

Survival Analysis of NFL Running Backs



Brian Cocolicchio- September 15, 2016

What is Survival Analysis?

Survival analysis, also known as event analysis, or failure analysis is used to analyze data where we are interested in the **time until the event**.



What is the Problem?

How long can a running back remain employed in the NFL?

What factors contribute to the length of a career?

How Am I Doing This?

- Scraped 1230 NFL running backs from 1970-2014.
- Tools Used: Beautiful Soup, PostgreSQL, Python Lifelines package
- Methods Used:
 - Kaplan-Meier Estimation
 - Cox Regression

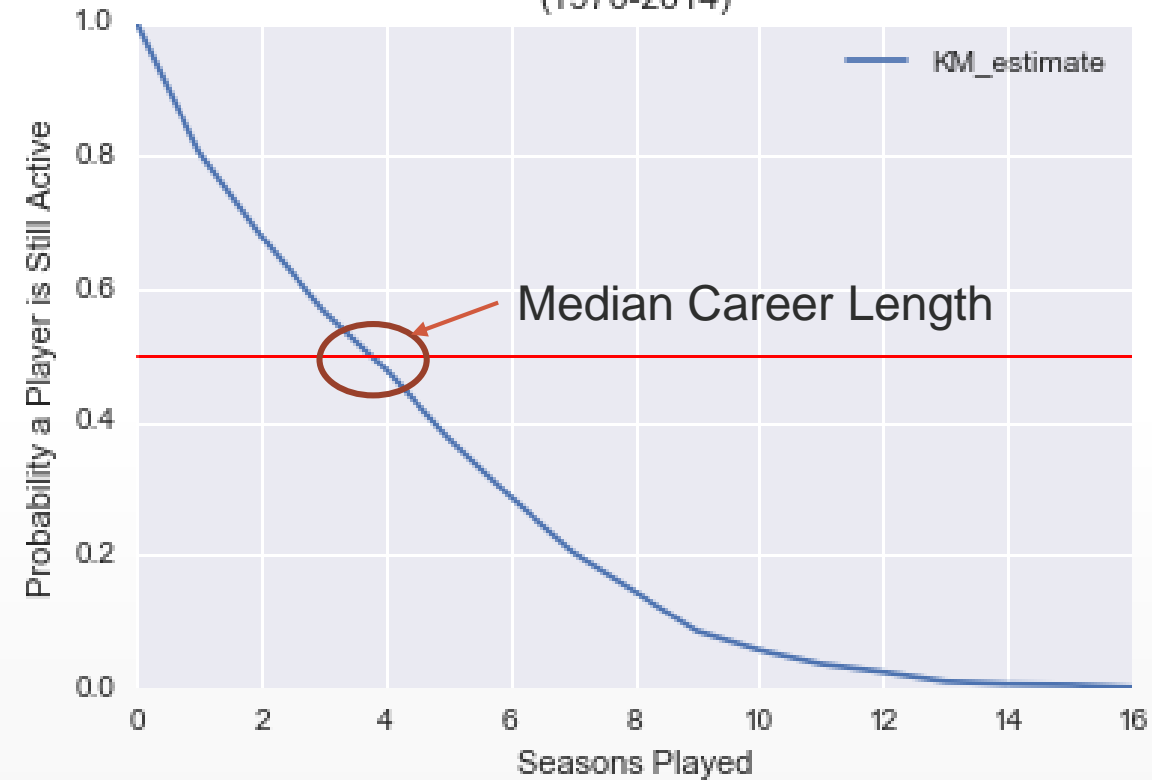


vs



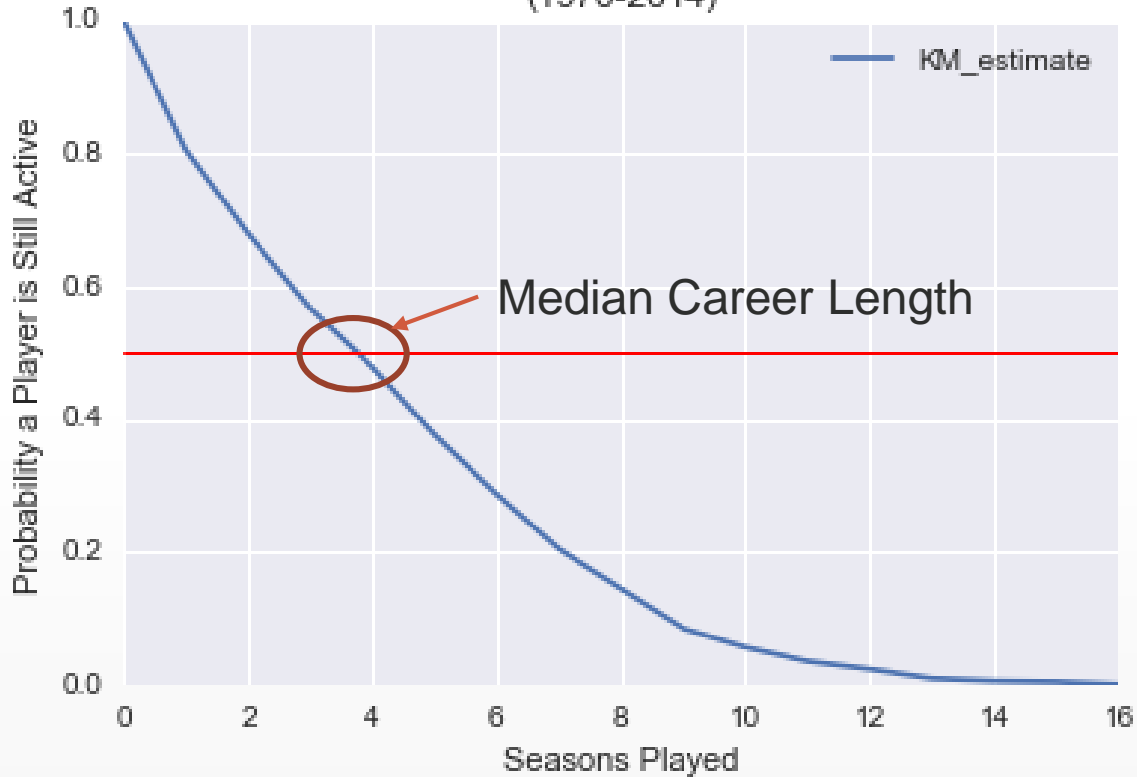
Comparing Player Positions

The Kaplan-Meier Estimate for NFL Running Backs and Fullbacks (1970-2014)

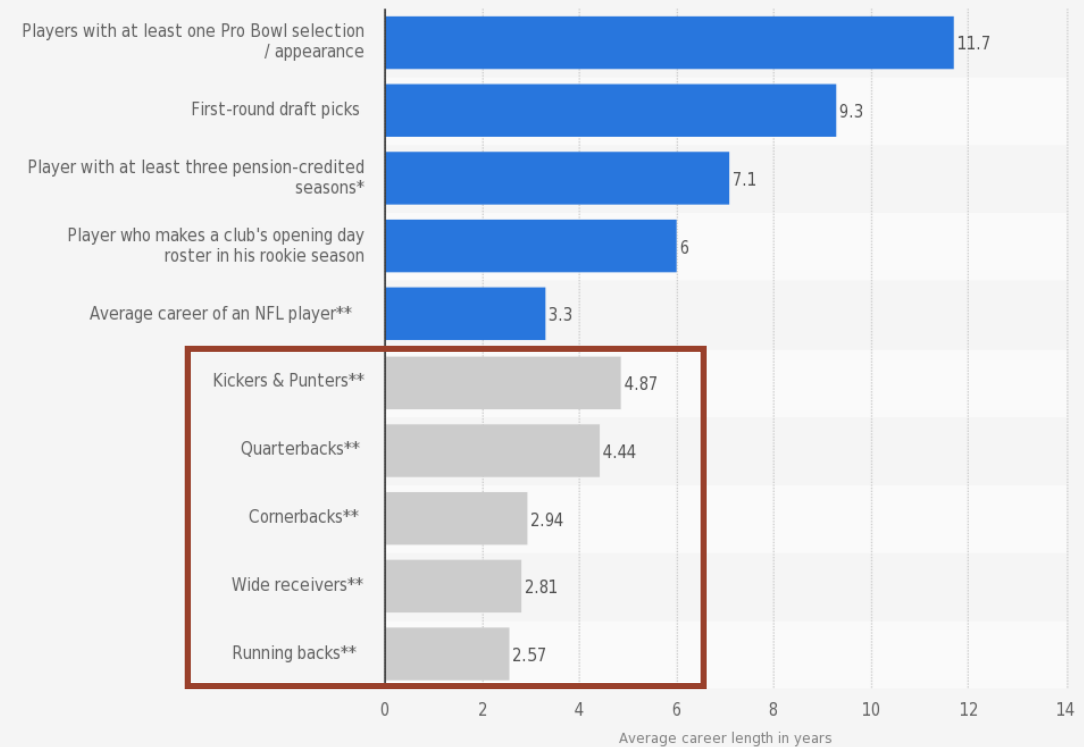


Comparing Player Positions

The Kaplan-Meier Estimate for NFL Running Backs and Fullbacks (1970-2014)



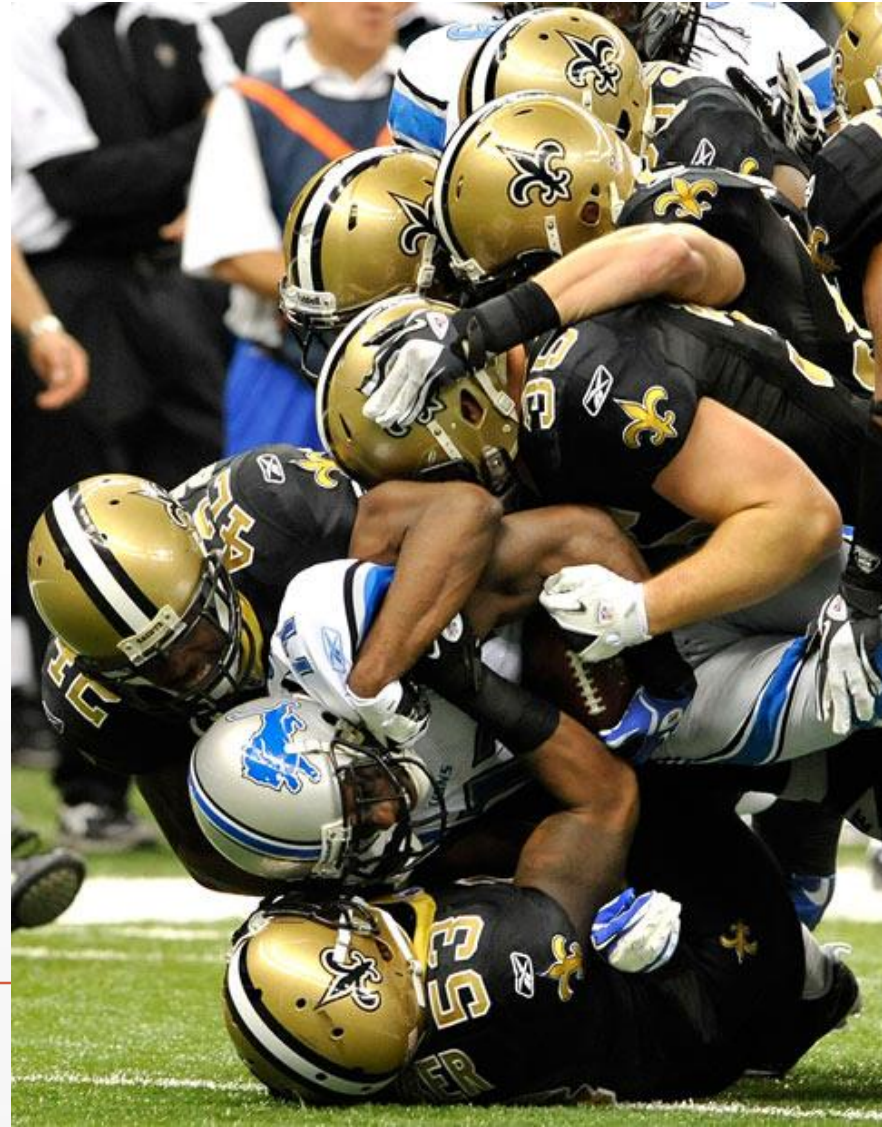
Average playing career length in the National Football League (in years)



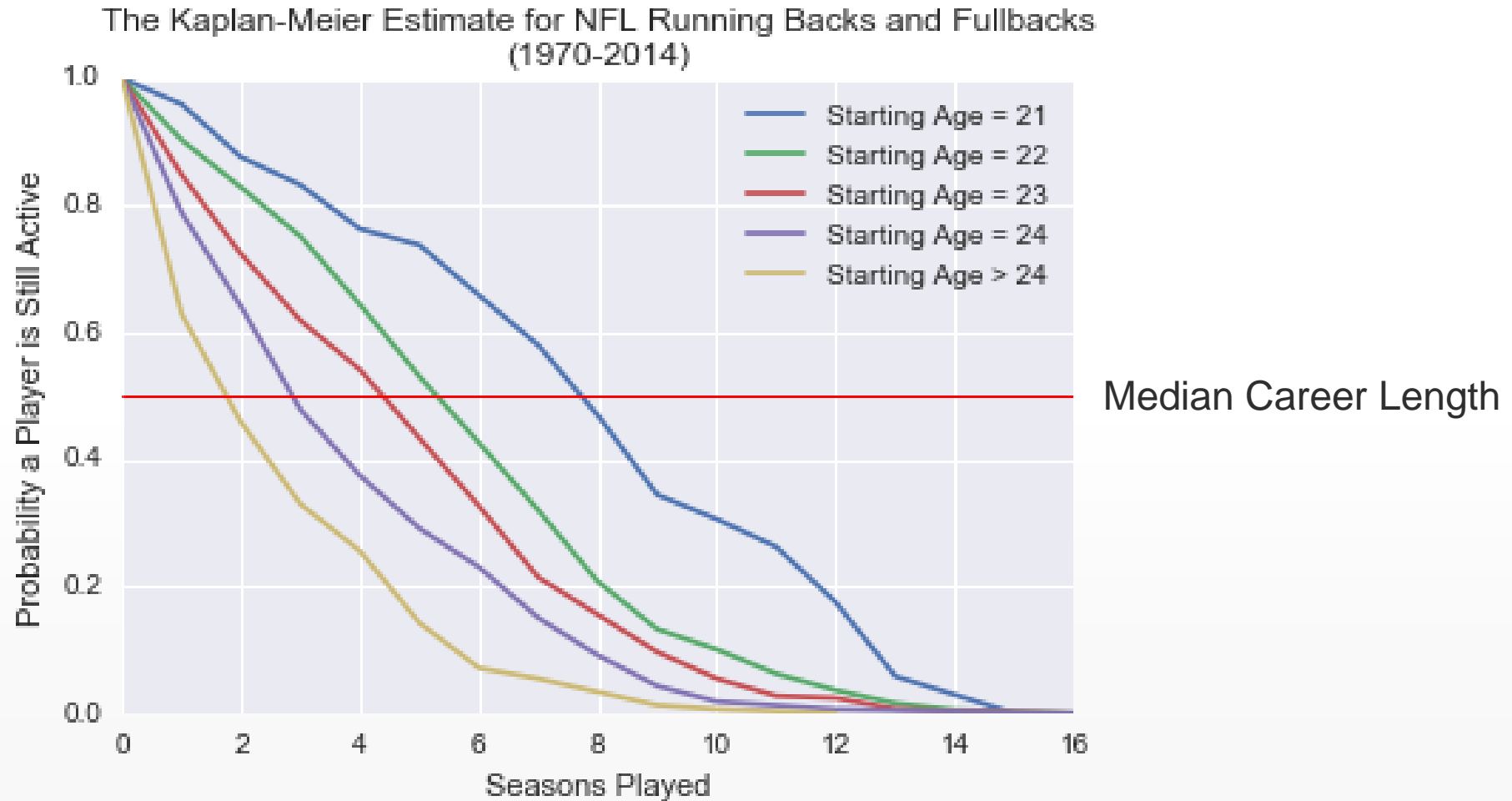
Source:
nfl.com
© Statista 2016

Additional Information:
United States; nfl.com; 1993 to 2011

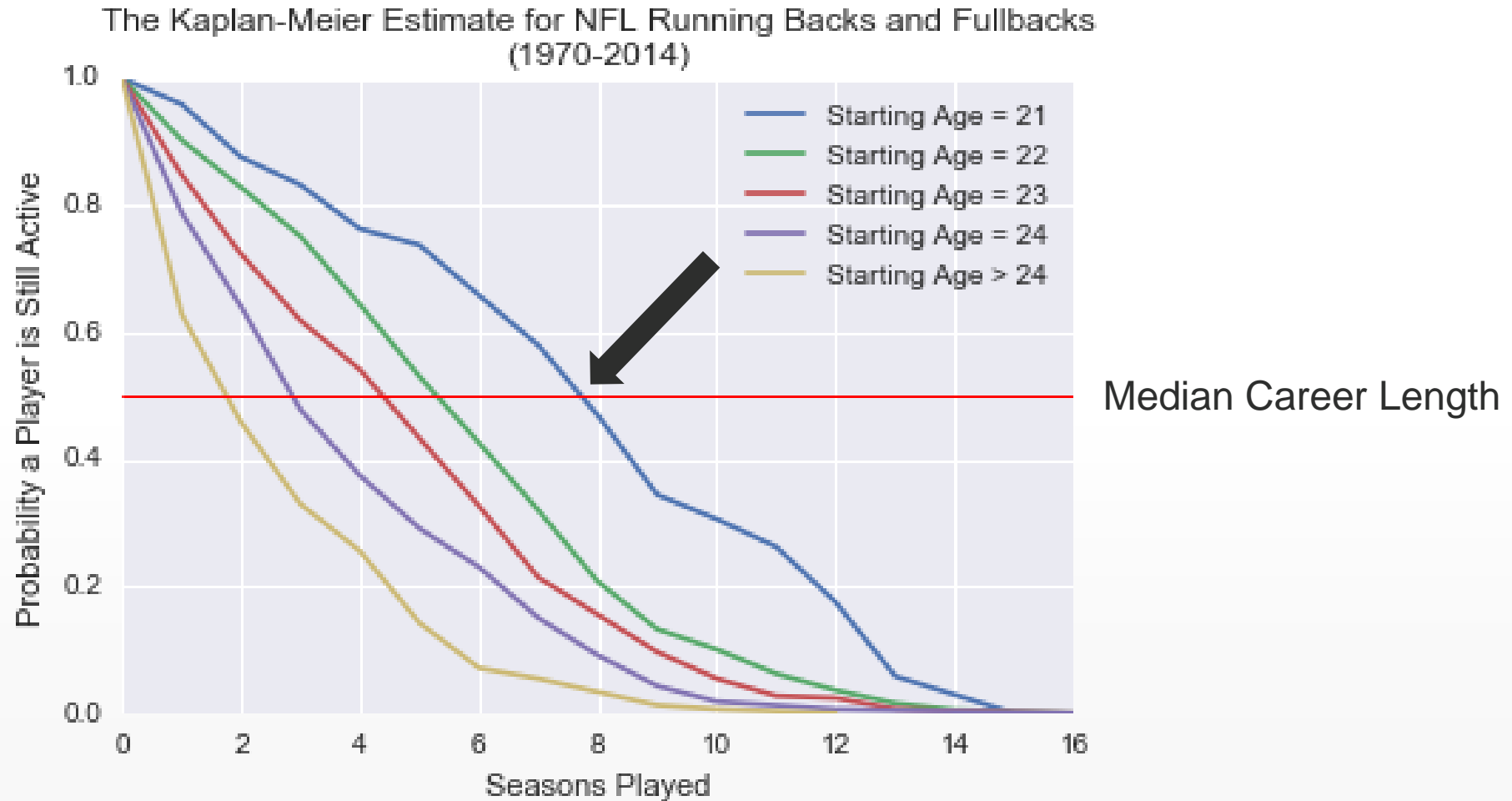
The life of a Running Back is Nasty, Brutish and Short Compared to Other Positions



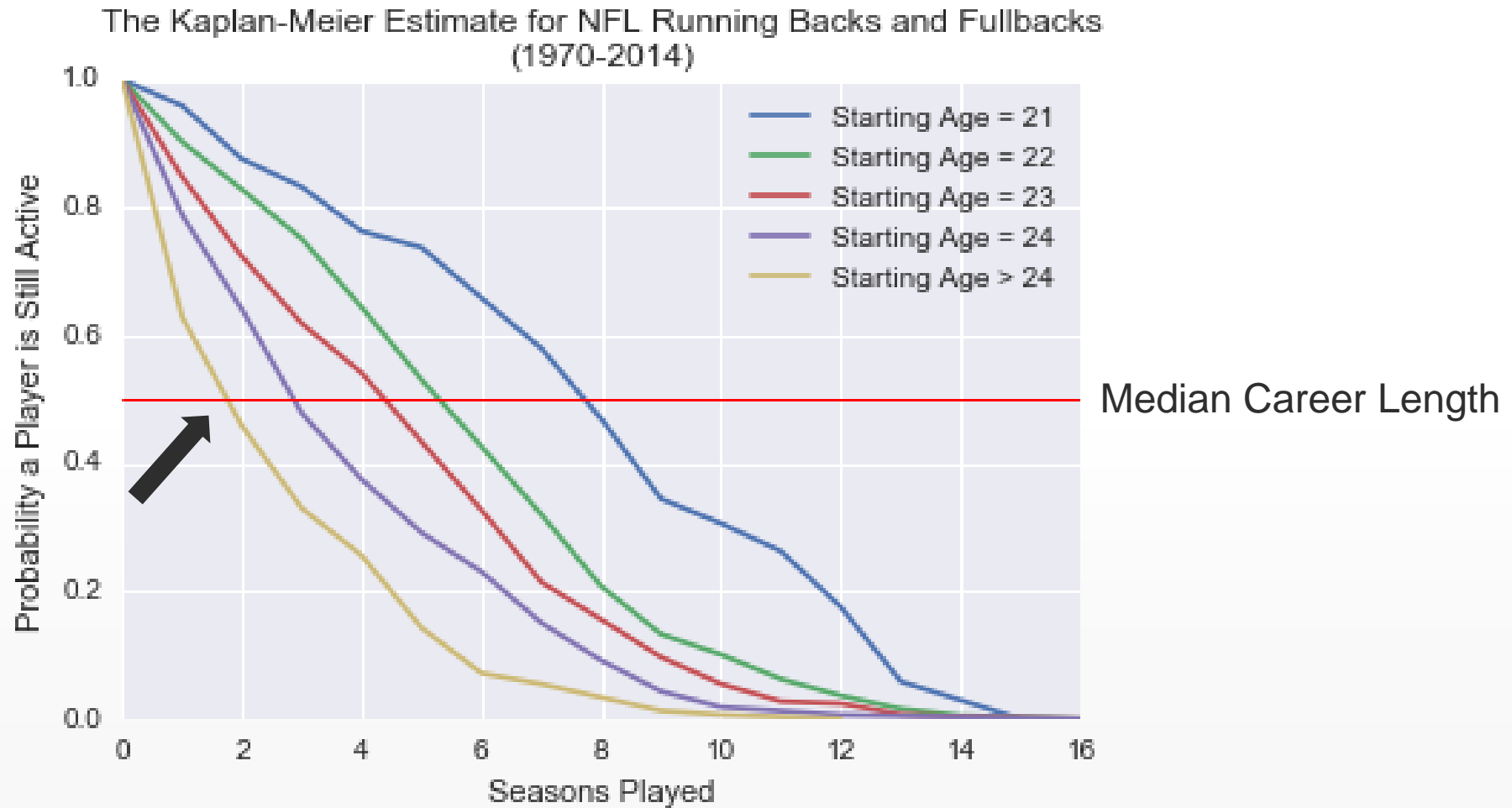
Starting Age Matters



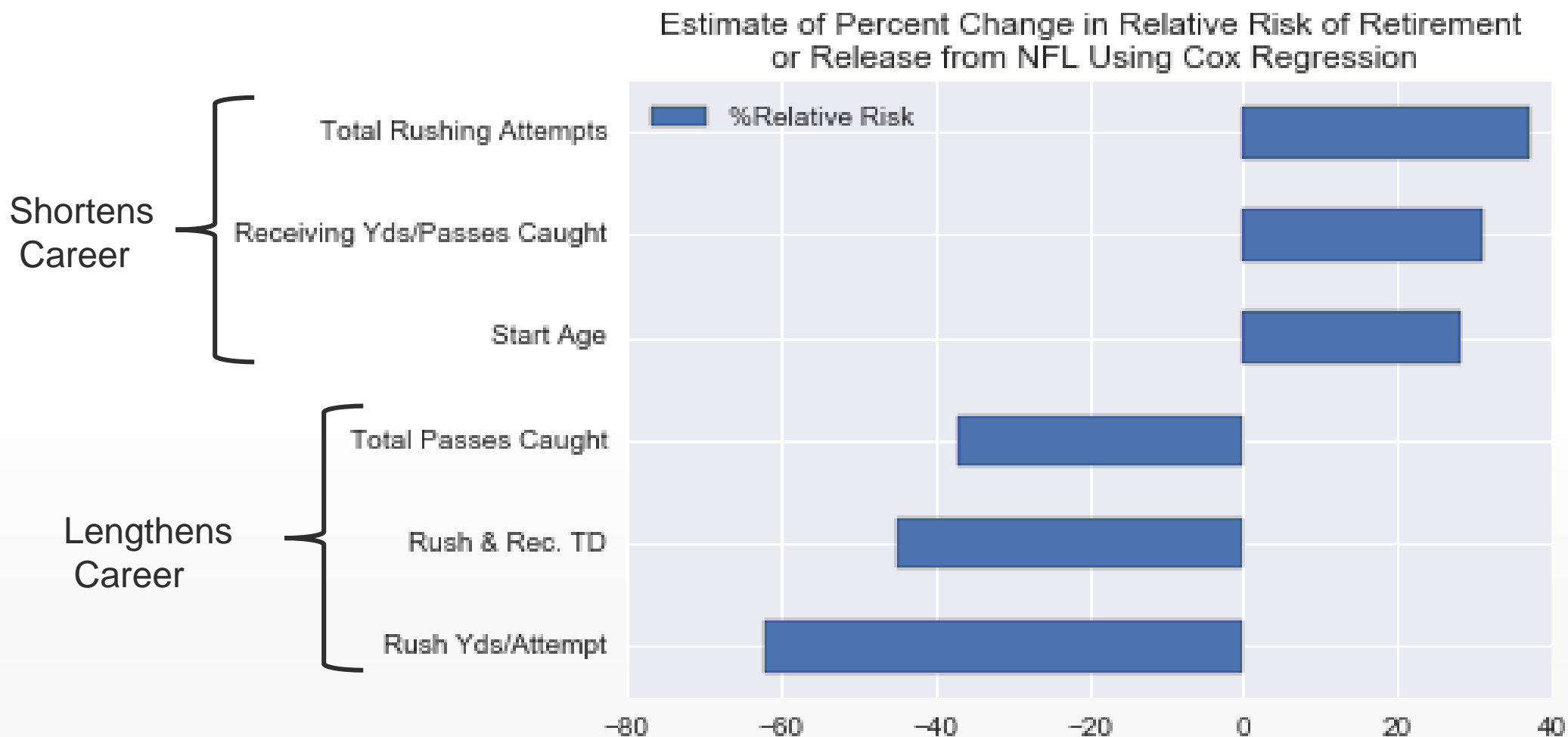
Starting Age Matters



Starting Age Matters



Measuring the Risk of Retirement or Release from the NFL



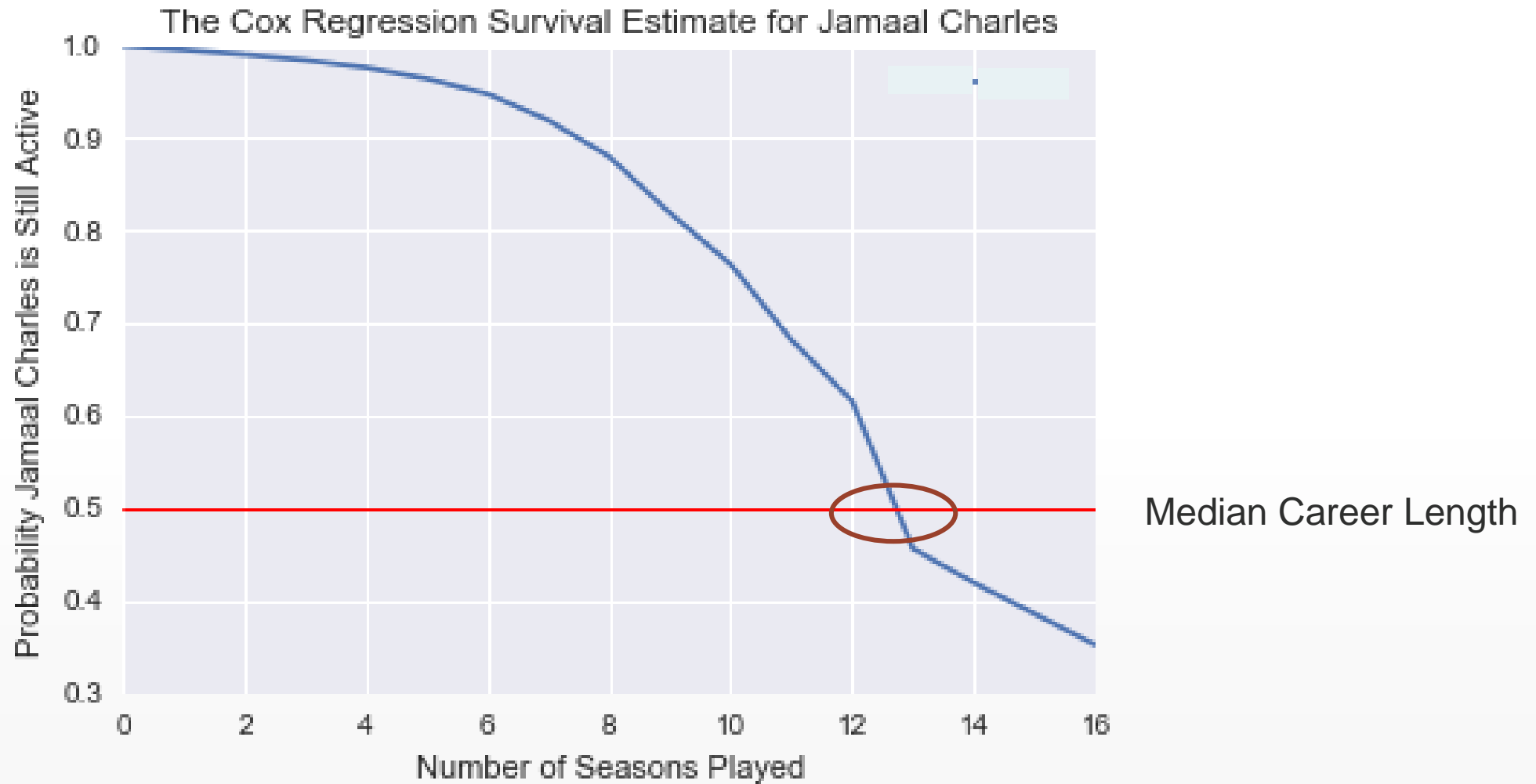
Dalvin Cook-RB FSU Seminoles
Will Start in NFL at Age 22



Jamaal Charles-RB KC Chiefs
Starting Age in NFL = 22



Dalvin Cook Could Have a Long Career in the NFL



So Should Dalvin Go Pro?

- The median career length of an NFL running back is 3-4 seasons.
- Starting age and over use negatively affect career length.
- If all goes well, Dalvin could have a long career.

YES!! GO PRO NOW!

Thank You!



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<https://www.linkedin.com/in/briancocolicchio>