

# SUPER BOWL ECONOMICS & GAME DYNAMICS



CHAMPIONSHIP

# WHY STUDY THE SUPER BOWL?



**01.**

**02.**

**03.**

**ONE OF THE MOST WATCHED EVENTS IN THE U.S.**

**COMPANIES SPEND MILLIONS ON ADS – HAVE GROWN SIGNIFICANTLY OVER THE YEARS**

**EXPLORING:**

- **ADVERTISING TRENDS**
- **GAME COMPETITIVENESS**



# **RESEARCH QUESTION:**

**HOW HAVE SUPER BOWL  
ADVERTISING COSTS CHANGED  
OVER TIME, AND ARE GAME  
CHARACTERISTICS SUCH AS  
SCORING AND  
COMPETITIVENESS RELATED  
TO ONE ANOTHER?**

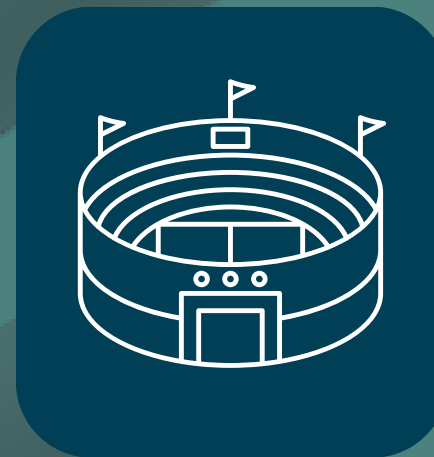


# DATA:



## CONTENT

- Source: Kaggle – Super Bowl Game Results dataset
- Time span: 1967–2018 (52 games)
- Data collected from:
  - NFL records
  - TV networks & ratings agencies



## KEY VARIABLES

- Cost per 30s ad
- Average U.S. viewers
- Network
- Winning & losing team points

kaggle



## DERIVED VARIABLES:

- Year
- Margin of victory
- Total points

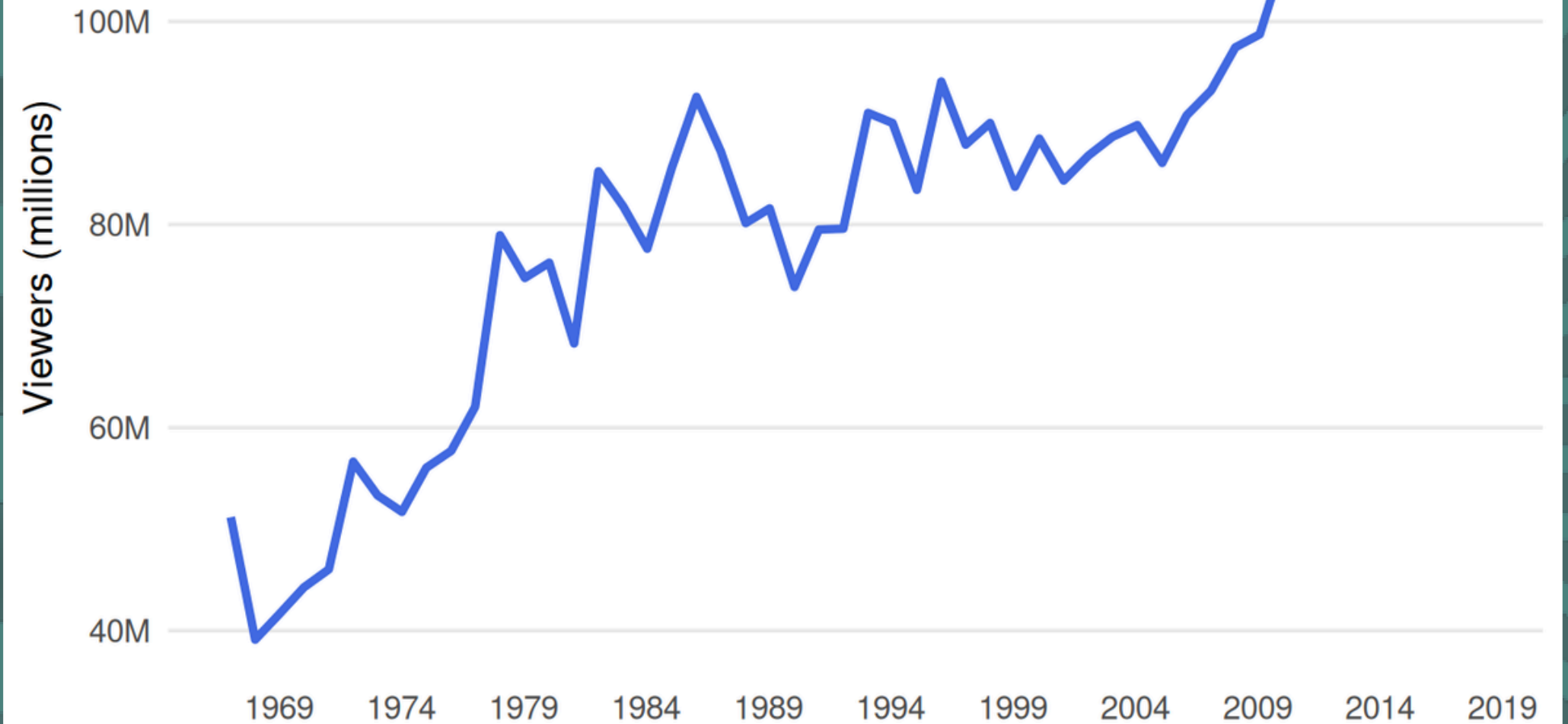


# VIEWERSHIP OVER TIME

- **VIEWERSHIP INCREASES FROM ~40 MIL TO OVER 100 MIL**
- **AUDIENCE GROWTH REFLECTS INCREASING POPULARITY OF THE SUPER BOWL**

## Average U.S. Super Bowl TV Viewership Over Time

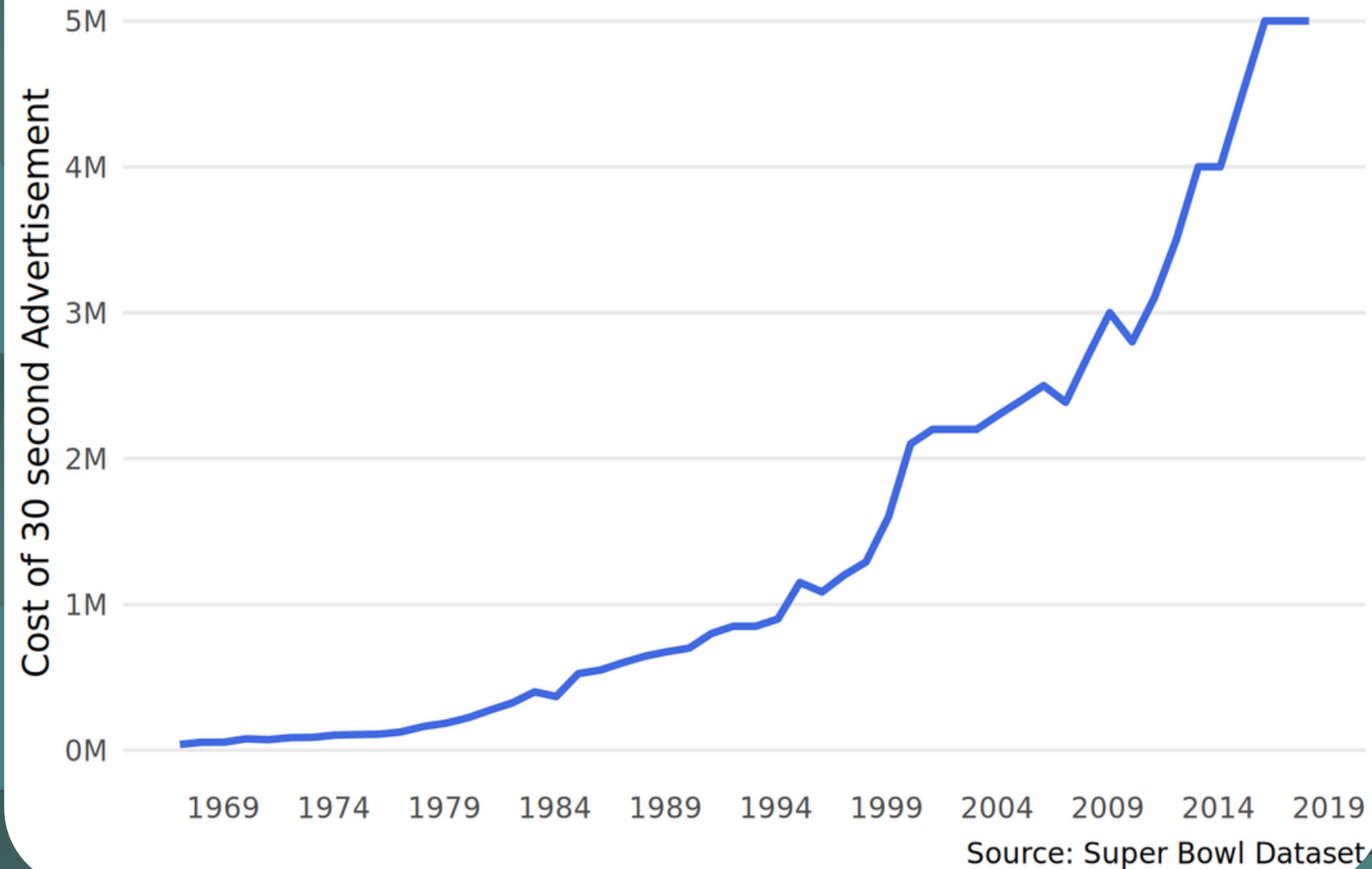
Audience growth from the late 1960s to the late 2010s



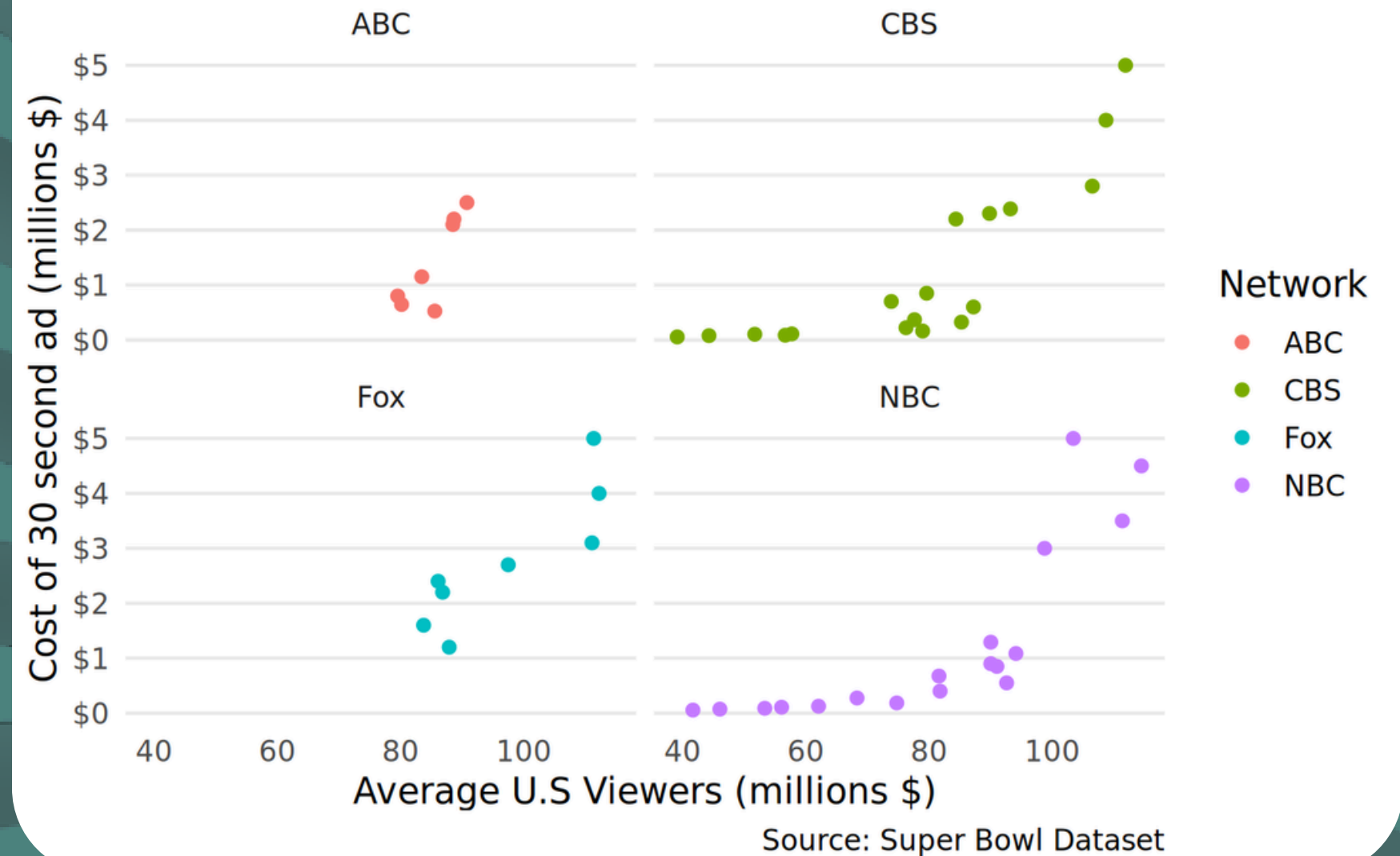
Source: Super Bowl Dataset

# AD COST OVER TIME BY NETWORK

## Cost of 30 second Advertisement by Year



## Cost of 30 second advertisement based on avg. U.S Viewers by Network



- **STRONG UPWARD TREND IN AD COSTS OVER TIME**
- **VERY STRONG LINEAR RELATIONSHIP (R = 0.931)**
- **~86.6% OF VARIATION EXPLAINED BY YEAR**
- **~\$92K INCREASE PER YEAR ON AVERAGE**

# DISCUSSION:

## KEY FINDINGS:

- STRONG POSITIVE RELATIONSHIP BETWEEN YEAR AND AD COST
- INCREASES WITH HIGHER VIEWERSHIP
- CONSISTENT ACROSS BROADCASTING NETWORKS

## INTERPRETATION:

- REFLECTS LONG-TERM GROWTH IN THE COMMERCIAL VALUE OF MASS-VIEWERSHIP EVENTS
- COMPANIES INCREASINGLY WILLING TO INVEST FOR LARGE AUDIENCE REACH

## LIMITATIONS:

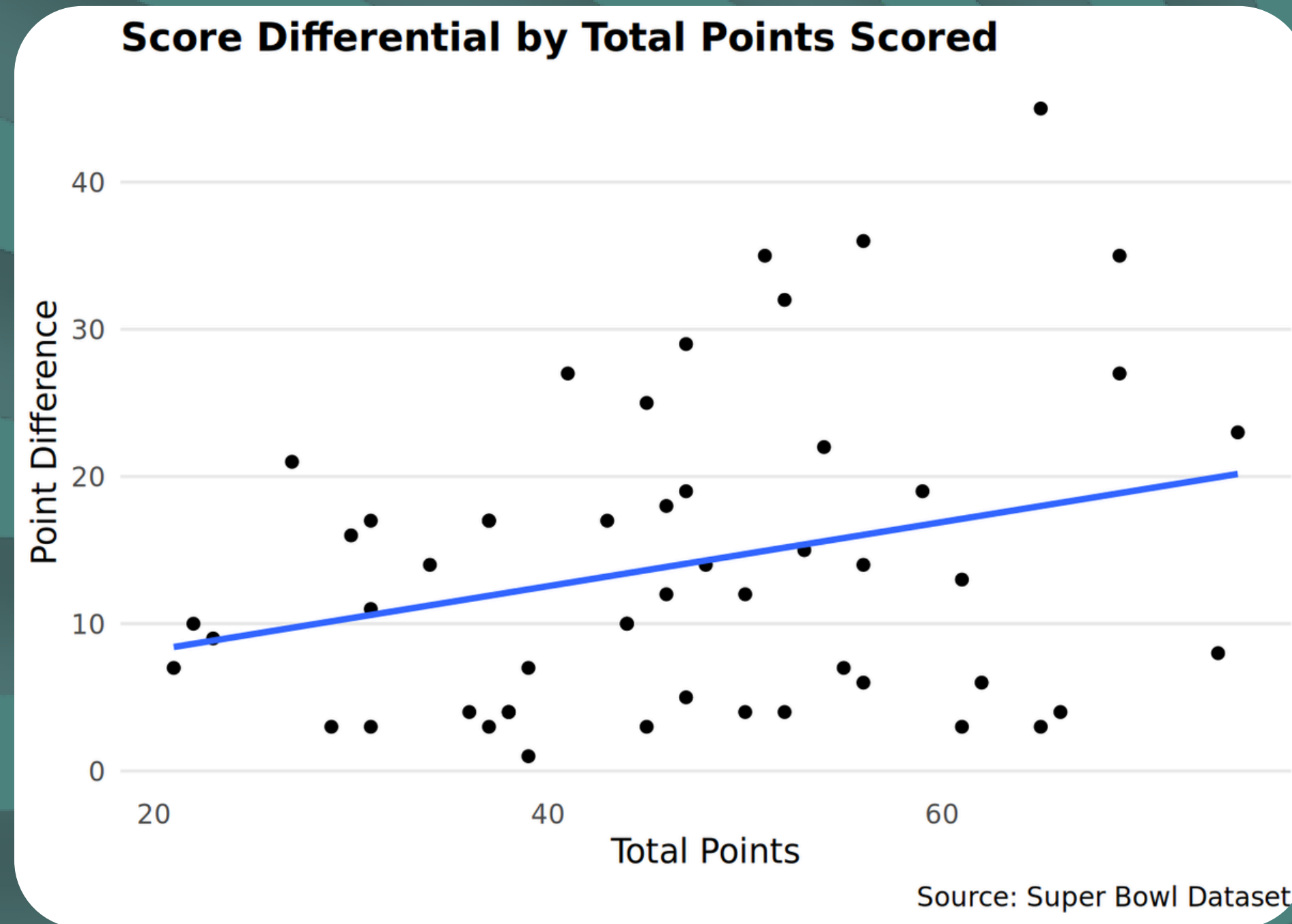
- OBSERVATIONAL DATA → NO CAUSATION
- OTHER VARIABLES (I.E. INFLATION)

## FUTURE WORK:

- INCORPORATE ADDITIONAL MARKET VARIABLES (ROI, ENGAGEMENT)



# TOTAL POINTS & MARGIN OF VICTORY



- **NO CLEAR PATTERN BETWEEN TOTAL POINTS AND POINT DIFFERENCE**
- **WEAK LINEAR RELATIONSHIP ( $R = 0.280$ )**
- **$R^2 = 0.078 \rightarrow$  ONLY ~8% OF VARIATION EXPLAINED**
- **HIGH-SCORING GAMES ARE NOT NECESSARILY CLOSE GAMES**

# DISCUSSION:

## KEY FINDINGS:

- WEAK RELATIONSHIP BETWEEN MARGIN OF VICTORY AND TOTAL POINTS
- COMPETITIVENESS IS NOT A STRONG PREDICTOR OF SCORING

## INTERPRETATION:

- SCORING INFLUENCED BY:
  - OFFENSE & DEFENSE STRENGTH
  - GAME STRATEGY
- CLOSE GAMES  $\neq$  ALWAYS HIGH SCORING

## LIMITATIONS:

- SMALL SAMPLE SIZE
- SIMPLE LINEAR MODEL

## FUTURE WORK:

- INCLUDE MORE VARIABLES
- USE MORE ADVANCED MODELS





**THANK YOU!**