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Racial Gaps in Managerial Career Advancement*

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Abstract

We study racial disparities in advancement to top management using the careers of 4,770 former frontline workers from a prominent industry in England. Black workers are substantially less likely than non-Black workers to reach top managerial positions (11 versus 20 percent). We identify three sources of this gap: lower entry into management, lower promotion rates within management, and shorter tenure in senior managerial roles. Counterfactual simulations show that barriers to entering management explain most of the racial gap early in workers' careers, while differences in promotion rates become the dominant driver later on.

Keywords: racial discrimination, career progression, systemic discrimination, football managers.

JEL-codes: M50, M54, J24

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1 Introduction

Black workers are underrepresented in senior leadership positions in firms across many industries (Dobbin et al., 2016; McKinsey & Company, 2021). To achieve a senior management position, a worker typically obtains an entry-level managerial job first, followed by a chain of promotions through intermediate managerial roles. These promotions may either take place within the firm or by moving to a better position in a competing firm. After obtaining a senior position, it is not straightforward to maintain a job at this organizational level. Racial disparities have been documented at each stage of the managerial career trajectory, but it is not clear what their relative contribution is to the apparent gap in racial representation in senior leadership positions.

To gain insight into the importance of racial discrepancies at various stages of the managerial career, we track a comprehensive sample of likely candidates for entry-level managerial jobs as they progress through their career. In the industry we study, almost all managerial jobs are filled by former frontline workers, for whom a career in management is typically the most natural follow-up employment option. We observe the managerial careers of all former frontline workers who were active between 1990 and 2013 in England, as well as information on their worker career and a personal profile picture. We use a survey tool to collect at least three independent judgments on whether or not each profile picture shows a person of Black or mixed Black heritage, which is the main minority group in the industry. In total, we track 4,770 former frontline workers, 837 of which are identified as having a Black or mixed Black origin versus 3,933 workers who are identified as having another racial origin, in large majority whites. The firms in our industry offer very similar career structures employing a standardized nomenclature. We can track the progress candidates make both within and between firms, even when they move abroad. As such, we can gauge to what extent Black candidates are impeded in their career progress from first entry in a managerial job and all along the way to the top leadership positions.

There is a large racial gap in holding a senior managerial position in our data. Eleven percent of those with Black and mixed heritage obtain a top managerial position, while for the remainder, the corresponding number is twenty percent. If we exclude those who obtain

jobs abroad, only three percent of Blacks attain the most senior role versus eleven percent for other racial origins. We can trace this discrepancy back to impediments at each career stage. First, Black candidates are 14 percentage points less likely than non-Black candidates to obtain a first managerial job (19% vs. 33%), and this difference remains unchanged after controlling for the candidate’s personal characteristics and past performance as a frontline worker. Second, Black managers are significantly less likely to move from any job into a top leadership position, both in England and abroad. Yet, they face a higher probability of transitioning from a top job into unemployment. We also find evidence that Black staff more often move into lower level roles, particularly abroad, which function as a glass ceiling. Finally, when it comes to job spell duration, we find that Black managers face a higher job-exit hazard, particularly at the top level. Poor performance raises the exit hazard for all managers, but it does not explain the elevated exit hazard associated with being Black.

We investigate how much each of these impediments contributes to the under-representation of Black managers in the top job. First, we simulate the first ten years of the managerial career of each worker in our data using the observed worker characteristics, entry and job transition probabilities. Then we simulate alternative scenarios, where we allow the Black and mixed heritage workers to (a) enter their first job and/or (b) progress to other roles as if they were non-Black. This reveals that access to a first managerial job is the main impediment in the first three years of the career, but after that the gap in promotion probability becomes more important. When we allow Black workers to enter and progress as if they were non-Black, the racial gap in obtaining the top job after ten career years decreases by over 90%. Our findings clearly demonstrate that the racial discrepancy among workers holding top executive roles should be understood as the result of a multi-stage process, where the disadvantage of minority workers accumulates over time. Policy interventions that only target the final stage of this process therefore fail to make much difference in the presence of minorities in top positions.

Our results speak to the recent literature on “systemic discrimination”. [Bohren et al. \(2025\)](#) argue that examining direct discrimination in an individual hiring or promotion decision draws an incomplete picture of the potential total discrimination faced by minority workers. If minority workers attain lower skill levels or send lower productivity signals be-

cause of discrimination in earlier career steps or even before the start of their working career (e.g., in the education system), this leads to racial discrepancies in the top professions, even without explicit discrimination in hiring for the top jobs (Bjerk, 2008). Gerard et al. (2021) indeed find that “race-neutral” skill-based sorting contributes heavily to the racial wage gap in Brazil, underscoring the importance of racial differences in skill accumulation. We explicitly study the entire career trajectory from frontline worker to the top leadership role, allowing for differential skill and experience accumulation for minority workers before and during their managerial career. We simulate counterfactual career trajectories to show the importance of “direct” discrimination in promotion decisions and the effect of “indirect” discrimination in earlier career opportunities.

The extensive literature on discrimination in the labour market can be traced back to Becker (1957). This literature has historically paid most attention to racial discrepancies in hiring. Following Bertrand and Mullainathan (2004), most experimental studies analyze the call-backs received by fictional minority versus non-minority applicants with identical qualifications in their resumes. This literature has revealed a persistent disadvantage for minority candidates over time and space (Quillian et al., 2017; Kline et al., 2022).¹ Giuliano et al. (2009) provide direct evidence that non-Black hiring managers in a large US retail hire fewer Black workers than Black managers. Benson et al. (2024) show that these in-group racial biases are caused by a combination of taste-based discrimination, screening discrimination, and complementarities in production between same race managers and workers. On the labour supply side, minority candidates are less likely to apply for positions in firms with low minority representation. However, employers can counteract this by explicitly signaling their commitment to diversity in the workplace (Flory et al., 2024).

By comparison, the empirical literature on racial discrepancies in promotions is more limited. The most closely related analysis to this paper is Hegde et al. (2023). They document that Black patent examiners face significantly longer waiting times for promotions than equivalent non-Black co-workers in the US Patent and Trade Office. This effect is most pronounced for senior positions and reduces Black examiners’ career earnings by 2.7%. Studying data from a US retail chain, Giuliano et al. (2011) show that employees facing a manager

¹For a systematic review of correspondence experiments, see Lippens et al. (2023).

of a different racial background are less likely to be promoted within the firm. If most managers are non-minority, this leads to a setback for minority workers. Several channels may contribute to this racial discrepancy. According to [Glover et al. \(2017\)](#), biased managers exert direct negative effects on the productivity of minority workers, which diminishes their chances of improved employment opportunities. Minority workers are also disproportionately allocated to jobs with lower visibility, which lowers their chances of a promotion ([Rider et al., 2023](#)). [Milgrom and Oster \(1987\)](#) suggest that women and minorities are unable to access social networks that allow their abilities to be recognized by rival employers. This reduces the chance of obtaining a promotion by switching employers. Moreover, the current employer can choose to delay or refuse a promotion as this would reveal the productivity of the minority worker to rival employers (see also [DeVaro et al. \(2018\)](#)).²

Finally, members of minority groups are more likely to be fired or to quit. [Giuliano et al. \(2011\)](#) provide direct evidence that quits and dismissals are more common when managers and workers have different racial backgrounds. Moreover, economists have long recognized that recessions lead to larger increases in minority unemployment than in the population as a whole, often referred to as the “last hired, first fired” phenomenon ([Couch and Fairlie, 2010](#)). Recent work relating to recessions induced by the financial crisis of 2008 and the COVID-19 pandemic in 2020 has shown that unemployment rates among minority groups tended to rise faster than among the population as a whole, consistent with discriminatory layoff policies ([Auer, 2022](#); [Couch et al., 2018](#); [Fairlie et al., 2020](#)).

Our key contribution to this literature is that we can investigate where the racial gap opens up along the entire managerial career trajectory: from a candidate’s entry into a first managerial job, through subsequent promotion and demotion, to their retention in top executive roles. Unlike most previous studies, we perform this analysis on a dataset which tracks a cohort of likely job candidates as they progress through their careers both within and across employers, even when they move abroad. A unique feature of our analysis is that we assess a candidate’s race using (multiple) human judgments of their picture, rather than algorithms, name classifications, or birthplace and nationality. This brings us closer to

²A large literature investigates the presence of these “glass ceiling” and “sticky floor” effects in terms of the gender promotion and wage gap, see e.g., [Yap and Konrad \(2009\)](#); [Blau and Kahn \(2017\)](#); [Gayle et al. \(2012\)](#); [Das and Joubert \(2023\)](#).

measuring how a candidate race is perceived by others, most notably employers. Finally, we have objective worker productivity measures, both for managers and frontline workers.

In the next section, we explain the setting from which we draw our data and how we construct our data sample and variables. Next, we quantify the racial gap in managerial careers and illustrate it with graphical evidence. Then we examine the racial gap in each career step separately. We finally tie these analyses together in a simulation exercise which shows how the racial gap opens up and is reinforced in each career phase. We conclude with a discussion of limitations and policy implications.

2 Setting and Data Sample

2.1 Professional Football Managers

The setting for our research is the professional football industry in England. Football, commonly known as soccer in North America, is the largest revenue generating sport in England. Its professional league structure is organized in four hierarchical divisions containing 92 clubs in total.

Within each club, one individual, known as the “manager”, is responsible for the competitive performance of the team. The manager’s responsibilities include organizing coaching, selecting players, hiring players, negotiating contracts and setting objectives. While in the English system the manager is typically answerable to an owner, he is widely understood to have ultimate responsibility for the team.

Below the manager sits a (group of) assistant manager(s), who perform more operational tasks such as overseeing training routines on the pitch and monitoring the fitness of players. Most managerial staff start their careers with even more junior roles, which include coaching youth and development teams, scouting prospective players, and performing video analysis of opponent teams. Within a club, there is a well understood hierarchy in managerial positions. We distinguish jobs with a clear position in this hierarchy as “pipeline jobs”: youth coach, assistant manager and manager. Jobs outside of the pipeline are less prestigious. To reach the highest position (manager), it is generally necessary to progress through the pipeline. There is also a clear sporting and financial hierarchy among clubs, such that a move to a

similar role in a larger club can also be a significant promotion.

If the club underperforms, the manager is held responsible. Club owners often fire a manager when they are seeking to turn around a their fortunes ([Van Ours and van Tuijl, 2016](#)). When a firing happens, one of the assistant managers is typically appointed as interim manager. The club then either replaces the interim with a new externally hired manager or appoints the interim in a permanent role. Manager firings therefore represent significant promotion opportunities for lower level and temporarily unemployed managerial staff.

Almost all managerial staff are recruited from the pool of former professional players. [Bridgewater et al. \(2011\)](#) explain this by emphasizing the role of learning by doing. They find support for the idea that successful managers are former top players who are able to pass on their skills to lesser players. Likewise [Blackett et al. \(2018\)](#) observed that “Experiences gained during earlier athletic careers were assumed to provide head coaches with the ability to develop practical sense and an elite sporting habitus commensurate with the requirements of the field of elite sports coaching. This included leadership and practical coaching skills to develop technical and tactical astuteness, from which, ‘respect’ could be quickly gained and maintained. The development of coaching skills was rarely associated with only formal coaching qualifications.” A second explanation refers to the reluctance of football clubs to hire inexperienced managers ([Peeters et al., 2022](#)). In this context having a network within the industry, built up during the playing career, is often needed to secure a first job.

In step with the increasing professionalization of the football industry, there has been a larger focus on formal training for managerial positions with leagues requiring managers to hold formal training certificates. [Morrow and Howieson \(2018\)](#) find that some aspirant managers are now “adopting strategies which place increased emphasis on educational capital”. Naturally, not every former professional player wants a career in management. For the vast majority of them, it is however the most lucrative follow-up profession after retirement from playing.³

³Unlike athletes in US college sports, most football players do not obtain college degrees. They spend their formative years focusing on their playing career. Hence, they have little to no job experience outside football and have relatively little formal education when they reach their mid-thirties.

2.2 Racial Discrimination in Sports Labour Markets

In recent decades the racial composition of professional English football has changed significantly ([Szymanski, 2000](#); [Deschamps and De Sousa, 2021](#)). The main minority group consists of English-born players with African or mixed heritage roots and foreign-born players from Africa and Latin America. Together, they account for over a third of all professional players. Among them are some of the greatest players of their generation. For example, eleven out of the twenty-six members (42%) of the England squad that reached the final of the European Championship in 2024 were of Black or mixed Black heritage. There are, however, still relatively few players of Asian background and other minority groups ([Cashmore and Cleland, 2011](#)).

This growing presence of Black players on the pitch is not matched on the management side of the game. Research by Black Football Partnership (BFP), an organization representing the interests of Black players, has shown that in 2023 only 8.9% of managerial and administrative roles in English professional football clubs were held by Black employees, and only 4.4% of managers were Black ([Szymanski, 2023](#)). This racial discrepancy in managerial roles is neither a new phenomenon, nor is it unique to English football (see, for example, [Cashmore and Cleland \(2011\)](#); [Bradbury et al. \(2018\)](#); [Sonntag and Ranc \(2015\)](#)).

The easy availability of detailed statistical performance in sport makes it a natural focus of productivity and discrimination studies.⁴ This gave rise to an extensive literature on labour market discrimination within sports, which primarily focuses on the players. Early studies in baseball ([Gwartney and Haworth, 1974](#)), basketball ([Kahn and Sherer, 1988](#)) and American football ([Scully, 1973](#)) found evidence that Black players were underpaid for equivalent skills compared to white players. [Szymanski \(2000\)](#) looked at salary discrimination in English football over the period 1978-1993. In this era there were almost no foreign players, and indigenous Black players only started to enter the professional ranks at the end of the 1970s. As long as the number of Black players was relatively small, there was no evidence of discrimination, but as the share of Black players in the leagues rose to around 10%, it appeared that Black players were paid less than white players of equivalent ability. A follow-

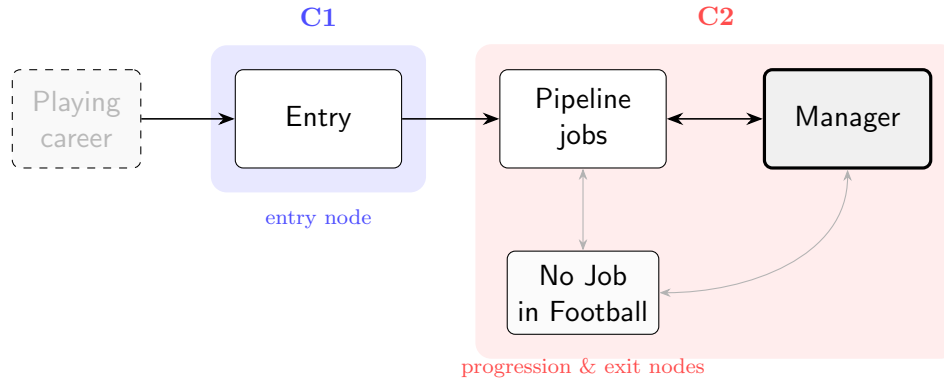
⁴[Palacios-Huerta \(2025\)](#) provides a comprehensive discussion arguing for the usefulness of sports data for research in economics.

up study by [Deschamps and De Sousa \(2021\)](#) found that once foreign players were free to enter the English labour market and the share of Black players in the leagues rose to around one third, evidence of discrimination disappeared. This finding aligns with the disappearing salary discrimination among American professional athletes as the era of segregation receded ([Goff et al., 2002](#)). Clearly, not all forms of discrimination disappeared from professional sports. For example, [Holmes \(2011\)](#) found evidence of continuing salary discrimination at lower levels of ability in Major League Baseball. Other forms of prejudice persist in the form of customer discrimination (e.g. [Andersen and Croix \(1991\)](#); [Ahmadi et al. \(2025\)](#)) or on the part of referees and umpires ([Price and Wolfers, 2010](#)).

There is considerably less literature addressing racial discrimination among managerial staff in sports. [Kahn \(2006\)](#) found no evidence of discrimination in “retention, hiring or wage discrimination” of basketball head coaches, while acknowledging that limited information about potential candidates meant that there could still be differential access to management opportunities. According to [Salaga and Juravich \(2025\)](#) non-White coaches in college basketball get hired in more difficult jobs, but this does not negatively affect their subsequent career outcomes. [Goff and Tollison \(2009\)](#) ask what factors lead professional basketball teams in the NBA to hire African-American head coaches. They find weak evidence that winning organizations proceeded first in hiring Black managers as in the case with Black players. [Madden \(2004\)](#) found that African American coaches were on average more successful in the National Football League (NFL) than their white counterparts, from which she inferred that Black applicants for coaching jobs were being held to a higher standard. The majority of NFL players by this time were Black, but similar to English football, relatively few former Black players got hired in coaching. In 2002, concerns about the lack of opportunity for Black coaches led the NFL to adopt the Rooney Rule, which mandated any team hiring a head coach to interview at least one ethnic-minority candidate. Research on the Rooney Rule has produced mixed results. [Solow et al. \(2011\)](#) found no evidence of discrimination prior to the adoption of the Rule, and no evidence of any effect either. [Fanning Madden and Ruther \(2011\)](#), by contrast, found that the Rooney Rule had “greatly reduced, and likely eliminated, the racial disadvantage” in the hiring of head coaches. [Rider et al. \(2023\)](#) examined career progress from junior to senior positions in the NFL, and found that progress

from assistant coach (the lowest level in the coaching hierarchy) typically favoured white coaches, creating a bottleneck in the hiring of Black coaches to senior levels.

Figure 1: The Managerial Career Pipeline as a System



We add to this literature by studying racial discrimination in football management within the framework of systemic discrimination (see [Bohren et al. \(2025\)](#)). Figure 1 sketches the system we consider in our analysis. Each solid box represents a node in the system, where the focal node is holding a first-team manager position. The dashed box (playing career) lies outside the system and constitutes the reference qualification. Solid arrows show the main career flow, thin arrows show exit transitions. The blue shaded region marks the entry node, i.e. getting a first job in football management, broadly defined. The red shaded region marks the career progression and job retention nodes, conditional on having obtained an entry-level job. Career progression refers to a candidate manager’s job transitions along a series of “pipeline jobs”, starting from youth coach on to assistant manager and, finally, manager. Job retention refers to the ability to hold on to a top managerial role, once it has been achieved. Racial discrimination may exist in each node separately and play a role in the reference qualification stage before labour market entry. Looking at this with a systemic approach allows to examine how discrimination in earlier nodes dynamically impacts the racial gaps appearing in later career stages. As such, we are interested in the contribution of each node and their interplay to total discrimination, which we define as the raw gap between Black and non-Black former players in holding the top managerial position.

2.3 Sample Selection

Our empirical analysis tracks the post-playing careers of all professional football players who were active in the top four English divisions between 1990 and 2010. We source the managerial career data from the leading football website Transfermarkt.⁵ The website provides a career overview page for every former player with experience in any managerial role, ranging from scouts and technical functions to managers. The career page lists the employer and start and end date of the employment spell along with some performance indicators of the club during this time. The overview is not confined to jobs in England, but includes known experience across all professional football leagues.

Since we are interested in the racial gap in the probability of obtaining “any” entry-level managerial job, we also have to include former players without any experience in football club management. Hence, the sampling procedure first collects all the playing squads of English clubs over the sample period. It then tracks the corresponding player career pages, which list all clubs a player was employed by and his performance during his employment. For the vast majority of players this page includes a profile picture depicting them as an active player. When it does not, we search for a picture on other websites such as Wikipedia or club and fan sites. The player page also provides a link to the managerial career page for the same person. For players without managerial experience, this managerial career page does not exist and we also record this in our data.

For the empirical analysis, we further require that a player’s active playing career must have ended no later than 30 June 2013. This allows us to observe at least the first ten years of their post-playing career, because the data on managerial careers ends in 2023. With this restriction, the sample consists of 4,819 former players.

2.4 Determining Race

An important empirical challenge is identifying the former players’ race which is, after all, a culturally constructed category (see e.g. [Smedley and Smedley \(2005\)](#)). Our approach establishes a consensus perception of race based on the profile picture of each retired player.

⁵See <https://www.transfermarkt.co.uk>.

We implement this in an R Shiny app which surveys undergraduate students at the University of Michigan, University of Liverpool, and Erasmus University Rotterdam. Figure 2 is a screenshot of the survey web page. The app asks students to answer the following question: “How would you describe this player?” while showing one player’s picture. The students can choose one of three responses:

1. Black / African / Caribbean / African American / Mixed Black Heritage / Any other Black Background
2. Any other background/ethnicity
3. Don’t know

Students complete one block of 100 pictures per login in the app. This takes approximately five minutes. Students were not informed about the aims of our research project and not incentivized to provide accurate or otherwise “correct” ratings.

In total this resulted in 20,477 race assessments across 4,819 players produced by 256 students. Some students completed more than one survey. Crucially, our survey software made sure that no student coded the race of a player more than once. This means that we have at least three independent race assessments done by different students for each picture. We then apply a majority voting rule to classify former players into Black and non-Black categories. There were 49 pictures for which there was no majority vote. These are dropped from the sample, resulting in 4,770 race-coded former players.

3 Descriptive Analysis of the Racial Gap

3.1 Summary statistics

Table 1 shows summary statistics for the variables we assembled on the playing careers of the race-coded former players. We present separate statistics for players identified as non-Black versus Black and also compute the difference between those two groups. A first indicator of player quality is the tier or division a player was active in, where tier 1 is the highest level (currently known as the Premier League) followed by tier 2, 3, and 4. In our data, 48% of the Black and non-Black players have played in the highest tier, 57% have been active

Figure 2: Survey Page

Picture Judgment Survey



Question 2 out of 100 : How Would you describe this player?

- ☐ Black / African / Caribbean / African American/ Mixed Black Heritage/ Any other Black background
- ☐ Other
- ☐ Don't know

If you wish to exit the survey before finishing, please use the 'Save and Exit' Button. This may take a few seconds.

Next

Save and Exit

Notes: This figure shows what our race coding survey looked like.

in Tier 2, and 67% in the lower two tiers. Most professionals played in more than one tier during their careers, which means these indicators do not sum to one. By this measure, we see almost no difference between the Black and non-Black former players.

A second way to gauge player quality is looking at career longevity. Given the intensity of competition to play, those players who have longer careers with more appearances are objectively better. In our data, the average player has about 100 appearances. This amounts to around 115 hours played, or 61 minutes per game. Here too, the Black and non-Black former players show very comparable statistics.

A final set of performance measures refers to the number of goals a former player has scored and assisted. Creating goals is a scarce skill that wins games, which makes players

Table 1: Summary Statistics - Players

	Non-Black (<i>N</i> = 3933) Mean (std. dev.)	Black (<i>N</i> = 837) Mean (std. dev.)	Difference (<i>N</i> = 4770) Diff. (t-stat)
Panel A: Playing Career Statistics			
Played in Tier 1	0.48 (0.50)	0.48 (0.50)	0.00 (0.25)
Played in Tier 2	0.57 (0.50)	0.57 (0.50)	-0.00 (0.21)
Played in Lower Tiers	0.67 (0.47)	0.66 (0.47)	-0.00 (0.16)
Appearances	97.29 (115.75)	100.35 (119.81)	3.06 (0.67)
Hours played	113.56 (152.67)	118.82 (154.04)	5.26 (0.90)
Min. played per game	61.10 (27.00)	61.21 (22.34)	0.11 (0.12)
Goals	8.65 (19.15)	11.80 (24.65)	3.16 (3.49)
Assists	2.46 (6.29)	2.96 (7.05)	0.50 (1.90)
Goals per game	0.07 (0.11)	0.08 (0.11)	0.01 (3.41)
Assists per game	0.02 (0.04)	0.02 (0.04)	0.00 (2.32)
Panel B: Player Position Share			
Attacker	0.23 (0.42)	0.42 (0.49)	0.19 (10.29)
Midfielder	0.33 (0.47)	0.26 (0.44)	-0.07 (4.24)
Defender	0.35 (0.48)	0.30 (0.46)	-0.05 (2.69)
Goalkeeper	0.08 (0.28)	0.01 (0.12)	-0.07 (11.52)
Panel C: Nationality Share & National Team Stats			
UK Only	0.70 (0.46)	0.45 (0.50)	-0.25 (13.60)
UK and Other	0.05 (0.21)	0.20 (0.40)	0.15 (10.63)
Foreign	0.25 (0.43)	0.35 (0.48)	0.10 (5.77)
Played for National Team	0.23 (0.42)	0.33 (0.47)	0.10 (5.92)
National Team Appearances	7.26 (19.30)	8.21 (19.88)	0.95 (1.26)

Notes: This table presents players' career statistics and nationalities by race. Column 1 shows averages for non-Black players, Column 2 for Black players, and Column 3 displays the difference between the two along with the t-statistic to assess if the racial difference is significant. The nationality shares include potential second nationalities. Statistics under Panel A and B refer to appearances in England.

with this ability highly priced in the labour market. Nevertheless, this skill is concentrated in a couple of positions on the field, which makes it less universal as a measure of player performance. In our data sample, the average number of goals scored and assisted is significantly higher for Black players. This is true both in total and on a per-game basis.

This is not entirely surprising, as Black players were more likely to play as forwards (42% compared to 23%), which is the typical position for goalscorers.⁶ As can be seen in Panel B, Black players are less represented in all other positions, with a particularly low share playing as goalkeeper (8% vs. 1%).

Our data identifies the nationality of each player, as well as a second nationality where applicable.⁷ Panel C shows that Black former players are more likely to have a non-UK

⁶Over a career, a player might play in different positions; we report the position most commonly associated with the player.

⁷No player had more than two nationalities.

nationality, 20% of Black former players are dual nationals and 35% are “foreign only” nationals. This compares to 5% of non-Black players with dual nationality and 25% who are foreign only. We perform all empirical analyses either using control variables for nationality (UK only, foreign, dual) or in a subsample of UK nationals.

Table 2: Summary Statistics - Management

	Non-Black Mean (std. dev.)	Black Mean (std. dev.)	Difference Diff. (t-stat)
Panel A: Jobs ever obtained			
Manager	0.20 (0.40)	0.11 (0.31)	-0.09 (7.22)
- in England	0.11 (0.31)	0.03 (0.18)	-0.07 (9.07)
- rest of world	0.12 (0.33)	0.09 (0.29)	-0.03 (3.08)
Assistant manager	0.21 (0.41)	0.12 (0.33)	-0.09 (6.64)
- in England	0.13 (0.34)	0.06 (0.24)	-0.07 (6.72)
- rest of world	0.11 (0.31)	0.08 (0.28)	-0.02 (2.11)
Youth team coach	0.13 (0.34)	0.08 (0.28)	-0.05 (4.55)
- in England	0.08 (0.27)	0.04 (0.19)	-0.04 (5.20)
- rest of world	0.06 (0.23)	0.05 (0.21)	-0.01 (1.23)
Other job	0.17 (0.38)	0.10 (0.31)	-0.07 (5.53)
Any Job	0.33 (0.47)	0.19 (0.40)	-0.14 (8.95)
Panel B: First Job (if any job obtained)			
Manager	0.23 (0.42)	0.24 (0.43)	0.01 (0.19)
- in England	0.10 (0.30)	0.04 (0.20)	-0.06 (3.19)
- rest of world	0.13 (0.34)	0.20 (0.40)	0.06 (1.97)
Assistant manager	0.31 (0.46)	0.28 (0.45)	-0.03 (0.76)
- in England	0.17 (0.38)	0.13 (0.34)	-0.04 (1.46)
- rest of world	0.14 (0.35)	0.15 (0.36)	0.01 (0.43)
Youth team coach	0.17 (0.37)	0.20 (0.40)	0.03 (0.89)
- in England	0.12 (0.32)	0.10 (0.31)	-0.01 (0.47)
- rest of world	0.05 (0.22)	0.09 (0.29)	0.04 (1.75)
Other job	0.29 (0.45)	0.28 (0.45)	-0.01 (0.19)
Panel C: Average Job Spell Duration in Days			
Manager	603.06 (637.73)	587.17 (806.54)	-15.89 (0.26)
- in England	664.15 (673.28)	475.69 (556.61)	-188.46 (2.36)
- rest of world	556.92 (605.68)	629.79 (881.71)	72.87 (0.94)
Managerial job	617.22 (705.78)	546.98 (658.57)	-70.24 (2.43)
- in England	647.21 (764.52)	564.87 (601.39)	-82.34 (1.96)
- rest of world	581.29 (626.45)	535.43 (693.59)	-45.85 (1.18)
Any Job	701.24 (822.72)	640.77 (753.42)	-60.48 (2.05)
Panel D: Coaching license obtained			
Any Coaching License	0.12 (0.33)	0.07 (0.25)	-0.05 (5.30)
UEFA Pro License	0.08 (0.28)	0.04 (0.19)	-0.05 (5.76)
UEFA A License	0.03 (0.16)	0.02 (0.14)	-0.01 (1.13)
Other License	0.01 (0.12)	0.01 (0.11)	-0.00 (0.54)

Notes: This table presents former players’ managerial job roles (panel A), first jobs (panel B), job duration (panel C), and coaching qualifications (panel D) by race. Column 1 shows averages for non-Black players, Column 2 for Black players, and Column 3 displays the difference between the two along with the t-statistic to assess if the racial difference is significant. Panel A and D are based on observations for 4,770 former players, of which 3,933 are identified as non-Black and 837 as Black. Panel B and C are conditional on obtaining a job, such that the number of observations decreases to 1,316 non-Black and 163 Black former players. The job category “managerial job” combines managers, assistant managers and youth coaches.

Table 2 shifts the focus to managerial careers. Panel A shows which jobs former players in

our sample have obtained after retirement as a player. There are many (111) job descriptions⁸ in the data, but we distill them into four distinct categories: manager of a first team, assistant manager of a first team, youth coach, and any other job. These other jobs include position-specific trainers, such as goalkeeper trainers, but also other functions such as club CEO or kit manager. There is a clear hierarchy from youth coach (lowest level) over assistant manager (intermediate level) to manager (top level). Hence, we dub these jobs “pipeline” jobs.

In our sample of 4,770 former players, Black players are far less likely – 11% compared to 20% – to reach the top job of managing a professional club. When focusing on jobs in England, the contrast is even more stark, with a gap of 11% versus 3%. This discrepancy can be traced back to the pipeline jobs (assistant and youth coach). In England, non-Black former players obtain these roles about twice as often as Black former players. The difference is again less pronounced when we consider jobs in other countries. A similar racial gap exists in other jobs at football clubs. Overall, the percentage of Black former players who enter into a post-playing job at a professional football club (19%) is significantly lower than that among non-Black former players (33%).

Panel B examines the level at which former players enter the managerial labour market. In England, Black former players are much less likely to secure a top managerial position as their first job. This pattern is not repeated for top jobs abroad and for lower level jobs. This implies that the average Black candidate has to obtain more promotions in the managerial pipeline in England to get to the top position. This effect comes on top of the (much) smaller job market entry rate of Black former players documented in Panel A.

Once hired in a specific role, the duration of job spells may create yet another layer of racial disparity. Panel C reveals that the average tenure of Black managers in England is 188 days shorter than the average tenure of non-Black managers. Note, however, that this figure is based on a relatively small number of job spells for Black managers. Black staff also tend to have significantly shorter job tenures across all pipeline jobs. Over all jobs in our data, their average tenure of 641 days is more than ten percent shorter than the 701 days for other staff. This is consistent with Black former players holding less secure positions or facing a higher risk of job exit once employed, though the data do not distinguish dismissals

⁸See Appendix Table A.1 for a breakdown of how job descriptions are characterized.

from resignations.

Panel D provides information on the formal football management qualifications of former players. There are currently three levels of coaching licence – UEFA B, A and Pro in ascending order. These are administered by national governing bodies (in England the Football Association (FA)) under the aegis of UEFA, the European governing body of football. In addition, there are specialist licences for coaching goalkeepers and for youth development (trainers).⁹ In many countries it has long been the case that a UEFA Pro Licence was required in order to become manager of a professional team. The FA only adopted this system in 2003, and exemptions were allowed even at the highest level until 2010. It is now mandatory, at least for managers of clubs entering the Champions League. In practice, many coaches earn their badges on-the-job. Thus while Panel D shows that fewer Black former players have coaching badges than non-Black players, we cannot say whether this is because they are not interested in a coaching career, or because they are less likely to be hired and so less likely to obtain their coaching badges while employed by a club as a coach. Among (previously) employed former players, approximately 37% of both Black and non-Black individuals hold a coaching licence, with no significant difference in likelihood between the two racial groups.¹⁰

3.2 Graphical Analysis

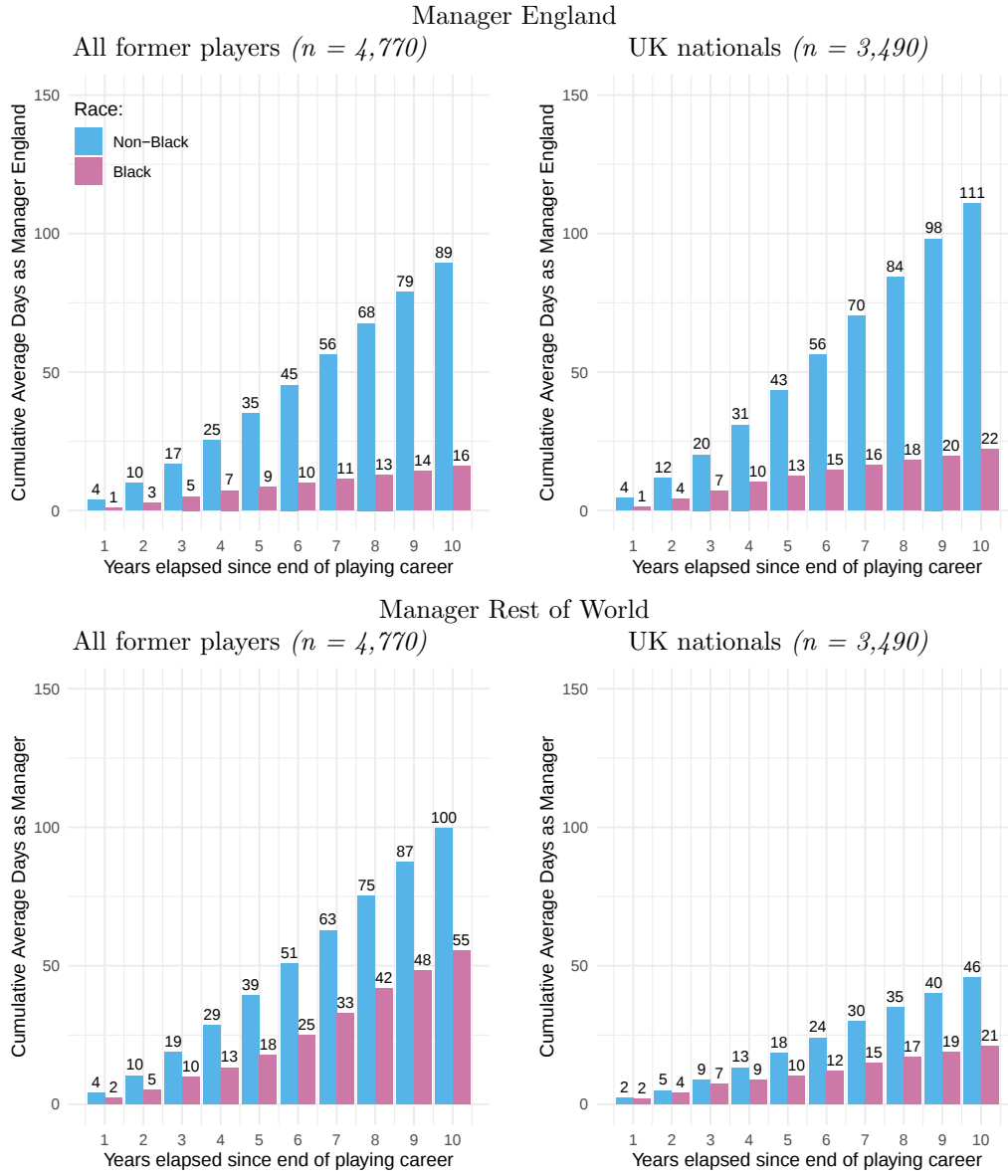
The graphs in Figure 3 depict the average cumulative number of days that former players have spent as managers during the first ten years after retirement from playing. The top graphs focus on manager jobs in England, whereas the bottom graphs show manager jobs in the rest of the world. The two left-hand charts split the full sample of former players by race; the two charts on the right look only at players with British citizenship.

During the first decade of their post-playing career, Black ex-players hold the top job in an English club for less than one fifth of the time that non-Black ex-players do (top left panel). From the onset, there is a racial gap in experience, which steadily grows over the

⁹The UEFA B licences along with the specialist licences are contained in the “other licence” category in Table 2.

¹⁰Appendix Table A.2 reports regression estimates for the probability of obtaining a coaching licence. Black former players are 5–7 percentage points less likely to hold any licence across all specifications, even after controlling for nationality, position and playing time.

Figure 3: Days as Manager by Race – First Ten Years Post-Playing Career



Notes: The top two figures illustrate the average cumulative days that former players hold a manager position in England during the first ten years after retirement from their playing careers. The bottom figures depict the same statistic for manager jobs in the rest of the world. The left hand panels include all former players, the right panels focus on a subsample of UK nationals. UK nationals include players with dual nationality if one of those is UK.

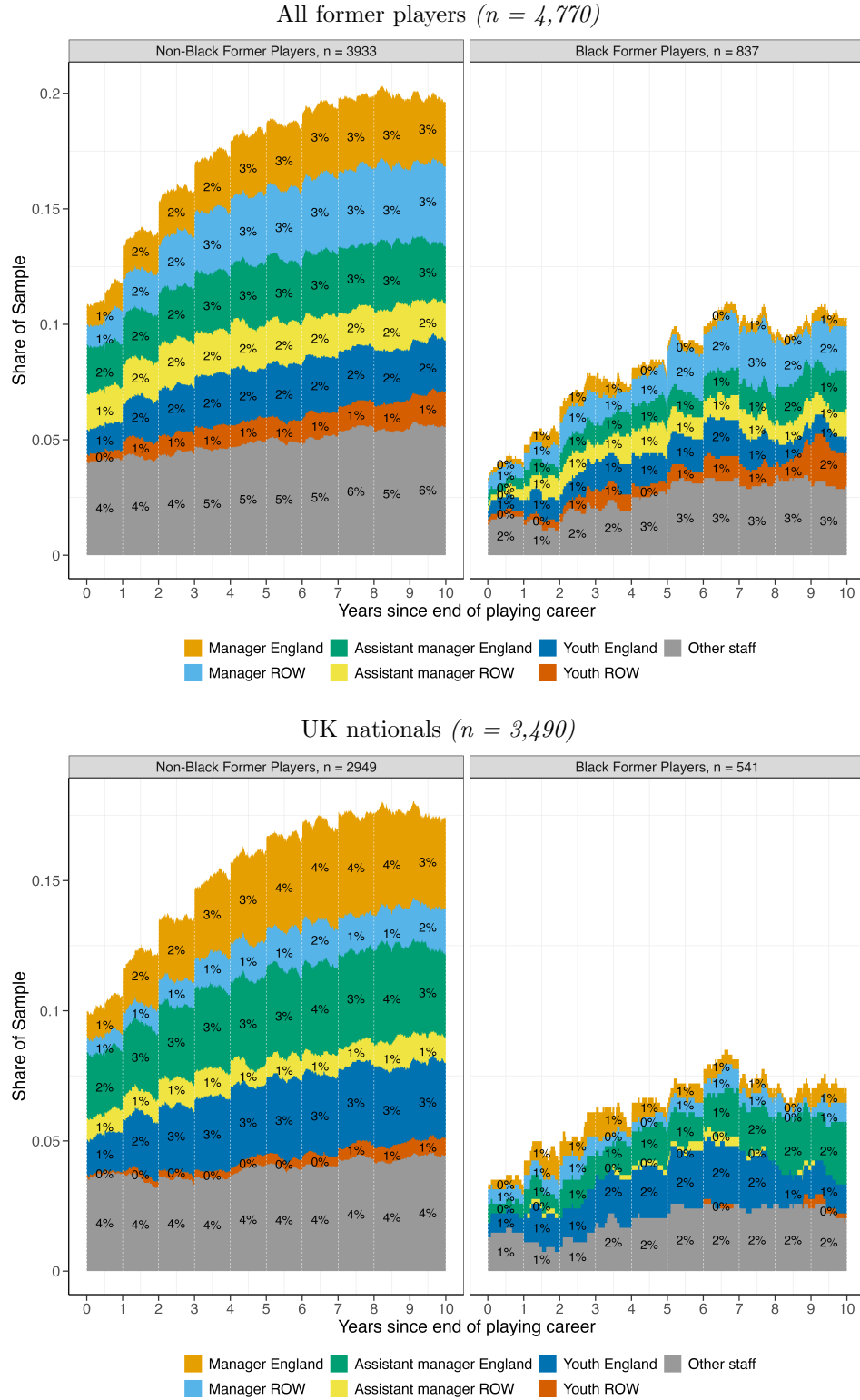
post-playing career. When focusing on UK nationals in the top right panel, the average experience increases for both races. However, the racial gap remains enormous, with Black former players accumulating on average 22 days in the top job after ten years, compared to 111 days for former players of other backgrounds. In the rest of the world, the racial gap is still large, but smaller than in England. From the bottom right panel we conclude

that it is fairly rare for UK nationals to pursue a career in football management abroad. This contrasts with the general picture of the managerial labour market in football, which is characterized by high international migration ([Peeters and van Ours, 2022](#)).

Figure 4 tracks the career progress of former players over time and across the job categories set out in Table 2. For each day in the post-playing career, the figure plots the share of former players holding each type of position. The right-hand side in each figure shows the career progression of Black former players, and the left-hand side shows the progression of all other players. The top panel is based on all players in the sample; the bottom panel is based on UK nationals.

Confirming the picture we found in Table 2, the top panels show that fewer Black former players are in executive jobs at every point during their post-playing career. This is especially pronounced for senior managerial roles in English clubs. Their career progress also stalls sooner. The employment of non-Black former players peaks at around eight years after their player retirement and then stays constant. For Black former players, progress stalls around six years into their careers. Looking at UK nationals in the lower panels, we find that they rarely take up managerial jobs outside of England. This is even more the case for entry-level jobs, such as youth coach. Black former players from the UK are no exception to this rule, as they hold almost no lower level managerial roles abroad.

Figure 4: Career Progression by Race



Notes: This figure displays the proportion of the population by race that holds a specific job for each day following the end of their playing career. The remaining individuals are those who do not hold a job at that time. Therefore, the proportion of individuals without a job can be calculated by subtracting the total share from 1. The top figure represents all players and the bottom figure focuses on UK players.

4 Racial Gaps in Individual Career Steps

In this section we examine the racial gap in each career step in isolation. As outlined in 1, we distinguish between three nodes. First, we investigate whether Black former players are less likely to enter the labour market in any managerial role in professional football (entry node). Second, we test whether there are systematic differences in the job transitions of Black and non-Black former players, conditional on obtaining a first job (progression node). Third, we evaluate whether Black former players are more likely to lose their manager job conditional on job performance (exit node).

4.1 Racial Gaps in Labour Market Entry

We model differences in labour market entry between Black and non-Black former players using the following model:

$$Y_i = \beta_0 + \beta_1 Black_i + \beta_2 UK_{dual}_i + \beta_3 foreign_i + \beta_p Play_i + \gamma_i + \tau_i + \varepsilon_i. \quad (1)$$

We estimate three versions of (1). In the first version, the dependent variable Y_i indicates whether former player i has obtained any job in football management in the first ten years after retiring from playing. In the second version, we refine Y_i to an indicator for obtaining a “pipeline job”: youth coach, assistant manager and manager, representing the typical path to the top position. In the final model, we restrict Y_i further by focusing on jobs in England. We start from a specification that only includes an indicator for whether former player i is Black or mixed-Black heritage ($Black_i$), as identified by our survey tool. Then, we add controls for holding a non-UK or dual nationality, where players with only a UK nationality form the base category (UK_i). We also include variables about the former player’s performance as a player ($Play_i$). These include an indicator for representing their national team, the number of games played for this national team and separate variables for hours played, goals scored and assists given in the highest, second-highest and lower English tiers. Finally, we use year of birth fixed effects (τ_i) and indicators for the primary position of the former player in the team line-up (γ_i).

In Table 3 the coefficient for Black represents the percentage point difference in entry

Table 3: Racial Gap in Labour Market Entry

Dependent variable:	Any Job in Football			Pipeline Job		
	All	All	in England	All	All	in England
	(1)	(2)	(3)	(4)	(5)	(6)
Black	−0.140*** (0.017)	−0.132*** (0.017)	−0.069*** (0.015)	−0.112*** (0.017)	−0.117*** (0.016)	−0.073*** (0.014)
UK + Other Nat.		0.106*** (0.025)	0.064*** (0.022)		0.088*** (0.025)	0.047** (0.021)
Foreign		0.117*** (0.017)	−0.101*** (0.015)		0.080*** (0.017)	−0.095*** (0.014)
Attacker		−0.220*** (0.027)	−0.207*** (0.024)		0.031 (0.026)	−0.008 (0.022)
Midfielder		−0.187*** (0.026)	−0.178*** (0.023)		0.059** (0.025)	0.016 (0.021)
Defender		−0.184*** (0.027)	−0.187*** (0.023)		0.061** (0.026)	0.002 (0.022)
Average Y_i Non-Black	0.33	0.33	0.21	0.29	0.29	0.18
Year of Birth FE	No	Yes	Yes	No	Yes	Yes
Player performance	No	Yes	Yes	No	Yes	Yes
Observations	4,770	4,770	4,770	4,770	4,770	4,770
R ²	0.013	0.190	0.169	0.009	0.169	0.166

Notes: This table presents linear probability regression results. Columns (1)–(3) are for obtaining any non-playing job in football (anywhere, without controls in column 1 and with the full set of controls in column 2) and any non-playing job in England (column 3). Columns (4)–(6) are for holding a pipeline (managerial) role of manager, assistant manager, or youth-team management: anywhere without controls (4), anywhere with controls (5), and in England (6). Where included, controls are fixed effects for year of birth, nationality status (base category = UK-only citizen), playing-position controls (attacker, midfielder, defender; base = goalkeeper), national-team experience and national-team appearances, and playing-performance statistics from Tier 1, Tier 2, and lower tiers in England (hours played, goals, assists). Coefficients for the player career variables are omitted from the output, but available on request. Significance is indicated as follows: * p-value < 0.1; ** p-value < 0.05; *** p-value < 0.01.

probability for Black former players compared to non-Black former players. To aid the interpretation, the table also shows the baseline entry rate for the group of non-Black former players. Without further controls, the racial gap in obtaining any job stands at 14 percentage points, compared to a base entry rate of 33 percent. Controlling for the confounders described above does not significantly affect this estimate of the racial gap. Restricting the labour market to England brings down the baseline entry rate to 21 percent and gives a racial gap of 6.9 percentage points. When looking at pipeline jobs only, we find a racial gap worth 11.2 percentage points to be subtracted from a baseline entry probability of 29 percent. Again, adding further controls does not affect this estimate much. For pipeline jobs in England, the racial gap is 7.3 percentage points with a non-Black average of 18 percent. Across all specifications, we consistently find that Black former players are at least one third less likely

to enter into the managerial labour market compared to their non-Black counterparts. We conduct several robustness analyses for these results in Appendix.¹¹

Nationality is an important driver for entry into a managerial career. Foreigners and dual nationals are more likely to enter management overall. However, foreigners are less likely to hold a managerial job at an English club. This finding again reflects the low rate at which UK former players pursue jobs abroad. Our results suggest that former goalkeepers (the reference category) are more prevalent across all jobs, but not in pipeline jobs. The goalkeeping position requires a specific skill set. Former keepers often obtain specialized goalkeeping coach roles, but are not more likely to get overall team management roles. We do not present the full results for the player performance variables to keep Table 3 readable. The most notable finding here is that experienced players with more aggregate playing time are more likely to enter a managerial position, which is in line with the expert leadership hypothesis (see e.g., Goodall et al. (2011)).

4.2 Racial Gaps in Job Transitions

Our second analysis looks at job transitions. We examine whether Black former players systematically move into lower managerial roles, conditional on leaving their current position. We create a sample of job transitions i to a destination job j , where we denote the destination job role by (S_j) . We let this categorical variable take on the values described in 2, i.e., manager, assistant manager, youth coach, and other job in England and the rest of the world. To this, we add (temporary) unemployment as the lowest possible role. For each job transition i , we then estimate the following linear probability model:

$$\mathbf{1}\{S_j = r\} = \beta_0 + \beta_1 \text{Black}_i + \beta_{2-3} \text{UK}_i + \varepsilon_i. \quad (2)$$

In this equation, the indicator $\mathbf{1}$ takes a 1 when transition i results in a destination job role r , and 0 otherwise. Black_i indicates that the transition is made by a Black former player. The coefficient β_1 serves as our measure of the racial gap in job transitions. We further

¹¹Appendix Table A.3 reports the equivalent logit estimates, which confirm these findings. Appendix Table B.2 reports OLS estimates for the matched subsample, and Appendix Table C.1 repeats the analysis on the subsample of former players holding a UK nationality, where the foreign-only indicator is necessarily omitted.

control for UK_i , which is a categorical nationality variable (UK-only, dual UK national, or foreign-only). Since the sample conditions on a transition occurring, the estimates do not reflect racial differences in the probability of remaining in the current job. This is explored further in Section 4.3.

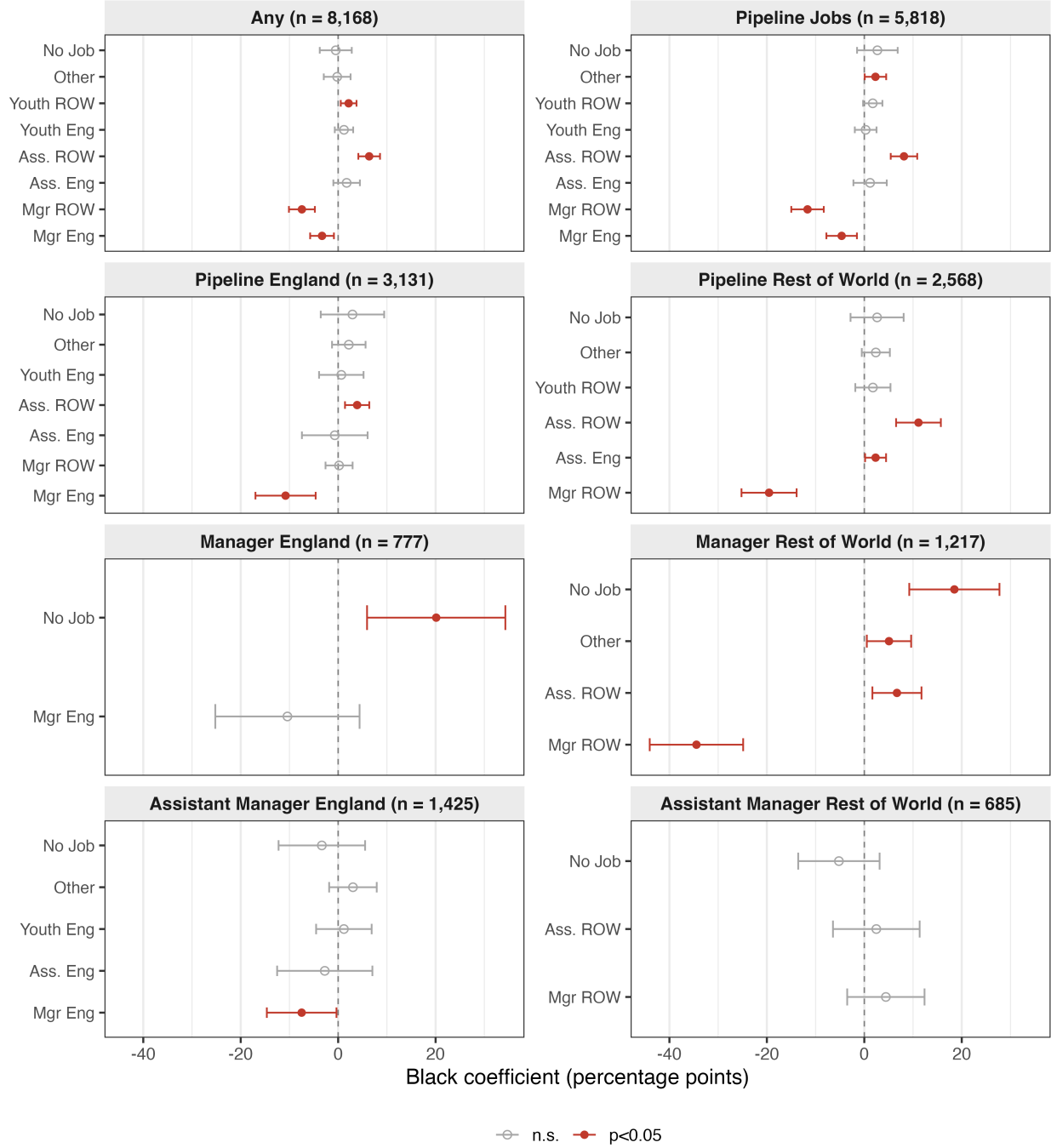
We estimate separate linear probability models for each destination role. We first use a sample containing transitions from all origin job roles ($n = 8,168$). Then we refine the sample to include only “pipeline” origin jobs, manager and assistant manager origin jobs. We distinguish between origin and destination jobs in England and the rest of the world. Black former players account for only about 9% of all transitions (751 of 8,168), so the number of Black movers is the binding constraint for avoiding underpowered estimates. Non-Black movers outnumber Black movers in all 88 origin–destination combinations. We consequently omit transitions with less than 10 Black former players from the figure. Imposing the threshold on Black movers therefore ensures that each reported coefficient is estimated from a sufficient number of minority transitions.¹²

In Figure 5, each panel corresponds to a set of models estimated on the same subsample of origin jobs. We note the number of job transitions in the estimations at the top of each panel. To show the racial difference in the probability of moving to each destination, we display the estimated $\hat{\beta}_1$ for each destination job role shown on the vertical axis. A negative coefficient means that, conditional on leaving the origin role, Black former players are less likely than non-Black former players to move to that destination role. A positive coefficient means they are more likely to do so.

The panel “Any” shows results for the overall sample. Across all origins, Black former players are 3.3 percentage points less likely to move into a manager job in England and 7.4 points less likely to move into one in the rest of the world. They are more likely to move into assistant-manager and youth-coach jobs in the rest of the world. Moving from pipeline jobs, the estimated gaps in transitions to manager jobs are 4.6 points in England and 11.7 points in the rest of the world. Black former players in the pipeline are also 8.1 points more likely to move into an assistant-manager job in the rest of the world.

¹²Appendix Figure A.1 reports the unrestricted version of the same exercise. It drops the minimum-Black-transition reporting rule and adds youth-coach origins. The appendix figure reports the full set of mutually exclusive destination states, so the coefficients within each origin panel sum to zero by construction.

Figure 5: Racial Gap in Job Transitions



Notes: Each panel corresponds to an origin/current job role. Within each panel, each point shows the OLS coefficient on a *Black* indicator from a linear probability model in which the dependent variable is an indicator for transitioning to the destination role shown on the vertical axis. The number in parentheses is the number of transitions contributing to the displayed estimates in that panel. The “Any” panel pools all origin roles, while the “Pipeline Jobs” panel pools manager, assistant-manager, and youth coach origin jobs in England and the rest of the world. We omit origin–destination combinations made by fewer than ten Black former players. All models control for nationality using the UK-only, UK-and-other, and foreign indicators described in Table 1. Coefficients are expressed in percentage points. Confidence intervals reflect conventional OLS standard errors at the 95% level. No Job is defined as no observed football-management job for at least a year.

The location-specific pipeline panels show a similar pattern. From pipeline jobs in England, Black former players are 10.8 points less likely to move into a manager job in England and 3.9 points more likely to move into an assistant-manager job in the rest of the world. From pipeline jobs in the rest of the world, they are 19.6 points less likely to move into a manager job there. They are 2.3 points more likely to move into an assistant-manager job in England and 11.1 points more likely to move into one in the rest of the world.

The role-specific panels show different patterns by origin job role. Among managers in England, Black managers are 20.1 points more likely to move to no football-management job. Among managers in the rest of the world, Black managers are 34.5 points less likely to move into another manager job and are more likely to move to no job, other football jobs or assistant manager roles. Black assistant managers in England are 7.5 points less likely to move into a manager job in England. The assistant-manager panel for the rest of the world shows no statistically significant racial differences.

Overall, the job transition models show that racial gaps are pervasive in job transitions. In particular, Black former players make systematically fewer transitions to and between jobs in the top role. It is important to note that this effect is not driven by entry differences into a first job. The transitions sample is constructed entirely out of former players who are transitioning out of an active employment in football management, and hence conditional on successfully obtaining a first job.

4.3 Racial Gaps in Job Termination

A final potential cause for the overall racial gap in top management is that Black former players may face a higher hazard of leaving their job than non-Black workers. To examine this, we collect match results for all manager and assistant manager job spells, which are taken up by former players in our sample between 1990 and 2023.¹³ A job spell is included in the analysis if it lasts at least ten league games and if we can observe the club’s match results for the duration of the spell or through the end of the sample period for unfinished

¹³We cannot empirically distinguish between dismissals and resignations. Given that Black former players on average make worse job transitions, it is plausible that the share of dismissals among ending job spells is higher for Black employees than others.

spells. ¹⁴

Figure 6 shows the racial difference in job exits. In every panel the survival rate for Black managers and assistant managers is lower than for their non-Black counterparts. The size of the racial gap varies across panels. The gap is largest and most persistent for managers in England (top left), where median survival falls from 74 games for non-Black managers to 54 games for Black managers. The two curves separate by as much as 12 percentage points around game 100, when 38% of non-Black managers remain in post against 26% of Black managers. For managers outside England (top right) the curves stay close together throughout. The largest gap is under 4 percentage points, near game 50. Assistant managers sit between these two extremes (bottom row). Median survival is 8 games shorter for Black assistant managers in England and 8 games shorter in the rest of the world, and the curves separate by 6 to 8 percentage points at their widest, around games 50–100. In all four panels the gap narrows again after roughly game 150, as both curves approach zero and few spells of either race remain to separate.

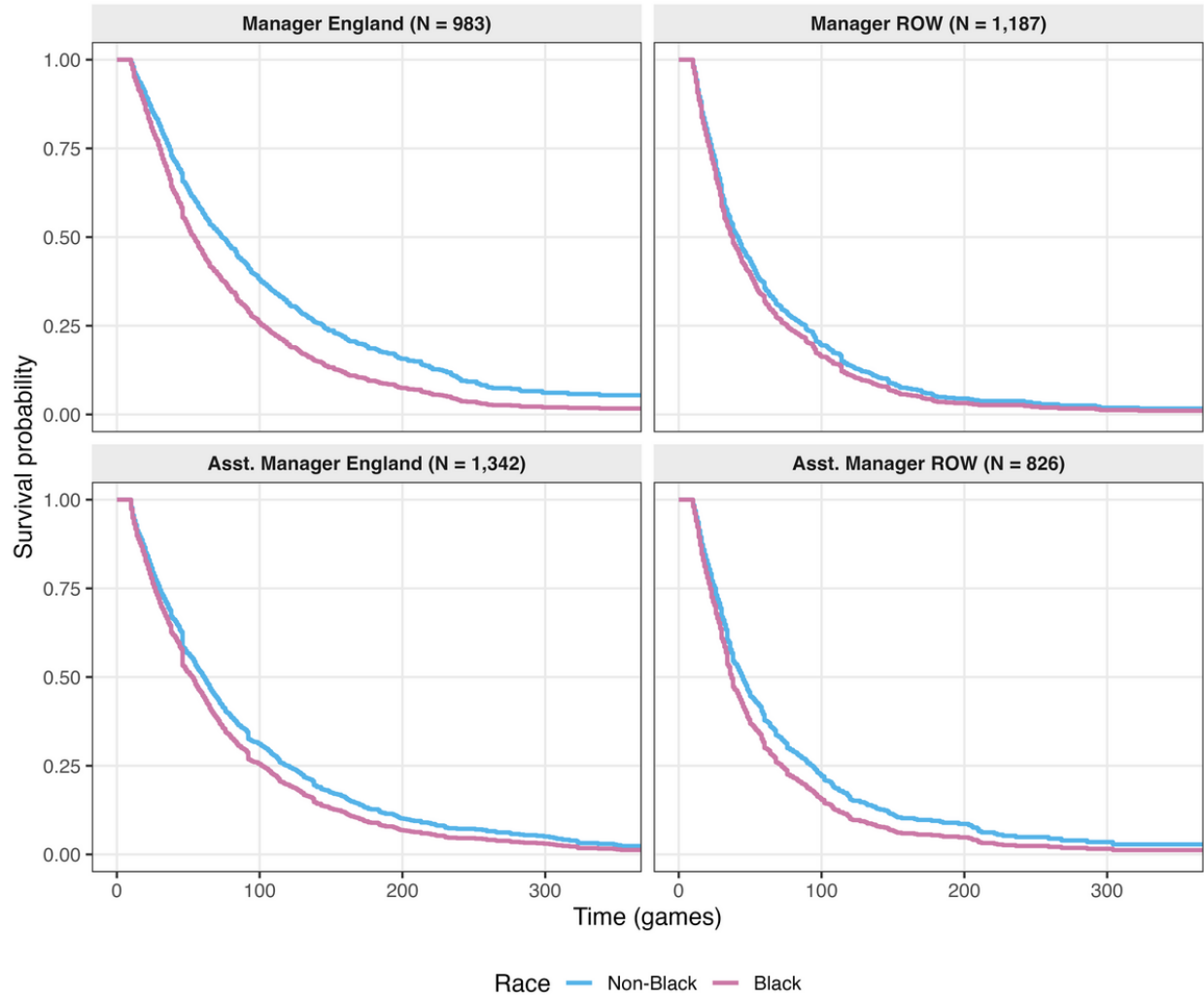
The number of job exits for Black managers and assistant managers is small, which is a consequence of the bottlenecks faced by Black former players at earlier career stages. As a result, we do not have enough observations on job exits to identify a detailed Cox hazard model. Nonetheless, we attempt better understand the effects observed in Figure 6 using a simple model on the same dataset:

$$h_{ij}(t) = h_0(t) \exp(\beta_1 Black_i + \beta_2 UKdual_i + \beta_3 foreign_i + \beta_4(-CP_{ijt}) + \beta_5(-CP_{ijt}) * Black_i + \beta_6 Exp_{ij}). \quad (3)$$

The dependent variable is the hazard rate of individual i ending job spell j at time interval t . In this model, time is measured as the number of games the team have played since the start of job spell j . The baseline hazard is denoted by $h_0(t)$. The primary variable

¹⁴Appendix Table A.4 reports the share of eligible spells meeting these conditions by country and managerial role. Coverage is close to 59% for managers and 55% for assistant managers, and is similar inside and outside England. This selection does not appear to operate differently by race. Coverage is 56.3% for spells held by Black former players and 57.1% for those held by non-Black former players, a difference that is not statistically significant ($p = 0.74$).

Figure 6: Racial Gap in Job Spell Survival Rates



Notes: Each panel plots the survival probability of remaining in post against time measured in games, separately for Black and non-Black former players. The top row covers manager spells and the bottom row assistant manager spells; the left column covers spells at English clubs and the right column spells at clubs in the rest of the world. Curves are predicted from a Cox proportional hazard model conditioning on cumulative points over the last ten games, evaluated at the sample mean of that variable. The number of spells per job category are displayed in brackets.

of interest is the Black indicator variable ($Black_i$). We report coefficient β_1 as a log hazard ratio. A positive coefficient estimate implies a hazard rate higher than 1 and hence a higher probability for Black former players to leave. We condition on whether player i holds a non-UK or dual nationality with only holding a UK nationality serving as the base category. This variable tends to correlate with the ($Black_i$) indicator. We control for team performance in the past ten games through the cumulative points obtained (CP_{itj}). This variable enters the regression model with a negative sign, such that worse performance would show up as increasing the hazard rate. We also interact performance with the race indicator, allowing different responses to bad performance by Black (assistant) managers. Our final control variables are the number of games that former player i has worked as an (assistant) manager at any club before job spell j (Exp_{ij}).

Columns 1 and 2 of Table 4 show that without further controls, the coefficient on the Black indicator variable is positive in both England and the rest of the world, but only significant in England. Interpreting the England estimate as a hazard rate implies that Black managers at English clubs have a 44% higher job-exit hazard than their non-Black counterparts. In the rest of the world, the equivalent number is a statistically insignificant 12%. Columns 3 and 4 add nationality, team performance, interaction of performance and race, and managerial experience. In England, Black managers appear to suffer relatively more from bad performances as the interaction of performance and race is significantly positive at the 5% level. In addition, it appears that foreign managers face significantly higher hazard rates than UK citizens. This affects the estimate on the race indicator as Black former players are more often dual nationals and foreigners. Cumulative points enters positively and highly significant in all models, confirming that worse team performance increases the exit hazard. This is well documented in football as well as other sports, see e.g. [Van Ours and van Tuijl \(2016\)](#).

Columns 5 and 6 of Table 4 report results for assistant managers with the full set of controls. Black assistant managers in England face a 29% higher exit hazard, though the significance of this coefficient is marginally above the 5% level. The interaction term with performance is not significant here. Outside England the assistant manager estimate is not statistically distinguishable from zero.

Table 4: Cox hazard model for leaving a job

	<i>Dependent variable: log(Hazard) (leaving job)</i>					
	Manager (1-4)				Asst. Manager (5-6)	
	England	ROW	England	ROW	England	ROW
	(1)	(2)	(3)	(4)	(5)	(6)
Black	0.368** (0.161)	0.109 (0.129)	-0.110 (0.269)	-0.011 (0.152)	0.254* (0.131)	0.114 (0.130)
UK and other nationality			0.109 (0.110)	0.390*** (0.133)	-0.009 (0.108)	0.015 (0.156)
Foreign			0.426*** (0.130)	0.381*** (0.076)	0.061 (0.111)	0.219** (0.088)
-Cumulative Points			0.171*** (0.008)	0.100*** (0.006)	0.105*** (0.007)	0.059*** (0.008)
-Cumulative Points $\times$ Black			0.095** (0.042)	0.009 (0.024)	-0.020 (0.024)	0.030 (0.022)
Experience at start of job			0.0007*** (0.0002)	0.0003 (0.0002)	0.0009*** (0.0002)	0.0010*** (0.0003)
Observations	63,727	46,773	62,963	44,510	80,993	37,391
Job spells	983	1,187	971	1,142	1,303	788
Black job exits	41	64	41	64	89	80
Pseudo-R ²	0.0001	0.0000	0.009	0.007	0.004	0.002

Notes: Cox proportional hazard models for the hazard of leaving a job. Coefficients are log hazard ratios; exponentiating gives the hazard ratio. Columns 1–4 cover manager spells and columns 5–6 assistant manager spells. Within each block England columns are spells at English clubs and ROW columns spells at clubs elsewhere. Columns 1 and 2 have no controls, columns 3–6 add cumulative points, cumulative points interacted with the Black indicator, managerial experience at the start of the spell and nationality dummies. An observation is a game within a job spell. Only spells with at least ten games enter the model. Standard errors in parentheses. * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$.

5 Simulating Racial Gaps in Career Trajectories

Our regression results document three distinct racial barriers in football management careers: lower entry rates, a glass ceiling on promotion, and shorter job tenure at the top. Next, we assess the relative significance of racial discrimination at each node in this process for explaining the racial gap in manager prevalence. To this end, we simulate the career paths of Black and non-Black former players as observed in the data, and under counterfactual scenarios where we take away racial career barriers one by one.¹⁵ We do not claim this descriptive analysis has a causal interpretation.

We first estimate an integrated model of career progression which encompasses labor market entry, promotion/demotion and exit. As shown in Table 2, we distinguish eight managerial job types along the career path: “Manager England”, “Manager ROW”, “Assistant Manager England”, “Assistant Manager ROW”, “Youth England”, “Youth ROW”, “Other Staff” and the “No Job” state. Let $S_{it} \in \mathcal{J}$ denote the job type j of former player i at 14-day interval t , with $S_{it} = 0$ denoting “No Job” as the reference. The choice of reference state is only a normalization and will not affect the predicted probabilities used in the simulations. For our analysis, we estimate the following multinomial model:

$$\begin{aligned} \log \left(\frac{\Pr(S_{it} = j)}{\Pr(S_{it} = 0)} \right) = & \alpha_j + \beta_j \text{Black}_i + \lambda_j T_{it} + \psi_j(\text{Black}_i \times T_{it}) \\ & + \sum_{k \in \mathcal{J} \setminus \{0\}} [\theta_{jk} + \phi_{jk} \text{Black}_i + \omega_{jk} T_{it} + \rho_{jk}(\text{Black}_i \times T_{it})] \mathbf{1}\{S_{i,t-1} = k\} \\ & + X_i' \delta_j. \end{aligned} \quad (4)$$

We condition the former player i ’s job type on days since the end of their playing career (T_{it}), their previous managerial/coaching job ($S_{i,t-1}$) and the interaction of these characteristics with being Black (Black_i). The summation term in 4 allows the effect of race, time, and their interaction to vary with the former player’s previous job type. X_i includes worker-level controls which refer to their reference qualification, i.e. the pre-managerial career. These

¹⁵This exercise is conceptually similar to the analysis in Das and Joubert (2023), who decompose the gender wage gap among employees of the World Bank into pipeline effects, entry salaries, salary growth, and retention differences, finding that around 77% of the gap is attributable to historical differences in the types of jobs for which men and women were hired.

include hours played in England tier 1, tier 2, and lower tiers; goals and assists in each tier; indicators for the player’s position (attacker, midfielder, or defender, goalkeeper); the player’s year of birth; indicators for national-team experience and national-team appearances; and indicators for whether the former player holds a dual UK or foreign nationality. In the first career period, the former player has no prior job status. Hence, we estimate a separate multinomial logit model for the initial state at day 15, using the same player-level controls and race indicator but omitting elapsed time and previous-state terms.

Using the predicted probabilities for each job type, for each former player in each career time period, we can simulate career paths for all 4,770 former players in our data. We simulate the coaching career of each player 1000 times, with the job state in each interval of each run being drawn from a categorical distribution weighted by the estimated probabilities. Over each run we count the number of former Black and non-Black players holding each job role in each period. We divide this number by the total number of former players to calculate the prevalence of each group in each job category. We refer readers to Appendix D for more technical details of the overall procedure.

Figure 7 illustrates the simulated and actual average prevalence of Black and non-Black workers in the two manager job categories.¹⁶ Our procedure accurately tracks the average observed prevalence of Black and non-Black former players in each job role. By design, the simulation results are smoother than the actual prevalence. This is particularly true in the category of Black former players, where there are often only a handful of active managers.

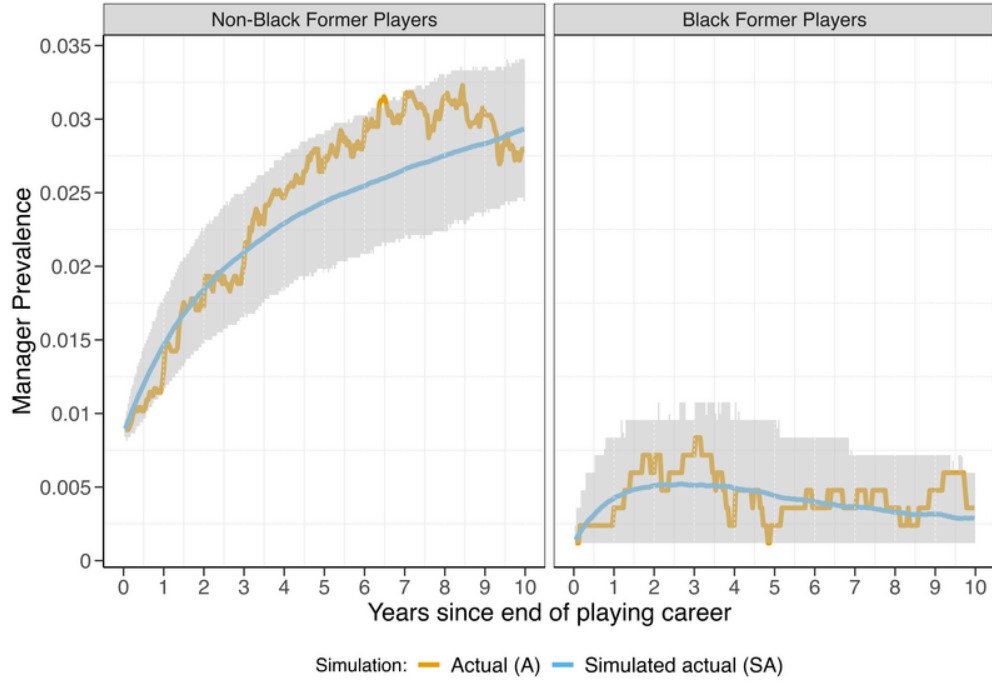
We can now use this procedure to simulate the career progression of Black former players under 3 scenarios:

- (i) *Entry as non-Black (C1)*. Until the former player’s first predicted employment, in whichever career time interval this may be, job-type probabilities are predicted with the race indicator set to non-Black. After first employment, the player’s observed race is used again.
- (ii) *Progression as non-Black (C2)*. Until first observed employment, the player’s observed race is used. Once the player has ever been employed, all subsequent job-type prob-

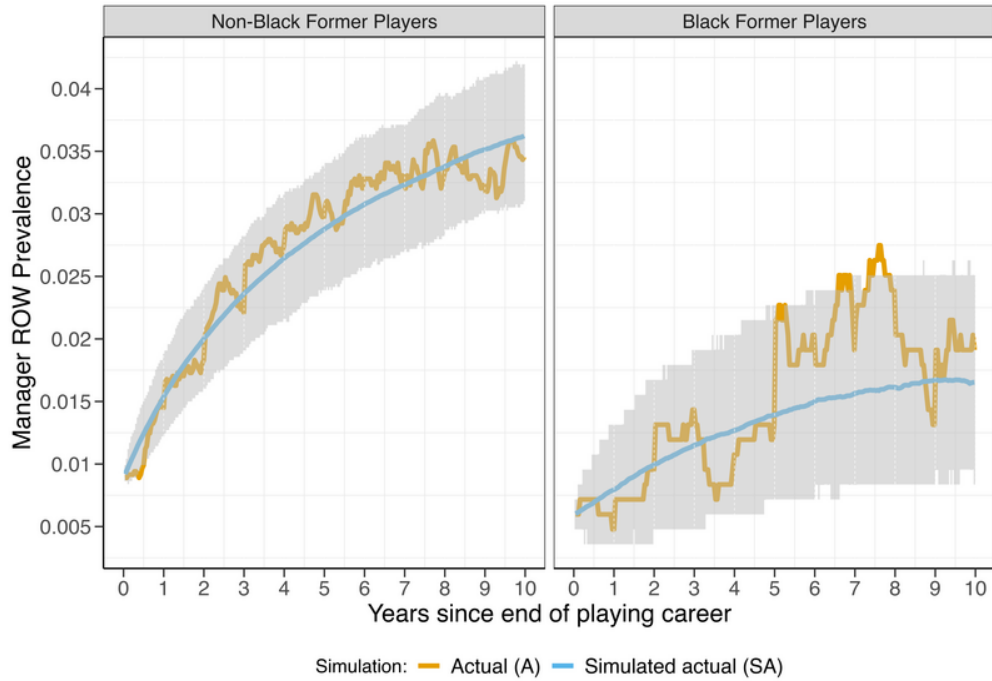
¹⁶Figure A.2 in Appendix D compares the actual and simulated prevalence of employment in any position.

Figure 7: Simulated and Actual Manager Prevalence

Manager England



Manager Rest of World



Notes: This figure displays the actual and simulated prevalence of the manager position. The simulated line represents the average derived from 1000 replications. The shaded grey area indicates the 95% confidence interval, calculated from the 2.5th and 97.5th percentile values of the prevalence distribution for each 14-day period, where the distribution is defined by the 1000 replications.

abilities are predicted with the race indicator set to non-Black, regardless of whether the player is employed in that particular interval.

- (iii) *Entry and progression as non-Black (C3)*. At all time intervals, including the initial day-15 state, job-state probabilities are predicted with the race indicator set to non-Black.

This approach isolates the contribution of each node to total discrimination by separately removing direct discrimination at that node while leaving all others intact. The first simulation captures the effect of racial discrepancies at entry into the managerial labour market. The second captures the effect of bias in career progression once employed, including differential promotion, demotion, and job-exit rates. The third combines both and removes all racial impediments. As such, it paints a picture of the resulting manager prevalence in the absence of racial discrimination.¹⁷

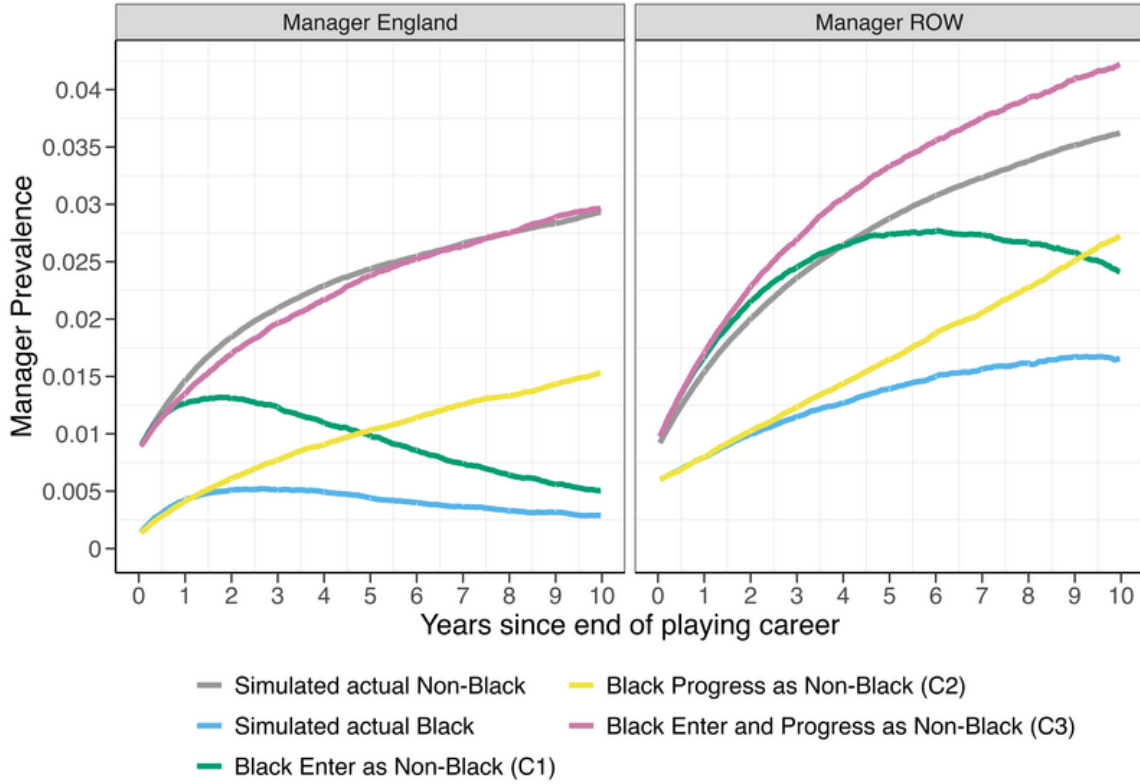
Figure 8 illustrates the simulated manager prevalence for Black former players under each counterfactual scenario, alongside the simulated actual trajectories for Black and Non-Black former players. The figure shows results separately for managers in England and abroad.¹⁸ We interpret the gap between the Black and non-Black simulated actual trajectories as the amount of total discrimination in the system depicted in Figure 1. In line with our earlier analysis, the probability of reaching the manager level is consistently lower for Black former players throughout the ten-year window. The racial gap is particularly pronounced for England. Non-Black former players are more than six times as likely to be managing an English club by year six, compared to roughly twice as likely in the rest of the world.

In scenario C1, we remove the first barrier responsible for the racial gap. A former player denied an entry-level coaching role has fewer opportunities to develop the experience base from which first-team managers are drawn, compounding the racial gap at the top. The green line shows that if Black former players had faced the same entry conditions as non-Black players, their manager prevalence would immediately jump to near Non-Black levels. However, the effects differ markedly by location. For managers in England, the C1

¹⁷We also run the simulations for UK players only (see Appendix Section C) as well as for the matched subsample (see Appendix Section B) to counteract potential pre-career differences between races.

¹⁸Appendix Table A.6 complements this figure by reporting pre-career numbers for the corresponding manager-prevalence levels and gap-closure rates at years 3, 6, and 10.

Figure 8: Simulated Manager Prevalence



Notes: This graph illustrates counterfactual simulations of manager prevalence for both Black and non-Black former players. The blue line represents the simulated actual prevalence for Black former players and the grey line for non-Black former players. The green line (C1) indicates the prevalence of managers when Black former players transition away from unemployment as if they were non-Black. The yellow line (C2) depicts the progression of Black former players through the ranks once employed, modeled as if they were non-Black. The purple line (C3) reflects manager prevalence when all transition probabilities are modeled as if Black former players were non-Black.

trajectory peaks around year two and then declines, falling well below the actual prevalence of Non-Black over time. For Managers abroad, C1 tracks much closer to the Non-Black actual prevalence throughout. This suggests that even with equal entry opportunities, racial discrepancies in progression continue to impede back Black former players in England. This career progression effect is markedly smaller abroad, where first entry appears to be the main impediment to Black former players.

We analyze the role of stunted career progression and more rapid dismissals through the yellow line (scenario C2). This shows what would happen if Black former players progressed through the coaching ranks with the same probabilities as non-Black players, while retaining actual first entry conditions. The C2 effect is negligible in the early years but grows steadily, reflecting the cumulative impact of differential promotion, demotion, and job-exit rates. This

is consistent with the racial discrepancies documented in Sections 4.2 and 4.3. The effect is strongest for managers in England, where the simulated prevalence under C2 surpasses the entry scenario around year 5. In the rest of the world this only happens toward the end of the first ten career years.

The final scenario depicted by the purple line (C3) combines both counterfactuals. This scenario closely tracks Non-Black actual prevalence for England. In the rest of the world, Black former players are predicted to slightly outperform non-Blacks in this scenario. This is because the average Black former player has better pre-career characteristics to succeed in management abroad. They more often are dual nationals or foreigners and have typically had more prolific playing careers. Taken together, our results confirm that racial discrepancies in entry dominate in the early career years, while racial discrepancies in progression become increasingly important over time. Fully removing these barriers (more than) eliminates the racial gap in manager prevalence.¹⁹

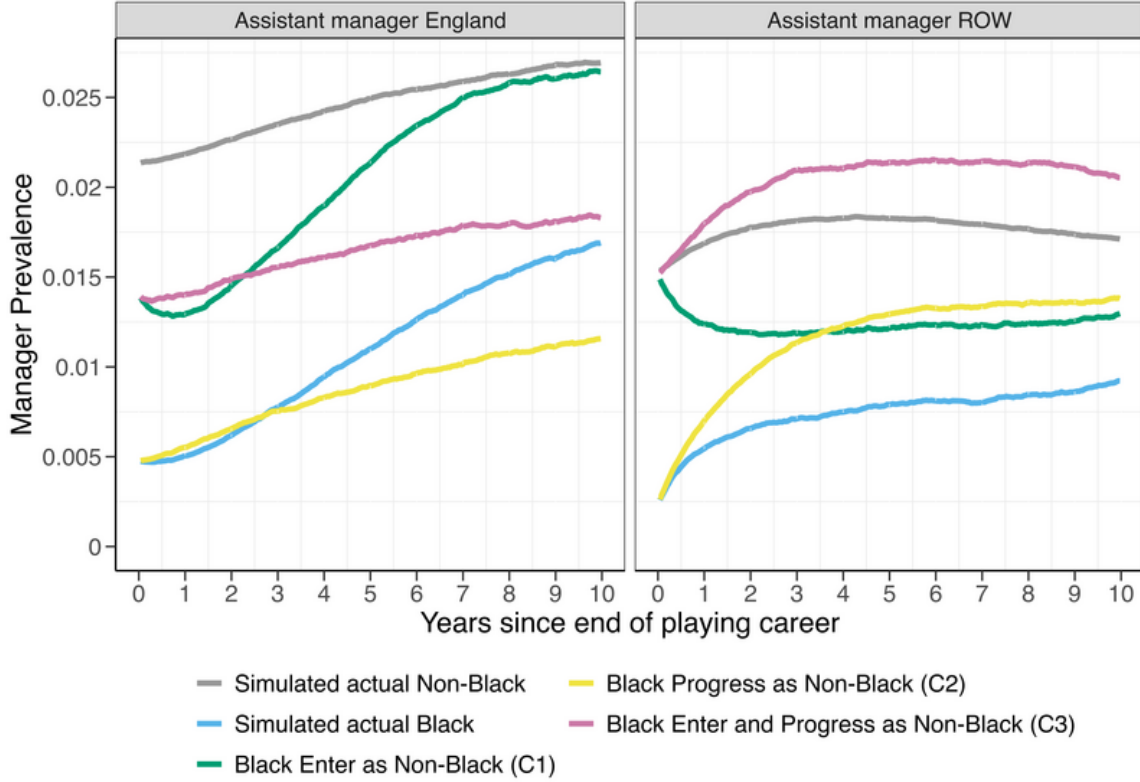
To better understand the mechanisms causing the racial gap in manager prevalence, it is instructive to examine the prevalence of Black assistant managers in Figure 9. Here, we mimic the counterfactual scenarios of Figure 8 in simulations for the assistant manager position. We again show separate results for England and the rest of the world.

In England (left panel), the prevalence of Black former players at assistant manager level (blue line) increases with career duration, while the curve for non-Black assistant managers is much flatter. This is because non-Black assistant managers get promoted out of this role to the top job at a much higher rate than Black assistant managers, who tend to get stuck in this role. Since there are no outflows to the top job, the stock of Black assistant managers grows with career seniority.

Without the racial entry barrier in scenario C1 (green line), the prevalence of Black assistant managers in England jumps up early in their career and then slowly converges toward the simulated actual level for Non-Black former players. An increased inflow of Black assistant managers, combined with the glass ceiling that restricts outflow via promotion to

¹⁹This exercise resembles the plot of the 1983 movie *Trading Places*, where two bankers engineer a reversal in which a successful white banker loses all his privileges, and a down-and-out Black man is provided with all of those privileges – as a result the down-and-out becomes indistinguishable from the banker, and vice versa.

Figure 9: Simulated Assistant Manager Prevalence



Notes: This graph illustrates counterfactual simulations of assistant manager prevalence. The blue line represents the simulated actual prevalence for Black former players and the grey line for non-Black former players. The green line (C1) indicates assistant manager prevalence when Black former players transition away from unemployment as if they were non-Black. The yellow line (C2) depicts the progression of Black former players through the ranks once employed, modeled as if they were non-Black. The purple line (C3) reflects assistant manager prevalence when all transition probabilities are modeled as if Black former players were non-Black.

manager, closes the racial gap at the assistant manager level. In scenario C2 (yellow line) the counterfactual prevalence of Black assistant managers falls below their actual prevalence. This reflects the glass ceiling being broken. With non-Black progression opportunities, Black assistant managers are promoted to manager at higher rates. This reduces the share remaining at assistant manager level in line with the experience of non-Black assistant managers. Scenario C3 (purple line) combines these countervailing effects. This leads to an outcome where the prevalence of Black assistant managers increases at the start of their career but never reaches the level of their non-Black counterparts. The remaining gap between Black and non-Black former players under this scenario is due to the difference in pre-career char-

acteristics, which favour non-Black former players for assistant manager roles.²⁰

In the rest of the world (right panel) the pattern for assistant managers looks different, because the racial difference at the promotion node is less important than the barriers at the entry node. The simulated prevalence of Black former players (blue line) is flatter than in England. Removing the entry barrier in scenario C1 sharply raises the amount of assistant managers early on. This effect is short lived however, as the additional influx of Black former players gets promoted to the top position, even under the observed promotion propensities. Removing the racial promotion gap in scenario C2 leads to an uptick in assistant manager prevalence in the early career years which flattens out over time. Early on, this change mainly leads to more promotions to the assistant level from even lower roles with less impact on promotion to the top job. When both effects are combined in scenario C3, a similar picture emerges as we saw for managers. The pre-career characteristics of Black former players are more favourable to obtaining assistant manager positions outside of England. Without racial barriers, we would expect them to hold these position more often than non-Black former players.²¹

6 Conclusion

We conclude from our analyses that there is a large racial gap in obtaining and keeping a top job in English football management. In our sample containing 4,770 former players of English professional clubs, 11% of Black former players ever obtain a top job versus 20% of other former players. During the first ten years after their retirement from playing, Black former players spend on average 16 days being the manager of an English club versus an average of 89 days for non-Black former players. Using the framework of systemic discrimination (Bohren et al., 2025) allows us to trace this gap at the top back to three reinforcing racial barriers: a lower entry rate into football management jobs of any kind, a glass ceiling on progression to higher job roles, and shorter tenure at the top.

²⁰We illustrate this using simulations for the matched subsample in appendix Figure B.5. Here the difference in observable characteristics is absent by design and consequently the gap is not present for assistant managers.

²¹We include simulations for youth coaches in appendix A. We further provide analogs to the simulated career paths for the matched subsample and subsample of UK nationals in Appendix B and C.

We find that each of these barriers independently impedes the managerial careers of Black former players. They are 13–14 percentage points less likely to obtain any job in football management from a baseline of 33% for their non-Black peers. This gap is not driven by the quality of their playing career or other observable characteristics. Among those who do enter, Black former players are significantly less likely to transition into the top manager role and more likely to transition to lower job roles outside of England. Finally, tenure at the top is markedly less secure for Black managers in English clubs. They suffer from a 44% higher unconditional job-exit hazard than non-Black managers and are more likely to be fired when team performance declines.

We investigate how these barriers dynamically compound and interact with each other using counterfactual simulations of individual career trajectories. In the early years of the post-playing career, the racial barrier to labour market entry is the main impediment for Black former players both in England and abroad. By contrast, the importance of racial differences in promotions and job security rises steadily over time. When equalised on its own, this nearly triples the prevalence of Black managers in England by year six. This shows the importance of the glass ceiling faced by Black former players in promotions to the top job. Removing both barriers together eradicates the entire racial gap in career trajectories and even reverses it for managers abroad. This confirms that racial discrepancies built up during the managerial job pipeline are responsible for the under-representation of Black managers, and not the existing pre-career characteristics of Black former players.

Most prior work in the literature on labour market discrimination investigates a single career stage or promotion step in isolation, often using data from a single firm. We track the full career pipeline for a complete cohort of likely job candidates across all employers in an entire industry from labour market entry through job promotions up until labour market exits. This allows us to first quantify the racial barriers in each career stage independently. We then use counterfactual simulations to show how these barriers dynamically interact during the career pipeline to generate the observed racial gap at the top. While we draw on a specific labor market with atypically rich public information, this approach is applicable wherever careers follow a structured pipeline and entry can be linked to a prior identifiable pool of candidates.

There is substantial scope to develop the ideas in the is paper further. First, the analysis could be extended to football leagues in other countries. The nature of discrimination may vary by country, but the presence of outgroups subject to discrimination is common. Second, the analysis could be extended to other industries and professions. For example, the pipeline in academic careers- from PhD to Assistant, Associate and Full professor is well established, and barriers faced by marginalized groups are likely to exist at every stage of the pipeline.

Our findings carry clear policy implications for the industry we investigate. The FA’s Football Leadership Diversity Code, launched in 2020, was built around recruitment targets. More recent policy has moved in a broader direction: the FA’s 2024–28 equality, diversity and inclusion strategy uses the Code as a foundation for mandatory diversity reporting across the professional game, and the FA’s 2025 progress review describes Rule N as requiring all 92 professional clubs to report and publish off-pitch diversity data every two years ([The Football Association, 2024, 2025](#)). That shift toward transparency is important, but our evidence suggests that monitoring entry alone is not enough. Recruitment is a major barrier, but so are progression and tenure. An intervention that raises entry rates while leaving progression and job security unchanged will see Black managers enter a leaky pipeline.

The same lesson applies beyond football. In any industry where careers develop through sequential leadership pipelines, diversity policies that focus only on entry will understate both the nature of the problem and the scope of the required response. Effective policy must therefore address the full employment lifecycle: widening access to entry-level opportunities, ensuring fair progression into leadership roles, and reducing unequal risks of displacement once those roles are obtained.

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A Additional Figures and Tables

Table A.1: Job Spell Descriptions and Classifications

Job Description	Mgr Eng	Mgr ROW	Asst Eng	Asst ROW	Youth Eng	Youth ROW	Other	Total
Manager	1343	1968	0	0	533	512	0	4356
Assistant Manager	0	0	1655	1292	0	0	0	2947
Goalkeeping Coach	0	0	0	0	0	0	782	782
Caretaker Manager	0	0	537	208	0	0	0	745
Player-Coach	0	0	0	0	0	0	247	247
Scout	0	0	0	0	0	0	237	237
Youth Coach	0	0	0	0	117	79	0	196
Sporting Director	0	0	0	0	0	0	153	153
Academy manager	0	0	0	0	118	31	0	149
Chief Scout	0	0	0	0	0	0	94	94
Technical Director	0	0	0	0	0	0	88	88
Academy Manager	0	0	0	0	54	32	0	86
Director of Football	0	0	0	0	0	0	84	84
Technical Coach	0	0	0	0	0	0	70	70
Physiotherapist	0	0	0	0	0	0	59	59
Fitness Coach	0	0	0	0	0	0	44	44
Head of Academy Coaching	0	0	0	0	33	8	0	41
Individual Coach	0	0	0	0	0	0	37	37
Advisor	0	0	0	0	0	0	36	36
Forward Coach	0	0	0	0	0	0	35	35
Development Coach	0	0	0	0	0	0	33	33
Loan Player Manager	0	0	0	0	0	0	32	32
Club representative	0	0	0	0	0	0	25	25
President	0	0	0	0	0	0	22	22
Director of youth department	0	0	0	0	13	8	0	21
Owner	0	0	0	0	0	0	21	21
Team Manager	2	18	0	0	0	0	0	20
.	.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.	.
Umpire	0	0	0	0	0	0	1	1
Total	1345	1987	2192	1505	879	693	2506	11107

Notes: This table categorizes job spells into eight groups based on job type and location (England vs. rest of world). Each cell indicates the frequency with which a specific job description was classified into a given category. Job descriptions appearing fewer than twenty times are excluded from the table rows but included in the column totals.

Table A.2: Obtaining Coaching Licence by Race

	<i>Dependent variable:</i>		
	Obtained any Coaching Licence		
	(1)	(2)	(3)
Black	−0.054*** (0.012)	−0.066*** (0.012)	−0.060*** (0.012)
UK and Other		0.116*** (0.018)	0.077*** (0.018)
Foreign		0.104*** (0.011)	0.054*** (0.012)
Attacker			−0.052*** (0.020)
Midfielder			−0.021 (0.019)
Defender			−0.041** (0.019)
Hours Played Tier 1			0.0002** (0.0001)
Hours Played Tier 2			0.0002** (0.0001)
Hours Played Tier > 2			0.0001 (0.0001)
Played for National Team			0.031** (0.015)
Games Played for National Team			0.003*** (0.0003)
Constant	0.124*** (0.005)		
Year of Birth FE	No	Yes	Yes
Observations	4,770	4,770	4,770
R ²	0.004	0.057	0.096

Notes: The table reports regressions of an indicator for having obtained any coaching licence. Column 1 includes only the Black indicator (raw racial difference). Column 2 adds year-of-birth fixed effects and nationality controls: indicators for UK citizens with a second non-UK citizenship (“UK and Other”) and for foreign (non-UK) citizenship (base category = UK-only citizen). Column 3 further adds playing-position dummies (attacker, midfielder, defender; base = goalkeeper), tiered playing-time measures (hours in Tier 1, Tier 2, and lower tiers), and national-team experience (Played for National Team and Games Played for National Team). Coefficients for goals and assists by tier are included in the regressions but omitted from the table for brevity. Standard errors in parentheses. * p-value < 0.1; ** p-value < 0.05; *** p-value < 0.01.

Table A.3: Entry into Executive Labour Market by Race — Logit

Dependent variable:	Any Job in Football			Pipeline Job		
	All	All	in England	All	All	in England
	(1)	(2)	(3)	(4)	(5)	(6)
Black	−0.732*** (0.094)	−0.847*** (0.110)	−0.748*** (0.142)	−0.642*** (0.098)	−0.778*** (0.113)	−0.863*** (0.154)
UK and Other		0.655*** (0.148)	0.498*** (0.160)		0.595*** (0.151)	0.437*** (0.168)
Foreign		0.653*** (0.096)	−1.015*** (0.135)		0.514*** (0.101)	−1.152*** (0.154)
Attacker		−1.165*** (0.149)	−1.480*** (0.172)		0.237 (0.179)	−0.082 (0.218)
Midfielder		−0.939*** (0.139)	−1.156*** (0.153)		0.423** (0.171)	0.205 (0.203)
Defender		−0.909*** (0.141)	−1.196*** (0.157)		0.451*** (0.173)	0.117 (0.206)
Average Y_i Non-Black	0.33	0.33	0.21	0.29	0.29	0.18
Year of Birth FE	No	Yes	Yes	No	Yes	Yes
Player performance	No	Yes	Yes	No	Yes	Yes
Observations	4,770	4,770	4,770	4,770	4,770	4,770
McFadden R^2	0.011	0.170	0.180	0.009	0.158	0.188

Notes: This table presents logit regression results. Columns (1)–(3) are for obtaining any non-playing job in football (anywhere, without controls in column 1 and with the full set of controls in column 2) and any non-playing job in England (column 3). Columns (4)–(6) are for holding a pipeline (managerial) role of manager, assistant manager, or youth-team management: anywhere without controls (4), anywhere with controls (5), and in England (6). Where included, controls are fixed effects for year of birth, nationality status (base category = UK-only citizen), playing-position controls (attacker, midfielder, defender; base = goalkeeper), national-team experience and national-team appearances, and playing-performance statistics from Tier 1, Tier 2, and lower tiers in England (hours played, goals, assists). Coefficients for the player career variables are omitted from the output, but available on request. Significance is indicated as follows: * p-value < 0.1; ** p-value < 0.05; *** p-value < 0.01.

Table A.4: Spell coverage by country

Country	Manager			Assistant Manager		
	Spells	Covered	%	Spells	Covered	%
England	1,332	981	73.6%	2,177	1,341	61.6%
Scotland	192	156	81.2%	280	160	57.1%
United States	102	76	74.5%	106	86	81.1%
Netherlands	74	38	51.4%	90	59	65.6%
France	66	51	77.3%	65	47	72.3%
Wales	73	55	75.3%	42	34	81.0%
Italy	65	37	56.9%	31	28	90.3%
Norway	65	48	73.8%	30	22	73.3%
Ireland	51	29	56.9%	38	26	68.4%
Germany	54	37	68.5%	34	21	61.8%
Australia	50	34	68.0%	36	22	61.1%
Spain	51	32	62.7%	26	18	69.2%
Denmark	39	27	69.2%	33	28	84.8%
Sweden	46	27	58.7%	21	15	71.4%
Portugal	46	22	47.8%	18	12	66.7%
Greece	46	28	60.9%	13	11	84.6%
Belgium	38	27	71.1%	20	11	55.0%
Poland	45	31	68.9%	8	5	62.5%
Iceland	37	30	81.1%	15	9	60.0%
Northern Ireland	32	17	53.1%	16	11	68.8%
India	27	20	74.1%	15	8	53.3%
Argentina	30	20	66.7%	12	6	50.0%
Cyprus	30	16	53.3%	9	5	55.6%
South Africa	20	14	70.0%	15	12	80.0%
Romania	33	19	57.6%	1	0	0.0%
Brazil	25	16	64.0%	9	7	77.8%
Turkey	18	12	66.7%	15	14	93.3%
Austria	16	8	50.0%	13	10	76.9%
Saudi Arabia	18	13	72.2%	9	5	55.6%
Switzerland	22	19	86.4%	3	3	100.0%
Finland	18	14	77.8%	7	6	85.7%
Other countries	373	214	57.4%	169	125	74.0%
England (total)	1,332	981	73.6%	2,177	1,341	61.6%
Rest of world (total)	1,802	1,187	65.9%	1,199	826	68.9%
All spells	3,134	2,168	69.2%	3,376	2,167	64.2%

Notes: Eligible spells are manager and assistant manager job spells that start in 1990 or later and belong to a coach whose race is coded. A spell counts as covered when at least ten of its games are found in the game data, the threshold required to construct the cumulative points control. Countries with fewer than 25 eligible spells are pooled into *Other countries*. Rows are ordered by number of eligible spells, with England first and the pooled group last. National team spells are excluded throughout.

Table A.5: Cox Hazard Model for Leaving a Job Performance Interacted with Race

	<i>Dependent variable: log(Hazard) (leaving job)</i>			
	Manager		Asst. Manager	
	England	ROW	England	ROW
	(1)	(2)	(3)	(4)
Black	-0.110 (0.269)	-0.011 (0.152)	0.254* (0.131)	0.114 (0.130)
-Cumulative Points	0.171*** (0.008)	0.100*** (0.006)	0.105*** (0.007)	0.059*** (0.008)
Black $\times$ -Cumulative Points	0.095** (0.042)	0.009 (0.024)	-0.020 (0.024)	0.030 (0.022)
Experience at start of job	0.0007*** (0.0002)	0.0003 (0.0002)	0.0009*** (0.0002)	0.0010*** (0.0003)
UK and other nationality	0.109 (0.110)	0.390*** (0.133)	-0.009 (0.108)	0.015 (0.156)
Foreign	0.426*** (0.130)	0.381*** (0.076)	0.061 (0.111)	0.219** (0.088)
Observations	62,963	44,510	80,993	37,391
Job spells	971	1,142	1,303	788
Black job exits	41	64	89	80
R ²	0.009	0.007	0.004	0.002

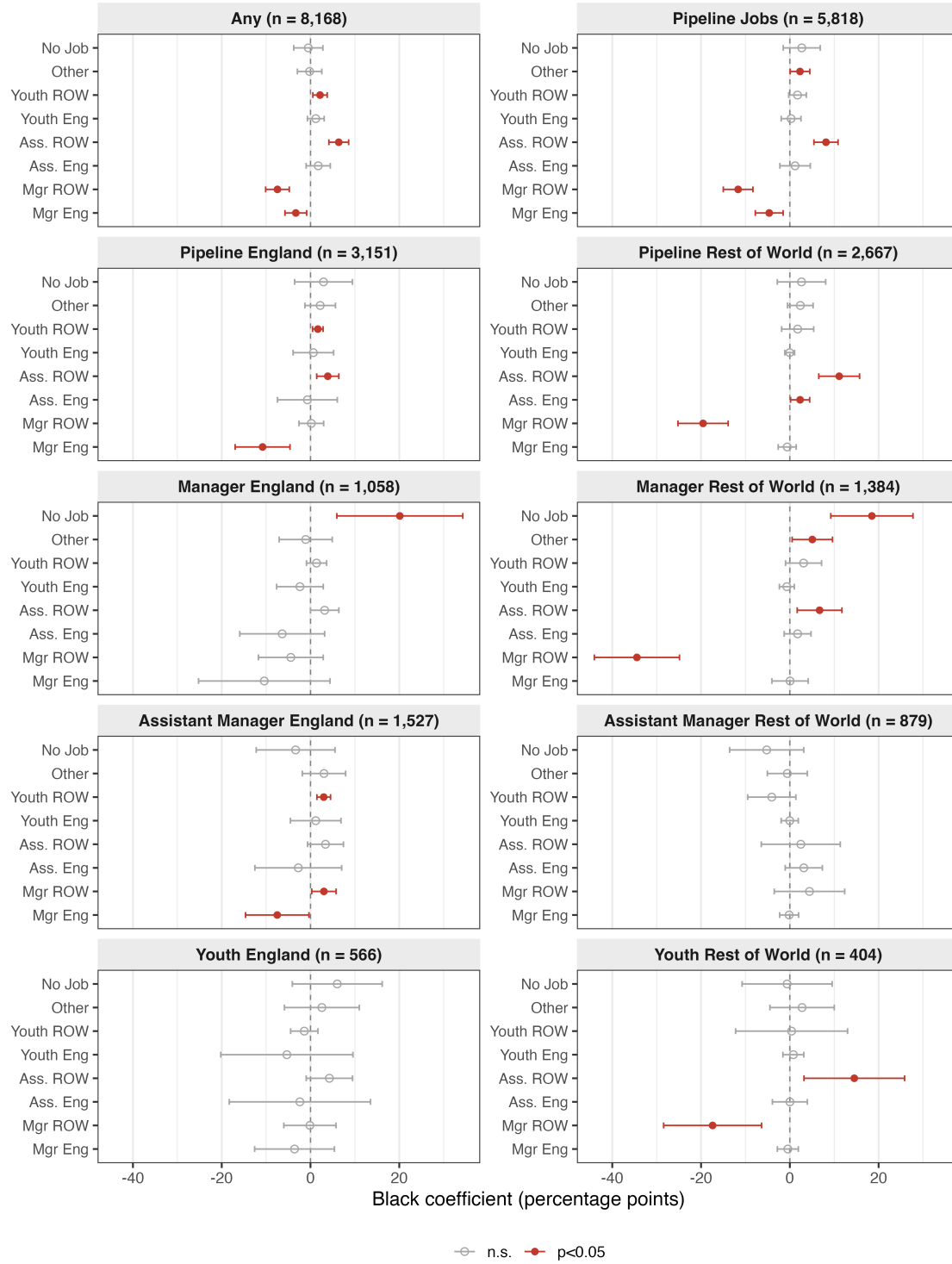
Notes: Cox proportional hazard models for the hazard of leaving a job, adding an interaction between the Black indicator and team performance to the full specification of Table ?? . Cumulative points over the last ten games is mean-centred within each column and enters with a negative sign, so that a higher value denotes worse performance. The Black coefficient is therefore the racial gap in the exit hazard at average performance, and the interaction is the additional gap opened by a one-point shortfall over ten games. Nationality follows the definition used elsewhere in the paper, with UK-only nationals the omitted reference category. An observation is a game within a job spell, and only spells with at least ten games enter. Standard errors in parentheses. * p<0.1; ** p<0.05; *** p<0.01.

Table A.6: Counterfactual Decomposition of Manager Prevalence

State	Year	Black SA	NB SA	C1	C2	C3	Gap C1	Gap C2	Gap C3
Manager England	3	0.5	2.1	1.2	0.8	2.0	46%	16%	92%
Manager England	6	0.4	2.5	0.9	1.1	2.5	21%	34%	99%
Manager England	10	0.3	2.9	0.5	1.5	3.0	8%	47%	101%
Manager ROW	3	1.1	2.4	2.5	1.2	2.7	108%	7%	127%
Manager ROW	6	1.5	3.1	2.8	1.9	3.6	80%	24%	130%
Manager ROW	10	1.7	3.6	2.4	2.7	4.2	38%	54%	130%

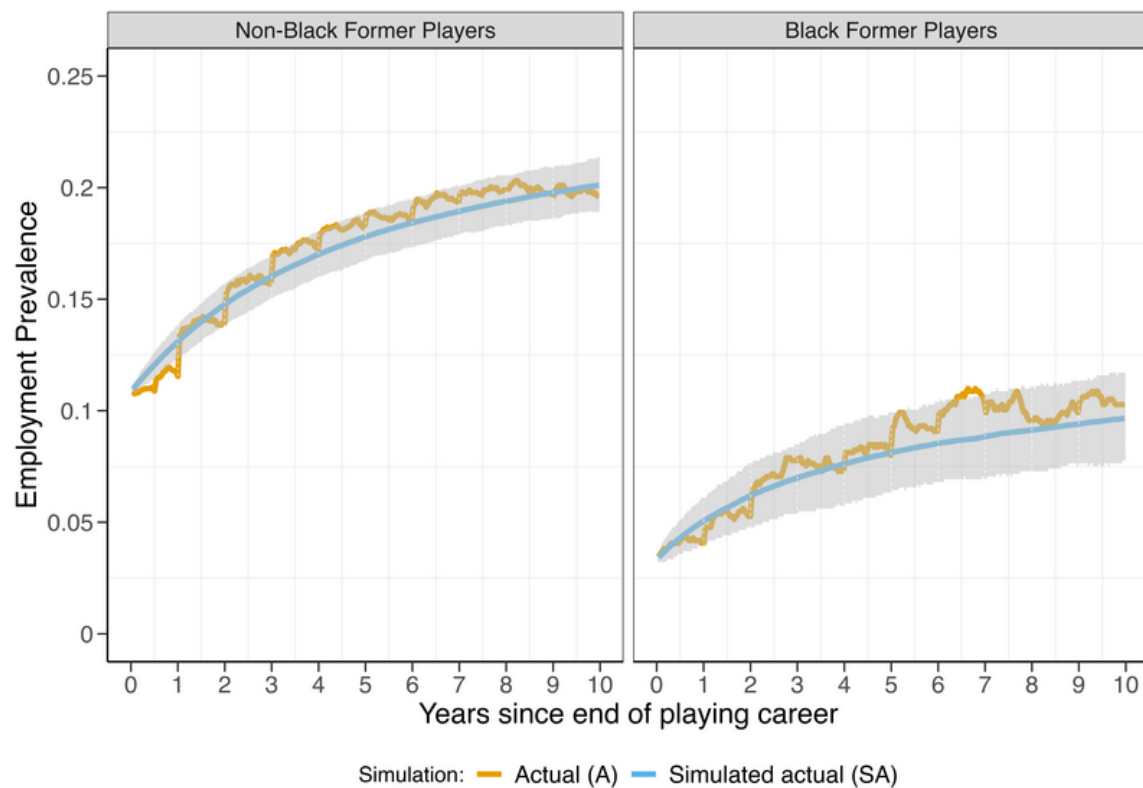
Notes: Entries report simulated manager prevalence, expressed as percentages of former players, at the closest available 14-day interval to years 3, 6, and 10 after the end of the playing career. SA denotes simulated actual prevalence and NB denotes non-Black. C1 sets the entry process for Black former players to the non-Black process until first observed employment; C2 sets post-entry progression to the non-Black process; C3 sets both entry and progression to the non-Black process. Gap closed is calculated as $(Ck - \text{Black SA}) / (\text{NB SA} - \text{Black SA})$ and may exceed 100% when a counterfactual overshoots non-Black simulated prevalence. The table reports point estimates from the existing simulation output and does not include parameter-uncertainty intervals.

Figure A.1: Job Transitions by Race Without Sample Restriction



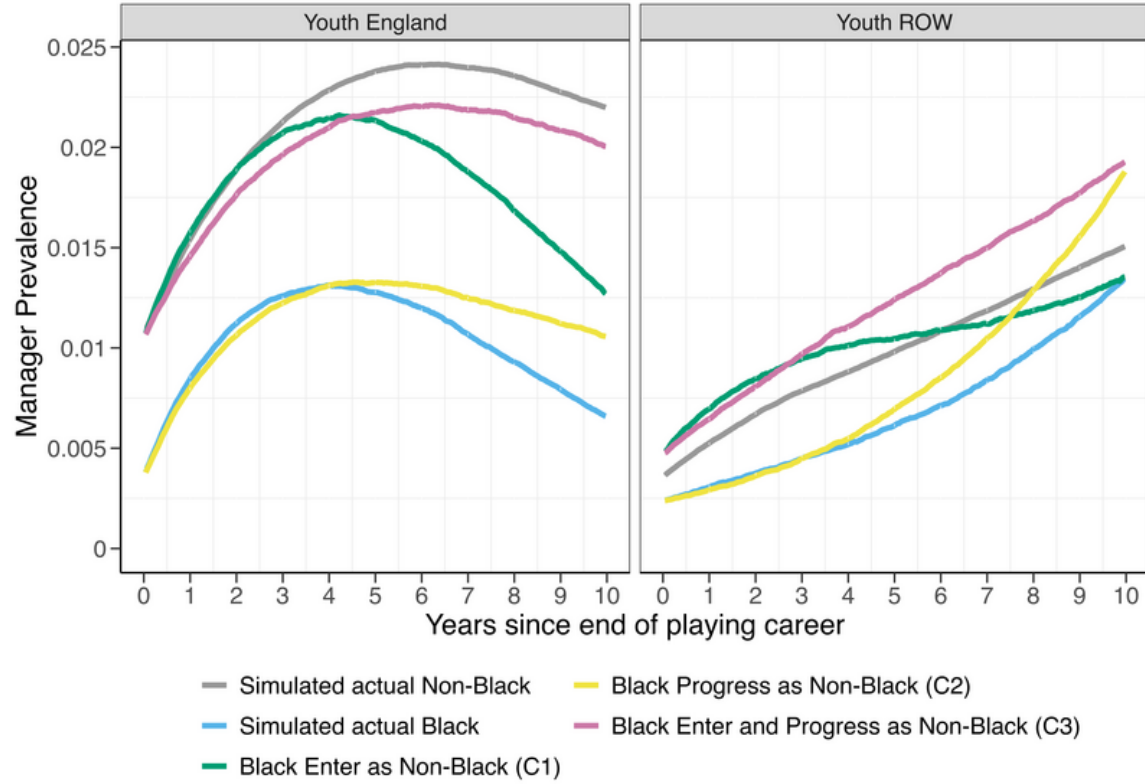
Notes: Each panel corresponds to an origin/current job state. Within each panel, each point shows the OLS coefficient on a *Black* indicator from a linear probability model in which the dependent variable is an indicator for transitioning to the destination state shown on the vertical axis. The number in parentheses is the number of transitions contributing to the displayed estimates in that panel. This appendix version drops the minimum-Black-transition reporting restriction used in Figure 5 and adds youth-coach origins by location. All models control for nationality using the UK-only, UK-and-other, and foreign indicators described in Table 1, with UK-only as the base category. Coefficients are expressed in percentage points. Confidence intervals reflect conventional OLS standard errors at the 95% level. No Job is defined as no observed football-management job for at least a year.

Figure A.2: Simulated and Actual Employment Prevalence



Notes: This figure displays the actual and simulated prevalence of total employment. The simulated line represents the average derived from 1000 replications. The shaded grey area indicates the 95% confidence interval, calculated from the 2.5th and 97.5th percentile values of the prevalence distribution for each 14-day period, where the distribution is defined by the 1000 replications.

Figure A.3: Simulated Youth Coach Prevalence



Notes: This graph shows counterfactual simulations of youth coach prevalence for both Black and non-Black former players. The blue line represents the simulated actual (SA) prevalence for Black former players and the grey line for non-Black former players. The green line shows youth coach prevalence when Black former players transition away from unemployment as if they were non-Black. The yellow line represents how Black former players would progress through the ranks once in employment as if they were non-Black. The purple line shows youth coach prevalence when all transition probabilities are modeled as if Black former players were non-Black.

B Matched Sample Analysis

Construction of the Matched Sample

In the broader context of labour and personnel economics, we are working with a highly homogeneous group of workers. Almost all former football players in our sample have devoted most of their lives to the sport, up until their retirement and potential transition into football management. Consequently, there are minimal differences in education, work experience, or other qualifications within our sample. Where our sample does differ is in race, origin or citizenship, and playing position. While we account for these variables in our analyses, we also perform a matching procedure to create a sample of Black and non-Black players with highly similar career, citizenship, and position characteristics. For each of the 837 Black former players, we identify the closest match among the 3,933 non-Black former players based on observable characteristics, allocating one non-Black player per Black player without replacement. Given the 4:1 ratio of non-Black to Black players, there is substantial potential for close matches.²² The pre- and post-matching differences between Black and non-Black groups are shown in Table B.1. Prior to matching, there are differences in nationality and player position, the latter resulting in differences in goal-scoring across all tiers. After matching, nearly all differences become statistically insignificant, with only small marginal differences remaining for Tier-1 goals and foreign nationality.

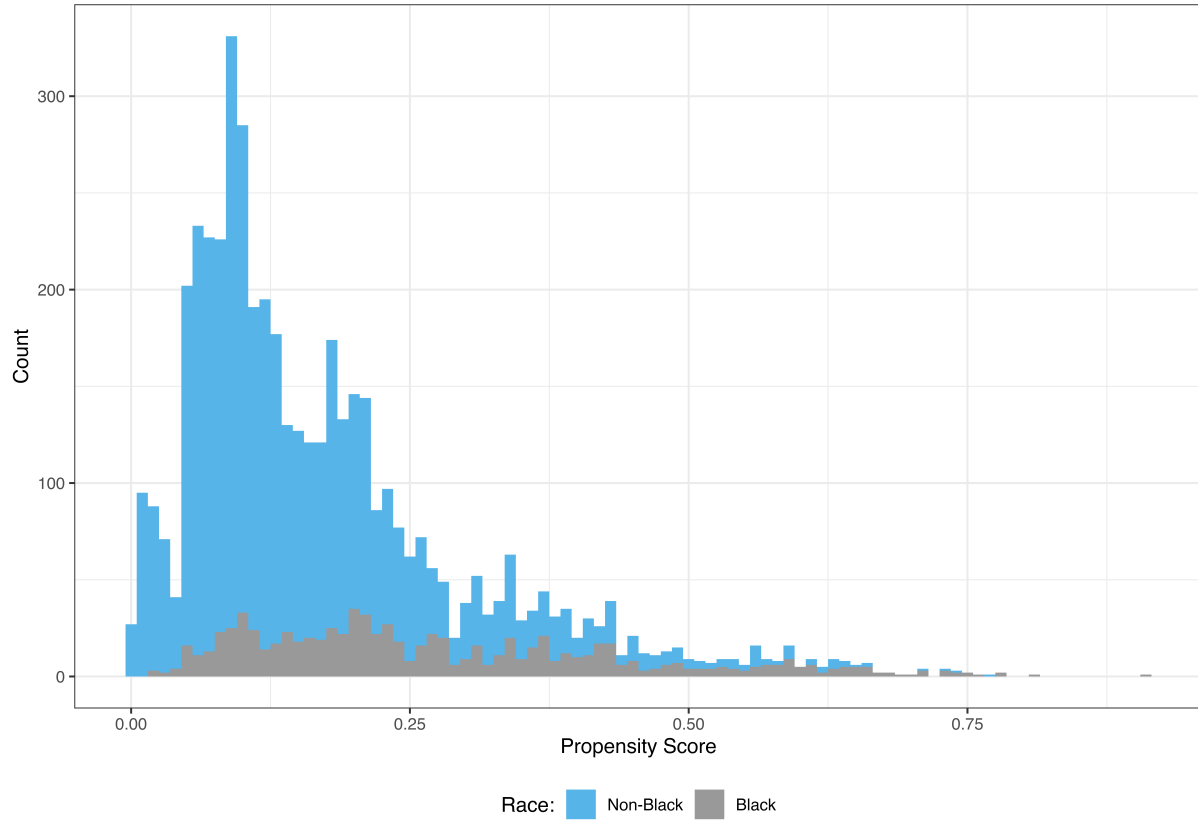
²²Figure B.1 shows that there is sufficient overlap in propensity scores for each Black former player to have a close match with a non-Black former player.

Table B.1: Covariate Balance Before and After Matching with Differences

Covariate	Before Matching			After Matching		
	Black	Non-Black	Difference	Black	Non-Black	Difference
Hours Played Tier 1	50.07	44.11	5.955	50.07	45.35	4.714
Goals Tier 1	5.15	3.49	1.655***	5.15	3.80	1.351*
Assists Tier 1	1.56	1.30	0.261	1.56	1.25	0.307
Hours Played Tier 2	31.80	30.75	1.059	31.80	28.29	3.517
Goals Tier 2	3.19	2.31	0.877**	3.19	2.50	0.689
Assists Tier 2	0.46	0.33	0.13*	0.46	0.40	0.067
Hours Played Tier > 2	36.95	38.70	-1.753	36.95	35.74	1.204
Goals Tier > 2	3.46	2.84	0.624*	3.46	3.02	0.435
Assists Tier > 2	0.94	0.83	0.111	0.94	0.81	0.131
Attacker	0.42	0.23	0.189***	0.42	0.39	0.026
Midfielder	0.26	0.33	-0.072***	0.26	0.26	0.001
Defender	0.30	0.35	-0.047***	0.30	0.33	-0.024
UK Only	0.45	0.70	-0.254***	0.45	0.43	0.02
UK and Other	0.20	0.05	0.151***	0.20	0.18	0.017
Foreign	0.35	0.25	0.103***	0.35	0.39	-0.037*
Played for National Team	0.33	0.23	0.104***	0.33	0.30	0.03
Games Played for National Team	8.21	7.26	0.949	8.21	7.70	0.517

Notes: This table shows the pre and post matching differences in the control variables used throughout this paper. Significance is indicated as follows: * p-value < 0.1; ** p-value < 0.05; *** p-value < 0.01.

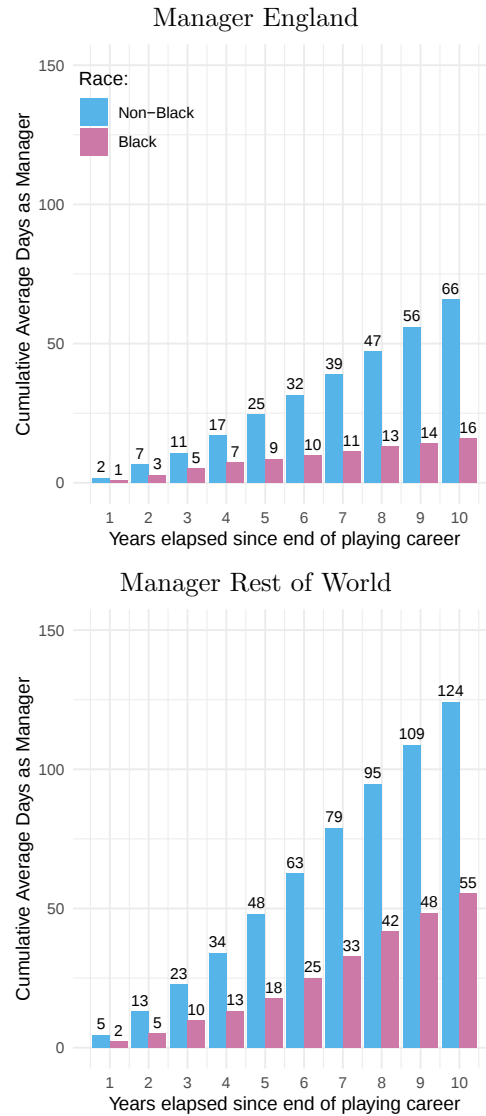
Figure B.1: Propensity Scores



Notes: This figure presents the propensity scores for being Black, which were used in our matching procedure, by race.

Empirical Results Matched Sample

Figure B.2: Days as Manager by Race – First Ten Years Post-Playing Career ($n = 1,674$)



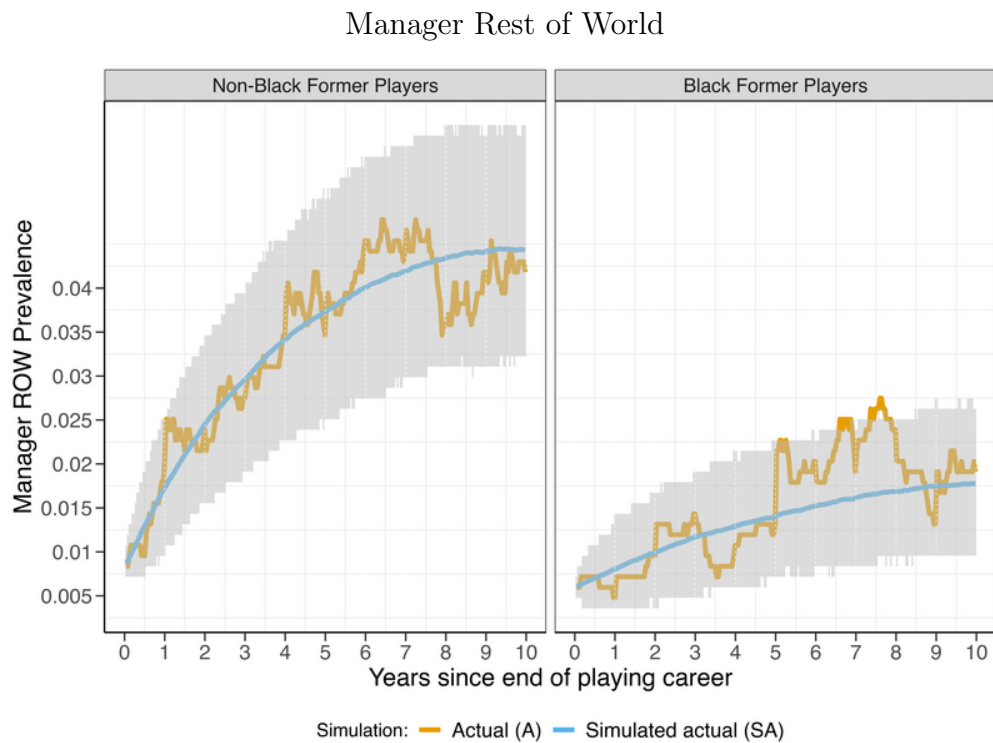
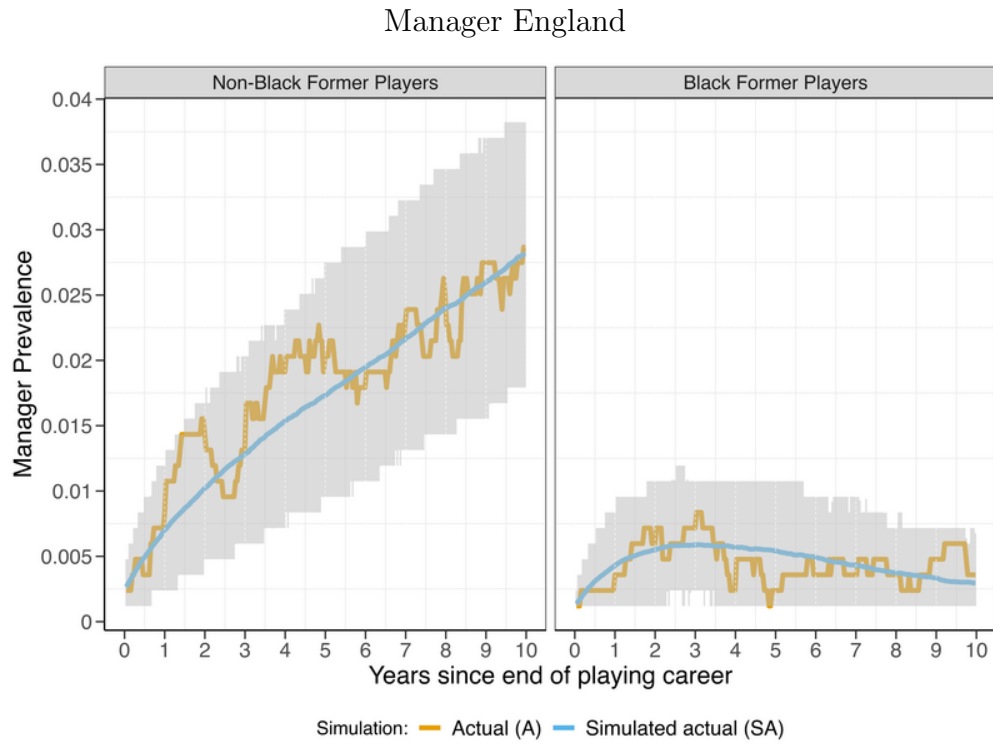
Notes: The top figure illustrates the average cumulative days that former players serve as managers at English clubs during the first ten years following their playing careers. The bottom figure depicts the average cumulative days that former players serve as managers outside England. The figure includes observations from the matched subsample only.

Table B.2: Entry into Managerial Labour Market by Race — Matched Subsample

Dependent variable:	Any Job in Football			Pipeline Job		
	All	All	in England	All	All	in England
	(1)	(2)	(3)	(4)	(5)	(6)
Black	−0.136*** (0.021)	−0.135*** (0.019)	−0.072*** (0.016)	−0.114*** (0.020)	−0.115*** (0.019)	−0.073*** (0.015)
UK and Other		0.113*** (0.029)	0.070*** (0.023)		0.110*** (0.028)	0.060*** (0.022)
Foreign		0.119*** (0.027)	−0.059*** (0.022)		0.086*** (0.026)	−0.071*** (0.020)
Attacker		−0.236*** (0.080)	−0.157** (0.064)		0.003 (0.078)	−0.010 (0.060)
Midfielder		−0.200** (0.081)	−0.128** (0.065)		0.038 (0.078)	0.016 (0.060)
Defender		−0.236*** (0.081)	−0.167*** (0.065)		−0.008 (0.078)	−0.035 (0.060)
Average Y_i Non-Black	0.33	0.33	0.17	0.29	0.29	0.15
Year of Birth FE	No	Yes	Yes	No	Yes	Yes
Player performance	No	Yes	Yes	No	Yes	Yes
Observations	1,674	1,674	1,674	1,674	1,674	1,674
R ²	0.024	0.221	0.180	0.018	0.199	0.192

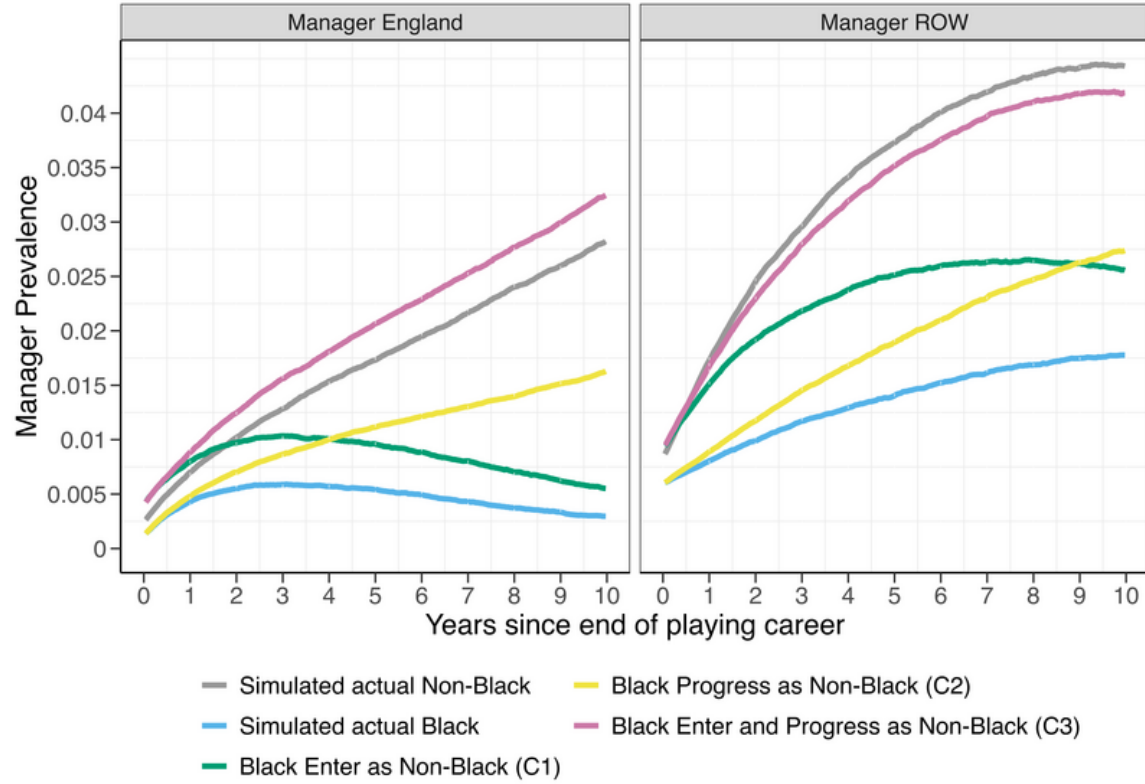
Notes: This table replicates Table 3 using the propensity-score matched subsample. Columns (1)–(3) are linear probability models for obtaining any non-playing job in football (anywhere, without controls in column 1 and with the full set of controls in column 2) and any non-playing job in England (column 3). Columns (4)–(6) are for holding a pipeline (managerial) job: anywhere without controls (4), anywhere with controls (5), and in England (6). Where included, controls are year-of-birth fixed effects, nationality status (base = UK-only), playing position (base = goalkeeper), national-team experience and appearances, and playing performance by tier. Significance is indicated as follows: * p-value < 0.1; ** p-value < 0.05; *** p-value < 0.01.

Figure B.3: Simulated and Actual Manager Prevalence Matched Sample Players



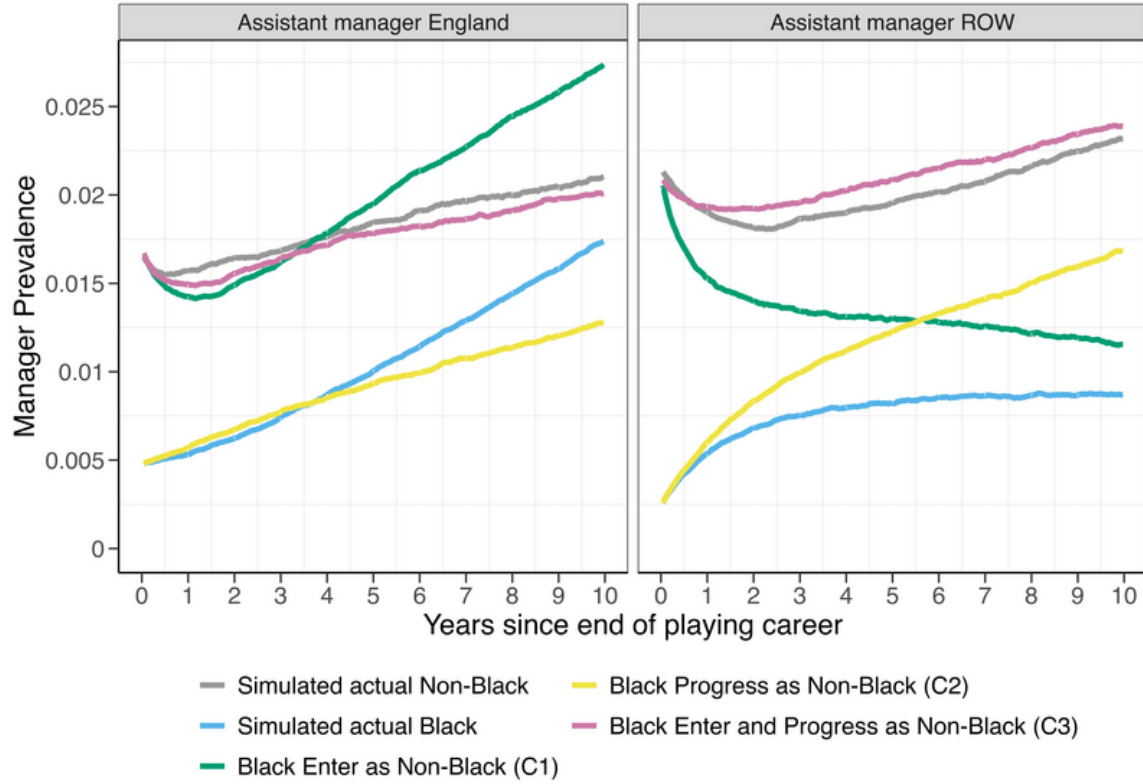
Notes: This figure displays the actual and simulated prevalence of the manager position. The simulated line represents the average derived from 1000 replications. The shaded grey area indicates the 95% confidence interval, calculated from the 2.5th and 97.5th percentile values of the prevalence distribution for each 14-day period, where the distribution is defined by the 1000 replications.

Figure B.4: Simulated Manager Prevalence Matched Sample



Notes: This graph illustrates counterfactual simulations of manager prevalence for both Black and non-Black former players in the matched subsample. The blue line represents the simulated actual (SA) prevalence for Black former players and the grey line for non-Black former players. The green line (C1) indicates the prevalence of managers when Black former players transition away from unemployment as if they were non-Black. The yellow line (C2) depicts the progression of Black former players through the ranks once employed, modeled as if they were non-Black. The purple line (C3) reflects manager prevalence when all transition probabilities are modeled as if Black former players were non-Black.

Figure B.5: Simulated Assistant Manager Prevalence Matched Sample Players



Notes: This graph illustrates counterfactual simulations of assistant manager prevalence for both Black and non-Black former players in the matched subsample. The blue line represents the simulated actual (SA) prevalence for Black former players and the grey line for non-Black former players. The green line (C1) indicates assistant manager prevalence when Black former players transition away from unemployment as if they were non-Black. The yellow line (C2) depicts the progression of Black former players through the ranks once employed, modeled as if they were non-Black. The purple line (C3) reflects assistant manager prevalence when all transition probabilities are modeled as if Black former players were non-Black.

C UK Subsample Analysis

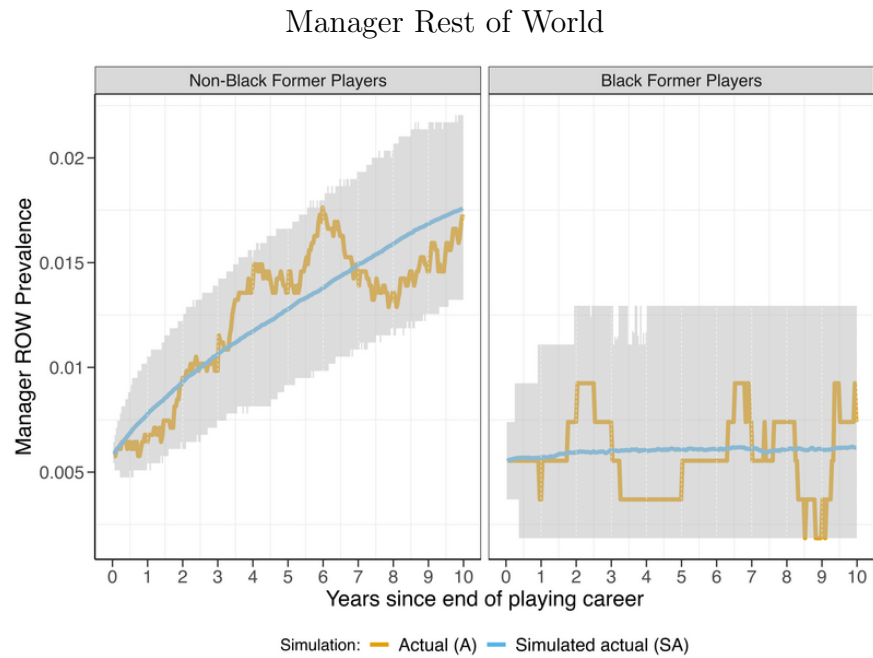
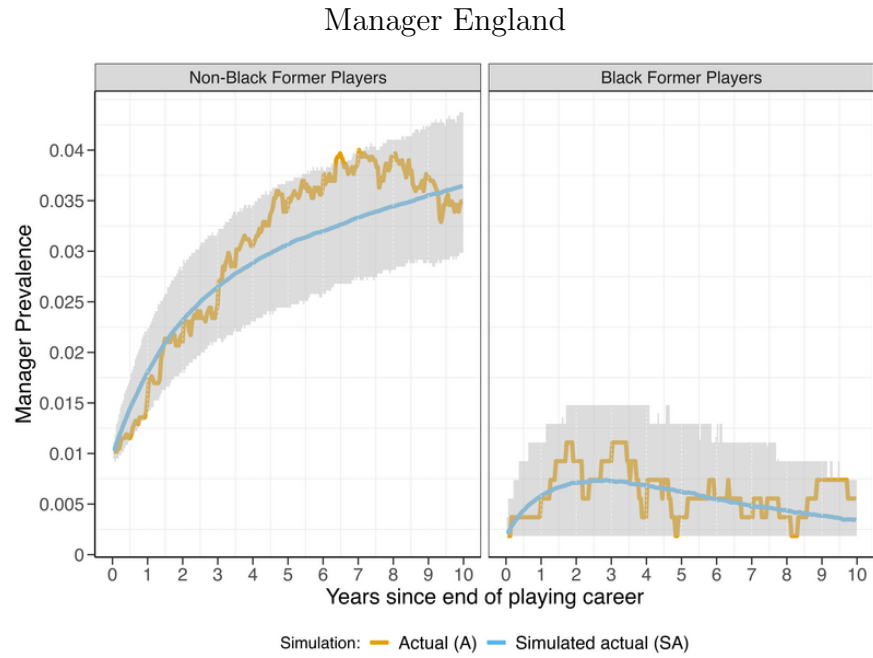
In this appendix, we report the results of our simulation analyses for a subsample of players with UK nationality. We refer to the main text and technical appendix for details on methodology.

Table C.1: Entry into Managerial Labour Market by Race, UK Nationals Only

Dependent variable:	Any Job in Football			Pipeline Job		
	All	All	in England	All	All	in England
	(1)	(2)	(3)	(4)	(5)	(6)
Black	−0.139*** (0.021)	−0.128*** (0.020)	−0.102*** (0.020)	−0.118*** (0.020)	−0.123*** (0.020)	−0.101*** (0.019)
UK and Other		0.098*** (0.025)	0.068*** (0.024)		0.080*** (0.025)	0.049** (0.023)
Attacker		−0.238*** (0.031)	−0.238*** (0.030)		0.010 (0.030)	−0.008 (0.028)
Midfielder		−0.215*** (0.029)	−0.205*** (0.028)		0.028 (0.028)	0.023 (0.027)
Defender		−0.199*** (0.030)	−0.204*** (0.029)		0.038 (0.029)	0.019 (0.027)
Average Y_i Non-Black	0.29	0.29	0.25	0.25	0.25	0.22
Year of Birth FE	No	Yes	Yes	No	Yes	Yes
Player performance	No	Yes	Yes	No	Yes	Yes
Observations	3,490	3,490	3,490	3,490	3,490	3,490
R ²	0.013	0.180	0.163	0.010	0.174	0.157

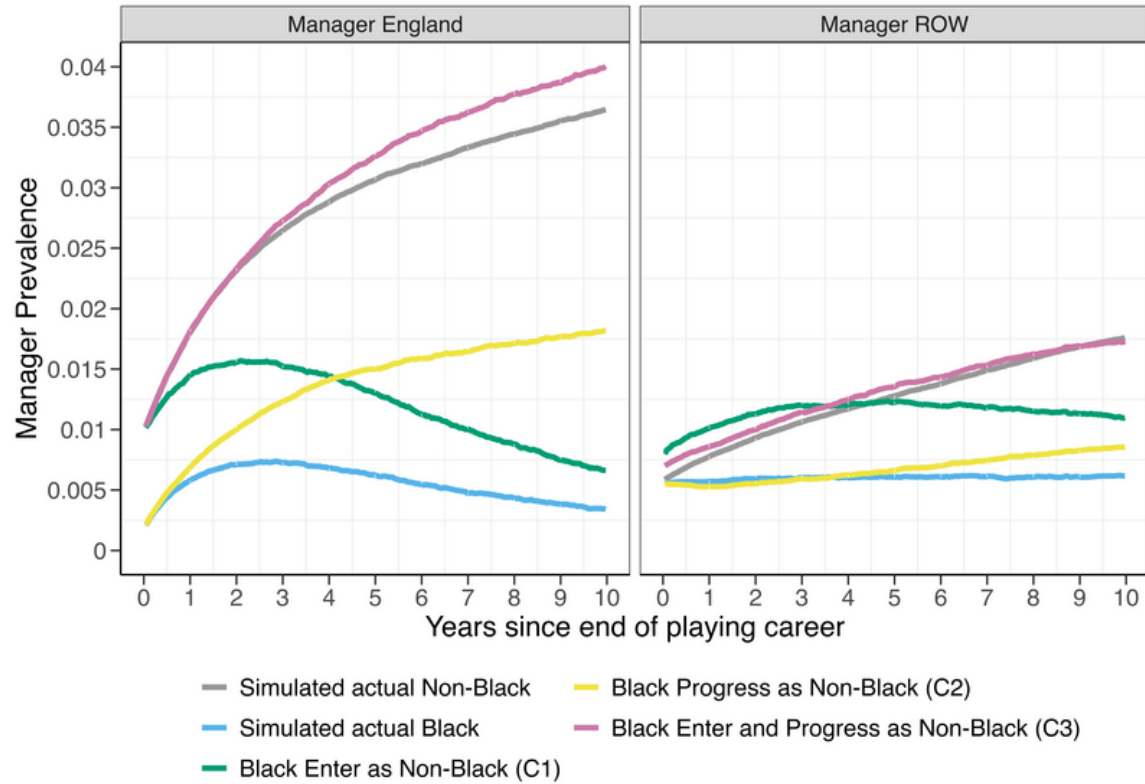
Notes: This table repeats Table 3 using the subsample of former players holding a UK nationality. Columns (1)–(3) are linear probability models for obtaining any non-playing job in football (anywhere, without controls in column 1 and with the full set of controls in column 2) and any non-playing job in England (column 3). Columns (4)–(6) are for holding a pipeline (managerial) job: anywhere without controls (4), anywhere with controls (5), and in England (6). Where included, controls are year-of-birth fixed effects, nationality status (base = UK-only), playing position (base = goalkeeper), national-team experience and appearances, and playing performance by tier. Significance is indicated as follows: * p-value < 0.1; ** p-value < 0.05; *** p-value < 0.01.

Figure C.1: Simulated and Actual Manager Prevalence UK Players



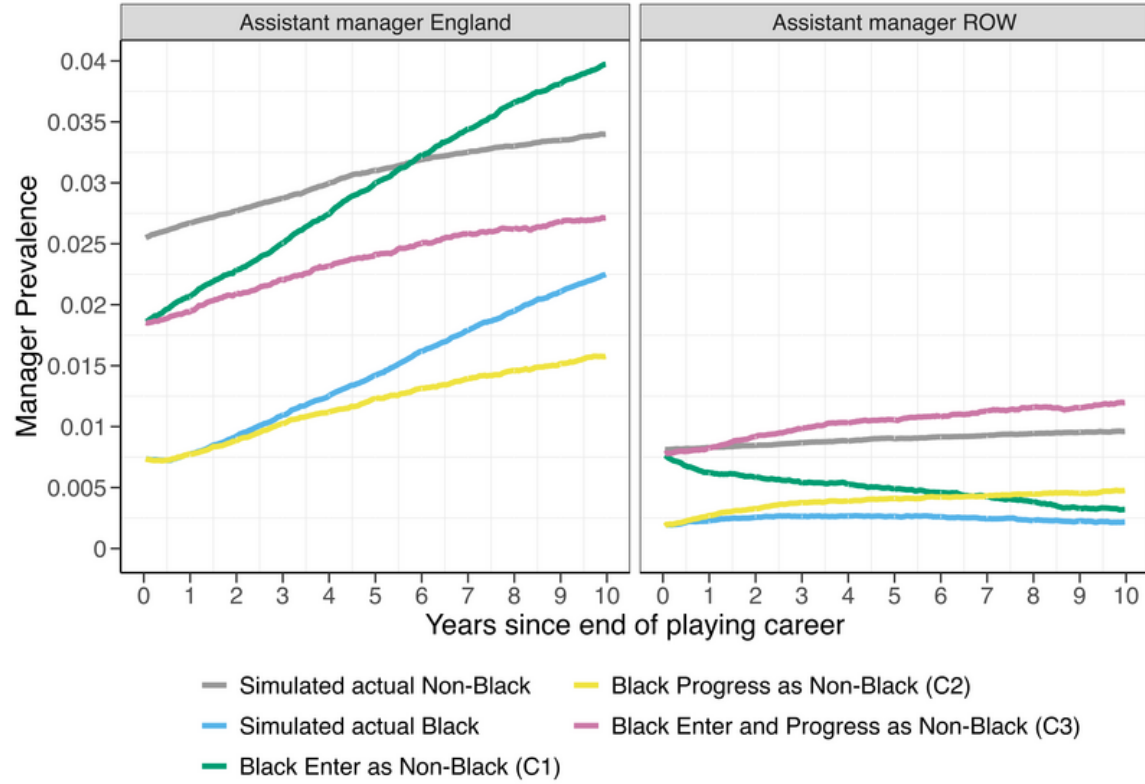
Notes: This figure displays the actual and simulated prevalence of the manager position. The simulated line represents the average derived from 1000 replications. The shaded grey area indicates the 95% confidence interval, calculated from the 2.5th and 97.5th percentile values of the prevalence distribution for each 14-day period, where the distribution is defined by the 1000 replications.

Figure C.2: Simulated Manager Prevalence UK Players



Notes: This graph illustrates counterfactual simulations of manager prevalence for both Black and non-Black former players with UK nationality. The blue line represents the simulated actual (SA) prevalence for Black former players and the grey line for non-Black former players. The green line (C1) indicates the prevalence of managers when Black former players transition away from unemployment as if they were non-Black. The yellow line (C2) depicts the progression of Black former players through the ranks once employed, modeled as if they were non-Black. The purple line (C3) reflects manager prevalence when all transition probabilities are modeled as if Black former players were non-Black.

Figure C.3: Simulated Assistant Manager Prevalence UK Players



Notes: This graph illustrates counterfactual simulations of assistant manager prevalence for both Black and non-Black former players with UK nationality. The blue line represents the simulated actual (SA) prevalence for Black former players and the grey line for non-Black former players. The green line (C1) indicates assistant manager prevalence when Black former players transition away from unemployment as if they were non-Black. The yellow line (C2) depicts the progression of Black former players through the ranks once employed, modeled as if they were non-Black. The purple line (C3) reflects assistant manager prevalence when all transition probabilities are modeled as if Black former players were non-Black.

D Technical Explanation of Simulation Model

To quantify the aggregate contribution of racial discrepancies at entry, progression, and exit, we perform a series of counterfactual simulation exercises in which Black former players are assigned the predicted transition probabilities of otherwise similar non-Black players for specific career phases.

Transition Model

For each former player, we record their job state and the job state 14 days prior at every 14-day interval over the first ten years following the end of their playing career. We distinguish eight job states: Manager England, Manager ROW, Assistant Manager England, Assistant Manager ROW, Youth England, Youth ROW, Other Staff, and No Job. The sample spans intervals from day 15 through day 3,650, yielding up to 261 observation points per player.

We estimate a multinomial logit model as in Equation (4), with the current job state as the outcome and No Job as the reference state for exposition. The key explanatory terms are a three-way interaction of the Black indicator ($Black_i$), days elapsed since the end of the playing career (T_{it}), and the previous job state 14 days ago ($S_{i,t-1}$). The days-elapsed term enters linearly. Player-level controls X_i (hours played by tier, goals, assists, position, year of birth, national-team experience, national-team appearances, and nationality) enter the model without interactions. A separate multinomial logit is estimated for the initial state on day 15 using the same player-level controls but omitting the days-elapsed and previous-state terms, which are not relevant at career onset.

Simplified Transition Model

Presenting all coefficients for the estimated multinomial logit is not feasible. Instead, Table C.1 presents coefficient estimates for a simplified version of the transition model in which the days-elapsed term enters as a linear control rather than as part of the three-way interaction. Each column corresponds to a destination job (reference: No Job). Panel A reports the previous job coefficients for non-Black players, capturing the baseline persistence and mobility patterns. Panel B reports the Black indicator and Black $\times$ previous-job interaction

terms, showing how Black former players' transitions differ from non-Black former players conditional on each origin job role. While these coefficients do not capture the full richness of the transition model we use for the simulation, they may serve to provide intuition into the working of the model.

Table C.1: Simplified Career Transition Model

Destination:	Mgr Eng	Mgr ROW	Asst Mgr Eng	Asst Mgr ROW	Youth Eng	Youth ROW	Other Staff
<i>Panel A: Non-Black baseline transitions (ref. previous state: No Job)</i>							
Mgr England	11.819*** (0.065)	3.495*** (0.001)	4.886*** (0.005)	3.513*** (0.001)	3.962*** (0.001)	3.184*** (0.000)	3.793*** (0.001)
Mgr ROW	4.043*** (0.002)	11.276*** (0.055)	3.581*** (0.001)	5.044*** (0.006)	3.187*** (0.000)	5.213*** (0.002)	4.350*** (0.003)
Asst Mgr England	6.070*** (0.016)	3.787*** (0.001)	11.684*** (0.052)	4.676*** (0.002)	5.779*** (0.006)	3.858*** (0.000)	4.666*** (0.004)
Asst Mgr ROW	4.143*** (0.001)	6.503*** (0.019)	5.398*** (0.003)	12.441*** (0.061)	4.001*** (0.000)	7.073*** (0.009)	5.436*** (0.005)
Youth England	6.709*** (0.003)	5.621*** (0.001)	8.168*** (0.016)	6.086*** (0.001)	14.250*** (0.015)	6.165*** (0.000)	6.311*** (0.002)
Youth ROW	5.061*** (0.000)	6.896*** (0.004)	4.568*** (0.000)	7.370*** (0.009)	5.261*** (0.000)	13.699*** (0.011)	5.942*** (0.002)
Other Staff	5.554*** (0.005)	5.214*** (0.007)	5.981*** (0.008)	5.756*** (0.006)	5.857*** (0.003)	5.853*** (0.003)	12.543*** (0.060)
<i>Panel B: Black effect and interactions (ref. previous state: No Job)</i>							
Black	-1.201*** (0.006)	-0.896*** (0.028)	-0.859*** (0.008)	-0.592*** (0.024)	-0.679*** (0.004)	-0.254*** (0.006)	-0.585*** (0.021)
× Mgr England	0.094*** (0.006)	-3.542*** (0.000)	-4.585*** (0.000)	-5.053*** (0.000)	-3.473*** (0.000)	-2.888*** (0.000)	-4.072*** (0.000)
× Mgr ROW	-4.152*** (0.000)	0.555*** (0.018)	1.087*** (0.000)	0.680*** (0.002)	-3.168*** (0.000)	0.208*** (0.001)	0.713*** (0.001)
× Asst Mgr Eng	1.204*** (0.001)	2.229*** (0.000)	1.516*** (0.004)	1.018*** (0.000)	1.277*** (0.001)	-3.332*** (0.000)	1.859*** (0.001)
× Asst Mgr ROW	-2.878*** (0.000)	0.663*** (0.007)	1.388*** (0.001)	-0.139*** (0.016)	-2.749*** (0.000)	-0.706*** (0.001)	0.438*** (0.001)
× Youth Eng	-0.302*** (0.000)	1.212*** (0.000)	0.258*** (0.002)	1.001*** (0.000)	0.025*** (0.003)	-4.117*** (0.000)	-0.321*** (0.000)
× Youth ROW	-3.018*** (0.000)	-0.745*** (0.000)	-2.877*** (0.000)	-0.107*** (0.003)	-3.140*** (0.000)	-0.768*** (0.004)	0.494*** (0.001)
× Other Staff	0.844*** (0.001)	1.295*** (0.002)	0.876*** (0.001)	0.377*** (0.001)	1.350*** (0.001)	1.254*** (0.002)	0.788*** (0.014)
Observations	1,240,200	1,240,200	1,240,200	1,240,200	1,240,200	1,240,200	1,240,200

Notes: The table reports coefficients from a simplified multinomial logit career transition model. The dependent variable is the job state at the next 14-day interval; the reference outcome is No Job (shown as “—”). Panel A shows the previous job state coefficients for non-Black players (reference previous state: No Job). Panel B shows the Black indicator and Black × previous-state interaction terms, capturing how Black players' transitions differ from non-Black players. The model additionally controls for days elapsed since end of playing career (linear), hours played by tier, goals, assists, playing position, year of birth, and nationality. The full simulation model additionally interacts Black and the previous job state with days elapsed. Standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Simulation Procedure

We simulate the career trajectory of each player 1000 times. In the simulated-actual exercise, each run begins from the player’s actual job state on day 15. In counterfactuals that alter entry conditions, the day-15 state is instead drawn from the separate initial-state multinomial logit after setting the race indicator to non-Black. At each subsequent 14-day step, estimated transition probabilities from Equation (4) are used to draw the next job state, which then becomes the previous-state input for the following step. This iterates through day 3,650. Figures 7 and A.2 validate the procedure by comparing the average simulated career paths against the actual observed paths.

Counterfactual Simulations

We implement three counterfactual scenarios:

- (i) *Entry as non-Black (C1)*. Before a player has ever held a job, their race indicator is set to non-Black when predicting each next state. The initial state on day 15 is also drawn using the non-Black race indicator and the initial-state model. Once a player has ever been employed, their actual race governs all subsequent transitions. This scenario isolates the effect of racial discrepancies at labour market entry.
- (ii) *Progression as non-Black (C2)*. Once a player has ever been employed, their race indicator is set to non-Black when predicting each next state; actual race is used while still in unemployment. This scenario isolates the effect of racial discrepancies in career progression, capturing differential probabilities of promotion, demotion, and job exit.
- (iii) *Entry and progression as non-Black (C3)*. The race indicator is set to non-Black at all transitions regardless of employment history. This combines both effects and serves as a consistency check: if race-specific transition probabilities explain the gap, assigning Black former players non-Black transition probabilities should approximately reproduce the observed career trajectory of non-Black former players, with residual differences attributable to differences in observable characteristics X_i .

The final step in this process is to visualize the result. We calculate the simulated prevalence in each job state by race and plot this prevalence across the first ten years after a player's career ends. We calculate simulated prevalence in each job state by taking the average prevalence derived from 1000 counterfactual simulations.

It is important to recognize that this simulation approach does not take labour market equilibrium effects into account. The underlying assumption is therefore that an increase in Black employment is possible without generating job shortages. If an increased influx of Black candidates were to create more intense competition for a limited set of job opportunities, this would conceivably raise the bar for all candidate managers of either racial group. As such, that may generate second order effects in the prevalence of Black managers.