NBA Analysis Presentation

By Chi Ma, Kelly Wen, Stephen Chen and Reece Koe
Section 4, Team 4

Key Objectives

Provide recommendations to NBA Team's on:

1. The players that are over/under paid.
    - By comparing all players by PER/salary ratio
    - By comparing players within each position by a statistical field that represents success at that position
2. The current status of the "small ball" era
    - By comparing salary allocations to win %

Data Collection Steps

Primary Dataset

- NBA Player Stats Per Game
- Advanced Player Stats
- NBA Player Contracts

Supplemental datasets

- Team Record

Data Exploration

- Wrangling and Cleaning
- Data Aggregation
- Sanity Check

Which players are worth their salary? Which ones aren’t?

Assumption

Those who get paid the most should have a higher Player Efficient Player (PER), and vice versa.

- Players who are significantly above the line is overpaid”
- Players who are significantly below the line is “underpaid”

Insight

Players aren't strictly paid based on their PER contributions alone

Within each position, which players are the most valuable for their salary?

- Except for Small Forwards, the top players in each position/statistical category were mostly bench players who played low amount of minutes
- Starters at the top in statistical category had high salaries, showed that teams pay a lot of money to have elite starting players at the position

Position	Statistical Category
Point Guard (PG)	Assist:Turnover Ratio (AST:TOV)
Shooting Guard (SG)	True Shooting % (TS%)
Small Forward (SF)	Usage % (USG%)
Power Forward (PF)	Total Rebounding % (TRB%)
Center (C)	Block % (BLK%)

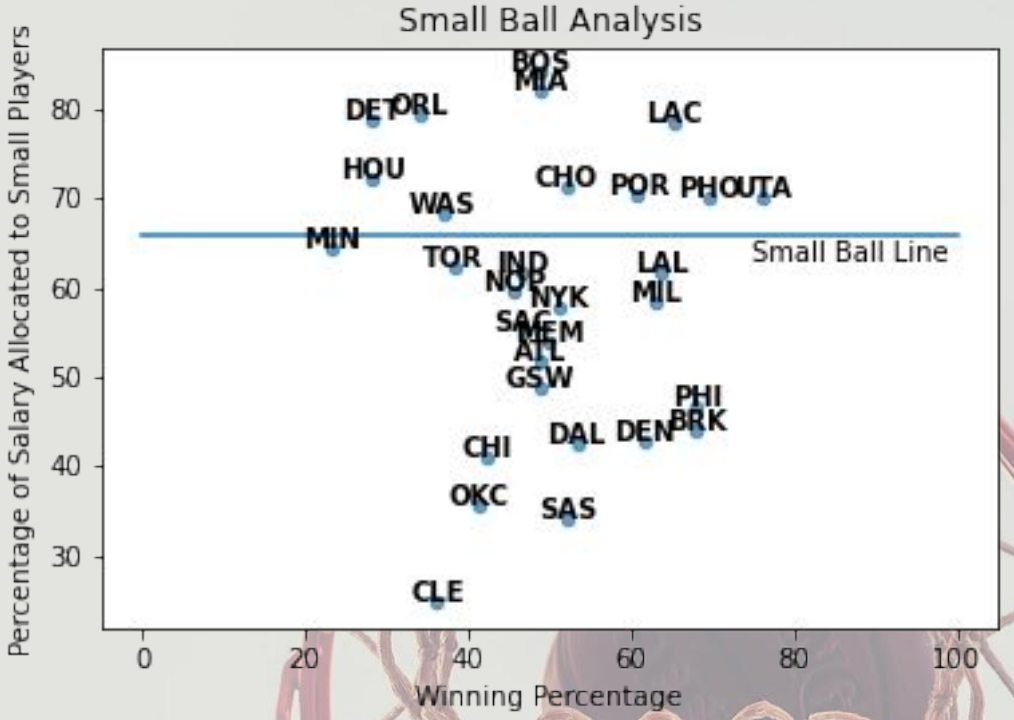
Example: Point Guards

	Player	Tm	Salary	G	MP	AST	TOV	AST:TOV	AST:TOV / Salary
0	Kira Lewis Jr.	NOP	3640200	31.0	14.8	2.2	0.4	5.500000	1.510906
1	Tyus Jones	MEM	7965100	44.0	19.7	4.1	0.8	5.125000	0.643432
2	Monte Morris	DEN	1663861	36.0	27.2	3.4	0.7	4.857143	2.919200
3	Chris Paul	PHO	41358814	44.0	31.9	8.5	2.3	3.695652	0.089356
4	Ricky Rubio	MIN	17000000	45.0	26.4	6.9	1.9	3.631579	0.213622
5	T.J. McConnell	IND	3500000	42.0	25.2	6.5	1.8	3.611111	1.031746
6	Devonte' Graham	CHO	1663861	35.0	30.3	5.1	1.5	3.400000	2.043440
7	Tyrese Haliburton	SAC	3831840	41.0	30.2	5.0	1.5	3.333333	0.869904
8	Cameron Payne	PHO	1977011	34.0	16.9	3.6	1.1	3.272727	1.655392
9	D.J. Augustin	HOU	6666667	43.0	19.5	3.2	1.0	3.200000	0.480000

	Player	Tm	Salary	G	MP	AST	TOV	AST:TOV	AST:TOV / Salary
2	Monte Morris	DEN	1663861	36.0	27.2	3.4	0.7	4.857143	2.919200
6	Devonte' Graham	CHO	1663861	35.0	30.3	5.1	1.5	3.400000	2.043440
8	Cameron Payne	PHO	1977011	34.0	16.9	3.6	1.1	3.272727	1.655392
0	Kira Lewis Jr.	NOP	3640200	31.0	14.8	2.2	0.4	5.500000	1.510906
16	Raul Neto	WAS	1882867	40.0	20.5	2.2	0.8	2.750000	1.460539
26	Jalen Brunson	DAL	1663861	41.0	25.0	3.3	1.4	2.357143	1.416671
49	Bruce Brown	BRK	1663861	43.0	21.2	1.5	0.8	1.875000	1.126897
22	Brad Wanamaker	CHO	2250000	40.0	15.7	2.5	1.0	2.500000	1.111111
29	Immanuel Quickley	NYK	2105520	42.0	20.0	2.3	1.0	2.300000	1.092367
52	Kendrick Nunn	MIA	1663861	38.0	28.6	2.6	1.5	1.733333	1.041754

Should NBA teams be focusing on fielding a team centered around a “small ball” mentality?

- “Small ball” teams focus primarily on smaller players
- Assumption: A team that spends ⅔ of their total salary on PG’s, SG’s and SF’s are considered “small ball” teams
- Conclusion: There isn’t any correlation between salary allocation and winning percentage. This proves the “small ball” era is over



THANK YOU