Managing the player portfolio

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Players as capital assets

An input that can gain or lose value – and be bought and sold

A little like labor, a little like physical capital

Players as capital assets

How do players fit into a portfolio?

- They create revenue for a club on an annual basis
- They can be bought and sold for capital gains or losses
- They can appreciate with value added through training and experience
- They can depreciate through age, expiring contracts, and other factors
- All of these contributors to players' value carry risk

Players as capital assets

How should players' value be measured?

- Market value
  - How much they are worth in the transfer window
  - Variable with market conditions and dependent on contract length
- Book value
  - Wages and other compensation – the price of the players' labor
  - May have been set in the past and currently unrelated to performance
- Cash value
  - Revenue from performance on and off the field
  - May be difficult to split up for individual players versus the entire team

Describing the player portfolio

The standard questions in asset management

- What are the goals of the portfolio?
- What does the portfolio look like now?
- What are the likely returns of the portfolio?
- How risky is the portfolio?

Describing the player portfolio

What are the goals of the portfolio?

- What is the range of acceptable outcomes for the team?
  E.g. “Finish between first and fourth in the table”
- What are the minimum probabilities attached to specific outcomes?
  E.g. “50% chance of being champions”
- Is there a timeframe for the goals?
  E.g. “Win a championship within the next three years”
- Are there rules about the portfolio itself?
  E.g. “Never have a payroll above £50 million”

Describing the player portfolio

What does the portfolio look like now?

- How big is the portfolio?
  E.g. “25 players with a total transfer value of £80 million”
- How concentrated is the portfolio?
  E.g. “40% of the portfolio’s value consists of just three players”
- How liquid is the portfolio?
  E.g. “30% of the portfolio’s assets can’t be sold in the next year”
- When does the portfolio turn over?
  E.g. “£15 million worth of players in the portfolio must be re-signed in the next year”

Describing the player portfolio

What are the likely returns of the portfolio?

- What are the dividends from the portfolio?

  E.g. “The portfolio of players is expected to earn £20 million in annual revenue”

- What are the capital gains from the portfolio?

  E.g. “The five youngest players’ value is expected to rise by £5 million this year”

- What is the depreciation of the portfolio?

  E.g. “The total value of the players past peak age is expected to drop by £10 million this year”

Risk in the player portfolio

Risks to the player's annual return

Player risk

- Injuries, suspensions, changes in performance for other reasons
- Independent of other players and teams

Team risk

- Squad effects on performance, including player's likelihood of selection
- Depends on club's other players but mostly independent of other teams

League risk

- Changes at other clubs may affect the performance of all players

Risk in the player portfolio

Value at risk

Asks the threshold amount that the portfolio may lose with a fixed probability over a fixed period of time

- E.g. “There’s a 5% chance that our portfolio will lose £10 million or more in the next month”

Can apply to the player portfolio as well

- E.g. “There’s a 5% chance that the total value of our players will decline by £10 million or more by the end of the season”
- Potential benchmark for a strategy in the next transfer window

Portfolio management

Strategies for controlling risk

Diversification of the portfolio

- Across positions, so results don't depend too much on one position
- Within positions, for sufficient depth to ensure there's no weak spot
- Across ages and contract lengths, to reduce exposure to depreciation and turnover

Reaction to market conditions

- By position, to counter the threat of new opposing players in the league or make desirable players unavailable
- By financial attributes, to anticipate changes in league rules and revenue

Portfolio management

Strategies for maximizing returns

Leverage

- Spending more when portfolios have increasing returns to scale
  E.g. buying star players as the only way to win a championship
- Spending less when asset values have greater uncertainty
  E.g. focusing on performance when it appears unrelated to wages and transfer fees

Portfolio management

Strategies for maximizing returns

Arbitrage

- Finding assets undervalued by the market
  E.g. taking advantage of prejudices that don't correspond to player performance
- Generating assets at below-market cost
  E.g. producing players in the academy and selling them at a profit

Deployment

- Ensuring assets are available to earn returns
  E.g. maintaining fitness and giving players maximum minutes in peak condition

Portfolio management

Tools for reaching goals

NYA takes a club through the entire process:

① Forward-looking assessments of player value

② Simulations of results using likely evolution of other teams in the league

③ Calculation of probabilities of goals being met under current conditions

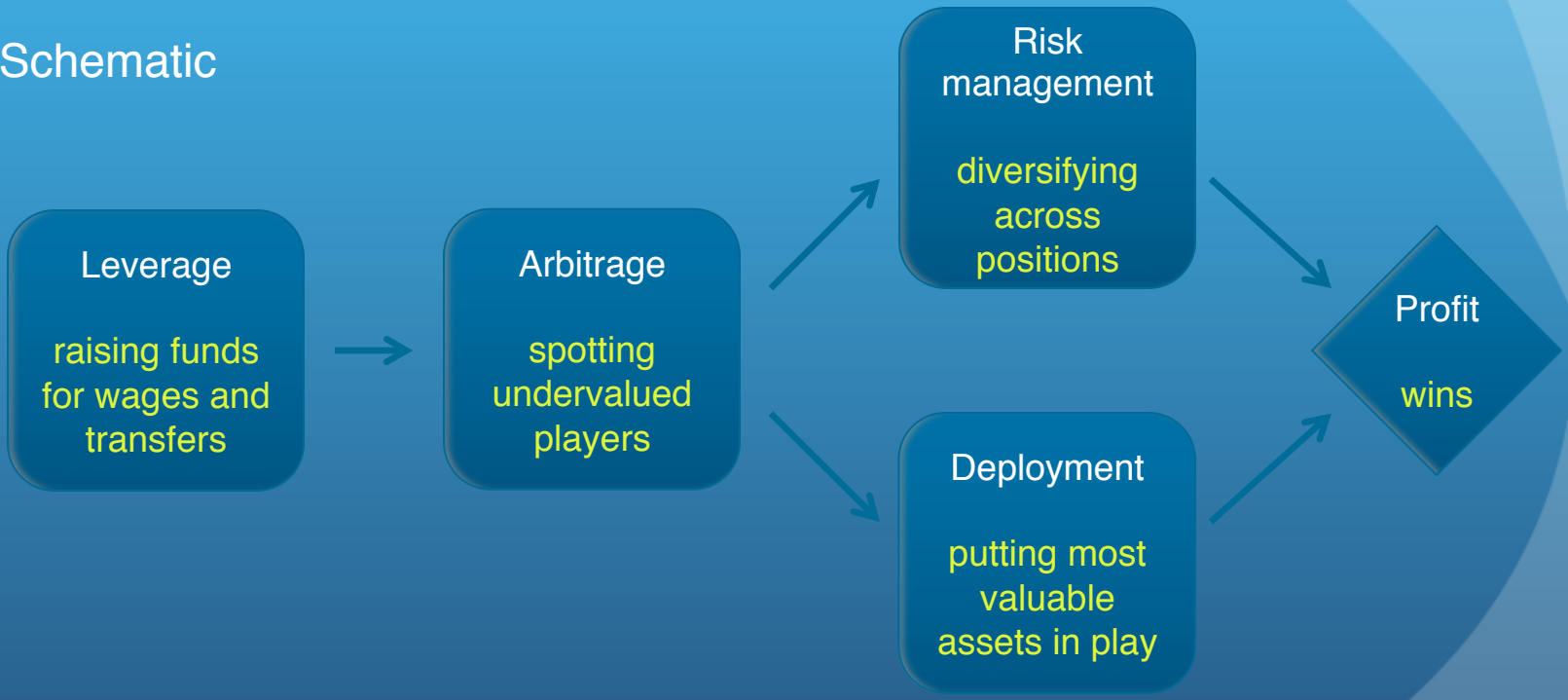
④ Projection of new probabilities given changes in the player portfolio

⑤ Planning for budgetary effects, if any, of portfolio decisions

Portfolio management

Tools for reaching goals

Schematic



Case: MLS 2012

A unique situation with useful applications

Players' "book value" can be assessed using data from MLS Players Union

Diverse and rapidly changing player pool

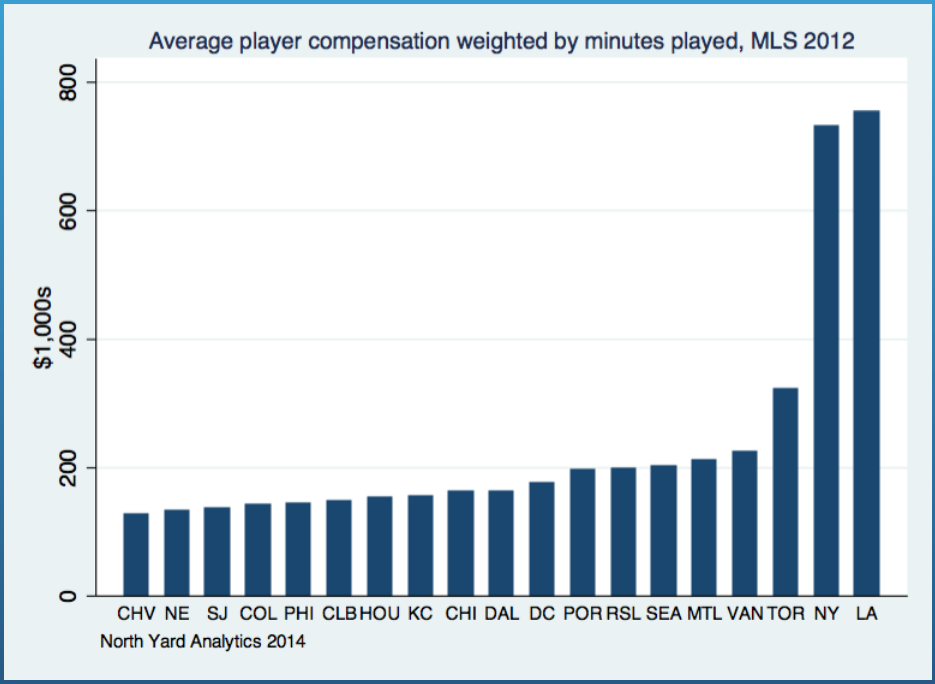
Variable ownership goals

By learning from publicly available information, clubs in other leagues can make better decisions using their private information about player values

Case: MLS 2012

Leverage – Who puts the most dollars on the field?

Teams ranked by compensation of players weighted by playing time



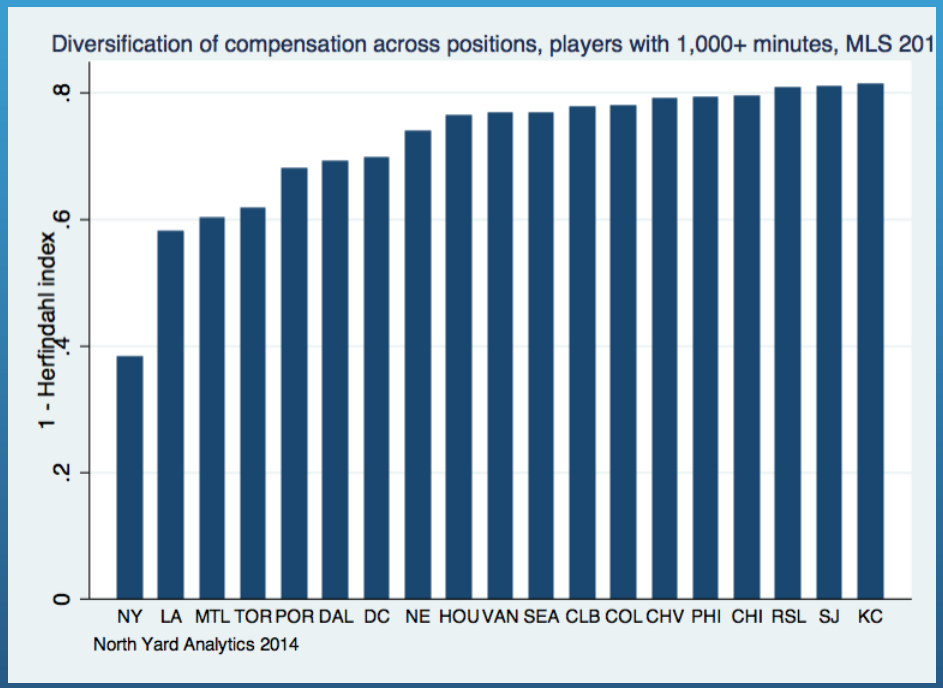
Overall compensation of players was mostly unrelated to final positions in the league table; the champions (SJ) were ranked third from last, and the bottom team (TOR) was third from the top

Star signings in major media markets created huge outliers

Case: MLS 2012

Risk management – Who diversifies their player portfolio the most?

Teams ranked by diffusion of pay across positions using Herfindahl index



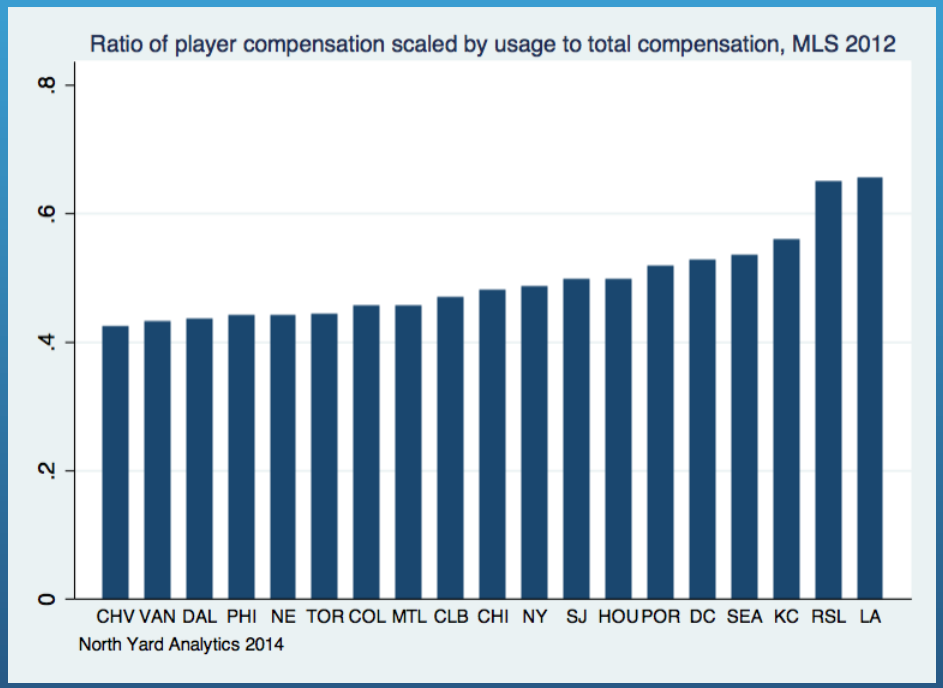
The Herfindahl index was developed by economists to measure the concentration of market power among companies in an industry

Undiversified teams succeeded only with big wage bills

Case: MLS 2012

Deployment – Who gets the most out of their portfolio ex ante?

Teams ranked by ratio of value of minutes used to value of minutes paid



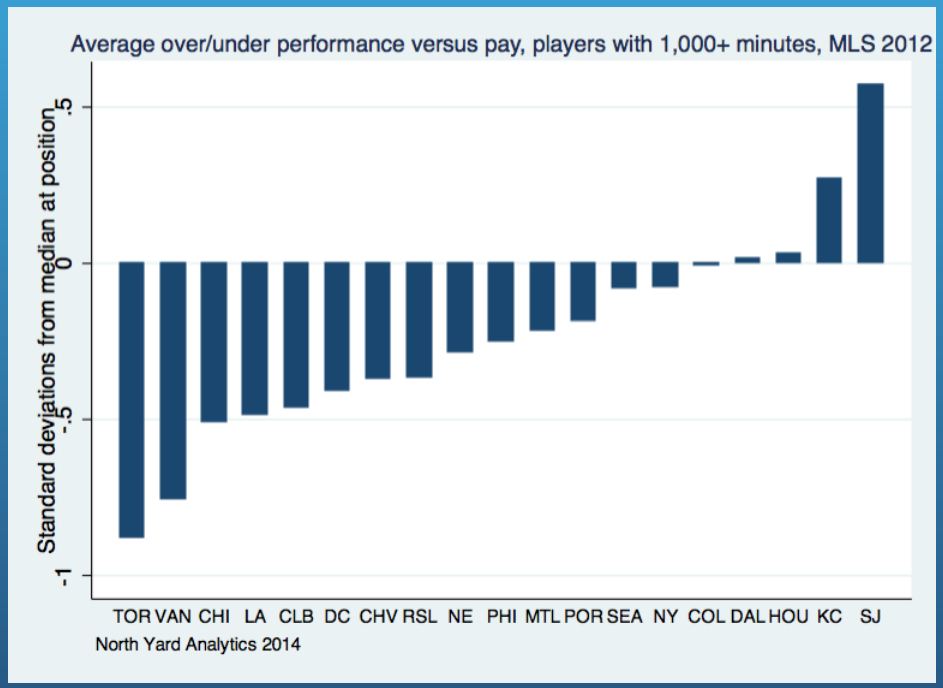
Of the ten lowest-ranked teams by this measure of usage, all but one (POR) finished in the bottom ten places in the league table

Low-ranked teams may have overpaid for players or suffered from injuries

Case: MLS 2012

Arbitrage – Who gets the most out of their portfolio ex post?

Teams ranked by outperformance of players relative to compensation



One team with high-priced players (NY) got good bang for the buck on the field; another (LA) may have sought benefits off the field from pricey players

Only forwards showed much correlation between pay and performance

Case: MLS 2012

Comparing rankings

Final table	Team	Leverage	Risk mgmt	Deployment	Arbitrage	Total
1	SJ	17	2	8	1	28
2	KC	12	1	3	2	18
3	DC	9	13	5	14	41
4	NY	2	19	9	6	36
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16	NE	18	12	15	11	56
17	POR	8	16	6	8	38
18	CHV	19	6	19	13	57
19	TOR	3	15	14	19	51

Case: MLS 2012

Observations

Many players in MLS are undervalued or overvalued assets

MLS may be a “talent discovery” league rather than a mature market

Usage effect suggests importance of avoiding injuries and suspensions

Diversifying by spreading wages across positions appears to help results

SJ and KC stood out for efficient usage, broad diversification, and smart buys – but all with modest spending

Other teams began to emulate their analytical approach after 2012

Contact information

North Yard Analytics works with clubs and leagues to find new insights that build on existing expertise. NYA mixes ideas from economics, mathematics, physics, and statistics to create unique ways of assessing players, devising tactics, predicting results, and managing finances.

Dan Altman and NYA have been cited in The Economist, the Financial Times, The Telegraph, The New Yorker, Bloomberg Sports, Quartz, and many other media.

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