

Topic and Plan

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Investing in the Trenches: The Impact of Offensive Line Draft and Salary Investment on Offensive Efficiency

Offensive line performance is often considered a key factor in determining a football team's offensive success. However, the extent to which financial and draft capital investments in the offensive line correlate with offensive efficiency remains an open question.

Hypothesis: NFL teams that allocate a higher percentage of their salary cap and draft capital to offensive linemen will have better offensive efficiency, as measured by passing EPA, rushing EPA, and sacks suffered.

This study will use publicly available data from multiple sources:

1. NFL team-level offensive statistics (2020-2023)

- a. Source: [NFLverse](#)
- b. Key Variables: Passing EPA, Rushing EPA, Sacks Suffered

2. Offensive line salary data (2020-2023)

- a. Source: [Spotrac](#)
- b. Key Variable: Percentage of team salary cap allocated to offensive linemen

3. Offensive line draft capital (2020-2023)

- a. Source: Manually collected using [Over The Cap Draft Trade Value Chart](#)

- b. Key Variable: Percentage of total team draft capital spent on offensive linemen (normalized by total draft capital per team per year)

To test the hypothesis, the study will employ the following statistical techniques:

- **Descriptive Statistics:** Initial exploration of trends in offensive line investment and efficiency metrics across teams and seasons.
- **Correlation Analysis:** Examining the strength and direction of relationships between offensive line investment (salary and draft capital) and offensive efficiency.
- **Multiple Regression Analysis:**
 - Dependent Variable: Offensive efficiency (measured by passing EPA, rushing EPA, and sacks suffered)
 - Independent Variables: OL salary percentage, OL draft capital percentage
 - Control Variables: Quarterback performance (potentially adjusting for QB influence on sack rates)

If the findings show a statistically significant positive correlation between offensive line investment and efficiency, it suggests that teams benefit from prioritizing offensive line spending. If not, it may indicate that other factors, such as quarterback play or coaching strategy, play a more dominant role.