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# Uncovering Formula One driver performances from 1950 to 2013 by adjusting for team and competition effects

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# Abstract

Subjective ratings of the best drivers in the history of Formula One are common, but objective analyses are hampered by the difficulties involved in comparing drivers who raced for different teams and in different eras. Here, we present a new method for comparing performances within and between eras. Using a statistical model, we estimate driver and team contributions to performance, as well as the effects of competition with other drivers. By adjusting for team and competition effects, underlying driver performances are revealed. Using this method, we compute adjusted scoring rates for 1950–2013. Driver performances are then compared using: (i) peak performances for 1-year, 3-year, and 5-year intervals; and (ii) number of championships. Overall, these comparisons rank Clark, Stewart, Fangio, Alonso, and Schumacher as the five greatest drivers. We confirm the model's accuracy by comparing its performance predictions to 2010–2013 lap-time data. The results of the analysis are generally in good agreement with expert opinions regarding driver performances. However, the model also identifies several undervalued and overvalued driver performances, which are discussed. This is the first objective method for comparing Formula One drivers that has yielded sensible results. The model adds a valuable perspective to previous subjective analyses.

**Keywords:** [Formula One](#); [historical analysis](#); [objective comparison](#); [performance](#); [statistical model](#)

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