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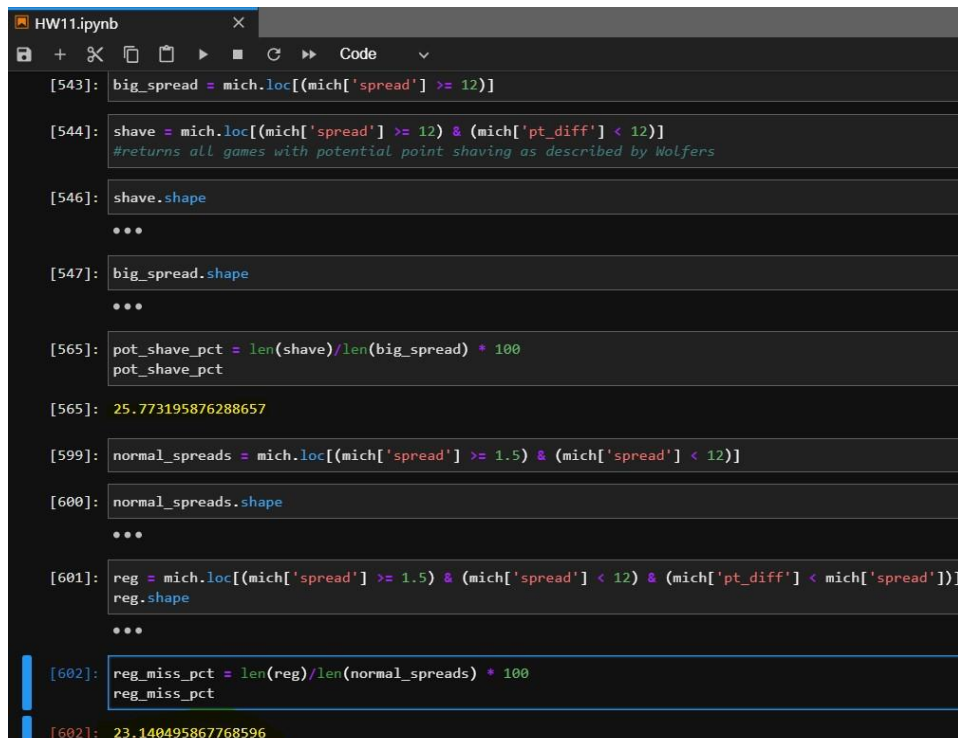
Dr. Thomas Finholt

SI 311-30

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### HW11: Identifying Cases of Potential Point Shaving in Michigan Basketball

The gaming industry has taken the sports world by storm, and as more and more states legalize online sports betting- the temptation of teams to let off the gas at a large cash consideration from a potential suitor looking to hedge a bet may grow. Using research done by Dr. Justin Wolfers as a baseline, we can extrapolate his findings that teams favored by more than 12 points fail to cover at a more frequent rate than teams favored between 1.5 and 12 points, albeit by only 2%.



```
HW11.ipynb
[543]: big_spread = mich.loc[(mich['spread'] >= 12)]

[544]: shave = mich.loc[(mich['spread'] >= 12) & (mich['pt_diff'] < 12)]
#returns all games with potential point shaving as described by Wolfers

[546]: shave.shape
...

[547]: big_spread.shape
...

[565]: pot_shave_pct = len(shave)/len(big_spread) * 100
pot_shave_pct

[565]: 25.773195876288657

[599]: normal_spreads = mich.loc[(mich['spread'] >= 1.5) & (mich['spread'] < 12)]

[600]: normal_spreads.shape
...

[601]: reg = mich.loc[(mich['spread'] >= 1.5) & (mich['spread'] < 12) & (mich['pt_diff'] < mich['spread'])]
reg.shape
...

[602]: reg_miss_pct = len(reg)/len(normal_spreads) * 100
reg_miss_pct

[602]: 23.140495867768596
```

This isn't proof against point spreading in large games- we can expect it to only take place in a very small number of games with respect to each team (in this case, Michigan). Moreover, we

can see that in games Michigan has played since 2007 where the favored team wins, the cover hits at a much higher percentage than we could anticipate for spreads greater than 1.5 points.

If forced to choose one game where point spreading *MAY* have been in play, we can see that in the 2018-19 season when Michigan hosted Western Michigan, Michigan escaped with an 8 point win after closing as 24.5 point favorites. Additional factors to consider are that it was a non-conference game posing lower stakes on Michigan's B1G Standing, and Michigan was undefeated (11-0) at the time whereas WMU had already lost 5 games. Of 349 Michigan games to parse, having one game that suggests potential point spreading is likely conclusive that the Wolverines run an honest program.

```
[607]: shave.sort_values(by = 'spread', ascending = False)
```

```
[607]:
```

	id	Year	Visitor	Home	Visitor Final	Home Final	Visitor ML	Home ML	Winning_Team	Favored_Team	spread	pt_diff
43800	43801	18-19	WesternMichigan	Michigan	62.0	70.0	4000.0	-10000.0	1	1	24.5	8.0

## Works Cited

*Sportsbook reviews*. Historical NCAA Basketball Scores and Odds Archives. (n.d.).

Retrieved December 10, 2022, from

<https://www.sportsbookreviewsonline.com/scoresoddsarchives/ncaabasketball/ncaabasketballoddsarchives.htm>

*Point shaving: Corruption in NCAA basketball - University of California ...* (n.d.).

Retrieved December 11, 2022, from

<https://www.stat.berkeley.edu/users/aldous/157/Papers/PointShaving.pdf>