

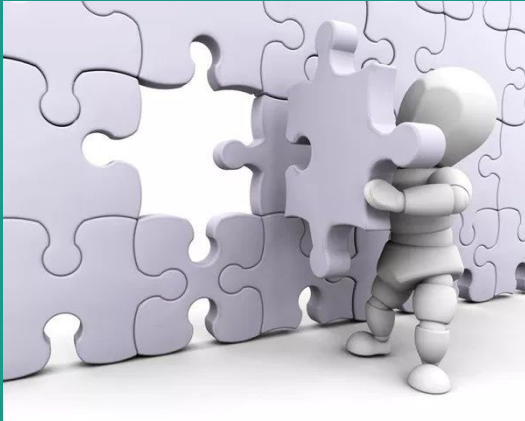


Investing in 2nd Tier European Football League

Boping Liu and Jungmo Kim



Scenario



- Online Streaming Service in South Korea looking to expand into sports programming - European Football
- Broadcasting rights for the large and most popular leagues (EPL, La Liga, Bundesliga, Serie A, Ligue 1) already owned by other networks
- Evaluate 2nd tier European Football leagues to see which one would bring best value for football fans



**Scottish
Premier League**



**Dutch Premier
Division**



**Swiss Super
League**



**Belgian Jupiler
Pro League**



**Liga
Portugal**



**Polish PKO
Pro League**

Data Driven Approach



Gauge entertainment of different leagues analytically using following metrics

- Total goals scored per match
- Number of scoreless matches per week
- Average players ratings per match
- Average player potential per match

Data Overview



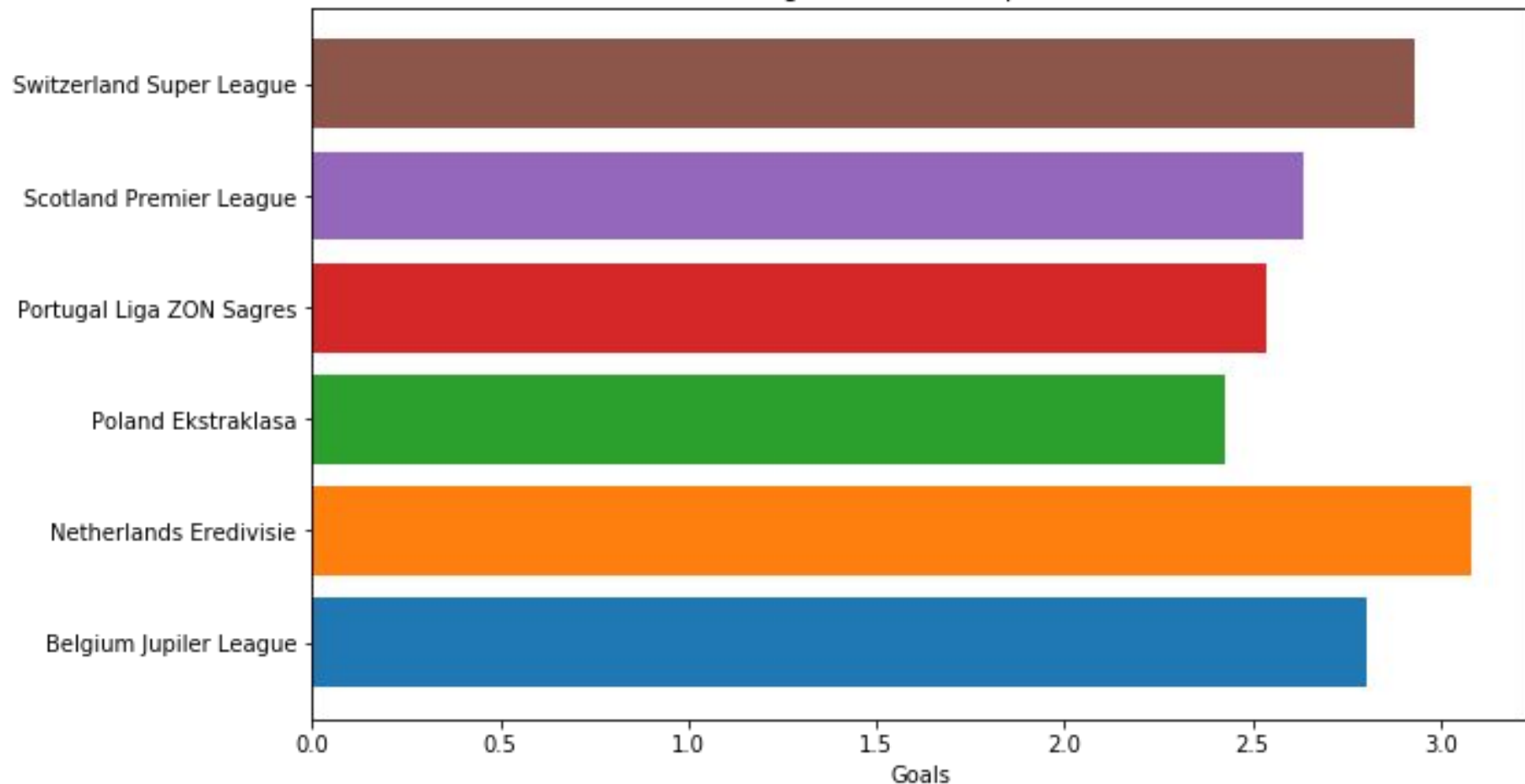
- Match data
 - Home/Away Teams
 - Season
 - League
 - Date/Match week
 - Goals scored (home/away)
- League Data
- Team Data
- Players Data (EA Sports)

Data Summary



- 8 Season Analyzed
(2008/2009 - 2015/2016)
- Leagues: 6
- Total Teams: 135
- Total Matches: 11,382
- Total Goals: 31,180

Average Goals Scored per Match



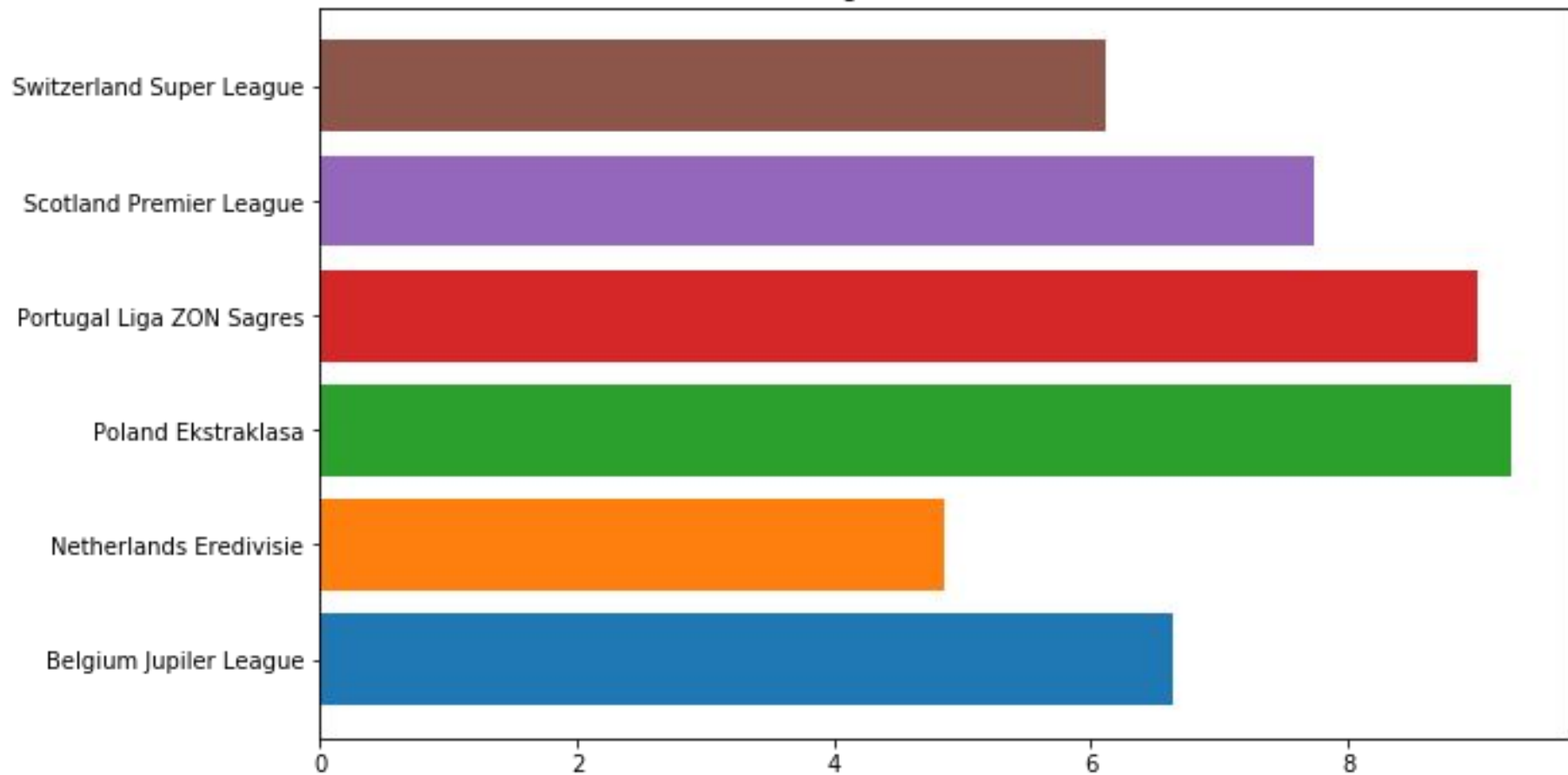
Goals Scored Per Match

- Use Dutch league (3.08) as benchmark for statistical tests
- Determine if Dutch league matches has statistically more goals on average

Results:

- Dutch league matches on average has statistically more goals scored than other five leagues
- While difference between Portuguese, Polish and Scottish leagues is significant, difference between Swiss and Belgian leagues are less pronounced

Percentage of Scoreless Matches



Scoreless Matches

- Use Dutch league (4.86) as benchmark for statistical tests
- Determine if Dutch league matches has statistically less scoreless matches on average

Results:

- Dutch league matches on average has statistically less scoreless matches than all other leagues
- The practical difference is more pronounced compared to Polish and Portuguese leagues, but less so compared to Belgian, Swiss and Scottish Leagues

Players average rating per match in the league



Switz_league: 63.2



Scot_league: 63.4



Pol_league: 59.5



Bel_league: 65.7

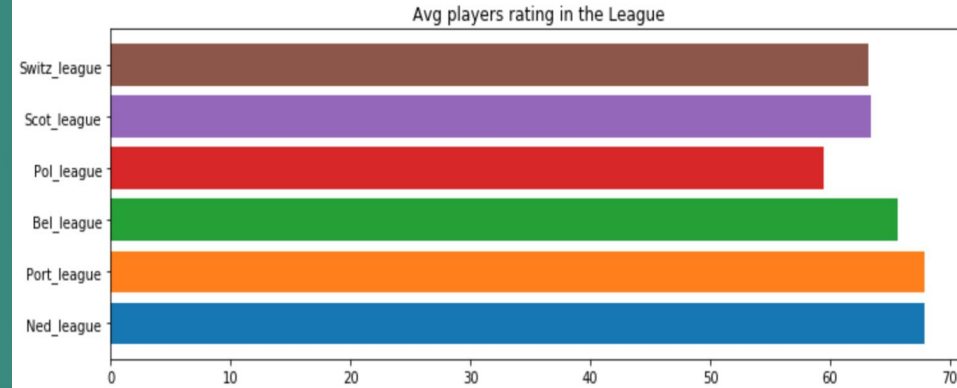


Port_league: 67.9



Ned_league: 67.9

- Portugal league & Netherlands league have highest players average rating.
- Poland league scores the lowest players average among the league.



- There were significant difference was found between Ned_league to other leagues except Portugal league
- We are confident with our hypothesis by 99% with other leagues except Portugal league.

Players average potential per match in the league



Switz_league: 68.5



Scot_league: 67.8



Pol_league: 62.4



Bel_league: 69.4

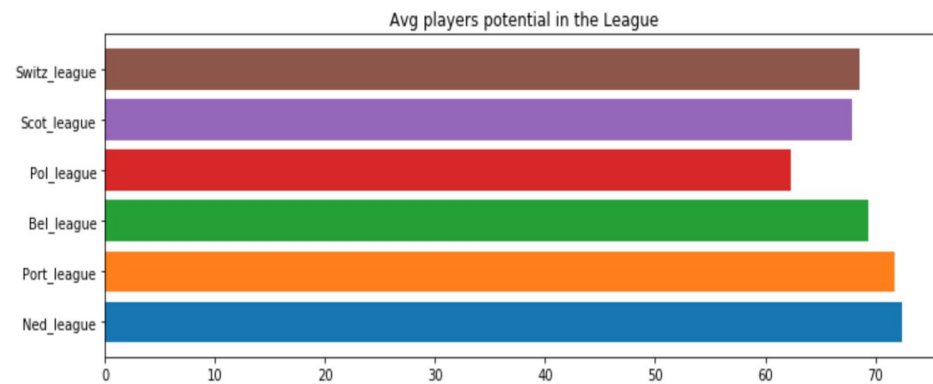


Port_league: 71.7



Ned_league: 72.5

- ❑ Netherlands league has highest average players potential
- ❑ Poland league scores lowest average players potential



- ❑ There were significant difference was found between Ned_league to other leagues
- ❑ We are confident with our hypothesis by 99%

Summary



- Dutch League scores more goals on average per match, followed by Swiss and Belgian leagues
- Dutch League has lowest average scoreless matches, followed by Belgian, Swiss and Scottish leagues
- Dutch League and Portuguese league players have higher average rating than other leagues
- Dutch League players have highest potential ratings

Recommendation



- Pursue Dutch League (Eredivisie) as main lead
- Look into other fundamental league factors (stars, club appeal, broadcasting rights acquisition logistics)
- Keep Belgian and Swiss Leagues as secondary options

Appendix Slides:

Additional Details on Hypothesis Tests

Hypothesis Test

Goals per Match

- H0: There is no statistical difference for goals scored per match between the Dutch league and other leagues
- H1: There is statistical difference in goals scored per match with the Dutch league having more goals scored on average
- Alpha Level = 0.05

Results:

P-Value and Cohen's d table

League	P-Value	Cohen's D
Belgium	~0.0	0.1626
Switzerland	0.0043	0.0873
Poland	~0.0	0.3963
Portugal	~0.0	0.3225
Scotland	~0.0	0.2630

Hypothesis Test

Scoreless Matches

- H0: There is no statistical difference average scoreless matches between the Dutch league and other leagues
- H1: There is statistical difference in number of scoreless matches with the Dutch league having less scoreless matches on average
- Alpha Level = 0.05

Results:

P-Value and Cohen's d table

League	P-Value	Cohen's D
Belgium	0.0113	0.2162
Switzerland	0.0001	0.2975
Poland	~0.0	0.4916
Portugal	~0.0	0.4797
Scotland	0.0001	0.2975



Hypothesis Test:

H₀ = no difference in highest avg players potential league to other league

H_a = highest avg players potential league have significant difference to other leagues

Ned vs other leagues:

- There were significant difference was found between Ned_league's avg players potential to other leagues
- 95% chance to reject null hypothesis



Hypothesis Test:

H₀ = no difference in highest avg players rating league to other league

H_a = highest avg players rating league have significant difference to other leagues

Ned vs other leagues:

- There were significant difference was found between Ned_league's avg players rating to other leagues except Portugal league
- 99% chance to reject null hypothesis on other league except Portugal league