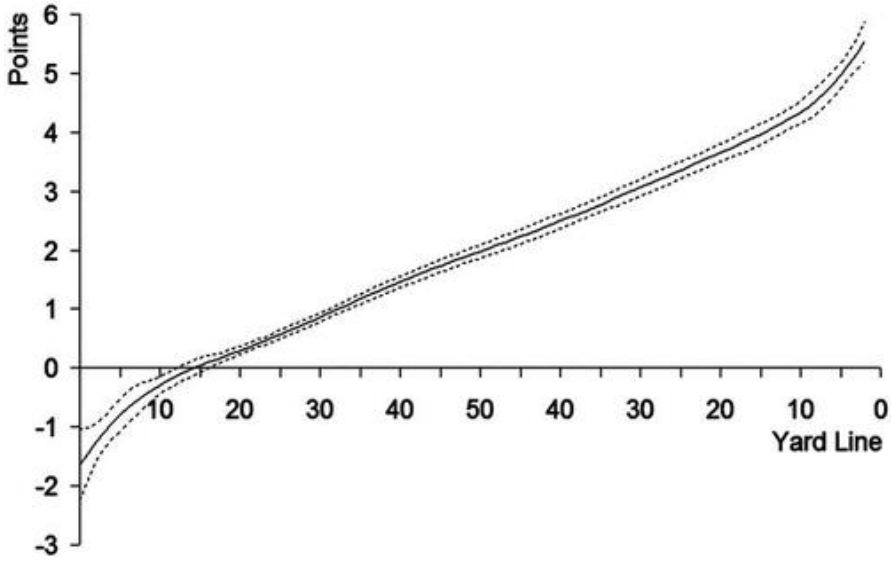
1. Consider Figure 1 from Romer (2006), reprinted below. What is the main idea that the plot conveys?

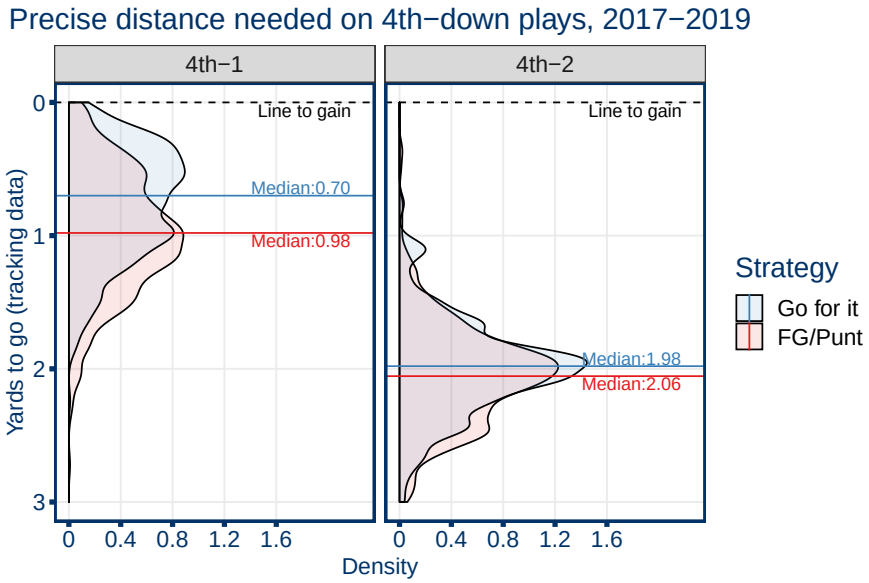


2. How would the ideas from Figure 1 influence your decision-making as a head football coach?

3. Suppose that your team was trailing by 2 points with under 2 minutes to play, and had the ball at the 50-yard line. To what extent would Figure 1 be useful to you?

4. How do the ideas in Figure 1 connect to the notion of the *expected run matrix* used in baseball analysis?

5. Consider the following figure from Lopez (2020). What is the main idea explored in the paper and conveyed by the plot?



6. Section 2 of Lopez (2020) describes the importance of "unmeasured confounding". What did Lopez identify as an "unmeasured confounding" variable? How was he eventually able to measure it?

7. What broader lessons can you see for aspiring sports analysts in this episode? What can the rest of us draw away from Lopez's experience?

References

Lopez, Michael J. 2020. "Bigger Data, Better Questions, and a Return to Fourth down Behavior: An Introduction to a Special Issue on Tracking Data in the National Football League." *Journal of Quantitative Analysis in Sports* 16 (2): 73–79. https://doi.org/10.1515/jqas-2020-0057.

Romer, D. 2006. "Do Firms Maximize? Evidence from Professional Football." *Journal of Political Economy* 114 (2): 340–65. https://doi.org/10.1086/501171.