Player turnover strategies in the five major European leagues

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1. Introduction

This report analyses club strategies in the area of player turnover. It focuses on the five major European leagues (English Premier League, Spanish Liga, German Bundesliga, Italian Serie A and French Ligue 1) for the thirteen seasons between 2005/06 and 2017/18. The study investigates two indicators: the number of players fielded in domestic league games over a season and the percentage of minutes played by the 11 most fielded footballers per club.

For both variables, a negative correlation was measured with points per match achieved at the end of the season: the worse the results, the more turnover, and vice versa. In most cases, player turnover is not the solution to the problems encountered. On the contrary, too many changes often lead to a further decrease in performance.

2. Players fielded

During the period analysed, big-5 league clubs fielded on average 27.5 players per season. This number increased from 27.1 players during the six first seasons surveyed to 27.9 for the seven last ones. This finding shows that the introduction of squad size limits had no effect from a practical perspective. The possibility to renew squad lists in January and exceptions for young players reduce the impact of this measure.

The analysis by league highlights the existence of significant differences. On average, over the course of the same season, German Bundesliga teams field 2.3 players less than Italian Serie A clubs. This gap partially relates to the lower number of matches of the German season with respect to the other big-5 leagues: 34 compared to 38. It also reflects the lower transfer market activity of top division German teams both in summer after the start of the season and in winter.

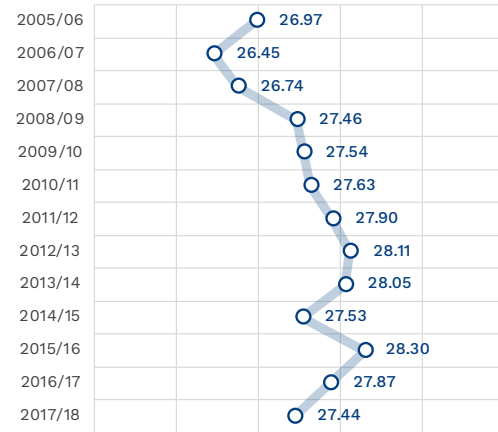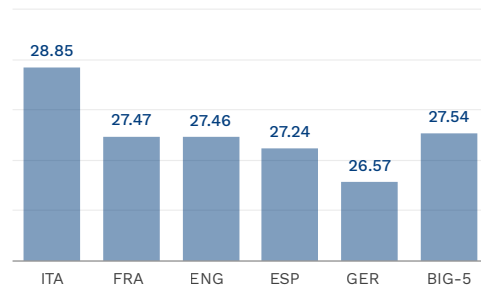**Figure 1: average number of players fielded per club and season, big-5 (2005-2018)**

Season	Value
2005/06	26.97
2006/07	26.45
2007/08	26.74
2008/09	27.46
2009/10	27.54
2010/11	27.63
2011/12	27.90
2012/13	28.11
2013/14	28.05
2014/15	27.53
2015/16	28.30
2016/17	27.87
2017/18	27.44

Figure 2: average number of players fielded per club and season, by league (2005-2018)

League	Value
ITA	28.85
FRA	27.47
ENG	27.46
ESP	27.24
GER	26.57
BIG-5	27.54

The gaps in the number of players fielded between clubs are also marked. The record level of players fielded over a season was registered for Benevento in 2017/18: 41 footballers. The Italian club was finally relegated. The same fate happened to thirteen out of the ninetheen teams having employed more than 35 players in domestic league games. This clearly shows that fielding too many players is detrimental to performance.

The only team in the period studied that fielded less than 20 players over a season was Borussia Mönchengladbach in 2014/15. This did not prevent them from finishing in an excellent third place. That season, the team coached by Lucien Favre also participated in the Europa League, where it reached the last 16. All the teams having focused the most on a core group of players performed quite well. While the achievement of good results reduces the incentives for player turnover, our analysis suggests that low player turnover in turn favours good results.

Figure 4: least players fielded per club and season, big-5 (2005-2018)

1.	Mönchengladbach [GER, 2014/15]	19	* 3
2.	Leverkusen [GER, 2010/11]	21	2
.	Bayern München [GER, 2011/12]	21	2
.	Nancy [FRA, 2007/08]	21	4
.	Aston Villa [ENG, 2008/09]	21	6
.	Aston Villa [ENG, 2007/08]	21	6
.	Mönchengladbach [GER, 2013/14]	21	6
8.	Lille [FRA, 2010/11]	22	1
.	Bayern München [GER, 2016/17]	22	1
.	Juventus [ITA, 2005/06]	22	** 1
.	Barcelona [ESP, 2006/07]	22	2
.	Bordeaux [FRA, 2007/08]	22	2
.	Napoli [ITA, 2015/16]	22	2
.	Roma [ITA, 2016/17]	22	2
.	Wolfsburg [GER, 2014/15]	22	2
.	Lille [FRA, 2013/14]	22	3
.	Atlético Madrid [ESP, 2016/17]	22	3
.	Atlético Madrid [ESP, 2008/09]	22	4
.	Lens [FRA, 2005/06]	22	4
.	Real Sociedad [ESP, 2012/13]	22	4
.	Leverkusen [GER, 2014/15]	22	4
.	Internazionale [ITA, 2017/18]	22	4
.	St-Étienne [FRA, 2007/08]	22	5
.	Real Zaragoza [ESP, 2006/07]	22	6
.	Fiorentina [ITA, 2006/07]	22	6
.	Blackburn [ENG, 2007/08]	22	7
.	Mönchengladbach [GER, 2012/13]	22	8
.	Dortmund [GER, 2006/07]	22	9
.	Mallorca [ESP, 2008/09]	22	9
.	Rennes [FRA, 2014/15]	22	9
.	Athletic Club [ESP, 2011/12]	22	10
.	Hannover [GER, 2006/07]	22	11
.	Karlsruher [GER, 2007/08]	22	11
.	Bournemouth [ENG, 2017/18]	22	12
.	Valenciennes [FRA, 2007/08]	22	13
.	Paris St-Germain [FRA, 2009/10]	22	13
.	Cagliari [ITA, 2010/11]	22	14
.	Ingolstadt [GER, 2016/17]	22	17
.	Tenerife [ESP, 2009/10]	22	19

* Final ranking / ** Cancelled

Figure 3: most players fielded per club and season, big-5 (2005-2018)

1.	Benevento [ITA, 2017/18]	41	*20REL
2.	Fulham [ENG, 2013/14]	39	19REL
3.	Parma [ITA, 2014/15]	38	20REL
.	Pescara [ITA, 2012/13]	38	20REL
.	Metz [FRA, 2007/08]	38	20REL
.	Sassuolo [ITA, 2013/14]	38	17
7.	Málaga [ESP, 2017/18]	37	20REL
.	Siena [ITA, 2012/13]	37	18REL
.	Genoa [ITA, 2012/13]	37	17
10.	Metz [FRA, 2017/18]	36	20REL
.	Livorno [ITA, 2009/10]	36	20REL
.	Le Havre [FRA, 2008/09]	36	20REL
.	Las Palmas [ESP, 2017/18]	36	19REL
.	Palermo [ITA, 2012/13]	36	19REL
.	Sochaux [FRA, 2013/14]	36	18REL
.	Chievo Verona [ITA, 2013/14]	36	16
.	Middlesbrough [ENG, 2005/06]	36	14
.	Internazionale [ITA, 2012/13]	36	9
.	Wolfsburg [GER, 2011/12]	36	8

* Final ranking / [REL]: relegated teams

3. Playing time concentration

The indicator of the average percentage of domestic league minutes played by the 11 most employed footballers per team confirms previous findings. At big-5 league level, this percentage went down slightly from 72.0% during the six first seasons analysed to 71.1% for the seven last ones. A decrease was observed in all leagues except the English Premier League.

From 2005/06 to 2017/18, the 11 most fielded footballers per club and season played 73.2% of total minutes in the German Bundesliga. This percentage was only 70.3% in the Italian Serie A and in the Spanish Liga. The figures measured for the English Premier League and the French Ligue 1 are closer to the German than the Italian or Spanish ones.

Figure 5: % of domestic league minutes by the 11 most fielded players per club and season, big-5 (2005-2018)
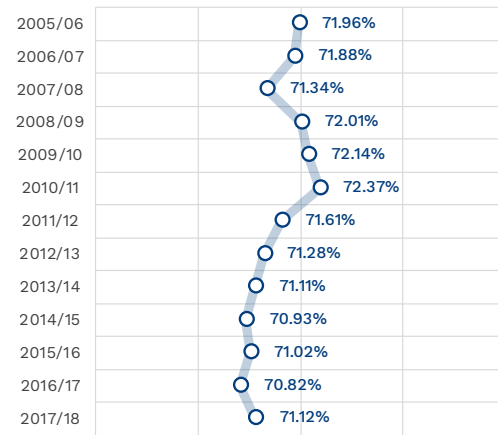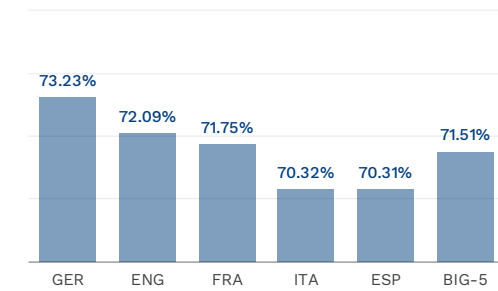
Season	%
2005/06	71.96%
2006/07	71.88%
2007/08	71.34%
2008/09	72.01%
2009/10	72.14%
2010/11	72.37%
2011/12	71.61%
2012/13	71.28%
2013/14	71.11%
2014/15	70.93%
2015/16	71.02%
2016/17	70.82%
2017/18	71.12%

Figure 6: % of domestic league minutes by the 11 most fielded players per club and season, by league (2005-2018)

	%
GER	73.23%
ENG	72.09%
FRA	71.75%
ITA	70.32%
ESP	70.31%
BIG-5	71.51%

The analysis of the percentage of domestic league minutes played by the 11 most employed footballers per club also reveals that high player turnover is not appropriate for performance. Six out of the ten clubs at the head of the table ranked last at the end of the season in their respective league. Two additional teams were also relegated. This is a clear reflection of the real danger faced by clubs of finding themselves trapped in a vicious circle of poor results and instability, and vice versa.

Four champions figure among the ten teams whose 11 most fielded footballers played for the highest percentage of minutes: Leicester City (2015/16), Chelsea (2016/17), LOSC Lille (2010/11) and Borussia Dortmund (2010/11). The highest figure overall was recorded for Napoli during the 2015/16 season, when they ranked second and achieved direct qualification for the UEFA's Champions League.

Figure 7: lowest % of domestic league minutes by the 11 most fielded players per club and season, big-5 (2005-2018)

1.	Benevento [ITA, 2017/18]	51.15%	*20[REL]
2.	Pescara [ITA, 2012/13]	54.93%	20[REL]
3.	Gimnàstic Tarragona [ESP, 2006/07]	55.88%	20[REL]
4.	Real Betis [ESP, 2013/14]	56.03%	20[REL]
5.	Derby County [ENG, 2007/08]	56.99%	20[REL]
6.	Real Zaragoza [ESP, 2009/10]	57.08%	14
7.	Queens Park Rangers [ENG, 2012/13]	57.50%	20[REL]
8.	Calcio Catania [ITA, 2013/14]	57.63%	18[REL]
9.	Bordeaux [FRA, 2015/16]	57.69%	11
10.	Nancy [FRA, 2016/17]	58.14%	19[REL]
11.	Las Palmas [ESP, 2017/18]	58.24%	19[REL]
12.	Portsmouth [ENG, 2009/10]	58.28%	20[REL]
13.	Boulogne [FRA, 2009/10]	58.45%	19[REL]
14.	Parma [ITA, 2014/15]	58.76%	20[REL]
15.	Granada [ESP, 2016/17]	58.86%	20[REL]
16.	Reading [ENG, 2012/13]	59.00%	19[REL]
17.	Ascoli [ITA, 2006/07]	59.07%	19[REL]
18.	Córdoba [ESP, 2014/15]	59.59%	20[REL]
.	Real Valladolid [ESP, 2009/10]	59.59%	18[REL]
20.	Sassuolo [ITA, 2013/14]	59.70%	17

* Final ranking / [REL]: relegated teams

Figure 8: highest % of domestic league minutes by the 11 most fielded players per club and season, big-5 (2005-2018)

1.	Napoli [ITA, 2015/16]	87.98%	* 2
2.	Fulham [ENG, 2008/09]	86.47%	7
3.	Leicester [ENG, 2015/16]	86.29%	1
4.	Aston Villa [ENG, 2007/08]	86.15%	6
5.	Chelsea [ENG, 2016/17]	85.53%	1
6.	Leverkusen [GER, 2008/09]	85.19%	9
7.	Lille [FRA, 2010/11]	85.09%	1
8.	Mönchengladbach [GER, 2011/12]	84.93%	4
9.	Dortmund [GER, 2010/11]	84.80%	1
10.	Aston Villa [ENG, 2009/10]	84.45%	6
11.	Bolton [ENG, 2008/09]	84.41%	13
12.	Napoli [ITA, 2017/18]	84.31%	2
13.	Paris St-Germain [FRA, 2008/09]	84.07%	6
14.	Udinese [ITA, 2010/11]	83.99%	4
15.	Mönchengladbach [GER, 2013/14]	83.92%	6
16.	Burnley [ENG, 2014/15]	83.84%	19
17.	Bolton [ENG, 2006/07]	83.78%	7
18.	Birmingham [ENG, 2009/10]	82.96%	9
19.	Leverkusen [GER, 2009/10]	82.80%	4
20.	Wigan [ENG, 2009/10]	82.79%	16

* Final ranking

4. Conclusion

The existence of a negative correlation between the number of players fielded and points per match confirms the relevance of sticking with a core group of footballers to optimise performance. The number of points per match achieved per team progressively goes down in parallel with the increase of players fielded. The big gap between clubs that employed less than 25 players (1.61 points per match) and those that employed more than 32 (1.00 points per match) confirm the detrimental effect of very high player turnover.

As highlighted in the scatter plot below, a negative correlation was also measured between the percentage of domestic league minutes played by the 11 most fielded footballers per team and points per match achieved at the end of the season. This confirms that too many changes in line-ups do not constitute a good strategy for optimising results.

While it is certainly easier to limit player turnover when results are satisfactory, this report provides evidence that too many changes in the starting 11 and over-activity in the January transfer window generally do not allow teams to improve their performances when results are poor. On the contrary, numerous changes tend to affect players' confidence and aggravate the situation.

Figure 9: points per match according to the number of players fielded during the season, big-5 (2005-2018)

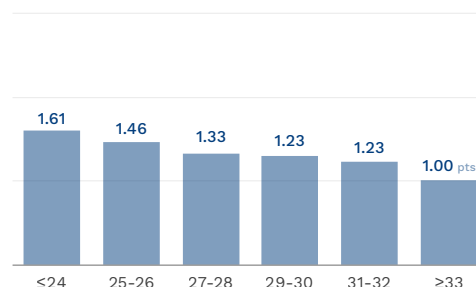| ≤24	25-26	27-28	29-30	31-32	≥33
1.61	1.46	1.33	1.23	1.23	1.00 pts

Figure 10: points per match according to the % of domestic league minutes by the 11 most fielded players, big-5 (2005-2018)

<66%	66-70%	70-74%	74-78%	78-82%	>82%
1.14	1.29	1.40	1.45	1.55	1.70 pts