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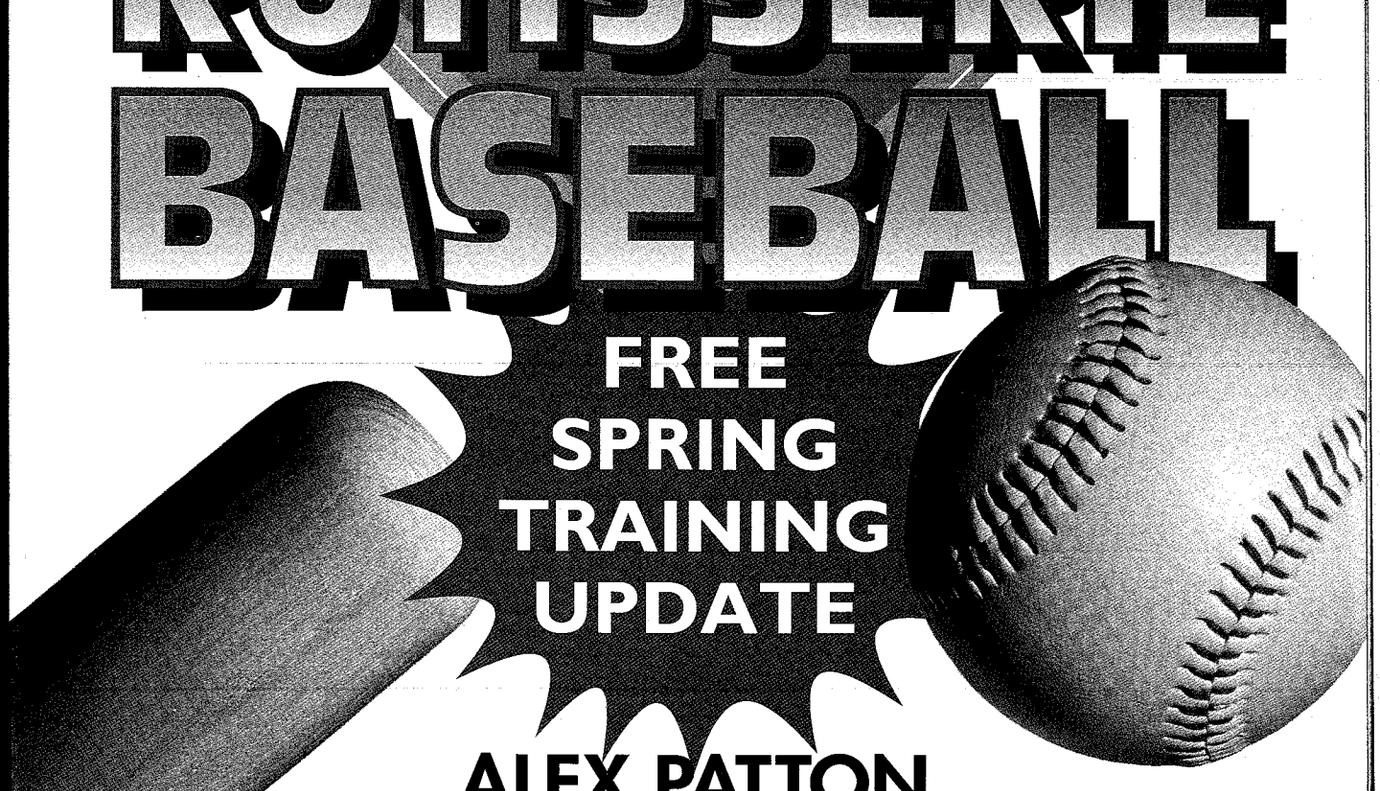
PATTON'S 1994 PREDICTIONS FOR ROTISSERIE® BASEBALL



FREE SPRING TRAINING UPDATE

ALEX PATTON

Chapter 4

Notes for Masochists

The foundation of my pricing theory (or quicksand, as more than one mathematician has said) is the contention that hitters are worth more than pitchers, individually -- and overall.

Individually, the average hitter, I believe, is worth 50 percent more than the average pitcher because he helps in three categories -- home runs, RBIs and stolen bases -- while the average pitcher helps in two, wins and saves. Average players are average in the average categories; they don't help or hurt.

Therefore, in standard Rotisserie leagues, the average hitter is worth $13, not $11.30 (3120/276). The average pitcher is worth $8.67, not $11.30. Most people don't have any trouble with that.

What this does to the allocation of money, however, is not so easy to accept. Multiply 168 hitters times $13: $2,184. Multiply 108 pitchers times $8.67: $936. Hitting is 70 percent of the game.

On a team basis, in theory, $182 should be budgeted to hitters; $78 should be budgeted to pitchers. In practice, in the early days, most teams spent much more than $78 on pitching. Much more. And they didn't do very well; their offense almost always suffered and often their pitching reaped no benefit. As Stage One moved to Two, then Three, the amount spent on pitching came down, and down.

Experience seemed to be proving my theory correct. Leagues spent 55 percent of their money on hitting ... 60 percent ... 65 percent ... 65 percent ... 65 percent ...

Experience just refuses to take that last five percent leap of faith.

Plenty of teams spend more than $182 on hitting, but no league spends $2,184. Bos-Wash, an AL league founded in 1986, spent $2,146 on hitters last year. That's the top figure that I can find. Sixty-nine percent. The American Dreams spent $2,118: 68 percent. Cowtown, the next oldest AL Heath League (1984), spent $1,911 on hitters: 62 percent.

Inasmuch as hitting is really and truly 50 percent of the game, not a percent more, not a percent less, it was hard to find a theoretical explanation for why 65 percent, more or less, was the magic number. Les Leopold, Peter Golenbock's economist and a friend of mine, last year called in a friend of his named Reza Bahar, an econometrician, which Les defined, aptly, as "an economist's economist." Reza seems basically to have said to Les, Who cares? "Why not simply model the prices after what the winning teams do? Isn't that the only pricing system that matters?"

Using multiple regression -- which Les assures is not something most of us would want to use -- Reza came to the conclusion, apparently (as best I could tell from the prices in Peter's book last year), that winners budget a little more than 67 percent of their money to hitting.

And I still want to know why. Multiple regression describes, it confirms, it reinforces; it doesn't explain. To Reza's question as to who cares, I answer: we do. Both of you and me. Masochists care.

And we've always secretly known what the explanation is, haven't we? Pitchers, of course, are worth 50 percent of the points in a given league, but they are bad risks. All the market wants to do is get a return on its money, and by trial and error it has found that this is the best portfolio: put 65 percent in the bank and take 35 percent to Atlantic City.

It was a coincidence, seemingly, that my 70/30 theory produced prices that approximated this optimum mix, and that didn't bother me a bit; all I had ben trying to do when I started out searching for a formula was find prices I could use. I had a sense that certain hitters were being chased too far; I wanted the assurance that, if I refused to chase these hitters to the prices they were commanding, I could get other hitters at better prices. The prices worked. One way or another, the formula seemed to give answers to Reza's question.

My formula produced prices that the market prices came to resemble. Les/Reza's formula produced prices based on the market prices.

Jerry Heath's computers know nothing of my theory and are oblivious to market prices. All they do is plug actual players into actual leagues. "Roti Val," says Jerry, "is calculated by analyzing 24 standard Rotisserie leagues serviced by Heath Research. A player's seasonal stats are added to the mid-place team in each Rotisserie league and then the standings are recalculated. The % of new team points attributable to the player is then applied to a salary cap of $260 and the average of the 24 results = Rotisserrie Value."

Here are the totals of his Roti Vals for all hitters and pitchers last year:

Heath NL	$	%	Heath AL	$	%
hitters	2411	65%	hitters	2560	67%
pitchers	1272	35%	pitchers	1259	33%
total	3683	100%	total	3819	100%

How can it be that the hitters improved teams more than the pitchers did? The two sides of the game have equal weight. Don't they? Probability and reliability play no part in this. There's no betting, no gnashing of teeth, no bias. Nonetheless, Jerry's method is more "empirical" than any of the others. Isn't it?

In some obscure way, pitchers do seem to be the sum of their parts, just as hitters are, and the sum is not nearly the same as the hitters' sum. Even though it should be. The sum of the hitters is not quite 50 percent more, per player.

The formulas that I use are based on denominators, and their unveiling, I realize, is an exciting moment for each of you.

National League 1993 Formulas

```
$HR  =  13/6*HR/5
$RBI =  13/6*RBI/18.65
$SB  =  13/6*SB/6
$BA  =  13/6*((1292.5+Hits)/(4700+AB)-0.275)/0.0012
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$W   =  8.67/4*Wins/2.6
$Sv  =  8.67/4*Saves/3.7
$ERA =  8.67/4*(3.91-(456.17+ER)/((1050+IP)/9))/0.04
$Rto =  8.67/4(11.92-((1390.67+H+BB)/((1050+IP)/9)))/0.07


American League 1993 Formulas

$HR  =  13/6*HR/5.4
$RBI =  13/6*RBI/19.69
$SB  =  13/6*SB/5.3
$BA  =  13/6*((1264.3+Hits)/(4700+AB)-0.269)/0.0012

$W   =  8.67/4*Wins/2.6
$Sv  =  8.67/4*Saves/3.6
$ERA =  8.67/4*(4.2-(490+ER)/((1050+IP)/9))/0.04
$Rto =  8.67/4*(12.45-((1452.5+H+BB)/((1050+IP)/9)))/0.07
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The translation of $HR in the AL: The average hitter earns $13 overall and improves a team six points in the standings. Each point thus is worth $2.16 (13/6). The average gap between teams in home runs is 5.4. Divide the player's home runs by the home run denominator (5.4) to find out how many points the player helps a team in home runs. Multiply the home run points by $2.16 to convert to dollars.

Go through this process for RBI, SB and BA; add them together; that's what the player earned last year.

The conversion for pitchers is exactly the same, $2.16 per point (8.67/4). The statement is that the average pitcher only helps a team four points in the standings and thus is only worth $8.67.

The denominators (the numbers on the right) are the key. The higher the denominator, the more there was of something, the less each unit of something was worth. The SB denominator of 6 in the National League, compared to 5.3 in the American League, means there were approximately 13 percent more stolen bases in the NL last year (there were actually 11 percent more). The decimals for the RBI denominators are my childish way of making everything come out just so.

NL 1993	AB	HR	RBI	SB	BA	$HR	$RBI	$SB	$BA	$TOT
FAT	58803	1653	7732	1491	.275	716	898	538	-0	2153
HSS	59548	1682	7910	1509	.276	729	919	545	1	2195
TRI	58952	1668	7794	1492	.276	723	905	539	1	2169
MIN	60084	1677	7953	1518	.276	727	924	548	1	2201
LNN	60277	1692	7978	1517	.275	733	927	548	0	2209
league	59533	1674	7873	1505	.275	725	915	543	0	2184
team	4961	140	656	125	.275	60	76	45	0	182
player	354	10.0	46.9	9.0	.275	4	5	3	0	13.00

These are the draft rosters of five National leagues last year: Fat Dog (TX), Hollywood Stars (CA), The Tripartite (AL), Miner (NC), and League of Nations (NY). If the average RBI gap between teams was, say, 18.71, the average player on the average team in the average league might earn $12.99. Can't have that.

AL 1993	AB	HR	RBI	SB	BA	$HR	$RBI	$SB	$BA	$TOT
ABR	62976	1822	8415	1315	.269	731	926	538	1	2195
MET	62782	1802	8394	1319	.269	723	924	539	1	2186
BWL	62125	1808	8296	1329	.270	725	913	543	1	2183
WLV	62287	1793	8339	1326	.269	719	918	542	1	2180
MCG	61987	1821	8327	1300	.269	731	916	531	1	2179
league	62431	1809	8354	1318	.269	726	919	539	0	2184
team	5203	151	696	110	.269	60	77	45	0	182
player	372	10.8	49.7	7.8	.269	4	5	3	0	13.00

The AL leagues are America's Best (OH), Metropolitan (NY), Bos-Wash (MA), Wolverine (NV), and McGoom (NJ).

The NL average player not only is faster but has a much higher batting average than the AL average player; the denominators smooth the differences out. They each earn the same amounts in the cumulative categories and, of course, nothing in the qualitative category.

The amounts are the same for each league (almost), but they aren't the same for each category. Why not? Why aren't home runs, RBIs and stolen bases all worth the same?

The way the game is played. The redundant categories -- HR and RBI on offense -- are hotly contested. Teams tend to bunch up. Many teams don't worry about SB in Stage Three; they might initially, but at some point during the season they let it go. They trade what speed they have and the category spreads out. Each steal becomes less likely to have any effect on the standings.

Showing five leagues on offense emphasizes their similarities. (Imagine league pennant races; the five AL leagues finish 29 home runs apart, top to bottom. That's a *league* home run denominator of 5.8. My goodness, on a bad day you could drop from first to fifth. Except the other four leagues would, too.) Showing just two of the NL leagues shows the problems on the pitching side:

NL 1993	IP	W	Sv	ERA	Rto	$W	$S	$ERA	$Rto	$TOT
FAT	13543	782	521	3.92	12.02	678	314	-5	-6	981
TRI	13875	816	545	3.85	11.82	707	328	-1	0	1034

No amount of decimals will tidy this up. There are simply too many choices at the auction as to which pitchers to take, what types, and so forth. Even though wins are the one category whose denominator should never change, you can see that Fat Dog and Tripartite could use different wins denominators.

For their auction rosters; in the final standings, Tripartite has 879 wins and Fat Dog has passed them with 894 wins. Fat Dog has moved ahead in saves, too: 560 to 547. FAT has made 119 reserve moves and 75 waiver claims; TRI, 239 reserve moves, 3 waiver claims. We conclude TRI is a hands-tied Ultra league. Try blind bidding, TRI.

In any event, the real problem is that even FAT, the worst of the five leagues, earns $981 on its drafted pitchers. The average league is supposed to buy $936 worth of pitching at the outset.

The National League, which had been tentative about using closers in previous seasons, completely reversed course. There were only about 30 more saves (adjusting for two new teams) overall, but they were in more identifiable hands. The average Rotisserie team in 1992 bought 39 or 40 saves at the draft; last year

the figure was around 45. The 60 additional saves are enough to move the league pitching totals well past the $936 target. If you throw these formulas into your own spreadsheet (as I know both of you will), you'll find your league's draft rosters slightly exceed the $3120 limit.

They would far exceed it if I used last year's NL saves denominator (2.7); this year's NL denominator has even been tweaked one tenth of a point past the AL saves denominator. There was a grand total of six more saves in the NL last year, so it's kind of pressing it, but it annoys me that leagues can earn more than they spend. It should, because they can't.

Last year's faithful might be thinking even the wins denominator has been tweaked (it was 2.5 in both leagues last year); it's an illusion. I used to say that the average pitcher helped 4.237 points, the average hitter 6.355 -- why, I can't begin to recall -- and the much cleaner 4 points for pitchers and 6 points for hitters necessitates other small modifications to keep distributing the quantitative categories in the same proportions to each other.

Much, much more emphasis is placed on wins than saves. Why? Because wins are the most tightly packed category of the eight by far. Walter Shapiro, the Nattering Nabob, argues for a denominator that's reduced even further. Because all teams have to get a minimum of 1000 innings (now 1100 in the ADL), they start with a base of 50 wins. But unlike the other seven categories, there's pressure pushing down on the top of the wins category; nobody wants wins that bring two bad things with then. Effectively, Walter says, the wingspan of wins is 60-75. He'd like to see a denominator of 1.25.

The potentially bad things, the qualitatives, can also be emphasized or de-emphasized by denominators, even though there should be nothing to distribute overall. All three average categories should add up to zero for the entire league, I contend, because to get anywhere you have to be better than average. (That's why the averages in the formulas above are Rotisserie league averages, not major league averages.) Nevertheless, I can send the value of above-average pitchers skyrocketing simply by decreeing .03 separates teams in the ERA standings instead of .04. The bad pitchers plummet further.

I resist the temptation. The ERA and saves denominators should be both the same for each league and the same from year to year. As they stand, they seem to give the right amount of credit. Kevin Appier's ERA was the best thing about him last year, while he was no slouch in two other categories, and in Appendix B he gets a little more pay for is ERA than for either of the other two categories. He earns more in ERA than Jose Rijo, even though he has a higher ERA, because he was better in his league than Rijo. Galarraga gets paid more for leading the league in batting average than Bonds gets for leading in RBIs; if Galarraga had played more, his batting average would probably have been worth what Bonds earned in home runs. Bonds gets paid more than Juan Gonzalez for hitting the same number of home runs because life's not fair. (Because there were fewer homers in the NL and each homer was more likely to help the average team in the average Rotisserie league.)

The whole thing is a hall of mirrors. Everyone here knows that. A good pricing system has three useful purposes. It distributes money sensibly among players in a way that adds up to league budgets. It recognizes differences between the major leagues. It reflects overall changes from year to year. When the changes are major,

this last yardstick is almost as important as the first. The Crime Dog did decline last year, Maddux improved, and any pricing system you find that fails to acknowledge this you should return to sender.

The predicted denominators for 1994 do not, as I've said earlier, anticipate major changes: a moderate comeback by the pitchers, but by no means a return to the pre-expansion norm.

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National League 1994 Prediction Formulas

$HR   =   13/6*HR/4.8
$RBI  =   13/6*RBI/18
$SB   =   13/6*SB/6.1
$BA   =   13/6*((1269+Hits)/(4700+AB)-0.270)/0.0012

$W    =   8.67/4*Wins/2.6
$Sv   =   8.67/4*Saves/3.6
$ERA  =   8.67/4*(3.76-(438.67+ER)/((1050+IP)/9))/0.04
$Rto  =   8.67/4*(11.50-((1341.67+H+BB)/((1050+IP)/9)))/0.07

American League 1994 Prediction Formulas

$HR   =   13/6*HR/5.1
$RBI  =   13/6*RBI/19.2
$SB   =   13/6*SB/5.2
$BA   =   13/6*((1245.5+Hits)/(4700+AB)-0.265)/0.0012

$W    =   8.67/4*Wins/2.6
$Sv   =   8.67/4*Saves/3.6
$ERA  =   8.67/4*(4.07-(474.83+ER)/((1050+IP)/9))/0.04
$Rto  =   8.67/4*(12.06-((1407+H+BB)/((1050+IP)/9)))/0.07
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These are the formulas that produce the prices in the prediction chapter. Inasmuch as the stats for pitchers are the 1993 stats, you see what the new context does. (Both Maddux and Appier drop $4.) If Bonds were to exactly duplicate his 1993 season in this context, he'd earn $58. Roberto Alomar would earn $53.

Now back to the big question.

I've given you more than anyone else will give you. You've got my formulas. I insist on help in return. The three of us have to put our heads together.

How do hitters earn more?

Jerry Heath doesn't *have* a formula. He's not selling us anything. He's running a stat service, and when he gets a moment, he puts a powerful computer to work, crunching the data. The data indicates hitters help teams more in the standings than pitchers. Which is impossible.

I'll show some of his Roti Vals. The problem with them I'm pretty sure I can identify. You probably can, too. We'll line up my top five NL hitters and pitchers in 1993, and compare them with what Jerry's computer decides they're worth, based on their impact in 24 actual leagues.

rk	player	$AP	$JH
1	BONDS,B	56	40
2	JEFFERIES,G	46	34
3	GRISSOM,M	43	32
4	GANT,R	38	31
5	PIAZZA,M	37	28
	average	44	33

rk	player	$AP	$JH
1	WETTELAND,J	50	40
2	MADDUX,G	49	32
3	BECK,R	46	37
4	HARVEY,B	43	34
5	SWIFT,B	41	28
	average	46	34

Bonds only had a $40 impact? In your league, you wouldn't spend, say, $45 to get his 1993 stats? You wouldn't spend $50?

Also, you'd only spend $6 more for Bonds than Jefferies?

Could Maddux only have been worth $32? The league leader in two categories, almost the leader in three?

The next five:

rk	player	$AP	$JH
6	GALARRAGA,A	37	29
7	DYKSTRA,L	36	29
8	SOSA,S	35	28
9	WILLIAMS,MA	33	25
10	MCGRIFF,F	33	25
	average	35	27

rk	player	$AP	$JH
6	RIJO,J	40	27
7	MYERS,R	38	30
8	AVERY,S	32	26
9	HARNISCH,P	30	25
10	BURKETT,J	30	24
	average	34	26

The gap between us is closing. We were $17 apart on Maddux; now we have a $5 disagreement on Harnish. How can that be?

Wasn't Dykstra *sort* of like Bonds? We were $16 apart on Bonds; we're only $5 apart on Dykstra.

Jump down to numbers 21-25:

rk	player	$AP	$JH
21	WILKINS,R	27	21
22	SHEFFIELD,G	26	24
23	GILKEY,B	26	25
24	MURRAY,E	26	20
25	CARR,C	26	18
	average	26	22

rk	player	$AP	$JH
21	GOODEN,D	20	20
22	HOLMES,D	20	17
23	FERNANDEZ,S	19	18
24	BAUTISTA,J	19	19
25	SMOLTZ,J	19	17
	average	19	18

Agreement! Doc is $20. Jose Bautista is $19. (*That's* why we have pricing systems.) We almost agree on Gilkey. Holmes is closer than the other relievers.

Jump all the way to the forties:

rk	player	$AP	$JH
41	DAULTON,D	21	18
42	INCAVIGLIA	21	17
43	KELLY,R	21	19
44	YOUNG,E	20	16
45	MAY,D	20	20
	average	21	18

rk	player	$AP	$JH
41	STANTON,M	14	14
42	HILL,K	14	15
43	BEDROSIAN,S	14	16
44	RUETER,K	14	15
45	JACKSON,M	14	15
	average	14	15

What's this? I'm now underselling Jerry on the pitching side. On the hitting, we pretty much agree, too, except for the vexing question of speed. I've always liked speed. Even though I've been punting it for years.

Into the hundreds:

rk	player	$AP	$JH
101	OLIVER,J	9	10
102	HANSEN,D	9	8
103	PENA,G	9	11
104	THOMPSON,M	8	11
105	MANWARING,K	8	8
	average	9	10

rk	player	$AP	$JH
101	GROSS,KI	3	4
102	DELEON,J	3	5
103	RODRIGUEZ,R	3	4
104	FRANCO,JO	3	5
105	EDENS,T	2	4
	average	3	4

If Jerry doesn't watch out, he's going to spend all the money he saved. Personally, I think $9 for Geronimo is too much.

Into the crapshoot:

rk	player	$AP	$JH
146	HUNDLEY,T	4	8
147	PAPPAS,E	4	5
148	BREWER,R	4	4
149	PRATT,T	4	4
150	SAMUEL,J	4	7
	average	4	6

rk	player	$AP	$JH
146	SMITH,P	-1	2
147	AGOSTO,J	-1	0
148	MINUTELLI,G	-1	-1
149	SCANLAN,B	-1	2
150	JUDEN,J	-1	0
	average	-1	1

He thought I was Bonds crazy, and *he'll* spend $8 on Todd Hundley? The only pitcher he *won't* take is Gino Minutelli? Pete Smith won four games and had a 4.37 ERA.

When it's all over, our hitting totals are astonishingly close. My denominators say all NL hitters were worth $2416 (remember, this is all hitters not just the hitters bought in auctions); Jerry's computer said they earned $2411.

So I could afford Bonds. And he could afford Hundley.

I am no math whiz, but there's one thing I know about algebra: It's linear. The same equation is used for Hundley and Bonds. Bonds may not have been worth $56, but if Hundley was worth $4 he was.

What's happening is that the mega players are going right off the charts in Roti Vals. Bonds was *too* much. As was Maddux. And Wetteland. And Jefferies.

Many of the mid-place teams that Bonds was plugged into shot right into first in -- you name it: homers, rubbies, batting average, steals ... He started producing surplus value, which has no value in Rotisserie baseball (unless you can trade it). I'll bet if Jerry added Matt Williams and Bonds together and crunched them as one player, the computer would decide this fellow had a $41 impact in the actual leagues.

I'm confident that's the flaw in Jerry's otherwise ingenious method. Modest players get full credit for their modest achievements. Indeed, they get too much credit, because, as Jerry says, everything is pegged to the $260 per team salary cap, and the money the computer refuses to award the great players just ends up in the pockets of the little guys. The computer has as much baseball acumen as an arbitration judge, and the prices really are like the ones you see in a Stage Two auction.

That's the problem; however, it doesn't help me find the solution. In fact, doesn't the riddle just get deeper?

As far as I'm concerned, the lousy pitchers are more overpaid than the lousy hitters. The money the computer awards to pitchers overall ($1259) does *not* agree

with my total ($983). And it's still only 35 percent of the money the computer is allocating.

The computer isn't even thinking about money; that's Jerry's translation. All the computer cares about is the standings. In each league, it allocates 312 points to hitters and 312 points to pitchers. The pie is 624 points. The knife cuts it in half, supposedly.

Jerry asks the computer one simple little question. How much do all the hitters contribute to the pie and how much do all the pitchers? The computer answers the hitters contribute 406 points and the pitchers 218 points.

Now here's where it gets really fascinating (to two of us, by now, I imagine); the end of the line, the five worst hitters and pitchers in the National League last year:

rk	player	$AP	$JH
306	BERROA,G	-2	-1
307	HIGGINS,K	-2	1
308	LOPEZ,L	-2	-1
309	HUNTER,B	-3	1
310	BAEZ,K	-4	0
	average	-3	0
	total	-13	0

rk	NL pitchers	$AP	$JH
251	HENRY,B	-15	-10
252	TAYLOR,K	-16	-13
253	WAKEFIELD,T	-17	-12
254	SCHOUREK,P	-18	-13
255	ASHBY,A	-28	-24
	average	-19	-14
	total	-93	-72

Do you see? They go off the chart, too. Ashby, Schourek and Wakefield -- in their own negative way -- get stiffed as much as Wetteland, Maddux and Beck. Many of the mid-place teams that the computer examines are already at or near the bottom in ERA and ratio, hence the bad pitchers don't get enough credit for all the damage they do.

Conclusion? If Jerry could somehow rectify this flaw in Roti Vals, he would confirm that hitters eat up 70 percent of the pie -- somehow gain that many points overall -- and pitchers get 30 percent.