

Comparing the FedEx Cup Ranking Systems

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Much has been written about the new rules for the FedEx Cup in 2019. There is now a single winner at East Lake, rather than an East Lake tournament winner and a FedEx Cup winner. While players were still ranked by points accumulated through the year going into East Lake, their ranks translate to initial stroke scores before anyone teed off: -10, -8, -7, -6, -5, -4, -3, -2, -1, 0 for players ranked 1, 2, 3, 4, 5, 6 – 10, 11 – 15, 16 – 20, 21 – 25 and 26 – 30. These starting scores plus the 4 rounds at East Lake determine the players' final FedEx Cup rankings. Under the old points system, the players' received reset points before the East Lake Tournament plus the points earned at East Lake to determine their final Cup rankings. Both sets of points were heavily weighted to the highest ranks. For example, in 2018 the top 2 players received over 20% of the reset points and the top 2 finishers at East Lake received over 30% of the tournament points. The changes in the ranking system made the results of the East Lake tournament far more important and the season-long points far less important in determining the final standings for the FedEx Cup. It also created much larger changes in rankings based on the East Lake scores.

We compare the two systems for 2015 to 2019 by producing the finish for the FedEx Cup based on the old points system for 2019 and finishes based on the new score system for 2015 to 2018. Under the old system, the ranking at the start of the East Lake tournament explained 75% of the final rankings and the scores at East Lake explained 25% of the final rankings. Under the new system, the influence was reversed: The ranking at the start of the East Lake tournament explained 25% and the East Lake scores explained 75% of the final rankings. Another measure of that phenomenon is the average change in rankings that the two ranking systems produced, 3.2 places for the old system and 6.7 places for the new system. In 2017, for example, the top 5 players' average rank changed very little, from 3.0 before the East Lake tournament and 3.6 at its end. The rankings were this stable despite their scores at East Lake having an average rank of 12.0. The old points system created a floor below which a player could not fall. For example, in 2018 Keegan Bradley, who started ranked 6th with 1,120 points, had one of the 4 worst scores of the tournament. He received 133 points for this result and end up ranked 8th. In fact, had he received no points at East Lake he would still have ended up ranked 8th. With the new stroke system, players at the top of the ranks entering East Lake could fall much further if they had high scores at East Lake. In 2019 Cantlay fell from 2nd to 22nd, a fall of 20 places. From 2015 to 2018 the next largest fall in ranking among the top 5 players each year was in 2018 when Tony Finau fell from 3rd to 6th.

These comparisons are based on comparing 5 specific years. To broaden the perspective, we conducted Monte Carlo simulations of the points and stroke systems. The simulation assumes the relative quality of the players is identical. (On average players' ranking at the start of the East Lake tournament explained less than 10% of the variance in their scores at East Lake.) The other input for our model is the type of distribution of scores we assume and its dispersion. The simulation selects scores from a normal distribution with a standard deviation of 5.9 for a 4-round total score. (For the years 2015 to 2019 the average standard deviation was 5.89.)

Table 1 reports the results of our Monte Carlo simulation investigation of in the two ranking systems. The top panel of Table 1 examines the 2018 points-ranking system. If you started ranked 1st you had a 31.6% chance of finishing ranked 1st, a 68.3% chance of being ranked between 2 and 5 and a 0.1% chance of being ranked lower than that at the end of the East Lake

tournament. If you started ranked 5th, you had a shot at winning, 5.5%, but were otherwise almost certain to finish ranked 2 to 5, 30.0%, or 6 to 10, 60.4%. The same lack of rank-mobility applied, less stringently, to the bottom half of the rankings. If your starting ranking was 28th, you had a 55.2% chance of ending the tournament ranked 26 to 30. Note that this individual had higher probabilities of moving up than the top players did of moving down. We know that is the case, because if this individual won at East Lake the 2,000 points for 1st place would almost certainly move him into the top 5. (This is precisely how Tiger Woods jumped from 18th to 2nd in 2018.) Note that the probability of a player starting 28th and finishing in the top 5, 3.4%, is slightly greater than his probability of winning at East Lake, 3.3%. Compare these results with the bottom panel of Table 2. The probabilities are much more spread out over the range of possible outcomes. The new stroke system clearly increased downward and upward mobility of the players' final Cup rankings.

Table 1
Monte Carlo Simulation of FedEx Cup Finish
Probabilities of Finishing in Various Groups Using 2018 Points System

Starting Rank	Finishing Rank						
	1	2 - 5	6 - 10	11 - 15	16 - 20	21 - 25	26 - 30
1	31.6%	68.3%	0.0%	0.0%	0.0%	0.0%	0.0%
2	11.1%	88.8%	0.0%	0.0%	0.0%	0.0%	0.0%
3	6.6%	88.4%	4.7%	0.0%	0.0%	0.0%	0.0%
4	5.4%	38.0%	56.5%	0.0%	0.0%	0.0%	0.0%
5	5.5%	34.0%	60.4%	0.0%	0.0%	0.0%	0.0%
8	3.0%	5.1%	69.6%	22.4%	0.0%	0.0%	0.0%
13	2.1%	2.5%	5.8%	33.4%	47.7%	8.4%	0.0%
18	1.5%	2.1%	5.6%	15.2%	25.1%	43.4%	7.0%
23	0.9%	2.5%	4.9%	9.5%	15.6%	29.9%	36.8%
28	0.3%	3.1%	4.4%	7.0%	10.9%	19.5%	55.2%

Probabilities of Finishing in Various Groups Using 2019 Stroke System

Starting Rank	Finishing Rank						
	1	2 - 5	6 - 10	11 - 15	16 - 20	21 - 25	26 - 30
1	20.9%	36.1%	20.5%	11.4%	6.4%	3.4%	1.3%
2	12.2%	31.4%	22.6%	14.9%	10.0%	6.0%	2.9%
3	9.1%	27.5%	23.2%	16.5%	11.6%	7.9%	4.1%
4	6.7%	23.8%	22.7%	17.6%	13.9%	9.6%	5.8%
5	4.9%	19.7%	21.8%	18.2%	15.3%	12.1%	8.0%
8	3.4%	16.2%	20.0%	18.5%	16.5%	14.5%	10.8%
13	2.4%	12.8%	18.0%	18.2%	17.7%	16.7%	14.2%
18	1.6%	10.0%	15.6%	17.3%	18.3%	18.7%	18.5%
23	1.1%	7.6%	13.3%	15.9%	18.4%	20.4%	23.3%
28	0.7%	5.7%	10.9%	14.4%	17.6%	21.9%	28.8%