

The transfer of footballers: a network analysis

Drs Raffaele Poli, Loïc Ravenel and Roger Besson

1. Introduction

Football offers a wide array of possibilities to undertake network analysis. The first CIES Football Observatory Monthly Report of the year 2018 focuses on transfer networks from a triple research perspective.

Firstly, the study investigates the spatial distribution of expatriate players according to their national origin. The analysis targets the three most represented nationalities abroad: the Brazilians, the Argentineans and the French.

The study then takes leagues as a unit of analysis to understand their labour supply sources at both national and international level. This study is carried out on transfers undertaken by big-5 league clubs from July 2005 to August 2017.

Finally, networks are analysed from the perspective of individual clubs. To illustrate such approach, we selected a top level club from each of the five major European championships: Real Madrid, Manchester United, AS Rome, Bayern Munich and Paris St-Germain.

2. Networks by origin

The analysis of networks by origin focuses on the representatives of the three countries exporting the most players to 139 professional leagues of 91 national associations worldwide: Brazil, Argentina and France¹. The data refers to players present in teams surveyed on the 1st of October 2017 already fielded in championship matches during the season. In the 116 competitions where the list of substitutes was accessible, the presence on the bench also constituted a criterion for inclusion.

Brazilians

Portugal is by far the chief destination for Brazilians. On the 1st of October 2017, 219 footballers from Brazil were playing in the three top levels of competition in Portugal (18.1% of all Brazilians abroad). These footballers were, on average, younger than the Brazilian expatriates taken as a whole: 25.2 years of age as opposed to 27.3. For Brazilians, Portugal is often the first country of migration abroad.

The number of expatriate Brazilians is over 30 in ten countries. Among these are six UEFA member nations, three Asian (Japan, Thailand and South Korea), as well as the United States. Today, the Brazilian player is the only truly global worker in the professional football labour market. Brazilians are present in 80 of 91 associations covered in the study.

Figure 1: principal destinations of Brazilian expatriates

	Number	Average age
Portugal	219	25.2
Japan	71	27.4
Italy	57	27.0
Turkey	44	29.0
France	42	26.1
Thailand	36	29.7
Spain	35	25.6
USA	32	28.0
South Korea	32	27.5
Malta	31	27.4
Total	1210	27.3

¹ For more information about world football expatriates, please refer to **Monthly Report number 25**.

Argentines

Chile and Mexico are the principal destination for Argentinean expatriates. On the 1st of October 2017, 98 Argentines were playing as professionals in each of these two countries. This accounts for over one quarter of all Argentines abroad (25.7%). In both Chile and Mexico, Argentina is by far the most represented origin among expatriates. Overall, Argentines abroad are significantly older than expatriates taken as a whole: 28.1 years compared to 26.1.

Spain and Italy are the only two European associations among the ten principal destinations of Argentinean players. With the exception of the United States, all of the other countries are located in Latin America. While Brazilians are the global source of labour par excellence, Argentines play a similar role in South America. In total, they are present in 65 of the 91 associations analysed.

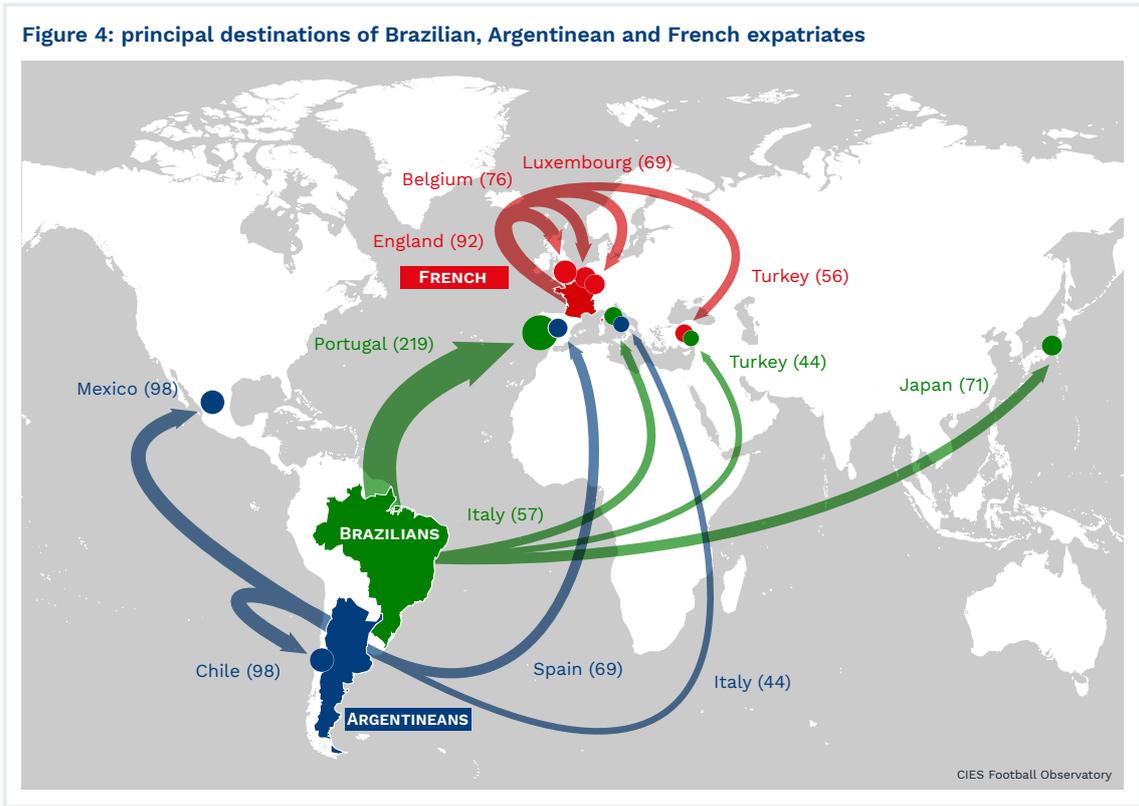
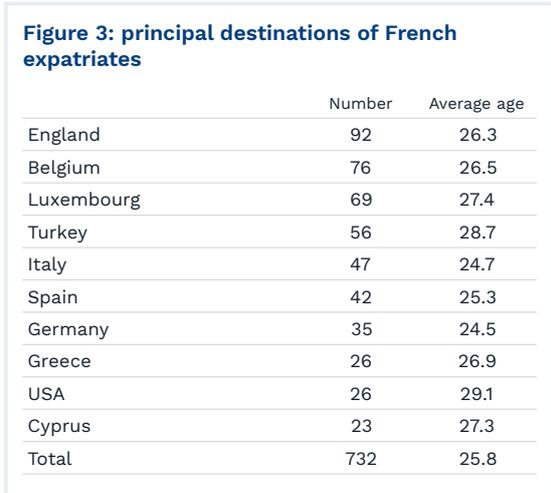
Figure 2: principal destinations of Argentinean expatriates

	Number	Average age
Chile	98	28.4
Mexico	98	28.9
Spain	69	27.0
Italy	44	28.5
Colombia	35	28.9
USA	32	28.0
Peru	30	28.4
Bolivia	30	29.0
Uruguay	27	27.5
Ecuador	26	29.6
Total	760	28.1

French

Almost a quarter of French expatriate footballers play in English (92) or Belgian professional clubs (76). Four other neighbouring countries are part of the ten principal destinations of French players: Luxembourg, Italy, Spain and Germany. In addition, 56 French nationals are under contract with Turkish clubs, where they are the most represented foreign origin.

The United States is the main non-European destination (26 players). In total, French footballers are present in 61 of the 91 associations surveyed. On average, a French expatriate is only 25.8 years old. This finding reflects the excellence of the French training system and suggests that the number of expatriates from France will further increase in the next future.



3. Networks by league

Network analysis is particularly insightful also from the perspective of recruitments carried out by clubs at league level. The study covers players signed between July 2005 and August 2017 by teams from the five major European leagues. Loan returns are also included in the sample. The analysis focuses on the general situation throughout the period considered, as well as on trends observed from the first six seasons studied (2005/06 to 2010/11) to the six last ones (2011/12 to 2016/17).

For the purpose of analysis, we classified the areas of recruitment into five categories: clubs in the same league², in national lower divisions, in foreign big-5 leagues, in other UEFA foreign championships, as well as in leagues outside of UEFA. Over the period considered, clubs in the five main European championships signed 60% of players from clubs in the same country, whether in the same league (32.5%) or in lower divisions (27.5%).

The percentage of national transfers went slightly down between the first and last half of the period analysed: from 61.5% to 58.3%. The same holds true for recruitments from non UEFA leagues (-2.9%). Inversely, the relative proportion of signings from foreign big-5 leagues (+3.3%) and other foreign UEFA leagues (+2.7%) increased. Altogether, almost half of transfers are carried out from other big-5 league teams, whether nationally (32.5%, on the decrease) or internationally (13.8%, on the increase).

² Including players signed in the summer from teams just promoted to the top division. Conversely, players signed in the summer from clubs just relegated are included in the category lower national division leagues.

Figure 5: recruitment league categories of players signed by big-5 league clubs (2005-2017)

	% total	Evolution*
Same league	32.5%	-2.3%
Lower national division leagues	27.5%	-0.9%
Foreign big-5 leagues	13.8%	+3.3%
Other foreign UEFA leagues	18.9%	+2.7%
Non UEFA leagues	7.4%	-2.9%

*2011-17 compared to 2005-11

Throughout the period analysed, Italian Serie A clubs signed the highest proportion of players from other national teams (about 65%). However, the proportion of national transfers went down by 10.5% from the first to the last six seasons taken into account. This decrease is mainly due to the sharp decline of transfers from lower division Italian clubs in favour of signings from foreign UEFA leagues. This resulted in a significant increase of the percentage of expatriates³.

Top division English clubs are particularly active in the recruitment of players from foreign big-5 championships (almost 20% of total signings). Conversely, they are the least active in the direct recruitment of players from outside UEFA leagues (3% only). This relates to the financial wealth of English teams, allowing them to sign the best players among those having already proven themselves in Europe, as well as to the relatively more restrictive conditions to obtain a work permit for non-EU footballers.

Spanish Liga teams transfer a higher percentage of players from non-UEFA countries than clubs in the four other major European championships (about one in ten). However, the proportion of intercontinental transfers decreased by 4% from the first to the second half of the period studied. A decrease was observed in all of the big-5 leagues. This finding reflects the tendency for non-European players to be first signed by clubs outside of the five major European leagues before eventually joining a team in these competitions.

³ For more information about the expatriate presence in the five major European leagues, please refer to [Monthly Report number 24](#).

Figure 6: recruitment league categories of players signed, per league (2005-2017)

	ENG	ESP	ITA	GER	FRA
Same league	30%	32%	39%	32%	28%
Lower nat. division leagues	28%	27%	26%	24%	33%
Foreign big-5 leagues	20%	15%	13%	10%	12%
Other foreign UEFA leagues	19%	16%	13%	27%	20%
Non UEFA leagues	3%	10%	9%	7%	7%

The analysis of the main recruitment associations of players signed abroad by big-5 league clubs from July 2005 and August 2017 reveals the importance of transfers between the countries hosting the major European domestic competitions. At the top four positions are indeed England, Spain, France and Italy. Only Germany remains more on the periphery of the big-5 league international transfer circuits.

Altogether, 41% of international signings were carried out from other big-5 league countries. This percentage went up from 36.8% to 43.9% from the first to the second half of the period studied. The table below confirms the greater difficulty faced by Brazilian, Argentinean and Uruguayan teams to transfer players directly to clubs in the big-5. The same holds true for Scottish and Serbian sides.

Figure 7: main recruitment associations of players signed abroad by clubs in the big-5, per league (2005-2017)

	Total number	Evolution*
England	518	+148 ↗
Spain	496	+122 ↗
France	455	+75 ↗
Italy	433	+145 ↗
Portugal	296	+76 ↗
Germany	292	+68 ↗
The Netherlands	267	+21 ↗
Brazil	252	-28 ↘
Argentina	224	-18 ↘
Belgium	182	+76 ↗
Switzerland	160	+26 ↗
Turkey	144	+62 ↗
Greece	138	+34 ↗
Russia	119	+11 ↗
Scotland	115	-9 ↘
Denmark	83	+13 ↗
Uruguay	76	-8 ↘
Serbia	68	-2 ↘
Ukraine	62	+20 ↗
Sweden	61	+9 ↗

*2011-17 compared to 2005-11

4. Networks by club

The same approach undertaken at league level is relevant when studying transfer networks at club level. This allows us to compare recruitment policies. The study covers five top-flight clubs from all of the big-5 European leagues: Manchester United, Real Madrid, AS Rome, Bayern Munich and Paris St-Germain. These teams were always present in the top division league of their country during the period analysed.

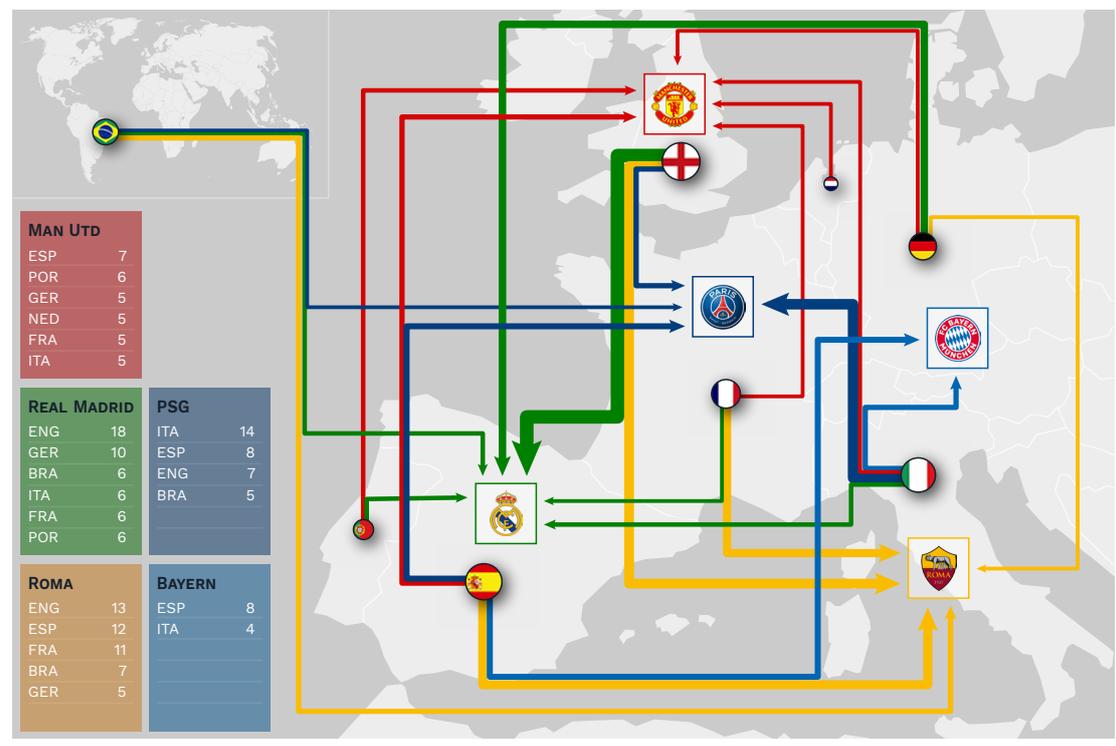
The best performing clubs generally sign a higher proportion of players abroad than lesser competitive teams. Between July 2005 and August 2017, three out of the five clubs studied signed a majority of players from abroad: Real Madrid (73%), Paris St-Germain (58%) and AS Rome (56%). The percentage in the two remaining teams was also close to 50%: Bayern Munich (46%) and Manchester United (45%).



On an international level, the most competitive teams sign a higher percentage of players from foreign big-5 league clubs. While it raises transfer costs, this strategy aims at limiting sporting risks as a higher percentage of new signings already proved themselves in the most competitive European leagues. This situation also reflects the widening of the financial gap between clubs on different levels, including within the most competitive leagues. This allows dominant clubs to deprive rivals of their best players in a much quicker and easier way than it was already the case in the not so recent past.

The map of the main associations of international recruitment per club illustrates the strong focus on Europe of top-flight teams studied. Indeed, Brazil is the only non-European country where the five clubs investigated signed at least five players during the 12-year period analysed. Almost 60% of players transferred from abroad were recruited in big-5 league countries. In total, clubs analysed signed players from no more than 30 foreign countries.

Figure 9: main associations of international recruitment, per club (2005-2017)



5. Conclusion

The study of transfer networks in football is particularly useful in understanding the economic geography of the professional game on a global scale. While the proportion of expatriate players in squads increases, our analysis reveals high concentration levels for both exporting countries and recruitment areas. When it comes to sign players abroad, the best performing teams focus on a limited number of territories.

An increasing number of players in general, and from non-European associations more specifically, first move to intermediary countries in order to prove themselves before to eventually being able to attain a club in the big-5 leagues. This process occurs within the framework of transnational migratory chains. As underlined in the 29th edition of the **Monthly Report**, year by year, players are confronted with a higher international mobility from a younger age.

Within this increasingly speculative and fragmented context, many players get lost along the way. Today more than ever, mental strength and cultural adaptability are of key importance to have a successful career path. Beyond financial considerations, clubs and intermediaries should pay more attention to the human factor to limit the waste of talents and best promote them in the ruthless world of professional football.