When an athlete plays against his previous team, it causes additional interest of the media and fans.

Athletes competing in different team sports are often asked about the motivation and psychological effects of playing against their former clubs.

For instance, NFL players say that a victory over a former team arouses a completely different, much more pleasant emotion. Most players are willing to play against their former teams and are eager to take revenge for not being offered a place in the squad. NFL coaches emphasize that information from these players is very useful for choosing the tactics for the game [1].

There exist some clear examples of better performances of loaned players in the matches against their former employers. After the winter break during the 2006-2007 season, Ajax defender Jan Vertonghen was sent on loan to struggling RKC Waalwijk. The teams played each other 4 rounds before the end of the season, Vertonghen scored an important goal, and the game ended in a draw. Ajax managed to win the remaining three games, but it turned out to be insufficient for the title, and they occupied the 2nd place in the championship on goal difference [2].

The aim of this paper is to check whether playing against a previous team affects players’ performance. To the best of our knowledge, there is a lack of articles tackling this question. The results may be important for coaches, as it may be profitable to include a player having
additional motivation in the starting lineup or to at least use him as a substitute. They may also be useful for bookmakers as a potential indicator of a needed adjustment of betting coefficients, as well as for clubs’ officials negotiating contracts (e.g. to know whether it’s worth including a fine for playing against the selling team in the future).

We focused on two main sports: basketball and hockey, in these two sports, there are dominant leagues (NBA and NHL), players essentially have no other choices; in order to test the hypothesis that players actually perform better and put more effort into the game against former clubs.

In basketball, we use data from basketball-reference.com. We have information about all the players who participated in the games in the seasons 2005/2006-2017/2018. Initially, our data set consisted of 324 083 observations. The final dataset covers the 2011/2012-2017/2018 seasons and 175,478 observations. The number of matches against the former club is 8,007.

In hockey, we used data from hockey-reference.com. We have information about all the players who participated in the games in the seasons 1979/1980-2018/2019 and consisted of 1 446 863 observations. For convenience, we decided to limit ourselves to the last seasons-2011/2012-2018/2019.

For each of the sports, we constructed a series of regression models of the form

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\text{performance\_indicator} = f(\text{former\_club}, \ldots),
\]

where \text{performance\_indicator} corresponds to the number of goals / assists scored by a given player in a given match, and \text{former\_club} is a dummy variable equal to 1 if the player is playing against his former club.

In basketball, we got interesting results. The number of points when playing against the former team, on average, 2-3 percent more than against any other (on level significance in 1 percent). In hockey, the opposite situation is observed; playing against a former team negatively and significantly affects the number of points a player get in match. We attribute this to structural differences in these sports.

Our immediate plans for the future include examining the impact of playing against the former club on some other performance indicators as well as advanced metrics.
References
