

# THE INFLUENCE OF PERFORMANCE, AGE, AND NATIONALITY ON THE MARKET VALUE OF FOOTBALL PLAYERS

Loggar Bhilawa<sup>1\*</sup>  
State University of Surabaya  
2, Ketintang St., Surabaya  
Indonesia 60231  
loggarbhilawa@unesa.ac.id

Ryanaldi Fahriansyah<sup>2</sup>  
State University of Surabaya  
2, Ketintang St., Surabaya  
Indonesia 60231  
fryanaldi@gmail.com

## ABSTRACT

This research aims to investigate the influence of performance, age, and nationality on the market value of football players. The population in this research is the professional football players that play in Indonesian League 1 competition in the 2019 season. Data obtained from the official website that publishes the football players' prices in the transfer market in the world is transfermarkt.co.uk. The purposive random sampling method obtained samples from as many as 234 professional football players from 18 clubs. This research used a quantitative approach. The results of this research show that the performance has a positive effect on the market value of football players because the market value of the players reflects the performance of the players themselves. At the same time, age also harms the market value of soccer players because age affects the performance of football players. Nationality has a positive effect on the market value of football players because nationality influences the quality and ability of football players. In this research, we show that players with good performance are more interested in many clubs at a young age, so these players have a high market value.

Keywords: Performance; Age; Nationality; Market Value; Football Player; Indonesian

## ABSTRAK

Tujuan penelitian ini untuk menguji pengaruh performance, umur, dan nationality terhadap market value pemain sepakbola. Populasi adalah pemain sepakbola profesional yang bermain di Liga 1 Indonesia musim 2019. Data diperoleh dari situs transfermarkt.co.uk. Berdasarkan metode purposive random sampling, sampel yang diperoleh sebanyak 234 pemain pada 18 klub. Penelitian ini menggunakan metode pendekatan kuantitatif. Hasil penelitian ini menunjukkan performance berpengaruh positif terhadap market value pemain sepakbola, sedangkan umur berpengaruh negatif terhadap market value pemain sepakbola, dan nationality berpengaruh positif terhadap market value pemain sepakbola. Penelitian ini menunjukkan bahwa pemain dengan performance yang baik dan umur yang masih muda lebih diminati oleh banyak klub sehingga pemain tersebut memiliki nilai pasar yang tinggi.

Kata Kunci : Performance; Umur; Nationality; Market Value; Pemain Sepakbola; Indonesia

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\*corresponding author

## INTRODUCTION

Football is one sport that has evolved into an industry. The industrialization of football is inseparable from the governance applied by club managers. Football clubs will use as many funds as possible in forming a good and quality team (Pranata & Supatmi, 2016). Investment in football players affects the quality of a team, so club managers will be willing to spend their financial resources to invest in players to win on the field (Brommer, 2011; Kesenne, 2015; Pawlowski, Breuer, & Hovemann, 2010).

Football clubs need information about their target players to find out the qualities possessed by football players. Based on signaling theory, the information contained in football players will shape the market value of football players so that it will influence investors' decisions to make purchases of these players. Information related to football players includes performance, age, salary costs, and nationality.

Football clubs in England listed their players as intangible assets on the balance sheet. Players become an asset of a football club, so the club needs to consider the capital gains obtained from buying and selling players. Based on resource-based theory, a football player's ability is an advantage that can create value for football players. Each player has different skills, and the skills possessed will be the basis for determining the selling price of players. The selling price of a player is reflected in the player's market value (market value). It is what makes football players an intangible asset that is challenging to assess.

Cristiano Ronaldo is one of the best football players in the world. It is proven by the many awards he has won because Ronaldo has a good performance on the field. The transfermarkt.co.uk site states that the market value of Cristiano Ronaldo is around €108 million or equivalent to 1.7 trillion rupiahs. It shows that the market value of a football player is determined by the skills and performance of the player. The transfer value of Ronaldo consistently increased, recorded in the three transfers he has experienced since being bought by Manchester United, Real Madrid, and Juventus. With the increasing age, Ronaldo does not reduce the quality of his performance; even with increasing age, his performance increases.

The development of the industrialization of European football led Indonesian football to enter the modern football industry. Football clubs in Indonesia can buy foreign players with the status of marquee players at high prices. Table 1.1 shows a list of marquee players who have played in Indonesia. The purchase of quality players is expected to impact club performance and club income positively.

**Table 1. List of Marquee Player Liga 1 2017**

Marquee Player Name	Club	Market Value
Michael Essien	Persib Bandung	12,4 Billion
Carlton Cole	Persib Bandung	19,3 Billion
Wiljan Pluim	PSM Makasar	6,9 Billion
Steven Paulle	PSM Makasar	3,8 Billion
Peter Odemwingie	Madura United	7,7 Billion

Source: Panditfootball.com

This study tries to examine the factors that affect the market value of football players. Factors that are thought to affect the market value of football players are performance, age, and nationality. Ability (skills) can be seen through performance meeting the criteria as a unique resource in creating a competitive advantage for football players to create value for these players. Studies conducted by Majewski (2016) state that performance affects market value, while Brommer's (2011) research does not

affect market value. Age is an essential indicator in assessing the market value of players because it reflects their experience and potential. Research conducted by Pranata & Supatmi (2016) shows that age positively affects market value, but Fry et al. (2014) shows that age harms market value. Kuper & Szymanski (2012) reveal that nationality affects market value, while there is no evidence, according to Thrane (2019). Based on the description above, this research is fascinating to develop. Therefore researchers are motivated to research the effect of performance, age, and nationality on the market value of football players. It is hoped that the results of this research can be used as input and contribution of ideas that can increase knowledge of governance in football club finance.

## METHOD

This type of research uses a quantitative research approach. According to Ghozali (2007), quantitative research aims to test or verify theory, deductively laying out the theory to become the basis for finding and solving research problems. The objects in this study are football players who play in the Indonesian League 1 competition in the 2019 season.

The independent variables in this study are performance, age, and nationality, while the dependent variable is market value. The players' performance in this study will be measured using the Opta Index Point. The calculation of the Opta Index Point is done with the formula (Gulbrandsen & Gulbrandsen, 2011):

$$OI = 100 \times (0,25I_1 + 0,375I_2 + 0,125I_3 + 0,125I_4 + 0,0625I_5 + 0,0625I_6) \dots \dots \dots \text{(Equation 1)}$$

Description:

$I_1$  = Winning Performance

$I_2$  = Performance per match

$I_3$  = Appearance

$I_4$  = Total Goals

$I_5$  = Total Assist

$I_6$  = Clean Sheet

A new player can have a contract and play for the club when he reaches 17 years of age or older. Data regarding the age of football players is obtained from [www.transfermarkt.co.uk](http://www.transfermarkt.co.uk). Nationality is the nationality that football players have. Nationality refers to the country of birth of a football player. Nationality will be represented by a dummy variable in which local players are represented by the number 0 and foreign players represented by the number 1. And then, Market Value, or the market value of a football player, can be defined as an estimate of the amount of money a club is willing to pay to make a player sign a contract (Herm, Callsen-Bracker, & Kreis, 2014; Martin, Lopez, & Gonzale, 2019). The market value of football players is obtained from [www.transfermarkt.co.uk](http://www.transfermarkt.co.uk).

The type of data used in this research is quantitative data. This study's data are secondary data sources, namely research data sources obtained by researchers indirectly through intermediary media (Ghozali, 2007). The data is obtained from the official website of each club and through the website [www.transfermarkt.co.uk](http://www.transfermarkt.co.uk). Transfermarkt is the leading website on the international football transfer market (Franck & Nüesch, 2012; Müller, Simons, & Weinmann, 2017)

The population in this study were football players who played in the Indonesian League 1 competition in the 2019 season. Based on the purposive random sampling method, the sample obtained is 234 players at 18 clubs. It was collecting data in this



study using the documentation method. The technique of collecting data using documentation is the collection of data that comes from the records of events that have happened before. The data in question is regarding football players playing in the Indonesian League 1 competition in the 2019 season. This study uses multiple regression models to determine the effect on the relationship between independent and dependent variables with the help of SPSS software.

## RESULT AND DISCUSSION

The total number of clubs in the 2019 Indonesian Liga 1 Competition is 18 football clubs, with 13 players consisting of 11 core players and two reserve players. Sampling using the purposive random sampling method.

**Table 2. Sampling Criteria**

No	Criteria	Amount
1	Players from 18 clubs competed in the Indonesian Liga 1 football competition in the 2019 competition year.	234
2	Players who are not under contract with the club	-
3	Players who do not have complete data according to the variables studied.	-
Number of players used as sample		234

Based on table 2, the sample obtained is 234 players. The data is processed using multiple linear regression analysis, first tested using classical assumptions to avoid biased data.

**Table 3. Descriptive Statistics Results**

	N	Minimum	Maximum	Mean	Std. Deviation
Market_Value	234	25,00	650,00	190,2778	110,30113
Opta_Index	234	4507,625	2970086,438	244404,84187	384568,901068
Age	234	19	40	28,00	4,227
Nationality	234	0	1	,28	,449

Table 3 shows that the number of observational data in the company's research was 234 samples. Based on the descriptive statistical analysis results, it can be seen that the market value variable has an average value of 190.2778 and a standard deviation value of 110.30113. The standard deviation value, which is smaller than the average, indicates that the market value variable for 234 samples has a small data distribution. The highest market value of players, namely 650.00, was found in Brwa Nouri, the Bali United Club players. The lowest market value was found in Miftah Anwar Sani and Johan Yoga from the Badak Lampung FC club and O.K Jhon from the Kalteng Putra club, 25.00.

The performance variable is depicted in the Opta Index value, with an average value of 244404.8419 and a standard deviation of 384568.9011. A standard deviation value more significant than the average indicates that the performance variable for 234 samples has a large data distribution. This variable has the lowest value of 4507,625 found in Michael Rumere, a player from the Central Kalimantan Putra club. The highest value of 2970086,438 is found in Marko Simic, a player from the Persija Jakarta Club.

The age variable has an average value of 28.00 and a standard deviation of 4.227. The standard deviation value that is smaller than the average indicates the age variable

has a small data distribution. The highest age was Ismed Sofyan at 40 years old, and the lowest age was Gunansar Mandowen at 19 years old.

The descriptive statistical results of the dummy variable representing the nationality variable were categorized into two categories, namely local players and foreign players, where local players were 72.2%, and foreign players were 27.8% of the total players, with a standard deviation 0.449. It means that football clubs in the Indonesian League 1 use more services from local players than foreign players. It follows the Football League Regulation Article 31 2017 regarding the quota for player registration implemented by PSSI as the highest football institution in Indonesia.

The normality of the data was tested using the Kolmogorov-Smirnov test. The Asymptotic Significant value in the data sample after removing outlier data twice in the Kolmogorov Smirnov test still shows a value less than 0.05, namely 0.021. So, the regression model residuals are not normally distributed, so they do not meet the normality assumption. It results in the linear regression model that needs to be transformed to meet the normality assumption. After the transformation, the Kolmogorov Smirnov test results showed that the Asympatic Significant value was greater than 0.05, which was 0.200. It shows that the research data used is typically distributed and meets the normality requirements of the regression model.

The multicollinearity of data between the independent variables in the study was tested using the VIF test. The VIF value on the Performance variable (Opta Index) is 1.215, the VIF value for the age variable is 1.044, and the nationality variable is 1.243. The VIF value for each of the independent variables is less than 10, so it can be concluded that there is no multicollinearity between the independent variables.

The heteroscedasticity test checks the inequality of variance in the regression model from the residuals of one observation to another. The results show the significance value of each variable, namely performance (Opta index) of 0.318, age of 0.720, and nationality of 0.287. The significance value of each of these independent variables is more significant than 0.05, so it can be concluded that there is no heteroscedasticity.

**Table 4. Results of Multiple Linear Regression Analysis**

Model	Unstandardized Coefficients		Standardized Coefficients
	B	Std. Error	Beta
1 (Constant)	24,182	2,443	
Opta_Index	,005	,001	,359
Age	-2,643	,466	-,270
Nationality	4,157	,450	,480

a. Dependent Variabel: Market\_Value

The feasibility of this research model (multiple linear regression model) was evaluated by the coefficient of determination test (R<sup>2</sup>) and the simultaneous significance test (F test). Table 4 shows that the coefficient of determination (R<sup>2</sup>) is 0.500. Based on these results, it can be concluded that the level of closeness of the relationship between the independent and dependent variables is 50%. It means that 50% of market value changes are caused by changes in the independent variables, namely performance, age, and nationality. Other variables not included in this study explain the remaining 50% (100% - 50%). Other variables can be player salary fees, transfer fees, player popularity, and others.

The simultaneous significance test value (f test) with an F test value of 76.661 and a significant value of 0.000, the significance value <0.05. It shows that all the independent variables, namely performance, age, and nationality, significantly affect market value.

**Table 5. Partial Significance Test Results (t-test)**

Model	Unstandardized		Standardized	t	Sig.
	Coefficients		Coefficients		
	B	Std. Error	Beta		
1 (Constant)	24,182	2,443		9,900	,000
Opta_Index	,005	,001	,359	6,994	,000
Age	-2,643	,466	-,270	-5,673	,000
Nationality	4,157	,450	,480	9,233	,000

a. Dependent Variable: Market\_Value

### The Effect of Performance on Market Value

The results of Table 5 show that performance positively affects market value. The results of this study support research conducted by (Berg, 2011; Majewski, 2016; Müller et al., 2017). These studies can prove a positive and significant influence between performance and the market value of football players. Based on resource-based theory, a football player's ability is an advantage that can create value for football players. This value is realized through market value. The abilities possessed by football players can be seen through their performance. The ability (skill) meets the criteria as a unique resource in creating a competitive advantage for football players to create value for these players.

These results prove that good performance can increase market value and vice versa; poor performance can reduce the market value of football players. A player's good and bad performance can be seen from the number of goals and assists produced, the more goals and assists produced by a player. It can be said that the player has a good performance (Kim, Bui, & Jung, 2021). In addition, the number of appearances and playing minutes is also one of the factors used in assessing a player's performance. The more the number of appearances and playing minutes indicates that the player has a good performance. Clean sheets are also used in assessing player performance, where more players record clean sheets in each match. It can be said that the player has a good performance. The better the performance and abilities of football players, the more clubs who want to buy them so that the market value is high.

### The Effect of Age on Market Value

The statistical tests show that age harms market value. The results of this study contradict research conducted by Pranata & Supatmi (2016) that there is a positive and significant influence between age and the market value of football players. Age is one of the information contained in soccer players. Following signaling theory, such information can influence an investor's decision to buy a player.

Age can determine the performance and abilities of football players. As the player ages, the player's performance decreases. The performance includes fitness, stamina, speed, and player ability. Some researchers think that with the increasing age of a player, the quality of the player decreases (Muhammad, 2017). The reduced player performance will have an impact on decreasing market value. Research conducted by

(Limba, Rijoly, & Tarangi, 2020) shows that players aged more than 30-31 years will experience a physical decline. So when a player has passed the age of 31 years, he will experience a physical decline which leads to lower ability and performance, but when the player is at his best, the player's market value will increase (Fry et al., 2014). It can be seen in this study that the lowest age of the players is 19 years which is found in Gunansar Mandowen, while the highest age of 40 years is in Ismed Sofyan. The two players have different performances and abilities, so their market value is also different; Gunansar Mandowen has a market value of \$ 175, while Ismed Sofyan has a market value of \$ 50.

### **The Effect of Nationality on Market Value**

The statistical tests show that nationality has a positive effect on market value. The results of this study contradict research conducted by Thrane (2019) that there is no significant influence between nationality and the market value of football players. Nationality is one of the information contained in soccer players. According to signaling theory, such information can influence an investor's decision to buy a player. According to Szymanski & Kuper (2018), the fact is that football players from Europe have a high market value compared to football players from Asia. A literature review also reveals that some countries are overvalued, especially in football.

Based on table 5 for the nationality variable, it can be seen that the market value of foreign players (included group) is 4,157 higher than the market value of local players (excluded group). In other words, the market value of foreign players is 415.7% higher than the market value of local players. The nationality of a football player affects the market value of a player. Foreign players have better performance and ability than local players, so foreign players have a higher market value than local players. It can be seen in the highest market value owned by foreign players from Bali United, namely Brwa Nouri, and the lowest market value owned by local players from the Badak Lampung FC club, namely Anwar Sani and Johan Yoga. However, not all foreign players have higher performance and quality than local players. These qualities are caused by the innate abilities of the players themselves.

### **CONCLUSION**

Based on the results of the analysis and discussion that has been stated above, it can be concluded that performance has a positive effect on the market value of football players. The results showed that good performance could increase market value and vice versa; poor performance can reduce the market value of football players. A player's good and bad performance can be seen from several factors, namely the number of goals and assists, the number of appearances and minutes played, and the number of clean sheets. The results also showed that age harmed the market value of football players. Age affects market value because it can determine the performance and abilities of football players. As the player ages, the player's performance decreases. The performance includes fitness, stamina, speed, and player ability. The reduced player performance will have an impact on decreasing market value. In addition, nationality has a positive effect on the market value of football players. Foreign players, on average, have a higher market value than local players because foreign players have better performance and abilities than local players.

This study has several limitations; namely, the sample used is only 13 players consisting of 11 core players and two reserve players from each club. The league studied was only in the Liga 1 competition during the 2019 season. This study only



examined the effect of 3 independent variables on market value, namely the performance variable, age, and nationality. Future studies are suggested to expand the research object, such as all players in each club. A large number of samples will generalize more to all football players so that it will give more valid results. In addition, it is also recommended to add other variables outside of this research, such as the cost of player salaries, transfer fees, player popularity, and several other measuring variables that can affect the market value of players.

The results of this study can be used as consideration in the strategies for purchasing players for the club. Football players should be able to provide good abilities and performance for the club so that due to this good ability and performance, the market value of players will be able to increase.

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