NBA Most Valuable Player Award

The Most Valuable Player Award (MVP) is awarded to one player each year at the conclusion of the NBA regular season. The winner is determined by a vote where media members create a preference list ballot (a ranking) of the top five players they view as deserving. The ambiguity of what it means to be the 'most valuable' player in the league is left to the voters to interpret; does it refers to the player who statistically has the most impact on a game, who accounts for the largest proportion of his teams points scored, or to some implicit value like who makes all of his teammates more valuable and play better? Some years there is a clear player deserving the award and the voters' rankings, regardless of how they individually define 'most valuable' easily reflect his position as the most valuable player but other years there has been great debate. Below we give the total number of 1st, 2nd, 3rd, 4th, and 5th place votes for the top three players from the 2015 and 1990 MVP votes representing both possible scenarios.

Player (**2015**)	1st	2nd	3rd	4th	5th	Player (**1990**)	1st	2nd	3rd	4th	5th
Stephen Curry	100	26	3	0	1	Magic Johnson	27	38	15	7	4
James Harden	25	87	13	4	0	Charles Barkley	38	15	16	14	7
LeBron James	5	12	62	32	12	Michael Jordan	21	25	30	8	5

(1) Determine the plurality and Borda Count winner for each of the 2015 and 1990 NBA MVP award.

(2) In fact the winner of the award is determined by using a point based system with 10 points for a 1st place vote, 7 for a 2nd, 5 for a 3rd, 3 for a 4th and 1 for a 5th. Knowing this information, determine how many points each player earned and who actually won the MVP award in each season.

(3) Pretend that among the voters who had Michael Jordan 1st, that they were all forced to remove him from their ballot, moving Magic and Charles up to 1st and 2nd on their ballots. Assuming that all of these voters originally had Magic Johnson and Charles Barkley ranked 2nd or 3rd, is it possible that Barkley would now be the winner of the MVP award? If not, how close could he come to winning?

(4) What if we used a system based on the powers of two, ie. first place was worth twice as much as second place, second twice as much as third, etc? Using such a system, assign 1 point to a fifth, 2 point to a fourth, 4 points to a third, 8 points to a second and 16 points to a first place vote, would Stephen Curry and Magic Johnson still win?

(5) In the 2015 MVP award vote, there were a total of 130 media members casting votes. Determine the percent of the 1st place votes that each player received. What percent would be necessary to guarantee Curry would also be a Condorcet winner? Would you consider this to be a landslide win by Stephen Curry or a close win? (Keep in mind that the largest percent a U.S. presidential candidate ever received in the popular vote was in 1964 when Lyndon Johnson earned 61.05% of the popular vote.)

(6) In the 1990 MVP award vote, there were 92 media members casting votes. Determine the percent of 1st place votes that each player received. Five times in U.S. history, a presidential candidate won the election while losing the popular vote: John Quincy Adams over Andrew Jackson (-10.4%), Rutherford Hayes over Samuel Tilden (-3.0%), Benjamin Harrison over Grover Cleveland (-0.8%), George W. Bush over Al Gore (-0.5%), and Donald Trump over Hillary Clinton (-2.1%).[1] How would Magic Johnson's 1st place vote deficit to Charles Barkley compare to these five presidential popular vote deficits?

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[1]http://www.cnn.com/2016/12/21/politics/donald-trump-hillary-clinton-popular-vote-final-count/index.html