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Brett P. Shirreffs
Paul M. Sommers

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DEPARTMENT OF ECONOMICS
MIDDLEBURY COLLEGE
MIDDLEBURY, VERMONT 05753

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Brett P. Shirreffs
Paul M. Sommers

Department of Economics
Middlebury College
Middlebury, Vermont 05753
psommers@middlebury.edu

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Tiger Woods is arguably the best golfer ever on the Professional Golf Association (PGA) Tour. In 2006, he was first among money leaders. In that year, he also ranked 1st in scoring average, 1st in birdie average, 1st in greens in regulation, and 1st among par breakers.

In May 2007, Rory Sabbatini publicly challenged Tiger saying that he wanted Woods in the final pairing of the 2007 Wachovia Championship. Woods shot a 69 and won the tournament, while Sabbatini posted a disappointing 74 to tie for third. How daunting is it to be paired with Tiger? Or, unlike Sabbatini, do individuals perform better in the face of tougher in-group competition? Using data from the 2006 men's PGA Tour, we find that playing in a group with Tiger Woods (which usually attracts enormous crowds and intense media attention) can adversely affect a golfer's concentration level and hence lead to higher scores.

The typical tournament on the PGA Tour involves four rounds. Roughly half of the field is cut at the end of the second round. In 2006, Tiger participated in twelve PGA Tournaments in which he made the cut (missing the cut in only the U.S. Open). He won eight of them, including two majors, the British Open and the PGA Championship. He finished tied for third or better at two others and earned \$9.941 million, about 38 percent more than his closest rival (Jim Furyk) [see www.pgatour.com/r/stats/2006/109.html]. A complete list of the tournaments and the players with whom he was grouped in the third and fourth rounds are presented in Table 1 [see <http://sportsillustrated.cnn.com/golf/pga/2006/schedules/>]. The table also provides detailed round-by-round results for each of these golfers, when they played with and without Tiger. Our reliance on a subset of elite golfers in each tournament is intended to mitigate the effects of the "marginal golfer" who fails to make the cut. Tiger was paired with the same two golfers in rounds 1 and 2 of each of these twelve tournaments. Six of his twenty-four playing partners failed to make the cut.

For each of Tiger's playing partners in the third or fourth round, the score for a round played with Tiger was paired with the same player's score for a (post-cut) round played without Tiger. In no case did any of the thirty-one players in our sample who made the cut have to play with Tiger in *both* rounds 3 and 4. Two players (Sergio Garcia in the Buick Invitational and Aaron Baddeley in the Deutsche Bank Championship) were paired with Tiger in rounds 1 and 2, and then again in one of the remaining two rounds after the cut. After the cut, the paired difference between the average score with Tiger (72.71) and the average score without Tiger (69.52) was statistically discernible from zero ($p < .001$). Golfers who made the cut had scores that were, on average, over three strokes higher per round when they were grouped with Tiger than when they were not. The differences are even greater when one compares the averages for all rounds (including the first two rounds) without Tiger and those with Tiger (68.91 and 72.53, respectively, $p < .001$).

Which is worse: pairing with Tiger in round 3 or joining Woods in the final pairing? Table 2 shows Tiger's playing partners' final position and their position after three rounds (that is, at the start of the fourth and final round). [The leaderboard positions at the start of the final round were obtained from <http://sports.espn.go.com/golf/leaderboard?tournamentId=253> .] If Tiger's presence inflates a playing partner's score, then the golfers who played with him in the *third* round (but not the fourth) would be expected to finish *higher* up the leaderboard than they would have had the tournament ended after three rounds; those golfers who played with him in the *fourth* round (but not the third) would be expected to finish *lower* down the leaderboard than they would have had the tournament ended after three rounds. The improvement without Tiger for each group of playing partners (those who played with him in round 3 and those who played with him in round 4) is recorded in the last column of Table 2. (Note that a "T" denotes a tie.) A 1-sample Wilcoxon signed rank test for players grouped with Tiger in round 3 showed that the

median improvement (without Tiger) was not discernible from zero ($p = .932$); the median improvement (without Tiger) for players grouped with Woods in round 4 was, however, discernible from zero ($p = .005$). In other words, playing with Tiger is more likely to hurt your final position (that is, add strokes to your final score) if you are paired with him in round 4 than if you are paired with him in round 3.

Concluding Remarks

The presence of a superstar might force some professional golfers to concentrate more and elevate their game. But, among golf's elite on the 2006 PGA Tour, the evidence presented here suggests that few players can handle the duress of playing with Tiger Woods (after the cut). And, the deleterious impact Tiger has on his playing partners' game is more pronounced in the fourth and final round than it is in the round immediately following the cut.

**Table 1. 2006 PGA Tour Tournament Results,
Golfers Who Played with Tiger Woods in Rounds 3 or 4***

Event	Player	Round 1	Round 2	Round 3	Round 4
Buick Invitational	Zach Johnson	71	68	<i>77</i>	73
	John Rollins	69	70	<i>71</i>	69
	Sergio Garcia	<i>69</i>	<i>68</i>	68	<i>75</i>
	Rod Pampling	70	67	68	<i>76</i>
Ford Championship at Doral	Phil Mickelson	65	66	<i>72</i>	73
	Daniel Chopra	66	67	68	<i>77</i>
Bay Hill Invitational	Bernhard Langer	70	71	<i>73</i>	73
	Scott Verplank	72	69	<i>70</i>	70
	Retief Goosen	69	73	70	<i>76</i>
	Kevin Stadler	70	72	70	<i>80</i>
The Players Championship	Kirk Triplett	70	71	<i>76</i>	81
	Steve Flesch	69	70	75	<i>84</i>
The Masters	Retief Goosen	70	73	<i>72</i>	69
	Tim Clark	70	72	72	<i>69</i>
Cialis Western Open	Rich Beem	72	67	<i>70</i>	71
	Jim Furyk	69	67	69	<i>70</i>
British Open	Ernie Els	68	65	<i>71</i>	71
	Sergio Garcia	68	71	65	<i>73</i>
Buick Open	Brett Quigley	65	66	<i>71</i>	68
	Jeff Sluman	66	67	<i>72</i>	72
	Lucas Glover	67	67	66	<i>72</i>
PGA Championship	Chris Riley	66	72	<i>73</i>	77
	Luke Donald	68	68	66	<i>74</i>
WGC - Bridgestone Invitational	Davis Love III	67	65	<i>70</i>	71
	Paul Casey	69	69	64	<i>71</i>
	Stewart Cink	70	67	64	<i>69</i>
Deutsche Bank Championship	Aaron Baddeley	<i>67</i>	<i>71</i>	<i>71</i>	70
	Vijay Singh	70	71	61	<i>68</i>
WGC – American Express Championship	Jim Furyk	67	65	<i>69</i>	69
	Brett Quigley	70	64	67	<i>73</i>
	Adam Scott	67	68	65	<i>69</i>

*Numbers in italicized boldface are rounds played with Tiger Woods

**Table 2. 2006 PGA Tour Tournament Results,
Golfers Playing with Tiger Woods,
Final Position and Position After 3 Rounds**

Played with Tiger Woods in Round 3

Event	Player	(1) Final Position	(2) Position after Round 3	Improvement (+) without Tiger [col. (2) – col. (1)]
Buick Invitational	Zach Johnson	T49	T61	+12
	John Rollins	T4	T12	+8
Ford Championship	Phil Mickelson	T12	T6	-6
Bay Hill Invitational	Bernhard Langer	T43	T40	-3
	Scott Verplank	T10	T16	+6
The Players Champ.	Kirk Triplett	T63	T56	-7
The Masters	Retief Goosens	T3	T10	+7
Cialis Western Open	Rich Beem	T21	T28	+7
British Open	Ernie Els	3	T2	-1
Buick Open	Jeff Sluman	T33	T20	-13
PGA Championship	Chris Riley	T41	T21	-20
WGC-Bridgestone Inv.	Davis Love III	T4	T2	-2
Deutsche Bank Champ.	Aaron Baddeley	T7	T6	-1
WGC-Amer. Express	Jim Furyk	4	T3	-1

Played with Tiger Woods in Round 4

Event	Player	(1) Final Position	(2) Position after Round 3	Improvement (+) without Tiger [col. (1) – col. (2)]
Buick Invitational	Sergio Garcia	T8	T1	+7
	Rod Pampling	T10	T1	+9
Ford Championship	Daniel Chopra	T20	T2	+18
Bay Hill Invitational	Retief Goosen	T48	T30	+18
	Kevin Stadler	67	T30	+37
The Players Champ.	Steve Flesch	T63	T31	+32
The Masters	Tim Clark	2	T4	-2
Cialis Western Open	Jim Furyk	T4	T7	-3
British Open	Sergio Garcia	T5	T2	+3
Buick Open	Lucas Glover	T15	T2	+13
PGA Championship	Luke Donald	T3	T1	+2
WGC-Bridgestone Inv.	Paul Casey	T4	T2	+2
	Stewart Cink	2	1	+1
Deutsche Bank Champ.	Vijay Singh	2	1	+1
WGC-Amer. Express	Brett Quigley	T9	T3	+6
	Adam Scott	T2	2	0
