

Premise

Historically, college football has had a hard time determining a "national champion"

- · Began in 1869 when Princeton and Rutgers "split" a title (NCAA, 114)
- · Bowl Championship Series (BCS) began in 1998 (NCAA, 119)
- The College Football Playoff (CFP) began in 2014 (NCAA, 119)
 - The format has since been updated

Methodology

Imported and cleaned data from the old CFP era

And ran some calculations

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Team A Offense Rating = (Passing Atts * -2.2) + (Passing Comp * 3.7) + \frac{Passing Yards}{4} + (Passing TD * 11.3) + (Rush Atts * -1.5) + (Rush Yards * .50) + (Rushing TD * 15.9) + (Turnovers * 14.1)
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• This equation can also be applied the teams' defensive statistics to generate a defensive rating.

Methodology

Two more equations were needed

 $Team\ A\ Net\ Rating = Team\ A\ Offense\ Rating\ - Team\ A\ Defense\ Rating$

 $Team\ A\ Chance\ to\ Win\ Game = \frac{1}{1 + 10^{Team\ B\ Rating\ - Team\ A\ Rating\ / 400}}$

The second equation is derived from Arpad Elo's Elo equation¹, which is used to rank and evaluate chess

players

2 Stankovic, S. (2023, July 25). Elo rating system. Medium. https://stanislav-stankovic.medium.com/elo-rating-system-6196cc59941e

Results

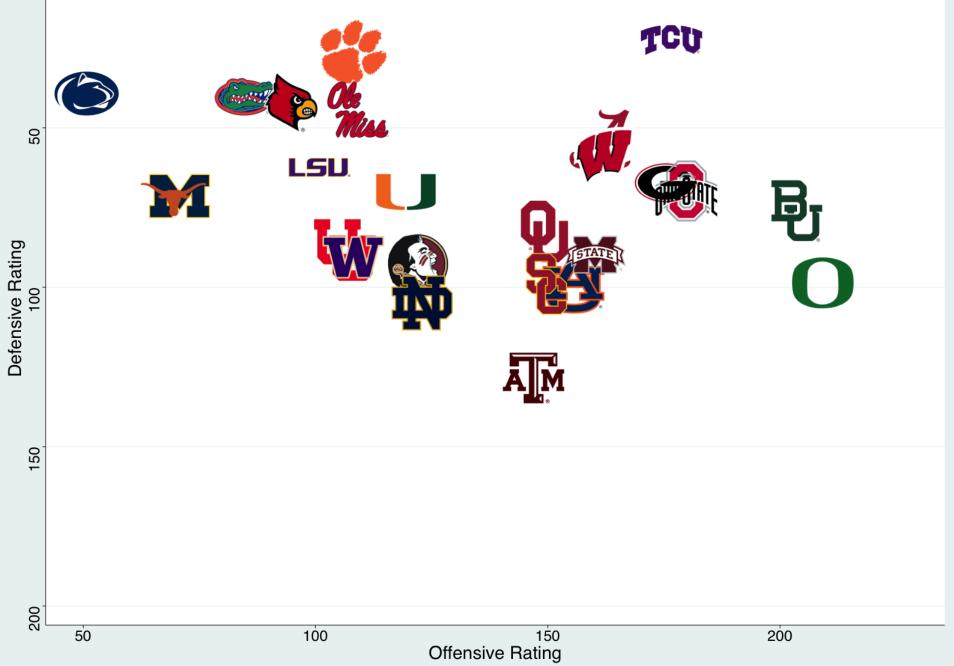
Team	Year	Wins	Champion?	O.Rating	D.Rating	N.Rating	Rank
	2018	15	Yes	207.28	26.79	180.49	1
POSTE	2019	13	No	202.88	27.65	175.23	2
	2019	14	No	205.17	33.8	171.37	3
0	2023	12	No	226.29	69.3	156.99	4
	2014	12	No	176.64	22.58	154.06	5
LSU	2019	15	Yes	223	70.61	152.39	6
A	2020	11	Yes	215.83	64.82	151.01	7
	2020	10	No	182.91	34.01	148.9	8
A	2019	11	No	197.26	51.25	146.01	9
A	2017	13	Yes	153.26	22.69	130.57	10

2 Wikimedia Foundation. (2024, October 6). College football playoff national championship. Wikipedia. https://en.wikipedia.org/wiki/College Football Playoff National Championship

Results Cont.

Team	Wins	Championships	CFP Appearances	O.Rating	D.Rating	N.Rating	Rank
DHOSTATE	11.4	1	5	178.75	59.33	119.42	1
\mathcal{A}	12.5	3	8	167.81	49.11	118.69	2
	11.9	2	6	150.45	43.11	107.33	3
	11.3	2	3	148.02	57.25	90.76	4
Ø	10.1	0	4	183.16	101.88	81.28	5
	8.9	0	0	116.8	47.94	68.59	6
	9.4	1	3	125.83	58.74	67.08	7
O	9.0	0	1	168.88	105.71	63.16	8
W	9.5	0	2	138.29	77.07	61.31	9
LSU	9.0	1	1	143.45	84.86	58.59	10

2 Wikimedia Foundation. (2024, October 6). College football playoff national championship. Wikipedia. https://en.wikipedia.org/wiki/College Football Playoff National Championship



Works Cited

- NCAA. (n.d.). Football bowl subdivision records. NCAA.org.

 http://fs.ncaa.org/Docs/stats/football_records/2022/FBS.pdf
 Stankovic, S. (2023, July 25). Elo rating system. Medium. https://stanislav-stankovic.medium.com/elo-rating-system-6196cc59941e
 Wikimedia Foundation. (2024, October 6). College football playoff national
- Wikimedia Foundation. (2024, October 6). College football playoff national championship. Wikipedia.
 - https://en.wikipedia.org/wiki/College_Football_Playoff_National_Championship