



Reversing the Queue: Performance, Legitimacy, and Minority Hiring

Andrew Hill
David Thomas

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**Reversing the Queue:
Performance, Legitimacy, and Minority Hiring**

Andrew Hill

Doctoral Candidate in Management

ahill@hbs.edu

Harvard Business School

David Thomas

H. Naylor Fitzhugh Professor of Business Administration

dthomas@hbs.edu

Harvard Business School

Abstract: Studies of minority hiring have found that poor-performing firms or firms in highly competitive contexts are more likely to hire minority candidates. However, most work has examined hiring for entry and mid-level positions, not senior management. Management positions differ in terms of the amount of uncertainty in identifying candidates qualified for the job; in the intensity of external evaluations of both managerial and firm performance; and in the level of accountability for that performance. Furthermore, the influence of senior minority managers on hiring practices may differ substantially, depending on where a manager sits in the firm's hierarchy. Examining hiring practices on coaching staffs of teams in America's National Football League, from 1970-2007, we find that better-performing teams are less likely to hire minorities to fill lower-level and mid-level coaching positions (as predicted by prior literature on labor queues), but that such teams are more likely to hire minorities into leadership positions. We also find that minority head coaches hire more minorities for subordinate coaching jobs, but that the presence of a minority offensive or defensive coordinator (with a white head coach) is a significant, negative predictor of minority hiring in junior and mid-level positions.

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INTRODUCTION

Since the passage of the Civil Rights Act of 1964, the steady rise in black managerial representation in corporate America has been taken as an indicator of racial progress (Stainback and Tomaskovic-Devey, 2009; Krymkowski and Mintz, 2007). However, research in this area is unequivocal that a white male advantage in access to managerial jobs persists in both job status and level of authority (Maume, 1999; Stainback, et al. 2005; Stainback and Tomaskovic-Devey, 2009; Elliott & Smith, 2001). Around seven percent of all corporate managers are African-American, but only five blacks are CEOs of Fortune 500 companies¹, and blacks represent less than one percent of corporate officers in those corporations. It is therefore hardly surprising that (with few exceptions, see Thomas and Gabarro, 1999) examinations of racial minority representation in management have tended to aggregate across managerial positions.

This paper explores 1) macro-level (the impact of firm performance) and 2) micro-level (the impact of minority composition of senior management) determinants of minority composition. In the first case, studies have found that minorities are more likely to be hired by lower status firms and firms in tight competitive environments (Reskin and Roos, 1990; Wallace and Chang, 1990; Smith, 2002; Tomaskovic-Devey, et al, 2006), Furthermore, within firms, high status jobs are often closed to minorities (Tomaskovic-Devey, 1993). In the second case, prior research has found that managers prefer to hire similar others: minority subordinates are more likely to be hired by minority managers (Kanter, 1977; Elliott and Smith, 2004).

This paper responds to a call for research that explores contingent relationships in racial composition, and that investigates the causal mechanisms driving minority hiring decisions (Reskin, et al, 1999). It poses two questions: 1) How does firm performance influence the hiring of minorities into senior and subordinate management positions? 2) How does the presence of minorities in senior management positions affect the racial composition of subordinate management? We examine this

¹ <http://www.blackentrepreneurprofile.com/fortune-500-ceos/>

impact at different positions in the managerial hierarchy, and link prior research on homophily to the phenomenon of “moral credentialing” (Monin and Miller, 2001).

Although minority representation in senior management remains low, it is increasing, and we have reason to question whether the forces that shape minority hiring at the lower levels of firm hierarchy have the same efficacy in the hiring of senior managers. At the risk of stating the obvious, not all management positions are equal. They differ in terms of the amount of uncertainty in identifying candidates qualified for the job; in the intensity of external evaluations of both managerial and firm performance; and in the level of accountability for that performance. We expect that poor performing firms are more sensitive to each of these characteristics, and that their presence moderates the relationship between firm performance and minority hiring. Thus, in addressing the first question, we hypothesize that poor performing firms are more likely to hire minority candidates into lower-level management positions, but less likely to hire black senior executives.

Furthermore, once an organization has a minority leader in place, the overall dynamics in hiring minorities may be significantly altered. In addressing the second question, we hypothesize that black senior executives are less subject to attribution biases, and better able to evaluate candidate potential irrespective of race; they are therefore more likely to hire black managers at all levels, particularly into positions where minority representations has been lowest.

We take advantage of a very specific industry context to study these dynamics, the US’s National Football League (hereafter called the NFL, or the League). We use data gathered between 1970 and 2007 on the selection of head coaches, their direct reports and lower level coaching staff. This follows the choice of other labor market scholars who have found the professional sports industry amenable to examining questions related to labor market dynamics (Fee et al., 2006). The context provides complete

and unambiguous data on performance, and richer information on organizational conditions, the labor pool, and other environmental variables, than tends to be available for other industries.

Our findings suggest that performance has a significant effect on the likelihood of selecting blacks for coaching positions throughout the managerial hierarchy, as well as for overall managerial integration (Goff and Tollison, 2009; Goff, et al., 2002). As discussed above, studies have found higher minority representation in lower status firms and jobs. We find that this relationship confirmed in the selection of blacks for lower level coaching positions. However, the performance effect is reversed in predicting the likelihood of selecting a black head coaches, suggesting that key characteristics of the job moderate the relationship between firm status and minority hiring. We contribute to the literature on race and managerial selection by theorizing about why the dynamics of selection may differ depending upon where a position is located in the hierarchy and other differentiating characteristics.

We also find that when blacks occupy the chief executive role, i.e., head coach, they are more likely that white head coaches to select black coaches. However, the effect does not descend down the hierarchy. White head coaches with black coordinators (the second most senior position on the staff) are significantly *less* likely to hire other black coaches.

Finally, we theorize about the role of status, risk, performance visibility and racial arbitrage in shaping the dynamics evident in our empirical findings.

THEORY

Organizational Performance and the Hiring of Minorities

What impact does firm performance have on the hiring of minority candidates? Theories of labor queues, status closure, and competitive intensity suggest that poor performing firms are more likely to hire minority candidates, and that minorities representation is particularly low in high-status jobs. The theory of labor queues posits that higher status jobs go to privileged groups, and lower-status jobs trickle

down to the less-privileged groups that are figuratively “at the end of the line” and demand lower wages. In the post-war era, women saw increases in representation in jobs that had exhausted the supply of qualified men (Reskin & Roos, 1990). Furthermore, within an industry, lower status firms tend to pay less and do not have access to the most preferred applicants, who are hired by high-status firms. Status closure offers a related analysis: within firms, minorities are likely to be hired into lower-status jobs (those that offer fewer opportunities for advancement), and to be largely excluded from high-status roles (Tomaskovic, 1993). The competitive intensity view suggests that tight profit margins and the drive for efficiency will lead employers to relatively cheaper but equally productive minority labor. Women are overrepresented in sectors dominated by small firms and characterized by slim profits (Wallace and Chang, 1990). Another study found that restaurants with higher prices were more likely to have male servers (Neumark, et al, 1996). These theories agree in their prediction that worse-performing firms or firms in more straitened competitive environments are more likely to hire minority employees.

The innovation perspective has more ambiguous implications. When one group is largely excluded from a competitive environment, firms that are “early-adopters” of minority employees may leapfrog their competitors through “racial arbitrage”, as the first hires may be acquired at a discount, but their expected abilities that should well exceed the average abilities of the existing pool of talent—a “Jackie Robinson effect”. Indeed, baseball teams and college basketball teams that integrated early generally outperformed those that integrated later (Gwartney & Howarth, 1974; Goff, et al, 2002.) Opportunities for racial arbitrage are greatest where (all else equal) minority representation is lowest. But who is more likely to seize such opportunities? Poor performing firms are probably less complacent than successful firms, and may be more attentive to undervalued resources. But successful firms are successful for a reason, and may be particularly competent in identifying and valuing underutilized resources—in this case talent in underrepresented groups. Goff et al (2002) suggest the latter, finding

that early integrators tended to be more successful than competitors *before* integrating, as well. They argue that this is consistent with superior entrepreneurial skill—recognition of undervalued resources. (Good coaches have it, and integration represents an extension of that skill.) This result that somewhat contradicts the predictions of labor queuing. How do we reconcile them?

Theories of organizational legitimacy (Powell & DiMaggio, 1989) and risk aversion (Thomas & Gabarro, 1999) suggest that the connection between firm performance and minority hiring may be more nuanced than either of those views. First, if there is a limited understanding of the relationship between the qualifications of the job candidate and his/her performance in the job, attribution biases and group stereotypes are likely to play a larger role in the hiring decision (Kanter, 1977). When a company hires a new leader, information asymmetry makes it impossible to know whether the new leader truly has the skills and knowledge required for success. Racial and gender biases tend to exaggerate this asymmetry (Reskin, 2000). The perceived risk of a minority hire will be greater than that of a non-minority hire, all else equal (Thomas and Gabarro, 1999). In such situations, low status or poor performing firms may lack legitimacy to defend hiring decisions that do not conform to a generally accepted type, and seek candidates who satisfy external assessments of the quality of a hire; or such organizations may avoid hiring minorities because the firms are less tolerant of risk and uncertainty in identifying qualified candidates would be heightened for minority candidates.

Second, when a firm's performance is highly visible and senior management or other key personnel are also visible and held accountable for that performance, poor performing firms may be less likely to hire minority candidates into such roles. Attribution biases apply not only to firms but also to society as a whole. Stakeholders perceive white candidates as more prototypical leaders than candidates from racial minorities, particularly when the leader is seen to be more responsible for an organization's success (Rosette, et al, 2008). We expect that poor performing firms will be more sensitive to adhering

to such prototypes when filling high-risk positions. These firms lack a recent history of making good hires, and seek to reassure stakeholders. Such firms may have less tolerance for the additional scrutiny a minority in a key position is likely to receive. By the same token, better performing firms may be less sensitive to public assessments regarding such hires.

Goff, et al's (2002) finding that good baseball and basketball teams were more likely to be early integrators supports this view. First, players' contributions to team performance are transparent and generally unambiguous, and subject to intense external scrutiny. Token minorities whose work is particularly visible to the majority group experience high levels of performance pressure (Kanter, 1977; Jackson, et al 1995). In sports, their coaches may experience high levels of performance pressure, as well. Second, while the requisite skills of players may be discrete and relatively easy to evaluate, coaches are likely to be more sensitive to predictive errors when they have a recent history of poor performance. Prior performance informs subsequent evaluations of risk. From the perspective of stakeholders (the media, fans, university administration, students), the coach's choice of integrating an all-white college basketball team (whose fan base is predominantly white) is substantively different when the team is struggling than when it is successful. A successful coach has credibility, and stakeholders are more likely to give him/her the benefit of the doubt.

As a preliminary hypothesis, we therefore expect that better performing firms are more likely than poor performing firms to hire minorities into positions when concerns of legitimacy are most salient: namely, when there is 1) uncertainty regarding the qualifications for the job; or 2) the job is seen as crucial to firm performance, *and* firm and individual performance are both highly visible and subject to external evaluations. When such conditions do not obtain, the relationship between firm performance and minority hiring that is predicted by theories of labor queues, status closure, and competition should hold: namely, poor-performing firms are more likely to hire minorities, and this tendency is even more

pronounced in jobs that have higher levels of status closure (where racial arbitrage opportunities are greatest).

Minority Senior Management and Hiring Minority Subordinates

How do minority managers at the top and middle levels of firms impact the hiring of minorities into other positions? Minorities in top-level positions are a relatively recent phenomenon, and there is little empirical work describing their impact on minority representation throughout the organization. However, numerous studies of lower and middle-level managers have demonstrated that higher proportions of minority managers are associated with more minority hiring. Several perspectives explain these results. Theories of bottom-up ascription suggest that minority managers are hired or promoted because they match the social and ethnic characteristics of those they supervise (Reskin & McBrier, 2000; Elliot & Smith, 2001). In this way, the minority composition of the lower level of operations shapes that above it. Homophily and social identification predict a similar effect, albeit with the causal arrow reversed: managers prefer to hire subordinates with whom they share important characteristics (Kanter, 1977; Elliott and Smith, 2004). Network effects also predict that minority managers would hire minority subordinates with greater frequency because the managers have more ties to qualified candidates from that group. A study of networks within an advertising firm found significant evidence of homophily in the network ties of both men and women (Ibarra, 1992). Finally, minority managers may hire minority candidates for altruistic motives, seeking to aid others in pursuing a similar career.

In this area, we do not address theoretical gaps nor do we attempt to adjudicate between the various explanations for the observed results. (We lack data on the racial composition of labor, so controlling for bottom-up ascription is not possible.) However, we extend the analysis of the minority managers, exploring the impact of different types of minority composition in senior management (minorities in top tier and second tier positions), and examining their impact on hiring in all subordinate

positions, as well as in positions with high status closure. As a preliminary hypothesis, we expect that firms led by a minority manager will be more likely to hire minorities at all levels, particularly into positions with high status closure. We also expect that firms with second-tier managers who are minorities will exhibit similar tendencies, and that firms that combine minorities in top and second-tier positions will exhibit the highest levels of minority hiring.

Management and Minorities in Professional Football

1) How does firm status or performance affect the likelihood of hiring minorities? 2) How does a minority presence at different levels of senior management affect the hiring of minority subordinates? The US's National Football League (NFL) offers an excellent setting to explore these questions. First, the characteristics of coaching jobs change significantly as coaches move up the hierarchy. Lower-level jobs are low-visibility, focused in terms of impact, and task-oriented, while the top position of head coach has all of the characteristics of a high-risk position: high visibility, high performance impact, and uncertainty regarding qualifications.

The NFL is a multi-billion dollar business (32 teams worth over \$1bn each, on average), with a racially diverse population in both labor (players) and management (coaches). Professional football operations also have a highly corporate structure, with clearly delineated paths from junior to senior positions (Keidel, 1987). Although it is not strictly accurate to equate a head coach to a CEO,² the head coach is nevertheless the public face of the organization and the person most directly responsible for

² The head coach is usually not the most senior person in the organization. Figure 1 omits two important groups: the owners and the "front office", or personnel and business operations. All NFL franchises but one are privately owned, and the owner (or owner group) has final say on when a coach is fired and which head coach candidate is hired. In this respect, the owner is akin to a corporate board. Furthermore, many franchises have a senior manager who is not a coach, usually called the "General Manager" (GM). The GM heads the front office, but the authority of the GM varies widely. The most powerful GMs have significant authority in decisions involving the player roster (what players to draft, what free agents to acquire, what trades to make), player and coach compensation, hiring of coaches, etc. A powerful GM can exert significant influence over the owner's decision in the hiring and firing of a head coach. However, in most cases, the GM and the Head coach consult on most important decisions in football operations, and the relationship is often not one of senior-subordinate, but of different positions at the same level in the organizational hierarchy. In some cases, the Head coach is also the GM. (Author interview with former GM, 2009.)

organizational performance. Together with the head coach, the offensive coordinator and defensive coordinator constitute a top management team, and they are supported by lower level coaches (see Figure 1)³. Most staffs have four levels of coaches: 1) the Head Coach; below him, 2) the offensive and defensive coordinators, as well as the special teams coordinator⁴; 3) the offensive and defensive position coaches; and 4) the assistants to position coaches, special teams assistants, and quality control assistants (Fee, et al., 2006).

Organizational performance in the NFL is unambiguous and highly visible. Teams measure their success in wins, and senior management is held accountable for poor performance. There is frequent turnover at all levels of management, so the NFL offers numerous opportunities to observe how the circumstances of the organization shape hiring decisions. Crucially, all of this information is public, and we can observe it over time.

Insert Figure 1 Here

Getting a coaching job in the League is difficult. NFL coaches stand at the pinnacle of their profession, and even the most junior positions are hotly contested.⁵ The competitive environment is unforgiving, and impatient of mediocrity. The overwhelming majority of NFL head coaches, and offensive and defensive coordinators are hired from within the League's coaching ranks.

African-Americans occupy a significant proportion in NFL coaching positions; insofar as their proportion of in management exceeds the proportion of African-Americans in the general population. (In the 2007 season, approximately 30% of current NFL coaches were black. See also Table 1.) However,

³ QB is Quarterback. RB is Running Back. OL is Offensive Line. TE is Tight End. WR is Wide Receiver. DL is Defensive Line. DB is Defensive Back. LB is Linebacker. Figure 1 is not a complete picture of a staff. For the purposes of clarity, the most junior assistant coaches (assistants to the position coaches, quality control coaches, assistants to the special teams coach), and other special-titled coaches (assistant head coach, senior assistant coach, consultant) are omitted.

⁴ This paper does not consider the special teams coordinator, who is not as high in the hierarchy as the other coordinators, but would be higher than most position coaches. It is also a position that lies off of the path to a head coaching job. Whereas almost all head coaches have had experience as either an offensive or defensive coordinator, only a handful have special teams coordinating experience (usually prior to another coordinator role).

⁵ NY Times, Sep. 27, 2009, "N.F.L. Quality-Control Coaches Learn It All"

African-American representation in top managerial positions has persistently lagged black representation in NFL coaching at lower levels. Just 16% of head coaches⁶ and 13% of offensive coordinators hired this decade were African-American, about half the proportion of black coaches in all positions. Only at defensive coordinator have black coaches achieved parity with lower level representation.⁷

Insert Table 1 Here

Finally, the NFL offers a good setting to examine the impact of senior management composition on lower-level hiring practices because the senior coaches have significant discretion over hiring decisions. Coaching staffs are routinely dissolved and reformed. In terms of the chronology of succession the owner (and perhaps the General Manager) hires the Head Coach, who then assembles the remainder of the coaching staff, typically hiring the Offensive and Defensive Coordinators, first, and then hiring the lower level coaches. During a typical succession, 68% of the coaching staff turns over. Predictably, staffs with head coaches who are promoted from within experience a lower turnover (44%) than staffs with head coaches brought from outside the team (79%).⁸

HYPOTHESES

Firm Performance and Minority Representation

⁶ This has led to some introspection on the NFL's part. In recent years, it has implemented "The Rooney Rule", requiring that all teams seeking to hire a Head Coach interview at least one minority candidate. In addition, the League has pursued mentoring programs for minority coaches, connecting younger coaches with more experienced colleagues; it has compiled a video interview database to ensure that information on all coaches in the League is readily available to all teams; and it has provided professional training in interviewing and presentation skills to coaches, on the assumption that minority coaches have less background in these areas. In December, 2002, the NFL implemented the "Rooney Rule" (so named after Daniel Rooney, owner of the Pittsburgh Steelers and Chairman of the "NFL Committee on Workplace Diversity" that recommended the measure). See Appendix A. (Author interview with Michael Huygue, May 2009. Mr. Huygue is a former Director of Player Personnel for the Jacksonville Jaguars, and a former employee of the NFL. He conducted a study for the NFL commissioner's office on the hiring of minority coaches.)

⁷ Furthermore, black representation in coaching significantly lags black representation amongst the players. Coaches are always former players (though not always with professional experience). Almost two-thirds of current NFL players are black, and the proportion has exceeded 60% since the 1980's. (Though the figures are not available to us, we suspect that similar numbers describe African-American representation amongst players at top collegiate programs.)

⁸ Of the 14 African-American head coaches hired during the period of analysis, 13 were outside hires, with a mean staff turnover of 78% (the lone inside hire had a staff turnover of 23%).

At the top of the hierarchy, the Head coach integrates offensive and defensive strategy, manages the coaching staff and (in tandem with the coaches) the players, and is the public face of the team. Upon hiring, head coaches (consulting with the owner and the GM) hire the remainder of the coaching staff. They typically hire coordinators first, and then work in tandem with their coordinators to hire position coaches and other junior assistants. The level of engagement between the head coach and the players during practices and games varies significantly. The head coach also determines (again in concert with the owner or GM) the team's roster.⁹ While position coaches and coordinators also make recommendations, the final decision rests with the head coach and the front office. During games, most head coached will have final say on uncertain plays and other key tactical decisions. The head coach's job is the most complex on the staff, and this complexity explains part of the difficulty NFL teams experience in hiring good head coaches (median tenure of an NFL head coach is three seasons). The precise set of skills and experiences that make a good NFL head coach are not well understood. This uncertainty is compounded by two other factors. First, the difficulty in evaluating good coordinators (see below) affects the market for head coaches, since most first-time head coaches are coordinators prior to the hire. Second, the pressure a head coach faces is far greater than that facing any other coach on the staff. The head coach personifies the organization and his held personally accountable for its performance. He is subject to tremendous external scrutiny. One day a week, 16 weeks a year, the product of a head coach's skill is displayed to millions. As one former NFL head coach put it, "Every man in America between the ages of 18 and 85 thinks he can do the job better than you,"¹⁰ an unusual situation for a senior manager.

⁹ NFL teams have limits on the number of players they can maintain on their active (meaning eligible to play) roster. In the pre-season, an NFL gradually cuts its roster down from 80 players (at the start of the 4-game pre-season schedule) to 53 players for the regular season. NFL rosters turn over as much as 30% a year, so this aspect of a head coach's responsibilities is significant.

¹⁰ Author's interview with a former NFL coach, July 24, 2009.

Therefore, the nature of a head coaching job in the NFL suggests that legitimacy criteria may be particularly salient to the decision. Still, status closure remains a significant force in the hiring of head coaches. Given the combination of 1) information asymmetry in evaluating candidates in the labor market, and 2) intense external evaluations highly visible performance, we hypothesize:¹¹

Hypothesis 1a. Given that a team hires a Head Coach, the higher a team's winning percentage prior to the hire¹², the more likely it is to hire an African-American head coach.

At the 2nd level, the coordinators are responsible for integrating the different positions into a coherent offensive/defensive/special teams unit. They do so by “installing” plays and sets.¹³ During games, offensive plays are called by the offensive coordinator, while defensive plays are called by the defensive coordinator (often in consultation with the head coach in crucial situations). The coordinators’ work is more complex than that of position coaches, involving integration of different types of personnel and development of collective skill in executing strategy and tactics. They do this not only in terms of the team’s own capabilities, but also *relative* to the capabilities and tendencies of an upcoming opponent. There is greater uncertainty in identifying the requisite skills for potential coordinators (particularly if they have no prior experience in the role) than there is in evaluating position coaches. Coordinators are also more subject to external assessments than are position coaches, though not to the same degree as head coaches: coordinators are held (jointly, with the head coach) accountable for the performance of their unit, and for offensive or defensive play-calling. Therefore, coordinators stand between head coaches and position coaches not only in the hierarchy, but also in terms of evaluative uncertainty (in the hiring decision) and intensity of external assessments. This makes it less clear

¹¹ Implicit in all of these hypotheses are controls for relevant team and city characteristics. These will be elucidated in the discussion of the variables.

¹² We test this hypothesis using both winning percentage in the season immediately prior to the hire, and the average winning percentage over the three seasons prior to the hire. Three seasons is selected because it is the average tenure for head coaches.

¹³ A “set” in football is a certain group of personnel and pattern of alignment. Think of sets as distinct configurations of resources. Plays are different possible uses of sets.

whether legitimacy or status closure/queuing forces will predominate. Given this ambiguity, we resort to the familiar, hypothesizing:

Hypothesis 1b. Given that a team hires an Offensive/Defensive Coordinator, the lower its winning percentage in the prior season, the more likely it is to hire an African-American offensive/defensive coordinator.

We have hypothesized that successful teams are more likely to hire an African-American head coach, but what about the impact of team performance on the hiring of junior coaches, controlling for the race of the top management team? At the 3rd level of an NFL coaching staff, the position coaches (e.g. an Offensive Line coach) spend a significant amount of time working exclusively with the players at their position. During practices, position coaches develop and supervise specific drills and exercises to instill and improve skills particular to the position. They also provide training and feedback off of the field in “film sessions” (meeting in which video of games is reviewed). During games, they provide feedback and offer encouragement. In two important respects, the conditions of a head coach’s job (information asymmetry and public performance) that motivated the prior hypotheses do not apply to position coaches. First, information asymmetries for hiring positional coaches are relatively low, since a position coach evaluates and develops discrete, observable skills and behaviors (as opposed to the complex work of team integration, strategy development, and personnel management), and the quality of their work is more readily discerned (players outperform expectations). As such, the skill of a position coach is easier to evaluate objectively than that of coaches above him. Players are paid according to their expected performance, and a good position coach develops players who perform beyond expectations. Second, their work is less subject to evaluations from external stakeholders—position coaches are rarely singled out for praise or criticism by fans or the media.

Therefore, whereas at the senior level, concerns of risk and legitimacy negated the predicted effects of queuing, competition, and innovation; at the positional level, risk and legitimacy concerns are

much less significant. The performance of position coaches is not public insofar as spectators and the media seldom specifically fault (or credit) a position coach for poor (or good) team performance. For these jobs, the processes suggested by extant theory on labor queues, competition and status closure should obtain, predicting that lower status teams hiring more minority positional coaches. Controlling for staff turnover and the race of the senior coaches, we hypothesize:

*Hypothesis 1c. Given that a team hires some number of subordinate coaches, the lower its winning percentage in the prior season, the more African-American subordinate coaches are likely to be hired.*¹⁴

We have proposed that opportunities for racial arbitrage occur most where the minority representation is lowest. We have also theorized that poor performing firms are more likely to pursue a hiring strategy of racial arbitrage in positions where legitimacy concerns are less significant. What explains the differences in black representation at different subordinate coaching positions? How much is bottom-up ascription, how much is status closure, how much is top-down homophily? Anecdotally, the ascription mechanism appears to be a decent predictor of the racial composition of NFL position coaches: since 1970, black coaches have been most represented in coaching positions where players are predominantly black.¹⁵ We can say, based on general observation, that positions such as wide receiver, running back, and defensive back are dominated by African-American athletes. Unfortunately, we do not yet have data on the racial composition of the team rosters to formally explore the differences in these forces and how they interact with team performance. However, by incorporating team and year fixed effects, we can control for unobserved variation in racial composition of the players at different

¹⁴ By hire, we mean hiring position coaches from outside the team, as opposed to promoting from within. The dynamics of promotion within a team are driven by the relationship between organizational performance and vacancies. Good teams typically retain their head coaches, but often lose their coordinators, who are hired as head coaches by other teams. To replace a coordinator, a good team frequently promotes from its pool of position coaches. Junior assistant coaches then are promoted to fill those vacancies. Bad teams are more likely to be subject to wholesale turnover in personnel, since the hiring of a new coach results in 70% staff turnover, on average, and 80% turnover for outside hires. Thus, one expects that promotion opportunities will be more frequent on good teams than on bad. See Fee, et al (2006) for an excellent examination of this dynamic.

¹⁵ From 2000-2007, African-Americans were 70% RB coaches, 49% of WR coaches, and 61% of DB coaches.

positions within teams, over time. With that in mind, we hypothesize that poor performing teams are more likely to pursue racial arbitrage in coaching positions that have the lowest African-American representation, historically:

Hypothesis 1d. Given that a team hires some number of position coaches in roles with historically low minority representation (QB, LB, OL, TE), teams with poor performance in the prior season are more likely to hire African-Americans into those positions.

Minority Top Management and Minority Representation in Subordinates

Turning to the impact that African-Americans in senior positions have on the hiring of minority subordinates, we generally expect that teams with African-American head coaches will hire more African-American coaches. Both bottom-up and top-down processes have effectively explained the impact of minority management on minority hiring. And both predict that minority head coaches will have a higher percentage of minority coaches on their staffs. In some respects, bottom-up ascription is an inadequate framework for understanding minority hiring of top management, as well as overall minority representation on NFL coaching staffs. Bottom-up ascription may help us understand the *placement* of lower level position coaches across all teams (i.e. blacks are broadly more likely to coach certain positions), but in a context in which senior managers typically hire new junior management (as is the case in the NFL, where coaches build their staffs from the outside), the bottom-up approach is inappropriate on practical grounds. Top-down mechanisms and status closure are better-suited to this context.

First, we expect that black head coaches are less affected by attribution biases, particularly surrounding those positions where black representation is low. This is racial arbitrage at the managerial (as opposed to organizational level). Second, altruistic motives may influence the hiring of minority subordinates. Once an African-American coach has achieved the position of head coach, he may be motivated by a desire to contribute to greater equity across the profession. Finally, a network effect may

also operate here. Senior black coaches in the NFL may simply be more familiar with lower-level black candidates. Thus:

Hypothesis 2a. Given that a team hires some number of lower-level coaches, teams with African-American head coaches and/or African-American coordinators will hire more African-American assistant coaches (whole staff) than will non-African-American top coaches.

We have seen that African-Americans have relatively lower representation at high status positions (head coach, offensive coordinator, quarterbacks coach, and linebackers coach). As mentioned above, there should be greater opportunities for racial arbitrage at such positions. Therefore, for hiring position coaches, we hypothesize:

Hypothesis 2b. Given that a team hires at least one coach into a position coaching role with historically low minority representation (QB, LB, OL, TE), teams with African-American head coaches and/or African-American coordinators will hire more African-Americans into those roles than will non-African-American head coaches.

As mentioned above, coordinators play a role in building the coaching staff. They are part of the top management team. Splitting the analysis of subordinate hires into offensive and defensive staffs, we hypothesize the following:

Hypothesis 2c. Given some number of hires of offensive/defensive assistants, Head Coaches with African-American offensive/defensive coordinators will hire more African-American offensive/defensive assistants than will non-African-American head coaches.

And for hiring coordinators, we hypothesize:

Hypothesis 2d. Given that a team hires an Offensive/Defensive Coordinator, African-American head coaches will more frequently hire African-American coordinators than will non-African-American head coaches.

METHODS

Data and Sample

The data in this study was collected by the authors from archival sources in the Pro Football Hall of Fame, in Canton, Ohio. The archives hold media guides from virtually all seasons for every NFL

franchise.¹⁶ Biographical information was compiled from the guides for every coach (meaning assistant coaches as well as head coaches) on every NFL staff, from 1970-2007.¹⁷ In the period of analysis, the data includes 601 team-seasons, and 131 head coach hiring events, and hundreds of subordinate hires. Team performance data and other team facts were compiled from official NFL media guides, and from the NFL's website, NFL.com. 1970 was selected as the first year of analysis because it was the year that the old NFL (founded in 1920, it had grown to 16 teams by 1970) and AFL (a competing league founded in 1960 with 10 teams) merged. Thus, the two leagues created a single market for coaches and players and a unified system of competition.

Measures

Independent Variables

The independent variable measuring performance is the team's winning percentage from the season prior to the hiring (*Win Pct, Prior Yr*). Winning percentage is calculated as $(\text{wins} + .5 * \text{ties}) / \text{total games}$, and ranges between .000 and 1.000. For the hiring of head coaches, we also use a longer term measure of winning percentage (*Average Win Pct, Prior 3 Yrs*).

The independent variables indicating the racial composition of senior coaches are as follows. *Af-Am HC* is a dummy variable indicating whether the head coach is African-American or not (*Af-Am HC*). Similarly, *Af-Am DC*, and *Af-Am OC* are dummy variables indicating whether the offensive or defensive coordinator in that season was black. The combination of an African-American head coach and

¹⁶ A media guide is a booklet produced prior to the start of each season, and provides information for the sports media. In addition to providing a directory of franchise personnel, a guide provides biographical and professional information on the coaching staff. Although the coach's race was rarely listed in the media guides, all but a few guides featured a photograph of every coach. In only a handful of cases was no photo available for a coach (after cross-referencing to other guides in which a coach appeared). As a conservative measure, any coach whose racial categorization differed between the author and the research assistant was assigned to the "Other" category. The analysis groups non-African-American minorities with white coaches, and compares this aggregate group to African-American coaches. (Latino and Other coaches represent less than 1% of all NFL coach-years in the data set.

¹⁷ For years in which a team's media guide was missing, the composition of the staff and relevant biographical information was drawn from other sources, including the NFL's annual record and fact book, "Total Football II", and "the ESPN Pro Football Encyclopedia, 2nd Edition". Because coaches are typically in the NFL for more than a single season, biographical information can be drawn from multiple sources.

offensive/defensive coordinator on the respective staff composition is indicated by the dummies *Af-Am HC x Af-Am DC* and *Af-Am HC x Af-Am OC*.

Dependent Variables

All dependent variables are measured by team-seasons, according to whether or not the contingent event occurs.

- Hypothesis 1a, *Af-Am HC* (see above), used in equations 1 and 2
- Hypotheses 1b and 2d, *Af-Am DC* (see above) in equation 3, and *Af-Am OC* (see above) in equation 4
- Hypotheses 1c and 2a, *Af-Am Jr Staff Hired*, a count of the Afr.-American coaches below the level of coordinator hired by a team in a given year, used in equation 5.¹⁸
- Hypotheses 1d and 2b, *Af-Am QB/LB/OL/TE Hired*, a count of the Afr.-American coaches below the level of coordinator hired by a team in a given year (equation 6)
- Hypothesis 2c, *Af-Am Off Staff Hired* (equation 7), a count of the offensive staff coaches hired (not including the offensive coordinator) who are African-American, and *Af-Am Def Staff Hired* (equation 8), a count of the defensive staff coaches hired (not including the defensive coordinator) who are African-American.

Control Variables

Time is an important control variable for this analysis, since the representation of African-American coaches has increased significantly in recent decades. The period of analysis in all of the models is NFL seasons from 1987-2007. Selecting 1987 as a starting point is the result of grouping years into three-year blocks (to incorporate a time effect without losing observations, since relevant hiring events do not occur every year), and the fact that the first NFL head coach was hired during the 1989 season, so the first hiring occurs during the first three-year period. For all hypotheses predicting the hiring of senior coaches (1a, 1b, 2d), the time variable of the three-year blocks was used. *Expansion Yr* is also used in these models, since in years when a new team joins the league the coaching labor market will likely exhibit unique characteristics. For all other hypotheses, year fixed effects were used (since

¹⁸ Offensive/defensive staff coaches are any offensive/defensive coaches below the level of coordinator. The count of position coaches includes only outside hires, excluding coaches promoted from within.

events are observed in every year of the period of analysis, and no year predicts failure perfectly). *Time* and *Year* fixed effects are excluded from all regression outputs.¹⁹

Likewise, not all teams in the league have hired African-American coordinators of head coaches, so team fixed effects are not used in testing the hypotheses predicting the hiring of senior coaches (1a, 1b, 2d) In all other hypothesis tests, team fixed effects are used, but excluded from the output.

However, in all models several variables are used to control for organizational effects that may impact the dependent variable. First, one may hypothesize that professional ownership (that is, owners who purchased an NFL franchise after achieving great financial success) would be more likely to hire on merit, and therefore less prone to discriminate. The dummy variable *Founder/Family Owner* takes a value of 1 when the owner is the founder or a family member of the founder. The owner's tenure (*Tenure Owner*, a count variable indicating total years of ownership through that season) may also have significance (Goff & Tollison, 2008). Newer owners may be more sensitive to external evaluations of their actions, and less likely to hire minority coaches; or they may be more innovative, and more likely to hire minority coaches. *Personnel Control* indicates what type of decision-structure is in place regarding assembling the player roster, and is a proxy measure for the power of the coach. *Staff Size* indicates the total number of coaches. *Hired HC* is a dummy indicating whether the head coach is in his first season with the team.

Area demographics may also have a bearing on a team's propensity to hire minority coaches (Goff & Tollison 2008). We use 2000 census data, including total population of the team's metropolitan area (*Population*), percentage of the population that is African-American (*Pct Population, Af-Am*), and median household income (*Median Household Inc.*).²⁰

¹⁹ In testing Hypothesis 3, year (and not 3-year group) fixed effects were used, since the dependent variable (number of African-American position coaches hired) is observed in all years, and no observations are lost.

²⁰ This is obviously an imperfect measure of area demography, since our demographic data is for one year, and our period of analysis covers 21 years. We make the tenuous assumption that the numbers aren't varying significantly over the period, or

In examining the probability of hiring an African-American head coach (equations 1 and 2), we control for the characteristics of the coaching labor market, as well as the outgoing coach and specific aspects of the team's performance in the prior season. More vacancies may increase the probability of hiring an African-American head coach. Teams with particularly poor offensive performance may be less inclined to hire coaches with defensive backgrounds, and eligible African-American candidates may tend to come from the defensive side. The outgoing coach may influence the owner's decision-making (for example, firing a powerful, experienced head coach may make an owner more inclined to hire a less experienced head coach who is more willing to share authority with the front office). The variables are as follows: *HC Vacancies* (a count of the number of new head coaches hired that season); *Prior Yr Personnel Control* (*GM*, *HC*, or *Mixed*, with owner-control omitted); *Prior HC Off. Coach* (prior head coach had an offensive background); *Tenure of Prior HC*; *Prior HC, 2nd/3rd Term* (dummies indicating whether he the prior head coach was in his second or third job as a head coach in the NFL); *Def. Imbalance, Prior Yr* (dummy indicating that the team's defense was in a higher tercile ranking of performance relative to its offense); *Off. Imbalance, Prior Yr* (dummy indicating that the team's defense was in a lower tercile ranking of performance relative to its offense);

Hypotheses 1b and 2d examine the hiring of African-American coordinators. In addition to the variables described above, these equations (3 and 4) include: *Hired DC/OC* (if the other coordinator was also newly hired); and *Af-Am Jr. Off. Coaches, Prior Yr* and *Af-Am Jr. Def. Coaches, Prior Yr* (count variables indicating the total number of African-American offensive or defensive assistant coaches in the season prior to that in which the coordinator is hired).

that the variance is similar across teams. Goff & Tollison (2008) make a similar assumption. There is some ambiguity in how a team's census area should be specified. It is easy to argue that teams draw spectators and a television audience from an area much wider than the strict confines of the city that lends its name to the franchise. Thus, where appropriate, aggregated metropolitan entities were used.

In testing the hypotheses predicting the hiring of subordinate coaches, we employ count models (equations 5-8). Depending on the hypothesis, we control for the total hires in the relevant positions (*Jr Staff Hired; Jr. Off. Coaches Hired; Jr. Def. Coaches Hired; QB/LB/OL/TE Coaches Hired*). We also control for the number of African-American coaches who occupied those positions in the prior season (*Af-Am Jr Staff, Prior Yr; Af-Am Jr. Off. Coaches, Prior Yr; Af-Am Jr. Def. Coaches, Prior Yr; Af-Am QB/LB/OL/TE Coaches, Prior Yr*).

Finally, since the Head Coach is primarily responsible for assembling the staff, theoretically relevant characteristics (circumstances of the hire, age, experience, power) of the head coach are controlled for in testing hypotheses 1b-1d and 2a-2d: whether the head coach is a new hire (*HC First Yr*); an outside hire (*HC Outside Hire*); a measure of the coach's tenure with the team (*Tenure HC*); the coach's age (*Age of HC*) and age squared (*Age² of HC*); *HC is Def. Coach*, a dummy variable indicating whether the coach was a defensive coach prior to becoming a head coach; *HC 2nd/3rd/4th Term* (whether he is in his second, third, or fourth job as a head coach in the NFL); *Interim HC in Prior Year* indicates whether the coach served as an Interim Head Coach in the season prior to being hired.

RESULTS

Hypotheses 1a, 1b, and 2d are tested using probit maximum likelihood models. Hypothesis 1a predicts that, given that a team hires a head coach, the better its performance in the prior season, the more likely it is to hire an African-American. Table 2 displays the results of probit models testing this hypothesis.²¹ (These models only examine cases when teams actually hired a new head coach.) Equation 1 shows the results with *Average Win Pct, Prior 3 Yrs* as the independent variable. Equation 2 shows the results with *Win Pct, Prior Yr* as the main independent variable. includes only *Prior Winning Pct*. In

²¹ Tests of fit revealed probit to be a better choice than logit. Results are not sensitive to the choice of distribution.

each case, Hypothesis 1a is strongly supported, both in the magnitude and significance of the effect.²² We also find that times with powerful outgoing coaches (measured by tenure and control over personnel) are significantly less likely to hire a black head coach. Longer-tenured owners are less likely to hire a black head coach, but family/founder owners are more likely, and the two measures are frequently correlated. Black head coaches are more likely to be hired in an expansion year. All three demographic variables show significance, though the population coefficient is not particularly meaningful.²³ Teams in areas with high percentages of African-Americans are significantly less likely to hire a black head coach: a 5% increase in the black population percentage decreases the predictor coefficient by about 1. Teams in lower income areas are more likely to hire a black head coach: \$10,000 increase in median income decreases the predictor coefficient by 1.3.

Insert Table 2 Here

Hypotheses 1b and 2d are tested in equations 3 and 4 (see Table 3). Hypothesis 1b predicts that poor-performing teams (measured by *Win Pct, Prior Yr*) are more likely to hire an African-American Coordinator, and it is only partially supported. These models only examine cases when teams hired a DC (equation 3) or an OC (equation 4). We find that poor-performing teams are significantly more likely to hire an African-American DC ($p < .1$), but prior-season performance has no significant effect on the likelihood of hiring a black OC. Hypotheses 2b predicts that African-American head coaches are significantly more likely to hire a black coordinator. We find this conditionally supported in the case of

²² Probit coefficients with time-series operators can be difficult to interpret. However, to give a sense of the size of the effect, running the same models in a logistic regression produces odds ratios of 1,786,013 (equation 1)/ 25,478 (equation 2). Thus, a team that has a winning percentage that is .25 higher than another, otherwise similar team is about 450,000/6,400 times more likely to hire a black head coach. Note that the magnitude of the effect in the probit models is slightly smaller, as the logit coefficients are larger. A much more conservative estimate of the effect can be arrived at using *prvalue* in STATA. Running the same equations, but without the time and factor variables, setting all other variables at their median values, we find that a .25 increase (from .4 to .65) in winning percentage (3 yr average/Prior Yr only) increases the probability of hiring a black head coach by 4x/2.5x. The difference increases with comparisons from lower levels.

²³ The population ranges from 700,000 to 21 million, with a mean of 5 million. Median income ranges from \$35000 to \$62000, with a mean of 47,000. African-American population percentage ranges from 1.2% to 38%, with a mean of 15%.

the DC, but not supported in the case of the OC. Teams with a black head coach and a white OC are significantly more likely to hire a black DC ($p < .05$), but the main effect [Af-Am HC+(Af-Am HC x Af-Am OC)] is not significant.

Hypothesis 1c predicts that worse teams will hire more African-American subordinate coaches, and 2a predicts that teams with African-American senior coaches will hire more such coaches. They are tested in equation 5 (Table 4). In both cases, the hypotheses are strongly supported, with an interesting exception. Using incidence rate ratios to interpret the coefficients, the model predicts that a team that wins 50% more games than a comparable team in the prior season hires about 20% fewer black assistant coaches (out of total assistants hired, $p < .01$). A team with a black head coach hires about 25% more black subordinates ($p < .01$). The combination of a black head coach and a black coordinator does not have a significant impact on hiring (additive but insignificant in the case of the DC, approximately zero and insignificant in the case of the OC), and the overall effect of a black head coach remains significant and large in both cases (summing the main effect and the interactions, $p < .01$). However, contrary to the hypothesis, black coordinators on staffs headed by white head coaches predict significantly *fewer* hires of black subordinates. In each case, such teams hire about 25% fewer African-American assistants (out of the total hired, $p < .05$). We will return to this interesting finding in the discussion section. Of the demographic variables, only median household income is significant (a \$10,000 increase in median household income predicts about 60% more junior African-American hires).

Hypotheses 1d and 2b predict the impact of team performance and minority composition of top management on positions with typically low black representation (equation 5, Table 4). Hypothesis 1d is weakly supported, though the magnitude of the coefficient is large: a team that wins 50% more games than a comparable team hires 41% fewer black assistants ($p < .1$). Hypothesis 2b is strongly supported ($p < .05$) and also larger in magnitude than the model examining the hiring of all subordinates. Teams

with black head coaches hire 80% more black coaches into these typically underrepresented positions (out of total such positions filled). Furthermore, the interaction with the African-American offensive coordinator is large and significant (about five times more than average, $p < .05$).

Finally, Hypothesis 2c examines the impact of the racial composition of the senior staff on the offensive and defensive staffs, respectively (Equations 7 and 8, Table 4). The hypothesis is partially supported. In both models, a black head coach predicts a significant increase in hiring of minority offensive or defensive assistants: on the offensive side, 80% more ($p < .01$), with a positive and significant interaction with a black OC (about 60% more, $p < .05$); on the defensive side, 150% more ($p < .01$), but no significant interaction with a black DC. However, we again see that a black coordinator on a staff led by a white head coach predicts a large reduction in minority hiring, though it is only significant on the offensive side (for OC, 50% fewer hires, $p < .01$; for DC, 25% fewer hires with $p = .11$).²⁴

To summarize the results:

- Hypothesis 1a. The higher a team's winning percentage prior to the hire, the more likely it is to hire an African-American head coach. *Strongly Supported for both performance in the prior year and the three-year period prior to hire.*
- Hypothesis 1b. The lower a team's winning percentage in the prior season, the more likely it is to hire an African-American offensive/defensive coordinator. *Weakly Supported for Defensive Coordinator only.*
- Hypothesis 1c. The lower a team's winning percentage in the prior season, the more African-American subordinate coaches are likely to be hired. *Strongly Supported.*
- Hypothesis 1d. Teams with poor performance in the prior season are more likely to hire African-Americans into those positions that have the lowest historical representation for African-Americans. *Weakly supported, though magnitude of effect is large.*
- Hypothesis 2a. African-American head coaches will hire more African-American assistant coaches (whole staff) than will non-African-American head coaches. *Strongly supported for the Head Coach only. Significant, opposite finding for black coordinators working under white head coaches.*

²⁴ Note that in all four equations predicting the hiring of minority subordinates (Table 4, 5-8), the number of African-American staff occupying the relevant positions in the previous year is a significant, negative predictor of subsequent hiring of minorities.

- Hypothesis 2b. African-American head will hire more African-Americans into roles with historically low minority representation (QB, LB, OL, TE) than will non-African-American head coaches. *Strongly supported.*
- Hypothesis 2c. Head Coaches with African-American offensive/defensive coordinators will hire more African-American offensive/defensive assistants than will non-African-American head coaches. *Strongly supported for the Head Coach. Significant, opposite finding for black offensive coordinators working under white head coaches.*
- Hypothesis 2d. African-American head coaches will more frequently hire African-American coordinators than will non-African-American head coaches. *Conditionally Supported for DC.*

DISCUSSION

The results of this study support the findings of prior research on the importance of organizational performance as a driver of minority hiring. Consistent with our predictions, the effects of performance on African-American coach selection operate differently at lower levels of the hierarchy than at the top. Consistent with the predictions of theories of labor queues and competitive intensity (Reskin and Roos, 1990; Wallace & Chang, 1990), worse performing teams are more likely to hire black coaches. Additionally, poor performing teams are far more likely to hire African-Americans into lower level coaching jobs with low African-American representation. As these positions represent areas of potentially greater gains from “racial arbitrage”, the results indicate that poor performing firms are much more likely to pursue such a strategy in hiring for lower level positions.

The effects of senior management composition on minority hiring support the predictions of homo-social reproduction (Kanter, 1977; Elliott and Smith, 2004) and network theory (Ibarra, 1993). Black head coaches hire significantly more black assistant coaches. They are also significantly more likely to hire an African-American defensive coordinator. As discussed above, we do not attempt to distinguish between the mechanisms driving these results. Consistent with our hypotheses, we find that black head coaches are more likely to hire black position and assistant coaches. In particular, they are more likely to hire blacks into coaching jobs where they are least represented. This suggests black coaches may approach their positions with altruistic motives—a sense of personal responsibility to open

up the ranks of coaching to other blacks. We believe that the findings are also consistent with the notion that black coaches are both more willing and able to take advantage of opportunities for “racial arbitrage.” In other words, black head coaches may have an advantage in identifying black candidates who are undervalued due to attribution biases, and placing them in attractive opportunities in roles where black representation is low. Racial arbitrage is evident when blacks are given opportunities in roles for which they have no proven track record (first time assignments): we find that black head coaches are five times more likely to hire a black defensive coordinator with no prior experience in that role. It is also evident in the hiring of blacks into positions with low overall African-American representation: black head coaches hire significantly more African-American coaches into such position coach jobs.

The ability of black heads coaches to engage in racial arbitrage is not simply a matter of altruism or acuity in measuring candidate ability. It also stems from their access to the informal network of black coaches and players, and their own exposure to the profession. Consistent with this, we see that the one exception to black head coaches having a greater propensity to hire black coaches is offensive coordinators, one of the three positions that make up senior management. This may be explained by the fact that of the nine different blacks who have held head coach positions, representing 14 discrete hiring events between 1987 and 2007, only two had offensive backgrounds. That black head coaches tend to have defensive backgrounds and defensive coordinator experience makes it more likely that they would engage in racial arbitrage with the defensive coordinator position. The coordinator roles share some of the head coach’s visibility and accountability for team performance, and identifying good coordinators is more complex than evaluating position coaches. Given these conditions, black coaches’ hesitancy to incur the risk associated with racial arbitrage with offensive coordinator positions conforms to our overall findings. By contrast, we see no such evidence of hesitancy when it comes to lower level

offensive coaching positions. As discussed above, black head coaches hire more black coaches overall, particularly into position coach jobs where blacks have been least represented. However, in two important areas, our results show that both firm performance and the composition of senior management have contingent effects on the hiring of minorities.

We find that the negative relationship between performance and minority hiring holds true only at the lower levels of managerial hierarchy. We hypothesized that an organization's legitimacy concerns would militate against hiring minorities to fill positions that were characterized by 1) uncertainty in identifying the optimal job qualifications, and 2) the visibility of performance and accountability of senior management to external stakeholders. Such conditions raise concerns of external legitimacy and risk and make poor performing firms less likely to hire black senior managers. In hiring coordinators, jobs characterized by moderate levels of uncertainty and visibility, the relationship between prior performance and minority hiring is weak. In the case of hiring head coaches, where the aforementioned conditions are strongest, the effect is reversed, and it is *better* performing teams that are significantly more likely to hire an African American.

To the extent that team performance translates into status, lower status teams are likely to experience more difficulty attracting the most sought after coaching talent, especially at lower level positions where comparable opportunities at higher status teams are more numerous. This is likely to be coupled with resource constraints tied to the ability to pay premiums for the most sought-after white coaches. Given the lower level of external visibility and accountability for overall team performance associated with position coaches, the sense of risk is likely to be less and the appetite for any perceived risk greater. There is also significant incentive to examine and exploit opportunities for finding superior but undervalued black coaching talent and providing a superior opportunity albeit in a lower status context. This constitutes a kind of "racial arbitrage".

Why do we not find that the poor-performing/low status teams are more likely to engage in racial arbitrage in the hiring of black head coaches? Given the low levels of black representation at the head coaching position relative to overall black representation on NFL staffs, it may be that risk and legitimacy concerns reduce the likelihood of hiring a black head coach for all teams, good and bad. However, our results strongly indicate that poor-performing teams are most sensitive to the risk of hiring a head coach who does not conform to external expectations regarding a “typical” head coaching hire. Finding a good head coach is difficult. Without a recent track record of success in hiring for that position, lower status firms may shy away from candidates who do not conform to external norms, and whose race heightens the visibility and scrutiny of their performance. Other research has shown that when minorities occupy roles in which they are infrequently found, they encounter heightened scrutiny and, in some cases, skepticism about their qualifications (Kanter, 1977; Thomas and Gabarro, 1999). In contrast, the status that comes with being high performing creates a buffer that might allow the team owners or boards of directors to make a decision perceived too risky by lower status teams. Consistent with Thomas and Gabarro (1999), the lack of prior NFL head coaching experience increases the perceived risk of the hire, and aggravates the tendency of poor performing teams to avoid hiring black head coaches.

An alternative explanation for this finding should be addressed. In the same sense that top universities compete for qualified minority students, it may be that all teams are desirous to hire qualified African-American head coaches. In this competition for a valued human resource, qualified candidates would join the best team among the many that offer them a job, or the team that provides the greatest financial reward. Two facts would support this view: 1) accounts of minority candidates receiving multiple job offers; or 2) evidence that minority head coaches have higher salaries. The first point does not reflect the general conditions of the labor market for NFL coaches. Teams have a short

window—about a month—in which to hire coaches (opening with the conclusion of the regular season in early January, and closing in early February). This timetable is established based on the teams' need to have a coaching staff in place to prepare for the amateur draft, and it is extremely rare for head coach positions to be unfilled by mid-February. Despite the pressures of the job, NFL head coaching positions are highly coveted, and candidates who receive an offer do not usually have the luxury to keep the offering team waiting while they entertain other proposals. Offers are rarely rejected. In terms of salaries, data is spotty, but the most recent year for which we have reliable data (2008) provides no evidence that African-American coaches are more highly paid than their white peers. Six of the 32 head coaches for that season were African American; four earned less than the median salary (ranked 20th, 25th, 27th and 28th), and two earned more (ranked 4th and 6th). Overall, African-American head coaches in 2008 earned an average of \$3.25 million, versus an average of \$3.27 million for white head coaches. Thus, there is little support for the view that competition for a scarce human resource drives the results.

With respect to the impact of minority senior managers on hiring, we find that the positive effect on minority hiring of African-Americans occupying the top level coaching position does not extend down to the second level. Black coordinators on teams with white head coaches are associated with significantly *reduced* hiring of minorities. This effect is most pronounced for African-American offensive coordinators. We see that the hypothesized orientation of blacks to want to extend opportunity to other blacks and their ability to engage in racial arbitrage is attenuated by the race of their boss. We are left to wonder why a white coordinator with a white boss (head coach), would be more like to hire black coaches position and assistant coaches than similarly situated blacks. One possibility is that all white head coach and coordinator pairs will be more sensitive to the need for black representation on their staffs in a League where the majority of players are black. Thus, perhaps the combination of a white head coach and a white coordinator hire African-American assistants to lend their staffs to have

legitimacy (Ely and Thomas, 2001). That sensitivity may dissipate in cross-race pairs with white head coaches because the presence of a black offensive/defensive coordinator alleviates the perceived need for black representation at lower levels of the coaching staff, leading to under-representation for black offensive/defensive assistants. This echoes social psychological theories of “moral balance” or “moral credentials” (Nisan, 1990; Monin and Miller, 2001; Merritt, Effron and Miller, 2010). Although we cannot do justice to these ideas, in essence they predict that people morally evaluate current decisions on the basis of meaningful, relevant past decisions. A head coach who has hired a minority coordinator may, in some sense, feel that he has checked the box of demonstrating equity, with subsequent hiring decisions expressing a drift toward underlying prejudices.²⁵ In any case, it demands further study.

Limitations

This study suffers from three significant limitations. First, the setting raises an obvious question of how much we can generalize the findings to other settings. The NFL is, in many respects, a unique setting. Nevertheless, we believe that the central question of how legitimacy concerns interplay with other factors shaping hiring decisions is indeed a construct with relevance beyond football. We find the NFL’s hierarchical formalization, and the parallels between the head coach position and the CEO role in companies encouraging. The market for CEOs, for example, exhibits characteristics similar to those of the market for head coaches (Khurana, 2002). Second, in evaluating the relationship between performance and minority senior management hires, we are somewhat constrained by the small number of events. In the period of analysis, just 14 African-American head coaches were hired. However, a frequent response to small sample sizes are small numbers of events is to relax the standards of statistical significance in order to facilitate the development of theory and encourage further study. From

²⁵ Black coordinators may also be sensitive to avoiding the appearance of having a racial agenda for black inclusion that sets them apart from their white superior, with the result that they unintentionally bias hiring the other way (against black coaches). Black coordinators reporting to black head coaches would have no such concerns. (Indeed, such combinations result in the highest numbers of black assistants.) Given that on a typical NFL staff, the head coach has final say on all hiring decisions, we are inclined to believe that the result stems more from factors influencing the head coach.

a power analysis perspective, results significant at $p < .01$ with just 14 events strongly suggest that our findings merit further study. The third limitation stems from two deficiencies in the data. 1) Our lack of data on the racial composition of the player rosters of NFL teams prevents us from parsing out the effects of bottom-up ascription, in order better to specify the impact of minority managers in senior roles. We are currently gathering data to address this gap. 2) While we can speak with some certainty of the labor pool for senior positions, we lack data on the labor pool for entry-level coaching positions. This limits our conclusions to an analysis of differences across teams; we cannot make statements about equilibrium levels of minority representation in entry-level coaching jobs.

CONCLUSION

The results of this paper underscore the complexity of the racial dynamics of hiring. They are a fruitful starting point for deepening our understanding of, and adding nuance to theorizing about the dynamics of firm performance, senior management diversity, and minority hiring throughout the managerial hierarchy. Quite strikingly, our analysis of the influence of performance on racial composition and selection of management highlight that these dynamics are strongly moderated by the different characteristics of managerial jobs, with the result that the impact of performance on minority hiring operates in completely different directions at different levels of the hierarchy. As predicted by prior research, poor performing or low status firms may hire more minority employees, but they also appear to more sensitive to concerns of external legitimacy that reduce their hiring of minorities into higher visibility/higher risk positions.

This study extends our understanding of how performance and, by extension, status, influences the decision to hire blacks or other racial minorities into managerial roles. That the effect differs depending upon the level of talent acquisition is important. In determining which diversity policies and interventions to implement, firms may do well to consider how key differences in job (vertically and

horizontally in the organizational hierarchy) and performance conditions influence the evaluation of minority candidates. To our knowledge, this study takes the most granular look of any to date at how the racial composition of senior management directly influences hiring. It does appear that the race of the decision maker matters. However, blacks' ability positively to affect hiring beyond what a white peer might do is highly dependent on where they are in the hierarchy. When not in the head coach or CEO role, blacks may be even more constrained than their white counterparts in hiring blacks.

Finally, we introduce the concept of racial arbitrage, and identify two potential drivers that increase the likelihood a firm will engage in racial arbitrage: poor performance, and minority senior management. In each situation, more African-Americans are hired into positions where they are least represented. Whether racial arbitrage constitutes a source of competitive advantage warrants further analysis.

TABLES AND FIGURES

**Figure 1:
Simplified NFL Coaching Staff**

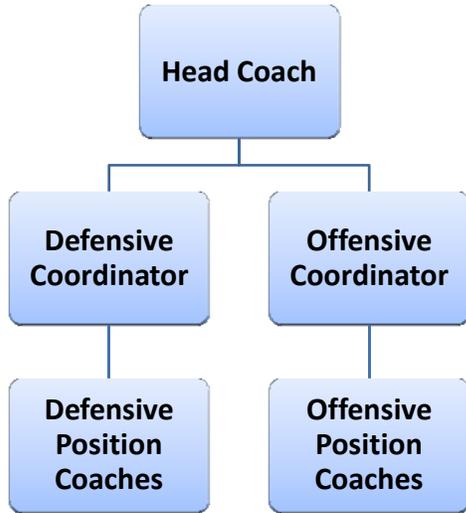


Table 1: Racial Composition of Coaching Staffs, 1970-2007

Decade	Offensive			Defensive			Total*		
	<i>0</i>	<i>1</i>	<i>Pct</i>	<i>0</i>	<i>1</i>	<i>Pct</i>	<i>0</i>	<i>1</i>	<i>Pct</i>
70's	810	56	6%	771	14	2%	2080	84	4%
80's	1042	185	15%	927	96	9%	2570	306	11%
90's	1237	375	23%	1000	341	25%	2894	810	22%
00's	1284	457	26%	833	564	40%	2732	1150	30%

*Total includes special teams coaches, quality control coaches, head and assistant head coaches, and other personnel, in addition to offensive and defensive coaches. Thus, in this case it is not simply the sum of the offensive and defensive staffs.

TABLE 2: Good Teams are More Likely to Hire an African-American Head Coach

COEFFICIENT	Equation 1	Equation 2
	Af-Am Head Coach Hired (Probit ML)	
	<i>Af-Am HC</i>	<i>Af-Am HC</i>
<i>Average Win Pct, Prior 3 Yrs</i>	8.09***	
<i>Win Pct, Prior Yr</i>		5.85***
<i>HC Vacancies</i>	.285***	0.0842
<i>Def. Imbalance, Prior Yr</i>	-0.895*	-1.405***
<i>Off. Imbalance, Prior Yr</i>	-1.424**	-1.996***
<i>Interim HC, Prior Yr</i>	0.184	0.429
<i>Af-Am Jr. Staff Coaches, Prior Yr</i>	0.290	0.182
<i>Prior Yr Personnel Cntrl, GM</i>	-1.445**	-1.307**
<i>Prior Yr Personnel Cntrl, HC</i>	-1.790***	-2.372***
<i>Prior Yr Personnel Cntrl, Mixed</i>	0.163	0.415
<i>Prior HC 2nd Term</i>	.918*	0.686
<i>Prior HC 3rdTerm</i>	0.329	1.016*
<i>Tenure of Prior HC</i>	-.237***	-0.190**
<i>Prior HC Off. Coach</i>	0.109	-0.153
<i>Tenure Owner</i>	-.041**	-.040**
<i>Founder/Family Owner</i>	1.302**	1.489***
<i>Expansion Yr</i>	1.331**	2.092***
<i>Median Household Inc.</i>	-1.303 E-4***	-1.039 E-4***
<i>Population</i>	1.01 E-7**	9.99 E-8**
<i>Pct Population, Af-Am</i>	-10.246**	-8.935**
Observations	127	128
Pseudo R-squared	0.414	0.422
Robust standard errors (Time Fixed Effects Omitted)		
*** p<0.01, ** p<0.05, * p<0.1		

Table 3: Impact of Performance and Top Management Composition on Hiring of Coordinators

COEFFICIENT	Equation 3	Equation 4
	Af-Am Coordinator Hired (Probit ML)	
	<i>Af-Am DC</i>	<i>Af-Am OC</i>
<i>Win Pct, Prior Yr</i>	-1.779*	0.629
<i>Af-Am HC</i>	1.093**	0.601
<i>Af-Am DC</i>	NA	0.222
<i>Af-Am OC</i>	-0.272	NA
<i>Af-Am HC x Af-Am DC</i>	NA	-1.18
<i>Af-Am HC x Af-Am OC</i>	-0.611	NA
<i>Hired HC</i>	0.130	-0.593
<i>HC is Def. Coach</i>	0.315	0.084
<i>HC Outside Hire</i>	0.192	0.979
<i>Hired OC</i>	-0.828	NA
<i>Hired DC</i>	NA	.781**
<i>OC Vacancies</i>	NA	-0.111**
<i>DC Vacancies</i>	-0.013	NA
<i>Def. Imbalance, Prior Yr</i>	0.210	-0.406
<i>Off. Imbalance, Prior Yr</i>	0.091	0.114
<i>Tenure Owner</i>	0.003	.024**
<i>Founder/Family Owner</i>	-.860***	-0.317
<i>Af-Am Jr. Off. Coaches in Prior Yr</i>	-0.241	0.233
<i>Af-Am Jr. Def. Coaches in Prior Yr</i>	0.068	.237*
<i>Personnel Cntrl, GM</i>	2.069**	0.013
<i>Personnel Cntrl, HC</i>	-0.993	0.392
<i>Personnel Cntrl, Mixed</i>	2.709**	0.661
<i>Age of HC</i>	.503*	0.212
<i>Age^2 of HC</i>	-.005*	-0.002
<i>HC 2nd Term</i>	0.471	-0.013
<i>HC 3rdTerm</i>	1.501**	-0.094
<i>HC 4thTerm</i>	no obs.	2.145**
<i>Tenure HC</i>	0.021	0.041
<i>Expansion Yr</i>	-0.163	-1.020*
<i>Median Household Inc.</i>	5.92 E-5***	1.99 E-5
<i>Population</i>	-2.21 E-8	3.07 E-8
<i>Pct Population, Af-Am</i>	-3.394**	1.870
Observations	173	204
Pseudo R-squared	0.30	0.28

Robust standard errors (Time Fixed Effects Omitted)

Table 4: Impact of Performance and Top Management Composition on Hiring of Lower-Level Coaches

COEFFICIENT	Equation 5	Equation 6	Equation 7	Equation 8
	AFRICAN-AMERICANS HIRED (Poisson Count)			
	<i>Af-Am Jr Staff Hired</i>	<i>Af-Am QB/LB/OL/TE Hired</i>	<i>Af-Am Off Staff Hired</i>	<i>Af-Am Def Staff Hired</i>
<i>Win Pct, Prior Yr</i>	-0.55***	-1.80*	-0.33	-0.51
<i>Af-Am HC</i>	0.58***	0.90**	0.59***	0.98***
<i>Af-Am DC</i>	-0.31**	-1.23	-0.06	-0.26
<i>Af-Am OC</i>	-0.32**	-0.48	-0.77***	-0.10
<i>Af-Am HC x Af-Am DC</i>	0.33	0.35	0.82**	-0.38
<i>Af-Am HC x Af-Am OC</i>	-0.03	2.25**	-0.03	0.15
<i>Jr Staff Hired</i>	0.22***	NA	NA	NA
<i>QB/LB/OL/TE Coaches Hired</i>	NA	0.59**	NA	NA
<i>Jr. Off. Coaches Hired</i>	NA	NA	0.31***	NA
<i>Jr. Def. Coaches Hired</i>	NA	NA	NA	0.42***
<i>Af-Am Jr Staff, Prior Yr</i>	-0.15***	NA	NA	NA
<i>Af-Am QB/LB/OL/TE Coaches in Prior Yr</i>	NA	-0.70***	NA	NA
<i>Af-Am Jr. Off. Coaches in Prior Yr</i>	NA	NA	-0.24***	NA
<i>Af-Am Jr. Def. Coaches in Prior Yr</i>	NA	NA	NA	-0.33***
<i>Tenure Owner</i>	4.25 E-3	-0.03	-5.38 E-3	-5.02 E-3
<i>Founder/Family Owner</i>	-0.37	0.42	-0.39	-0.20
<i>HC is Def. Coach</i>	-0.07	0.61	0.065	-0.11
<i>Hired HC</i>	-0.05	-2.54*	-0.09	-6.52 E-3
<i>HC Outside Hire</i>	-1.16 E-3	1.97	0.73***	-0.11
<i>Personnel Cntrl, GM</i>	0.12	9.78 E-3	-0.27	-0.54**
<i>Personnel Cntrl, HC</i>	0.20	0.103	-0.16	-0.44**
<i>Personnel Cntrl, Mixed</i>	-0.14	-0.34	0.10	-0.99***
<i>Age of HC</i>	0.22***	0.10	0.21*	0.03
<i>Age^2 of HC</i>	-2.23 E-3***	-1.03 E-3	-2.03 E-3**	-3.96 E-4
<i>HC 2nd Term</i>	1.8 E-3	-1.25**	-0.39***	0.09
<i>HC 3rdTerm</i>	0.32**	0.85	-0.04	0.42
<i>HC 4thTerm</i>	0.17	-1.14	-0.36	1.03**
<i>Interim HC in Prior Yr</i>	0.28*	-0.33	-0.21	0.14
<i>Tenure HC</i>	0.01	-0.01	0.03	-1.79 E-3
<i>Staff Size</i>	-0.01	-0.18*	0.01	0.010**
<i>Median Household Inc.</i>	5.78 E-5***	-2.48 E-4*	1.56 E-4***	1.50 E-5
<i>Population</i>	1.62 E-8	-2.22 E-6**	8.83 E-8**	-1.04 E-7***
<i>Pct Population, Af-Am</i>	4.21**	-4.78	1.32	2.11
Observations	496	321	380	331

Robust standard errors, clustered by Team (Team and Year Fixed Effects omitted)

*** p<0.01, ** p<0.05, * p<0.1

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APPENDIX A: THE ROONEY RULE

As discussed in the text, in December, 2002, the NFL adopted “The Rooney Rule”, requiring that all times interview at least one minority candidate for all head coaching positions, unless the position was filled by an internal hire. According to the NFL:

... The owners strongly agreed on the principle that any club seeking to hire a head coach will interview one or more minority applicants for the position. ... “Our initial focus has been on the head coaching position,” the committee said in its memo to club owners. “We have had numerous meetings and held discussions with a wide range of people, including club owners and executives, current and former players and coaches, and knowledgeable people outside the NFL. Overall our goal has been to assist clubs in approaching the hiring process in ways that will lead to better decisions and enhance opportunities for well-qualified coaches.” (NFL Press Release, December 2, 2002)

One year later, the league formalized and clarified the guidelines, rejecting the prospect of expanding the rule to other coaching positions:

“It is league policy to support equal opportunity and fair-hiring practices for all NFL positions through an open and affirmative process. Interviewing minority candidates for all positions in the league occurs on a regular basis and there are more minority coaches and front-office personnel than at any time in our history, but expanding mandatory interviewing requirements across the board would be impractical.” (NFL Official Statement, quoted in the Washington Post, December 10, 2003)

In the seven years since the Rooney Rule’s implementation, the number of African-American Head coaches in the NFL has increased significantly (from two in 2001, to six in 2008). The Rooney Rule is more of an affirmative consideration than affirmative action policy. It sets no quotas for minority hiring. Nevertheless, the general interpretation of this result is that the NFL’s diversity policy in general, and the Rooney Rule in particular, has been a success, while acknowledging that more progress needs to be made. “The Rooney Rule...helped to more than double the number of African-American head coaches in the NFL.”(Lapchick, et al, 2009) However, as discussed above, the path dependencies in the NFL coaching profession suggest that any measures to improve minority representation in top management should consider the processes governing the placement of minorities into crucial subordinate positions, as well. Alas, we cannot explore this question without knowing more about the labor pool from which entry-level NFL coaches are hired. This is a worthy subject of further analysis.