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Scoring Tendencies of the New Jersey Devils According to the Pareto Principle

The Pareto Principle, developed by Italian economist Vilfredo Pareto, states that for any number of events, roughly 20% of the causes create 80% of the effects. Some examples used include the concept that 20% of your customers create 80% of your sales; 20% of the population receives 80% of the income, and so on. An increasingly popular example, however, lies in the fact that 20% of athletes on a team are responsible for 80% of the points for any number of sports. To test this, a look at the New Jersey Devil's 2015-2016 hockey season, which is about 3/4s of the way over, and the point totals of their current roster will be done. Once we look at the number of players and their point totals and the proportions of both, and the Pareto Principle is applicable, it should result in the 80/20 split, or close to it.

The New Jersey Devils, located in Newark, NJ, were chosen because they are currently a hockey phenomenon in that a majority of the offense that they produce is done solely by their top 5 forwards. While most teams do tend to have a top-heavy approach that the Devils do, there is not a team that has it nearly to the same extent. Currently, the Devils' roster consists of 24 players on their roster that have played over 15 games. This cutoff is to exclude temporary minor-league call-ups, injured players, and so on. From there, we can take a look at the top 20% of the roster, which, when rounded, is 5 players – so the top 5 players on the team, perfect for the purposes of this exercise. If the Pareto Principle can be proven, we would need these top 5 scorers to account for 80% of the teams goals overall.

These top five players, with goals in parentheses, are Kyle Palmieri (23), Adam Henrique (19), Lee Stempniak (16), Michael Cammalleri (14), and Travis Zajac (9), for a total of 81 goals.

Overall, the Devils have scored 138 goals as of February 25th, 2016. The 81 goals of the top scorers is thus roughly 59% of the total, so it is not nearly enough for the Pareto Principle to be in effect. However, hockey also counts primary and secondary assists on the goals as “points” in addition to goals scored. If the scope is broadened to include not only goals, but also assists, there is still a chance that it can prove the Pareto Principle.

Adding in primary and secondary assists, the Devils have 352 “points” overall, which includes the 138 goals. This includes goals, primary assists, and secondary assists, essentially counting any offense a player generates. The point totals of the top five scorers, same as above, is 187. With these two numbers, 187 and 352, it is can be said that the top 5 scorers have 53.13% of the Devils total points this far in the season, which is even lower than our look at only goals.

Even stretching the case further, and discounting any points or goals by the Defensemen (79 total points), and looking entirely at the forwards, the top 5 scorers on the New Jersey Devils only account for 68% of the point total. The Pareto Principle is not proven. The only plausible case for the Pareto Principle is looking strictly at goals scored by Forwards. Once you take away offense by Defensemen, and assists overall, you are left with 113 goals scored by forwards. The 81 goals scored in the original example are then 71.68% of the total, the closest we can get to reaching the 80/20 split of the Pareto Principle.

Team Goals: 138	Top 5 Forwards Goals: 81	Percentage: 58.7%
Team Points: 352	Top 5 Forwards Points: 187	Percentage: 53.13%
Goals (Forwards Only): 113	Top 5 Forwards Goals: 81	Percentage: 71.68%
Points (Forwards Only): 273	Top 5 Forwards Points: 187	Percentage: 68.5%