The Internal Labor Market of Professional Football

by

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Thesis submitted to the Graduate Faculty of the
Virginia Polytechnic Institute and State University
in partial fulfillment of the requirements for the degree of
MASTER OF SCIENCE IN EDUCATION
in
Health and Physical Education

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May, 1987

Blacksburg, Virginia

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(ABSTRACT)

Scholars in many fields have long studied the patterns of employment and promotions in industries and occupations. However, the area of sport has been largely omitted from studies of this type.

This study explored the possibility of an internal labor market for head coaches of the National Football League (NFL). Subjects were those people who were the head coaches of NFL teams for the years 1970 to 1975 and 1980 to 1985. Following theoretical guidelines, the subjects were tested for evidence of industrial, occupational, and/or pure internal labor markets. Statistical treatment of the data utilized chi square tests.

The results of this study provided evidence of industrial and occupational internal labor markets, but there was no support for a pure internal labor market. The tests showed an intertwining of the industrial and occupational internal labor markets over the course of the subjects' careers. There also were significant findings in

the areas of mentor and position played by the subjects. This study can serve as a foundation for further studies.

Acknowledgements

I once heard a faculty advisor tell a graduate student, "It's your degree, but it's our thesis.". He meant that a thesis is the product of the faculty committee and it is what they want it to be. Happily that has not been my experience with this thesis. For that, I am grateful to my advisory committee: Dr. Margaret Driscoll, Dr. Frederick Hills, and Dr. Richard Stratton. Dr. Hills first gave me the opportunity to express the idea for this study. He also provided the theoretical guidance for it so that it did not stray too far from the beaten path. Dr. Stratton provided his critical thinking. His constructive criticism kept me thinking and made sure that the unnecessary was out and the necessary in.

Finally, and mostly, I thank Dr. Driscoll, my chairperson. Dr. Driscoll was patient enough to let me drift through my 'uninspired' periods; yet, she was impatient enough not to let me slip past a graduation date. She also allowed me the freedom to express things and write in my own style, but she made sure that my product was a professional one. I also appreciate Dr. Driscoll's interest in me as a person, not just a graduate student. She has been an excellent mentor. Thank you for everything, Dr. Driscoll.

A thanks goes to friends who waded through this with me. They kept up with my progress, or lack thereof, showed an interest, and encouraged. Thank you Raz,

I would like to thank my family #2, my in-laws. They went through this with my husband, so they knew that I needed their support and encouragement. And they willingly gave it to me.

My family also gave of their support and encouragement. Although not intimately involved in this project, I also knew that my sister, , and her family were behind me and there if I needed them. And of course my parents, and , have been my cheerleaders through all of this. At times I grew tired of their questions about my progress, especially when I wasn't making any. But those things happen between a child and her parents. I know they were just interested and concerned because they love me. Thanks, Mom and Dad.

And finally, thanks to the one who may have suffered the most through this, my husband . You patiently and courageously endured my highs and lows; you pushed me but also knew when not to push. You had faith in me. You unselfishly gave of your support and love. Thank you,

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Chapter I

Introduction

As head coach of the Houston Oilers, Bum Phillips reflected, "There are two types of coaches. Them that have just been fired and them that are going to be fired." (Green, 1984, p. 72). The implications of Phillips' comment are that head coaches in the National Football League are in a state of constant flux and have very little job security. This may or may not be true. If it is true, from where do all of those coaches come? What kind of market is there for head coaches of the NFL?

For years, scholars have studied the labor markets of various industries. But it is only in the past decade or so that attention has been paid to the area of sports and the possibilities of labor markets in sport. Although sport differs in some ways from many other types of business, it is possible that there is a labor market for sport that behaves much like any other labor market.

Sports industries are unique from other industries in some ways. One difference is for the consumers, or the spectators. The product of sports industries is ephemeral and is experienced in a brief moment. The consumers may remember the product but they do not use it manually nor do they physically consume it. This product is entertainment,

sports entertainment for the spectators and general public. This entertainment differs not only for the consumers but also for the producers. There is a winner and a loser declared between the producers, or the players, coaches, and teams. One group of participants is labelled a winner and another a loser for each product produced, that is a game or match. However, "all participants may well be winners where it counts: in the pocketbook" (Berry, Gould, & Staudohar, 1986, p. 2). And for sports, like any other business, the objective is to keep that pocketbook full.

The key to reaching this objective is the efficient, effective operation of the business. All industries must have the proper persons to insure such operation. These persons are recruited from labor markets of different sorts.

Statement of the Problem

The purpose of this study was to examine the labor market, particularily the internal labor market, for NFL head coaches. Career patterns of the active head coaches for the years 1970 to 1975 and 1980 to 1985 were recorded and analyzed for characteristics of an internal labor market.

Hypotheses

First set of hypotheses

There were four sets of hypotheses to be tested. Each of the first three sets tested for a specific type of internal labor market which is defined in the review of the literature. The fourth set tested for some general principles of the internal labor markets. The first set tested for an industrial internal labor market which refers to a wide, general market. In this study, that market includes all of football.

Hypothesis one. The first hypothesis was: There will be more NFL head coaches who were head college football coaches than those who were not.

Hypothesis two. The second hypothesis was: There will be more NFL head coaches who were players in a professional league other than the NFL than those who were not.

Hypothesis three. The third hypothesis was: There will be more NFL head coaches who were assistant coaches in a professional league other than the NFL than those who were not.

Hypothesis four. The fourth hypothesis was: There will be more NFL head coaches who were head coaches in a professional league other than the NFL than those who were not.

Hypothesis five. The fifth hypothesis was: There will be more NFL head coaches who held positions specific to an industrial internal labor market prior to their current positions than those who did not.

Second set of hypotheses

The second set of hypotheses tested for an occupational internal labor market. This market is less broad than the industrial internal labor market; it includes all of the National Football League.

Hypothesis six. The sixth hypothesis was: There will be more NFL head coaches who were players in the NFL than those who were not.

Hypothesis seven. The seventh hypothesis was: There will be more NFL head coaches who were assistant coaches in the NFL than those who were not.

Hypothesis eight. The eighth hypothesis was: There will be more NFL head coaches who were previously head coaches in the NFL than those who were not.

Hypothesis nine. The ninth hypothesis was: There will be more NFL head coaches who held positions specific to an occupational internal labor market prior to their current positions than those who did not.

Third set of hypotheses

The third set of hypotheses tested for a pure internal labor market. This is the most restricted market. For this study, this market is comprised of only one NFL team at a time.

Hypothesis ten. The tenth hypothesis was: Of NFL head coaches who were professional league players and assistant coaches, there will be more who were players and assistant coaches for the same team than those who were not.

Hypothesis eleven. The eleventh hypothesis was: Of NFL head coaches who were professional league players, there will be more who were players and head coaches for the same team than those who were not.

Hypothesis twelve. The twelfth hypothesis was: Of NFL head coaches who were professional league assistant coaches, there will be more who were assistant and head coaches for the same team than those who were not.

Hypothesis thirteen. The thirteenth hypothesis was: Of NFL head coaches who were professional league players and assistant coaches, there will be more who were players, assistant coaches, and head coaches for the same team than those who were not.

Fourth set of hypotheses

The fourth set of hypotheses tested for some general information pertinent to the labor markets involved in this study. The results of these tests provided supplemental evidence of internal labor markets.

Hypotheses fourteen. The fourteenth hypothesis was: Of NFL head coaches who were professional league players, there will be more who played certain positions than those who played other positions.

Hypothesis fifteen. The fifteenth hypothesis was: Of NFL head coaches who were professional league assistant coaches, there will be more who held their last professional league assistant coaching position under a particular head coach than those who did not.

Each hypothesis, with the exception of hypotheses 14 and 15, was tested three times. First, each was tested for the total sample. Next, the data was sorted into two groups according to the years 1970 to 1975 and 1980 to 1985. Each hypothesis was then tested for each of these two groups. This allowed for comparison between two time periods as well as for acquiring a reading of the entire sample. Hypotheses 14 and 15 were tested for the entire sample only.

Summary

As indicated earlier, sports have been largely omitted from studies on labor markets. This study examined the career patterns of NFL head coaches to determine if an internal labor market might exist in the NFL. Potential career patterns were checked for the total set of data and for two samples of grouped data.

Chapter II

Review of the Literature

Introduction

This literature discusses the concept of labor markets. It focuses on the internal labor market and goes on to define three specific types of internal labor markets: pure, occupational, and industrial. These markets are also explained with relevance to the particular profession of head coaches of the National Football League. The literature included here is comprised of literature from management, economics, sociology, and sport studies.

Everyday newspapers carry listings of employment opportunities. For each opportunity there are a number of people who may be capable of filling the position. These potential employees constitute a labor market. There are labor markets for positions, jobs, classes of jobs, specific occupations, and even specific firms. One such labor market is called an internal labor market, and it is this labor market with which this study was concerned. But it is the case of professional football that is specifically addressed in terms of an internal labor market.

Albert Rees (1966) has noted that labor markets have been criticized for being inefficient, irrational, and disorderly, and proposals have been made that labor

exchanges be created to improve their operations. These proposals are based on the assumption that local labor markets are analogous to new commodity exchanges as opposed to used commodity exchanges. This in turn is based on a misconceived model of job markets and the information involved in transactions in job markets.

The information in any market is either intensive or extensive. A buyer can search at the extensive level by simply obtaining a quotation of a price from more than one seller. He can search at the intensive level by obtaining additional information concerning an offer already received. The new- and used-car markets are excellent examples of these information levels. There is relatively little variation in the quality of new cars of the same make and model and the costs of variation are reduced by factory guarantees; a rational buyer will use an extensive level of search to find the best price on a new car. However, there can be large variations in the conditions of used cars of the same make, model, and year which may be reflected in their prices. A buyer in this market would perhaps investigate fewer offers and concentrate on obtaining more information on the condition of the cars to determine his or her best buy.

Job markets are much closer to used-car markets than new-car markets in character and information and generally

function in a reasonably orderly and rational manner. In the labor market, both the job seeker, the seller, and the potential employer, the buyer, want intensive information rather than extensive information. In Rees' words, the problem "is not to get in touch with the largest number of potential applicants, or employees, rather it is to find a few applicants, or employees, promising enough to be worth the investment of thorough investigation" (p. 561). This is especially true in labor markets since, in general, the buyer and not the seller quotes the starting wage or salary. The labor market from this perspective acts as a screening device that narrows the search process rapidly.

Rees addresses labor market information from the standpoint of beginning new employment. Jovanovic (1979) describes how the same type of information can be useful in an existing employment situation. According to Jovanovic, turnover, that is the permanent separation of employer and employee, is also facilitated by the information systems of labor markets. The employer or the employee may receive new information about the current match or about a possible alternative match. Either of these can lead to a job change (p. 1247).

The Internal Labor Market

Specific labor markets can screen even further than the labor market at large. Although there are several types of labor markets, this paper focuses on the internal labor market. Mention of other labor markets will be made where there are important points of similarity or contrast.

For more than one hundred years, economic theorists have recognized that workers are divided into noncompeting groups. In 1874 Cairner (cited in Marshall, 1979, p. 37) noted that while there was some mobility between labor markets

> "the average workman, from whatever rank he be taken, finds his power of competition limited for practical purposes to a certain range of occupations, so that however high the rates of remuneration in those which lie beyond may rise, he is excluded from sharing them. We are thus compelled to recognize the existence of noncompeting industrial groups as a pattern of our economy."

This is one of the earliest suggestions of a restricted labor market of some sort. Perhaps this is the forerunner of an internal labor market.

The internal labor market has been described by Levitan, Mangum, and Marshall (1981) as concerned with the rules made within the firm or craft to fix wages and allocate labor among alternative uses. For example, workers' wage rates and occupational positions within a manufacturing firm are much more likely to be determined by

seniority than by relative productivity. The internal labor market is controlled more by institutional rules that are not always compatible with the assumptions of the competitive, or external, labor market. This is evident in some of the ideas and concepts with which the internal labor market is sometimes said to be analogous. Clark Kerr (1954) has referred to the process of establishing institutional rules that structure markets as balkanization. The degree of balkanization, or isolation, of labor markets is increased with the establishment of internal rules that limit the entry of workers into the market and determine the movement of workers within the market as well as their exits from the market. These internal rules tend to isolate the labor market from the operation of external forces, therefore, the operations of the labor market are internal in nature.

The information of an internal labor market has been compared to the ideas of specific training developed by Gary Becker (1964). Becker describes specific training as being of value only as long as an employee remains with a specific firm. The information consists of knowledge about a complex web of relationships and rules that make it possible for an individual to negotiate the elaborate maze of interlinked job ladders, upward, downward, and sideways, in response to output levels and production processes. Because of its

internal nature and specificity, this information is likely to be of little value to the employee after he has left that firm. This is true of specific training and of what might be called pure internal labor markets. In a pure internal labor market, an employee experiences all movement between positions solely within one firm and finds that his knowledge and training in that firm do not transfer practically to another firm. For the purpose of this study, a pure internal labor market would exist where an NFL head coach has passed from player to assistant coach to head coach within one team. His background should be specific to that one team.

Andrew Oswald (1984) gives an explanation of these job ladders described by Becker. Almost all firms employ some people as supervisors and others as ordinary workers, and in most cases the supervisors are promoted from the ranks of the ordinary workers, using an internal labor market pattern. Oswald discusses three good reasons why this type of internal labor market exists. First, many sorts of production appear to require that a few men watch and direct while other men actually make the product. Second, one way to learn about a job, a factory, and its employees is to be an ordinary worker, so it is natural that they should form the pool from which supervisors are drawn. Third, an employer can find out about a worker's abilities by watching

him do the job of an ordinary employee and, in this way, screen his workers.

Michael Carter (1982) adds one more dimension to the concept of job ladders and the internal market. He suggests that jobs at the top of their respective ladders will not necessarily be those embodying the most varied or most complex specific skills. Rather, they will be those most crucial to determining the rate of productivity of an entire group of workers (p. 1073).

In his study of technological and organizational change, Harry Braverman (1974) discusses the dependency of management on the persons occupying certain key positions in the production process. Without these persons, feasible rates of output most likely cannot be maintained. These circumstances are especially present in organizations with craft-based forms of labor, thus aiding in the establishment of craft, or occupation, specific internal labor markets. Braverman's discussion of this type of market is set mainly in the context of manual craft skills, but it is not difficult to see that any job involving significant non-routinizable decision making could fit this model. Any job that cannot be reduced to a set of 'standard operating procedures' is going to insulate its occupants from direct competition. In other words, there may be persons who possess the general education and vocational training for

that job yet they are not completely qualified for the job. It takes hands-on experience to develop judgement and a feel for the nuances of the tasks for that specific job. When there is an opening for this type of job, management would best like to hire someone who has previously performed that job. If this is not possible, management is reliant on veteran workers to train the new worker because management itself is not well-versed in the peculiarities of the job. Therefore, those with experience in the job are at a premium.

Peter Doeringer and Michael Piore are considered to be leading scholars on the internal labor market. Although their primary work on internal labor markets was done sixteen years ago, this work is the classic on the topic. It has been the foundation for most other work in the area. Doeringer and Piore (1971) call the formation of internal labor markets a logical development in a competitive market in which three factors, usually neglected in conventional economic theory, may be present. The three factors name specifically some of the ideas touched on earlier. The factors are skill specificity, on-the-job training, and custom. These factors are explained later, but first a general discussion of the internal labor market is needed.

The internal labor market is an administrative unit, such as a manufacturing plant, within which the allocation

of labor is determined by a set of administrative rules and procedures. These rules and procedures are not affected by economic factors. Typically employees become a part of the internal labor market at the port of entry, usually a beginning level job. The remainder of the jobs within the internal labor market are filled by the transfer or promotion of workers who are already a part of the market. The result of this is that the internal labor force has exclusive rights to jobs filled internally and continuity of employment is protected from direct competition by workers in the external labor market (Doeringer & Piore, p. 1-2). As will become apparent later in the discussion, it is important not to assume that all internal labor markets occur in or are specifically analogous to those in industrial plants.

The focus now turns to the three factors previously mentioned. Skill specificity can be explained in terms of skills that are useful only in a particular employment situation, where they were learned, as opposed to general skills which can be transferred among many enterprises. Skill specificity increases the costs of training for the employer since the employee is less willing to make the investment himself to be trained for skills he cannot utilize elsewhere. As skill specificity increases, it becomes less likely that workers from the external market

will possess the necessary skills; thus, hiring costs such as recruiting and screening are also increased for the employer (Doeringer & Piore, p. 13-15,29-30).

The second factor is on-the-job training and is critical in the development of internal labor markets. On-the-job training is characterized by its informality. Often it is not recognized as a distinct process; it is simply assumed that a worker who has 'been around' for a while will know how to do certain things. However, the following elements appear to be involved. First, training typically occurs in the process of actual production. A worker learning a new job is often put right into the production process where he learns from his mistakes to master the task. Second, when instruction of one kind or another is required, it is usually provided by a supervisor, by the incumbent worker, or by workers at neighboring jobs. And third, the very process of on-the-job training tends to blur the distinction between jobs. That is, an experienced worker will adjust the tasks he performs as he trains a rookie worker. The veteran gradually shifts complex work to the rookie and reassumes the simple tasks. Eventually the tasks will even out, but, in the process, the jobs of the veteran and the rookie are mingled and integrated. The prevalence of on-the-job training is associated with several factors, but the primary factor is that for many jobs there

is no alternative to training on the job (Doeringer & Piore, p. 17-22).

The third factor is custom. Although custom is usually discussed in relation to wages, it is relevant to other situations. Custom at the workplace is an unwritten set of rules based largely upon past practice or precedent. These rules can govern any aspect of the work relationship from discipline to compensation. Custom, or customary law, is the natural outgrowth of the psychological behavior of stable groups. Where stability of employment is encouraged, a work group will begin to develop customs based upon precedent and repeated practice. As work rules become customary through repetition, they come to acquire an ethical status within the work group. Finally, it is worthwhile to note that the behavioral phenomena from which custom derives are collectively called learning theory and are reflected in the on-the-job training (Doeringer & Piore, p. 22-27).

Doeringer and Piore have developed these three factors with a pure internal labor market primarily in mind. However, as hinted at by the discussion of Braverman, it will soon be evident that these elements can be applied a little more broadly.

The Occupational Internal Labor Market

Doeringer and Piore also make mention of craft internal labor markets, the governing rules of which tend to be more rigid than those found in manufacturing establishments (p. 3-4). Althauser and Kalleberg (1981) give a much more thorough discussion of craft, or occupational, internal labor markets (OILMs). These markets reach across employers and geographic regions. Althauser and Kalleberg redefine the internal labor market into two types of markets, one of which is the OILM. They propose that OILMs exist for incumbents of one occupation, but not necessarily confined to one employer, or of two or more associated occupations. The workers enjoy some shelter from external competition because of the type or degree of skills required (p. 130).

Kerr makes a similar distinction with what he calls a craft internal labor market. In the craft internal labor market, knowledge and tasks are regarded as common to the group, and every member of the craft has essentially the same base of training and information from which to draw (p. 97-98). Braverman alluded to this type of market when he suggested that persons already in a certain level position would be the ones considered for other such jobs. He offers the idea that some skills can be transferred from firm to firm within an occupation.

Althauser and Kalleberg describe OILMs as strongly influenced by the people who hold jobs in the occupation. Senior incumbents influence entry in a variety of ways. By judging the ability of candidates to meet skill and entry requirements, senior workers often have a decisive effect on how many applicants obtain jobs. Therefore, hierarchical job ladders that help establish internal labor markets can provide some employees with the means to control work processes, and on-the-job training becomes even more important for those at the lower levels. It is almost as if a veteran worker must sponsor a rookie worker (p. 132-133).

There are a few other distinguishing features of OILMs. One is that there are specialized skills and knowledge which can be acquired only through practice. Generally the period of training before employment is long. Finally, OILMs are marked by employees' movement between jobs in the market (Althauser & Kalleberg, p. 134-135).

It is possible to relate this segment of the discussion to this specific study. In this study, the OILM is comprised of all teams in the National Football League. The NFL head coaches have knowledge and skills common to all NFL head coaches; therefore, they are able to move between head coaching jobs relatively easily.

The Industrial Internal Labor Market

The concept of the internal labor market can be expanded once more. This actually takes the occupational internal labor market one additional step; the result is the industrial internal labor market (IILM). Mangum, Morlock, Pines, and Snedeker (1979) point out that some occupations are peculiar to a certain industry. They also indicate that that industry exists to produce a product not produced by any other industry (p. 98). With reference to the current study, an industrial internal labor market can be defined. Here the IILM would include all segments of the football industry, that is, all of professional and non-professional football. With this in mind, one can easily imagine the route of a coach working his way up through the amateur ranks and on to the professional leagues until he is the head coach of a professional team.

If a coach does indeed follow this route, does he move upwardly purely on the basis of merit? Ralph Turner (1960) describes an alternative method of mobility found in some occupations and industries. Turner illustrates two systems of mobility: contest mobility and sponsored mobility. In a system of contest mobility persons are able to determine their own mobility through hard work or the lack of same. This system is couched in the 'land of opportunity' ideal where all people have equal opportunities to advance and

succeed. By contrast sponsored mobility occurs where "recruits are chosen by the established elite or their agents . . . upward mobility is like entry into a private club where each new member must be 'sponsored' by one or more of the old members" (p. 856). Those who are selected are separated from others, are given specialized training and socialization, and are guaranteed that they will attain elite status (p. 855-860). Although Turner formulated and expressed these ideas in reference to education, the same phenomenon might be found in other industries. In the industry of football, for example, this type of sponsored mobility may be facilitated by a mentor. Perhaps the most important function of a mentor would be to introduce his 'student' into the professional ranks. This would probably occur by the mentor, a head coach, hiring his student as an assistant coach. That would be the 'membership card' to the professional league for the assistant coach.

Related Sport Literature

Research by Kenneth Lehn (1984) suggests that professional baseball has a system of information distribution and collection similar to the intensive information system described earlier. Although this work deals with players in the free agent market, Lehn describes a system through which all firms, teams and buyers, of the

craft are supplied with information about the workers, players and sellers, available for hiring. The information is of an intensive nature revealing the variations between the players. Thus, professional baseball has some components of an occupational labor market.

David Halberstam (1981) has documented the ups and downs of the 1979-80 season for the Portland Trail Blazers of the National Basketball Association. Although a novel, Halberstam's book is full of examples of information and training networks for both players and coaches. This book alone goes a long way in suggesting an occupational internal labor market for professional basketball.

John Massengale (1979) ventures as far as to call coaching an occupational subculture. Though he is referring to coaching in an educational setting, many of the characteristics Massengale describes are quite similar to those of the occupational, or craft, internal labor markets. Massengale describes a series of: training, coming up through the ranks, and apprenticeship. Also mentioned are 'favored models', or veteran workers, who set the pace. In addition, there are formal and informal rules which maintain the subculture. These features fit well with a model of occupational internal labor markets.

Abbott and Smith (1984) discuss the labor market of collegiate athletic personnel in general. Of the

approximately 40,000 people in the field in the United States, most are formally affiliated with universities through teaching positions in physical education departments. Most have college playing experience in the sport they coach which has been supplemented by internships in secondary school coaching. Thus, the college coaching labor market is basically an occupational, or craft, market. Within this there are two segments which have been historically separated, men's and women's athletics, or the men's system of jobs and the women's system of jobs. The typical career pattern of coaching a sport one has played has meant that in general coaches in the men's system have been males and coaches in the women's system have been females (p. 29-33). In addition, Abbott and Smith found that a departing male coach is most likely to be replaced by another male and least likely to be replaced by a female. A departing female coach is most likely to be replaced by another female and least likely to be replaced by leaving the position unfilled (p. 40). This provides further evidence of occupational internal labor markets in sport even though Abbott and Smith do not call it that specifically.

It should be noted that although Abbott and Smith's study was published in 1984, the study was concerned with samples of coaches from the years 1977-1978 and 1978-1979.

Since that time the patterns they reported have changed in some ways. In the years following the passage of Title IX, the number of women in athletic administration and coaching has decreased significantly while the number of men coaching women's sports has increased significantly (Acosta & Carpenter, 1985; Driscoll, 1986; Hart, Hasbrook, & Mathes, 1986; Holmen & Parkhouse, 1981; and True, 1986). This results in a drastically limited labor market in sport for women, particularly at the entry-level positions.

In another study, Loy and Sage (1981) present an exploratory examination of the directions and mechanisms of interorganizational mobility patterns of college coaches. They found that head college basketball and football coaches follow patterns of sponsored mobility closely resembling the sponsored mobility system set out by Turner. An individual who wishes to reach the top in sports experiences a similar pattern of mobility. This pattern is basically as follows. After competing as an athlete, the individual is recommended by his coach to understudy as an assistant coach with another head coach. Following this apprenticeship, the individual has the sponsorship of his mentor in seeking his own head coaching position (Loy & Sage, p. 338). Here again is evidence of an occupational internal labor market

Following up these findings, Loy and Sage suggest that the coaching profession has the basic characteristics of a

craft guild. In their study of 624 coaches, they found support for these premises. Results showed high correlation between previous coaching jobs and current coaching jobs. Loy and Sage propose that coaching career patterns could be linked to the 'old boy network', similar to sponsored mobility or mentorship, or to a farm system (p. 345). At any rate, this study gives support to the idea of occupational internal labor markets for sport, at least at the collegiate level. If Loy and Sage were to expand their study to include more levels of football and basketball than just the college level and get the same findings, it would indicate an industrial internal labor market.

Smith and Abbott (1983) analyzed the labor market specific to college football coaches. They traced the career paths of all active college football coaches for the years 1977-78 and 1978-79. From their findings, they concluded that the coaching market has many characteristics of an internal labor market. It is isolated from the general labor market and has certain constraints on internal mobility. There is a relatively stable set of established positions. The examined career patterns are consistent with career lines within an internal labor market. Two of the distinguishing characteristics are a fixed port of entry, secondary school coaching, and on-the-job training, apprenticeship as an assistant coach (p. 1148-1151).

Smith and Abbott also concluded that vacancies for head coaching positions are more likely to be filled by someone already in the college football market than someone who is not. Often a head coach leaving one head coaching position will move to another head coaching job (p. 1157).

Smith and Abbott found upward mobility documented by the fact that 44% of head coaching positions are filled by assistant coaches moving up (p. 1158). This is additional support for the claim that college football has an occupational internal labor market for its coaches.

The professional group of interest for this study is head coaches of the NFL. This researcher was unable to find previously published studies concerning this group and its potential labor market. However, the author has written a paper of an investigatory nature on this very topic (Scroggs, 1985). In the paper a review of the NFL head coaches for two years was presented, and it was found that there was some evidence of an occupational internal labor market. However, a larger study is needed to substantiate these findings.

Summary

The literature outlined here first presented the idea of labor markets in general. That idea was then fine-tuned for the internal labor market. From that point three different kinds of internal labor markets were delineated: pure, occupational, and industrial. It may be beneficial to the reader at this time to restate the proposed equivalent markets in football. A pure internal labor market exists with mobility occurring within one team. An occupational internal labor market exists with mobility between teams of one league, specifically the National Football League. An industrial internal labor market exists with mobility between different levels and segments of football, such as college and professional leagues. With these theoretical markets in mind, this study set out to determine if the head coaches of the NFL for 1970 to 1975 and 1980 to 1985 had career paths exemplary of the internal labor markets.

Chaper III

Methodology

Introduction

For this study, data was collected on the National Football League head coaches for the years 1970 to 1975 and 1980 to 1985. The data profiles the career paths of the head coaches for evidence of an internal labor market. Since the variables were coded into nominal, discrete categories, chi square was the primary statistic used to analyze the data.

As stated earlier, the purpose of this study was to ascertain if there is an internal labor market for head coaches of the National Football League. What things may have significantly affected the process by which a person became an NFL head coach? When these things are found, will they be characteristic of an internal labor market?

The attempt to answer these questions takes its cue from James Rosenbaum. Rosenbaum (1984) notes that far too much of internal labor market theory assumes that career history is irrelevant. Such theories suppose that all persons in a given position arrived there in the same way. Rosenbaum indicates many studies and situations where this is not true; therefore, information on individual employee career histories is of vital importance when studying

patterns of mobility (p. 24-27). Rosenbaum suggests that individual career histories can help answer several key questions: (1) Do early attainments affect later career outcomes?, (2) Do early jobs have continuing effects on career attainments?, and (3) Do career patterns change over time? (p. 31-35). This is the type of approach that this study takes by collecting and comparing various pieces of information about the routes that NFL head coaches followed to their head coaching positions.

Data Collection

The data for this study was gathered from the Football Register which is published by the Sporting News Publishing Company. The Register is published each year, preceeding the NFL season, and contains information on National Football League teams, players, and head coaches. This study used the biographical sketches of first year head coaches presented in the Register for the years 1970 to 1975 and 1980 to 1985. The sample size was 108. The information was converted into numerical data suitable for statistical analysis.

The biographical sketch for each coach contained information on the coach's education, playing experience, and coaching career. From the sketches certain information was culled to be used in the testing of the hypotheses. For

each head coach the following questions were answered: (1) Was he a professional player?; (2) If he was a professional player, what position did he play?; (3) If he was a professional player, for what team(s) did he play?; (4) Was he a head college football coach?; (5) Was he an assistant coach in a professional league?; (6) If he was an assistant coach in a professional league, who was the head coach during his last assistant coaching position?; (7) If he was an assistant coach in a professional league, for what team(s) was he an assistant coach?; (8) What position did he hold immediately prior to his current position?; (9) Was he previously a head coach in a professional league?; and (10) For what team(s) has he been head coach?. The answers to these questions were coded so that proper statistical analysis of them could show support or non-support of the hypotheses (Appendix A).

Types of Data Analysis

With this data it was necessary to use nonparametric tests of significance. This is because the information was assigned to discrete categories, and the difference between categories could not be measured. The nonparametric test used to test the hypotheses was chi square. Chi square is a statistical technique which determines whether or not the frequencies observed in a sample depart significantly from

expected frequencies. The hypotheses are stated as alternative hypotheses which indicates that all possible responses were not expected to occur in equal frequencies. The expected frequencies were determined by the theoretical guidelines (Appendix B). The one-sample chi square test was used to test the first thirteen hypotheses for each of the two sample groups, 1970-1975 and 1980-1985, and for the total sample. Hypotheses 14 and 15 used one-sample chi square tests also, but they were tested only for the total sample. This is because the expected frequency per cell would have been too small for the two sample groups to obtain a meaningful statistic. The level of significance for these tests was .05 (Hinkle, 1979, p. 142). With this sample size, a 5% chance of error is as liberal as is advisable. As the results of the chi square tests are reported, frequency distributions are also presented so that the reader may have a better understanding of what the chi square test is interpreting.

Summary

Data concerning career histories was collected for each NFL head coach for the years 1970 to 1975 and 1980 to 1985. This nominal data was analyzed using chi square to find significant differences between career paths. Then the hypotheses were shown to have support or non-support.

Chaper IV

Data Analysis

Introduction

This chapter presents the results of the data analysis for this study. The specific statistics discussed are frequency distributions and chi squares. The order of the discussion is determined by the hypothesis to which the particular variable is related. Each variable, except variables 19 and 33, is presented first for the sample group 1970-1975 and the sample group 1980-1985; then the results are given for the total sample.

Frequency distributions can be found for all relevant variables in Table 1, on pages 34, 35, 36, and 37. These distributions will be discussed along with the chi square test results in the following sections. This may be helpful for understanding the chi square statistics.

Before proceeding, the reader may wish to refer again to Appendix B. This will refresh the reader on the expected frequencies used in calculating the chi square statistics. It also explains the reasoning behind the expected frequencies.

Chi squares for the first set of hypotheses

The first set of hypotheses tested for evidence of an industrial internal labor market and consisted of five

Table 1. Frequency distributions for all relevant variables for total sample.

V	V Label	Value Label	Frequency	%	Valid %
V3	NFL player?	No	52	48.1	48.1
		Yes	56	51.9	51.9
V4	Player in other pro league?	No	98	90.7	90.7
		Yes	10	9.3	9.3
V11	Head college coach?	No	72	66.7	66.7
		Yes	36	33.3	33.3
V18	Assistant and head coach for same pro team?	No	47	43.5	54.0
		Yes	40	37.0	46.0
		NA	21	19.4	-
V19	Position played?	Quarterback	9	8.3	16.4
		Running back	2	1.9	3.6
		Receiver	14	13.0	25.5
		Lineman	15	13.9	27.2
		Defensive back	14	13.0	25.5
		Kicker	1	.9	1.8
		NA	47	43.5	-
		Missing	6	5.5	-
V25	Player and head coach for same pro team?	No	41	38.0	68.3
		Yes	19	17.6	31.7
		NA	48	44.4	-
V27	Head NFL coach before?	No	74	68.5	68.5
		Yes	34	31.5	31.5
V28	Head coach in other pro league?	No	94	87.0	87.0
		Yes	14	13.0	13.0
V29	NFL assistant coach?	No	21	19.4	19.4
		Yes	87	80.6	80.6

Table 1 cont.

V	V Label	Value Label	Frequency	%	Valid %
V30	Assistant coach in other pro league?	No	103	95.4	95.4
		Yes	5	4.6	4.6
V31	Assistant coach and player for same pro team?	No	29	26.9	54.7
		Yes	24	22.2	45.3
		NA	55	50.9	-
V32	Player, assistant coach, and head coach for same pro team?	No	41	38.0	77.4
		Yes	12	11.1	22.6
V33	Last mentor?	G. Halas	3	2.8	3.4
		H. Svare	1	.9	1.1
		V. Lombardi	1	.9	1.1
		P. Brown	2	1.9	2.3
		N. Hecker	1	.9	1.1
		J.L. Howell	2	1.9	2.3
		L. Rymkus	1	.9	1.1
		J. Rauch	2	1.9	2.3
		W. Ewbank	3	2.8	3.4
		T. Landry	6	5.6	6.9
		D. Shula	6	5.6	6.9
		A. Davis	1	.9	1.1
		H. Gilmer	2	1.9	2.3
		G. Wilson	1	.9	1.1
		S. Gilman	3	2.8	3.4
		A. Sherman	1	.9	1.1
		B. Grant	4	3.7	4.6
		D. Nolan	2	1.9	2.3
		C. Rush	1	.9	1.1
		T. Fears	2	1.9	2.3
		J. Dooley	1	.9	1.1
		J. Schmidt	3	2.8	3.4
		B. McPeak	2	1.9	2.3
		D. McCafferty	1	.9	1.1
		N. VanBrocklin	2	1.9	2.3
		N. Skorich	3	2.8	3.4
		G. Allen	5	4.6	5.7
		D. Devine	1	.9	1.1

Table 1 cont.

V	V Label	Value Label	Frequency	%	Valid %
		C. Knox	4	3.7	4.6
		C. Fairbanks	2	1.9	2.3
		J. Madden	2	1.9	2.3
		D. Coryell	3	2.8	3.4
		L. Holtz	1	.9	1.1
		H. Stram	1	.9	1.1
		T. Prothro	1	.9	1.1
		B. Phillips	1	.9	1.1
		J. Gibbs	1	.9	1.1
		R. Perkins	1	.9	1.1
		W. Michaels	1	.9	1.1
		B. Walsh	1	.9	1.1
		L. Steckel	1	.9	1.1
		D. Reeves	1	.9	1.1
		S. Rutigliano	1	.9	1.1
		NA	21	19.4	-
V34	First job back?	NFL head	19	17.6	17.8
		NFL assistant	66	61.1	61.7
		NFL player	0	.0	.0
		Other pro	8	7.4	7.5
		College head	14	13.0	13.1
		College assist.	0	.0	.0
		High school	0	.0	.0
		NA	0	.0	-
		Missing	1	.9	-
V35	Second job back?	NFL head	11	10.2	10.3
		NFL assistant	50	46.3	46.7
		NFL player	10	9.3	9.3
		Other pro	7	6.5	6.5
		College head	17	15.7	15.9
		College assist.	12	11.1	11.2
		High school	0	.0	.0
		NA	0	.0	-
		Missing	1	.9	-
V36	Third job back?	NFL head	8	7.4	8.2
		NFL assistant	38	35.2	38.8
		NFL player	11	10.2	11.2
		Other pro	1	.9	1.0
		College head	8	7.4	8.2
		College assist.	32	29.6	32.7
		High school	0	.0	.0
		NA	10	9.3	-
		Missing	0	.0	-

Table 1 cont.

V	V Label	Value Label	Frequency	%	Valid %
V37	Fourth job back?	NFL head	0	.0	.0
		NFL assistant	24	22.2	27.3
		NFL player	7	6.5	8.0
		Other pro	4	3.7	4.5
		College head	12	11.1	13.6
		College assist.	34	31.5	38.6
		High school	7	6.5	8.0
		NA	20	18.5	-
		Missing	0	.0	-
V38	Fifth job back?	NFL head	2	1.9	2.7
		NFL assistant	9	8.3	12.3
		NFL player	11	10.2	15.1
		Other pro	3	2.8	4.1
		College head	8	7.4	11.0
		College assist.	31	28.7	42.5
		High school	9	8.3	12.3
		NA	35	32.4	-
		Missing	0	.0	-

individual hypotheses. The first hypothesis was tested by V11. The expected frequencies called for 75% of the subjects to have been head college football coaches. However, in the total sample, 36 of the 108 subjects had been head college coaches. This resulted in a chi square of 100.000 which was significant at the .05 level. As seen in Table 2, on page 39, this was borne out for the two sample groups. These results did not support the hypothesis.

The second hypothesis was tested by V4, 'player in other pro league?'. It was expected that 75% of the subjects had been professional league players in a league other than the NFL. The chi square for the total sample was 248.938, significant at the .05 level. Table 2 shows that the chi squares for the two sample groups were also significant at the .05 level. These tests did not support the second hypothesis.

The third hypothesis dealt with whether or not subjects had been assistant coaches in a professional league other than the NFL; it was tested by V30. Although it was expected that 75% of the subjects would have been assistant coaches, nearly 95% had not been professional league assistant coaches outside of the NFL. The chi squares for the total sample, the 1970-1975 sample group, and the 1980-1985 sample group were 285.234, 167.350, and 118.021 respectively. All of these were significant at the .05

Table 2. Chi squares for tests of an industrial internal labor market.

V	1970-1975	1980-1985	Total
V4	145.186*	103.837*	248.938*
V11	53.557*	46.532*	100.000*
V28	145.186*	78.191*	221.679*
V30	167.350*	118.021*	285.234*
V34	105.579*	64.029*	169.125*
V35	45.251*	53.594*	97.598*
V36	20.103*	39.681*	57.483*
V37	0.725	5.365	4.909
V38	0.077	3.176	1.027

* significant at the .05 level

level. Table 2 shows these statistics. These results did not support the hypothesis.

Hypothesis four was tested by V28, 'head coach in other pro league?'. Table 2 presents chi square values which were significant at the .05 level for all three tests. Table 1 illustrates that of the 75% of the subjects, 81, expected to have been head coaches, only 13%, or 14, had been. These results did not support the hypothesis.

The fifth hypothesis tested for an industrial internal labor market in general using variables 34 through 38. These variables traced which jobs subjects held prior to their current ones. This hypothesis expected that 75% of the subjects held positions specific to an IILM, that is, not in the NFL. Table 2 indicates that V34, V35, and V36 had chi squares significant at the .05 level. However, V37 and V38 chi squares were not significant at the .05 level. This gives partial support of the hypothesis. The specific implications of this are discussed in Chapter V.

Chi squares for the second set of hypotheses

The second set of hypotheses was comprised of four hypotheses and tested for an occupational internal labor market. The sixth hypothesis was tested by V3. V3 recorded if subjects were NFL players. In keeping with the theory of an OILM, the expected frequency was that 81, or 75%, of the

subjects had been NFL players. Table 1 shows that 56, or 52%, of the subjects were NFL players. The chi square values, in Table 3, were significant at the .05 level. This did not support the hypothesis.

Hypothesis seven was tested by V29, 'NFL assistant coach?'. As in the previous hypothesis, 75% of the subjects were expected to have been NFL assistant coaches. Table 1 shows that 87, or 81%, of the subjects were NFL assistant coaches. The chi square values of 0.005, 3.752, and 1.778 in Table 3 were not significant at the .05 level. This did support the seventh hypothesis.

The eighth hypothesis deals with V27, 'NFL head coach before?'. Unlike the expected 75%, 32% of the subjects were NFL head coaches before their current jobs. The three chi square tests yielded values significant at the .05 level. These did not support this hypothesis.

Hypothesis nine, like hypothesis five, used variables 34 through 38. These were used to test for an occupational internal labor market; that is, previous jobs were expected to have been in the NFL. The tests revealed that most of the most recent jobs were in the NFL. The first and second jobs back heavily favored the NFL. The third job back began to split between NFL and non-NFL positions. The fourth and fifth jobs back were concentrated in non-NFL jobs. These statistics can be found in Tables 1 and 3. This gave

Table 3. Chi squares for tests of an occupational internal labor market.

V	1970-1975	1980-1985	Total
V3	16.530*	14.362*	30.864*
V27	57.973*	51.241*	109.086*
V29	0.005	3.752	1.778
V34	1.579	0.029	1.125
V35	5.251	0.261	4.265
V36	14.769*	2.348	14.816*
V37	48.725*	26.698*	74.242*
V38	56.077*	24.510*	78.361*

* significant at the .05 level

limited support to the ninth hypothesis; this is discussed further later.

Chi squares for the third set of hypotheses

The third set of hypotheses tested for a pure internal labor market. There were four hypotheses in this set. Each of these hypotheses checked for movement within one professional team. It was expected that 75% of the subjects would have experienced advancement with one team.

The tenth hypothesis dealt with if subjects had been players and assistant coaches for the same professional team and was tested by V31. Of the subjects who had been players and assistant coaches, 45% were in such postions for the same team. This resulted in chi square values significant at the .05 level as seen in Table 4. These did not support the hypothesis.

Hypothesis eleven, using V25, had results similar to those for hypothesis ten. Nineteen, or 32%, of the subjects had been players and head coaches for the same team. The chi squares for V25, all significant at the .05 level, did not support the eleventh hypothesis.

Hypothesis twelve likewise was not supported. Of subjects who had been professional league assistant coaches, 40, or 46%, had been assistant and head coaches for the same

Table 4. Chi squares for tests of a pure internal labor market.

V	1970-1975	1980-1985	Total
V18	15.333*	24.593*	39.084*
V25	40.238*	20.280*	60.089*
V31	16.044*	9.058*	24.962*
V32	42.711*	34.797*	77.491*

* significant at the .05 level

team. The three chi square tests produced statistics significant at the .05 level.

The thirteenth hypothesis was concerned with whether or not subjects had been players, assistant coaches, and head coaches with the same team. Chi square tests on V32 had values significant at the .05 level as shown in Table 4. This is attributable to the fact that only 12 subjects out of a possible 55 had been players, assistant coaches, and head coaches for the same team. These results did not support the hypothesis.

Chi squares for the fourth set of hypotheses

The fourth set of hypotheses tested a couple of general principles for internal labor markets. The fourteenth hypothesis was tested by V19 and dealt with the position played, for those subjects who had been professional league players. The theoretical expected frequencies, as explained in Appendix B, predicted that among NFL head coaches who were players, there should be more linemen and defensive backs, which includes linebackers. However, the chi square value of 29.612 was significant at the .05 level as displayed in Table 5. This means that the hypothesis was not supported and that positions did not occur in the expected frequencies. The primary differences came in too

Table 5. Chi squares for tests of general principles.

V	Total
V19	29.612*
V33	38.931

* significant at the .05 level

few linemen, too many quarterbacks, and too many receivers. These frequencies can be seen in Table 1.

The fifteenth hypothesis tested the idea of mentor. Since there was not a logical way to project which mentor(s) would be the most common, the hypothesis was a null hypothesis. The chi square statistic was 38.931, as seen in Table 5. This was not significant at the .05 level, which supports the null hypothesis. Although the test did not show significant differences in the frequencies of mentors, there were several mentors who occurred considerably more than others. As shown in Table 1, Tom Landry, Don Shula, George Allen, Bud Grant, and Chuck Knox were the most common mentors.

Summary

This chapter has presented the results of the statistical analysis for this study. With regard to the chi square tests, most variables did have chi squares which were significant at the .05 level for the two sample groups and for the total sample. The exceptions were industrial and occupational internal labor markets in terms of the chain of jobs leading to the current positions. Variables 29 and 33 were also exceptions. The implications of these tests are discussed in the next chapter.

Chapter V

Discussion, Implications, and Conclusions

Introduction

The preceeding chapter presented the statistical results of the data analysis performed on the data set for this study. This chapter attempts to put those results in perspective with regard to the overall research questions. The first section interprets the data analysis results in terms of the research hypotheses and theoretical basis of the study. The second section addresses the implications of the results. This includes suggestions for further study. The final section contains concluding comments. Among the concluding comments are general and summarizing statements about the study.

Discussion

This research investigated the existence of an internal labor market for National Football League head coaches. There were tests for three specific types of internal labor markets: industrial, occupational, and pure. There also were tests for a couple of general principles.

Industrial Internal Labor Market

The general results of the tests for an industrial internal labor market were presented in the last chapter.

What do those results really mean for this study? As reported, the first four hypotheses were not supported. Theoretically, 75% of the sample should have been head college coaches, players in a professional league other than the NFL, assistant coaches in a professional league other then the NFL, and head coaches in a professional league other than the NFL. These were the positions considered to be the primary jobs of an industrial internal labor market for NFL head coaches. Apparently, this is not correct.

The results for the last hypothesis in this section suggest that an IILM may exist in a limited capacity. These tests showed that elements of an IILM are predominant several jobs back from the current job for subjects. However, the most frequent IILM position was assistant college coach. This indicates a different anchor link in a chain of an industrial internal labor market.

Occupational Internal Labor Market

There were four hypotheses pertinent to this labor market. One hypothesis, seven, was strongly supported by the data. Clearly, being an NFL assistant coach is an integral part of becoming an NFL head coach.

The sixth hypothesis was not supported. Over half of the subjects had been NFL players, but this did not significantly differ from the number who had not been NFL

players. Evidently being an NFL player does not play a major role in becoming an NFL head coach.

Hypothesis eight was not supported. Thirty-two percent, as opposed to the 75% expected, of the subjects were head NFL coaches prior to their current positions. This does not seem to have been a factor in subjects landing their current jobs.

The ninth hypothesis tested for an occupational internal labor market through the series of jobs prior to the current positions. The tests revealed that in terms of the most recent jobs, an OILM is definitely in place. As far as three jobs back, approximately 2/3 of the sample held positions within the OILM defined as the NFL. Of course, of these jobs NFL assistant coach was the most prominent position. These results indicate positive evidence of an OILM to a considerable extent.

Pure Internal Labor Market

For this study, the pure internal labor market was defined as any one NFL team. There were four hypotheses testing for a PILM. None of these were supported. Less than half of the subjects had experienced movement within any one team. This is not substantial enough to state that there is a pure internal labor market.

Additional Information

There were two hypotheses which tested for some general elements of an internal labor market. The first of these two looked at what position was played by those subjects who had been professional league players. The test of this variable had significant results. There were a large number of linemen and defensive backs, which includes linebackers, as expected. Yet, there were twice as many receivers as expected and over three times as many quarterbacks as expected. This suggests that in terms of proportions, some positions are over-represented. Perhaps of those subjects who were players, the position played gave some a boost in their careers.

The last hypothesis is a bit difficult to interpret. The chi square for 'last mentor' was not significant at the .05 level; however, the statistics revealed that some mentors accounted for more 'students' than did others. Those mentors were Tom Landry, Don Shula, Bud Grant, George Allen, and Chuck Knox. Of all those who were mentors as defined by this study, these five accounted for nearly one third of the 'mentoring'. The other two thirds was split up among 40 others. These may be considered to be the most successful mentors.

Implications

The first thing that can safely be done is to throw out the idea of a pure internal labor market for NFL head coaches. So then, what are the implications regarding the other two markets? In terms of an industrial internal labor market, this study suggests that the IILM for NFL head coaches should be redefined. Perhaps the IILM should be considered as football at levels other than professional and not include other professional leagues in the IILM.

These results also indicate that such an industrial internal labor market is present in the earlier stages of a career. Then the career shifts to be more concentrated in the NFL. There is a shifting point between the IILM and the OILM. In this study that point was found to be at about the third or fourth job back from the current job. This means that an occupational internal labor market is in practice at a later point in one's career.

This research did not consider which team the subjects coached. To include the element of team might reveal patterns specific to particular teams in terms of whom they hire. Information of this type may supplement the theory of an occupational internal labor market.

A second way to consider the element of team would be to test for team affiliation in the same way for which mentor was tested. The object would be to determine if the

team with which one has his last professional assistant coaching position can be a significant influence on the rest of his career. This too would be related to an occupational internal labor market.

The premises of internal labor markets for NFL head coaches could be further tested by trying to predict future head coaches. Using supported elements of the IILM and OILM, one might pin point current NFL assistant coaches, accodring to their career paths to date, as those most likely to advance to a head coaching spot. This would require some time so that those individuals could be tracked to see if they did become head coaches.

In a similar manner the general principle of the mentor could be tested out over time. The first step would be to maintain a list of the current assistant coaches of those head coaches found to be the primary mentors. Then the future careers of those assistant coaches would be followed to see if they become head coaches. This would determine if these mentors are still providing the league with the same percentage of head coaches.

A fifth possibility for further study would utilize the concepts of a 'job tree' and position played. The 'job tree' was actually an inverted tree tracing the previous jobs of subjects. This is how variables 34 through 38 were developed. It might be interesting to compare 'job trees'

of subjects who played certain positions against those of subjects who played other positions. In other words, do subjects who played an over-represented position have significantly different 'job trees' from others?

Conclusions

The study provided substantial evidence of an internal labor market for National Football League head coaches. However, that evidence was parcelled out between some elements of both industrial and occupational internal labor markets. There was no support for a pure internal labor market.

Individual facets of the industrial internal labor market that had been designated as the primary parts of the IILM did not stand up to the tests. Yet, in actually tracing career paths, other elements of the IILM were found to be much more dominant. This was especially true of the college assistant coach.

Tracing the career paths through the 'job tree' also revealed the presence of an IILM and an OILM in stages. It is as if subjects move first through a segment of the IILM and then advances to the OILM. In other words, there is an OILM in the short run and an IILM in the long run. This suggests that these markets cannot be considered separately but must be intertwined.

This can be more strongly stated. Despite the ability to define separately an OILM, the OILM actually is encompassed by the IILM since the IILM includes all levels of football. Therefore, collectively the results show the existence of an industrial internal labor market over the entire career path with a segment of the career being occupational internal labor market intensive.

In addition to the 'job tree' evidence, the occupational internal labor market was strongly supported by the variable 'NFL assistant coach". The indication here is that despite a few well-known, highly successful exceptions, the rule is that to become an NFL head coach one must first be an NFL assistant coach.

The concept of 'position played' turned out to be quite informative. The results of the tests on position played definitely show that there is a disproportionate representation of some positions, such as quarterback. This may be a reflection on the training process.

Finally, the element of mentor proved to be significant. The results suggest that assistant coaches under those head coaches tapped as the main mentors have a good shot of becoming head coaches. The recommendation and trust of certain mentors seem to carry quite some clout.

In conclusion, this researcher considers that this was a successful project. Although there are still some interesting questions to be answered, such as those raised by the implications, this study provided confirmation of internal labor markets for NFL head coaches. This is but a small part of studying the functioning of sport in this society, but it is a firm foundation for investigating other facets.

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Appendix A

The bulk of the data for this study was coded as dichotomous, nominal variables. The exceptions to this will be discussed later. Each coach received a code of '0', or No, or '1', or Yes, depending on whether he met the specific condition or not. For example, was he an assistant coach for an NFL team? The following are the variables coded according to this 0/1 scheme: V3-NFL player?; V4-Player in another professional league?; V11-Head coach for a college or university?; V18-Assistant and head coach for the same professional team?; V25-Head coach for any professional team for which played?; V27-Head NFL coach before?; V28-Head coach for any other professional league before?; V29-NFL assistant coach?; V30-Assistant coach for other professional league?; V31-Player and assistant coach for same professional team?; and V32-Player, assistant coach, and head coach for same professional team?. In instances where a variable was not applicable to a subject, it was coded as such then designated as 'missing' so that it would not be used in the statistical analysis.

There were variables that could not be coded dichotomously. One of these is V21, 'Mentor'. This has already been described as the head coach who hired a subject for his last assistant coaching job in the professional

ranks before he became an NFL head coach. As each new mentor appeared, he was added to a list and assigned the next code number 1 through 45. 'Not applicable' was also a possible code.

Variables 34, 35, 6, 37, and 38 used the same coding. These were the positions prior to the subject's current position. The possible responses were: high school coach, assistant college coach, head college coach, coach or player in a professional league other than the NFL, NFL assistant coach, NFL head coach, and not applicable.

V19 is 'Position played'. The possible responses for this variable were: quarterback, running back, receiver, lineman, defensive back, kicker, and not applicable. Defensive back includes linebacker.

For these last variables the specific code numbers for responses are not relevant. What is important is that all responses are recorded for correct frequencies. This is because the statistics used measured differences in the frequencies of response occurrence. With the second group of variables, as with the first, when a variable is not applicable to a subject it is coded as such. For example, not all subjects were professional players. These responses are then designated 'missing' and not included in the statistical analysis.

Appendix B

The chi square statistic compares an expected frequency with an observed frequency. When the tests are used for null hypotheses, the expected frequencies assume that each response has an equal chance of occurring. However, for this study there is a theoretical basis for using unequal expected frequencies.

Each of the first thirteen hypotheses was tested by a dichotomous variable. The possible responses were 'yes' or 'no'. In order for the specific internal labor markets to exist, there should be more 'yes' responses than 'no' responses. The expected frequencies used here were 75% for 'yes' and 25% for 'no'. These percentages were chosen because no labor market is completely closed; therefore, there are going to be some exceptions to the rule. The 25% was allowed to cover these exceptions.

Hypotheses five and nine had some slightly different conditions. Hypothesis five tested for previous jobs in terms of an industrial internal labor market. For this, all NFL jobs were put into one category. The remaining positions were put into another category. The second category was the 'yes' category for the IILM. Hypothesis nine tested for an occupational internal labor market. In this case, the NFL jobs category was the 'yes' category.

Once again, the 'yes' categories had expected frequencies of 75%.

The fourteenth hypothesis is not dichotomous. The expected frequencies were computed on the basis that there are 23 positions on a football team. For example, out of the 23 positions there is one quarterback; therefore, quarterback should appear as the response once in 23 times, or 4% of the time. The expected frequencies for the rest of the positions are as follows: running back=9%; receiver=14%; lineman=39%; defensive back=30%; and kicker=4%. Defensive back includes linebacker.

The fifteenth hypothesis is slightly more complicated. Theory suggests that there are some mentors who act in that capacity more than other mentors. Yet, that theory does not help determine who are those mentors. In this case, the variable was tested using equal expectancies. If this resulted in a significant chi square, then it can be determined which mentors were the principle mentors.

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