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Post-Pandemic Play: Evaluating Home Advantage in European Soccer After COVID-19

Checkpoint 6

Question & Outcome

This analysis examines whether home field advantage in professional European soccer, specifically within the Premier League, declined during the COVID-19 pandemic and if it rebounded afterward. The focus is on home match performance measured using home points per match (Pts/Mp), which directly reflects competitive success and is easily understood by coaches, analysts, and bettors. A decline in home advantage should appear as fewer points earned at home during the COVID season relative to pre and post pandemic periods.

Data Used

For this analysis I used the cleaned Premier League dataset from Checkpoint 4 labeled **"Clean Data PL"**. Each row represents a single team, capturing home and away performance for that season. The sample includes 14 Premier League teams that competed in all three seasons, ensuring consistent comparisons that are not affected by promotion or relegation. The seasons analyzed are:

    (1) Pre COVID: 2018-2019
    (2) COVID: 2020-2021
    (3) Post COVID: 2023-2024

La Liga is excluded from this analysis due to widespread missing attendance data during the 2020-21 season.

Method Choice

I used a group mean comparison across seasons to assess changes in home performance over time. This method directly fits the research question, which asks whether home field advantage weakened and later recovered. The baseline compares average home Pts/MP across the three seasons. As a small improvement, results are interpreted relative to the pre COVID baseline to quantify the magnitude and direction of change during and after the pandemic.

This approach prioritizes interpretability over predictive performance, which is appropriate given the small sample size and the goal of explaining changes in home field advantage rather than forecasting match outcome.

Analysis Spec

Figure 19

Component	Specification
Research Question	Did home field advantage decline during COVID and rebound post COVID?
Outcome (DV)	Average Home Points Per Match (Pts/MP)
Predictor / Groups (IV)	Season group: Pre COVID (2018-19), COVID (2020-21), Post COVID (2023-24)
Sample	14 Premier League teams that played all three seasons
Row Definition	one team's home/away results for each season

Results: *Average Home Points Per Match by Season (Premier League)*

Figure 20

Period	Average Home Pts/MP	Change vs 2018-19
2018-19	1.80	0.00
2020-21	1.41	-0.39
2023-24	1.78	-0.03

Average home points per match declined from 1.80 in 2018-19 to 1.41 in 2020-21, a reduction of 0.39 points per match relative to the pre COVID baseline. In sports terms, this effect is meaningful: across a 19 match home season, a 0.39 point drop translates to roughly 7-8 fewer home points or about two to three lost wins. This represents a substantial weakening of home field advantage during the COVID season.

By the 2023-24 season average home points per match recovered to 1.78, only 0.03 points below the pre COVID level. This difference indicates that home field advantage largely rebounded once normal stadium environments returned.

Checks

All 14 teams appear in all three seasons, avoiding bias from promotion or relegation.

However, I reviewed home points per match for each of the 14 clubs across all seasons. While most teams experienced a decline in home performance during the COVID season, not all teams followed this pattern and not all teams improved again in the post COVID season. This indicates that the COVID effect was not uniform across teams and suggests meaningful differences in how clubs responded to empty or limited capacity stadiums.

One explanation is that weaker teams may have been less negatively affected or in some cases benefited from reduced crowd pressure during the COVID season. On the other hand, stronger teams that typically rely on home crowd intensity may have lost a larger portion of their home advantage. This variation reinforces that the overall decline observed in the aggregate results reflects an average effect rather than a universal outcome for every team.

Interpretation & Limitations

During the COVID season, teams earned an average of 0.39 fewer home points per match. This amounts to roughly 7-8 fewer home points over a full season and is large enough to affect standings, European qualification, and relegation outcomes. This decline was not uniform across teams as some clubs experienced little change or even improved home performance. As a result, home field advantage should be viewed as team specific rather than a fixed league wide effect.

This first analysis relies on season level averages and masks team level variation, limiting its ability to explain why some teams were more affected than others.

Next Steps

For Checkpoint 7, the analysis will expand to all 20 Premier League teams with an indicator to account for promotion and relegation effects. Average home stadium attendance will be added to explain team level differences in home field advantage during COVID.