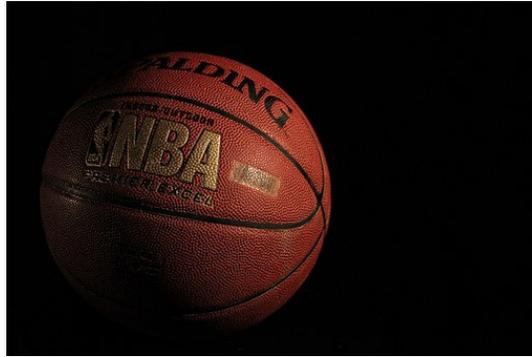


# IN-DEPTH ANALYSIS OF NBA PREGAME BETTING LINE MOVEMENTS



Today I hope to give you some insight about the following question:

**Is there evidence of pregame betting line movements having an effect on which team is going to win the game (in the NBA)?**

I own a dataset which contains information about all games from the last 14 NBA seasons. I analyzed all games for which data was available on the opening & closing betting lines.



A fictitious bet was then placed on the team in favor of which the line moved during the day. For example, assume the opening line has Team A favored to win the game by 5.5 points over Team B. If the closing line went higher, for instance 6.5, we would make a virtual bet on Team A. On the other hand, if the closing line went lower, for instance 5.0, we would bet on Team B.

Most of the time, Las Vegas lines move according to the amount of money wagered on each team. If, for example, 80% of the money is placed on Team A versus only 20% on Team B, the line is subject to move in favor of Team A. The bookmaker's goal is to entice gamblers to bet on Team B to balance things out. Therefore, the strategy described earlier consists of siding with the team on which most money was put on (generally speaking).

Let's have a look at the results, where the first column indicates how much the line moved (absolute value of closing line – opening line):

Difference between closing & opening lines	Betting on the team in favor of which the line moved			
	Bets won	Bets lost	Ties	Win %
0.5	1631	1673	38	49,4%
1	1131	1159	47	49,4%
1.5	664	669	12	49,8%
2	324	347	10	48,3%
2.5	229	210	6	52,2%
3	122	124	6	49,6%
3.5	49	65	2	43,0%
4	37	52	2	41,6%
4.5	29	24	1	54,7%
5	12	19	1	38,7%
5.5	9	6	0	60,0%
6	10	6	0	62,5%
6.5	7	7	0	50,0%
7	5	4	0	55,6%
7.5	5	2	0	71,4%
8+	20	16	2	55,6%
<b>TOTAL</b>	<b>4284</b>	<b>4383</b>	<b>127</b>	<b>49,4%</b>

A person following the strategy described above would have won 4284 bets, lost 4383 and tied 127, which is good for a 49.4% win percentage. In other words, doing the *opposite* strategy would have generated a 50.6% win percentage. That is not enough to overcome the bookmaker's vigorish (i.e. the percentage deducted from a gambler's winnings as a form of commission).

We have highlighted in red the win percentages that were below 50%. It is pretty interesting to note that they all occur in the upper portion of the table, which suggest following the plan below:

- a) **For smaller differences (4 or less) between opening and closing lines: bet AGAINST the team in favor of which the line moved;**
- b) **For bigger differences (5.5 or more) between opening and closing lines: bet ON the team in favor of which the line moved.**

Over the past 14 NBA seasons, portion a) of the plan above would have generated 4299 winnings bets, 4187 losing bets and 123 tied ones (win % = 50.7%). As for portion b): 56 wins, 41 losses and 2 ties (win % = 57.7%).

A word of wisdom: avoid putting this plan into action. Portion a)'s win percentage is not enough to overcome the vigorish, while portion b)'s sample size is way too small to advocate putting any money on this strategy. But it's still interesting to see the pattern that occurred here, and you could incorporate this knowledge into your betting strategy.

So my final conclusion about this table is as follows: picking teams solely by following line movements during the day is totally useless and is NOT a winning strategy.



Now, what if we had had the opportunity to bet the OPENING line? In other words, if by some miracle God gave me a call to let me know in advance that the line was going to move by  $x$  points in favor of a certain team, how much of an advantage would I get by betting this team? Let's see the numbers:

Difference between closing & opening lines	Betting on the team in favor of which the line moved			
	Bets won	Bets lost	Ties	Win %
0.5	1669	1625	48	50,7%
1	1215	1087	35	52,8%
1.5	736	574	35	56,2%
2	358	305	18	54,0%
2.5	265	172	8	60,6%
3	143	106	3	57,4%
3.5	68	45	3	60,2%
4	50	40	1	55,6%
4.5	34	20	0	63,0%
5	18	14	0	56,3%
5.5	11	4	0	73,3%
6	12	3	1	80,0%
6.5	10	4	0	71,4%
7	5	4	0	55,6%
7.5	6	1	0	85,7%
8+	33	4	1	89,2%
<b>TOTAL</b>	<b>4633</b>	<b>4008</b>	<b>153</b>	<b>53,6%</b>

Overall, if you bet a specific team and the line eventually moves in their favor, you have a 53.6% chance of winning. You are in business! Only the case of a half-point movement is not enough to overcome the vigorish: even a 1-point movement yields a winning percentage of nearly 53%. Above 1 point, you are clearly in the driver's seat.

You may argue "that's great, but nobody knows in advance which way the line is going to move". Also, big line movements are generally due to unpredictable injuries. That is true. But I believe those numbers should motivate you to try to anticipate line movements because we have clear evidence that it can be rewarding. When I saw those numbers, I figured maybe I should make my projections the day BEFORE the games occur so that I can possibly take advantage of early lines. Maybe I'll succeed, maybe I'll fail. But we may as well give it a try!

I hope I was able to provide some valuable information to you from this article!

Professor MJ

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