

Demographic changes and unconventional clubs in European football

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1. Introduction

The 69th Monthly Report analyses the data from the annual census carried out since 2009 by the CIES Football Observatory on players from 31 European top men divisions. It first presents the changes observed on a demographic level and then highlights the clubs that stand out the most from league rivals from the point of view of age, the presence of club-trained players, that of expatriates, as well as squad stability.

For 2021, the sample is made up of 12,141 footballers from 473 teams of the 31 top divisions covered (25.7 players per club). For certain analyses, the leagues were categorised into four levels according to their average UEFA rankings from 2009 to 2021. The first level is made up of the big-5 leagues, the second contains six championships, the third comprises ten, while the final one regroups the ten remaining competitions.

To be included, players had to be present on the 1st of October of the year of reference in the first team squad of the clubs analysed (on the 20th of October for 2020). Moreover, they had to have already played in domestic league games during the current season or, this being not the case, to have played matches in adult championships during each of the two preceding seasons (B-teams not included). The second and eventual third goalkeepers were considered in all cases.

Figure 1: study sample, by league (2021)

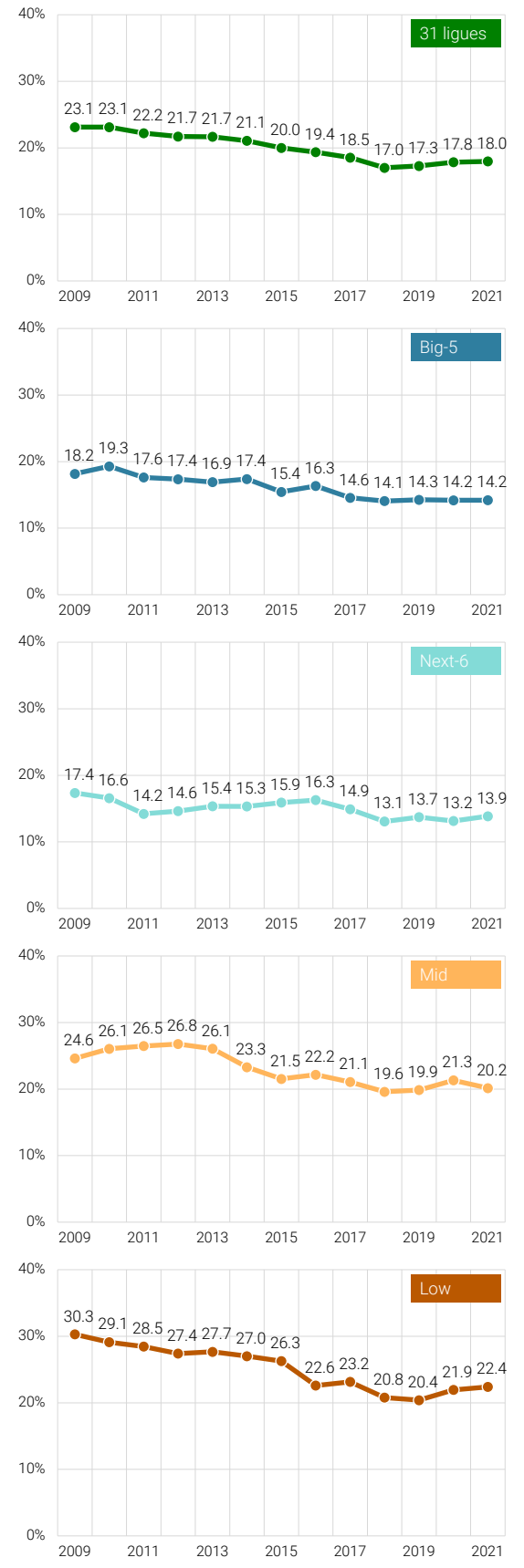
League	Level	Players	Teams
 Liga (ESP)	big-5	535	20
 Premier League (ENG)	big-5	508	20
 Bundesliga (GER)	big-5	470	18
 Serie A (ITA)	big-5	554	20
 Ligue 1 (FRA)	big-5	510	20
 Primeira Liga (POR)	next-6	463	18
 Premier League (RUS)	next-6	405	16
 Premier League (UKR)	next-6	411	16
 Eredivisie (NED)	next-6	438	18
 Pro League (BEL)	next-6	458	18
 Süper Lig (TUR)	next-6	539	20
 Super League (GRE)	mid	374	14
 Super League (SUI)	mid	262	10
 Bundesliga (AUT)	mid	293	12
 Czech Liga (CZE)	mid	408	16
 Superliga (DEN)	mid	296	12
 Liga I (ROM)	mid	441	16
 Cyprus (CYP)	mid	302	12
 Premiership (SCO)	mid	301	12
 1. HNL (CRO)	mid	283	10
 Ligat haAl (ISR)	mid	348	14
 Ekstraklasa (POL)	low	482	18
 Allsvenskan (SWE)	low	379	16
 Premier League (BLR)	low	376	15
 Super Liga (SRB)	low	426	16
 Eliteserien (NOR)	low	390	16
 A PFG (BUL)	low	335	14
 Super Liga (SVK)	low	306	12
 1. SNL (SVN)	low	249	10
 NB I (HUN)	low	314	12
 Veikkausliiga (FIN)	low	285	12

2. Demographic changes

The first longitudinal analysis is about the proportion of club-trained players in squads. This category comprises footballers having played for at least three seasons between 15 and 21 years of age in their employer club. After having steadily decreased from 2008 to 2018, the percentage of players from the youth academy of their employer club has slightly increased for the third consecutive year. Nevertheless, the level remains considerably lower than during the first years of the census.

The slight increase in club-trained players since 2018 has mainly involved the teams in the least competitive leagues (+1.6%), where the decrease was also the greatest between 2009 and 2018 (-9.5%). Over the period as a whole, the differences between the league levels have tended to diminish. However, the teams from the two best league category levels continue to be made up of a smaller proportion of club-trained players than those from the lower level competitions.

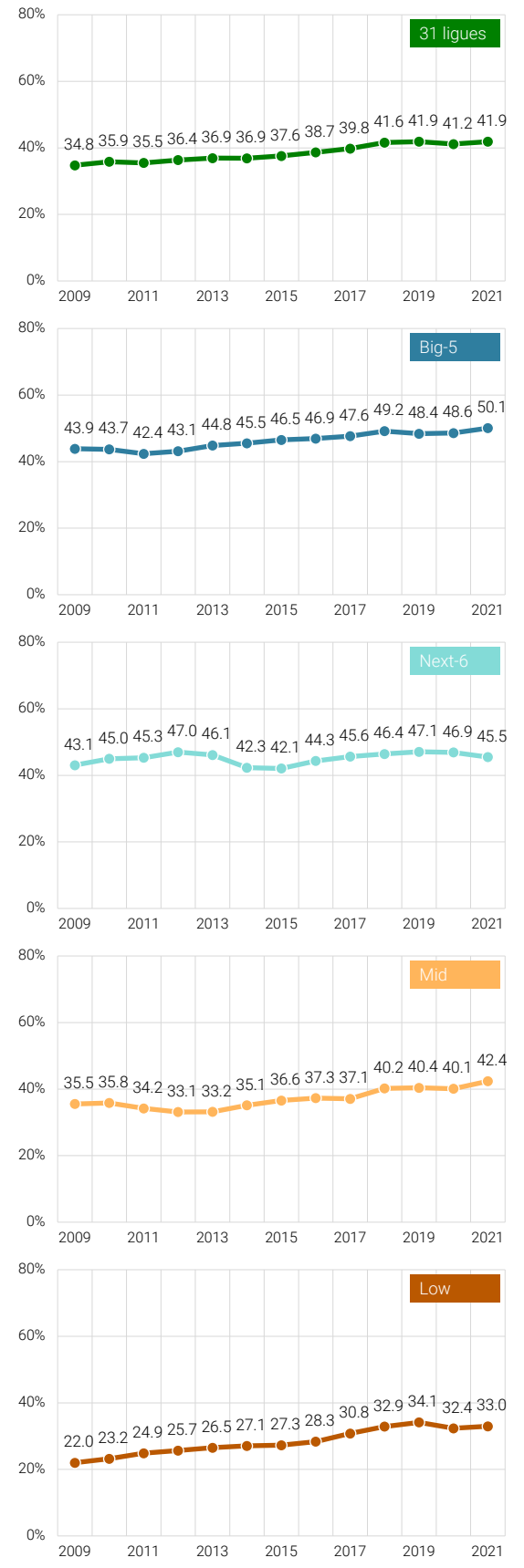
Figure 2: % of club-trained players (2009-2021)



The second indicator analysed involves the proportion of expatriates in teams. This category defines players having grown up in another association than that of their employer club. After having steadily increased up until 2019, the proportion of imported footballers fell slightly in 2020 within the context of the pandemic. In 2021, however, a renewed increase has been registered and the percentage of expatriates has reached again the record level of 2019.

Since 2009, the proportion of expatriate players in squads has increased for all league levels. Internationalisation has been particularly marked within the least competitive leagues, even though the percentage of expatriates there remains lower than in the top championships. In 2021, for the first time in history, expatriates represent more than half of the players in the five major European leagues.

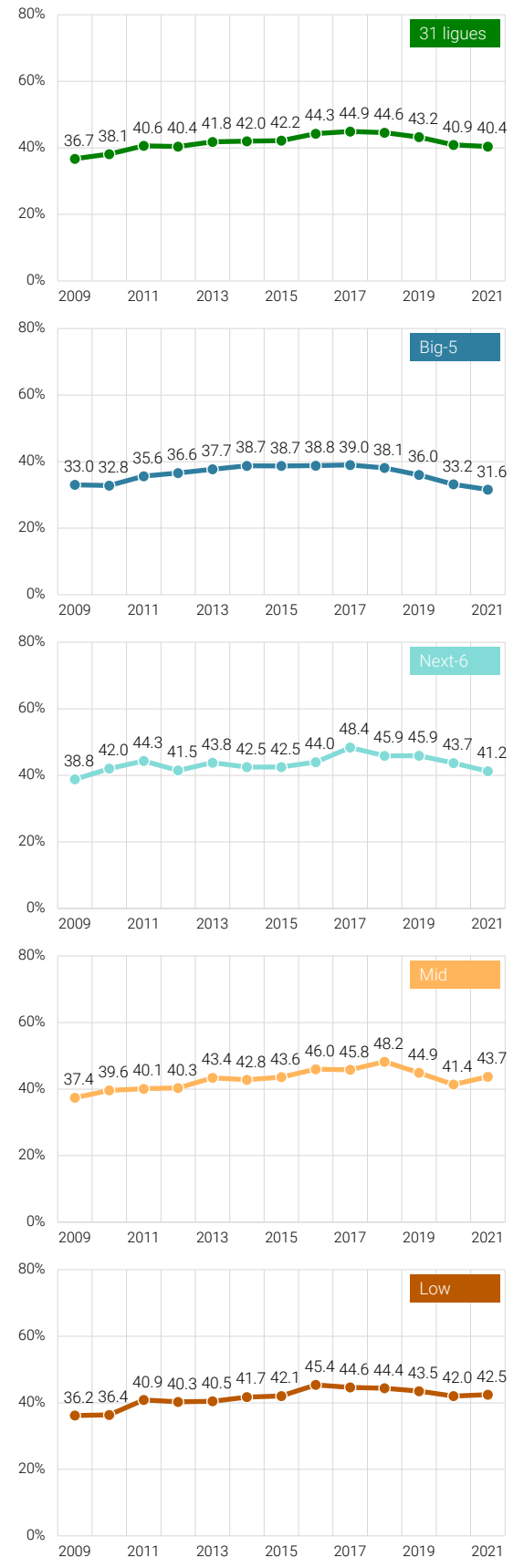
Figure 3: % of expatriate players (2009-2021)



A third criterion to measure the demographic change in European football is squad stability. The variable chosen is the proportion of new recruits in squads, that is players signed since the 1st January of the census year. Footballers returning from loan are also included in the “new signings” category, while those from youth academies are not. After having tended to increase up until 2017, the part of new players has decreased to reach in 2021 a level that had not been recorded since 2012.

The proportion of new recruits is traditionally lower in clubs from the big-5 leagues than in the other championships. The differences have nevertheless grown over time, in particular since 2017, mirroring the economic polarisation of European football. The ability to maintain a decent level of stability in the squad is part of the competitive advantage that the wealthiest clubs have at their disposal.

Figure 6: % of new recruits (2009-2021)



3. Unconventional clubs

This chapter presents the teams whose squad features differ noticeably from those observed for league rivals. The first indicator analysed is the average age of the players. The Ukrainians from FK Mariupol are the youngest team compared to their league rivals (-4.07 years), followed by the Danes from FC Nordsjælland (-3.73 years). The latter are the youngest team among the 473 analysed (20.81 years), while the Slovakian league gathers the youngest players (24.53 years).

The Bulgarians of Pirin Blagoevgrad are the club with the oldest players in comparison to the average measured in their league (+3.76 years). Two teams from the five major championships are among the ten clubs that stand out most from their rivals: the English team Burnley FC and the Spanish side Elche CF. The extreme values were measured in the Turkish and Greek championships at league level (27.59 years), as well as for Burnley FC for clubs (29.91 years).

Figure 5: youngest clubs in comparison to the league average (October 2021)

	Age	League	Gap
FK Mariupol (UKR)	21.29	25.36	-4.07
FC Nordsjælland (DEN)	20.81	24.54	-3.73
FK Metalac (SRB)	21.93	25.18	-3.25
FC Ilves (FIN)	22.32	25.40	-3.08
Spezia Calcio (ITA)	23.99	26.71	-2.72
Energetik-BGU (BLR)	22.91	25.62	-2.71
Dinamo București (ROM)	23.78	26.49	-2.71
FCV Farul (ROM)	23.94	26.49	-2.55
VfB Stuttgart (GER)	23.59	26.01	-2.42
Levski Sofia (BUL)	23.39	25.79	-2.40
Chornomorets Odessa (UKR)	22.97	25.36	-2.39
Botev Vratsa (BUL)	23.43	25.79	-2.36
FC Famalicão (POR)	23.51	25.69	-2.18
Zalaegerszegi TE (HUN)	24.53	26.68	-2.15
FC Isloch (BLR)	23.52	25.62	-2.10

Figure 6: oldest clubs in comparison to the league average (October 2021)

	Age	League	Gap
Pirin Blagoevgrad (BUL)	29.55	25.79	+3.76
Veres Rivne (UKR)	28.63	25.36	+3.27
Burnley FC (ENG)	29.91	26.65	+3.26
FK Kolubara (SRB)	27.94	25.18	+2.76
Elche CF (ESP)	29.67	27.15	+2.52
Slovan Bratislava (SVK)	27.00	24.53	+2.47
FK Tsarsko Selo (BUL)	28.19	25.79	+2.40
Bnei Sakhnin (ISR)	28.14	25.85	+2.29
FK Crvena Zvezda (SRB)	27.43	25.18	+2.25
Anorthosis FC (CYP)	29.67	27.50	+2.17
Sparta Rotterdam (NED)	26.84	24.68	+2.16
Inhulets Petrove (UKR)	27.50	25.36	+2.14
FK Partizan (SRB)	27.32	25.18	+2.14
RC Strasbourg (FRA)	27.70	25.58	+2.12
Internazionale (ITA)	28.83	26.71	+2.12

The Slovaks from MŠK Žilina are not only the club where the proportion of club-trained players is the highest (79.2%), but also the one which deviates the most from its league average (+56.0%). Žilina is ranked ahead of three other teams where club-trained players make up the majority of the squad. Among them, we notably find Athletic Club. Another Basque club, Real Sociedad, is in the top ten of the rankings. The highest value per league was measured in Norway (29.2%).

In Total, 39 of the 473 teams analysed had no club-trained players in their squad. Among these, the Swedish team Östersunds FK is the one that stands out the most from its league (-24.8%). Three Spanish teams are also part of the ten most atypical clubs from the point of view of club-trained footballers: Getafe CF, Granada CF and Elche CF. The lowest value at league level was recorded in the Turkish Süper Lig (8.5%).

Figure 7: clubs with the highest % of club-trained players in comparison to the league average (October 2021)

	%	League	Gap	
MŠK Žilina (SVK)	79.2	23.2	+56.0	
Dinamo București (ROM)	65.5	17.9	+47.6	
Levski Sofia (BUL)	59.1	20.6	+38.5	
Athletic Club (ESP)	56.0	20.6	+35.4	
Dynamo Kyiv (UKR)	48.3	14.8	+33.5	
Debreceni VSC (HUN)	48.3	17.2	+31.1	
Austria Wien (AUT)	52.2	21.5	+30.7	
Halmstads BK (SWE)	55.0	24.8	+30.2	
Sigma Olomouc (CZE)	54.2	24.3	+29.9	
Real Sociedad (ESP)	48.4	20.6	+27.8	
Dinamo Moskva (RUS)	41.7	15.8	+25.9	
Dinamo Minsk (BLR)	45.8	20.7	+25.1	
AS St-Etienne (FRA)	39.3	14.3	+25.0	
FK Mladost (SRB)	46.7	23.2	+23.5	
FK Partizan (SRB)	46.7	23.2	+23.5	

Figure 8: clubs with the lowest % of club-trained players in comparison to the league average (October 2021)

	%	League	Gap	
Östersunds FK (SWE)	0.0	24.8	-24.8	
HIFK Helsinki (FIN)	0.0	24.2	-24.2	
ŠKF Sereď (SVK)	0.0	23.2	-23.2	
Elche CF (ESP)	0.0	20.6	-20.6	
Getafe CF (ESP)	0.0	20.6	-20.6	
Granada CF (ESP)	0.0	20.6	-20.6	
CSKA 1948 (BUL)	0.0	20.6	-20.6	
Viktoria Plzeň (CZE)	4.2	24.3	-20.1	
Fortuna Sittard (NED)	0.0	19.6	-19.6	
Heracles Almelo (NED)	0.0	19.6	-19.6	
TSC Bačka Topola (SRB)	3.8	23.2	-19.4	
FK Proleter (SRB)	4.0	23.2	-19.2	
Slavia Praha (CZE)	6.7	24.3	-17.6	
Mezőkövesdi SE (HUN)	0.0	17.2	-17.2	
Cádiz CF (ESP)	3.6	20.6	-17.0	

While the Greeks of Aris FC (88.5%) are the club with the highest percentage of expatriate players in the squad, the Bulgarians of Ludogorets stand out the most in comparison to their league average (+46.3%). The three teams following Ludogorets are competing in the Champions League: Atlético de Madrid, RB Salzburg and LOSC Lille. Paris St-Germain also has an unusual profile when it comes to the presence of expatriate footballers. The highest value by league was measured in Cyprus (69.9%).

The Hungarians of Paksi FC stand out most from their league average regarding the presence of expatriates (-45.2%). They do not have any players who have grown up abroad. Athletic Club and the Ukrainians of FK Desna are the only two other teams out of the 473 surveyed who are in a similar position. The lowest percentage of expatriates by league was recorded within the Serbian (16.2%) and Ukrainian (19.0%) top divisions.

Figure 9: clubs with the highest % of expatriates in comparison to the league average (October 2021)




































	%	League	Gap	
 Ludogorets Razgrad (BUL)	80.0	33.7	+46.3	
 Atlético Madrid (ESP)	82.6	38.1	+44.5	
 RB Salzburg (AUT)	73.1	30.7	+42.4	
 LOSC Lille (FRA)	76.0	40.2	+35.8	
 CSKA Sofia (BUL)	69.2	33.7	+35.5	
 Paris St-Germain (FRA)	75.0	40.2	+34.8	
 FC DAC 1904 (SVK)	75.9	42.2	+33.7	
 PSV Eindhoven (NED)	76.0	42.9	+33.1	
 ŠKF Sereď (SVK)	75.0	42.2	+32.8	
 Shakhtar Donetsk (UKR)	51.7	19.0	+32.7	
 Aris FC (GRE)	88.5	60.2	+28.3	
 FC U Craiova (ROM)	63.0	35.1	+27.9	
 Udinese Calcio (ITA)	88.0	60.6	+27.4	
 Ferencvárosi TC (HUN)	72.4	45.2	+27.2	
 Sevilla FC (ESP)	64.3	38.1	+26.2	

Figure 10: clubs with the lowest % of expatriates in comparison to the league average (October 2021)

	%	League	Gap	
 Paksi FC (HUN)	0.0	45.2	-45.2	
 MFK Ružomberok (SVK)	3.6	42.2	-38.6	
 Athletic Club (ESP)	0.0	38.1	-38.1	
 Gyirmót SE (HUN)	14.3	45.2	-30.9	
 CSKA 1948 (BUL)	3.0	33.7	-30.7	
 SC Freiburg (GER)	21.7	52.3	-30.6	
 Hrvatski dragovoljac (CRO)	10.0	39.9	-29.9	
 CA Osasuna (ESP)	10.7	38.1	-27.4	
 Stade Brestois (FRA)	13.0	40.2	-27.2	
 PAS Lamia (GRE)	33.3	60.2	-26.9	
 Empoli FC (ITA)	34.6	60.6	-26.0	
 Silkeborg IF (DEN)	17.4	43.2	-25.8	
 Burnley FC (ENG)	33.3	59.1	-25.8	
 MŠK Žilina (SVK)	16.7	42.2	-25.5	
 SC Cambuur (NED)	17.4	42.9	-25.5	

To measure the stability of teams, we selected in this case the variable of the average number of years during which players were present in the A-team of their employer club. The highest value was recorded for CSKA Moskva (4.83 years), ahead of Real Madrid (4.66 years) and Athletic Club (4.56 years). With Shakhtar Donetsk, these teams are also those that stand out most from their league rivals. The longest average stay by championship was measured in the English Premier League (3.23 years).

Elche CF has the least stable squad in comparison to the average observed in its league (-1.16 years). Three of the four big-5 league teams in the top 10 rankings are newly promoted English teams having invested heavily to strengthen their squad: Brentford, Norwich City and Watford. The last one, Sevilla, has a policy strongly oriented towards profits made on the transfer market. Dinamo Brest (1.00 years) and the Cypriot championship (1.76 years) have the lowest values by club and league respectively.

Figure 11: clubs with players having the longest stay in comparison to the league average (October 2021)

	Years	League	Gap	
CSKA Moskva (RUS)	4.83	2.62	+2.21	■
Shakhtar Donetsk (UKR)	4.21	2.24	+1.97	■
Real Madrid (ESP)	4.66	3.00	+1.66	■
Athletic Club (ESP)	4.56	3.00	+1.56	■
US Sassuolo (ITA)	4.00	2.45	+1.55	■
Borussia M'gladbach (GER)	4.54	3.00	+1.54	■
Kristiansund BK (NOR)	3.83	2.48	+1.35	■
Angers SCO (FRA)	3.77	2.46	+1.31	■
Dynamo Kyiv (UKR)	3.45	2.24	+1.21	■
Juventus FC (ITA)	3.64	2.45	+1.19	■
FC Slovácko (CZE)	3.80	2.62	+1.18	■
İstanbul Başakşehir (TUR)	3.04	1.89	+1.15	■
Paris St-Germain (FRA)	3.61	2.46	+1.15	■
FC Chindia (ROM)	3.12	2.00	+1.12	■
SSC Napoli (ITA)	3.46	2.45	+1.01	■

Figure 12: clubs with players having the shortest stay in comparison to the league average (October 2021)

	Years	League	Gap	
Elche CF (ESP)	1.84	3.00	-1.16	■
FK Minaj (UKR)	1.17	2.24	-1.07	■
MFK Karviná (CZE)	1.56	2.62	-1.06	■
Brentford FC (ENG)	2.20	3.23	-1.03	■
FK Nizhny Novgorod (RUS)	1.67	2.62	-0.95	■
Norwich City (ENG)	2.30	3.23	-0.93	■
Mladá Boleslav (CZE)	1.70	2.62	-0.92	■
Sevilla FC (ESP)	2.11	3.00	-0.89	■
Watford FC (ENG)	2.35	3.23	-0.88	■
Ross County (SCO)	1.52	2.39	-0.87	■
US Salernitana (ITA)	1.59	2.45	-0.86	■
Arsenal FC (ENG)	2.37	3.23	-0.86	■
Union Berlin (GER)	2.15	3.00	-0.85	■
Dinamo Brest (BLR)	1.00	1.84	-0.84	■
Rubin Kazan (RUS)	1.78	2.62	-0.84	■

4. Conclusion

After the drop in 2020, the first post-pandemic year has brought back the proportion of expatriate footballers to the record-breaking level measured in 2019: 41.9%. For the first time since the start of data collation in 2009, players having grown up outside of the association of their employer club represent the majority of footballers within the five major European championships. However, the biggest increase over the course of the study was observed in the least competitive championships.

Despite the growth of expatriates, the presence of club-trained players has also continued to increase after the pandemic. Nevertheless, the level of footballers from the youth academies of their employer teams remains much lower than the average measured between 2009 and 2015: 18.0% as opposed to 21.8%. The slight recent increase is chiefly explained by the rise observed in the least competitive leagues.

A clearer trend has been noted regarding the stability of squads. In 2017, the proportion of players recruited during the year attained a record level of 44.9%. In 2021, new recruits only represent 40.4% of squads, the lowest level observed since 2012. This trend reflects a less frenetic transfer market. More oriented towards a long-term vision, clubs from the most competitive leagues are also those with the most stable squads.