



FIFA Is Right: The Penalty Shootout Should Adopt the Tennis Tiebreak Format

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Abstract

In the current penalty shootout system of soccer, the team going second has to play catch-up. This possibly carries a bias in favor of the team going first. We consider this hypothesis by taking data from both soccer penalty shootouts and tennis tie breaks. We find the bias does exist in soccer, but not in tennis. This suggests the penalty shootout should adopt the tennis tiebreak format to remove the bias, as recently advocated by FIFA.

Subject Areas

Economics, Sports Science

Keywords

Soccer, Tennis, Penalty Shootout, Tennis Tiebreak, FIFA

1. Introduction

England's Chelsea lost the 2008 Champions League final to Manchester United on penalties when taking the shots second. Did United deserve to win? Were they just lucky? Or is the penalty shootout system bluntly unfair? FIFA's European soccer governing body UEFA is suspecting the unfair hypothesis [1] [2]. UEFA conjectures the teams taking the first penalty have a biased advantage, as they win 60 percent of shootouts. This possibly happens because the player taking the second kick is under greater mental pressure [3] [4]. On purely theoretical grounds, it can be demonstrated that the current mechanism of the soccer penalty shootout is not sequentially fair [5]-[11].

In the current penalty shootout system, teams take turns in a shootout, with the choice of who goes first decided by a coin toss. Team A goes first, then team

B, then team A again. This is an ABAB pattern, where one side has allegedly the pressure of going second. FIFA thinks a change is needed to stop the team going second from having to play catch-up. One possible solution is to adopt the tennis tiebreak format, which follows an ABBA pattern. Team A is followed by team B, before team B goes again. Team A would then get two successive penalties, and so on until there is a winner. A coin would still be tossed to decide who goes first.

This work takes data from the penalty shootout of soccer and explicitly contrasts them with data from the tiebreak of tennis. Although FIFA claims a 60 percent advantage for the team going first, it does not show that the tiebreak of tennis is unbiased. Here, we show FIFA is right regarding soccer, and the tiebreak data do show one cannot say that the tennis system favors who goes first.

Section 2 presents the data used in the study and shows the results found, and Section 3 concludes the report.

2. Data and Results

We diligently collected data from the 2017 Grand Slam tennis tournaments as one of the matches progressed in order to spot 345 tiebreak situations (Table 1). We examined both men's and women's singles matches. Data from Table 1 were used to test whether a tiebreak winner is biased to the player who serves first. We expected that would not occur because of the ABBA pattern.

In contrast, we expected the first player in a soccer penalty shootout to have an advantage because of the ABAB pattern. To test this, we meticulously gathered data from the internet to find 232 penalty kick situations in several soccer matches from 1970 to the present day (Table 2).

As for the tiebreak, 163 players ended up as winners after serving first. This equates to 47.25 percent. However, before one can jump to the conclusion that it is better not to serve first, it can be said this result was not statistically significant. Based on a chi-square test, as a winning probability of 0.5 could not be rejected ($\chi^2 = 10.5$, p -value = 0.306), we could not conclude there was an advantage by serving first in our data sample. This result matches those in the previous literature [12] [13].

As for the penalty shootout, 138 teams ended up as winners after having the first penalty kick. This equates to 59.48 percent and, considering again the chi-square test, a winning probability of 0.5 was rejected ($\chi^2 = 8.35$, p -value = 0.004). This allowed us to conclude that it was significantly greater than 0.5. If one considers r to be the quantity of goals scored by a team starting the penalty shootout, and s the scores of the other team, then one has 232 bivariate observations (r, s) drawn from a conjoint distribution function $\text{Prob}(R=r, S=s)$, where R and S denote the corresponding random variables (Table 3). The null hypothesis of interest is that R and S are exchangeable, which translates into no effect by going first. This hypothesis of exchangeability can be written as $H_0 : \text{Prob}(R \leq r, S \leq s) = \text{Prob}(S \leq s, R \leq r)$, for all (r, s) . In addition, one can

Table 1. Selected situations of tiebreaks for the 2017 grand slam tennis tournaments.

	Tournament	Round	Players		Set	Last set game winner	1 st tiebreak serve	Tiebreak winner
1	Australian Open 2017	First Round	A. Murray	I. Marchenko	2	I. Marchenko	A. Murray	A. Murray
2	Australian Open 2017	First Round	A. De Minaur	G. Melzer	4	A. De Minaur	G. Melzer	A. De Minaur
3	Australian Open 2017	First Round	Q. Halys	S. Querrey	1	Q. Halys	S. Querrey	Q. Halys
4	Australian Open 2017	First Round	Q. Halys	S. Querrey	2	S. Querrey	Q. Halys	S. Querrey
5	Australian Open 2017	First Round	J. Isner	K. Kravchuk	3	J. Isner	K. Kravchuk	K. Kravchuk
6	Australian Open 2017	First Round	A. Kuznetsov	K. Nishikori	4	K. Nishikori	A. Kuznetsov	A. Kuznetsov
7	Australian Open 2017	First Round	J. Duckworth	P. Lorenzi	2	P. Lorenzi	J. Duckworth	P. Lorenzi
8	Australian Open 2017	First Round	J. Duckworth	P. Lorenzi	3	J. Duckworth	P. Lorenzi	J. Duckworth
9	Australian Open 2017	First Round	J-W. Tsonga	T. Monteiro	3	J-W. Tsonga	J-W. Tsonga	T. Monteiro
10	Australian Open 2017	First Round	K. Khachanov	A. Mannarino	3	A. Mannarino	K. Khachanov	K. Khachanov
11	Australian Open 2017	First Round	P. Herbert	J. Sock	2	J. Sock	P. Herbert	J. Sock
12	Australian Open 2017	First Round	V. Estrella Burgos	A. Bedene	1	V. Estrella Burgos	A. Bedene	V. Estrella Burgos
13	Australian Open 2017	First Round	N. Basilashvili	P. Kohlschreiber	3	N. Basilashvili	P. Kohlschreiber	P. Kohlschreiber
14	Australian Open 2017	First Round	D. Medvedev	E. Escobedo	3	D. Medvedev	E. Escobedo	E. Escobedo
15	Australian Open 2017	First Round	J. Thompson	J. Souza	1	J. Thompson	J. Souza	J. Souza
16	Australian Open 2017	First Round	T. Haas	B. Paire	1	B. Paire	T. Haas	B. Paire
17	Australian Open 2017	First Round	D. Tursunov	R. Stepanek	2	R. Stepanek	D. Tursunov	R. Stepanek
18	Australian Open 2017	First Round	G. Dimitrov	C. Oconnel	1	C. Oconnel	G. Dimitrov	G. Dimitrov
19	Australian Open 2017	First Round	R. Albot	C. Berlocq	2	C. Berlocq	R. Albot	C. Berlocq
20	Australian Open 2017	First Round	R. Albot	C. Berlocq	4	R. Albot	C. Berlocq	C. Berlocq
21	Australian Open 2017	First Round	F. Verdasco	N. Djokovic	2	N. Djokovic	F. Verdasco	N. Djokovic
22	Australian Open 2017	Second Round	A. De Minaur	S. Querrey	1	S. Querrey	A. De Minaur	S. Querrey
23	Australian Open 2017	Second Round	J. Isner	M. Zverev	1	M. Zverev	J. Isner	J. Isner
24	Australian Open 2017	Second Round	J. Isner	M. Zverev	2	J. Isner	M. Zverev	J. Isner
25	Australian Open 2017	Second Round	J. Isner	M. Zverev	4	M. Zverev	J. Isner	M. Zverev
26	Australian Open 2017	Second Round	T. Berdych	R. Harrison	1	R. Harrison	T. Berdych	T. Berdych
27	Australian Open 2017	Second Round	N. Rubin	R. Federer	3	R. Federer	N. Rubin	R. Federer

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28	Australian Open 2017	Second Round	P. Lorenzi	V. Troicki	3	P. Lorenzi	V. Troicki	V. Troicki
29	Australian Open 2017	Second Round	A. Seppi	N. Kyrgios	2	N. Kyrgios	A. Seppi	N. Kyrgios
30	Australian Open 2017	Second Round	B. Tomic	V. Estrella Burgos	2	V. Estrella Burgos	B. Tomic	B. Tomic
31	Australian Open 2017	Second Round	B. Tomic	V. Estrella Burgos	4	B. Tomic	V. Estrella Burgos	B. Tomic
32	Australian Open 2017	Second Round	D. Thiem	J. Thompson	3	J. Thompson	D. Thiem	J. Thompson
33	Australian Open 2017	Second Round	B. Paire	F. Fognini	1	B. Paire	F. Fognini	B. Paire
34	Australian Open 2017	Second Round	D. Istomin	N. Djokovic	1	D. Istomin	N. Djokovic	D. Istomin
35	Australian Open 2017	Second Round	D. Istomin	N. Djokovic	4	N. Djokovic	D. Istomin	D. Istomin
36	Australian Open 2017	Third Round	S. Wawrinka	V. Troicki	4	V. Troicki	V. Troicki	S. Wawrinka
37	Australian Open 2017	Third Round	S. Darcis	A. Seppi	3	S. Darcis	A. Seppi	A. Seppi
38	Australian Open 2017	Third Round	S. Darcis	A. Seppi	4	A. Seppi	S. Darcis	A. Seppi
39	Australian Open 2017	Third Round	J-W. Tsonga	J. Sock	1	J. Sock	J-W. Tsonga	J-W. Tsonga
40	Australian Open 2017	Third Round	J-W. Tsonga	J. Sock	3	J-W. Tsonga	J. Sock	J. Sock
41	Australian Open 2017	Third Round	B. Tomic	D. Evans	2	D. Evans	B. Tomic	D. Evans
42	Australian Open 2017	Third Round	B. Tomic	D. Evans	3	B. Tomic	D. Evans	D. Evans
43	Australian Open 2017	Third Round	G. Monfils	P. Kohlschreiber	2	G. Monfils	P. Kohlschreiber	G. Monfils
44	Australian Open 2017	Third Round	A. Zverev	R. Nadal	3	R. Nadal	A. Zverev	A. Zverev
45	Australian Open 2017	Third Round	R. Bautista Agut	D. Ferrer	2	R. Bautista Agut	D. Ferrer	D. Ferrer
46	Australian Open 2017	Third Round	R. Bautista Agut	D. Ferrer	3	D. Ferrer	R. Bautista Agut	R. Bautista Agut
47	Australian Open 2017	Third Round	G. Simon	M. Raonic	2	G. Simon	M. Raonic	M. Raonic
48	Australian Open 2017	Fourth Round	R. Federer	K. Nishikori	1	K. Nishikori	R. Federer	K. Nishikori
49	Australian Open 2017	Fourth Round	S. Wawrinka	A. Seppi	1	A. Seppi	S. Wawrinka	S. Wawrinka
50	Australian Open 2017	Fourth Round	S. Wawrinka	A. Seppi	2	S. Wawrinka	A. Seppi	S. Wawrinka
51	Australian Open 2017	Fourth Round	S. Wawrinka	A. Seppi	3	S. Wawrinka	S. Wawrinka	S. Wawrinka
52	Australian Open 2017	Fourth Round	J-W. Tsonga	D. Evans	1	D. Evans	J-W. Tsonga	D. Evans
53	Australian Open 2017	Fourth Round	R. Bautista Agut	M. Raonic	1	R. Bautista Agut	M. Raonic	M. Raonic
54	Australian Open 2017	Fourth Round	D. Thiem	D. Goffin	2	D. Thiem	D. Goffin	D. Goffin
55	Australian Open 2017	Fourth Round	G. Dimitrov	D. Istomin	2	G. Dimitrov	D. Istomin	G. Dimitrov

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56	Australian Open 2017	Quarter Finals	S. Wawrinka	J-W. Tsonga	1	S. Wawrinka	J-W. Tsonga	S. Wawrinka
57	Australian Open 2017	Quarter Finals	R. Nadal	M. Raonic	2	R. Nadal	M. Raonic	R. Nadal
58	Australian Open 2017	Semi Finals	R. Nadal	G. Dimitrov	3	R. Nadal	G. Dimitrov	R. Nadal
59	Australian Open 2017	Semi Finals	R. Nadal	G. Dimitrov	4	G. Dimitrov	R. Nadal	G. Dimitrov
60	Australian Open 2017	First Round	E. Hozumi	C. Wittthoeft	2	E. Hozumi	C. Wittthoeft	C. Wittthoeft
61	Australian Open 2017	First Round	D. Kasatkina	S. Peng	2	S. Peng	S. Peng	S. Peng
62	Australian Open 2017	First Round	C. Vandeweghe	R. Vinci	2	R. Vinci	C. Vandeweghe	C. Vandeweghe
63	Australian Open 2017	First Round	M. Barthel	D. Aiava	2	M. Barthel	D. Aiava	M. Barthel
64	Australian Open 2017	First Round	K. Bertens	V. Lepchenko	2	K. Bertens	V. Lepchenko	V. Lepchenko
65	Australian Open 2017	First Round	K. Kozlova	V. Williams	1	V. Williams	V. Williams	V. Williams
66	Australian Open 2017	First Round	L. Arruabarrena	Y. Putintseva	1	L. Arruabarrena	Y. Putintseva	Y. Putintseva
67	Australian Open 2017	First Round	L. Arruabarrena	Y. Putintseva	2	Y. Putintseva	L. Arruabarrena	Y. Putintseva
68	Australian Open 2017	First Round	L. Kumkhum	N. Osaka	1	N. Osaka	L. Kumkhum	L. Kumkhum
69	Australian Open 2017	First Round	K. Bondarenko	C. Garcia	1	C. Garcia	K. Bondarenko	C. Garcia
70	Australian Open 2017	First Round	T. Babos	N. Gibbs	1	N. Gibbs	T. Babos	N. Gibbs
71	Australian Open 2017	First Round	Y. Wickmayer	L. Safarova	2	L. Safarova	Y. Wickmayer	L. Safarova
72	Australian Open 2017	Second Round	A. Kerber	C. Wittthoeft	2	A. Kerber	C. Wittthoeft	C. Wittthoeft
73	Australian Open 2017	Second Round	K. Pliskova	I. Begu	2	K. Pliskova	I. Begu	K. Pliskova
74	Australian Open 2017	Second Round	S. Peng	E. Bouchard	1	E. Bouchard	S. Peng	E. Bouchard
75	Australian Open 2017	Second Round	P. Parmentier	C. Vandeweghe	2	C. Vandeweghe	P. Parmentier	C. Vandeweghe
76	Australian Open 2017	Second Round	C. Suarez Navarro	S. Cirstea	1	C. Suarez Navarro	S. Cirstea	S. Cirstea
77	Australian Open 2017	Second Round	A. Riske	S. Zhang	1	A. Riske	S. Zhang	A. Riske
78	Australian Open 2017	Second Round	D. Kovinic	T. Bacsinszky	2	T. Bacsinszky	T. Bacsinszky	T. Bacsinszky
79	Australian Open 2017	Second Round	J. Brady	H. Watson	2	H. Watson	J. Brady	J. Brady
80	Australian Open 2017	Second Round	D. Cibulkova	S. Hsieh	2	S. Hsieh	D. Cibulkova	D. Cibulkova
81	Australian Open 2017	Second Round	O Dodin	C. Garcia	1	O Dodin	C. Garcia	O Dodin
82	Australian Open 2017	Third Round	S. Cirstea	A. Riske	2	S. Cirstea	S. Cirstea	S. Cirstea
83	Australian Open 2017	Third Round	E. Vesnina	J. Brady	1	E. Vesnina	J. Brady	J. Brady

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84	Australian Open 2017	Third Round	D. Cibulkova	E. Makarova	2	E. Makarova	D. Cibulkova	D. Cibulkova
85	Australian Open 2017	Quarter Finals	V. Williams	A. Pavlyuchenkova	2	A. Pavlyuchenkova	A. Pavlyuchenkova	A. Pavlyuchenkova
86	Australian Open 2017	Semi Finals	C. Vandeweghe	V. Williams	1	C. Vandeweghe	V. Williams	C. Vandeweghe
87	Roland Garros 2017	First Round	M. Baghdatis	N. Almagro	1	M. Baghdatis	N. Almagro	N. Almagro
88	Roland Garros 2017	First Round	M. Baghdatis	N. Almagro	4	M. Baghdatis	N. Almagro	N. Almagro
89	Roland Garros 2017	First Round	J. Isner	J. Thompson	3	J. Isner	J. Thompson	J. Isner
90	Roland Garros 2017	First Round	K. Khachanov	N. Jarry	3	N. Jarry	K. Khachanov	K. Khachanov
91	Roland Garros 2017	First Round	P. Herbert	J. Donaldson	2	J. Donaldson	P. Herbert	P. Herbert
92	Roland Garros 2017	First Round	E. Escobedo	S. Istomin	1	S. Istomin	E. Escobedo	S. Istomin
93	Roland Garros 2017	First Round	R. Albot	J. Chardy	3	J. Chardy	R. Albot	J. Chardy
94	Roland Garros 2017	First Round	S. Wawrinka	J. Kovalik	2	S. Wawrinka	J. Kovalik	S. Wawrinka
95	Roland Garros 2017	First Round	T. Monteiro	A. Muller	1	A. Muller	A. Muller	T. Monteiro
96	Roland Garros 2017	First Round	T. Monteiro	A. Muller	4	A. Muller	T. Monteiro	T. Monteiro
97	Roland Garros 2017	First Round	J-W. Tsonga	R. Olivo	3	R. Olivo	J-W. Tsonga	J-W. Tsonga
98	Roland Garros 2017	First Round	P. Kohlschreiber	N. Kyrgios	2	N. Kyrgios	P. Kohlschreiber	N. Kyrgios
99	Roland Garros 2017	First Round	R. Dutra Silva	M. Youzhny	2	R. Dutra Silva	M. Youzhny	R. Dutra Silva
100	Roland Garros 2017	First Round	R. Dutra Silva	M. Youzhny	4	M. Youzhny	R. Dutra Silva	R. Dutra Silva
101	Roland Garros 2017	First Round	M. Trungelliti	Q. Halys	2	Q. Halys	M. Trungelliti	Q. Halys
102	Roland Garros 2017	First Round	M. Trungelliti	Q. Halys	3	M. Trungelliti	Q. Halys	M. Trungelliti
103	Roland Garros 2017	First Round	G. Garcia Lopez	G. Muller	1	G. Garcia Lopez	G. Muller	G. Garcia Lopez
104	Roland Garros 2017	First Round	G. Garcia Lopez	G. Muller	2	G. Muller	G. Garcia Lopez	G. Muller
105	Roland Garros 2017	First Round	V. Troicki	E. Donskoy	1	V. Troicki	E. Donskoy	V. Troicki
106	Roland Garros 2017	First Round	M. Bourgue	B. Coric	1	B. Coric	M. Bourgue	B. Coric
107	Roland Garros 2017	First Round	Y. Sugita	S. Johnson	3	Y. Sugita	Y. Sugita	Y. Sugita
108	Roland Garros 2017	First Round	Y. Sugita	S. Johnson	4	Y. Sugita	S. Johnson	Y. Sugita
109	Roland Garros 2017	First Round	I. Karlovic	S. Tsitsipas	1	I. Karlovic	S. Tsitsipas	I. Karlovic
110	Roland Garros 2017	First Round	L. Pouille	J. Benneteau	1	J. Benneteau	L. Pouille	L. Pouille
111	Roland Garros 2017	First Round	M. Copil	A. Ramos-Vinolas	1	A. Ramos-Vinolas	M. Copil	M. Copil

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112	Roland Garros 2017	First Round	A. Rublev	D. Schwartzman	4	D. Schwartzman	A. Rublev	A. Rublev
113	Roland Garros 2017	Second Round	A. Murray	M. Klizan	1	M. Klizan	A. Murray	M. Klizan
114	Roland Garros 2017	Second Round	A. Murray	M. Klizan	4	A. Murray	M. Klizan	A. Murray
115	Roland Garros 2017	Second Round	J. Isner	P. Lorenzi	3	J. Isner	P. Lorenzi	J. Isner
116	Roland Garros 2017	Second Round	J. Isner	P. Lorenzi	4	P. Lorenzi	J. Isner	J. Isner
117	Roland Garros 2017	Second Round	J. Chardy	K. Nishikori	3	K. Nishikori	J. Chardy	K. Nishikori
118	Roland Garros 2017	Second Round	S. Wawrinka	A. Dolgoplov	2	A. Dolgoplov	S. Wawrinka	S. Wawrinka
119	Roland Garros 2017	Third Round	A. Murray	J. del Potro	1	J. del Potro	A. Murray	A. Murray
120	Roland Garros 2017	Third Round	J. Isner	K. Khachanov	1	K. Khachanov	J. Isner	K. Khachanov
121	Roland Garros 2017	Third Round	J. Isner	K. Khachanov	3	K. Khachanov	J. Isner	J. Isner
122	Roland Garros 2017	Third Round	J. Isner	K. Khachanov	4	J. Isner	K. Khachanov	K. Khachanov
123	Roland Garros 2017	Third Round	H. Chung	K. Nishikori	3	K. Nishikori	H. Chung	H. Chung
124	Roland Garros 2017	Third Round	S. Wawrinka	F. Fognini	1	S. Wawrinka	S. Wawrinka	S. Wawrinka
125	Roland Garros 2017	Third Round	R. Gasquet	G. Monfils	1	R. Gasquet	G. Monfils	G. Monfils
126	Roland Garros 2017	Third Round	K. Edmund	K. Anderson	1	K. Edmund	K. Anderson	K. Edmund
127	Roland Garros 2017	Third Round	K. Edmund	K. Anderson	2	K. Anderson	K. Edmund	K. Anderson
128	Roland Garros 2017	Third Round	D. Thiem	S. Johnson	2	D. Thiem	S. Johnson	D. Thiem
129	Roland Garros 2017	Fourth Round	S. Wawrinka	G. Monfils	2	G. Monfils	S. Wawrinka	S. Wawrinka
130	Roland Garros 2017	Fourth Round	M. Raonic	P. Carreno Busta	2	P. Carreno Busta	M. Raonic	P. Carreno Busta
131	Roland Garros 2017	Fourth Round	M. Raonic	P. Carreno Busta	3	M. Raonic	P. Carreno Busta	M. Raonic
132	Roland Garros 2017	Fourth Round	A. Ramos Vinolas	N. Djokovic	1	A. Ramos Vinolas	N. Djokovic	N. Djokovic
133	Roland Garros 2017	Quarter Finals	A. Murray	K. Nishikori	3	K. Nishikori	K. Nishikori	A. Murray
134	Roland Garros 2017	Quarter Finals	D. Thiem	N. Djokovic	1	D. Thiem	N. Djokovic	D. Thiem
135	Roland Garros 2017	Semi Finals	A. Murray	S. Wawrinka	1	A. Murray	S. Wawrinka	A. Murray
136	Roland Garros 2017	Semi Finals	A. Murray	S. Wawrinka	3	A. Murray	S. Wawrinka	S. Wawrinka
137	Roland Garros 2017	First Round	M. Erakovic	S. Rogers	1	S. Rogers	M. Erakovic	S. Rogers
138	Roland Garros 2017	First Round	S. Errani	M. Doi	1	M. Doi	S. Errani	S. Errani
139	Roland Garros 2017	First Round	V. Williams	Q. Wang	2	Q. Wang	V. Williams	V. Williams

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140	Roland Garros 2017	First Round	E. Mertens	D. Gavrilova	1	E. Mertens	E. Mertens	E. Mertens
141	Roland Garros 2017	First Round	J. Konta	S. Hsieh	2	J. Konta	S. Hsieh	S. Hsieh
142	Roland Garros 2017	First Round	C. Paquet	K. Pliskova	1	K. Pliskova	C. Paquet	K. Pliskova
143	Roland Garros 2017	First Round	A. Cornet	T. Babos	2	T. Babos	A. Cornet	T. Babos
144	Roland Garros 2017	First Round	M. Duque Marino	I. Begu	1	I. Begu	M. Duque Marino	M. Duque Marino
145	Roland Garros 2017	Second Round	S. Stosur	K. Flipkens	2	S. Stosur	K. Flipkens	S. Stosur
146	Roland Garros 2017	Second Round	B. Mattek Sands	P. Kvitova	1	P. Kvitova	B. Mattek Sands	B. Mattek Sands
147	Roland Garros 2017	Second Round	B. Mattek Sands	P. Kvitova	2	B. Mattek Sands	P. Kvitova	B. Mattek Sands
148	Roland Garros 2017	Second Round	C. Bellis	K. Bertens	2	C. Bellis	K. Bertens	C. Bellis
149	Roland Garros 2017	Second Round	O. Dodin	S. Kuznetsova	1	O. Dodin	O. Dodin	S. Kuznetsova
150	Roland Garros 2017	Second Round	G. Muguruza	A. Kontaveit	1	G. Muguruza	A. Kontaveit	A. Kontaveit
151	Roland Garros 2017	Third Round	S. Zhang	S. Kuznetsova	1	S. Kuznetsova	S. Zhang	S. Kuznetsova
152	Roland Garros 2017	Third Round	V. Cepede Royg	M. Duque Marino	2	V. Cepede Royg	M. Duque Marino	V. Cepede Royg
153	Roland Garros 2017	Fourth Round	E. Svitolina	S. Halep	2	E. Svitolina	S. Halep	S. Halep
154	Roland Garros 2017	Fourth Round	C. Garcia	K. Pliskova	1	K. Pliskova	C. Garcia	K. Pliskova
155	Roland Garros 2017	Semi Finals	J. Ostapenko	T. Bacsinszky	1	T. Bacsinszky	T. Bacsinszky	J. Ostapenko
156	Wimbledon 2017	First Round	J. Souza	D. Brown	2	J. Souza	D. Brown	D. Brown
157	Wimbledon 2017	First Round	R. Dutra Silva	B. Paire	3	B. Paire	B. Paire	B. Paire
158	Wimbledon 2017	First Round	D. Shapovalov	J. Janowicz	4	J. Janowicz	D. Shapovalov	J. Janowicz
159	Wimbledon 2017	First Round	M. Jaziri	L. Pouille	1	M. Jaziri	L. Pouille	M. Jaziri
160	Wimbledon 2017	First Round	M. Jaziri	L. Pouille	4	L. Pouille	M. Jaziri	L. Pouille
161	Wimbledon 2017	First Round	C. Berlocq	N. Basilashvili	2	C. Berlocq	C. Berlocq	N. Basilashvili
162	Wimbledon 2017	First Round	T. Fabbiano	S. Querrey	1	T. Fabbiano	S. Querrey	S. Querrey
163	Wimbledon 2017	First Round	F. Verdasco	K. Anderson	2	F. Verdasco	K. Anderson	K. Anderson
164	Wimbledon 2017	First Round	F. Verdasco	K. Anderson	3	K. Anderson	F. Verdasco	K. Anderson
165	Wimbledon 2017	First Round	T. Monteiro	A. Whittington	3	A. Whittington	T. Monteiro	T. Monteiro
166	Wimbledon 2017	First Round	T. Monteiro	A. Whittington	4	T. Monteiro	A. Whittington	T. Monteiro
167	Wimbledon 2017	First Round	A. Kuznetsov	K. Khachanov	1	K. Khachanov	A. Kuznetsov	K. Khachanov

Continued

168	Wimbledon 2017	First Round	I. Karlovic	A. Bedene	1	I. Karlovic	A. Bedene	I. Karlovic
169	Wimbledon 2017	First Round	I. Karlovic	A. Bedene	2	A. Bedene	I. Karlovic	A. Bedene
170	Wimbledon 2017	First Round	I. Karlovic	A. Bedene	3	I. Karlovic	A. Bedene	I. Karlovic
171	Wimbledon 2017	First Round	I. Karlovic	A. Bedene	4	A. Bedene	I. Karlovic	A. Bedene
172	Wimbledon 2017	First Round	J. Benneteau	S. Stakhovsky	2	S. Stakhovsky	J. Benneteau	S. Stakhovsky
173	Wimbledon 2017	First Round	P. Gojowczyk	M. Copil	1	P. Gojowczyk	M. Copil	P. Gojowczyk
174	Wimbledon 2017	First Round	F. Bagnis	R. Albot	3	F. Bagnis	R. Albot	R. Albot
175	Wimbledon 2017	First Round	F. Bagnis	R. Albot	4	R. Albot	F. Bagnis	R. Albot
176	Wimbledon 2017	First Round	M. Raonic	J. Struff	1	J. Struff	M. Raonic	M. Raonic
177	Wimbledon 2017	First Round	M. Raonic	J. Struff	3	M. Raonic	J. Struff	M. Raonic
178	Wimbledon 2017	First Round	A. Rublev	S. Travaglia	1	A. Rublev	S. Travaglia	S. Travaglia
179	Wimbledon 2017	First Round	J. Thompson	A. Ramos-Vinolas	3	A. Ramos-Vinolas	J. Thompson	A. Ramos-Vinolas
180	Wimbledon 2017	First Round	J. Sock	C. Garin	3	J. Sock	C. Garin	J. Sock
181	Wimbledon 2017	First Round	R. Haase	F. Tiafoe	3	R. Haase	F. Tiafoe	F. Tiafoe
182	Wimbledon 2017	First Round	E. Donskoy	A. Zverev	2	A. Zverev	E. Donskoy	A. Zverev
183	Wimbledon 2017	First Round	G. Dimitrov	D. Schwartzman	1	G. Dimitrov	G. Dimitrov	G. Dimitrov
184	Wimbledon 2017	First Round	T. Fritz	J. Isner	2	J. Isner	T. Fritz	J. Isner
185	Wimbledon 2017	First Round	M. Kukushkin	T. Daniel	3	T. Daniel	M. Kukushkin	M. Kukushkin
186	Wimbledon 2017	First Round	G. Simon	N. Jarry	1	G. Simon	N. Jarry	G. Simon
187	Wimbledon 2017	First Round	H. Zeballos	P. Lorenzi	1	P. Lorenzi	H. Zeballos	P. Lorenzi
188	Wimbledon 2017	First Round	H. Zeballos	P. Lorenzi	3	H. Zeballos	P. Lorenzi	P. Lorenzi
189	Wimbledon 2017	First Round	B. Coric	R. Harrison	1	B. Coric	R. Harrison	R. Harrison
190	Wimbledon 2017	First Round	B. Coric	R. Harrison	3	R. Harrison	B. Coric	R. Harrison
191	Wimbledon 2017	First Round	J. Chardy	T. Berdych	3	J. Chardy	T. Berdych	T. Berdych
192	Wimbledon 2017	First Round	Y. Sugita	B. Klein	1	Y. Sugita	B. Klein	Y. Sugita
193	Wimbledon 2017	First Round	J. Del Potro	T. Kokkinakis	3	T. Kokkinakis	J. Del Potro	J. Del Potro
194	Wimbledon 2017	First Round	A. Pavlasek	E. Escobedo	1	E. Escobedo	A. Pavlasek	E. Escobedo
195	Wimbledon 2017	Second Round	J. Vesely	F. Fognini	1	J. Vesely	F. Fognini	F. Fognini

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196	Wimbledon 2017	Second Round	P. Herbert	B. Paire	1	B. Paire	P. Herbert	B. Paire
197	Wimbledon 2017	Second Round	J. Janowicz	L. Pouille	1	J. Janowicz	L. Pouille	J. Janowicz
198	Wimbledon 2017	Second Round	J. Janowicz	L. Pouille	2	L. Pouille	J. Janowicz	J. Janowicz
199	Wimbledon 2017	Second Round	K. Anderson	A. Seppi	2	K. Anderson	A. Seppi	K. Anderson
200	Wimbledon 2017	Second Round	T. Monteiro	K. Khachanov	2	T. Monteiro	K. Khachanov	K. Khachanov
201	Wimbledon 2017	Second Round	T. Monteiro	K. Khachanov	3	K. Khachanov	T. Monteiro	K. Khachanov
202	Wimbledon 2017	Second Round	L. Rosol	G. Muller	2	G. Muller	L. Rosol	L. Rosol
203	Wimbledon 2017	Second Round	K. Nishikori	S. Stakhovsky	2	K. Nishikori	S. Stakhovsky	S. Stakhovsky
204	Wimbledon 2017	Second Round	K. Nishikori	S. Stakhovsky	4	K. Nishikori	S. Stakhovsky	K. Nishikori
205	Wimbledon 2017	Second Round	F. Mayer	M. Cilic	1	F. Mayer	M. Cilic	M. Cilic
206	Wimbledon 2017	Second Round	M. Raonic	M. Youzhny	2	M. Youzhny	M. Raonic	M. Raonic
207	Wimbledon 2017	Second Round	A. Rublev	A. Ramos-Vinolas	2	A. Ramos-Vinolas	A. Rublev	A. Rublev
208	Wimbledon 2017	Second Round	D. Sela	J. Isner	1	D. Sela	J. Isner	J. Isner
209	Wimbledon 2017	Second Round	D. Sela	J. Isner	2	J. Isner	D. Sela	D. Sela
210	Wimbledon 2017	Second Round	D. Sela	J. Isner	4	D. Sela	J. Isner	D. Sela
211	Wimbledon 2017	Second Round	D. Lajovic	R. Federer	1	R. Federer	D. Lajovic	R. Federer
212	Wimbledon 2017	Second Round	J. Donaldson	P. Lorenzi	2	J. Donaldson	P. Lorenzi	J. Donaldson
213	Wimbledon 2017	Second Round	J. Donaldson	P. Lorenzi	3	P. Lorenzi	J. Donaldson	P. Lorenzi
214	Wimbledon 2017	Second Round	R. Harrison	T. Berdych	3	T. Berdych	R. Harrison	T. Berdych
215	Wimbledon 2017	Second Round	G. Monfils	K. Edmund	1	K. Edmund	G. Monfils	G. Monfils
216	Wimbledon 2017	Second Round	Y. Sugita	A. Mannarino	4	Y. Sugita	A. Mannarino	A. Mannarino
217	Wimbledon 2017	Third Round	B. Paire	J. Janowicz	2	B. Paire	J. Janowicz	B. Paire
218	Wimbledon 2017	Third Round	J-W. Tsonga	S. Querrey	3	J-W. Tsonga	S. Querrey	S. Querrey
219	Wimbledon 2017	Third Round	K. Anderson	R. Bemelmans	1	R. Bemelmans	K. Anderson	K. Anderson
220	Wimbledon 2017	Third Round	K. Anderson	R. Bemelmans	3	K. Anderson	R. Bemelmans	K. Anderson
221	Wimbledon 2017	Third Round	R. Nadal	K. Khachanov	3	R. Nadal	K. Khachanov	R. Nadal
222	Wimbledon 2017	Third Round	A. Bedene	G. Muller	1	A. Bedene	G. Muller	G. Muller
223	Wimbledon 2017	Third Round	K. Nishikori	R. Bautista Agut	2	K. Nishikori	R. Bautista Agut	R. Bautista Agut

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224	Wimbledon 2017	Third Round	S. Jhonson	M. Cilic	2	S. Jhonson	M. Cilic	M. Cilic
225	Wimbledon 2017	Third Round	M. Raonic	A. Ramos-Vinolas	1	A. Ramos-Vinolas	M. Raonic	M. Raonic
226	Wimbledon 2017	Third Round	M. Zverev	R. Federer	1	M. Zverev	R. Federer	R. Federer
227	Wimbledon 2017	Third Round	G. Monfils	A. Mannarino	1	A. Mannarino	G. Monfils	A. Mannarino
228	Wimbledon 2017	Third Round	E. Gulbis	N. Djokovic	3	N. Djokovic	E. Gulbis	N. Djokovic
229	Wimbledon 2017	Fourth Round	A. Murray	B. Paire	1	B. Paire	A. Murray	A. Murray
230	Wimbledon 2017	Fourth Round	S. Querrey	K. Anderson	2	S. Querrey	K. Anderson	S. Querrey
231	Wimbledon 2017	Fourth Round	S. Querrey	K. Anderson	4	S. Querrey	K. Anderson	K. Anderson
232	Wimbledon 2017	Fourth Round	D. Thiem	T. Berdych	2	T. Berdych	D. Thiem	D. Thiem
233	Wimbledon 2017	Fourth Round	A. Mannarino	N. Djokovic	2	A. Mannarino	N. Djokovic	N. Djokovic
234	Wimbledon 2017	Quarter Finals	A. Murray	S. Querrey	3	A. Murray	S. Querrey	A. Murray
235	Wimbledon 2017	Quarter Finals	G. Muller	M. Cilic	2	M. Cilic	G. Muller	M. Cilic
236	Wimbledon 2017	Quarter Finals	M. Raonic	R. Federer	3	R. Federer	M. Raonic	R. Federer
237	Wimbledon 2017	Quarter Finals	T. Berdych	N. Djokovic	1	T. Berdych	N. Djokovic	T. Berdych
238	Wimbledon 2017	Semi Finals	S. Querrey	M. Cilic	1	S. Querrey	M. Cilic	S. Querrey
239	Wimbledon 2017	Semi Finals	S. Querrey	M. Cilic	3	M. Cilic	S. Querrey	M. Cilic
240	Wimbledon 2017	Semi Finals	R. Federer	T. Berdych	1	R. Federer	T. Berdych	R. Federer
241	Wimbledon 2017	Semi Finals	R. Federer	T. Berdych	2	T. Berdych	R. Federer	R. Federer
242	Wimbledon 2017	First Round	A. Radwanska	J. Jankovic	1	A. Radwanska	A. Radwanska	A. Radwanska
243	Wimbledon 2017	First Round	L.Tsurenko	J. Goerges	1	J. Goerges	L.Tsurenko	J. Goerges
244	Wimbledon 2017	First Round	L.Tsurenko	J. Goerges	2	L.Tsurenko	J. Goerges	L.Tsurenko
245	Wimbledon 2017	First Round	V. Golubic	S. Zhang	2	V. Golubic	V. Golubic	S. Zhang
246	Wimbledon 2017	First Round	D. Albertova	R. Ozaki	1	R. Ozaki	D. Albertova	D. Albertova
247	Wimbledon 2017	First Round	A. Radionova	A. Pavlyuchenkova	2	A. Radionova	A. Pavlyuchenkova	A. Radionova
248	Wimbledon 2017	First Round	K. Bertens	S. Cirstea	1	K. Bertens	S. Cirstea	S. Cirstea
249	Wimbledon 2017	First Round	S. Sorribes Tormo	N. Osaka	2	S. Sorribes Tormo	S. Sorribes Tormo	N. Osaka
250	Wimbledon 2017	First Round	E. Mertens	V. Williams	1	E. Mertens	V. Williams	V. Williams
251	Wimbledon 2017	First Round	A. Barty	E. Svitolina	2	A. Barty	E. Svitolina	E. Svitolina

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252	Wimbledon 2017	First Round	D. Vekic	N. Vikhlyantseva	1	N. Vikhlyantseva	D. Vekic	N. Vikhlyantseva
253	Wimbledon 2017	First Round	K. Pliskova	R. Vinci	1	K. Pliskova	R. Vinci	K. Pliskova
254	Wimbledon 2017	First Round	M. Zanevska	H. Watson	2	H. Watson	M. Zanevska	H. Watson
255	Wimbledon 2017	First Round	Y. Putintseva	A. Sevastova	2	A. Sevastova	Y. Putintseva	A. Sevastova
256	Wimbledon 2017	First Round	M. Vondrousova	S. Peng	1	M. Vondrousova	S. Peng	M. Vondrousova
257	Wimbledon 2017	Second Round	S. Rogers	L. Safarova	1	S. Rogers	L. Safarova	L. Safarova
258	Wimbledon 2017	Second Round	S. Cirstea	B. Mattek-Sands	2	S. Cirstea	B. Mattek-Sands	S. Cirstea
259	Wimbledon 2017	Second Round	A. Radwanska	C. McHale	2	C. McHale	A. Radwanska	A. Radwanska
260	Wimbledon 2017	Second Round	V. Lepchenko	P. Hercog	1	P. Hercog	V. Lepchenko	V. Lepchenko
261	Wimbledon 2017	Second Round	Z. Diyas	A. Radionova	2	Z. Diyas	Z. Diyas	Z. Diyas
262	Wimbledon 2017	Second Round	I. Begu	A. Konjuh	1	I. Begu	A. Konjuh	A. Konjuh
263	Wimbledon 2017	Second Round	J. Ostapenko	F. Abanda	2	J. Ostapenko	F. Abanda	J. Ostapenko
264	Wimbledon 2017	Second Round	C. Giorgi	M. Keys	2	C. Giorgi	M. Keys	M. Keys
265	Wimbledon 2017	Second Round	C. Witthoeft	A. Sabalenka	1	A. Sabalenka	C. Witthoeft	C. Witthoeft
266	Wimbledon 2017	Second Round	K. Konta	D. Vekic	1	K. Konta	D. Vekic	K. Konta
267	Wimbledon 2017	Second Round	M. Sakkari	K. Pliskova	1	K. Pliskova	M. Sakkari	K. Pliskova
268	Wimbledon 2017	Third Round	A. Kerber	S. Rogers	2	S. Rogers	A. Kerber	A. Kerber
269	Wimbledon 2017	Third Round	P. Martic	Z. Diyas	1	P. Martic	Z. Diyas	P. Martic
270	Wimbledon 2017	Third Round	A. Kontaveit	C. Wozniacki	2	C. Wozniacki	C. Wozniacki	C. Wozniacki
271	Wimbledon 2017	Third Round	D. Cibulkova	A. Konjuh	1	A. Konjuh	D. Cibulkova	A. Konjuh
272	Wimbledon 2017	Third Round	N. Osaka	V. Williams	1	N. Osaka	V. Williams	V. Williams
273	Wimbledon 2017	Third Round	S. Peng	S. Halep	2	S. Halep	S. Peng	S. Halep
274	Wimbledon 2017	Fourth Round	J. Ostapenko	E. Svitolina	2	J. Ostapenko	J. Ostapenko	J. Ostapenko
275	Wimbledon 2017	Fourth Round	J. Konta	C. Garcia	1	J. Konta	C. Garcia	J. Konta
276	Wimbledon 2017	Fourth Round	V. Azarenka	S. Halep	1	S. Halep	V. Azarenka	S. Halep
277	Wimbledon 2017	Quarter Finals	J. Konta	S. Halep	1	J. Konta	S. Halep	S. Halep
278	Wimbledon 2017	Quarter Finals	J. Konta	S. Halep	2	S. Halep	J. Konta	J. Konta
279	US Open 2017	First Round	D. King	A. Zverev	1	D. King	A. Zverev	A. Zverev

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280	US Open 2017	First Round	J. Sock	J. Thompson	2	J. Sock	J. Thompson	J. Thompson
281	US Open 2017	First Round	N. Almagro	S. Johnson	2	S. Johnson	N. Almagro	S. Johnson
282	US Open 2017	First Round	N. Almagro	S. Johnson	3	N. Almagro	S. Johnson	S. Johnson
283	US Open 2017	First Round	T. Kokkinakis	J. Tipsarevic	1	T. Kokkinakis	J. Tipsarevic	T. Kokkinakis
284	US Open 2017	First Round	T. Kokkinakis	J. Tipsarevic	4	J. Tipsarevic	T. Kokkinakis	J. Tipsarevic
285	US Open 2017	First Round	H. Zeballos	H. Chung	2	H. Zeballos	H. Chung	H. Chung
286	US Open 2017	First Round	R. Nadal	D. Lajovic	1	D. Lajovic	R. Nadal	R. Nadal
287	US Open 2017	First Round	R. Harrison	T. Berdych	3	T. Berdych	R. Harrison	T. Berdych
288	US Open 2017	First Round	J. Chardy	G. Monfils	1	J. Chardy	G. Monfils	G. Monfils
289	US Open 2017	First Round	A. Kuznetsov	F. Lopez	2	F. Lopez	A. Kuznetsov	F. Lopez
290	US Open 2017	First Round	A. Kuznetsov	F. Lopez	3	A. Kuznetsov	F. Lopez	A. Kuznetsov
291	US Open 2017	First Round	H. Laaksonen	J. del Potro	2	J. del Potro	H. Laaksonen	J. del Potro
292	US Open 2017	First Round	H. Laaksonen	J. del Potro	3	H. Laaksonen	J. del Potro	J. del Potro
293	US Open 2017	Second Round	Y. Sugita	L. Mayer	1	Y. Sugita	L. Mayer	Y. Sugita
294	US Open 2017	Second Round	S. Travaglia	V. Troicki	1	S. Travaglia	V. Troicki	V. Troicki
295	US Open 2017	Second Round	A. Dolgoplov	T. Berdych	3	A. Dolgoplov	T. Berdych	A. Dolgoplov
296	US Open 2017	Second Round	D. Goffin	G. Pella	2	G. Pella	D. Goffin	D. Goffin
297	US Open 2017	Second Round	D. Goffin	G. Pella	3	D. Goffin	G. Pella	G. Pella
298	US Open 2017	Second Round	D. Goffin	G. Pella	4	G. Pella	D. Goffin	D. Goffin
299	US Open 2017	Second Round	D. Young	G. Monfils	2	D. Young	G. Monfils	D. Young
300	US Open 2017	Second Round	A. Rublev	G. Dimitrov	2	A. Rublev	G. Dimitrov	A. Rublev
301	US Open 2017	Second Round	R. Federer	M. Youzhny	2	R. Federer	M. Youzhny	M. Youzhny
302	US Open 2017	Second Round	M. Jaziri	J. Millman	2	M. Jaziri	M. Jaziri	J. Millman
303	US Open 2017	Second Round	A. Mercedes-Maceiras	J. del Potro	3	A. Mercedes-Maceiras	J. del Potro	J. del Potro
304	US Open 2017	Second Round	A. Mannarino	B. Fratangelo	2	A. Mannarino	B. Fratangelo	B. Fratangelo
305	US Open 2017	Second Round	B. Coric	A. Zverev	3	A. Zverev	B. Coric	B. Coric
306	US Open 2017	Second Round	B. Coric	A. Zverev	4	B. Coric	A. Zverev	B. Coric
307	US Open 2017	Second Round	J-W. Tsonga	D. Shapovalov	3	D. Shapovalov	J-W. Tsonga	D. Shapovalov

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308	US Open 2017	Second Round	S. Johnson	K. Edmund	3	K. Edmund	S. Johnson	K. Edmund
309	US Open 2017	Third Round	R. Nadal	L. Mayer	1	L. Mayer	R. Nadal	L. Mayer
310	US Open 2017	Third Round	M. Zverev	J. Isner	3	J. Isner	M. Zverev	M. Zverev
311	US Open 2017	Fourth Round	D. Goffin	A. Rublev	2	D. Goffin	A. Rublev	A. Rublev
312	US Open 2017	Fourth Round	J. Del Potro	D. Thiem	4	J. Del Potro	D. Thiem	J. Del Potro
313	US Open 2017	Fourth Round	P. Lorenzi	K. Anderson	3	K. Anderson	P. Lorenzi	P. Lorenzi
314	US Open 2017	Fourth Round	D. Shapovalov	P. Carreno Busta	1	P. Carreno Busta	D. Shapovalov	P. Carreno Busta
315	US Open 2017	Fourth Round	D. Shapovalov	P. Carreno Busta	2	D. Shapovalov	P. Carreno Busta	P. Carreno Busta
316	US Open 2017	Fourth Round	D. Shapovalov	P. Carreno Busta	3	P. Carreno Busta	D. Shapovalov	P. Carreno Busta
317	US Open 2017	Fourth Round	L. Pouille	D. Schwartzman	1	D. Schwartzman	L. Pouille	D. Schwartzman
318	US Open 2017	Quarter Finals	R. Federer	J. del Potro	3	R. Federer	J. del Potro	R. Federer
319	US Open 2017	Quarter Finals	S. Querrey	K. Anderson	1	S. Querrey	K. Anderson	K. Anderson
320	US Open 2017	Quarter Finals	S. Querrey	K. Anderson	2	K. Anderson	S. Querrey	S. Querrey
321	US Open 2017	Quarter Finals	S. Querrey	K. Anderson	4	K. Anderson	S. Querrey	K. Anderson
322	US Open 2017	First Round	A. Radwanska	P. Martic	2	P. Martic	A. Radwanska	A. Radwanska
323	US Open 2017	First Round	M. Vondrusova	S. Kuznetsova	3	S. Kuznetsova	M. Vondrusova	S. Kuznetsova
324	US Open 2017	First Round	E. Svitolina	K. Siniakova	2	E. Svitolina	K. Siniakova	K. Siniakova
325	US Open 2017	First Round	E. Rodina	E. Bouchard	1	E. Rodina	E. Bouchard	E. Rodina
326	US Open 2017	First Round	E. Mertens	M. Keys	2	E. Mertens	E. Mertens	M. Keys
327	US Open 2017	First Round	P. Parmentier	O. Dodin	3	O. Dodin	P. Parmentier	O. Dodin
328	US Open 2017	First Round	C. Liu	Y. Duan	1	Y. Duan	C. Liu	Y. Duan
329	US Open 2017	First Round	C. Liu	Y. Duan	2	Y. Duan	Y. Duan	Y. Duan
330	US Open 2017	First Round	J. Cepelova	D. Cibulkova	1	D. Cibulkova	J. Cepelova	J. Cepelova
331	US Open 2017	Second Round	O. Jabeur	C. Vandeweghe	1	O. Jabeur	C. Vandeweghe	C. Vandeweghe
332	US Open 2017	Second Round	S. Rogers	D. Gavrilova	1	D. Gavrilova	D. Gavrilova	S. Rogers
333	US Open 2017	Second Round	S. Rogers	D. Gavrilova	3	D. Gavrilova	S. Rogers	S. Rogers
334	US Open 2017	Second Round	C. Wozniacki	E. Makarova	2	E. Makarova	C. Wozniacki	C. Wozniacki
335	US Open 2017	Second Round	C. Suarez Navarro	M. Lucic-Baroni	2	M. Lucic-Baroni	C. Suarez Navarro	C. Suarez Navarro

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336	US Open 2017	Second Round	A. Barty	A. Sasnovich	2	A. Barty	A. Sasnovich	A. Barty
337	US Open 2017	Second Round	S. Kenin	S. Vickery	3	S. Kenin	S. Kenin	S. Kenin
338	US Open 2017	Second Round	T. Babos	M. Sharapova	1	M. Sharapova	M. Sharapova	T. Babos
339	US Open 2017	Third Round	J. Brady	M. Niculescu	3	M. Niculescu	M. Niculescu	J. Brady
340	US Open 2017	Fourth Round	C. Vandeweghe	L. Safarova	2	L. Safarova	C. Vandeweghe	C. Vandeweghe
341	US Open 2017	Fourth Round	E. Svitolina	M. Keys	1	E. Svitolina	M. Keys	M. Keys
342	US Open 2017	Fourth Round	P. Kvitova	G. Muguruza	1	G. Muguruza	G. Muguruza	P. Kvitova
343	US Open 2017	Quarter Finals	K. Pliskova	C. Vandeweghe	1	C. Vandeweghe	K. Pliskova	C. Vandeweghe
344	US Open 2017	Quarter Finals	V. Williams	P. Kvitova	3	P. Kvitova	V. Williams	V. Williams
345	US Open 2017	Quarter Finals	S. Stephens	A. Sevastova	3	A. Sevastova	S. Stephens	S. Stephens

Table 2. Selected situations of soccer penalty kicks.

	Event	Date	Sides		Score	1st penalty kick	Winner
1	World Cup	08/07/82	Germany	France	3-3 (5-4)	Germany	Germany
2	World Cup	21/06/86	Brazil	France	1-1 (3-4)	Brazil	France
3	World Cup	21/06/86	Germany	Mexico	0-0 (4-1)	Germany	Germany
4	World Cup	22/06/86	Spain	Belgium	1-1 (4-5)	Spain	Belgium
5	World Cup	25/06/90	Ireland	Romania	0-0 (5-4)	Ireland	Ireland
6	World Cup	30/06/90	Yugoslavia	Argentina	0-0 (2-3)	Yugoslavia	Argentina
7	World Cup	03/07/90	Italy	Argentina	1-1 (3-4)	Italy	Argentina
8	World Cup	04/07/90	Germany	England	1-1 (4-3)	Germany	Germany
9	World Cup	05/07/94	Mexico	Bulgaria	1-1 (1-3)	Mexico	Bulgaria
10	World Cup	10/07/94	Romania	Sweden	2-2 (4-5)	Romania	Sweden
11	World Cup	17/07/94	Brazil	Italy	0-0 (3-2)	Italy	Brazil
12	World Cup	30/06/98	Argentina	England	2-2 (4-3)	Argentina	Argentina
13	World Cup	03/07/98	Italy	France	0-0 (3-4)	Italy	France
14	World Cup	07/07/98	Brazil	Netherlands	1-1 (4-2)	Brazil	Brazil
15	World Cup	16/06/02	Spain	Ireland	1-1 (3-2)	Ireland	Spain
16	World Cup	22/06/02	Spain	Korea	0-0 (3-5)	Korea	Korea
17	World Cup	26/06/06	Switzerland	Ukraine	0-0 (0-3)	Ukraine	Ukraine
18	World Cup	30/06/06	Germany	Argentina	1-1 (4-2)	Germany	Germany
19	World Cup	01/07/06	England	Portugal	0-0 (1-3)	Portugal	Portugal
20	World Cup	09/07/06	Italy	France	1-1 (5-3)	Italy	Italy
21	World Cup	29/06/10	Paraguay	Japan	0-0 (5-3)	Paraguay	Paraguay

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22	World Cup	02/07/10	Uruguay	Ghana	1-1 (4-2)	Uruguay	Uruguay
23	World Cup	28/06/14	Brazil	Chile	1-1 (3-2)	Brazil	Brazil
24	World Cup	29/06/14	Costa Rica	Greece	1-1 (5-3)	Costa Rica	Costa Rica
25	World Cup	05/07/14	Netherlands	Costa Rica	0-0 (4-3)	Costa Rica	Netherlands
26	World Cup	09/07/14	Netherlands	Argentina	0-0 (2-4)	Netherlands	Argentina
27	Uefa Euro	20/06/76	Czechoslovakia	Germany	2-2 (5-3)	Czechoslovakia	Czechoslovakia
28	Uefa Euro	21/06/80	Czechoslovakia	Italy	1-1 (9-8)	Italy	Czechoslovakia
29	Uefa Euro	24/06/84	Denmark	Spain	1-1 (5-4)	Denmark	Spain
30	Uefa Euro	22/06/92	Netherlands	Denmark	2-2 (5-4)	Netherlands	Denmark
31	Uefa Euro	22/06/96	Spain	England	0-0 (4-2)	England	England
32	Uefa Euro	26/06/96	Germany	England	1-1 (6-5)	England	Germany
33	Uefa Euro	26/06/96	France	Czech Republic	0-0 (6-5)	France	Czech Republic
34	Uefa Euro	29/06/00	Italy	Netherlands	0-0 (3-1)	Italy	Italy
35	Uefa Euro	24/06/04	Portugal	England	2-2 (6-5)	England	Portugal
36	Uefa Euro	26/06/04	Sweden	Netherlands	0-0 (5-4)	Sweden	Netherlands
37	Uefa Euro	20/06/08	Croatia	Turkey	1-1 (3-1)	Turkey	Turkey
38	Uefa Euro	22/06/08	Spain	Italy	0-0 (4-2)	Spain	Spain
39	Uefa Euro	24/06/12	England	Italy	0-0 (4-2)	Italy	Italy
40	Uefa Euro	27/06/12	Portugal	Spain	0-0 (4-2)	Spain	Spain
41	Champions League	04/11/70	Everton	Monchengladbach	1-1 (4-3)	Everton	Everton
42	Champions League	19/04/72	Celtic	Internazionale	0-0 (5-4)	Internazionale	Internazionale
43	Champions League	28/09/77	Torpedo Moska	Benfica	0-0 (4-1)	Benfica	Benfica
44	Champions League	15/03/78	Juventus	Ajax	1-1 (3-0)	Juventus	Juventus
45	Champions League	30/05/84	Roma	Liverpool	1-1 (4-2)	Liverpool	Liverpool
46	Champions League	03/10/84	Berlin	Aberdeen	2-1 (5-4)	Aberdeen	Berlin
47	Champions League	20/03/85	Dnipro	Bordeaux	1-1 (5-3)	Bordeaux	Bordeaux
48	Champions League	16/04/86	Barcelona	Goteborg	3-0 (5-4)	Goteborg	Barcelona
49	Champions League	07/05/86	Steaua	Barcelona	0-0 (2-0)	Steaua	Steaua
50	Champions League	05/11/86	Juventus	Real Madrid	1-0 (3-1)	Real Madrid	Real Madrid
51	Champions League	25/05/88	PSV	Benfica	0-0 (6-5)	PSV	PSV
52	Champions League	05/10/88	Xamax	Larissa	2-1 (3-0)	Xamax	Xamax
53	Champions League	10/11/88	Crvena Zvezda	Milan	1-1 (4-2)	Crvena Zvezda	Milan
54	Champions League	07/11/90	Spartak Moska	Napoli	0-0 (5-3)	Spartak Moskva	Spartak Moskva
55	Champions League	07/11/90	Malmo	Dresden	1-1 (5-4)	Malmo	Dresden
56	Champions League	29/05/91	Crvena Zvezda	Marseille	0-0 (5-3)	Crvena Zvezda	Crvena Zvezda
57	Champions League	01/09/93	Olimpija Ljubljana	Skonto	0-1 (11-10)	Olimpija Ljubljana	Skonto
58	Champions League	22/05/96	Ajax	Juventus	1-1 (4-2)	Ajax	Juventus

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59	Champions League	26/08/98	Sparta Praha	Dynamo Kyiv	0-1 (3-1)	Dynamo Kyiv	Dynamo Kyiv
60	Champions League	04/08/99	Widzew	Litex	4-1 (3-2)	Litex	Widzew
61	Champions League	23/05/01	Bayern	Valencia	1-1 (5-4)	Bayern	Bayern
62	Champions League	01/08/01	Hajduk Split	Ferencvaros	0-0 (5-4)	Ferencvaros	Hajduk Split
63	Champions League	28/08/02	Club Brugge	Shakhtar Donestsk	1-1 (4-1)	Club Brugge	Club Brugge
64	Champions League	28/05/03	Juventus	Milan	0-0 (3-2)	Juventus	Milan
65	Champions League	23/07/03	Tirana	Dinamo Tblisi	3-0 (4-2)	Tirana	Tirana
66	Champions League	27/08/03	Dortmund	Club Brugge	2-1 (4-2)	Dortmund	Club Brugge
67	Champions League	27/08/03	Newcastle	Partizan	0-1 (4-3)	Newcastle	Partizan
68	Champions League	13/04/05	PSV	Lyon	1-1 (4-2)	PSV	PSV
69	Champions League	25/05/05	Milan	Liverpool	3-3 (3-2)	Milan	Liverpool
70	Champions League	23/08/05	Partizan	Petrzalka	0-0 (4-3)	Petrzalka	Petrzalka
71	Champions League	24/08/05	Club Brugge	Valerenga	1-0 (4-3)	Valerenga	Club Brugge
72	Champions League	01/05/07	Liverpool	Chelsea	1-0 (4-1)	Liverpool	Liverpool
73	Champions League	08/08/07	Slavia Praha	Zilina	0-0 (4-3)	Slavia Praha	Slavia Praha
74	Champions League	29/08/07	Celtic	Spartak Moskva	1-1 (4-3)	Celtic	Celtic
75	Champions League	04/03/08	Sevilla	Fenerbahçe	3-1 (3-2)	Sevilla	Fenerbahçe
76	Champions League	05/03/08	Porto	Schalke	1-0 (4-1)	Schalke	Schalke
77	Champions League	21/05/08	Manchester United	Chelsea	1-1 (6-5)	Manchester United	Manchester United
78	Champions League	11/03/09	Roma	Arsenal	1-0 (7-6)	Arsenal	Arsenal
79	Champions League	07/07/09	Sant Julia	Tre Fiori	1-1 (5-4)	Sant Julia	Sant Julia
80	Champions League	21/07/10	Lech	Inter Baki	0-1 (9-8)	Lech	Lech
81	Champions League	04/08/10	Dinamo Zagreb	Sheriff	1-1 (6-5)	Dinamo Zagreb	Sheriff
82	Champions League	24/08/10	Anderlecht	Partizan	2-2 (3-2)	Partizan	Partizan
83	Champions League	23/08/11	Genk	Haifa	2-1 (4-1)	Genk	Genk
84	Champions League	07/03/12	Apoel	Lyon	1-0 (4-3)	Lyon	Apoel
85	Champions League	25/04/12	Real Madrid	Bayern	2-1 (3-1)	Bayern	Bayern
86	Champions League	19/05/12	Bayern	Chelsea	1-1 (4-3)	Bayern	Chelsea
87	Champions League	10/07/12	B36	Linfield	0-0 (4-3)	B36	Linfield
88	Champions League	28/08/12	Udinese	Braga	1-1 (5-4)	Udinese	Braga
89	Champions League	27/08/14	Ludogorets	Steaua	1-0 (6-5)	Ludogorets	Ludogorets
90	Champions League	17/03/15	Atletico	Leverkusen	1-0 (3-2)	Atletico	Atletico
91	Champions League	15/03/16	Atletico	PSV	0-0 (8-7)	PSV	Atletico
92	Champions League	28/05/16	Real Madrid	Atletico	1-1 (5-3)	Real Madrid	Real Madrid
93	Champions League	20/07/16	Ferencvaros	Partizani	1-1 (3-1)	Partizani	Partizani
94	Champions League	03/08/16	Young Boys	Shakhtar Donestsk	2-0 (4-2)	Young Boys	Young Boys
95	Copa America	26/06/93	Colombia	Uruguay	1-1 (5-3)	Colombia	Colombia

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96	Copa America	27/06/93	Argentina	Brazil	1-1 (6-5)	Brazil	Argentina
97	Copa America	01/07/93	Argentina	Colombia	0-0 (6-5)	Colombia	Argentina
98	Copa America	16/07/95	Colombia	Paraguay	1-1 (5-4)	Colombia	Colombia
99	Copa America	17/07/95	USA	Mexico	0-0 (4-1)	USA	USA
100	Copa America	17/07/95	Brazil	Argentina	2-2 (4-2)	Brazil	Brazil
101	Copa America	23/07/95	Uruguay	Brazil	1-1 (5-3)	Uruguay	Uruguay
102	Copa America	22/06/97	Mexico	Equador	1-1 (4-3)	Equador	Mexico
103	Copa America	10/07/99	Mexico	Peru	3-3 (4-2)	Mexico	Mexico
104	Copa America	10/07/99	Paraguay	Uruguay	1-1 (3-5)	Uruguay	Uruguay
105	Copa America	13/07/99	Uruguay	Chile	1-1 (5-3)	Uruguay	Uruguay
106	Copa America	28/07/01	Honduras	Uruguay	2-2 (5-3)	Honduras	Honduras
107	Copa America	21/07/04	Brazil	Uruguay	1-1 (5-3)	Brazil	Brazil
108	Copa America	25/07/04	Brazil	Argentina	2-2 (4-2)	Argentina	Brazil
109	Copa America	10/07/07	Brazil	Uruguay	2-2 (5-4)	Brazil	Brazil
110	Copa America	20/07/11	Paraguay	Venezuela	0-0 (5-3)	Paraguay	Paraguay
111	Copa America	16/07/11	Argentina	Uruguay	1-1 (4-5)	Argentina	Uruguay
112	Copa America	17/07/11	Brazil	Paraguay	0-0 (0-2)	Brazil	Paraguay
113	Copa America	27/06/15	Brazil	Paraguay	1-1 (3-4)	Brazil	Paraguay
114	Copa America	26/06/15	Argentina	Colombia	0-0 (5-4)	Colombia	Argentina
115	Copa America	04/07/15	Chile	Argentina	0-0 (4-1)	Chile	Chile
116	Libertadores	15/08/90	Colo Colo	Vasco	3-3 (4-5)	Vasco	Vasco
117	Libertadores	26/09/90	Olimpia	Atletico Nacional	2-3 (2-1)	Olimpia	Olimpia
118	Libertadores	12/09/90	Barcelona	River Plate	1-0 (4-3)	River Plate	Barcelona
119	Libertadores	17/06/92	Sao Paulo	Newells Old Boys	1-0 (3-2)	Newells Old Boys	Sao Paulo
120	Libertadores	27/04/94	Velez Sarsfield	Defensor	0-0 (4-3)	Defensor	Velez Sarsfield
121	Libertadores	17/08/94	Olimpia	Sao Paulo	1-0 (3-4)	Sao Paulo	Sao Paulo
122	Libertadores	17/08/94	Velez Sarsfield	Junior Barranquilla	2-1 (5-4)	Velez Sarsfield	Velez Sarsfield
123	Libertadores	31/08/94	Sao Paulo	Velez Sarsfield	1-0 (3-5)	Velez Sarsfield	Velez Sarsfield
124	Libertadores	16/08/95	River Plate	Atletico Nacional	1-0 (7-8)	River Plate	Atletico Nacional
125	Libertadores	14/04/97	Cruzeiro	El Nacional	2-1 (5-3)	Cruzeiro	Cruzeiro
126	Libertadores	28/05/97	Racing	Penarol	1-0 (3-2)	Racing	Racing
127	Libertadores	30/04/98	Olimpia	Colon	1-0 (1-2)	Olimpia	Colon
128	Libertadores	22/07/98	Cerro Porteno	Barcelona	2-1 (3-4)	Cerro Porteno	Barcelona
129	Libertadores	21/04/99	LDU	River Plate	1-0 (4-5)	LDU	River Plate
130	Libertadores	12/05/99	Corinthians	Palmeiras	2-0 (2-4)	Corinthians	Palmeiras
131	Libertadores	16/06/99	Palmeiras	Deportivo Cali	2-1 (4-3)	Palmeiras	Palmeiras
132	Libertadores	10/05/00	Bolivar	Nacional	3-0 (5-3)	Bolivar	Bolivar

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133	Libertadores	11/05/00	Palmeiras	Penarol	3-1 (3-1)	Palmeiras	Palmeiras
134	Libertadores	09/05/00	Corinthians	Rosario Central	3-2 (4-3)	Corinthians	Corinthians
135	Libertadores	06/06/00	Palmeiras	Corinthians	3-2 (5-4)	Palmeiras	Palmeiras
136	Libertadores	21/06/00	Palmeiras	Boca Juniors	0-0 (2-4)	Palmeiras	Boca Juniors
137	Libertadores	28/06/01	Boca Juniors	Cruz Azul	0-1 (3-1)	Boca Juniors	Boca Juniors
138	Libertadores	01/05/02	Sao Caetano	Universidad Catolica	1-1 (4-2)	Sao Caetano	Sao Caetano
139	Libertadores	17/07/02	Gremio	Olimpia	1-0 (4-5)	Gremio	Olimpia
140	Libertadores	31/07/02	Sao Caetano	Olimpia	1-2 (2-4)	Sao Caetano	Olimpia
141	Libertadores	06/05/03	Medellin	Cerro Porteno	0-1 (4-2)	Medellin	Medellin
142	Libertadores	13/05/03	Racing	America de Cali	0-0 (5-6)	Racing	America de Cali
143	Libertadores	07/05/03	Santos	Nacional	2-2 (3-1)	Nacional	Santos
144	Libertadores	13/05/03	Deportivo Cali	Cruz Azul	0-0 (2-3)	Deportivo Cali	Cruz Azul
145	Libertadores	28/04/04	Sao Caetano	Independiente	2-2 (4-2)	Independiente	Sao Caetano
146	Libertadores	13/05/04	Once Caldas	Barcelona	1-1 (4-2)	Barcelona	Once Caldas
147	Libertadores	12/05/04	Sao Paulo	Rosario Central	2-1 (5-4)	Sao Paulo	Sao Paulo
148	Libertadores	13/05/04	Cruzeiro	Deportivo Cali	2-1 (0-3)	Deportivo Cali	Deportivo Cali
149	Libertadores	11/05/04	River Plate	Santos Laguna	1-2 (4-2)	River Plate	River Plate
150	Libertadores	25/05/04	Boca Juniors	Sao Caetano	1-1 (4-3)	Boca Juniors	Boca Juniors
151	Libertadores	17/06/04	River Plate	Boca Juniors	2-1 (4-5)	River Plate	Boca Juniors
152	Libertadores	01/07/04	Once Caldas	Boca Juniors	1-1 (2-0)	Once Caldas	Once Caldas
153	Libertadores	04/05/06	Libertad	Tigres	0-0 (5-3)	Libertad	Libertad
154	Libertadores	19/07/06	Sao Paulo	Estudiantes	1-0 (4-3)	Sao Paulo	Sao Paulo
155	Libertadores	23/05/07	Gremio	Defensor	2-0 (4-2)	Defensor	Gremio
156	Libertadores	22/05/08	LDU	San Lorenzo	1-1 (5-3)	LDU	LDU
157	Libertadores	02/07/08	Fluminense	LDU	3-1 (1-3)	LDU	LDU
158	Libertadores	12/05/09	Sport	Palmeiras	1-0 (1-3)	Palmeiras	Palmeiras
159	Libertadores	09/02/10	Universidad Catolica	Colon	3-2 (5-3)	Universidad Catolica	Universidad Catolica
160	Libertadores	04/05/10	Sao Paulo	Universitario	0-0 (3-1)	Universitario	Sao Paulo
161	Libertadores	05/05/11	Cerro Porteno	Estudiantes	0-0 (5-3)	Cerro Porteno	Cerro Porteno
162	Libertadores	09/05/12	Lanus	Vasco	2-1 (4-5)	Lanus	Vasco
163	Libertadores	24/05/12	Santos	Velez Sarsfield	1-0 (4-2)	Velez Sarsfield	Santos
164	Libertadores	24/05/12	U de Chile	Libertad	1-1 (5-3)	U de Chile	U de Chile
165	Libertadores	30/01/13	Gremio	LDU	1-0 (5-4)	Gremio	Gremio
166	Libertadores	09/05/13	Nacional	Real Garcilaso	1-0 (1-4)	Real Garcilaso	Real Garcilaso
167	Libertadores	29/05/13	Newells Old Boys	Boca Juniors	0-0 (10-9)	Boca Juniors	Newells Old Boys
168	Libertadores	10/07/13	Atletico Mineiro	Newells Old Boys	2-0 (3-2)	Atletico Mineiro	Atletico Mineiro
169	Libertadores	24/07/13	Atletico Mineiro	Olimpia	2-0 (4-3)	Olimpia	Atletico Mineiro

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170	Libertadores	05/02/14	Atletico Paranaense	Sporting Cristal	2-1 (5-4)	Atletico Paranaense	Atletico Paranaense
171	Libertadores	29/04/14	Defensor	The Strongest	2-0 (4-2)	Defensor	Defensor
172	Libertadores	30/04/14	Gremio	San Lorenzo	1-0 (2-4)	Gremio	San Lorenzo
173	Libertadores	13/05/15	Cruzeiro	Sao Paulo	1-0 (4-3)	Sao Paulo	Cruzeiro
174	Libertadores	19/05/16	Boca Juniors	Nacional	1-1 (4-3)	Nacional	Boca Juniors
175	Libertadores	24/05/16	Pumas	Ind. Del Valle	2-1 (3-5)	Ind. Del Valle	Ind. Del Valle
176	Sul Americana	26/09/02	Alianza	Barcelona	2-1 (6-5)	Alianza	Alianza
177	Sul Americana	29/10/02	S. Wanderers	Atletico Nacional	1-0 (5-6)	Atletico Nacional	Atletico Nacional
178	Sul Americana	23/10/02	Racing	San Lorenzo	2-0 (3-4)	Racing	San Lorenzo
179	Sul Americana	12/11/02	Nacional	Atletico Nacional	2-1 (3-5)	Atletico Nacional	Atletico Nacional
180	Sul Americana	28/08/03	Libertad	Guarani	0-1 (4-2)	Guarani	Libertad
181	Sul Americana	02/09/03	Osorno	Catolica	1-2 (3-5)	Catolica	Catolica
182	Sul Americana	19/08/03	Bolivar	Strongest	1-1 (2-4)	Strongest	Strongest
183	Sul Americana	03/12/03	Sao Paulo	River Plate	2-0 (2-4)	Sao Paulo	River Plate
184	Sul Americana	22/09/04	Sao Paulo	Sao Caetano	1-1 (4-1)	Sao Paulo	Sao Paulo
185	Sul Americana	22/09/04	Flamengo	Santos	2-2 (4-5)	Flamengo	Santos
186	Sul Americana	04/09/04	Internacional	Figueirense	1-1 (4-2)	Internacional	Internacional
187	Sul Americana	29/09/04	Boca Juniors	San Lorenzo	2-1 (4-1)	Boca Juniors	Boca Juniors
188	Sul Americana	10/11/04	Cerro Porteno	Boca Juniors	0-0 (7-8)	Boca Juniors	Boca Juniors
189	Sul Americana	23/08/05	Atletico Nacional	Deportivo Cali	2-0 (7-6)	Deportivo Cali	Atletico Nacional
190	Sul Americana	23/08/05	Cerro Porteno	Guarani	1-2 (4-3)	Guarani	Cerro Porteno
191	Sul Americana	24/08/05	A Atletico	Universitario	1-1 (4-1)	A Atletico	A Atletico
192	Sul Americana	31/08/05	Santos	Fluminense	2-1 (2-4)	Fluminense	Fluminense
193	Sul Americana	18/12/05	Boca Juniors	Pumas	1-1 (4-3)	Pumas	Boca Juniors
194	Sul Americana	14/09/06	Fluminense	Botafogo	1-1 (4-2)	Botafogo	Fluminense
195	Sul Americana	13/09/06	Cruzeiro	Santos	1-0 (3-4)	Cruzeiro	Santos
196	Sul Americana	31/08/06	Colo Colo	Huachipato	1-2 (5-3)	Colo Colo	Colo Colo
197	Sul Americana	12/10/06	Boca Juniors	Nacional	2-1 (1-3)	Nacional	Nacional
198	Sul Americana	23/08/07	Bolognesi	Millonarios	0-1 (4-5)	Bolognesi	Millonarios
199	Sul Americana	04/10/07	Colo Colo	Millonarios	1-1 (6-7)	Colo Colo	Millonarios
200	Sul Americana	14/11/07	River Plate	Arsenal	0-0 (2-4)	Arsenal	Arsenal
201	Sul Americana	27/08/08	Sao Paulo	Atletico Paranaense	0-0 (3-4)	Sao Paulo	Atletico Paranaense
202	Sul Americana	20/08/08	Estudiantes	Independiente	2-1 (5-3)	Estudiantes	Estudiantes
203	Sul Americana	25/08/09	Coritiba	Vitoria	2-0 (3-5)	Vitoria	Vitoria
204	Sul Americana	16/09/09	Goias	Atletico Mineiro	1-1 (6-5)	Goias	Goias
205	Sul Americana	04/11/09	San Lorenzo	River Plate	0-1 (6-7)	River Plate	River Plate
206	Sul Americana	23/09/10	San Felipe	Guarani	1-1 (8-7)	San Felipe	San Felipe
207	Sul Americana	08/12/10	Independiente	Goias	3-1 (5-3)	Independiente	Independiente
208	Sul Americana	22/09/11	Deportivo Cali	Santa Fe	1-1 (5-6)	Santa Fe	Santa Fe
209	Sul Americana	20/10/11	Universitario	Godoy Cruz	1-1 (3-2)	Godoy Cruz	Universitario

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210	Sul Americana	17/11/11	Libertad	LDU	1-0 (4-5)	LDU	LDU
211	Sul Americana	23/08/12	Figueirense	Atletico Goianiense	1-1 (2-4)	Atletico Goianiense	Atletico Goianiense
212	Sul Americana	27/08/13	Coritiba	Vitoria	1-0 (4-3)	Vitoria	Coritiba
213	Sul Americana	28/08/13	Nautico	Sport	2-0 (1-3)	Nautico	Sport
214	Sul Americana	24/10/13	Bahia	Atletico Nacional	1-0 (3-4)	Bahia	Atletico Nacional
215	Sul Americana	26/08/14	Anzoategui	Universidad Catolica	1-1 (4-5)	Anzoategui	Universidad Catolica
216	Sul Americana	22/10/14	Penarol	Estudiantes	2-1 (1-3)	Estudiantes	Estudiantes
217	Sul Americana	23/10/14	Deportivo Capiata	Boca Juniors	0-1 (3-4)	Boca Juniors	Boca Juniors
218	Sul Americana	15/10/14	Goias	Emelec	1-0 (5-6)	Goias	Emelec
219	Sul Americana	15/10/14	C Vallejo	Bahia	2-0 (7-6)	C Vallejo	C Vallejo
220	Sul Americana	26/11/14	Sao Paulo	Atletico Nacional	1-0 (1-4)	Atletico Nacional	Atletico Nacional
221	Sul Americana	19/08/15	Tolima	Carabobo	0-0 (3-1)	Tolima	Tolima
222	Sul Americana	17/09/15	Juventud	Emelec	0-0 (2-3)	Juventud	Emelec
223	Sul Americana	01/10/15	Defensor	Lanus	0-0 (5-3)	Defensor	Defensor
224	Sul Americana	01/10/15	Chapecoense	Libertad	1-1 (5-3)	Chapecoense	Chapecoense
225	Sul Americana	09/12/15	Santa Fe	Huracan	0-0 (3-1)	Huracan	Santa Fe
226	Sul Americana	18/08/16	Zamora	Barcelona	1-1 (3-0)	Zamora	Zamora
227	Sul Americana	16/08/16	Ohiggins	Wanderers	0-0 (4-5)	Wanderers	Wanderers
228	Sul Americana	18/08/16	Wilstermann	Sol de America	1-1 (4-5)	Wilstermann	Sol de America
229	Sul Americana	17/08/16	Plaza	Blooming	1-0 (1-4)	Blooming	Blooming
230	Sul Americana	28/09/16	Junior Barranquilla	Wanderers	0-0 (4-3)	Junior Barranquilla	Junior Barranquilla
231	Sul Americana	28/09/16	Belgrano	Coritiba	1-2 (3-4)	Coritiba	Coritiba
232	Sul Americana	28/09/16	Chapecoense	Independiente	0-0 (5-4)	Chapecoense	Chapecoense

Table 3. Observed quantity of goals scored by a team starting the penalty shootout, r , and the scores of the other team s .

		r											
		0	1	2	3	4	5	6	7	8	9	10	11
s	0	-	0	2	5	0	0	0	0	0	0	0	0
	1	0	-	1	14	14	0	0	0	0	0	0	0
	2	1	1	-	5	22	0	0	0	0	0	0	0
	3	0	5	11	-	14	33	0	0	0	0	0	0
	4	0	0	16	24	-	16	0	0	0	0	0	0
	5	0	0	0	0	20	-	7	0	0	0	0	0
	6	0	0	0	0	0	8	-	3	0	0	0	0
	7	0	0	0	0	0	0	2	-	2	0	0	0
	8	0	0	0	0	0	0	0	2	-	1	0	0
	9	0	0	0	0	0	0	0	0	1	-	0	0
	10	0	0	0	0	0	0	0	0	0	1	-	0
	11	0	0	0	0	0	0	0	0	0	0	1	-

consider the null hypothesis, $H'_0 : \text{Prob}(R - S \leq d) = \text{Prob}(R - S \geq d)$, for every difference d . Considering Hollander's test of bivariate symmetry [14] for H_0 , the RFPW test of symmetry [15] for H'_0 , and Wilcoxon's signed rank test for H'_0 , we found a statistically significant piece of evidence against such null hypotheses with p -values 0.0001, 0.0013, and 0.00000003, respectively. Thus, it pays to start a penalty shootout.

In sum, it does not matter who begins in tennis tiebreak, but it does matter in soccer penalty shootout.

3. Conclusions

In a sample of 345 tennis tiebreak situations and 232 soccer penalty kick situations, we found the current ABAB system of soccer to be biased in that the team going first has a 59.48 percent advantage to end up as the winner. This figure is close to the 60 percent reported by FIFA. The tennis ABBA system does not exhibit the bias in our sample, as in the previous literature. This means FIFA is not wrong in suggesting the penalty shootout should adopt the tennis tiebreak format.

"Football (soccer) is a simple game," former English player Gary Lineker once said. "Twenty-two men chase a ball for 90 minutes and, at the end, the Germans always win," he added. As for penalty shootouts, the Germans are famed for their penalty-spot prowess after winning five shootouts at major finals (have another look at **Table 2** and at Ref. [16]). By adopting the tennis tiebreak system, FIFA would then give no grounds for a cold war in football.

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