

## Foreign Players in the Greek Football League: Evidence from the 2023-24 Regular Season

By Gregory T. Papanikos\*

*After the Bosman ruling of the European Court of Justice in 1995 and the freedom of movement of football players that followed, professional football clubs have become a modern Tower of Babel. The Greek Football League is not only not an exception but leads the relevant list of the highest percentage of expatriates in its first division. This paper uses descriptive statistics to showcase the extent of the use of foreign players in the world of football, with an emphasis on the Greek professional football league. Descriptive evidence from professional football clubs in 31 European countries shows that there is a non-linear association between the percentage of foreign players and the average age of players. There also exists a negative non-linear association between the percentage of foreign players and club-trained players. In the Greek football league, the use of foreign players improves the results as measured by the points gained during the 2023-24 season. It is found that a 10% increase in the number of foreign players results in a 14% increase in the number of points gained.*

**Keywords:** sports, football, players, expatriates, migration, Greek League, Olympic Games, sports performance

### Introduction

Football is the most popular game in Greece. In several previous studies, I have examined various facets of Greek and international football, including the utilization of foreign players by Olympiakos Piraeus, the most popular Greek football team<sup>1</sup>. In the last football season of 2023-24, foreign players not only dominated the roster of the team but also the number of players in the lineup. This phenomenon is not unique to Greek football but is observed in many leagues around the globe, particularly in European leagues. In any case, Greece ranks third in the utilization of foreign players, with a rate of 71.2% in the beginning of the 2023-2024 season, following Cyprus (80%) and Türkiye (71.5%).

The use of foreign players in Greek professional sports has been debated at political and social levels. Apart from the nationalistic and racist sentiments that exist in any society, there are serious arguments against the use of foreign players

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<sup>1</sup>Refer to Papanikos (2015) for the Olympiakos case study. Teams like Olympiakos lack a European distinction. Typically, the use of foreign players is justified as a means to achieve this distinction. However, in the study, I showed that foreign players actually had a negative effect on Olympiakos's performance in European team competitions. In several studies, I have examined various issues in Greek and world football, including the effects of the 2004 Olympic Games. See Papanikos (1999, 2014, 2017, 2020, 2021, 2022, and 2023) for more details.

because it violates the true spirit of sports. This is particularly significant in a country like Greece, which is the birthplace of the Olympic Games, one of many contests organized in ancient times, alongside other cultural events such as drama and comedy competitions.

Bringing foreign players to compete in a national league does not serve the ideal of fostering national youth competition, which is essential for building a better society. Isn't this the true purpose of sports? Many argue that by introducing foreign players, Greek youth are not encouraged to be more active in sports; rather, their role is confined to that of consumers and fans. Instead of being active participants, the youth become passive consumers of sports activities. Consequently, the essence of sports is lost. As a result, the argument goes, the national football team has limited choices of players.

However, there are many more compelling arguments against the use of foreign players. One argument that has not been emphasized in sports literature is that football players serve as role models. Typically, foreign players play for a few seasons and then depart for other clubs outside Greece. This turnover is significant, with many foreign players not even completing a full season. After retirement, they most probably return to their homeland. Very few foreign players who have played in Greece choose to stay in the country after retirement. However, the former stars of Greek football become ambassadors for the game. Before the employment of foreign players, many Greek football stars served not only the game but also society at large as coaches, consultants, politicians, and volunteers in various philanthropic activities. Given the dominance of foreign players in the Greek league today, there will be no Greek retired players who can serve this role in the near future. I believe this is the most serious argument against the use of foreign players.

Of course, there are arguments in favor of using foreign players, especially if, on average, they are better players than the local players. They can serve as mentors by training and playing alongside others. Additionally, there are economic benefits; foreign players typically offer their services at a lower cost compared to Greek football players. Furthermore, foreign players often demonstrate greater commitment to the game, as they may have fewer social distractions than domestic players. The question raised in this paper is whether the use of foreign players by Greek teams raises their performance as measured by the number of points gained.

The fact is that foreign players are here to stay. Their role has become increasingly significant, especially in the Greek Football League, which boasts the third-largest percentage of foreign players in Europe. This paper utilizes descriptive statistics to examine the number of foreign players participating in the Greek Football League during the regular season of 2023-24 as well as their productivity.

Including this introduction, the paper is organized into five sections. Section II provides a short, selective literature review of the sports industry, primarily based on papers published in this journal. Section III compares the use of foreign players by football confederations, with an emphasis on European Football. This section also provides evidence-based answers to two issues: First, whether there exists an association between the percentage of foreign players at the country level and the average age of a team. Second, how the extent of foreign player use is associated

with the percentage of club-trained players. In other words, does the use of foreign players help a team develop its own football talents? Section IV focuses on the use of foreign players by the 14 teams of the Greek first division during the regular football season of 2023-24. This section also statistically tests the productivity of foreign players in the Greek Football League. Finally, section V concludes.

### **A Brief Review of Selected Football Studies**

Football is the most recognizable sport around the world. This journal has published many papers dealing with various aspects of sports, including economic, political, social, and cultural dimensions. The economics of football analyze the behavior of consumers (fans) and producers (clubs). Examples of studies focusing on fans/spectators include Abdel-Naby Ibrahim (2014), Binjwaied et al. (2015), Borges (2018), Glebova and Desbordes (2020, 2021), Harasta (2021), Özgen and Argan (2017), and Pfeffel et al. (2017).

On the other hand, studies by Bachan and Reilly (2016), Bouvet (2020), Cincimino (2014), Dilger and Vischer (2022), Espitia-Escuer and Garcia-Cebrian (2016), Farmer (2019), Gebler-Branch (2018), Hebbel-Seeger (2017), Hebbel-Seeger et al. (2017), Hebbel-Seeger & Horky (2018), Hebbel-Seeger & Diesch (2019), Huth & Kurscheidt (2022), Leela et al. (2023, 2024), Leite (2017), Magueta et al. (2015), Ogunsanya & Rasheed (2019), Papanikos (2014, 2015, 2021), Robeers and van den Bulck (2018), Suominen (2017, 2018), Wewer (2018), Zambom-Ferraresi et al. (2017), and Zawadzki (2015) deal with the producers and organizers of football or sports production processes in general.

Of course, football as a sports activity has been analyzed within social and community contexts, including its effects on youth. Examples of such studies are by Balatoni et al. (2020), Burke et al. (2014), Djafarova and Thompson (2020), Ellapen et al. (2014), Harman (2022), Hyre et al. (2017), Lemcke and Weh (2018), and Maugendre (2018).

Finally, the media play an important role in bringing football and sports to viewers across the globe, as well as in a soft diplomacy role. The role of media has been analyzed by Kang (2022), Papanikos (2023), Katyal (2021), King and King (2018), Kristiyanto and Suparman (2019), Majaro-Majesty (2015), Newman (2014), Nicolliello (2021), Nunes and Valério (2020), Papanikos (1999, 2017, 2020, 2021, 2022), Pitluk et al. (2023), and Zare and Géczi (2022).

The main conclusions emerging from the literature above can be summarized as follows. First, the professional football industry can be analyzed using the standard tools of microeconomic and macroeconomic analysis, including the theory of industrial organization and regulation. Economics provides a framework to analyze the behavior of the various segments of football consumers, commonly referred to as fans in sports. However, as mentioned by many papers in the cited literature, the behavior of sports fans constitutes a unique category of consumers, with some exhibiting a highly inelastic demand for their favored professional sports club, which has significant repercussions for society and the economy at

large. Violence, for example, represents just one aspect of the social repercussions of football organization.

On the other hand, the producers of the sports industry are also unique in the sense that the profit motive is more complex than in a typical industry. The literature mentioned above examines aspects of the uniqueness of this industry from the producers' point of view. Sponsorship is one such unique characteristic of the sports industry. Many companies utilize football and other sports activities, including, of course, the Olympic Games, as a means to advertise their products and services. Sponsoring a sports event and/or a sports club is an effective way of reaching out to consumers of their own products and services. A professional football club today has many opportunities to increase its revenue beyond what can be achieved by selling attendance tickets to its fans and other sports consumers.

Of course, media attention is another way that a sports activity can increase its revenue, especially when broadcasting rights are negotiated either at the club and/or at the industry (league) level. The new ways of communication through social media and, of course, new technology have changed the production process of a football game. The role of the referee, for example, is now influenced by smart technology, which can determine through the use of Video Assistant Referee (VAR) whether a goal, a penalty, or a red card was valid. Studies referred to above have examined how the use of newly developed technology has affected football. The game has become more objective, and decisions are no longer solely reliant on the judgment of one or two individuals made in a split second. If this trend of using technology continues, referees may become redundant.

The final aspect of the football industry that I want to address here relates to the labor market of football players. The literature on this topic is vast and encompasses various disciplines such as economics, law, sociology, psychology, as well as the role of government and other institutions such as the European Union and FIFA (UEFA). One crucial aspect of the labor market is migration, especially of players. The market for foreign football players has opened up with very few restrictions imposed by national governments, the European Union, and UEFA. This paper focuses on this aspect of football, and the next section provides descriptive statistics on the importance of foreign players at the club, confederation, and national levels.

### **Expatriate Football Players**

Figure 1 and Tables 1, 2 & 3 display selected demographic statistics of foreign players, with an emphasis on the European Confederation of Football (UEFA). Table 1 reports data obtained from a recent study by the CIES Football Observatory (2023), which used a sample of six football confederations and, in total, covered 135 leagues, 2200 clubs, 62,610 players, and 1445 foreign players. According to the official report by FIFA<sup>2</sup>, “nearly 130,000 professional players and more than

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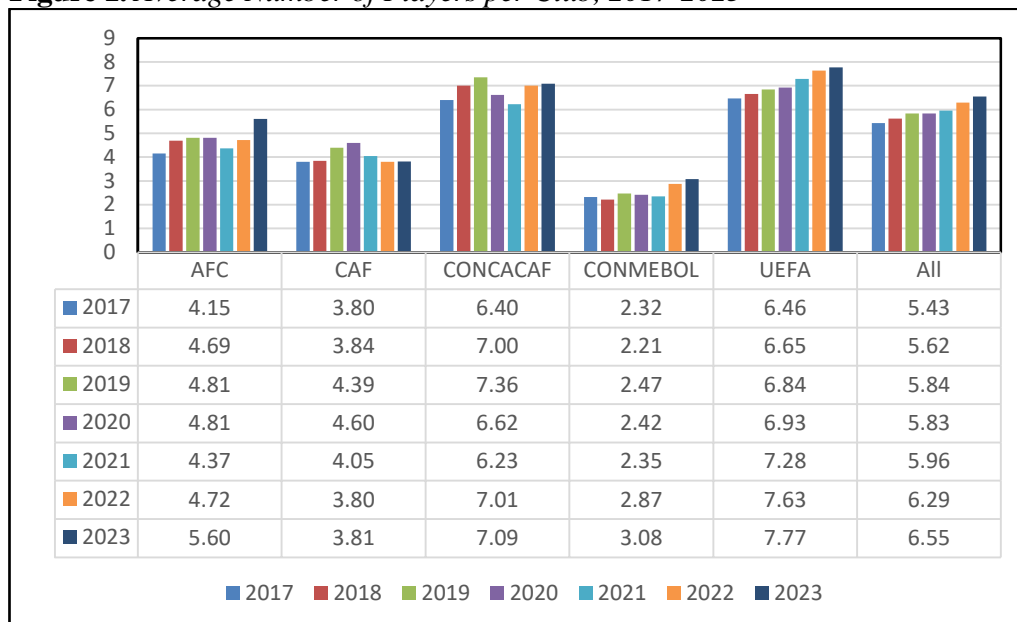
<sup>2</sup><https://publications.fifa.com/en/annual-report-2021/around-fifa/professional-football-2021/>.

4,400 professional clubs have been identified around the world”. Thus, Table 1 reports only a share of players and clubs.

According to Table 1, 23% of all players in 2023 were expatriates, defined as players who play in a different association from the one they grew up in. It is also noteworthy that expatriates are defined within countries and not across continents. Thus, in Africa, 12.1% of players were expatriates, but these players include individuals from other African countries. A similar argument applies to other confederations. Europe (UEFA) boasts the largest number of foreign players at 27.7%, followed by North and Central America and the Caribbean with 25%. In South America, only 10.7% of football players are expatriates. Finally, in the Asian Football Confederation, 12.1% of players were foreign players.

On average, each club uses 6.55 expatriate players. UEFA’s clubs use, on average, 7.77 players, followed by CONCACAF with 7.09 players. African football federations’ clubs use 3.81 players per club, while the lowest figure is reported by South American clubs at 3.08 players per team. Asian football clubs employ, on average, 5.6 players.

**Figure 1.** Average Number of Players per Club, 2017-2023



**Table 1.** Foreign Players per Football Confederation (2023)

Confederation	Abbreviation	Leagues	Clubs	Players	Expats	Per club	% expats
Asian Football Confederation	AFC	20	281	8223	1573	5.60	19.1
Confederation of African Football	CAF	4	64	2019	244	3.81	12.1
Confederation of North, Central American and Caribbean Association Football	CONCACAF	10	157	4444	1113	7.09	25.0
Confederación Sudamericana de Fútbol	CONMEBOL	18	368	10562	1135	3.08	10.7
Union of European Football Associations	UEFA	83	1330	37362	10340	7.77	27.7
Oceania Football Confederation	OFC	NA	NA	NA	NA	NA	NA
<b>Total</b>		135	2200	62610	14405	6.55	23.0

Source: CIES Football Observatory Monthly Report n° 85 - May 2023 (<https://football-observatory.com/MonthlyReport85>).

Figure 1 displays the evolution of football players per club from 2017 to 2023. Overall, the sample data show that the number of foreign football players per club has been increasing during this seven-year period. It rose from 5.43 players per team in 2017 to 6.55 players in 2023, marking a 21% increase. The largest increase, 33% over the seven-year period, was observed in the South American confederation, where the number of players per team rose from 2.32 to 3.08. However, this number was the lowest among all five confederations; it was only 40% of the UEFA average of foreign players, which stood at 7.77, the highest among all confederations in 2023.

Where do these players come from? Table 2 reports data on the primary home countries of foreign players. The first column presents the number of foreign players by their home countries; the second column displays the change over the 2023-2022 period; the third column shows the total male population of each country, and the last column presents the number of foreign players per 100 thousand male population.

If we consider total numbers, then Brazil leads the list with 1289 players, followed by France with 1033 players. France, England, and Germany are of particular interest because they reveal the existence of intra-industry trade within the football market. Intra-industry trade occurs when a country both imports and exports the same product or service within a given period of time, meaning imports and exports of the same commodity happen simultaneously. These three European countries not only export football players but also import them, as a significant portion of players in their national leagues are foreign, as shown in Table 3.

**Table 2. Main Country of Origins of Foreign Players**

Country	Expatriates (2023)	Change 2023/2022	Male Population	Number of Expatriates per 100,000 Male Population
Brazil	1289	5.6%	105733027	1.22
France	1033	5.6%	32847321	3.14
Argentina	905	10.8%	22889298	3.95
England	535	1.7%	33094839	1.62
Spain	458	13.1%	23416745	1.96
Colombia	448	5.2%	25575607	1.75
Germany	446	1.4%	41347556	1.08
Croatia	407	1.5%	1877922	21.67
Nigeria	385	13.6%	110448136	0.35
Serbia	380	0.0%	3194331	11.90
Netherlands	346	-5.5%	8797815	3.93
Portugal	339	12.6%	4911677	6.90
Uruguay	338	0.0%	1658372	20.38
Ghana	318	8.2%	16695114	1.90
Belgium	277	3.0%	5774066	4.80
Sweden	239	16.6%	5285164	4.52
Ivory Coast	227	6.6%	14215570	1.60
Denmark	225	4.7%	2936844	7.66
Senegal	211	9.9%	8516043	2.48
Ukraine	206	11.4%	17449249	1.18

Source: World Bank (Population data) and CIES Football Observatory Monthly Report n°85 - May 2023.

The last column of the table also presents the significance of home countries from a different perspective. It is expected that countries with higher male populations will have more male football players and, therefore, potentially more players to export. When the number of expatriate players is weighted by population, the significance of home countries changes. Now, it is Croatia that leads the list of foreign player migration, with 21.67 players per 100 thousand male population; whereas Brazil has only 1.22 players. Top scores in this index relevant to population are Uruguay (20.38) and Serbia (11.9).

Table 3 displays football players' data from 31 UEFA countries, including the average age of football players, the percentage of club-trained players, and the percentage of foreign players. The average age, estimated on the 1st of October 2023, was 26.6 years. The maximum value was 28.6 years (Greece), and the minimum was 24.7 years (Slovenia). The variation, measured by the standard deviation, was close to one year. On average, UEFA teams had 13.8% of their players club-trained, with a standard deviation of 5.6%. The maximum value was 23% (Belarus), and the lowest was 4.2% (Turkiye). On average, almost half of the football clubs in Europe employed foreign players (45.8%), with a standard deviation of 15.5%. The variations are significant, ranging from a maximum of 80% (Cyprus) to a minimum of 11.2% (Ukraine). In 2023, Greece's football clubs employed an average of 71.2% foreign players.

The data from Table 3 can be used to answer two questions. First, do teams that use proportionally more foreign players tend to have, on average, an older squad? Second, does the use of foreign players become a disincentive for a football team to develop its own players? To address these questions, I use two scatter diagrams (see Figures 2 & 3) that show the correlation between the percentage of expatriate football players and the average age, as well as the association of foreign players with the club-trained players.

Figure 2 plots the average age of players per country against the percentage of foreign players. The best fit is given by a third-degree polynomial, which in economics is used to approximate production functions. However, there is a large dispersion of the data, primarily because of Ukraine and Belarus. If the extreme values of these two countries are omitted, the correlation improves (the coefficient of determination  $R^2$  increases by 5 percentage points), but the shape of the fitted line does not change.

Some important conclusions of interest emerge from looking at the scatter diagram. First, when teams use less than 50% foreign players, the average age of their squad is not affected. As the percentage of foreign players increases above 50%, the average age of the team's players sharply increases. Thus, this association implies that teams, on average, hire foreign players who are older than domestic players. This may be interpreted as teams capitalizing on experience and usually bringing in players who are at the decline stage of their career. This type of employment of foreign players is conducive to a strategy that aims at maximizing short-run benefits. The alternative that many teams follow is to hire players at a much younger age with good talent, which becomes an asset for the club that can be transferred in the future to a richer club, thus increasing its profits. Of course, football clubs may follow both these strategies and have a mix of young and old



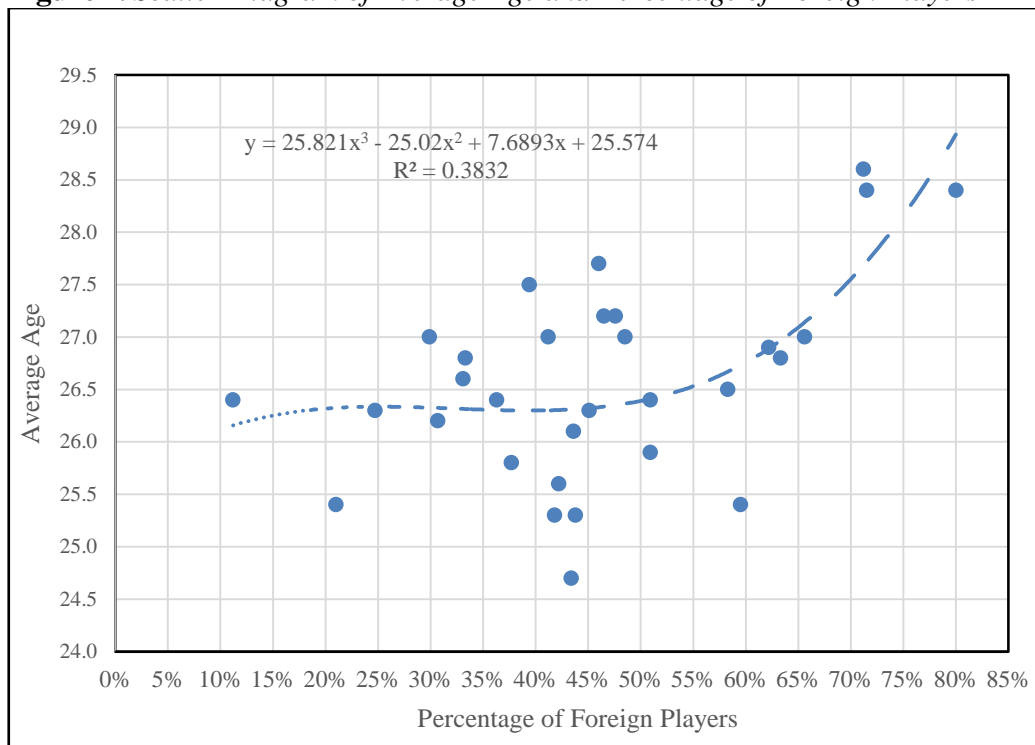
foreign players. What counts, though, is which strategy dominates. In the Greek football league, the strategy of hiring experienced foreign players dominates. Greece ranks top in the average age of its foreign players, at 28.6 years.

**Table 3. UEFA Members (2023)**

Country	Average Age (years)	Club-Trained (%)	Expatriates (%)
Austria	25.3	15.0	41.8
Belarus	25.4	23.0	21.0
Belgium	25.4	15.1	59.5
Bulgaria	26.4	12.6	50.9
Croatia	25.8	14.1	37.7
Cyprus	28.4	5.5	80.0
Czech Republic	27.0	18.0	29.9
Denmark	26.1	22.8	43.6
England	26.8	7.5	63.3
Finland	25.6	16.2	42.2
France	26.3	14.1	45.1
Germany	27.0	7.4	48.5
Greece	28.6	4.7	71.2
Hungary	27.2	12.4	46.5
Israel	26.8	18.9	33.3
Italy	26.9	5.8	62.2
Netherlands	25.3	16.1	43.8
Norway	26.2	20.8	30.7
Poland	27.2	11.0	47.6
Portugal	26.5	7.6	58.3
Romania	27.7	10.3	46.0
Russia	27.0	13.2	41.2
Scotland	27.0	7.1	65.6
Serbia	26.3	11.5	24.7
Slovakia	26.4	21.3	36.3
Slovenia	24.7	16.4	43.4
Spain	27.5	19.1	39.4
Sweden	26.6	20.1	33.1
Switzerland	25.9	17.8	50.9
Turkiye	28.4	4.2	71.5
Ukraine	26.4	18.9	11.2
<b>Average</b>	<b>26.6</b>	<b>13.8</b>	<b>45.8</b>
<b>Standard Deviation</b>	<b>0.94</b>	<b>5.6</b>	<b>15.5</b>
<b>Maximum</b>	<b>28.6</b>	<b>23.0</b>	<b>80.0</b>
<b>Minimum</b>	<b>24.7</b>	<b>4.2</b>	<b>11.2</b>

Source: CIES-Football Observatory (<https://football-observatory.com/Tool-Demography>).

**Figure 2.** Scatter Diagram of Average Age and Percentage of Foreign Players



**Figure 3.** Scatter Diagram of Club-Trained and Percentage of Foreign Players

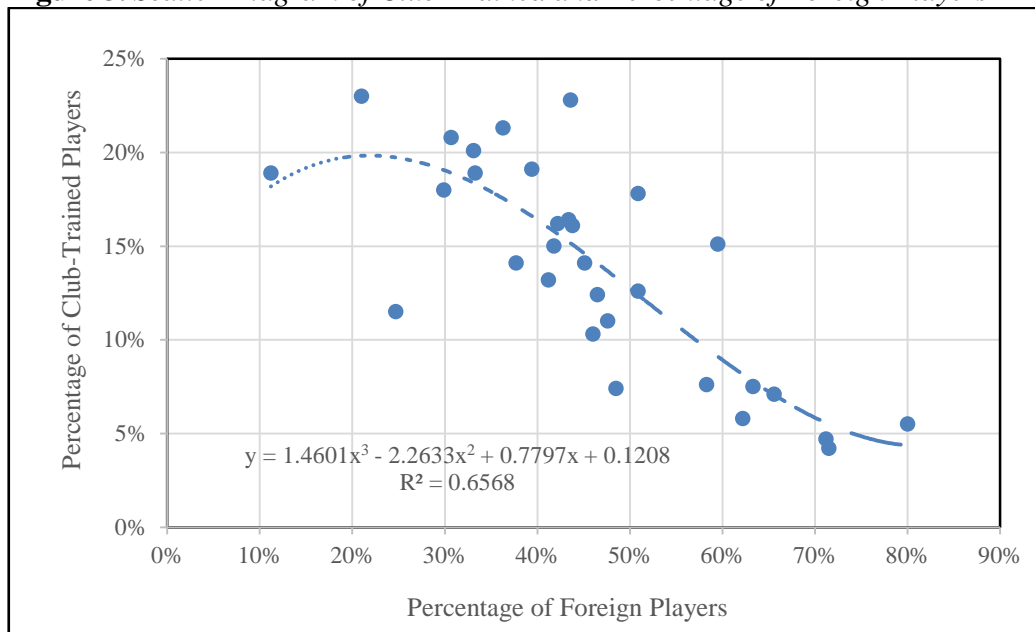


Figure 3 shows the association between the percentage of foreign players and the number of club-trained players. The argument is that foreign players may crowd out those developed by the team, who then have no opportunity to play for the team at the highest possible level. However, there is a counterargument: good foreign players can help the team grow its own talent and therefore increase the

number of club-trained players. It seems that both arguments may be valid, depending on the percentage of foreign players used. Figure 3 shows that the shape of the best approximation of the data is a third-degree polynomial, which is non-linear with a saddle point occurring when the team uses 20% foreign players, associated with 20% club-trained players. At less than 20%, which can be considered an optimal strategy of hiring foreign players if the objective is to maximize the percentage of developing club talent, an increase in the share of foreign players increases the share of club-trained talent. However, at shares higher than 20%, the percentage of club-trained players falls sharply. At rates higher than 70% share of foreign players, as is the case for Greece, Cyprus, and Turkiye, the percentage of club-trained players is less than 5%. Even in Italy, with such a long tradition in developing football talents, they use 62.2% foreign players, and only 5.8% are club-trained players.

The conclusion that emerges from the above discussion is that if a team aims to maximize the development of club-trained players, then it should use a small percentage of foreign players. Maximizing club-trained players is consistent with profit maximization if the team gains by selling the players to the international market. However, some teams prioritize performance, either in the national league or in international competitions. The next section examines the association between the percentage use of foreign players and the team's performance on the pitch using data from the regular 2023-24 season of the Greek first division football league.

### **Foreign Players in the Greek Professional Football League**

This section examines the most recent regular Greek first division football season of 2023-2024, which started on Friday, August 18, 2023, and ended on Sunday, March 3, 2024. There were 14 teams that played 26 games during the regular season. Following the regular season, teams participate in play-offs and playouts. The playoffs determine which team wins the championship and which teams earn their ticket to compete in the three European competitions. The playouts determine which teams are relegated to the second division.

Greek football became professional in 1979, but for all practical purposes, the previous seasons cannot be called amateur. The first football games took place before World War II. During this long period of more than 100 years, two achievements have marked Greek football. In 1971, Panathinaikos reached the finals of the European Champions League, which was played against Ajax at Wembley Stadium in London. This unprecedented achievement at a team level was made possible with a team that had no foreign players; all players were Greek. Even today, if a team were to repeat what is considered by many as a triumph, it would not be comparable because all teams now use foreign players, as shown in Table 4. The second great achievement was winning the European Championship for national teams in 2004. All players were home-grown talents, and most of them played for a Greek team at the time. Only eight out of twenty-three were playing abroad.

The last column of Table 4 gives the percentage of foreign players for each team. There is a wide range. The average was 59.6%, but the maximum was 80%, and the minimum was 44.4%. In total, there were 516 players, and 308 of them were expatriates. Fourteen teams were competing, and Table 4 provides the rank and the points obtained by each team. I measure the performance of a team by the number of points gained during the regular season. It is akin to a production function. In a very simple model, I assume that points obtained depend on the number of foreign players used. I will test this statistical association below after discussing some other characteristics of the foreign players in Greece.

**Table 4.** *Number of Foreign Players (2023-24 Regular Season)*

Team	Rank	Points	Number of Players	Number of Foreign Players	% of Foreign Players
P.A.O.K.	1	60	38	24	63.2%
A.E.K.	2	59	34	25	73.5%
OLYMPIACOS	3	57	46	29	63.0%
PANATHINAIKOS	4	56	42	28	66.7%
ARIS	5	42	35	28	80.0%
PAS LAMIA	6	34	37	21	56.8%
ASTERAS TRIP.	7	31	42	20	47.6%
ATROMITOS ATH.	8	28	31	16	51.6%
PANSERRAIKOS	9	27	36	16	44.4%
O.F.I.	10	25	34	20	58.8%
PANETOLIKOS	11	20	33	16	48.5%
VOLOS NFC	12	20	35	22	62.9%
KIFISIA	13	19	37	24	64.9%
PAS GIANNINA	14	18	36	19	52.8%
	Total		516	308	59.7%
	Average		36.9	22	59.6%
	Maximum		46	29	80.0%
	Minimum		31	16	44.4%
	Standard Deviation		4.04	4.51	10.1%

Source: Super League Greece <https://www.slgr.gr/el/> and author's calculations. I did subtract 3 points from Volos that was penalized for violating the antiracist regulation.

Table 5 provides the number of foreign players per country of origin. The Greek first division is a modern Babel, with players from 70 different countries and all continents represented among the 14 teams. Interestingly, many players come from countries with highly ranked football competitions. For instance, there are 41 players from Spain, 32 from Argentina, 15 from Brazil, 15 from Portugal, 14 from France, 14 from Serbia, 9 from Croatia, and 8 from Uruguay. Additionally, half of the teams use foreign trainers, which is another issue altogether but may explain why some countries have so many players competing in the Greek first division. This is illustrated in Table 7 below.

**Table 5.** Number of Foreign Players per Country of Origin (2023-24 Regular Season)

	Country	Number		Country	Number
1	Albania	4	36	Italy	4
2	Angola	1	37	Lithuania	1
3	Argentina	32	38	Mali	2
4	Austria	6	39	Mexico	2
5	Belarus	2	40	Moldova	2
6	Belgium	6	41	Montenegro	2
7	Bosnia and Herzegovina	3	42	Morocco	2
8	Brazil	15	43	Netherlands	7
9	Bulgaria	2	44	Nigeria	3
10	Burkina Faso	1	45	North Macedonia	1
11	Cameroon	3	46	Northern Ireland	1
12	Cape Verde	1	47	Norway	2
13	Chile	2	48	Paraguay	1
14	Colombia	2	49	Peru	1
15	Costa Rica	4	50	Poland	5
16	Cote d'Ivoire	1	51	Portugal	15
17	Croatia	9	52	Romania	3
18	Cyprus	4	53	Russia	3
19	Czech Republic	3	54	Serbia	14
20	Denmark	2	55	Slovakia	4
21	DR Congo	1	56	Slovenia	3
22	Ecuador	2	57	Spain	41
23	Egypt	2	58	Suriname	1
24	Finland	2	59	Sweden	7
25	France	14	60	Switzerland	3
26	Gambia	1	61	Tanzania	1
27	Georgia	3	62	Trinidad & Tobago	1
28	Germany	3	63	Tunisia	1
29	Ghana	4	64	Turkey	3
30	Guinea	3	65	Ukraine	1
31	Honduras	1	66	United Kingdom	5
32	Hungary	4	67	Uruguay	8
33	Iceland	4	68	USA	3
34	Iran	3	69	Uzbekistan	1
35	Israel	2	70	Venezuela	2

Source: Super League Greece <https://www.slgr.gr/el/>.

How good are the foreign players? One notable index is the top scorers. Table 6 reports data on the 10 top scorers of the Greek first division during the 2023-24 regular season. Only one Greek player makes it to this list. All other players are expatriates. The issue of how foreign players affect the performance of a team is discussed next.

**Table 6.** Top 10 Scorers (2023-24 Regular Season)

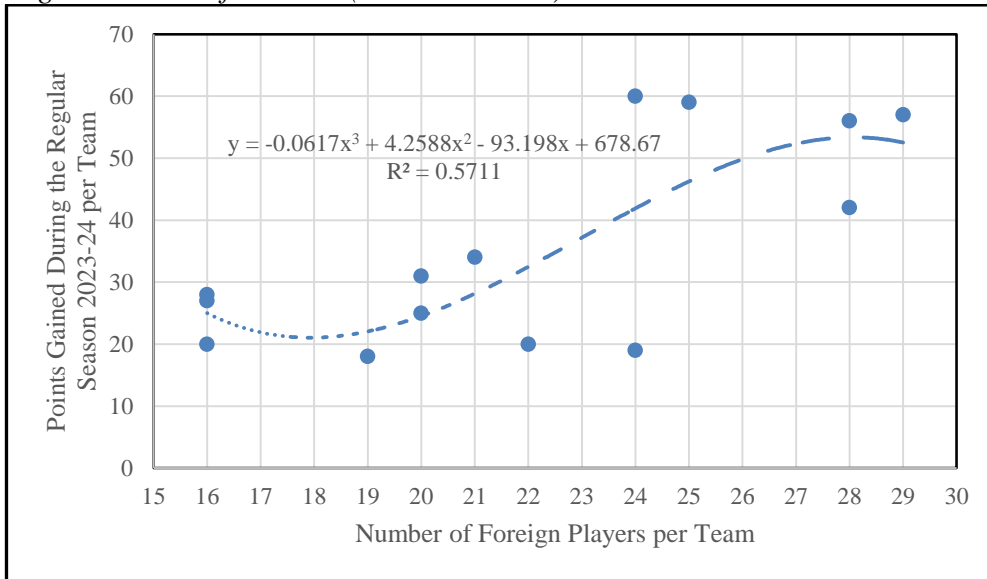
	Player	Club	Games Played	Goals	Country	Goals per Game Played
1	EL KAABI AYOUB	OLYMPIACOS	21	15	Morocco	0.71
2	MORON LOREN	ARIS	24	13	Spain	0.54
3	MIRITELLO JUAN	ASTERAS TRIP.	23	12	Argentina	0.52
4	GARCIA LEVI	A.E.K.	12	11	Trinidad & Tobago	0.92
5	DESPODOV KIRIL	P.A.O.K.	22	10	Bulgaria	0.45
6	CARLITOS	PAS LAMIA	22	10	Spain	0.45
7	PONCE EZEQUIEL	A.E.K.	18	10	Argentina	0.56
8	OZEGOVIC OGNJEN	KIFISIA	22	10	Serbia	0.45
9	IOANNIDIS FOTIS	PANATHINAIKOS	19	9	Greece	0.47
10	MURG THOMAS	P.A.O.K.	22	8	Austria	0.36

Source: Super League Greece <https://www.slgr.gr/el>.

Figures 4a & 4b plot the scatter diagram between the number of foreign players and the total points gained and the same variables in logs, respectively. I have also included the best-fitted lines using the coefficient of determination as a criterion. Figure 4a resembles a production function, as it should. The best approximation is a third-degree polynomial function. At a relatively low number of foreign players, an increase in their number decreases the points gained. However, as the number of players increases, the number of points increases, reaching a maximum at 28 players per team. After that, further increases lower the number of points obtained. Overall, this "production function" of points is well determined by this third-degree polynomial. The variations in the number of foreign players can explain 57.11% of the variations in points obtained.

Figure 4b provides the same scatter diagram, but now the variables are in logarithms. I also plot two fitted lines: one linear and the other quadratic. The latter provides a better fit, explaining 50% of the variations in points gained. The linear model is useful as a first good approximation within the range of values of the sample data. The interesting question is how the number of foreign players affects the points gained. In the linear model, this can be easily seen as the coefficient of the logarithm of the foreign players, 1.4235. This implies that if the number of foreign players increases by 10%, the points gained will increase by 14.2%. This suggests that foreign players help the team to gain more points. This might explain why foreign players are used so extensively in the Greek football league. As shown in the previous section, the Greek league ranks third among 31 European countries in the use of foreign players.

**Figure 4a.** Scatter Diagram of Foreign Players and Points Gained during the Regular Season of 2023-24 (total non-linear)



**Figure 4b.** Scatter Diagram of Foreign Players and Points Gained during the Regular Season of 2023-24 (logarithmic specification; linear and non-linear)

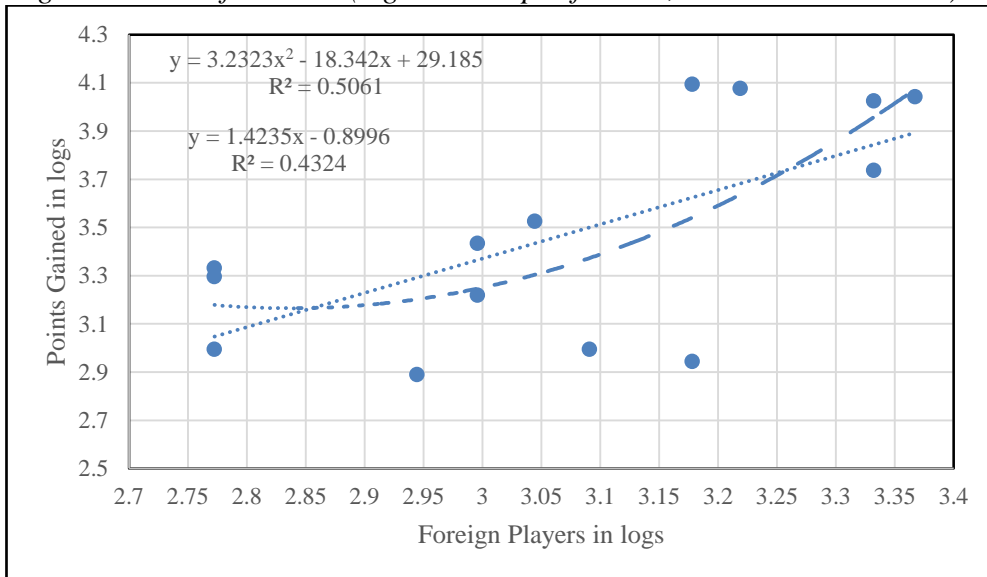


Table 7 shows the 14 coaches of the Greek teams. The table reports the coaches who sat on the bench for the last game of the season. Half of the coaches were from Greece. The others were from Argentina, Serbia, Spain, Turkey, Uruguay, and Romania.

**Table 7.** Coaches by Country of Origin (2023-24 Regular Season)

Coach	Home Country	Football Club
Konstantinos Bratsos	Greece	AE Kifisias
Matías Almeyda	Argentina	AEK Athens
Apostolos Mantzios	Greece	Aris Thessaloniki
Milan Rastavac	Serbia	Asteras Tripolis
Sasa Ilic	Serbia	Atromitos Athens
Traianos Dellas	Greece	OFI Crete FC
José Luis Mendilibar	Spain	Olympiacos Piraeus
Fatih Terim	Türkiye	Panathinaikos FC
Giannis Petrakis	Greece	Panetolikos GFS
Pablo García	Uruguay	Panserraikos
Răzvan Lucescu	Romania	PAOK Thessaloniki
Michalis Grigoriou	Greece	PAS Giannina
Leonidas Vokolos	Greece	PAS Lamia 1964
Christos Kontis	Greece	Volos NPS

Source: Super League Greece <https://www.slgr.gr/el/>.

Summarizing the discussion in this section, we conclude that foreign players play an important role in the Greek football league, which explains why Greek football teams use them so extensively.

## Conclusions

Foreign players dominate the Greek professional first division football league. The percentage of foreign players playing for Greek teams is the third-highest in Europe, after Cyprus and Türkiye, with more than 70% of the players being foreigners. As mentioned in this paper, football players play an important role when they retire by serving the community and the country at large. However, foreign players do not typically stay in Greece after retirement, and even if they do, they cannot become ideal examples to be followed by Greek youth. As the old generation of Greek football players decreases, there will be no substitutes by new retired Greek players. I consider this the most important negative impact of using foreign players. This problem can only be solved if there is a tacit agreement that teams will use a certain percentage of Greek players, perhaps aiming for the average European rate of 45.8%.

The evidence in this paper shows that a higher-than-average number of foreign players, compared to the European average, is negatively associated with the development of club-trained players. It is found that the optimal percentage is about 20%, at which rate the percentage of club-trained players is maximized.

The final conclusion relates to performance and the use of foreign players in the Greek football league. Using data from the 2023-24 regular football season of the Greek first division, it was found that the performance of a team is positively associated with the use of foreign players. A 10% increase in the number of foreign players results in a 14% increase in points gained in the competition.



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