This is the second of two write-ups required to complete Level One of the SABR Analytics Certification Course. I was given data from four seasons of two anonymous pitchers and was tasked with determining which player I would rather have on my team for the next few years. Pitcher A was the age 26-29 seasons of Kyle Hendricks, while Pitcher B was the age 31-34 seasons of Jon Lester.

Meanwhile, Pitcher A's and Pitcher B's cumulative statistics from the previous four seasons do not provide a clear choice for which one would be more fitting of a roster spot, unlike with the two first basemen. Each pitcher is superior in a few stats, but each strength seems to be counteracted by a shortcoming. For example, Pitcher B had struck out nearly 130 more batters than Pitcher A during the past four seasons, but he had also walked 70 more batters over that same span. However, when looking at the two pitchers' season-by-season numbers, I found that Pitcher A projects to be the better pitcher moving forward.

On the surface, both players' aggregate numbers are very similar. Pitcher A seems to have a decent advantage in ERA, as it is 32 points lower than Pitcher B's. However, there is only a seven-point difference in the two pitchers' FIPs. With the smaller FIP difference, it can be argued that Pitcher A's team fielded a better defense than Pitcher B's team. It can also be said that Pitcher A had an unsustainably low HR/FB rate, as his xFIP was 27 points higher than his FIP. Pitcher B, on the other hand, posted an xFIP that was nearly identical to his FIP. Regardless, none of these statistics give a significant advantage to one particular pitcher. This includes all three measurements of wins above replacement, as the only type of WAR with a significant difference between the two pitchers was bWAR. This statistic favored Pitcher A by nearly four wins, but this may be due to bWAR's usage of ERA compared to other run prevention statistics.

Even though both pitchers have contributed similar value to their respective teams over the previous four years, it was how that value was distributed over those four seasons that really made the difference in my decision. Pitcher A's most valuable season was clearly the first of the four seasons, but he has stayed consistent over the past three years. Pitcher B, on the other hand, has seen a steady

decline in each of the three given measurements of WAR. This noticeable drop-off is cause for concern, especially since this was occurring while Pitcher B was consistently posting 32 starts per year. This decline can also be seen in other counting stats, such as walks and strikeouts. Although Pitcher B averaged over 180 strikeouts per season during this stretch, his yearly strikeout totals have decreased over time. Last season's total of 149 is less than the number of strikeouts that Pitcher A had in three of the past four seasons. Therefore, Pitcher B's higher overall strikeout total does not necessarily mean that he will continue that pace going forward. Conversely, Pitcher B's walk totals, which were already higher than Pitcher A's, have increased each year. There was also a yearly increase in many of Pitcher B's rate stats, such as FIP, SIERA, and xFIP. I observed a similar phenomenon in some of Pitcher A's rate stats as well, but the year-to-year differences have not been as drastic. Since Pitcher A's WAR totals have remained consistent over the past three years, I am less concerned that this trend will continue.

Like with the two position players, age was another key factor in my decision, especially when comparing players of very similar caliber. Pitcher A is still in the midst of his prime at age 29, while Pitcher B is already 34 and probably has only a few good seasons left. It is also important to note that Pitcher B had thrown about 65 more innings than Pitcher A over the last four years, and this larger workload will definitely have more of an effect on an older pitcher such as Pitcher B. Based on what I discussed earlier regarding both pitchers' current trajectories, this age gap becomes even more apparent.

Looking at the four-season averages for both pitchers gives the appearance of two extremely similar pitchers, but the season-to-season numbers tell a different story. Although Pitcher B had the higher peak, Pitcher A's consistency throughout the past four years appears more sustainable going forward. Given that Pitcher B is already 34, his decline may exacerbate in the coming years, and banking on a mid-30s resurgence is not something that I am willing to take a chance on. With these reasons, I am

confident that Pitcher A will benefit the team in the coming years and is the better option to fill the roster spot.