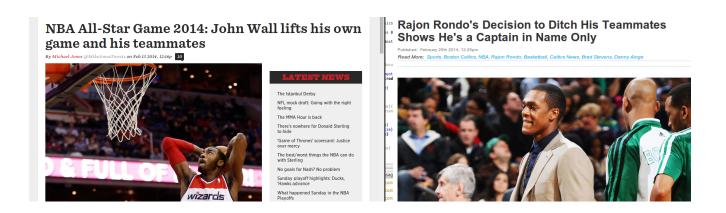
An econophysics approach to quantifying teamwork in Basketball

James B. Silva in collaboration with D. Kenett

Boston University

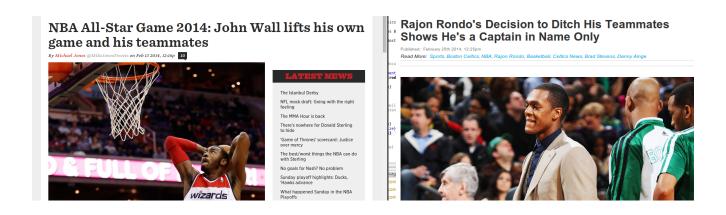
May 8, 2014

TEAMWORK IN PROFESSIONAL BASKETBALL



- ► "Hot streaks" and "chemistry" of team scorers is constantly debated in sports media.
- ► Limitations in possesions implies a zero sum game for players in regards to scoring.

AN ECONOPHYSICS APPROACH TO SCORING TEAMWORK



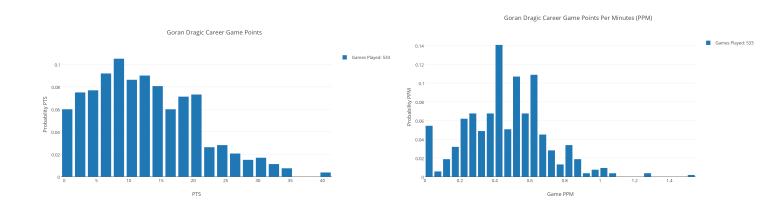
- ► Partial correlation matrices are useful in describing the relationships between stocks in an indice like the S&P 500.
- ► The idea is to extend the analogy

 $Stocks \Rightarrow Player Scoring$

S&P $500 \Rightarrow$ Team Score

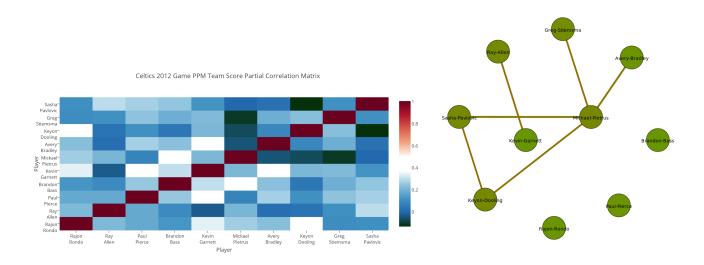


AN ECONOPHYSICS APPROACH TO SCORING TEAMWORK



- ▶ NBA data from games from 1995-2014 scraped from ESPN.
- ▶ Using game points per minutes (Game PTS / Game MINS).

QUESTIONS IN INTERPRETING RESULTS



- ► Beneficial "ballhogs", and "hot" and "cold" streaks.
- ► Team rosters as "portfolio optimization".
- ► Uncertainty in win percentage and correlations.