

The Influence of Free-Agent Filing
on MLB Player Performance

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Major League Baseball players who file for free agency are motivated to put together a good season before they file (known as their “contract year”). This brief research note examines their performance in the years before and after their free-agent filings.

Of the 210 baseball players who filed for free agency at the end of the 2003 season [1, p. 229], 88 hitters and 75 pitchers returned the following season. They were divided into three age groups of roughly equal size: (i) 32 years of age or younger as of April 1, 2004; (ii) 33, 34, or 35 years of age; and (iii) over 35 years of age. For each of the three age groups, hitters’ slugging average (SA) as well as on-base percentage plus slugging average (*OPS*) and pitchers’ earned run average (ERA) as well as walks plus hits divided by innings pitched (*WHIP*) in 2003 were compared to the seasons before and after the players filed for free agency. All performance data are from *The Sporting News* [2].

The results for hitters who filed for free agency in 2003 are presented in Table 1. Among hitters, *OPS* increased (and hence performance improved) in the contract year over the season before for all but the oldest age group, although none of the changes was statistically significant. However, *OPS* decreased (and hence performance declined) for all three age groups in the season after the contract year: (i) youngest ($n = 25$), .745 to .707 ($p = .21$); (ii) middle ($n = 31$), .727 to .648 ($p = .013$); and (iii) oldest ($n = 32$), .762 to .724 ($p = .07$).

The results for pitchers who filed for free agency in 2003 are presented in Table 2. Among pitchers, *WHIP* decreased (and hence performance improved) in the contract year over the season before for all but the oldest age group, although none of the changes was statistically significant. However, *WHIP* increased (and hence performance declined) for all three age groups in the season after the contract year: (i) youngest ($n = 29$), 1.36 to 1.39 ($p = .61$); (ii) middle ($n = 23$), 1.33 to 1.52 ($p < .001$); and (iii) oldest ($n = 23$), 1.39 to 1.55 ($p = .23$).

The paired t -tests for both hitters and pitchers show uniformly lower (and in some cases *significantly* lower) performance levels one season after filing for free agency compared to those in the contract year. The youngest players exhibit the smallest decline, largely because they (unlike their older counterparts) will have the opportunity to sign another contract before they retire. Similar results were obtained using other common measures of player performance [slugging averages for hitters and earned run averages for pitchers]. If individuals work harder their contract year (and less hard the years after), then management has an incentive to sign players to shorter contracts.

Table 1. Hitters' Performance Before and After Filing for Free Agency in 2003

<i>Age group</i>	<i>Performance measure</i>	<i>Group average</i>			<i>p-value on difference*</i>	
		<i>2002</i>	<i>2003</i>	<i>2004</i>	<i>2002 v. 2003</i>	<i>2003 v. 2004</i>
Under 33 years of age	<i>SA</i>	.412	.422	.393	.458	.152
	<i>OPS</i>	.738	.745	.707	.646	.211
33, 34, or 35 years of age	<i>SA</i>	.364	.408	.355	.033	.008
	<i>OPS</i>	.671	.727	.648	.079	.013
Over 35 years of age	<i>SA</i>	.426	.427	.407	.918	.148
	<i>OPS</i>	.769	.762	.724	.708	.070

* Italicized p-values are significant at better than the .05 level and represent an improvement in performance. Italicized p-values in boldface are significant at better than the .05 level and represent a decline in performance. Only one hitter who filed for free agency in 2003 and played in 2004 did not play in 2002.

Table 2. Pitchers' Performance Before and After Filing for Free Agency in 2003

<i>Age group</i>	<i>Performance measure</i>	<i>Group average</i>			<i>p-value on difference*</i>	
		<i>2002</i>	<i>2003</i>	<i>2004</i>	<i>2002 v. 2003</i>	<i>2003 v. 2004</i>
Under 33 years of age	<i>ERA</i>	4.357	4.212	4.499	.576	.406
	<i>WHIP</i>	1.380	1.363	1.390	.689	.613
33, 34, or 35 years of age	<i>ERA</i>	4.694	3.997	4.963	.190	.055
	<i>WHIP</i>	1.454	1.329	1.523	.262	<.001
Over 35 years of age	<i>ERA</i>	3.857	4.080	4.693	.347	.185
	<i>WHIP</i>	1.331	1.392	1.546	.206	.230

* Italicized p-values in boldface are significant at better than the .05 level and represent a decline in performance. Not all pitchers who filed for free agency in 2003 and played in 2004 also played in 2002. The 2002 v. 2003 comparisons involve 29, 19, and 20 pitchers from the youngest, middle, and oldest age groups, respectively.

References

1. *The Baseball Guide* (2004 Edition), The Sporting News, St. Louis, MO, 2004.
2. *The 2005 Baseball Register*, The Sporting News, St. Louis, MO, 2005.