	1	Rusin	Bumgarner	Holland	N	+
12	Fri	Apr 14	A	SFG	L	2	8	Cueto	Anderson		N	-
13	Sat	Apr 15	A	SFG	W	5	0	Chatwood	Moore		D	+
14	$\operatorname{Sun}$	Apr 16	A	SFG	W	4	3	Senzatela	Samardzija	Holland	D	++
15	Tue	Apr 18	A	LAD	W	4	3	Rusin	Ryu	Holland	N	+++
16	Wed	Apr 19	A	LAD	L	2	4	Kershaw	Anderson	Jansen	N	-
17	Fri	Apr 21	Η	SFG	W	6	5	Chatwood	Cueto	Holland	N	+
18	Sat	Apr 22	Η	SFG	W	12	3	Senzatela	Moore		N	++
19	$\operatorname{Sun}$	Apr 23	Η	SFG	W	8	0	Freeland	Samardzija		D	+++
20	Mon	Apr 24	Η	WSN	W	8	4	Estevez	Romero		N	++++
21	Tue	Apr 25	Η	WSN	L	12	15	Romero	Marquez		N	-
22	Wed	Apr 26	Η	WSN	L	4	11	Roark	Chatwood		N	_
23	Thu	Apr 27	Η	WSN	L	5	16	Gonzalez	Senzatela		D	
24	Fri	Apr 28	A	ARI	W	3	1	Freeland	Ray	Holland	N	+
25	Sat	Apr 29	A	ARI	W	7	6	Estevez	Rodney	Holland	N	++
26	$\operatorname{Sun}$	Apr 30	A	ARI	L-wo	0	2	Delgado	Lyles		D	-
27	Tue	May 2	A	SDP	L	2	6	Cahill	Chatwood		N	_
28	Wed	May 3	A	SDP	W	11	3	Senzatela	Weaver		N	+
29	Thu	May 4	A	SDP	W	3	2	Qualls	Hand	Holland	D	++
30	Fri	May 5	Η	ARI	L	3	6	Greinke	Marquez	Rodney	N	-
31	Sat	May 6	Η	ARI	W	9	1	Anderson	Corbin	Rusin	N	+
32	Sun	May 7	Н	ARI	W	5	2	Chatwood	Walker	Holland	D	++

The Rockies current record is 20 Wins and 12 Losses. So far, the Rockies have scored 152 runs and have had 145 runs scored against them.

# Pythagorean Win-Loss Theorem

$$predicted W\% = \frac{R^k}{R^k + RA^k}$$

Using the commonly used values of k, the Rockies predicted wins for the 2017 are shown in the table below. Remember this statistic will vary widely over the course of the season.

Table 11: Predicted Wins for Entire 2017 Season

Wins (k=1.81)	Wins (k=1.83)	Wins (k=2.00)
84	84	85

# 2017 Colorado Rockies Batting Statistics (non-pitchers)

Table 12: Rockies Batting Statistics (1 of 2).

Rk	Pos	Name	Age	G	AB	R	Н	2B	3B	HR	RBI	SB	CS	ВВ
1	С	Garneau	29	19	58	5	12	7	0	1	6	0	0	3
2	1B	Reynolds	33	31	112	20	36	5	0	11	27	0	1	11
3	2B	LeMahieu	28	32	120	13	33	5	1	1	9	1	1	15
4	SS	Story	24	31	104	17	18	6	0	6	14	1	0	16
5	3B	Arenado	26	31	120	19	35	10	1	8	21	1	0	9
6	$_{ m LF}$	Parra*	30	27	90	12	26	2	0	3	13	0	1	3
7	$\operatorname{CF}$	Blackmon*	30	32	134	20	42	9	4	8	27	1	2	8
8	RF	$Gonzalez^*$	31	28	104	11	20	5	0	2	6	0	0	10
9	$\mathbf{C}$	Wolters*	25	17	52	12	18	3	1	0	3	0	0	3
10	OF	Cardullo	29	15	28	2	4	0	0	0	3	0	0	3
11	UT	Desmond	31	7	31	6	8	0	0	2	3	1	1	0
12	UT	Amarista*	28	16	29	6	9	2	0	1	6	0	0	1
13	UT	Valaika	24	13	21	5	7	3	0	1	4	0	0	1
14	$_{ m IF}$	Adames#	25	12	13	1	0	0	0	0	0	0	0	1
15	С	Hanigan	36	2	9	1	5	0	0	1	3	0	0	0
16	$_{ m LF}$	Tapia*	23	2	7	0	0	0	0	0	0	0	0	0

Table 13: Rockies Batting Statistics (2 of 2).

Rk	Pos	Name	Age	SO	BA	OBP	$\operatorname{SLG}$	OPS	OPS+	ТВ	GDP	HBP	SH	SF	IBB
1	С	Garneau	29	22	.207	.258	.379	.637	55	22	1	1	1	0	0
2	1B	Reynolds	33	27	.321	.379	.661	1.040	150	74	4	0	0	1	0
3	2B	LeMahieu	28	16	.275	.360	.358	.719	79	43	3	1	0	0	0
4	SS	Story	24	46	.173	.283	.404	.687	67	42	1	0	0	0	0
5	3B	Arenado	26	22	.292	.346	.592	.938	125	71	4	2	0	2	0
6	$_{ m LF}$	Parra*	30	17	.289	.319	.411	.730	79	37	1	1	0	0	0
7	$\operatorname{CF}$	Blackmon*	30	26	.313	.354	.619	.974	134	83	0	1	2	1	0
8	RF	$Gonzalez^*$	31	24	.192	.259	.298	.557	37	31	1	0	0	2	1
9	$\mathbf{C}$	Wolters*	25	11	.346	.393	.442	.835	107	23	2	1	0	0	1
10	OF	Cardullo	29	7	.143	.250	.143	.393	2	4	0	1	0	0	0
11	UT	Desmond	31	12	.258	.258	.452	.710	70	14	1	0	0	0	0
12	UT	Amarista*	28	7	.310	.333	.483	.816	98	14	1	0	0	0	0
13	UT	Valaika	24	2	.333	.364	.619	.983	136	13	0	0	0	0	0
14	$\operatorname{IF}$	Adames#	25	6	.000	.071	.000	.071	-80	0	0	0	0	0	0
15	$\mathbf{C}$	Hanigan	36	3	.556	.556	.889	1.444	249	8	0	0	0	0	0
16	LF	Tapia*	23	1	.000	.000	.000	.000	-100	0	0	0	0	0	0

<sup>- \* -</sup> bats left-handed, # - bats both, else - bats right, ? - unknown; OPS\_lg for OPS+ does not include pitchers.

# **Rockies Pitching**

Table 14: Rockies pitching statistics (1 of 2).

Rk	Pos	Name	Age	W	L	W-L%	ERA	G	GS	GF	$\overline{\text{CG}}$	SHO	SV	IP	Н	R
1	SP	Chatwood	27	3	4	.429	4.74	7	7	0	1	1	0	43.2	37	23
2	$_{ m SP}$	Senzatela	22	4	1	.800	2.84	6	6	0	0	0	0	38.0	31	13
3	SP	Anderson*	27	2	3	.400	6.69	7	7	0	0	0	0	36.1	43	29
4	SP	Freeland*	24	3	1	.750	2.65	6	6	0	0	0	0	34.0	31	10
5	SP	Marquez	22	0	2	.000	7.31	3	3	0	0	0	0	16.0	20	13
6	SP	$\operatorname{Gray}$	25	0	0		4.38	3	3	0	0	0	0	12.1	11	6
7	$\operatorname{CL}$	Holland	31	0	0		1.29	14	0	14	0	0	13	14.0	8	2
8	RP	Oberg	27	0	0		4.50	15	0	3	0	0	0	14.0	10	9
9	RP	Ottavino	31	0	0		2.63	14	0	0	0	0	0	13.2	9	4
10	RP	Estevez	24	3	0	1.000	7.94	13	0	2	0	0	0	11.1	13	11
11	RP	McGee*	30	0	0		2.38	12	0	3	0	0	1	11.1	6	3
12		Rusin*	30	2	0	1.000	2.65	9	0	3	0	0	1	17.0	14	6
13		Lyles	26	0	1	.000	8.56	9	0	4	0	0	0	13.2	21	13
14		Dunn*	32	2	0	1.000	1.08	12	0	0	0	0	0	8.1	5	1
15		Qualls	38	1	0	1.000	2.08	4	0	1	0	0	0	4.1	3	2
16		Carle	25	0	0		0.00	1	0	1	0	0	0	1.0	0	0

Table 15: Rockies pitching statistics (2 of 2).

Rk	Pos	Name	ER	HR	ВВ	IBB	SO	НВР	ВК	WP	BF	ERA+	FIP	WHIP
1	SP	Chatwood	23	9	18	0	31	0	2	2	175	106	5.49	1.260
2	SP	Senzatela	12	4	8	0	20	3	0	0	151	176	4.18	1.026
3	$_{ m SP}$	Anderson*	27	9	12	0	34	1	2	2	161	75	5.42	1.514
4	$_{ m SP}$	Freeland*	10	1	14	1	20	2	0	0	145	190	3.62	1.324
5	SP	Marquez	13	$^2$	7	1	13	0	0	0	75	69	4.31	1.688
6	$_{ m SP}$	$\operatorname{Gray}$	6	1	7	0	9	0	0	1	53	116	4.30	1.459
7	$\operatorname{CL}$	Holland	2	0	5	0	17	0	0	2	53	395	1.64	0.929
8	RP	Oberg	7	1	6	0	14	1	0	2	58	113	3.43	1.143
9	RP	Ottavino	4	1	9	0	15	0	0	2	57	193	3.73	1.317
10	RP	Estevez	10	0	4	1	10	0	1	1	52	64	2.29	1.500
11	RP	McGee*	3	0	5	0	14	0	0	0	45	214	1.85	0.971
12		Rusin*	5	1	2	0	17	0	0	0	67	191	2.12	0.941
13		Lyles	13	4	4	0	14	2	0	1	65	59	6.07	1.829
14		Dunn*	1	0	2	0	10	0	0	0	31	478	1.32	0.840
15		Qualls	1	0	2	0	3	0	0	0	19	256	3.00	1.154
16		Carle	0	0	0	0	1	0	0	1	4		1.00	0.000

<sup>\*</sup> - throws left-handed

# **Topics for Future Articles**

Here are a few suggestions, but I would prefer to hear from you, dear reader, on what interests you.

- Player Value I am personally just getting familiar with this concept. Work In Progress (WIP)
- What is the OPS+ statistic and how is it calculated.
- Survey MLB ticket prices.

Let me know what you would like to see in future articles. Send me email at jdreed@q.com.

Yours truly

Jim Reed

# Appendix

# Glossary

# **Batting Statistics**

Statistic Abbreviation	Definition
$\overline{G}$	number of games (participated)
PA	plate appearances
AB	at bats
R	runs scored by player or team
RA	runs allowed
H	hits
2B	doubles
3B	triples
HR	home runs
RBI	runs batted in
BA	batting average
OBP	on-base percentage
SLG	slugging percentage
OPS	on-base percentage plus slugging percentage
OPS+	This statistic normalizes a player's OPS. It adjusts for small variables that might affect OPS scores (e.g., park effects).

# Pitching Statistics

Pitching Statistic	Definition
$\overline{Rk}$	Rank This is a count of the rows from top to bottom.
	It is recalculated following the sorting of a column.
Pos	Position
Name	Player Name
Age	Player's age at midnight of June 30th of that year
W	Wins
L	Losses
W- $L%$	Win-Loss Percentage W $/$ (W + L) For players, leaders
,,	need one decision for every ten team games. For managers, minimum to qualify for leading is 320 games.
ERA	9 * ER / IP
	•
G	Games Played or Pitched
GS	Games Started
GF	Games Finished
CG	Complete Game
SHO	Shutouts No runs allowed and a complete game.
SV	Saves
IP	Innings Pitched
H	Hits/Hits Allowed
R	Runs Scored/Allowed
ER	Earned Runs Allowed
HR	Home Runs Hit/Allowed
BB	Bases on Balls/Walks
IBB	Intentional Bases on Balls First tracked in 1955.
SO	Strikeouts
HBP	Times Hit by a Pitch.
BK	Balks
WP	Wild Pitches
BF	Batters Faced
ERA +	ERA+ 100*[lgERA/ERA] Adjusted to the player's
	ballpark(s).
FIP	Fielding Independent Pitching
WHIP	(BB + H)/IP For recent years, leaders need 1 IP per
	team game played
Н9	9 x H / IP For recent years, leaders need 1 IP per team
110	game played
HR9	9 x HR / IP For recent years, leaders need 1 IP per
1111.5	team game played
BB9	9 x BB / IP For recent years, leaders need 1 IP per
שטט	· · · · · · · · · · · · · · · · · · ·
COO	team game played
SO9	9 x SO / IP For recent years, leaders need 1 IP per
00 /H/	team game played
SO/W	SO/W or SO/BB For recent years, pitching leaders
	need 1 IP per team game played.

# Fielding Statistics

NamePlayer Name Bold can mean player is activated team or player has appeared in MLB * means switch hitter, $+$ can mean player's age at midnight of June 30th of the G $G$ Games Played or Pitched $GS$ - Games Started	
Games Played or Pitched	n HOFer.
V	hat year
GS - Games Started	
- Complete Game	
Inn – Innings Played in Field	
Ch – Defensive Chances Putouts + Assists +	Errors
PO – Putouts	
A – Assists	
E – Errors Committed	
DP – Double Plays Turned	
Fld% - Fielding Percentage (Putouts + Assists)	/ (Putouts +
Assists + Errors)	
Rtot – Total Zone Total Fielding Runs Above A	Avg The
number of runs above or below average the	e player was
worth based on the number of plays made	. This
number combines the Rtz, Rdp,Rof, Rcate	ch numbers
into a total defensive contribution. See the	e glossary
section for a more complete explanation. I	Provided by
BaseballProjection.com	
Rtot/yr - Total Zone Total Fielding Runs Above A	
Inn The number of runs above or below as	~
fielder was worth per 1,200 Innings (approx	- ,
This number combines the Rtz, Rdp, Rof,	
numbers into a total defensive contribution	
glossary section for a more complete expla	nation.
Provided by BaseballProjection.com	
- BIS Defensive Runs Saved Above Avg Th	
runs above or below average the player wa	
based on the number of plays made. This	
combines the Rpm, Rbdp, Rbof, Rbcatch i	
a total defensive contribution. Provided by	y Baseball
Info Solutions	
- BIS Defensive Runs Saved Above Avg pe	
The number of runs above or below average	-
was worth per 1,200 Innings (approx 135 g	
number combines the Rpm, Rbdp, Rbof, I	
numbers into a total defensive contribution	
pitchers, this is set to 200 Innings. Providence	ed by
Baseball Info Solutions	
- Range Factor per 9 Inn 9 * (Putouts + 1	Assists) /
Innings Played	. ) / ~
RF/G — Range Factor per Game (Putouts + Assis	sts) / Games
Played	
PB - Passed Balls	
WP – Wild Pitches	
SB — Stolen Bases $CS$ — Caught Stealing	

Fielding Statistic	Definition
CS%	- Caught Stealing Percentage CS / (SB + CS)
lgCS%	<ul> <li>League Caught Stealing Percentage League Expected</li> <li>CS / Players SB + Players CS</li> </ul>
PO	<ul> <li>Pickoffs Runner picked off a base. May include cases they were safe on an error. Also includes Pickoff Caught Stealing plays.</li> </ul>
Pos	Summary – Positions Played The positions either followed by the games played at that position or in order of games or innings played. For a single season, * indicates they played at least 2/3rds of the team games there Positions after / indicate less than ten games played at those positions. For career, a + sign means more than 300 games at that position and a - sign means less than 30 games.

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