

The most competitive year in Formula 1

Antoni Szczekot

1 Introduction

Formula 1, known for its thrilling races and fierce competition, inspired an analysis in this report. The aim was to identify the most competitive years in Formula 1 between 1950 and 2020.

2 Methodology

Various approaches can be used to address the question of competitiveness in this report, such as analyzing points variations in season standings or focusing on championship battles among racers in the final races. For this analysis, a relatively simple method was used to count the number of unique Grand Prix winners in the seasons spanning from 1950 to 2020. Since the number of Grand Prix races can differ from season to season, the value was normalised by the total number of races in each year. This resulted in a unique winners coefficient for each year, with a higher coefficient indicating a more competitive year. The analysis was conducted using Python, with the assistance of the NumPy and Pandas libraries.

3 Results and conclusion

All calculated coefficients are presented in Table 1. The analysis indicates that the highest coefficients, signifying the most competitive years, were achieved in both 1956 and 1961. It is also worth noting that this measure reveals a declining trend in competitiveness over time, as illustrated in Figure 1.

However, the method used in this analysis may introduce bias due to differences in Formula 1 seasons over the years. In the early years, seasons were less organized, featuring many more drivers, some of whom participated in only a single race (91 drivers in 1960 compared to 23 in 2000). Additionally, there were fewer races in each season (10 in 1960 versus 17 in 2000). Furthermore, this method solely considers race winners, overlooking competitiveness among the many other drivers in the middle and lower positions of the standings.

Year	Coefficient	Year	Coefficient	Year	Coefficient
1950	0.286	1974	0.267	1998	0.062
1951	0.25	1975	0.143	1999	0.188
1952	0.25	1976	0.125	2000	0.118
1953	0.111	1977	0.176	2001	0.059
1954	0.111	1978	0.188	2002	0.059
1955	0.286	1979	0.2	2003	0.188
1956	0.375	1980	0.214	2004	0.056
1957	0.125	1981	0.2	2005	0.105
1958	0.273	1982	0.25	2006	0.111
1959	0.111	1983	0.2	2007	0.176
1960	0.2	1984	0.125	2008	0.222
1961	0.375	1985	0.188	2009	0.059
1962	0.111	1986	0.25	2010	0.316
1963	0.3	1987	0.25	2011	0.053
1964	0.3	1988	0.125	2012	0.2
1965	0.2	1989	0.188	2013	0.105
1966	0.333	1990	0.125	2014	0.105
1967	0.182	1991	0.062	2015	0.053
1968	0.167	1992	0.062	2016	0.095
1969	0.091	1993	0.125	2017	0.1
1970	0.231	1994	0.062	2018	0.095
1971	0.182	1995	0.118	2019	0.095
1972	0.25	1996	0.062	2020	0.118
1973	0.133	1997	0.176		

Table 1: Table with coefficients

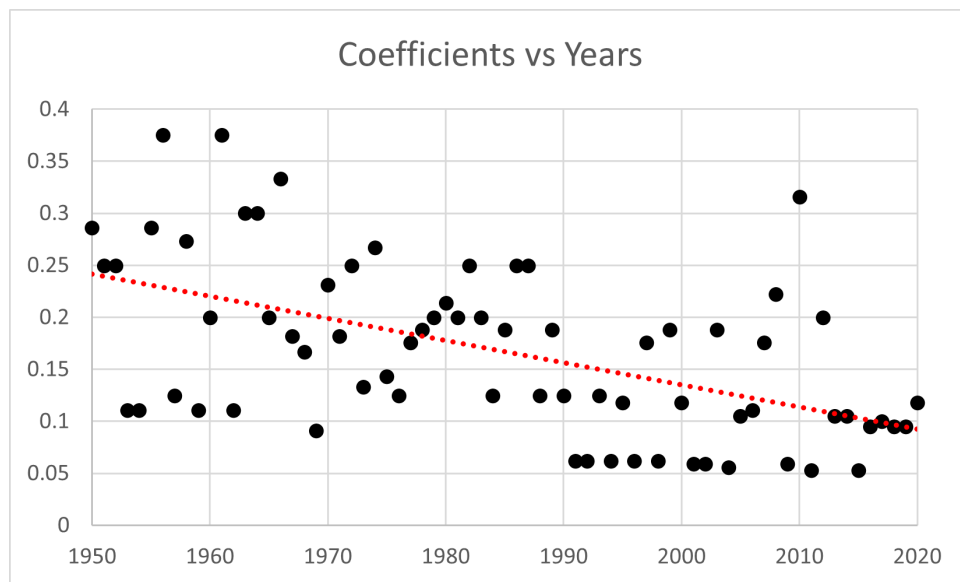


Figure 1: Data points with trendline