

# Are power forwards and centers adapting to Small Ball?

*Derek Corcoran*

*2016-10-02*

It is no secret that in the last few years the media, basketball players, and ex-basketball players have been talking about small ball revolution. As we can see bellow search interest (If we don't take into account a moment in 2006) has been going up consistently.

Most of times, the small ball line-ups tend to slide a small froward to the power froward position (think Kevin Durant in OKC or LeBron James in Cleveland), or slide a Power Froward to the Center Position (A la Draymond Green in GSW).

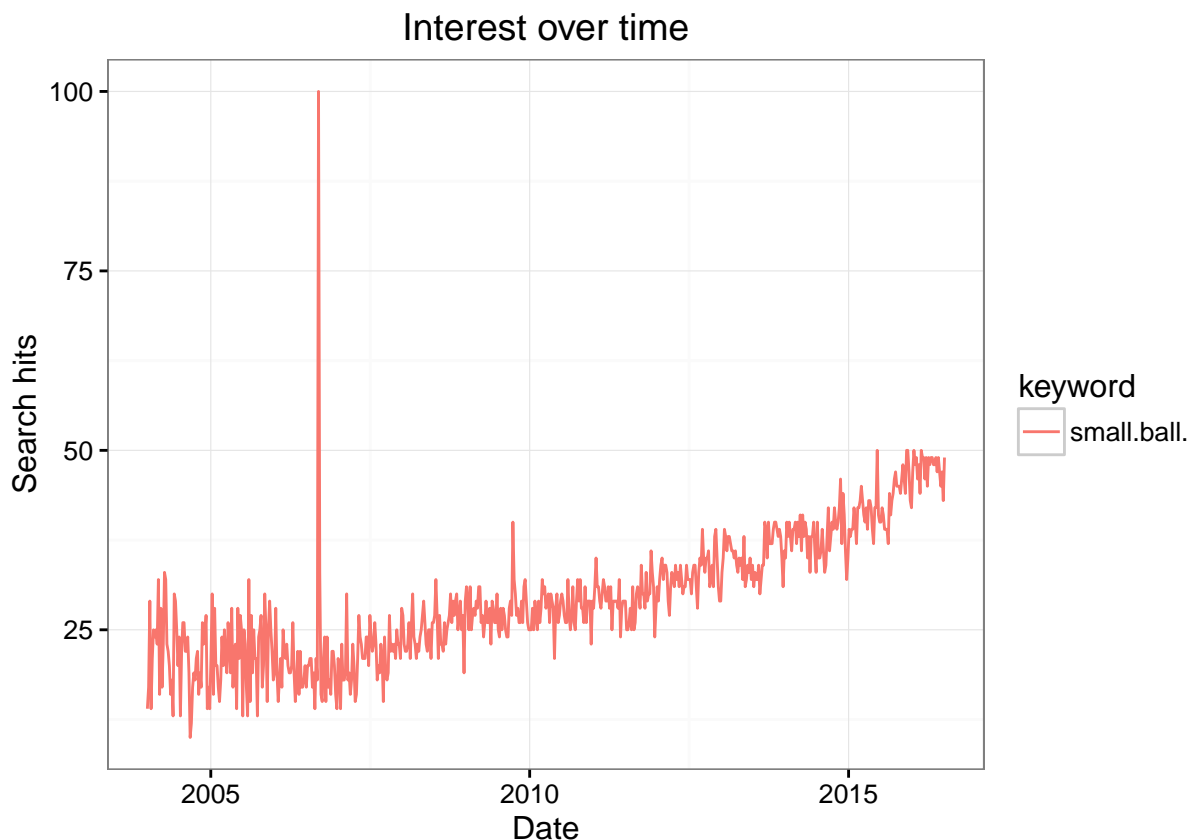


Figure 1: Search of Small ball According to Google Trends

We keep hearing how NBA players say they will add the three point shot to their repertoire during the off-season, if that was the case we could start seeing more three point shooting power forwards like Dirk Nowitzki or Kevin Love in pace and space line-ups that don't sacrifice defensive rebounding, height or rim protection, but are Power Forwards adapting to their new reality? We will analyze the data of three point shooting from season 97-98 to now to see the answer.

## Results

### Three point percentage per position

As we see in figure 2 we see that every position has improved the 3 pt percentage in the last 18 years in the NBA. It seems that Small Frowards, Power Frowards, and Centers have improved a lot more than guards, but guards keep having a higher 3 point percentage than frowards and Centers. According to the GML (Table 1) Small Frowards are the ones having a higher than average three point shooting, also looking at the points in figure 1, we can see that Small Frowards have averaged more than 33% in three point shots on the last 2 years, which is the threshold of the three point shot equaling the value of a 50% two pointer.

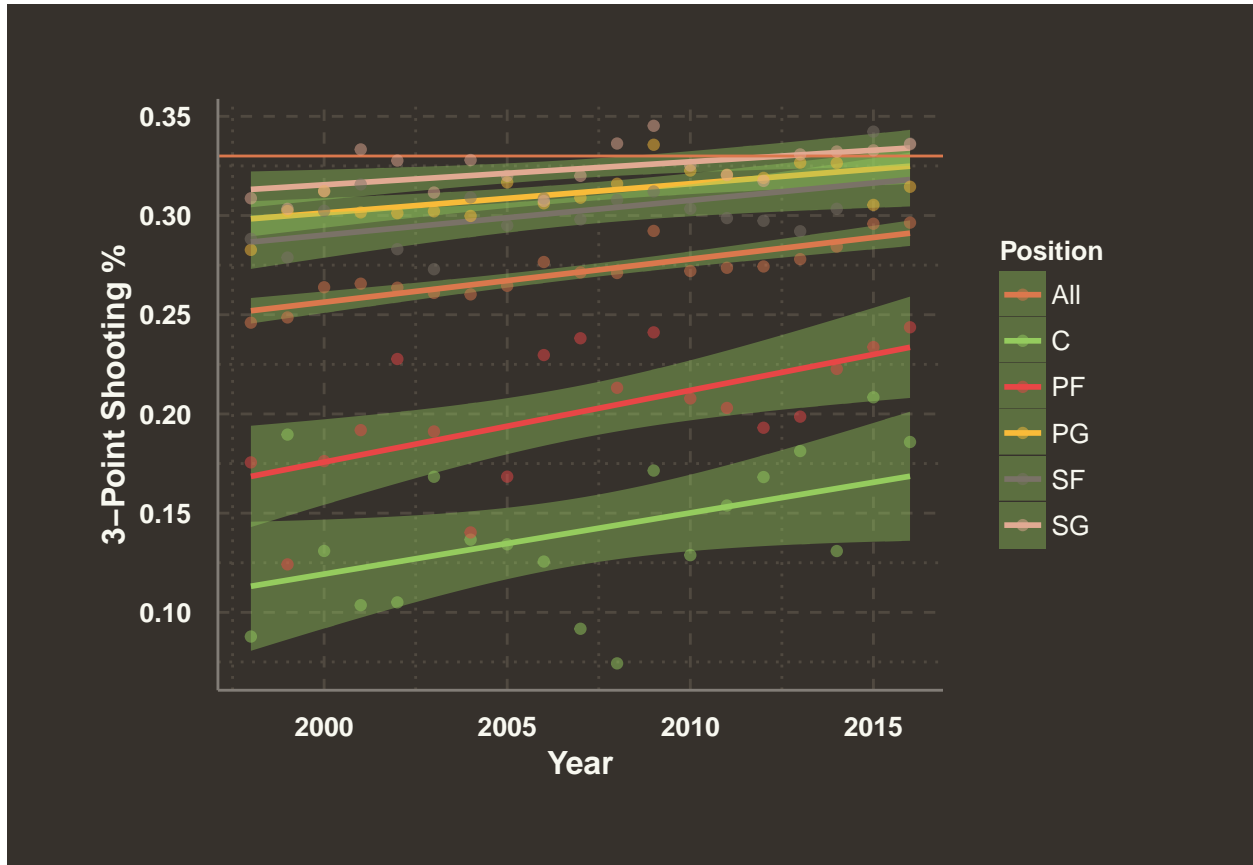


Figure 2: Three point percentage trends from 1998 to 2016 by position, the red horizontal line shows the 33% threshold of the three point shot equaling the value of a 50% two pointer

% Table created by stargazer v.5.2 by Marek Hlavac, Harvard University. E-mail: hlavac at fas.harvard.edu  
% Date and time: Sun, Oct 02, 2016 - 06:04:21 PM

### Percentage of players by position with above average three point shooting percentage

We also see an increase of the percentage of players by position that are above average three point shooters, as we see in Figure 3, small Frowards, Power Frowards and Center have increased the percentage of players that are above average three point shooters, but still only Shooting Guards, Small Frowards and Point Guards are the only ones with over 50% of players with above average shooting.

Table 1: Glm terms and their p-values

	<i>Dependent variable:</i>
	Mean
Year	0.002*** (0.0003)
PositionC	-0.131*** (0.007)
PositionPF	-0.070*** (0.007)
PositionPG	0.040*** (0.007)
PositionSF	0.031*** (0.007)
PositionSG	0.052*** (0.007)
Constant	-4.161*** (0.694)
Observations	114
Log Likelihood	285.601
Akaike Inf. Crit.	-557.202
<i>Note:</i>	*p<0.1; **p<0.05; ***p<0.01

## Percentage of players by position in the top 40 of 3 point shooting percentage

Finally when we analyze the percentage of players per position in elite of 3 point shooters we see that in that regard the percentage of elite shooters among centers and Power Frowards has not increased in the last 18 years, whereas Small Frowards and Point Guards have (Figure 4)

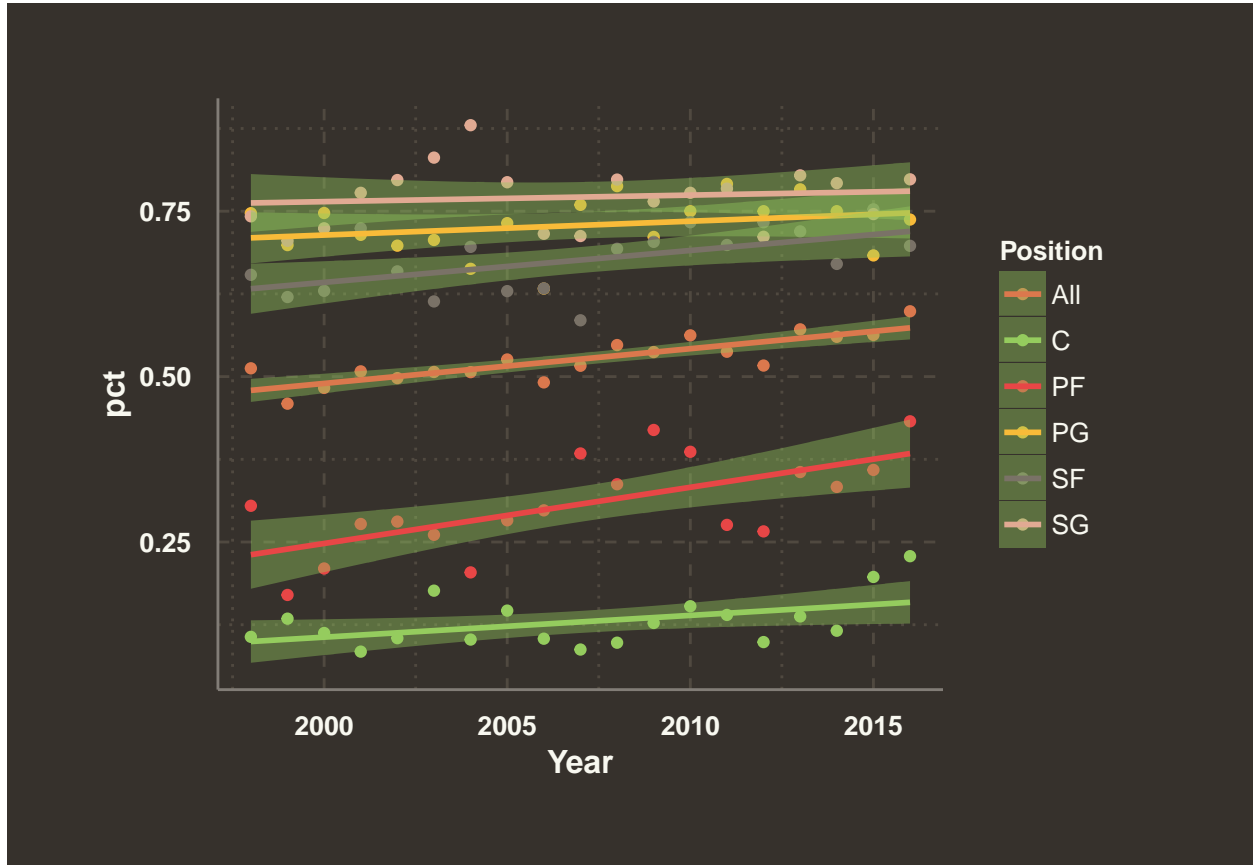


Figure 3: Percentage of players by position, above that year 3 point shooting percentage average

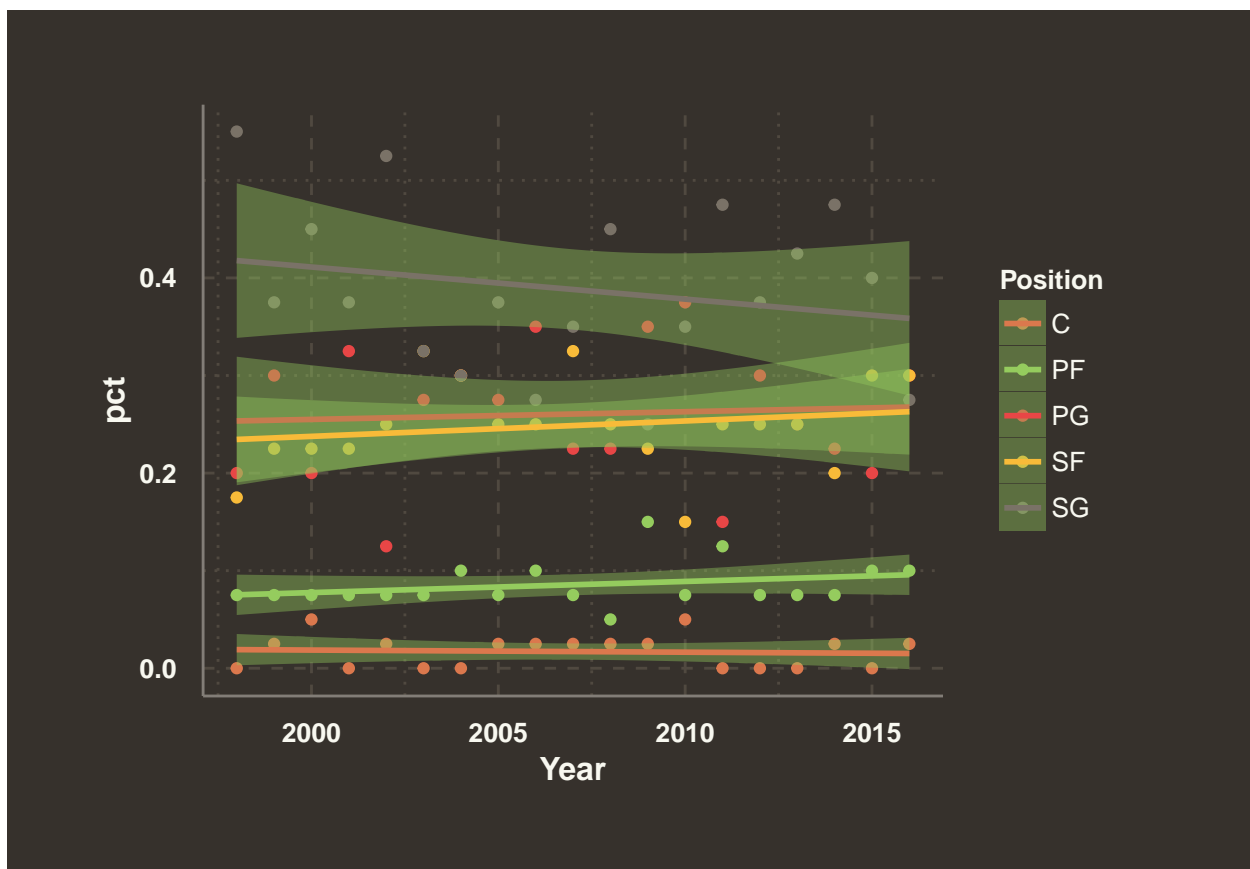


Figure 4: Percentage of players by position in the top 40 of NBA 3 point shooting percentage