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Dr. Paul H. Hoepner, Acting Dean
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Dear Dean Hoepner:

As required by Graduate School policy, I am writing this letter to explain my minority dissenting opinion and disapproval of the doctoral dissertation of Everett E. White, "An Economic Analysis of the Causes of Unionization of College Faculty".

My major objection to the final version of this dissertation is that I gave Mr. White the sources of directly related research with which to make his earlier drafts into an acceptable quality piece of research. Mr. White chose rather to either disregard those sources or to merely write brief comments on them in his review of the literature rather than intergrating their research finding into his own. His most serious omission in this regard is his failure to intergrate the work of Richard Freeman, particularly The Market For College Trained Manpower, into White's own fitful attempts at explaining market "failurure" in the labor market for college faculty.

From the perspective of labor economics and labor relations, White's modeling of the key agents in unionization leaves out a crucial party, i.e., union leaders and national labor organizations. Given the existing literature on the degree of discretion of union leadership inherent in the absence of effective competition for union leadership, this oversight is not acceptable. Moreover, I stated this problem to Mr. White before this final draft was written.

In a similar view Mr. White chose to disregard a major revision I suggested of his historical perspective on unionization of professors, i.e., a discussion of the rise of the American Association of University Professors and its union-like behavior. How Mr. White could not see this connection between A.A.U.P. agitation and lobbying for tenure laws, due process, and salary comparisons, on the one hand, and the collective bargaining goals of professor's unions, on the other, is beyond me. Indeed, one might argue that many faculty members did not move to unionization precisely because of the job rights and benefits secured for them by the A.A.U.P.

Finally, Mr. White's dissertation gives much evidence of being a hurriedly and confusedly constructed manuscript. For example he lays out a set of explicit assumptions about the unionization of faculty at one point in the dissertation, e.g., when a representation election will occur, and then proceeds to develop his "model" of unionization independently of these assumptions. Likewise, his empirical work is taken almost entirely from other authors' research based on entirely different models of unionization.

In summary, I cannot in good, scholarly conscience sign Mr. White's dissertation.

Sincerely,

Bernard F. Lentz
Assistant Professor of Economics

/dt

AN ECONOMIC ANALYSIS OF THE CAUSES OF UNIONIZATION
OF COLLEGE FACULTY

by

Everett Edison White, III

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in

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While accepting responsibility for the contents of this dissertation, I must also recognize those persons whose contributions were valuable to me. Of course, my committee and chairman made contributions to my understanding and development of the topic of this dissertation. My chairman, Professor Gordon Tullock, deserves special appreciation. He not only gave his time for helpful discussion, but he also exercised considerable patience and always read draft materials without delay. His encouragement was coupled with an honest evaluation of the situation, a most useful combination.

Special consideration is necessary for those who prepared the final version for submission to the graduate school. Eva D. McClain did so much more than the typing that I could not begin to express my gratitude adequately. She is professional in every sense of that term, and I am honored to have had her help. My thanks also go to those who worked with her. Cathleen Coolidge performed many tedious and time-consuming chores, far beyond those usually handled by a proofreader. Martin Eiss prepared the figures for the dissertation.

Finally, the contributions of my wife, _____, and our daughters, _____ and _____, will not be found on the pages of this dissertation. Instead, their contributions took the form of relinquishing my time and attentions which were diverted to this project, and the gift of their time and attentions which helped to make the work worth doing.

E. E. W.

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CHAPTER I

INTRODUCTION

For at least the past 25 years, the level of unionization of the American labor force has remained fairly stable at about 25 to 30 percent. Recent growth in unionization has occurred primarily in the public sector, and it has resulted in some modest increases in the fraction of the total labor force which bargain collectively with their employers for wages, hours, and conditions of employment. For the most part, these workers represent public sector counterparts to previously unionized private sector employees. There is, however, one major exception to this general pattern, namely college faculty, who are usually considered as part of that general category of professional worker who traditionally bargain independently with their employer and depend on the market to protect them from exploitation. The purpose of this dissertation is to explain why faculty will vote for a union at their institution, and to predict which types of institutions are most likely to become unionized.

To be more specific, while only 11 campuses were unionized in 1966, 358 (or 12 percent of all campuses) had unions in 1975. Since unionization is more prevalent at larger, state-run institutions, the 12 percent of the campuses that were unionized employ 20 percent of all full-time teaching faculty. Of course, not every campus has experienced a significant, organized attempt to form a union, and many existing state laws make unionization impossible or unlikely.

The significance of the magnitude of the movement toward unionization can be found in the results of a 1975 survey which found that 71 percent of all faculty surveyed said they would vote for a union and only 21 percent would vote for no collective bargaining agent (Ladd, p. 11). Tables 1 and 2 illustrate the trend in elections and unionization.¹

Some general socially significant effects should result from unionization of a significant portion of college faculty. Unions usually cause a general increase in the wages of their members, and if this is true for unionized faculty, then these higher wages would have to be financed by taxpayers, students, and student families. Whatever effect unionization has on wages, hours, and working conditions, both for union and for non-union faculty, will be of importance to college faculty, as well as to purchasers of their services. Of perhaps greater importance is the effect which unionization will have on the motivation of faculty to produce "meritorious" results either in teaching or research.

Unionization could also have important effects on the organization of higher education. One possible result is greater specialization of institutions, with the various tasks of research, graduate education, undergraduate education, and vocational education being pursued at separate institutions or in different combinations than at present.

The topic will be developed in eight chapters. Chapter II will review the literature related to the topic. Chapter III will present

¹The sources for these and all subsequent tables appear in Appendix I.

Table 1. Faculty Unionization in Public Institutions

State	4-year	2-year	Total
Alaska ^a	0	9	9
California ^b	0	0	0
Connecticut ^a	0	4	4
Delaware ^a	1	3	4
District of Columbia	0	1	1
Florida ^a	0	3	3
Hawaii ^a	2	7	9
Illinois	0	20	20
Iowa ^a	0	6	6
Kansas ^a	1	8	9
Maine ^a	0	4	4
Maryland	1	1	2
Massachusetts ^a	11	15	26
Michigan ^a	9	26	35
Minnesota ^a	7	18	25
Montana ^a	3	2	5
Nebraska ^a	4	0	4
New Hampshire ^a	0	0	0
New Jersey ^a	13	13	26
New York ^a	36	41	77
Ohio	3	0	3
Oregon ^a	1	7	8
Pennsylvania	16	10	26
Rhode Island ^a	2	1	3
South Dakota ^a	0	0	0
Vermont ^a	3	1	4
Washington ^b	1	27	28
Wisconsin ^b	<u>1</u>	<u>16</u>	<u>17</u>
Total	115	243	358

^a States which have collective bargaining laws applying to all of higher education.

^b States with laws applying only to two-year colleges.

Table 2. Elections for Bargaining Agents as of 31 December 1975

Type of Institution	Successful elections:			Unsuccessful elections:			All Elections
	4-year	2-year	Total	4-year	2-year	Total	
<u>Public:</u>							
Number	115.0	243.0	358.0	8.0	5.0	13.0	371.0
% in category	93.5	98.0		6.5	2.0		
% of all public elections	31.0	65.5	96.5	2.2	1.3	3.5	
% of all elections	24.7	52.1	76.8	1.7	1.1	2.8	79.6
<u>Private:</u>							
Number	55.0	6.0	61.0	33.0	1.0	34.0	95.0
% in category	62.5	85.7		37.5	14.3		
% of all public elections	57.9	6.3	64.2	34.7	1.1	35.8	
% of all elections	11.8	1.3	13.1	7.1	0.2	7.3	20.4
<u>All Combined:</u>							
Number	170.0	249.0	419.0	41.0	6.0	47.0	466.0
% in category	80.6	97.6		19.4	2.4		
% of all elections	36.5	53.4	89.9	8.8	1.3	10.1	100.0

a theoretical model which will be the basis for the analysis in the remaining chapters. The fourth chapter analyzes relative potential cartel powers of unions at various types of institutions of higher education. Chapter V presents a brief history of higher education in the United States, with special emphasis on changing market conditions and working conditions for faculty. Chapter VI is primarily descriptive of the legal environment, the issues involved in unionization, and the changing market conditions of the 1960s and 1970s. The next chapter examines and analyzes the effects of these changes on the supply of and derived demand for faculty. Chapter VIII analyzes the efficiency of the markets for faculty during these periods of changing conditions. The behavior of administrators, legislators, and faculty are the basis for the analysis. The last chapter applies the previous chapters to a summary of conclusions about the relative probabilities of unionization at the various types of institutions.

CHAPTER II

REVIEW OF THE LITERATURE

The purpose of this chapter is to review the literature which is relevant to the unionization of college faculty. By classifying the literature into two basic types, the contributions of the literature to the understanding of unionization may be made more clear. The types are: descriptive, and theories and tests of theories. Each type will be reviewed and discussed separately.

Descriptive Literature

The descriptive literature includes writings of participants (union leaders, administrators) and others who offer their opinions of the causes and effects of unionization, their recommendations, and their descriptions of events which are a part of the phenomenon of unionization. Also included in this category of literature are observations of changing legal environments in the states and collections of factual information about unionization in higher education. The factual and informative descriptive literature includes such areas as information about who belongs to unions, where unions exist, the results of survey research which provides information on the people involved and their attitudes on relevant topics, the market for Ph.D.s, the organization and governance of institutions, the content of contracts, and the effect of unions on salary, compensation, tenure, and promotions.

The group of descriptive literature which consists of observations of persons closely involved in unionization in higher education and interested observers is mainly subjective in nature. Much of this literature is contained in books which collect the essays of several people together. These anthologies are usually organized to address a certain theme such as the growth of unionization, faculty power, or the legal environment. The various essays will then be directed at covering the many aspects of the theme of the book. Therefore, we find some essays contain information and facts, including legal aspects, while other essays are mainly the author's observations as to the causes and effects of unionization.

There are usually recommendations for the future activities of the unions and for changes in the law. Some of the essays describe events, such as collective bargaining or unionization drives. While this literature will provide a general overview of the phenomenon of unionization, the subjective nature and lack of theoretical foundation limits its usefulness in explaining the growth of unions in higher education. Therefore, a detailed review of only one example of this group of literature will be presented, with a brief review of the other works of this type.

Collective Negotiations in Higher Education, edited by Michael Brick, is an example of the descriptive type of literature. In his introduction, Brick sees the most important consequences of collective bargaining in higher education as behavioral. That is, how will the "social systems" which determine behavior be structured? What "codes" for behavior will exist? The object of collective bargaining,

according to Brick, should be to agree on what constitutes desirable behavior by faculty (e.g., innovative teaching, responsible behavior, or hard work), and then establish "codes" of behavior which will have the desired effects. He assumes that most people will be responsive to these "codes" of behavior and will use the codes to cause desired behavior in others. Brick further believes that bargaining should be viewed as a new and difficult language which is both rich and diverse, and can therefore better deal with complex campus issues.

The first essay of this monograph is entitled "The Strategy and Tactics of Collective Bargaining," and is authored by Joseph N. Hankin, President of Westchester Community College. He begins the essay by stating that administrators should not be afraid of unions because they do good things such as fight for the 18-year-old vote and provide information on drug abuse. Hankin also claims that a legal framework is desirable, since it provides definitions for such terms as unit, administration, employer, and terms to be negotiated. He then distinguishes "participatory democracy" and "shared authority" in the university governance context. The former, he says, involves consultations and discussion, with the final decision being made by the authority with control, such as the board, president, etc. The latter also involves consultation and discussion, but each group involved has veto power over the decision. Participatory democracy describes the collegial relationship, but shared authority is more desirable to the faculty, since what is occurring is a power struggle, with power being defined as control over the allocation of resources within the university.

Hankin then discusses some changes in relationships brought about by unionization, such as greater formality in procedures for interaction between faculty and administration and the division of authority over issues between the faculty senate and the union. Unions usually are involved with the issues related to wages, hours, and working conditions, while the senates deal with educational issues. Hankin points out that there is much overlap which can create problems. He then devotes some space to the problem of determination of the bargaining unit and the range of negotiable items.

This is followed by a lengthy discussion of the strategy and tactics of collective bargaining. Strategy involves the broad plan of action, and it deals with such factors as selection of the bargaining team, gathering of adequate information, location of meetings, timetable, and secrecy. Tactics are described as the moves in the game, and they involve the timing of proposals and concessions. He offers advice for both parties in the negotiations. Finally, the author discusses strikes and slowdowns. He advises how to avoid them and how to deal with them. Also, he provides some unreferenced data on the frequency of strikes in education.

The second essay in this monograph, "Faculty Unionism and Tenure," by William F. McHigh, concerns the impact of unionism on tenure, and is based on personal experience, labor decisions, and faculty collective bargaining agreements. McHugh is a law professor and former Special Counsel for Employment Relations, State University of New York. He begins with a discussion of the causes of faculty unionism, which he also refers to as conditions conducive to unionism. He discusses

five, which are:

1. institutional complexity,
2. the spirit of confrontation,
3. encroachment on faculty autonomy,
4. fiscal restrictions, and
5. external organizations and the legal right to bargain.

Institutional complexity has caused decision making to go off-campus. The spirit of confrontation is viewed as a spin-off of the 1960s, with everyone having a cause and various groups fighting for their "rights." The encroachment on autonomy emanates from many sources: students, departmental affairs, curriculum matters, and evaluation. Faculty may not be able to have their own organizations, such as a senate, without students and other groups being included. Students have developed increasing interest in participation in governance. The "accountability" movement in state legislatures has resulted in encroachment in budgetary processes. Fiscal restrictions have led to program retrenchments which decrease faculty mobility and have made job security a major issue for untenured faculty, as well as creating internal institutional competition for resources. Because of the increase in laws which make unionization of public employees possible, unionization in higher education is increased. Unionization of other public employees has also given impetus to the unionization of college faculty as a means of competing for public funds. The external organizations such as the A.F.T. (American Federation of Teachers), A.A.U.P. (American Association of University Professors), and the N.E.A. (National Education Association) have the money and experience to organize unionization drives at

particular institutions. McHugh speculates that the competition among these three groups may create a steamroller effect in the unionization movement.

The next portion of this essay deals with the major features of a tenure system and what the author believes is one of its central problems. The main problem is the lack of formal procedures in most tenure systems and the lack of legal rights to hearings or due process for untenured faculty. There is too much uncertainty and too little control over the process. The author then discusses four characteristics of the bargaining process, which are:

1. it establishes an adversary relationship and a power struggle,
2. it establishes a bilateral relationship between the university and the faculty which is formalized,
3. it establishes a "collective relationship" with an exclusive representative for the entire faculty; and
4. resolution of conflicts depends on a neutral third party and may put issues before the public.

The following section deals with the question of whether or not tenure matters will be negotiable. McHugh claims that the environment is conducive to tenure negotiability, since a high percentage of faculty being non-tenured would make it a hot issue for bargaining, and the N.L.R.A. (National Labor Relations Association) allows for negotiation of tenure, as do most state public employment relations acts, as "terms and conditions of employment," and as a job security issue. Practice also shows that tenure matters are negotiable.

The next section covers the implications of tenure being negotiable. Some contracts include the governing board's policies, and therefore any changes in the board's policies on tenure must be negotiated. There will be more formalization and less individual adjustments made by the board. Less change by the administration to accommodate changing conditions will take place. The author also predicts rank ratios and rigorous procedures will be called for to make promotion possible from within the institution. McHugh suggests that these changes can be constructive by avoiding sudden changes and increasing faculty trust. Also, management rights and a managerial attitude are increased. If tenure is subject to grievance, he says, it will be difficult to determine if the problems are in procedures or the merit of the individuals initiating the grievance. In general, he concludes that tenure and promotion will become increasingly subjected to contract and grievance machinery.

"Collective Bargaining and Its Impact on Board-President Relationships," by Rose Channing, Stuart Steiner, and Sandra Timmerman, is another essay in this monograph. These authors view unionization as an evolutionary process which is changing the relationship between the board, the president, and the faculty. The teaching faculty is emerging as a power center, and the subordinate and superordinate relationships are being replaced by spheres of influence and defined responsibilities. The board of trustees is becoming a legitimizing and arbitrating body. The authors present a summary of a limited survey of board members as evidence of their conclusions. The survey was done by interview, with a set of 10 questions being asked two

trustees from each of three community colleges which were at least five years old and had collective bargaining for at least two years.

The last essay of this monograph is by E. Gordon Gee, and is entitled "An Examination and Analysis of State Public Employment Statutes with Recommendations for Statutory Treatment of Institutions of Higher Education." The author's primary hypothesis is that the major problem with existing laws is that they are modeled after private sector laws, which are not very applicable for the unique situation of higher education. He describes the N.L.R.A. and N.L.R.B. and their roles and functions. He then discusses the process of collective bargaining in the public sector, the legal reasoning which prevented any earlier legislation, and the changing legal attitude toward public sector bargaining legislation. The author then presents a typology of public sector laws passed by the states, ranking them by permissiveness. Gee then discussed five distinctions between the public and the private sector. The first of these is sovereignty of government, which refers to government as the final or ultimate authority, while in the private sector appeal may be made to higher authority should conflict arise.

Secondly, there are what Gee calls economic differences, one of which is that the public sector derives its income from taxes, and therefore may be viewed as a source of unlimited funds. The total amount of the budget is public knowledge, which may create pressure from various labor groups for their share. The public sector also suffers from lack of traditional restraints on labor, such as the lock-out, moving the location of the firm, the failure of the firm. Lack of these restraints gives labor an advantage in the public sector as

compared with the private sector. Another economic factor is the lack of a profit motive or competition in the provision of services. The public must pay the wage or do without the service. The public may refuse to pay higher taxes, but that may be translated into reduction in services rather than prevention of a wage increase. As another economic difference, the author notes that the public can move to avoid higher taxes. A final economic difference is that management in the public sector must keep a favorable public or political image, and therefore it will seek to avoid labor problems.

The third difference between the public and private sector is that in the public sector it is sometimes difficult to determine who is the employer, that is, who has final authority to bargain with the union. A fourth difference is the legislative restraints of the public sector where each state has its own laws which, at times, conflict with the civil service laws of that state. Finally, the right to strike is usually denied the public employee based on either allegiance to the government or the essential services argument.

The author examined 28 state laws and found most were similar to the N.L.R.A. and contained no special provision for higher education. Agencies comparable to the N.L.R.B. are usually established in each state, and they "interpret" the law, often contrary to specific language in the law, and only sometimes do they attempt to explore the statutory history to survey the intentions of the legislators. The agency usually has a great deal of autonomy. The author believes that uniformity of statutes is desirable because it reduces discontent among faculty in states with less favorable legislation. As the final section of his

essay, Gee proposes a set of recommendations designed to recognize higher education as a distinctive part of the public sector and to eliminate inconsistencies among the various states.

A second source which consists of a collection of essays is the product of the 1973 American Political Science Association meeting, at which a session was held on the topic of collective bargaining in higher education. Jack H. Schuster was chairman of that session, and he has edited the book, Encountering the Unionized University, which contains five of the papers presented at that session. Each essay, according to the editor's introduction, examines one aspect of collective bargaining, relying, wherever possible, on first-hand involvement and observation. Four of the authors are faculty members and one is an administrator. In addition to Schuster, Henry Mason, Ellis Katz, and Robert Carr are contributing faculty members. Caesar Naples, the other author, is the chief employment relations officer of the State University of New York. These authors express their opinions on several aspects of collective bargaining in higher education, but governance seems to be the predominant theme. Some data and general information are included in these essays.

Another book which collects essays is Collective Negotiations in Higher Education, edited by Clarence R. Hughes, Robert L. Underbrink, and Charles O. Gordon. This book is organized into four parts. The first part is background, including causes and consequences of unionization and basic differences in the bargaining affiliates. Five essays comprise this part. The second part concentrates on administrators and negotiation, the impact of unionization, and conflicting forces.

Four essays are contained in this part. The six essays of the third part concentrate on the impact of collective bargaining on faculty and students. The last section presents position papers of the A.F.T., N.E.A., and A.A.U.P.

E. D. Duryea and Robert S. Fisk have put together nine essays which collectively are intended to complement each other in creating a book, called Faculty Unions and Collective Bargaining. The first six chapters cover various aspects of collective bargaining and the last three are case studies. The authors have various backgrounds and experience with unionization in higher education.

Coeditors Terrence N. Tice and Grace W. Holmes have published two companion volumes on unionization in higher education. The first, in 1972, was Faculty Power: Collective Bargaining on Campus, followed one year later by Faculty Bargaining in the Seventies. Although these volumes are oriented around a legal perspective of collective bargaining, they contain some essays which are similar to those found in the above mentioned books, as well as others which report on case studies and effects of state and federal legislation which is concerned with collective bargaining in higher education. Each book also contains several appendices which contain information on legal decisions, state laws, union position papers, and other documents. These volumes are more descriptive and informational, and contain fewer claims to explain or predict the various changes in the unionization of higher education.

The book Collective Bargaining in Higher Education: The Developing Law, edited by Judith P. Vladeck and Stephen C. Vladeck, contains material on legal aspects of collective bargaining in higher education, as well

as a series of essays examining non-legal aspects. Nearly half of this book is devoted to these non-legal aspects, which take the form of the previously mentioned books. That is, these essays present their authors' interpretations of the various areas of interest, such as governance, tenure, causes of unionization, and position papers by the various national unions. The legal aspects section of this book deals with such topics as unit determination, the scope of collective bargaining, contract dispute resolution, administration of agreements, and third-party interests. These chapters rely mainly on case studies and existing legislation.

The second general category of descriptive literature provides information and facts which are relevant to the unionization among college faculty. This literature, along with government-collected data such as Digest of Educational Statistics, which is published by the Department of Health, Education, and Welfare each year, provides information which will help test the various hypotheses related to unions in higher education, as well as informing us as to the correct assumptions for our model. The theories should be consistent with observable facts if they are to explain and predict events in the real world.

The book, Collective Bargaining in Higher Education, by Steven Moss is one source of information about the content of contracts. Data on provisions of 100 bargaining agreements in effect through 1972 is presented in various tables. Some information on contract provisions is also contained in the literature reviewed above. Much of this contract information is found in the three books which are oriented

around the legal aspects of unions in higher education. These are the two by Tice and Holmes and the one by Vladeck and Vladeck, which are reviewed above.

Two books provide a history of higher education and information on the organization and governance of institutions. They are Richard Hofstadter and Wilson Smith's collection of documents which form American Higher Education: A Documentary History (volumes I and II), and The University: The Anatomy of Academe by Murray Ross. Two other books which contain information on organization and governance are The University as an Organization edited by James Perkins, and Unions on Campus by Kemerer and Baldrige. The latter is primarily a report of the results of survey research, as is Ladd's and Lipset's Professors, Unions, and American Higher Education. Unions on Campus is based on survey research done by the Center for Research and Development in Teaching at Stanford University. A 1971 survey included some questions relating to unions on campus, but it was generally related to governance. The survey was done at 240 institutions with questionnaires being filled in by the presidents of all of the institutions and a 53 percent response to a questionnaire sent to a random sample of 17,293 faculty and administrators. A second survey of presidents and faculty chairpersons of the local campus bargaining agent (at the unionized institutions) was taken in 1974 at the original 240 institutions (29 were unionized in 1974) and all other unionized institutions, for a total of 511. There was a 65 percent response rate for all of these questionnaires. Seven case studies were also done for this book. This research tends to be of limited use in explaining unions on campuses

due to the paucity of questions dealing with unionization in the first survey, and the limited sample in the second survey.

The Ladd-Lipset survey was taken in 1969 with a total of 60,028 respondents, and it was followed by a small sample (471) survey in 1972. Unfortunately, the two questions on the first survey which were intended to measure attitudes toward unions for faculty were not possible to use in discerning differing degrees of support or whether or not the respondent would vote in favor of (or join) a union. In fact, the two questions ask the respondent to agree or disagree with two rather extreme proposals: that collective bargaining has no place on campus; and that faculty strikes can be legitimate actions. However, the differences in response to these questions do provide evidence of differences in support for unionization among various groups of faculty, such as those at four-year and those at two-year institutions. The survey also asks numerous questions on attitudes and information about the respondents which provide many interesting ways to organize the faculty into groups for comparison.

One other survey research report which has some relevance is that of Harold L. Hodgkinson in Institutions in Transition. The author reports the results of his own survey of college presidents and some U.S. Office of Education data. He is attempting to discover changes in various aspects of higher education from 1958 to 1968. Several of these areas are relevant to unions in higher education, but Hodgkinson's question only asked for the respondents' perceptions of the direction of change and made no attempt to discover the magnitudes of these changes. This severely limits the value of these data. Nevertheless, at least

the direction of change at different types of institutions can be compared. There is also some indication of the market for Ph.D.s in academe.

The best available source of information about the labor market for faculty is Ph.D.s and the Academic Labor Market by Allan Carter. This is a very well done study based mainly on data collected by the federal government. The author analyzes both supply and demand factors. Predictions of future market conditions (beyond circa 1975) are based on the assumption that the relationships of the past will continue in the future, unless different forces are expected which would change the relationships. One factor which must remain uncertain (and therefore probably unaccounted for) is the influence of recent past history of relevant markets on individual responses to market forces. This factor alone makes prediction difficult, and therefore not too reliable. This is not to say that prediction is undesirable, for it is the ultimate value of all scientific work. We must simply recognize the accuracy which should be expected, and continue to improve upon that accuracy.

A more general work is Higher Education and the Labor Market edited by Margaret Gordon. This collection of articles covers various aspects of the labor market for college graduates and holders of graduate degrees. Included are articles by Allan M. Carter on the academic labor market and by Joseph Barbarino on unionism and the faculty labor market. These are the most relevant articles, but each can be said to add little which is not found in their longer works on these topics.

There are several references which contain information about which faculty are unionized, by which unions, and the amount of unionization at various types of institutions. One such book is Faculty Bargaining: Change and Conflict by Joseph Garbarino. He combines data with his impressions from campus visits, interviews with participants, his participation as an observer in meetings and conferences, and from collection and analysis of contracts and other written material. Faculty Collective Bargaining, which is a Chronicle of Higher Education handbook edited by Howard Means and Philip Semas, contains information on which institutions are unionized as well as general information related to unionization in higher education. An article by John Virgo, "Evolving Professorial Unionism," in the Atlantic Economic Journal, presents an overview of existing union activity and the usual issues raised by unionization, as well as some data. For the most part, this article stimulates thought on these various issues rather than providing analysis of the issues.

The final area of informational literature is that of studies of the observable differences between unionized and non-unionized institutions and changes over time of each type in such areas as salary, promotions, tenure, and working conditions.

In a recent Economic Inquiry article, William W. Brown and Courtenay C. Stone analyzed data on collective bargaining's impact on salary, compensation, and promotion at 37 unionized four-year colleges and universities. Their results indicate that:

1. Prior to unionization, faculty salaries and compensation levels were not unusually low.

2. Faculty salary and compensation growth rates were not unusually high under collective bargaining.
3. Interrank salary and compensation differentials were not significantly reduced by unionization.
4. Academic unions did not generate unusual upper rank faculty growth. (p. 395)

As shall be demonstrated in a later chapter, this is wholly consistent with the main thesis, which is that collective bargaining is mainly a response to the growth of bureaucracies and off-campus intervention in the organizations of higher education. That is, governance is the primary issue, rather than compensation or rank. The differences in public sector bargaining, with more direct voter-taxpayer interest than in the private sector, may also be a contributing factor to an explanation of the results of this article. Joseph Garbarino also provides similar data in Faculty Bargaining: Change and Conflict, but without statistical analysis as in Brown and Stone.

Theoretical Literature

Included in this group of literature are theories and empirical tests of theories which are relevant to the understanding of unions for college faculty. There is no consistent body of theoretical literature to explain unions, but rather there is a diverse group of theoretical works which attempt, in differing ways and from differing perspectives, to explain unions. The theories may be classified as: attitudinal, sociological, structural, environmental, and behavioral. Each will be discussed separately, but details of the results of studies will not be included. In later chapters, the literature which is relevant to this study will be further discussed.

Attitudinal theories suggest that persons with certain attitudes will be more likely to be union members than persons with different attitudes. The particular attitudes thought to be relevant differ from study to study. Some studies test to see if certain attitudes are relevant without any theoretical basis for the choice of attitudes to test for. Survey research is the usual method of determining attitudes, with samples usually limited to a particular firm or a few firms in a single industry.

In his article "Union Government in the U.S.: Research Past and Future," George Strauss reviews the literature on unions relevant to union government and offers suggestions for further research, which he feels is badly needed due to the inability of existing literature to explain very much about the phenomenon of unions. Topics include members' attitudes, participation, union leaders, minorities and women, the local union, national unions, and union democracy. Articles which are referenced in this article and relevant to the topic of this study are reviewed below.

Among these are the articles by Kleingartner, Goldstein and Indik, and Hellriegel, et al. Each of these deal with relationships between attitudes and unions. The first two concern unionized engineers, while the third involves unionized teachers. In the Kleingartner article, the relationship between attitudes toward professionalism and unionism is examined with a sample of 202 engineers at two California-based aerospace firms, whose responses were weighted to resemble the total engineer population of 6,115 at these two firms. About half of the sample were union members, while about 30 percent of the population

were union members. The author developed an index of professionalism based on: educational level, professional self-image, and occupational commitment. Generally speaking, the author found professionalism to be directly related to a more favorable attitude toward engineers' unions, while being inversely related to being a member of their union. Most of the sample found no conflict between being professionals and having a union, although they did not associate their unions (which are independent unions) with unions of production workers and did not wish to be in the same union. One conclusion which seems reasonable, but which was not proposed by the author of this article, is that attitude toward unionism is not a predominant determinant of union membership in this case. Neither union had a union shop or showed any interest in a union shop or union security, and this differs from the typical production workers union.

The voluntary nature of engineers unions attracted Goldstein and Indik to study two such unions for differences between those who joined the union and those who did not. The authors tested Ruth Kornhauser's thesis that differences would exist in "social background and in attitudes relating to the immediate situation, reflecting a present socially based choice" (Goldstein and Indik, p. 365). This study involves both prior socialization and attitudes. Surveys were sent to a sample of engineers at two sites where unions existed without closed shop, and a response totaling 705 persons was generated. The questions used to determine prior socialization involved education, socioeconomic origins, father's union status, and political outlook. Attitudes were measured by dissatisfaction with work environment, attitudes toward

their unions and union leaders, attitudes about unions in general, and attitudes about the relationship between professional ethics and unionism. The authors found no meaningful significant difference between members and non-members in the area of prior socialization or political outlook. The authors also found that there were differences between the members and non-members in the other areas. Members were less satisfied with their work environment and had more positive attitudes toward unions in general and their union and its leaders in particular. Those who felt a conflict between professional ethics and unionism were less likely to be union members than those who felt no conflict. The authors conclude that the local situation in which a large number of engineers share common problems is likely to generate a union if enough workers see this as a solution which is compatible with their attitudes and ideals. One should note, however, that this study does not tell us if these attitudes existed before the individuals became members of the union.

A study which was done where a union shop exists is that of Hellriegel, et al. In their study, all counselors and classroom teachers at eight secondary public schools in three school systems within the Seattle metropolitan area were asked to fill in a questionnaire. A 55 percent response generated a sample size of 355. The questions involved satisfaction with 11 aspects of their jobs, including salary, status, community support, community pressures, teaching as a profession, and several aspects of working conditions. Also measured were attitudes toward negotiations, strikes, strike penalties, and three other union-related attitudes. Support of teacher strikes was tested

for correlation with the 11 satisfaction areas. The findings show the highest correlation to be between salary satisfaction and support for strikes, with the least satisfied being most supportive of strikes. This was the only correlation significant at the .001 level. Seven others were significant at the .01 level, with teacher status satisfaction being most related to support for strikes. Again, the least satisfied were most supportive.

A similar study, but one which tests for a relationship between rank-and-file support and prior socialization, is that of Stephen Cole. A sample of about 300 teachers from New York City and a sample of 119 from Perth Amboy were used. The author does not say if they are all union members or not, but he separates his sample by religion (Protestant, Catholic, Jew), political party (Republican, Democrat), class origin (lower, middle), unionism (high or low, based on five items), and a few other variables such as age and sex. A measure of militancy was used for rank-and-file support, and this was then correlated with various subgroupings of the teachers, such as Christian Republicans, Jewish Republicans, etc., to determine the effect of prior socialization on support for unions. Cole finds that the militance of teachers is strongly influenced by non-teacher statuses, some of which provided socialization which influenced their reactions to issues they later faced in their professions. The most important factors were religion, political affiliation, and class background.

The model presented in the article by Moore and Newman relates the percentage of the labor force unionized in various states, regions, and time periods to the several structural variables. Multiple regression is used to determine the relative importance of these variables and

their combined explanatory powers. A total of 12 variables are defined in the categories of labor force composition, occupational and industrial composition, degree of urbanization, regional factors, and public policy. Several models are generated with five or six variables being significant and generating R^2 s from 0.29 to 0.64.

The Ashenfelter and Pencavel model is designed to explain changes in the degree of unionization in the United States between 1900 and 1960 with variables which this author would call environmental. The variables chosen are assumed to represent the major costs and benefits to workers of joining unions. "The major benefits which the worker expects to receive are a higher wage, greater employment security, and better working conditions. The major costs of joining a union, aside from dues and other fees, are the possible retaliation from employers (and subsequent job loss) and the trouble and inconvenience of becoming a union member (e.g., organizing costs)" (p. 436). The expected benefits are assumed to be greatest when the price level is changing the most, mainly because real wages may be going down, so percent change in prices is one variable used in the regression equation. It is also assumed that organizing and attracting new members is easier when there is an increase in the demand for the labor to be unionized, and therefore union organization drives are more likely, thus reducing the cost of joining the union. Employer retaliation is less likely also because of the relative shortage of labor in a growing industry. Percent change in employment in the unionized industries is another variable in the model. The unemployment rate at the lowest point in the trough of the last business cycle is used as a proxy for the stock of

worker grievances. Another variable is the percent of the labor force in the unionized sectors of the economy which are already unionized, with the prediction being that unionization becomes more difficult as there is more need of it. The percent of the House of Representatives who are Democrats is also tested for significance in the model as a proxy for social attitudes toward unions. All of the variables were statistically significant at the 5 percent level, but percent change in price was by far the most important variable and was significant at the 1 percent level.

This same model was applied by Adams and Krislov to more recent data (1949-1970) to test for changes when unions were more stable and legal changes were not taking place. They find the percent change in the price level and in employment in the unionized sector to be most significant, and the previous unemployment level at the low point in the last business cycle to be less significant. The degree of prior unionization was not a factor, and Democrats in the House were of little significance. Economic factors dominated in "explaining" the changes in unionization.

The last group of theoretical literature includes those theories which this author calls behavioral theories. These theories are based on the utility maximizing behavior of individuals whose choices determine the support for (and thereby the amount of) unionization. The relevant factors which influence the amount of unionization are, therefore, considered to be those most related to the utility of the relevant individuals and which are affected by the individuals' choices vis-a-vis unionization.

An early theory comes from The Theory of Wages by J. R. Hicks. He says that workers will organize because it gives them more power, with the usual use of that power being ". . . to protect the customary standard of life (which may be conceived as a money wage or, in times of monetary disturbance, a real wage), to maintain fair wages, and to secure to the workers a share in exceptional profits . . ." (p. 140). A fair wage, in the view of the worker, is the same wage as others get from different employers for essentially the same work. Therefore, organization and growth of unions will be greatest when: the market wage is falling (or rising less than prices); there is growth in an industry and some firms are lagging behind in growth and ability or willingness to pay industry wages; or profits are higher than normal. Hicks then discusses the factors which determine the employer's concessions and union's resistance over the expected length of a strike, which he contends is the union's primary weapon and threat. In the next chapter, Hicks discusses the source of power of unions as cartels which are able to fix the wage of certain types of labor over a wide enough geographical area to make substitution by non-union labor very difficult.

John Pencavel addresses the question ". . . to what extent can the growth in trade union membership be understood as the outcome of standard optimizing behavior by economic man?" (p. 180), in his article "The Demand for Union Services: An Exercise." He assumes that people will behave as if joining a union were the purchase of a capital asset. That is, membership "produces" services for consumption, and it has costs. Therefore, Pencavel suggests membership will depend on income,

the price of membership, and the prices of complements and substitutes. The model uses the variables of income, dues, and interest rates to estimate the demand for unionism from 1928 to 1966. The author concludes that ". . . the empirical results must be regarded as being little more than suggestive" (p. 189). The author feels that provision of "friendly" benefits is more important to union membership than is redistribution of income. These benefits include private, collective, and semicollective goods, and therefore the need for a closed shop will depend inversely on the value of the private and semicollective goods provided by the union.

In The Logic of Collective Action, Mancur Olson applies his theory of collective action to unionization. Since public goods comprise a part of the most important benefits unions provide, their major problem is that of free riders who receive these benefits without becoming members. Therefore, keeping individuals in the union requires individual benefits (private goods), or having a closed shop. Olson concludes that, generally speaking, unions grow most when labor and product markets are tight because it is then that they have the most power to change legislation and to force employees to agree with (or not oppose) a union shop. He shows the history of union growth to be consistent with this pattern because the most rapid growth of unions and most legal change did occur when labor was in short supply.

The group of literature which has been called theoretical provides many possible factors and some evidence of the influence of certain factors in certain conditions. One is forced to conclude that there is no satisfactory theory of unions, that the efforts thus far have provided

only partial explanations, and that a great deal of work lies ahead if any very satisfactory general theory of unions is to emerge. Only some of this literature is relevant to the question to which this study is addressed. The relevant literature, of all types, will be further discussed in later chapters and related to the theme of this study.

CHAPTER III
A THEORETICAL EVALUATION OF UNIONS
FOR COLLEGE FACULTY

This chapter will develop a model to explain the voting behavior of faculty in the context of voting either for or against unionization of their institutions.¹ Several simplifying assumptions will be made and discussed, and the model will be developed. The expected pattern of unions and elections will be analyzed with the model.

Assumption I: Elections will always occur when unionization will be the outcome and sometimes will occur when unionization will not be the outcome.

The effect of this assumption is to simplify the model to one which addresses the determination of the outcome of an election and ignores the process of bringing about an election. Much of the previous theoretical work on unionization was directed to the degree of unionization in the labor force or in unionized industries. This theory is intended to explain the pattern of unionization in higher education.

¹The vote may involve several potential bargaining agents competing in a single election, and run-off elections may be necessary to determine the bargaining agent. This complicates the choice process. However, the relevant question in this study is the cause of unionization. It seems reasonable to assume that such complications are more relevant to the question of which agent will represent the faculty than to the question of will some agent represent the faculty. Therefore, the model addresses the simplified question of voting for or against unionization.

The pattern of elections is as much evidence of support for unionization as are the outcomes of elections. For this model, then, this assumption implies that the absence of an election indicates less than 50 percent support for unionization.

This assumption seems to be reasonably accurate, especially as the length of time for which union support stays above 50 percent at a particular institution increases. There is only one fundamental reason for no election being held when a majority of the potential bargaining unit wants a union. This is that the present value of the expected organizational costs is greater than the present value of the expected gains to any individual or group of individuals. Whenever elections are legal and the union would win, the organizational costs will most likely be less than their benefits. The usual requirement is collection of the signatures of 30 percent of the potential bargaining unit by the representatives of a union. Employees may organize a union even in the absence of collective bargaining rights. If the bargaining unit is defined to include all faculty in a multi-institutional system, such as a city or state-wide system, then organizational costs will be greater, but the benefits from a successful outcome may be great enough to attract some outside help from national unions.

Another possible organizational cost is the effect of opposition to the union, either from within the faculty or from the administration. This should be a marginal effect, since many administrators will offer little opposition, and the effect of the opposition which does exist would be expected to be minimal. Again, the best assumption seems to be that elections will take place whenever the union will win.

When elections are illegal, one may view changing the law as an organizational cost. Any private school with a budget over \$1 million is covered by the National Labor Relations Act, and elections may legally be called. State laws determine the legal status of elections at public institutions, and in some states collective bargaining by college faculty is illegal. Having to change a state law in order to create a union may be thought of as an organizational cost, which must be weighed against benefits. The greater the likely number of new union members, given equality of organizational costs, the greater the benefits of changing the law. These organizational costs for changing the law may be reduced if other state or public employees are also likely to become unionized after a change in a more general law applying to all public employees. Since the faculty union and the other unions will all gain by one new law, they can combine their lobbying efforts. This would be expected, since they are creating a public good with jointness-efficiency for the unions involved and the number of unions involved is small enough to reduce the effect of the free-rider problem if it is likely that the legislation will not be passed if any one does not contribute. Due to the jointness-efficiency, it is likely that each union will have to contribute only a small fraction of their gains from the change in the law in order to effect that change. Of course, legislators have many constituents, and the cost of creating legislation allowing faculty unions will vary from state to state.

Needless to say, the extra cost of changing the law adds a tremendous cost to organization of an election at any institution. It does seem reasonable to assume that this cost would vary inversely with

the degree of union support among the faculty at the state-supported institutions. Therefore, this assumption means that the existence of a state law against collective bargaining in public higher education is taken to indicate less than majority support for unionization by college faculty. This is not necessarily true in the short term, but it seems reasonably accurate over the long term.

Assumption II: Individuals vote in their own narrowly defined self-interest, and they accurately perceive what is in their self-interest.

This implies that union leaders cannot influence individuals' votes, but they can provide information and do choose the bundle of changes to offer the faculty. This seems reasonable in the context of college faculty, and it is consistent with the empirical studies of professional engineers unions (see Goldstein and Indik, and Kleingartner). Also, benefits provided by the union other than job satisfaction (such as special prices or insurance) are ignored in this model by the definition of self-interest given below. This is reasonable when considering the vote, mainly because there are substitutes for these benefits which can be obtained without voting in unionization. It is doubtful that these benefits change many votes, and their primary purpose is to attract members.

Self-interest, for the purpose of this vote, is defined as job satisfaction, which is a function of compensation, working conditions, and job security. Compensation includes wages and fringe benefits, and the tenure system provides the measure of job security. By knowing how tenure is awarded, the untenured faculty member can evaluate his own

chances, and he knows how any changes the union proposes will affect the probability of his being tenured. The individual will also have a preference for the mix of fringe benefits and money income which represents his compensation, and he will vote according to his preference.

The area of working conditions can be quite broad as far as the factors which affect individuals' preferences. Included may be teaching loads, class sizes, courses taught, quality of students, reputation of the department and institution, athletic program of the institution, administration and governance, graduate student and secretarial assistance, etc. Union leaders must accurately perceive what changes will be able to increase the support for the union, and what is the probability of making those changes. Since the changes resulting from unionization are going to be assumed to be equal to those capable of a cartel, it seems reasonable to assume also that union leaders are perceptive enough to figure out a way to use the cartel power to benefit 51 percent of the bargaining unit enough to offset their costs of voting for a union, if the power of the cartel is great enough to do this in some way. Although there will be marginal cases where the power of the cartel was great enough but the leaders of the union did not propose to use it in a way which would lead to winning the election, the following assumption should make better predictions than a more selective set of assumptions could.

Assumption III: Union leaders accurately perceive the changes which, if proposed, will result in at least 51 percent of the bargaining unit voting for the union.

Having already assumed that the voters accurately perceive what is in their self-interest, they must accurately perceive the probability of the union being able to produce what they promise. This is reasonable in the long run as a stock of experiences with unions becomes available. These experiences also help the union leaders to decide what to propose, or how to find out what to propose.

Voting rules vary from state to state, but if the election is determined by a majority of the voters (rather than the bargaining unit), this assumption is still reasonable since non-voters in a close election would probably be nearly indifferent (if the election were expected to be close). This is because the probability of their vote affecting the outcome is relatively high, and the cost of voting is expected to be relatively low. If the election is not close, the typical number of non-voters would have no effect on the validity of the assumption.

Assumption IV: The conditions which are the result of the outcome of the election apply to all faculty thereafter employed at that institution (until an election eliminates the union representation).

This is a bit more specific than saying that the entire faculty is represented by the union in collective bargaining. If, for example, the union changes the tenure rules, then all faculty, whether members of the union or not, will be evaluated by the new rules.

Assumption V: The power of the union is the same as the power of a cartel.

This is the most crucial assumption. The power of the union is derived entirely from being a cartel.² This means that by evaluating the relative power of the cartels formed at various types of institutions, and by evaluating the expected costs to individual faculty members at these various types of institutions, the model can predict where unionization is more likely to occur and where it is less likely to occur. That is, institutional types can be ordered by probability of unionization.

The first step in developing this model is to describe the workings of free and competitive markets at the various types of institutions. Institutions of higher education will be classified as one of three types, and each type will contain both public and private institutions. The three types are: two-year colleges, four-year colleges, and universities. The reason for this distinction is that these various types represent three different qualities of substitutes in consumption. Quality is said to differ when the same individual gets differing amounts of utility from products which are close substitutes. In this case, all institutions are selling a way to increase the value of one's human capital. If a degree from Harvard gives an individual more utility than a degree from East Tennessee State University, then for that individual the degree from Harvard has greater quality. The greater the differences in quality, the less close is the substitutability.

²By collectively bargaining, some competition among the various faculty members is eliminated. They can compete within the structure agreed upon in the collective bargain, but they may not compete in areas included in the collective bargain. That is, they are competing for tenure, rank, etc., but the criteria used are collectively determined.

For the purposes of developing this model, labor markets will be discussed, followed by an analysis of the market for higher education and the effect of subsidies and a discussion of the power of a cartel for the supply of labor. The relationship between the key factors and the probability of unionization developed from this analysis will allow for predictions as to the relative probabilities of unionization at the different types of institutions to be made with these factors.

Competitive labor markets require, to be efficiently operating markets, a flow of accurate information. In fact, this would be the condition for perfect competition least often satisfied in a free market for labor. Using George Stigler's conditions for perfect competition (p. 88), we can see that there are usually a large number of buyers and sellers for any unit of labor, divisibility of labor in that it is employed as single units, and homogeneity of the product in that there are usually a large number of people who may be considered close substitutes for a particular job. Homogeneity may be lacking in some occupations, and some slight differences exist in many.

Information about the relative value of individuals' marginal products is necessary for perfect competition in a labor market. This can be seen by considering the effect of an incorrect evaluation of an individual's marginal product. Either too few or too many units of that type of labor will be employed, and either some other employee will be inappropriately compensated (leading to distortion in his use) or less money will be available for other factors of production. In any case, assuming a competitive market for the product, this lack of good information about marginal product will lead to a distortion away

from the allocative efficient output. An example would be if, before the days of mechanized mining, each coal miner were assumed to be equal in marginal product and paid equal wages. As the individual units of labor become less homogeneous, information on relative marginal product is likely to become less accurate. For example, individuals on an assembly line can be considered as homogeneous units whenever exchanging one for another has no effect on the joint product of the entire assembly line, whereas the above mentioned coal miners would be less homogeneous.

Another factor which can affect the accuracy of information is the changes which are part of dynamic market conditions--in particular, the severity of and predictability of the change. That is, how great a change is it, over what period of time did it occur, and how well did the relevant economic actors predict or foresee the changes? These factors are important because the changing market conditions affect the relative value of the marginal product of the worker. For example, an individual may be very skilled at producing something in very low demand, and less skilled at producing something in relatively great demand. His time may be more profitably spent producing the output with the greater demand because consumers value that output more, even though he has greater productivity when producing the item in less demand. Should the demand conditions reverse themselves, he could find the value of his marginal product increased.

The employer will find information on marginal product more costly under changing market conditions, and he may rationally choose less accurate information. The employee will have an incentive to discover

his market value whenever it has increased, and he will not be likely to willingly accept a lower wage should his marginal product decrease in value. Therefore, in either case, he is likely to differ with his employer over the value of his marginal product. When it is increasing, he is increasing his efforts to gather information (what are others making in similar positions, etc.), while his employer is choosing less accurate information due to the increased cost which is the result of change itself. Also, the employers' incentives to accept the information are exactly the opposite of those of the employees. The employer is biased toward underestimating the market wage and is more willing to believe the value of the marginal product is going down than that it is going up. Therefore, changing market conditions are likely to inhibit the efficient working of the market for labor, and they cause distortions in a direction which will reduce job satisfaction. One result is a lag in raising wages when demand is increasing, and the lag would be greatest when the supply of labor is least elastic in the time period of the increasing demand. This is because the market wage will rise fastest with the least elastic supply, given some increase in demand. In higher education, the elasticity of supply varies with quality. Also, the employee may tolerate a wage below the market wage due to transactions costs, and if enough do this, the employer is encouraged to believe he is paying the market wage and resist increases all the more strenuously.

There are also supply side effects from changing market conditions which are due to information. The greater the anticipation of demand changes, the more elastic will be the supply of labor, especially in the short run. As the time period increases, the supply curve generally

becomes more elastic in any case. The supply elasticity would also be affected by the ease of movement into and out of this occupation. One factor affecting movement into an occupation is required skills and the training time involved in acquiring those skills. Training time and ease of movement into or out of an occupation would also be factors determining the position of the curve, since they can be thought of as costs of choosing that occupation.

Because of the next assumption, the closeness of the actual market conditions to those of perfect competition can be considered as relevant to unionization. The foregoing of employment in a free competitive market is a cost, and perhaps the primary cost, of being unionized.

Assumption VI: Individuals prefer to work in a labor market which bases rewards in job satisfaction on marginal product.

This assumption implies that individuals prefer the competitive market environment. Satisfaction of this preference may be traded for the gains of a cartel. This would not be the only cost of choosing a cartel, but others, such as dues, do not seem to be as important. One reason for the importance of this assumption is that individual adjustments are nearly impossible, whereas in competitive markets some such adjustments are possible. Also, there is generally a wish for pay scales within each rank to be based on seniority. Competitive forces may be genetic in man, causing a preference for the conditions of free competitive markets, or many people may be socialized to have a preference for competitive markets. The assumption seems to be reasonable.

Consistent with this assumption is a relationship between the utility received from the market and the closeness of the actual market to perfect competition. As the labor market gets closer to perfect competition, utility increases, which means the cost of having a union increases.

These conclusions about the labor market can now be applied to higher education, and the relative probabilities of unionization at various types of institutions can be discussed after we examine the sources of cartel power. In general, where cartel power is greater, unionization is more likely to occur. That is, unions will gain, in the long run, whatever the cartel is worth, and the union leaders are capable of finding a mix of uses of the cartel power to propose whatever will win at least 51 percent of the votes if such a combination is possible. Also, the voter-employee is assumed to have accurate information as to the probability of the union producing what they propose, as well as about the value of the effects of these proposals. Therefore, given equal costs of unionization, it would become more likely to occur as the union's cartel power increases. Given equal cartel powers, unionization will decrease as market conditions approach those of perfect competition.

The best way to begin to evaluate the relative power of a cartel of faculty at the various types of institutions is to describe the markets in the absence of cartels. This will allow us to analyze the relative elasticity of the derived demand for labor in each type of institution. In higher education, the most appropriate simplifying assumption is that the various types are substitutes of varying quality.

This would be analogous to an automobile industry in which there are many firms for each of three different quality levels of output. If marginal cost increases with quality, then we might represent this situation graphically as in Figure 1, with D_1 being the highest quality product's demand curve and S_1 its market supply curve. Higher subscripts indicate lower quality.

First, the role of subsidization in determining the output and quality mix of the various types of institutions will be discussed. This is relevant to the derived demand for faculty and the power of the cartel. Each producer (institution) will be assumed to be selling in a competitive market, and will face a perfectly elastic demand at the market price for each of three different quality levels. Of course, marginal cost varies over quality, and it is assumed to vary directly with quality. In the absence of any subsidy, each institution behaves as if it faces a choice of producing any quality-quantity combination shown in Figure 2 (q_1p_1, q_2p_2, q_3p_3).

By bringing the subsidy to expansion beyond the economically efficient quantity (from q_2 to q_a in Figure 3), the institution may apply its subsidy to the task of providing the same quality of output to more people at the same price (p_2). The size of the subsidy is shown by the area of the triangle ABC. This causes a slight rightward shift in the market supply curve, and therefore a slightly lower market price. If a large percentage of quality 2 institutions were subsidized, there would be a large drop in the market price, which would have the usual effect on the demand for substitutes. If the price went down to p'_2 , non-subsidized quality 2 institutions would reduce output to q_b . Subsidized quality 2

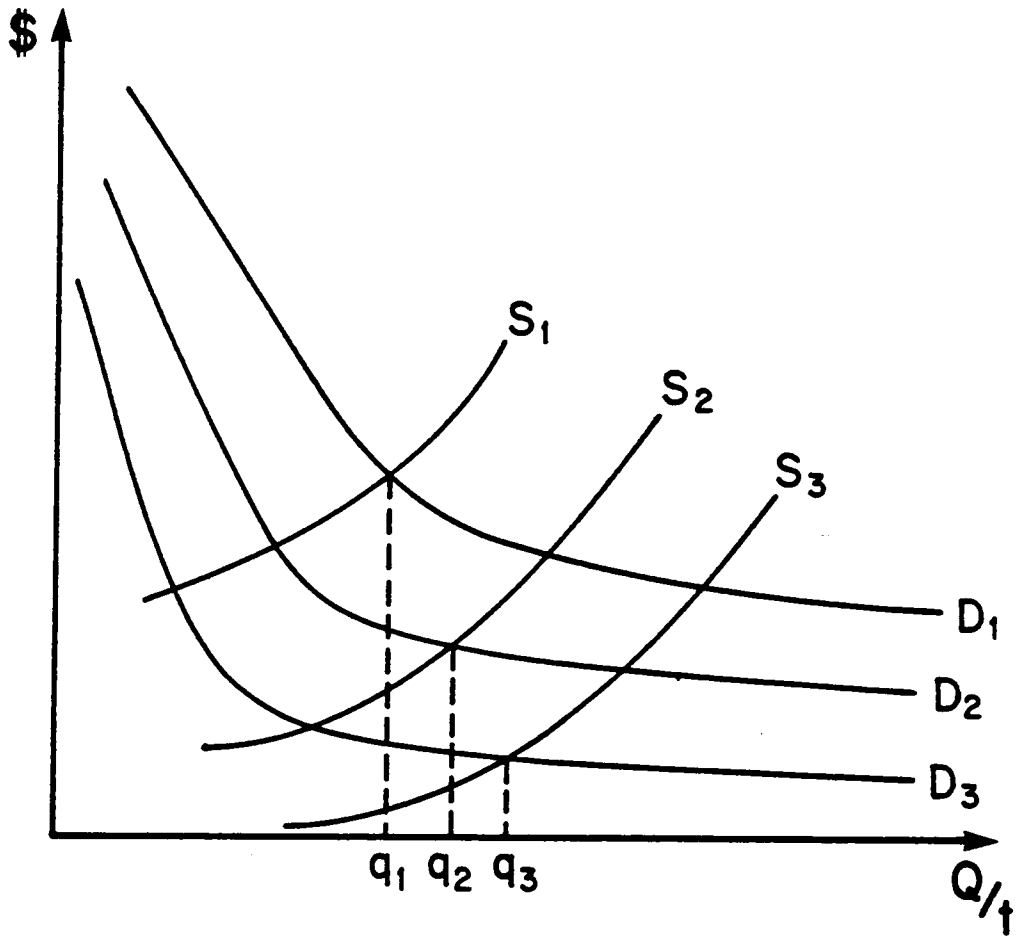


Figure 1. Market for Higher Education at Institutions of Varying Quality.

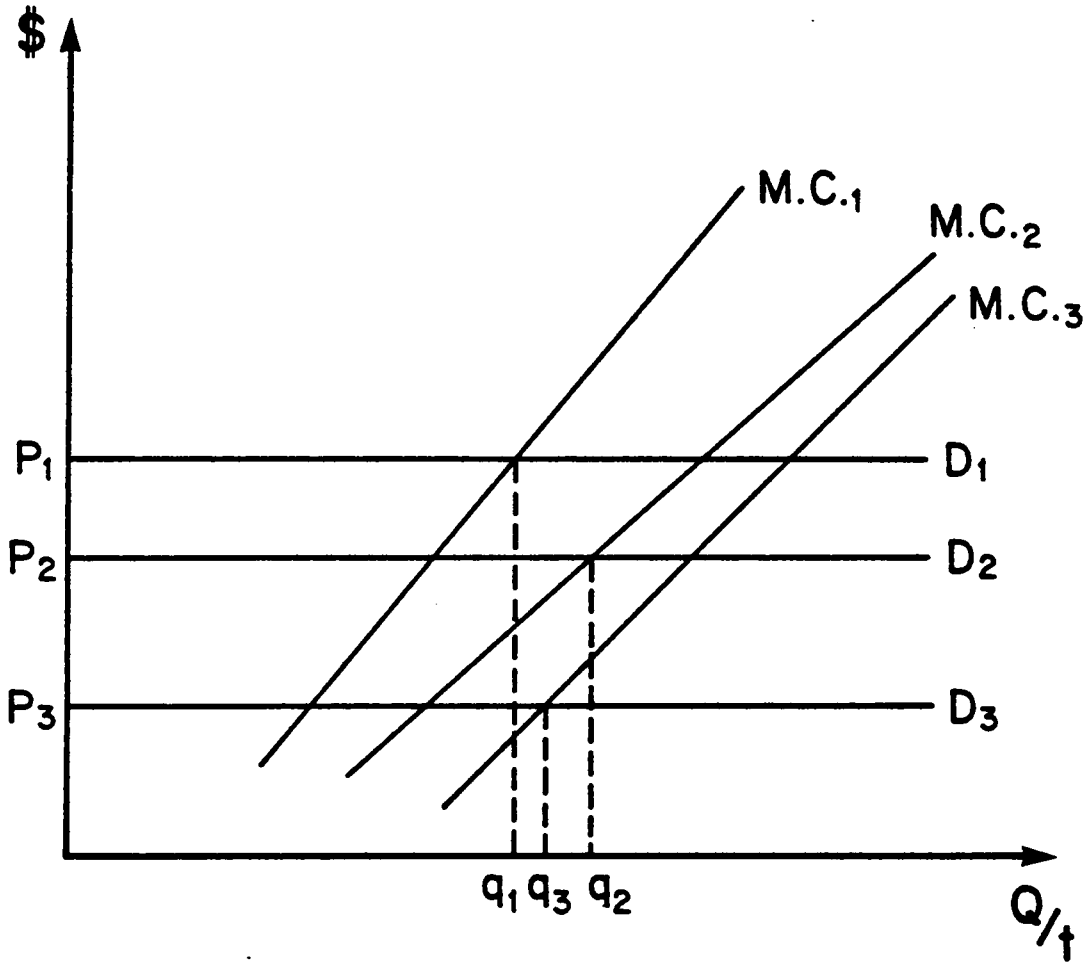


Figure 2. Institutional Quality-Quantity Trade-Off Combinations in the Market for Higher Education in the Absence of a Subsidy.

institutions will now each have to generate a subsidy of FBE in order not to reduce their output below q_a .

For public institutions, the subsidy usually represents nearly 85 percent of their funds, while private institutions are about 50 percent subsidized, on the average (see Table 29). The effect, overall, must be one of lower than market prices and greater than market output. The effect on private institutions is to lower the price they can get for their output, causing either a cutback in output or a reduction in quality. In Figure 3 a private quality 2 institution could become a quality 3 with output of q_c if prices dropped to p'_2 for a quality 2, and falls to p'_3 for a quality 3 institution as a result of the heavy subsidization of quality 2 institutions which increased their supply enough to lower their market price to p'_2 . The effect of heavily subsidized quality 2 institutions could be a lowering of quality at non-subsidized (or less subsidized) quality 2 institutions, and/or smaller non-subsidized quality 2 institutions.

Another possible change is an increase in the quality of the originally quality 2 institutions which are now subsidized. This is essentially a move into a new market with a new marginal cost curve and market price. This would be likely when changing demand conditions create shortages or surpluses at various quality levels. The more subsidized schools may use their funds for transition costs. Also, political entrepreneurs may increase subsidies for the purpose of changing to a higher quality level if there has been an increase in demand for that quality. This may preempt any such move by non-subsidized institutions. The primary effect of substantial subsidies

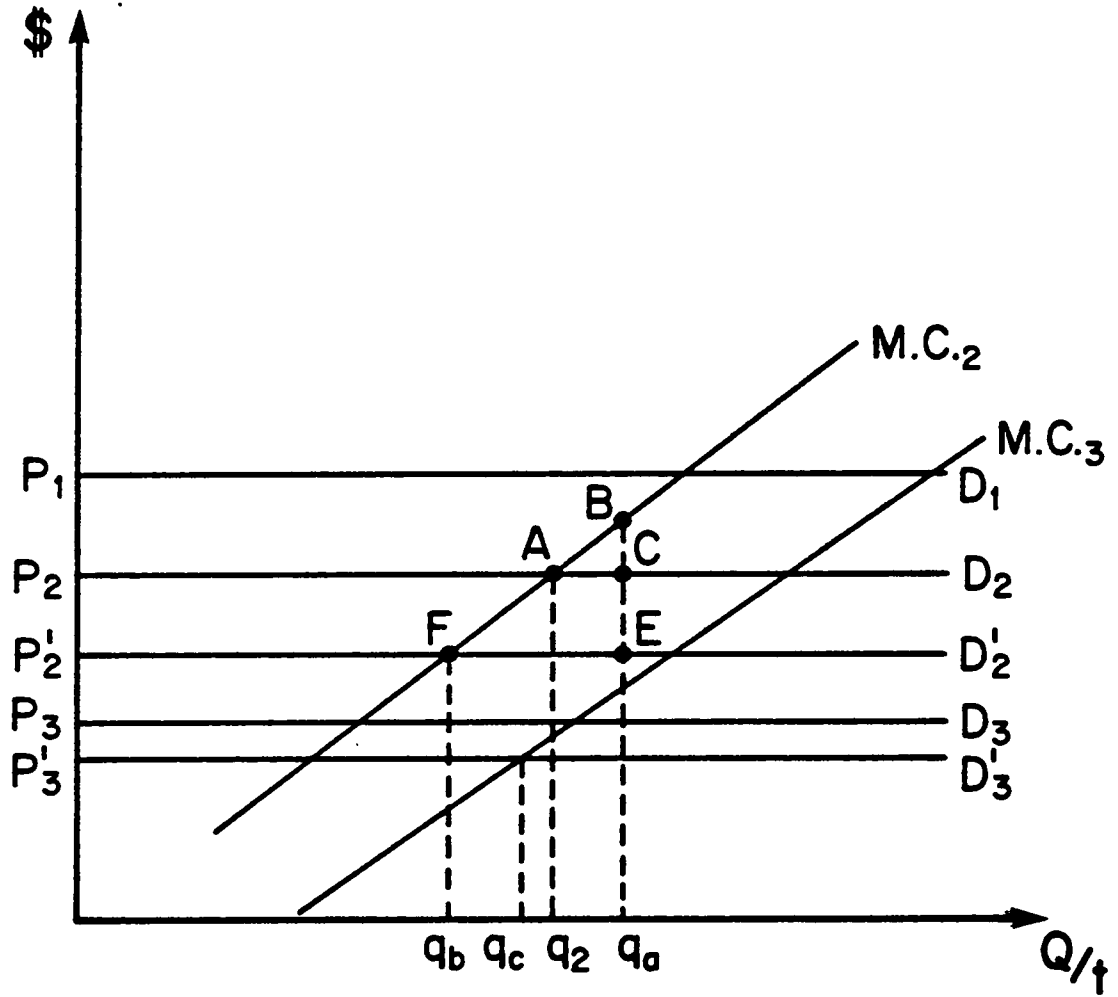


Figure 3. Institutional Quality-Quantity Trade-Off Combinations in the Market for Higher Education in the Presence of a Subsidy.

is to lower selling prices for all institutions, and reduce the size and quality of non-subsidized institutions, while increasing the output of subsidized institutions.

When institutions are publicly supported and operated, we expect less efficiency in production and more complex bureaucracies. This tends to use up part of the subsidies, lessening their economic effects.

The next task is to analyze the relative elasticities of the derived demand for faculty, and thus the powers of a cartel. "The power of unions, as of any other monopoly, is ultimately limited by the elasticity of the demand curve for the monopolized services. Unions have significant potential power only if this demand curve is fairly inelastic at what would otherwise be the competitive price. Even then, of course, they must also be able to control either the supply of workers or the wage rate employers will offer workers" (Friedman, 1962, p. 155). Friedman uses Alfred Marshall's conditions for more inelastic derived demand for one of a number of jointly demanded items, which are:

1. the more essential the given item in production of the final product;
 2. the more inelastic the demand for the final product;
 3. the smaller the fraction of total cost accounted for by the item in question;
 4. the more inelastic the supply of co-operating factors
- (Friedman, 1962, p. 155).

Also, in the case of labor, the cartel generally has only one buyer for its package of labor. Therefore, the outcome is equivalent to a bilateral monopoly. The graph in Figure 4 shows the effective curves. The

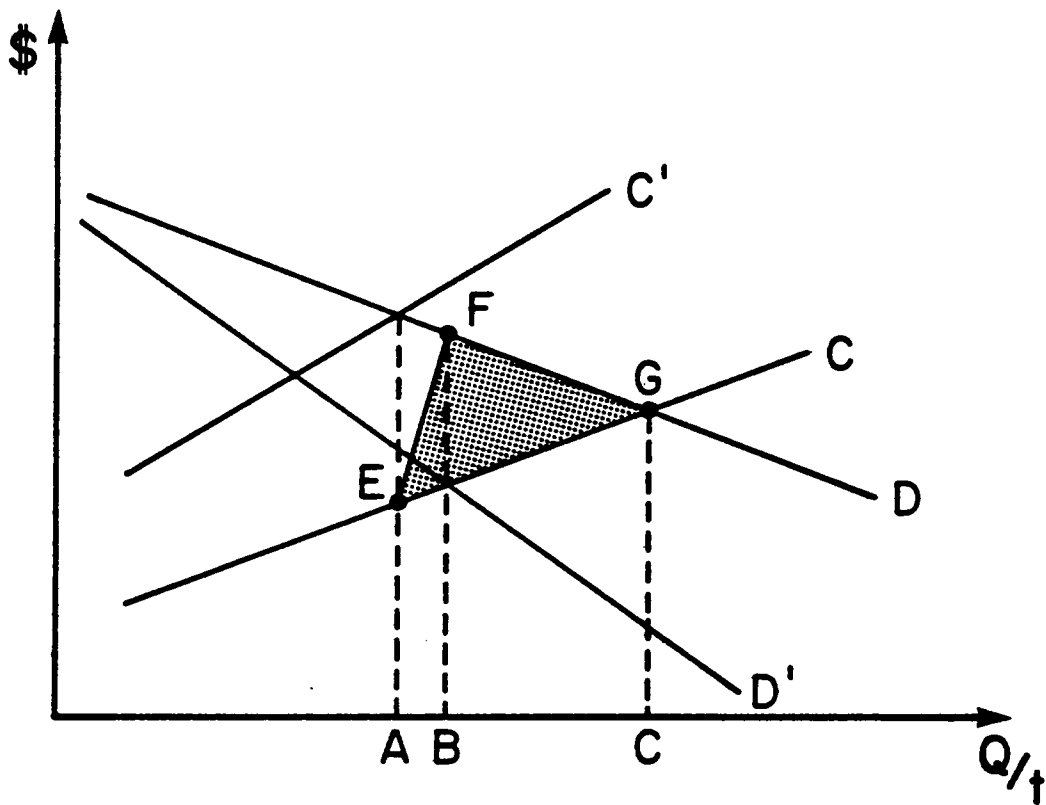


Figure 4. Bilateral Monopoly in the Market for Faculty.

derived demand for labor is D , which is also the marginal revenue product curve of the monopsonist institution, and since they purchase quantities on this curve for fixed prices, it is the average revenue curve to the seller, and D' is the marginal revenue curve to the seller. If the monopolist union has the marginal cost curve C , at fixed prices they will supply quantities on this curve, so it is the average cost curve to the buyer, making C' the marginal cost to the buyer. In higher education, we can think of quantity as total faculty of a certain mix of qualifications appropriate to the quality of the institution. Work-load requirements for faculty can also affect quantity (Schuster, pp. 207-98).

The union and the institution will find optimal quantity by equating marginal cost and marginal revenue. The optimal solution for the union is to provide output OB at price BF per unit. The optimal output for the institution is OA at price AE , where their marginal cost equals marginal revenue (Schuster, p. 208). Since their objective are inconsistent, they can bargain for an agreement along some contract locus between points E and F . As Stigler further points out, they can agree to exploit their suppliers or buyers rather than each other, and increase their joint profit to a maximum at output OC . Since the members of the cartel are the suppliers, the only exploitation will be of the buyers. The elasticity of the derived demand will determine to what extent that is possible, and it may be accomplished by making an all-or-nothing offer. The shaded triangle in Figure 4 represents the bargaining space. The less elastic the derived demand, the higher is the peak of the triangle.

The price is analogous to providing work satisfaction in our model. The union may bargain for a cooperative outcome along line FG in order to provide more jobs, or greater job security when the demand curve is shifting to the left, rather than seeking the solution at F. If the market demand and derived demand are shifting to the right, the bargaining triangle is sliding up the C curve, allowing the union to move closer to the peak of the triangle and gain a maximum in job satisfaction to be used to attract votes or members. One reason why their promises will seem creditable in an election is the examples of existing unions which will be moving toward the peak of the triangle. This reason is collaborative with the earlier discussed biases in wage evaluation under conditions of increasing demand, which suggested that the wages would be slow to adjust to increasing demand. The ability of the union to adjust to the changing demand conditions, in either direction, and to provide the mix of job satisfaction and number of jobs preferred by a majority of the workers leads to a prediction that unions will be more successful when derived demand is changing more rapidly in either direction. The relative successfulness of the union to make these adjustments, compared to the market's success, increases as derived demand changes more rapidly. The individual will have to give up his own bargaining power in the market to get this from the cartel, which means giving up an individual adjustment in job satisfaction factors and reward based on marginal product. As stated above, the ability of and incentive for institutions to accurately evaluate the marginal revenue product of the individual units of labor is the key to the successful application of markets to labor for generation of the

most satisfaction for the workers. Changing demand has an effect on this, as discussed above, but also different types of institutions may be more successful than others, or a systematic direction of error may exist at some types of institutions.

To summarize, when analyzing the various types of institutions for relative probability of unionization, the factors to examine are:

1. elasticity of derived demand;
2. change in market demand; and
3. ability of market to measure the marginal revenue product of the individual faculty member, or the preferred mix of job satisfaction factors.

As elasticity decreases, ceteris paribus, unionization is more likely. As market demand changes more rapidly, unionization increases. As the ability to measure individual marginal product or preferred mix of job satisfaction factors decreases, unionization increases. This may now be applied to higher education in the following chapters.

CHAPTER IV

EXPECTED DIFFERENCES IN CARTEL POWER

As stated in the previous chapter, Marshall's four conditions for a more inelastic derived demand are assumed to apply to our model, and because of assumption 5 they may be used to evaluate the relative value of forming a cartel. First to be discussed are differences expected as a result of subsidization. Secondly, differences which are expected due to the type of institution will be discussed.

One difference between certain subsidized institutions and other institutions is found in state-wide or city-wide multiuniversity systems such as City College of New York. Because a large part of the subsidy can be applied only to resident consumers, the residents face an extreme price difference for similar quality education outside of the city or state. The higher price of these substitutes would make the demand for in-state or in-city education less price elastic. Any individual state or city institution would still face competition from other state institutions, and would have a relatively elastic demand. However, should all of the institutions of one type in any city or state be organized by a single group, the market demand curve would apply. This curve would be fairly inelastic up to the value of the extra resident students' subsidy. Therefore, much greater unionization is expected whenever there exists the possibility of unionizing an entire state or city system. If most of the students are commuter students from the local community, and there are no other subsidized substitutes within

the commuting area, unionization of a single institution can bring about this increase in cartel power. This would apply to community colleges in particular. Application to public secondary schools suggests that unions would be very likely to occur. This is because the students are heavily subsidized, and commuter students with little choice will attend if they wish to use the subsidy. It is hard to imagine an example of greater cartel power which is legal in the United States.

There are two other possible differences due to subsidization. The fraction of the total cost to the consumer is lowered by subsidization. However, the provider of the subsidy now has an influence in the demand for the output. The taxpayer would not be expected to be very responsive to changes in the price of the output. This is because the individual share of payment is too small, and the individual effectiveness in changing that share is too little, for any effort to effect a change to be rational behavior for very many people. Political entrepreneurs may have an effect on derived demand for faculty should public opinion be conducive, such as when waste in government is an issue. Since the greatest part of subsidization at all institutions comes from government at some level, the size of the subsidy as a fraction of the total cost is the relevant factor. This means that cartel power will be greater at public institutions than at private institutions.

The final difference due to subsidization results from the effect of a more elastic supply of cooperating factors because some subsidy goes toward purchase of cooperating factors, such as administrators and capital outlays. Subsidization makes their derived demands less

elastic, which has the same effect on the derived demand for faculty as if the supply of these cooperating factors were more elastic. That is, cartel power is greater at more heavily subsidized institutions.

Therefore, the most subsidized institutions are expected to be most unionized. The community or commuter institution, and especially the state-wide or city-wide systems which can be organized under a single union or contract, should be the most unionized of the subsidized institutions.

There are also some differences not related to subsidization and some general observations on cartel power in faculty unions. Marshall's first condition was that the more essential the given item in production of the final product, the less elastic is the derived demand. This can also be related to available substitutes. In higher education, the faculty are certainly essential to production, but there are some substitutes which can serve to reduce the ratio of faculty to other factors. These include graduate students and teaching aids, such as movies and textbooks, which make the instructor less essential to the final product. Available substitutes are similar at different types of institutions, but a general slight increase is expected in essentialness of faculty as quality level improves. Overall, at most institutions, the effect of this first condition on the elasticity of derived demand for college faculty would be to make it relatively inelastic, when compared to other occupations. With current technology, it is difficult to imagine higher education without faculty.

Marshall's second condition is that the more inelastic the demand for the final product, the less elastic will be the derived demand for

any factor of production. This seems to be of greatest relevance to the effect of the subsidy, as discussed above. In the absence of subsidies, there seems to be little reason to expect the elasticity to differ greatly at various types of institutions.

The third condition for a less elastic derived demand is the smaller the fraction of the total cost accounted for by the item in question. The primary effect in this area is realized when subsidization takes place, as discussed above. A lesser effect occurs when faculty teach fewer students because of lighter teaching loads or smaller classes. This is most apparent when one views the degree as a package which represents the output. The fewer the student hours generated by each faculty member, the greater is the fraction of the total cost of the degree accountable to faculty. The same applies to output sold on a per-course basis. The low marginal cost of providing the services of the faculty member to a larger class means that up to the size of class for which the quality level is noticeably lowered, increasing class size will make the faculty a smaller fraction of the total cost of each unit of output (each student taking the course consumes one unit of output). There may also be a relatively low (below average) marginal cost of providing more student hours of output by increasing the number of classes each faculty member teaches. This would reduce the fraction of the total costs accounted for by faculty. Tables 3 and 4 show that we should expect the faculty to be a smaller fraction of the total cost at two-year colleges, somewhat greater at four-year colleges, and the largest fraction of total cost at the universities. This follows from both hours of class per week and total number of

Table 3. Professional Background and Academic Activity of College Faculty Members, by Type of Institution, United States, Spring 1969

Item	All ^a	Univ.	4-C	2-C
<u>Highest degree held:</u>				
Bachelor's or less	6.7	4.5	6.2	17.1
Master's (except profess.)	34.5	22.9	40.2	64.2
Professional (except medical)	8.8	7.4	9.9	11.2
Medical degree	4.9	8.8	0.9	0.8
Ph.D. or Ed.D.	41.4	52.7	38.6	5.1
Other doctorate	3.6	3.6	4.2	1.6
<u>Present rank:</u>				
Professor	21.6	27.2	19.6	6.2
Associate professor	20.7	22.5	21.9	10.9
Assistant professor	28.3	29.6	31.0	15.7
Instructor	19.9	15.1	19.0	40.5
Lecturer	3.6	2.9	5.5	0.9
No ranks designated	3.4	0.3	1.4	20.9
Other	2.5	2.5	1.7	4.9
<u>Types of appointment:</u>				
Regular with tenure	46.7	49.6	43.0	45.7
Regular without tenure	48.8	45.9	51.9	51.3
Acting	2.1	1.9	2.4	2.1
Visiting	2.4	2.6	2.7	0.9
<u>Basic salary for academic year:</u>				
Below \$7,000	8.3	7.0	8.7	12.4
\$7,000-\$9,999	26.4	17.0	34.3	40.2
\$10,000-\$11,999	20.0	18.3	22.2	20.4
\$12,000-\$13,999	16.0	17.1	14.3	16.4
\$14,000-\$16,999	13.7	16.9	10.9	8.9
\$17,000-\$19,999	7.7	11.3	5.3	0.9
\$20,000-\$24,999	5.3	8.2	3.0	0.3
\$25,000 and over	2.6	4.2	1.2	0.3
<u>Salary basis:</u>				
9/10 months	65.8	58.7	70.8	79.1
11/12 months	34.2	41.3	29.2	20.9
<u>Teaching responsibilities:</u>				
Entirely undergraduate	52.1	27.8	69.3	96.0
Some undergrad, some grad	32.1	47.0	23.2	0.9
Entirely graduate	11.3	19.2	4.6	0.0
Not teaching this year	4.5	6.0	3.0	3.0

Table 3--Continued

Item	All	Univ.	4-C	2-C
<u>Number class hours per week:</u>				
None	7.9	11.5	4.4	3.5
1-4 hours	15.4	21.0	10.8	7.2
5-8 hours	25.0	32.6	20.6	8.8
9-12 hours	29.1	22.8	42.1	17.6
13 or more	22.5	12.1	22.2	62.7
<u>Total students in classes:</u>				
None (including no answer)	6.2	8.8	3.8	3.4
Under 25	19.5	24.0	15.8	12.7
25-49	22.0	22.5	23.1	16.7
50-99	28.6	24.6	33.7	29.5
100-249	20.6	16.5	21.6	33.3
250 or more	3.0	3.5	2.0	4.4
<u>Teaching-research interests:</u>				
Heavily in research	4.1	6.3	2.2	0.7
Both, lean toward research	19.8	28.9	21.9	3.7
Both, lean toward teaching	34.4	37.2	36.0	19.3
Heavily in teaching	41.8	27.5	48.8	76.2
<u>Number of professional articles published:</u>				
None (including no answer)	43.6	29.5	51.1	76.3
1-4 articles	29.4	29.7	32.2	20.5
5-10 articles	10.5	14.1	8.5	2.1
11-20 articles	6.8	10.3	4.3	0.6
21 or more	9.7	16.3	3.9	0.4
<u>Personal career rating:</u>				
Very successful	24.4	26.3	21.0	26.4
Fairly successful	69.3	67.8	71.6	68.0
Fairly or very unsuccessful	6.3	5.9	7.3	5.5

NOTE: Data are based upon a sample by the Carnegie Commission on the Future of Higher Education and the American Council on Education. Because of rounding percentages may not add to 100.0.

^aAll = All institutions; Univ. = Universities; 4-C = 4-year colleges; 2-C = 2-year colleges.

Table 4. Professional Background and Academic Activity of College Faculty Members, by Type of Institution, United States, 1972-73 (percentage distribution)

Item	All ^a	Univ.	4-C	2-C
<u>Highest degree currently held:</u>				
None, less than B.A.	1.3	1.0	0.6	3.3
Bachelor's	4.9	5.1	3.2	8.2
Master's	44.9	30.8	47.0	73.5
LL.B., J.D., other professional (except medical)	5.0	6.1	4.7	3.1
Doctorate (except medical, Ed.D., or Ph.D.)	1.5	1.6	1.8	1.0
Ed.D.	3.0	2.7	3.8	1.6
Medical (M.D. or D.D.S.)	1.1	2.3	0.1	0.3
Ph.D.	30.2	40.2	31.4	4.3
(No answer)	8.1	10.3	7.3	4.7
<u>Principal activity of current position:</u>				
Administration	11.4	12.8	12.0	6.9
Teaching	82.2	75.8	85.4	90.6
Research	4.2	8.5	1.3	0.3
Other	2.2	2.9	1.4	2.2
<u>Employment status for current academic year:</u>				
Full time	95.3	93.9	95.4	98.2
Part time, more than half	1.3	1.6	1.4	0.5
Half time	1.2	1.3	1.4	0.6
Less than half time	2.2	3.2	1.9	0.7
<u>Present rank:</u>				
Professor	26.4	36.2	24.3	8.0
Associate professor	24.3	25.4	27.2	15.5
Assistant professor	25.3	24.4	32.2	12.9
Instructor	13.2	8.7	10.8	29.0
Lecturer	2.5	3.2	2.8	0.4
Do not hold rank desig.	6.7	0.5	1.6	32.1
Other rank	1.6	1.7	1.1	2.1
<u>Number of hours per week in scheduled teaching:</u>				
None, or no answer	6.6	7.2	6.2	6.4
1-4 hours	11.8	17.8	9.0	3.7
5-8 hours	21.8	32.6	17.5	5.9
9-12 hours	28.3	25.2	39.6	11.4
13 or more	31.4	17.2	27.6	72.6

Table 4--Continued

Item	All	Univ.	4-C	2-C
<u>Current base institutional salary:</u>				
\$6,500 or less	2.7	2.9	2.9	1.7
\$6,600-\$9,500	7.0	4.3	9.2	8.7
\$9,600-\$11,500	12.5	9.0	16.9	11.6
\$11,600-\$13,500	16.4	13.9	19.4	15.9
\$13,600-\$15,500	15.8	15.0	15.1	19.1
\$15,600-\$17,500	13.2	12.6	10.4	20.5
\$17,600-\$19,500	9.9	10.6	7.3	13.4
\$19,600-\$21,500	6.8	8.8	6.0	3.7
\$21,600-\$24,500	6.1	8.9	5.0	1.8
\$24,600 or more	9.7	14.1	7.9	3.5
<u>Salary basis:</u>				
9/10 months	66.8	60.1	68.4	78.9
11/12 months	33.2	39.9	31.6	21.1

NOTE: Data are based upon a sample survey. Because of rounding, percents may not add to 100.0.

^aAll = all institutions; Univ. = Universities; 4-C = 4-year colleges; 2-C = 2-year colleges.

students per faculty member. Thus, elasticity of derived demand for faculty will decrease as the level of the institution decreases, and cartel power increases as level decreases.

If a faculty member is considered to be employed to produce both research and teaching, and they are viewed as separate outputs, then the effect of class load would be different because the marginal cost now includes foregone research output. The effect of class size is expected to be unchanged. The effect of research on derived demand will be further discussed below.

The relevance of the elasticity of cooperating factors, Marshall's fourth condition, seems to be limited to the effect from subsidization. There seems to be no other reason to expect differences at different types of institutions.

Research can be considered as a separate output which is bought by the administrations of universities acting as managers. They purchase this research because they can sell it, for grant money, and because of rents which provide job satisfaction to other faculty. The sale of research is usually profitable to the tax exempt institution. The rents lower their costs for other faculty. The rents take the form of institutional reputation, better work environment for research due to help provided by other research faculty, better students being attracted to the university, graduate programs with better students which increases job satisfaction for some faculty, etc.

The effect of a cartel of research faculty could be very great as the derived demand would seem to be relatively inelastic. However, formation of such a cartel would be very costly. The main aspect of the

cost is that the cartel involves individuals giving up an almost perfectly competitive free-market situation.

There is a large number of buyers and sellers, a fairly homogeneous product as far as the purposes for which it is purchased, product divisibility, and the level of information is very high due to the publication of research results. Individual bargaining and mobility are most common among this group of faculty.

Also, research faculty is not generally recognized as a separate bargaining unit, and therefore the cartel must contain all faculty. Since the research faculty would usually be a minority of the membership in the cartel, they may find their share of the gains to be less than their share of the cartel's power. In fact, through a change in the method for determining salaries (and job satisfaction in general), the research faculty may be worse off in the cartel. For these reasons, research faculty are not expected to be as supportive of unions at their institutions as are other faculty. Table 5 shows one indication this is correct.

This chapter indicates that cartel power does vary among types of institutions of higher education. Power is expected to be the greatest when an entire system, in which only one type of subsidy may be used, is unionized. When all institutions of a particular quality level or type in a geographic area are unionized, the power is also increased, especially as the percentage of students who are commuter students increases. Community colleges are of this type. The greater the percentage of the faculty doing research, the less likely is unionization. And the larger the average class size and greater the teaching loads, the greater the power of a cartel.

Table 5. Objective Factors and Opinions on Collective Bargaining and Unionization

Category	Disagree ^a	Agree ^b
Hours per Week of Teaching:		
4 or less	59%	56%
5-8 hours	68%	70%
9 and more	73%	77%
Publications in the Last Two Years:		
5 and more	61%	65%
1-4 publications	71%	70%
None	70%	75%
Principal Activity:		
Research	57%	52%
Teaching	72%	76%
Administration	54%	54%
Age:		
60-99	57%	69%
50-59	61%	69%
40-49	71%	75%
30-39	74%	72%
20-29	83%	79%
Rank:		
Professor	62%	69%
Associate Professor	70%	71%
Assistant Professor	74%	74%
Instructor	76%	76%

^aDisagree = do not agree that collective bargaining has no place on campus.

^bAgree = favor a bargaining agent.

All of these results seem consistent with Tables 1 and 2. The heavy concentrations in certain states shown in Table 1 indicate unionization of most of the institutions at which an individual can receive a state subsidy. This greatly increases the power of the cartel. Tables 1 and 2 both show the differences between two-year and four-year institutions. Note that only 20 percent of all elections were at private institutions, and their success rate was 64 percent. For the elections at public institutions, 98 percent were successful at two-year institutions and 94 percent at four-year institutions, with 67 percent of these elections occurring at two-year colleges. Of all successful elections, 58 percent were at two-year public institutions, 27 percent at public four-year institutions, and 15 percent were at private institutions. These data are consistent with relative cartel power, but the costs of joining the cartel need to be examined more thoroughly in order to get a more complete explanation of this pattern. The following chapters will discuss the various aspects of these costs and why they may differ at various types of institutions.

CHAPTER V
A BRIEF HISTORY OF HIGHER EDUCATION
IN THE U.S.

This brief history will provide the background to understand the functioning of the markets for college faculty. In particular, this chapter provides information as to major market demand and supply trends, as well as discussing changes in the working conditions of faculty and the role of governance in providing work satisfaction. Even though there may be differing viewpoints or perspectives of the historical events in higher education, some basic trends and generalizations should be fairly straightforward and uncontroversial as to accuracy. For this reason, a brief historical summary will be presented, using as sources American Higher Education: A Documentary History, edited by Richard Hofstadter and Wilson Smith, and The University: An Anatomy of Academe, by Murray G. Ross.

Before 1875, higher education in the United States was mainly provided by church-dominated institutions, with the primary purpose being the training of future clergymen. Therefore, the type of education was mostly limited to church-related areas of study, and the institutions were governed by an authoritarian board of trustees. These institutions were much more like training centers for clergy than colleges. However, there did exist a few academic institutions, such as Harvard College, The College of William and Mary, and the University of Virginia. At these institutions, there was no real administration.

Instead, they were operated more as clubs, with the faculty electing one of their group to be president of the organization. The elected president would then be responsible for the few tasks an administration would have.

During the period from approximately 1875 through 1890, a number of new institutions were started and some existing colleges began to change. Most new universities were the result of the efforts and money of the wealthy industrialists of the time. The University of Chicago, for example, was started by John D. Rockefeller. These institutions, emphasizing research and scholarship, were the response to changing demand of an industrialized society. A characteristic of these new or changing institutions was that they used administration techniques similar to the corporation. The board of trustees, a common institution with the church-run colleges, acted more as a board of directors, hiring strong presidents who were good administrators and money raisers. The faculty were viewed as employees, but they were generally given the freedom to meet the goal of academic excellence by whatever means they chose. This was the beginning of academic freedom under a system in which ultimate authority lay outside of the faculty.

The period from about 1890 to 1920 was one of growth in higher education. From 1900 to 1920, the student population grew 150 percent from 237,592 in 1900 to 597,880 in 1920. Over this same time period, the population of the United States grew only 40 percent. The number of universities grew only 6.5 percent (Ross, p. 52). This created a highly competitive market for scholarly faculty, one result of which was that some entrepreneurs offered faculty more control over academic matters in

order to make employment more attractive. This greater autonomy was exemplified by the organization of the first academic departments on campus. The support of some basic precepts of academic freedom by William Rainey Harper, president of the University of Chicago, in his 1902 Decennial Report to the Trustees reflects the spirit of the changes which took place in university governance during the early decades of the twentieth century (Hofstadter and Smith, pp. 773-784, esp. p. 780). Although the power and ultimate authority remained, de jure, with the trustees and the president, this was a period of increasing autonomy and freedom for the faculty.

The period which covers approximately the years 1920 to 1950 can be described as one of nearly continuous movement toward a system of governance which may best be described as one of orderly anarchy in academic matters. Control over financial matters and personnel decisions was still in the hands of the administrators. Administration was done by the president and the deans, with advice from department chairmen. By 1950, academic departments were common, with some autonomy for these departments. The more prestigious faculty were nearly autonomous themselves. There was also substantial growth in universities during this time, the the student population increasing 340 percent, while the number of universities increased by 78 percent (Ross, p. 52).

There was a period of quiet from about 1950 through 1960 when only moderate growth occurred, and the governance system remained fairly stable. Student populations grew only 22 percent over this decade, and there was only a 9 percent growth in institutions. Contentment with

the then-existing system of governance was evidenced by the lack of interest in initiating change. There was little interest in governance through committees or faculty senates, with the less research-oriented faculty providing most of the activity (Ross, p. 179). Evidently, the prevailing system of orderly anarchy was preferred.

From about 1960 to 1970, the American higher education system experienced many various pressures as a result of the rapid increase in demand for the services of these institutions. In this period, the student population increased 134 percent from 3,215,544 to 7,545,340, and the number of institutions grew 27 percent from 2,008 to 2,557 (Ross, p. 56). There were 10 universities with over 20,000 students in 1958 and 65 in 1969 (Ross, p. 57). This growth took place in three ways: growth of existing universities, expansion of teachers colleges and their conversion into universities, and new community and junior colleges.

Several important characteristics of this growth should be mentioned. The growth of the existing institutions was accompanied by a growth in the administration of these institutions. The converted and expanded teachers colleges were sometimes administered by professional educators (holders of the Ed.D. degree), and therefore they were sometimes administered in a manner similar to a secondary school. This involved a different system of governance from that which has been described earlier as orderly anarchy, and one which allowed much less individual freedom. These institutions were generally state-run. The new community colleges and junior colleges were mostly publicly financed and more often than not were administered in the same manner as a secondary school

by professional educators. They also had a system of governance which was quite different from that of the traditional four-year college or university. These changes will be discussed in greater detail as a part of the analysis of unionization in later chapters.

During this decade, many state-wide college and university systems were developed or expanded. By centralizing many decisions, the overall system of administration was spread beyond the campus and, consequently, the "administration" became larger and more detached from the individual faculty member. This decade, and this centralization, can be said to mark the beginning of a decline in the job satisfaction of the time of orderly anarchy in the 1950s.

This rapid growth also created a rapid increase in demand for qualified faculty. By the nature of a free society with individuals freely making career decisions, higher salaries are usually the best and most effective way to generate an increased supply of any particular type of labor. However, due to the time periods required to become a qualified faculty member, the supply is fairly inelastic in the short run. Therefore, salary increases, promotions, and even tenure were offered to faculty who would not have qualified in other circumstances.

The decade of the sixties was also one of student movements. Students began to demand, and receive, a voice in the control of many universities. This represented a change in the system of governance and was a threat to the orderly anarchy and freedoms which the faculty had previously experienced. Not only were the students active in efforts to gain greater formal control over university operations, but this was also the decade of the student movements, mobilization, or activity in social issues. Civil

rights was an early interest, but protest against the Vietnam War soon became the dominant student movement. The differences of opinion on the United States involvement in that war probably divided the nation more than anything else since the Civil War, and this difference was generally related to age, with college students representing the nucleus of the younger anti-war group. The other side contained most of the taxpayers, who were supporting a substantial share of the expense of the operation of the universities. They naturally reacted by becoming more interested in the manner in which their money was being spent. The result was that these taxpayers put pressure on their state legislators to gain tighter control and greater influence in the operation of the state-supported institutions of higher education. This created a further threat to the faculty and their system of orderly anarchy and internal governance.

The most recent period in higher education has also been a unique time, with stabilization or decline of enrollments at most universities beginning in the late 1960s and continuing to this time. As another result of the length of the training period for faculty, it was during this time that the supply of qualified faculty caught up with, and in some disciplines exceeded, the demand. No longer was it necessary to hire or retain the less qualified faculty, except where tenure had been granted. Faculty salaries were no longer growing even fast enough to keep up with the cost of living, and some loss of real income was experienced, based on average salary. Positions as faculty members were more difficult to obtain, and the frequent moves from one university to another as a means of improving one's position were less common.

Besides the reduction or stabilization of demand for faculty, this time period also encompassed the end to the economic boom which resulted from the stimulus of the Great Society and Vietnam War spending. There was a general tightening of funding for public institutions and attempts by state legislators to get more for their money. This led to more interference in and constraints on the administrations of these universities. Again, we see a movement which can be described as reducing individual job satisfaction.

CHAPTER VI

LEGAL ASPECTS, ISSUES, AND SUPPORT

In this chapter, three areas will be examined and related to the application to higher education of the model presented in Chapter III.

The areas are:

1. the legal aspects of unionization;
2. the issues involved in collective bargaining; and
3. membership in and support for unions at institutions of higher education.

Legal Aspects

Legislation concerning collective bargaining at public universities must be state, not federal, laws. Private universities having gross income over \$1 million have been considered to be subject to the National Labor Relations Act since 1970, when the National Labor Relations Board so ruled. The standard provisions of the N.L.R.A. apply, subject to their interpretation through rulings of the Board. Thus, faculty at private institutions clearly have the right to organize and bargain collectively for wages, hours, and conditions of employment. Private universities also are obligated to bargain collectively with faculty, and the right to strike is protected.

The N.L.R.A. does not apply to public institutions, and therefore each state may pass its own legislation concerning collective bargaining by faculty at state institutions. Most union activity in higher education has been directed at public institutions, and during the period

of rapid increase in faculty unionization, there has been much new legislation by the states which directly affects collective bargaining. Due to the large variety of and continual changes in state legislation, it is difficult to determine the exact number of states which have some form of legislation which affects the possibility of collective bargaining by public college faculty. It is clear, however, that increasing numbers of states are adopting legislation which does allow some form of collective bargaining.

Many of these new laws allow for exclusive representation and some allow agency shop. The right to strike is less common, but experience shows that the legal right to strike is not a prerequisite to the use of the strike, especially when the primary sanction against illegal strikes is the court injunction. Several states have adopted laws with, perhaps, more effective penalties, such as loss of exclusive representation and dues check-offs for any striking agency. In general, it may be said that laws forbidding collective bargaining and unionization are rapidly being replaced by laws which either authorize or require public colleges to bargain collectively or to meet and confer with an exclusive agent representing the entire faculty of a university or a multiuniversity system (such as the State University of New York system).

While the state laws have become more permissive as to the right to bargain collectively and have exclusive agents representing the entire bargaining unit, these same laws have also detailed, in some instances, the negotiable issues. Generally speaking, state laws follow the National Labor Relations Act and interpretations thereof by the National Labor Relations Board, which establish wages, hours, and terms of

employment as required negotiable issues. Other issues may be negotiable by the agreement of both parties, but many state laws specifically covering public education also specify some non-negotiable issues such as the philosophy and methods of education. As with much new legislation, the interpretation of the laws by state labor boards, other state agencies designated to oversee the law's operation, and the courts, shall establish what are to be negotiable issues. Tenure, for example, has been ruled by the N.L.R.B. to be a term of employment and therefore negotiable.

Several state laws also specify that the merit system be maintained, and that faculty rank structure be non-negotiable. One would wonder, however, how salaries can be determined by collective bargaining within a merit system, unless the bargaining is used to determine the criteria to be used to judge merit.

In general, we may conclude that legal constraints are becoming less important in the unionization of college faculty, and that as time passes the number of faculty members who find themselves employed at institutions which bargain collectively with their faculty will be determined primarily by the outcome of campus votes on union representation. Three related legal issues are:

1. the determination of those to be included in the bargaining agreement (i.e., part-time faculty, librarians, and department chairpersons);
2. the method of determining whether or not an election need be held, and the method for determining the result (i.e., 50 percent + 1 of the voting faculty determine the agent, plurality

of all eligible voters determine the agent, etc.), and the method for ratifying contract agreements; and

3. the legal constraints concerning collection of dues and agency shop.

These three areas, then, may be said to represent the primary legal concerns of unions in the future, once the privilege to bargain collectively has been won. Legislation concerning the strike may also be an issue of the future, but changes in this area are not expected to be very important as far as the success of unions in attracting members or having an impact in negotiation, since the strike remains a viable threat and weapon under most state laws due to lack of meaningful sanctions and enforcement. Also, given the political sophistication of organized labor, it is likely that as unions become more prevalent in higher education, state laws will become more, not less, compatible with union goals.

The first issue, that of determination of bargaining unit, has the greatest importance in a multi-university system. In such a system, a primary concern is with parity between faculty at the junior and less prestigious senior colleges with those employed at the most prestigious research-oriented institutions. In this situation, the establishment of a single unit to represent all faculty in the system will be a significant move toward parity, since all faculty will then be employed under the same basic contract. The usual method for determination of a bargaining unit is for the appropriate state agency (usually a state labor relations board) to hear arguments from interested parties, and then decide what shall constitute the bargaining unit.

Once the bargaining unit has been selected, the second area becomes important--that of determining the rules of the game, or election and ratification procedures. This is an area found to be almost completely ignored by the literature reviewed by this author. State laws differ, but many follow a basic pattern, and Kerr and Smythe in Faculty Power: Collective Bargaining on Campus, edited by Tice and Holmes (pp. 49-52), outline the procedure in Michigan, which they say is similar to that in at least 15 other states and that established by the National Labor Relations Act (which applies to all private colleges with budgets over \$1 million). A petition containing the signatures of at least 30 percent of the people within the proposed bargaining unit shall be presented to the governing body of the institution by an agent seeking to represent the entire unit. A separate petition containing at least 10 percent of the people in the bargaining unit must be filed by each additional agent wishing to be on the ballot. The governing board may simply recognize that agent with a majority of the signatures as the representative agent, or an election may be held. I have been unable to find any reference which indicates how the outcome of an election is decided. This is an important aspect of unionization, since there is often a poor turnout for these elections. Should 50 percent + 1 of the unit be required to vote for one agent, the result could be quite different than if 50 percent + 1 of those voting or a plurality of either those voting or all people in the unit could choose the agency to represent the unit. Once the exclusive agent has been selected, the ratification of contracts can be by majority vote of union members, of voting union members, of all people in the unit, or of all voters in the unit (some people in the

unit may not be members of the union), or by an executive board of the union. Usually a majority of those voting can ratify a contract, whether only union members or all persons in the unit are allowed to vote. The decision as to voting rules is the prerogative of the agent. This, of course, leaves open the possibility of a minority of the faculty being able to dictate the conditions of a contract for the entire unit.

The third area in which legislative actions may be particularly important is that of union membership and financial support of the union by the bargaining unit. There are three basic situations which prevail in this area. In some states, unions must collect dues from their membership. In other states, the union may have dues withheld from the paychecks of members. In a few states, the law provides for agency shop. Under agency shop, all persons who are included in the bargaining unit are required to pay either union dues or a "service fee" to the union if they are not members of the union. Two states have laws requiring agency shop (Hawaii and Rhode Island), while a few states allow agency shop if it is included in the contract. By 1975, less than 10 percent of all contracts called for agency shop. The three main national unions differ in their positions on dues and fees. The A.F.T. believes the contract should determine the policy at each institution. The N.E.A. supports state and federal laws to require agency shop, while the A.A.U.P. supports agency shop with the provision that "conscientious objectors" be allowed some special provision, such as being exempt from fees or being allowed to specify that their fees be donated to a charity (see Lee and Bowen, p. 94f; Garbarino, pp. 105-6; and Tice and Holmes, p. 343).

Since any benefits which the union may gain for the various employees in the bargaining unit will accrue to both union and non-union employees alike, there will be employees who are free riders, enjoying the benefits without joining the union or paying any dues. There are two basic methods for a union to reduce the number of free riders, and thereby increase its financial support. For one, they can offer individual benefits available only to members. These may take many forms, such as: discounts on goods and services, group travel at reduced costs, group insurance of various types at reduced costs, etc. One glance at any issue of the N.E.A. Journal will illustrate this point. This method involves continuous costs to the union, such as organizing and sponsoring these individual benefits, and these costs include the costs of offering individual benefits to persons who would join the union whether or not the individual benefits were offered. Another method of reducing the number of free riders would be to persuade the state legislators to allow agency shop. Even though employees may have the power to prevent the union from receiving due payments in their name by designating their payments for charity, it is unlikely that all (or even a large percentage) of the free riders will elect that option. The author makes this claim because many free riders' only motive is to save money, and once they are forced to give up an amount equal to the dues, they will not object to the union receiving that money. This means of increasing revenues also requires an investment by the union; however, this investment is a one-time only cost rather than a continuing cost. The cost, in this case, being lobbying costs. Unions generally pursue both methods, but one would anticipate that as agency shops become

more prevalent, the number and value of individual benefits may decrease. The trend seems to be toward more states allowing agency shop.

Issues

Examining the issues which unions bargain over and which people say are the issues (either by answering a survey or publishing on the topic) can demonstrate the use of cartel power and the apparent inefficiencies of the market system. There are three basic sources of information on what constitutes the issues in unionization of college faculty. One is the expository writing by union leaders, administrators, and other observers. This tends to consist of normative and subjective analysis or descriptions which may be influenced by many factors. These will be discussed below. Secondly, there are the results of survey research, in which two basic groups are surveyed--the negotiators (union leaders and college presidents) or faculty in general. In this case, we could expect a somewhat more accurate picture, since the participants must answer direct questions, and they may have less motivation to cover their true feelings when answering an anonymous questionnaire. Thirdly, we have the terms of the contracts which have been negotiated and the issues which have been involved in negotiations. The reliability of these data is also open to question, since there may be many factors involved in complex bargaining behavior which may make it undesirable for either side to openly state its ultimate goals. None of these sources by itself can be counted on as being a reliable source of information for determining the motivation of those involved in the unionization of college faculty.

Looking first at the expository writing on issues, it must be observed that often the statements made by those involved may be made

with several possible motivations, which may result in misleading conclusions being drawn from a simple analysis of such statements. Since most unionization has taken place in public institutions, the focus will be on unionization in the public sector of higher education.

There are several important differences between the public and private universities which will be discussed when they are relevant. One such difference which affects the rhetoric of unionization is the importance of public opinion in resolving disagreements over contract provisions as well as in the establishment of a union as the exclusive bargaining agent. In a public institution, every taxpayer, whether or not he will have a member of his family as a student, will be affected by unionization. This may be an advantage to the union in that any economic gains they achieve will be relatively small economic losses for each taxpayer, thus lessening awareness of the total costs of their gains. On the other hand, public pronouncements of union intentions and goals must be more carefully weighed as to their effect on public opinion. In other words, unions in public institutions would find it more dangerous to say what they want, but less difficult to get what they want. The same rationale can be applied to the other side: the administration and/or the governing board of the institution. At a public university, they should find that what they say will be more important for public relations than what they do.

Both sides will be at least partially motivated by public opinion, and for this reason will attempt to define the issues in a manner such that the greatest amount of public support will be generated for their side. For the unions, this usually involves emphasizing general benefits

to the public which will, they claim, accrue should their side win. Also, they can both be expected to present their position as one which is "naturally," "morally," or "democratically" correct. Who can object to the "natural" right to a "decent" salary, a "fair share" in governing the institution, or the "moral" responsibility to improve our institutions of higher education? One chronic manifestation of this concern for public relations is the common down-playing of the importance to the unions of economic gains, either short-run or long-run.

Some examples should serve to demonstrate this point, especially when viewed in consideration of the findings from survey research and the contracts themselves. A perhaps classic example comes from a very active participant on the unions side--Belle Zeller, president of the Professional Staff Congress, City University of New York. In her chapter, "Why Faculties Organize," in Collective Bargaining in Higher Education: The Developing Law, edited by Judith P. Vladeck and Stephen C. Vladeck, she states, "That's why faculties organize: to raise their professional and economic status, to protect their collective and individual rights, and to protect the educational quality of their institutions" (Vladeck and Vladeck, p. 85). Throughout her chapter, it is clear that she believes that the number one problem, the source of most other troubles in the university, is governance. She makes it quite clear that faculty should choose department chairpersons, evaluate their colleagues for tenure and promotion, have due process, and, in general, administer the universities as a "partnership" with the administration. Her stated reasons are that faculty have a right to this partnership because "The very origin of higher education was as

a community of scholars and teachers. Scholars and teachers ran their institutions; professional administrators came later" (Vladeck and Vladeck, p. 81). Also, she believes the faculty would do a better job, and that individual rights of faculty are often violated by administrators. Although Zeller admits that the greatest gains at C.U.N.Y. have been in salary, she claims they were merely achieving gains necessary "to compensate our staff for some of the disadvantages of working at City University: the high cost of living in New York, the slum conditions of some of the C.U.N.Y. colleges, overcrowded classrooms and offices, the lack of secretarial and supportive services, and the highest student-faculty ratio in the state" (Vladeck and Vladeck, p. 86) (emphasis mine). Why, one might ask, should all faculty be compensated for slum conditions at some of the C.U.N.Y. colleges? Zeller demonstrates almost complete lack of knowledge of a competitive market by failing to recognize the role the market (imperfect though it may be) does play in making these types of compensations.

A perhaps more objective analysis is found in Joseph W. Garbarino's chapter of Faculty Unions and Collective Bargaining, edited by E. D. Duryea and Robert S. Fisk (1973, pp. 1-19). Garbarino claims there are two "pervasive elements" of the many theories advanced to explain the growth of the labor movement which are particularly relevant to the unionization of higher education.

One is the desire of craft workers to control collectively the conditions under which they will exercise their skill. The other is the effect of large, complex, and bureaucratic organizational structures in depersonalizing and rationalizing employer-employee relationships in general. Although developed in the context of a labor movement made up predominantly of manual workers, these two factors appear to be the most basic explanations of unionization

among professionals in higher education. At the same time, additional reasons account for academic unionism at the particular time and locations in which it has appeared. (Duryea and Fisk, p. 2)

As for these additional reasons, Gabarino claims that the primary factors which led to unionization in the latter half of the 1960s ". . . include the movement to extend legal encouragement for collective bargaining to public employees generally, the cycle of boom and quasi-bust that higher education has passed through in terms of enrollment and finances along with the concurrent shifts in public attitudes toward higher education itself" (Duryea and Fisk, p. 3). Simply stated, he is talking about legal constraints, the situation in the market, and governance issues.

There are further examples of this type of writing on the causes of unionization in higher education. It is most important to note that the conclusions of these writings are drawn from casual observations by persons usually themselves involved in the unionization of college faculty. Such evidence can be quite helpful if properly employed. Properly employed means that this type of evidence, as any empirical evidence, can best be used to suggest what phenomenon your theory should be consistent with, if the observations are accurate. The basic flaw in these types of examinations of the causes of unionization is the lack of any theory. The observations made may or may not be valid or accurate--there is no way to judge them without a theory with which to compare them for consistency. Throughout these writings, however, the primary issues emerge, in the interpretation of the various authors, as governance and the economic issues of salary and job security. Other specific issues, such as working conditions, can usually be placed into

one of these two general categories or would be eliminated if faculty were granted governance. The issues of salaries can basically be seen as two distinct issues: the absolute size of the budget for salaries, and the division of the total salary budget among the faculty. The first of these will remain a separate issue, while the latter can be included as a governance issue. Therefore, these writings on unionization of college faculty express two basic issues: governance, or control over the institutions of higher education, and the total amount of money to be allocated to salaries. This amounts to total control over job satisfaction factors, which is what the model presented in Chapter III assumes unions will want, since that is the best way to provide gains to their members in the most collectively preferred mix.

A second approach to discover what the primary issues are is to examine some results of survey research. There have been two surveys by Everett C. Ladd, Jr. and Martin S. Lipset in 1973 and 1975, as well as a collection of data from various sources which can be found in Unions on Campus by Frank R. Kemerer and J. Victor Baldrige.

Turning first to the Kemerer and Baldrige study, which is primarily based on a Stanford University survey taken in 1971, we have data from surveys of college presidents and union leaders. Table 6 shows that the desires for higher wages and job security are perceived as the main causes of faculty unionization. This would seem to support the contention that the analysis of the expository writings suggests the causes of unionization are basically governance and total amount of money available for salaries. It is also interesting to note the nearly identical responses from presidents of unionized colleges and chairpersons

Table 6. Causes of Faculty Unionization, As Perceived by Presidents of Institutions

Category	Presidents of Non-Union Institutions (N = 124)	Presidents of Union Institutions (N = 205)	Chairpersons of Unions (N = 193)
<u>External Pressure:</u>			
desire for higher wages and benefits	3.3	3.6	3.7
fear of budget cuts	3.0	3.0	3.0
fear of teacher surplus	2.8	2.9	3.0
<u>Tenure and Job Security:</u>			
desire for job security	3.3	3.6	3.6
desire for fairer grievance procedures	2.5	3.2	3.4
<u>Governance Issues:</u>			
desire for more influence in campus governance	2.7	3.2	3.2
weakness of existing faculty governance structure	2.3	2.5	3.0
permissive government legislation	2.0	2.5	2.8
<u>Strength of Unionism:</u>			
presence of experienced bargaining groups	2.3	2.6	2.8
<u>Professionalism:</u>			
desire for more professional standing	1.7	1.9	2.7

NOTE: The question asked was "Regardless of whether you have faculty collective bargaining on your campus, please give your opinion about the importance of the following factors for promoting it." The responses are on a four-point scale, with "1" indicating very little or no importance and "4" indicating great importance.

of unions. Evidently, among those closest to the situation there is little question as to the causes.

The third source of evidence of the issues involved in unionization is the actual contracts, negotiations, and changes brought on by unionization. Relatively little has been done in gathering data in these areas, and it would be beyond the purpose of this study to attempt to gather such data. However, the available data do offer some indication of which issues are most often included in contracts, a few graphic examples of changes which have resulted, as well as some survey data on perceived effects of unionization.

Only one study has been done to determine if unions have in fact been successful in increasing compensation of faculty members. This is the recent Economic Inquiry article by Brown and Stone. Any such study would have to be very carefully pursued because of the many possible variables involved and the relatively short time period in which unionization has been a force in higher education. A few of the many possible problems which might arise in any such study are:

1. How can increases at unionized campuses be determined to be a result of union activity and not some other forces?
2. In making comparisons between union and non-union facilities, what effect do increases in union faculty salaries have on salaries of non-unionized universities, or vice versa?
3. Are fringe benefits included in all measures of salary used?
4. In the short run, might the success of a union in gaining exclusive representation power either cause administrators and legislators to take a hard-line stand against union gains, or cause

unions to seek public acceptance and become more institutionalized before seeking significant gains? The magnitude of union support by faculty might affect these attitudes.

5. Does the measured change in salary reflect the change to the average faculty member, to the majority of the faculty, to the median faculty, or to whom can the measured change be generalized?

The study by Brown and Stone did attempt to deal with each of the above problems except the second and the fourth. The second is probably impossible to make any corrections for, and the fourth will best be accounted for by a study which covers a longer period of time than may now be available due to the contemporary nature of the phenomenon of unionization of college faculty. Brown and Stone also limited their study to four-year institutions, most of which have a relatively short experience with unionization. They found essentially no difference in the annual net growth rate of salary and compensation by faculty rank between unionized universities and the national average. One area which this study does not help is in determining whether or not the unions were successful in reallocating some income among the faculty to achieve a more equal pay scale within each rank. The results do, however, indicate no significant impact on aggregate salary and compensation. While this study is very limited in scope (only 45 unionized four-year institutions were involved), we can conclude that this would support (or fail to refute) the hypothesis that governance is the primary issue and that economic issues may be postponed for various reasons.

Although subject to various faults, certain facts tend to indicate that higher salaries sometimes are a major issue when contracts are

negotiated. The highest paying systems are the unionized multiuniversity systems of the City University of New York, the City Colleges of Chicago, and the New York State University system.

The most dramatic salary increases probably occurred at C.U.N.Y. Over the three-year period covered by the full-time faculty contract, full professors at the senior colleges receive increments for the various steps ranging from \$4,500 to \$5,075 to a top salary of \$31,275, associate professors from \$3,830 to \$4,500 to a top salary of \$25,500, assistant professors \$3,830 throughout the rank to a top salary of \$20,830, and instructors from \$2,650 to \$3,250 to a top salary of \$17,150. Over the three-year period the salary scales eliminate the differentials between faculty of similar rank in the senior colleges and community colleges throughout the system. That is, the contract calls for an exactly comparable salary range at each campus for each faculty rank for the year beginning October 1, 1971. The contract also calls for a change in the rank distribution from 19, 22, 35, and 24 percent for professors, associate professors, assistant professors, and instructors, respectively, to a distribution of 30, 30, 30, and 10 percent by January 1972. (Duryea and Fisk, p. 114)

Although this information would appear to be contradictory to, and much less reliable as a source for conclusions than, the Brown and Stone study, it should be noted that the salary figures given are for a contract negotiated and effective before the Brown and Stone data period. Therefore, these gains would not be reflected in that later study. Also, these salary gains are not compared to any other institutions, and would appear to represent only modest gains between 15 percent and 20 percent over a three-year period. Therefore, even though the highest paying systems are unionized, the union can take no credit for this result.

It is difficult to determine the importance of other issues and the effect of their inclusion in contracts; however, some information on the issues included in contracts is of interest. A 1972 study by Stephen Moses, in which the author examined 94 contracts negotiated by January, 1972, representing approximately 225 campuses (Moses, p. 58), shows how many of these contracts included workload provisions (Moses,

p. 78), 71 contracts contained clauses on academic freedom, with 39 of these including freedom in research and publications, freedom in the classroom, and freedom as a citizen (Moses, p. 81). Only 59 included a provision on the number of years to attain tenure, but in the case of 16 contracts a state law specifies tenure provisions, so no contract provision was necessary (Moses, p. 83). The final step of the grievance procedure was established by 90 contracts with 64 calling for external arbitration (Moses, p. 86). All 94 contracts contained some provision for salary.

A primary issue which involves faculty members as individuals is job security. Job security can be attained by gaining control over personnel decisions, another area of governance. Unions have striven to include specific personnel issues as a part of their contracts. Tables 7 and 8 are taken from Unions On Campus (Kemerer and Baldrige), and they were originally printed in Developing Trends in Content of Collective Bargaining Contracts in Higher Education (Andes). As Kemerer and Baldrige point out, existence of items in contracts tells us nothing about their substance, and there often exist legal constraints which prevent inclusion of certain items. Nevertheless, the existence of these items does indicate that they are considered as issues by the unions.

Another manner in which the question of "What are the issues?" can be answered is to look at the attitudes of the presidents and union leaders of unionized institutions as to what amount of influence the union has over certain issues. Assuming some correlation between influence felt and influence sought, those issues over which the union

Table 7. Contract Provisions in Relation to Personnel Issues by Year

Issues	Percentage of Contracts Covering Issue		
	1971 (N = 46)	1972 (N = 101)	1973 (N = 131)
Personnel Policy	85%	80%	95%
Grievance Procedures	91	91	92
Appointment	78	100	82
Reappointment	78	100	82
Dismissal	70	79	76
Nonreappointment	70	79	75
Personnel Evaluation Procedure	57	75	66
Promotion Policy	80	60	53
Staff Reduction	15	39	50
Tenure	50	40	49
Individual Contracts	0	0	27
Professional Awards, Merit Pay	9	6	11
Tenure Review Committee	0	0	11
Evaluation Committee	0	0	9

Table 8. 1973 Contract Provisions in Relation to Personnel Issues by Type of Institution

Issues	Percentage of Contracts Covering Issue		
	Universities (N = 21)	4-Year Colleges (N = 21)	2-Year Colleges (N = 98)
Personnel Policy	100%	95%	95%
Grievance Procedure	92	95	91
Appointment	83	95	80
Reappointment	75	95	80
Dismissal	83	86	72
Nonreappointment	67	86	73
Personnel Evaluation Procedure	42	67	69
Staff Reduction	33	57	51
Tenure	67	71	42
Individual Contracts	17	29	24
Professional Awards, Merit Pay	50	14	5
Tenure Review Committee	0	14	11
Evaluation Committee	0	14	9

has the greatest influence are probably those issues which the union considers as most important and therefore negotiated the greatest influence over. Two factors may indicate that this is not necessarily so. First, the administration would also consider certain issues as being of greater importance to them, and therefore make a greater effort to maintain their influence. Assuming that both sides win a few and lose a few, some issues which the union feels are most important may not have been negotiated to their satisfaction, and they may not have a very great influence in these issues. Secondly, there may be some issues for which little disagreement existed and therefore the union has great influence without seeking it as an important issue. There is close agreement between presidents and union chairpersons on amount of influence, with three areas appearing as the most influenced by the union. These are faculty promotion and tenure policies, faculty working conditions, and faculty salaries and fringe benefits. These, then, can be assumed to represent three primary issues in the unionization of college faculty, as shown in Table 9.

The theme which stands out on issues is that governance, and the control it implies, is perhaps the most important issue. This might be expected from a fairly high-paying occupation, since additions to job satisfaction may be most desired, at the margin, in the form of working conditions and increased job security. As money income increases, additional money income may provide less job satisfaction than previous units of money income. That is, the marginal utility of money income may be declining, causing a change in its relative value compared to working conditions and job security. Therefore, a majority of faculty

Table 9. Perceived Union Influence at Community Colleges Without Senates

Areas	Presidents ^a	Chairpersons ^b
Admissions Policy	1.3	1.4
Degree Requirements	1.9	2.0
Curriculum	2.1	2.4
Department Budgets	2.1	2.1
Long-Range Planning	2.0	2.2
Faculty Hiring Policies	2.7	2.6
Faculty Promotion and Tenure Policies	3.3	3.2
Faculty Working Conditions	3.8	3.7
Faculty Salaries and Fringe Benefits	4.6	4.2

NOTE: The question was asked "How much influence does the faculty collective bargaining unit and senate have on these issues, at your institution?" Respondents gave answers on a five-point scale, with "1" indicating low influence and "5" indicating high influence.

^aPresidents = Union, according to Presidents of unionized institutions without senates (N = 54).

^bChairpersons = Union, according to Chairpersons of unionized institutions without senates (N = 33).

may want governance more than money, and the union may be better than the market at providing this. This may be especially likely in the larger public institutions and multicampus institutions which have larger, more complex bureaucracies.

Support

The last section of this chapter will present and discuss some evidence of the characteristics of the membership and supporters of faculty unions. Both the characteristics of the faculty and the characteristics of the institutions which are unionized are of interest.

Turning first to the characteristics of faculty who support unionization, we find there have been few efforts to measure the differences between supporters and non-supporters. Everett C. Ladd, Jr. and Seymour M. Lipset have done extensive survey research on U.S. college faculty. The results which relate to unionization have been published in their book Professors, Unions, and American Higher Education, as well as in the Chronicle of Higher Education. As with any survey research, the choice of questions and the wording used in the questions will influence how the questions will be interpreted by the respondents and therefore will be important in evaluating the results. The primary question used was: "Collective bargaining by a faculty has no place in a college or university. Do you agree or disagree?" Such a question does not specifically ask the respondent if he would vote for or against a union at his institution. In a more recent survey, they asked how the respondent would vote--either for or against a union--if an election were held at his institution, as well as the aforementioned question. The

results were very similar, indicating that the first question was perhaps generally interpreted as a pro- or anti-unionization question.

In addition to this Ladd and Lipset data, there is the Stanford Survey results reported by Kemerer and Baldrige in Unions on Campus. This survey asked if collective negotiations represented the most effective way for faculty to influence campus decisions on the respondent's campus. While this question may have been interpreted by most respondents as a pro-union or anti-union question, it seems that persons agreeing with this could also vote for or against a union if influencing campus decisions was not as important as other factors related to unionization, such as salary. The sample size is also rather limited at only 300.

The 1969 survey of 60,000 professors found that 59 percent disagreed with the no place on campus for faculty collective bargaining question. The 1975 survey had 69 percent responding negatively to this statement. The more direct question on favoring a bargaining agent on their campus generated a slightly more positive response of 72 percent who said they would vote for a bargaining agent. These surveys, then, would seem to indicate a strong pro-union attitude among college faculty.

In order to understand the motivation for these viewpoints and to generate or support hypotheses as to the reasons for the rapid growth of unionization, it is helpful to break down support by various categories. Tables 2, 5, and 10 through 14 do this, both for individual characteristics and institutional characteristics.

Looking first at institutional characteristics, there is a rather strong relationship, with the faculty of the higher quality institutions

Table 10. Faculty Attitudes toward Collective Bargaining and Unionism, by Quality and Type of Institution (as percentage of N)

Category	Disagree ^a	Agree ^b
<u>All Faculty</u> (60,028 respondents)	59%	47%
<u>Quality of School at Which Professor Teaches:</u>		
A (elite) (N = 19,089)	53	49
B (N = 25,224)	55	44
C (N = 13,110)	60	44
D (lowest tier) (N = 2,580)	67	52
<u>Type of Institution:</u>		
University (N = 44,871)	54	46
Four-Year College (N = 13,020)	61	46
Two-Year College (N = 2,133)	67	49

^aDisagree = no place on campus for faculty collective bargaining.

^bAgree = faculty strikes can be legitimate action.

Table 11. Opinions on Collective Bargaining and Unionization, by School Type and Quality, and by Salary

Category	Do not agree that collective bargaining has no place on campus	Favor a bargaining agent
<u>School Type:</u>		
University	61%	61%
4-year institution	72	75
2-year institution	76	81
<u>Tier of School:</u>		
High	64	65
Middle	67	65
Low	73	80
<u>Basic Institutional Salary:</u>		
\$35,000 and more	48	40
\$30,000-34,999	52	52
\$25,000-29,999	56	64
\$20,000-24,999	68	74
\$17,000-19,999	68	75
\$14,000-16,999	73	75
\$12,000-13,999	76	74
\$10,000-11,999	80	79
\$7,000-9,999	80	75
Less than \$7,000 ^a	--	--

^aToo few cases for reliable estimate.

Table 12. Impact of Institutional Characteristics on Faculty Attitudes toward Collective Negotiations

Characteristics	Percentage who agree collective negotiations are most effective way for faculty to influence campus decisions
<u>Type of Institution:</u>	
Private Multiversity (N = 6)	27
Public Multiversity (N = 13)	28
Elite Liberal Arts (N = 25)	24
Public Comprehensive (N = 40)	35
Public Colleges (N = 16)	36
Private Liberal Arts (N = 85)	29
Community Colleges (N = 96)	55
Private Junior College (N = 19)	37
<u>Selectivity Scale:</u>	
Very Selective (N = 78)	29
Medium (N = 80)	32
Least Selective (N = 142)	47

Table 13. Faculty Attitudes toward Collective Bargaining and Unionism, by Professional Characteristics and Rewards, 1969 (as percentages of N)

Category	Disagree ^a	Agree ^b
<u>Tenure:</u>		
tenured faculty (N = 29,853)	54%	41%
untenued faculty (N = 26,766)	64	53
<u>Received Research Grants, last 12 months:</u>		
yes [received grant(s)] (N = 27,966)	54	49
no (N = 29,778)	61	47
<u>Salary:</u>		
over \$20,000 (N = 6,420)	45	38
\$14,000-\$20,000 (N = 15,567)	52	42
\$10,000-\$14,000 (N = 21,417)	59	47
under \$10,000 (N = 15,312)	66	51
<u>Age:</u>		
60 years and older (N = 4,398)	45	30
50-59 (N = 9,408)	53	35
40-49 (N = 16,113)	57	44
30-39 (N = 20,580)	62	52
under 30 (N = 8,607)	68	60

^aDisagree = no place on campus for faculty collective bargaining.

^bAgree = faculty strikes can be legitimate action.

Table 14. Faculty Attitudes toward Unionism, by General Political Orientation, 1969 [as percentages (row)]

Category	Disagree ^a	Agree ^a
<u>Liberalism-Conservatism Scale:</u>		
1 (very liberal)	80%	80%
2	64	56
3	58	44
4	53	33
5 (very conservative)	42	24
	Gamma = .32	Gamma = .46
<u>Campus Activism Scale:</u>		
1 (strongly supportive)	82	80
2	68	59
3	56	41
4	49	33
5 (strongly opposed)	40	23
	Gamma = .37	Gamma = .48
<u>Student Role Scale:</u>		
1 (strongly supportive)	75	71
2	63	51
3	56	41
4	51	35
5 (strongly opposed)	45	30
	Gamma = .25	Gamma = .34
<u>University Governance Scale:</u>		
1 (strongly supportive)	72	69
2	65	57
3	61	47
4	55	40
5 (strongly opposed)	46	29
	Gamma = .25	Gamma = .32
<u>1968 Electoral Choices</u>		
<u>Democratic Convention Preference for:</u>		
McCarthy (N = 31,521)	64	54
Humphrey (N = 25,443)	54	39
<u>Presidential Vote for:</u>		
Left third-party candidate (N = 1,308)	87	84
Humphrey (N = 30,492)	64	56
Wallace (N = 456)	49	35
Nixon (N = 17,820)	47	29

^aDisagree = no place on campus for faculty collective bargaining;
agree = faculty strikes can be legitimate action.

showing the least support, and those of the lower quality having the greatest support for unionization. In Table 10, this ranges from 53 percent to 67 percent, with increases in support corresponding to decrease in quality. Table 11 shows the same type of differences for the 1975 survey, using school type and tier as the independent variables. Table 12 shows the same trend was found in the Stanford Survey. Further data come from information on actual unionization of campuses, as presented in Table 2, which shows that as of 31 December 1975, 59 percent of all unionized campuses were at two-year institutions. For public schools only, this figure reaches 68 percent. Another interesting observation from these data is found by examining the rejection rate on votes at these institutions. For all elections, only in 10 percent of the cases was no agent chosen and collective bargaining rejected. For two-year colleges, this figure was only 2.4 percent, while for four-year institutions it was 19 percent. Separating by public and private, we find that of all public institutions which held elections, only 3.5 percent rejected bargaining, while 36 percent of private elections resulted in rejection of agents. For two-year colleges, these percentages become 2 percent and 14 percent (from a sample of only 7), and at four-year institutions we find only 6.5 percent rejections at public colleges and 37.5 percent at private colleges. These figures would seem to indicate significant differences in attitudes toward unionization based on whether the primary financial support is from public or private sources.

Examining some data on the individuals who apparently support unionization can also be informative. The Ladd and Lipset data find

correlations between support for collective bargaining and several variables, as shown in Tables 5 and 13, which may be said to reflect success in the academic market. It would seem that the greater the individual's marketability, the less favorable he is to unionization.

One of the most significant differences in attitudes toward unionization is strongly correlated with variables which can be said to measure political ideology. Table 14 shows this relationship for several variables. One possible interpretation of these data, and one which would seem to be consistent with results of campus elections, is that these survey results generally reflect ideology, but when the time comes to cast a secret ballot, personal market value becomes a more important factor. Observe that faculty position on a liberal-conservative scale is correlated with the quality of the school, with those at higher quality schools being the most liberal (see Table 15). However, at these schools unions have the least success in elections.

Also relevant in determining reasons for support of collective bargaining is the attitude one has toward various issues related to commonly used measures for promotion and salary decisions which are individually negotiated. Table 16 shows that faculty supporting unionization are less favorable to scholarly competition, less inclined to support salary differences based on merit and more inclined to support basing salary on seniority or age, and support more strongly the notion that teaching effectiveness is a more important criterion for promotions than is publication record. Generally, these opinions could be associated with one who finds himself less successful in the traditional academic

Table 15. Position of Faculty on the Liberalism-Conservatism Scale, by the Quality of University at Which Faculty Are Located, 1969
Carnegie Data [as percentages (rows)]

School Quality	Position on Liberalism-Conservatism Scale				
	Very Liberal	Liberal	Middle-of-the-road	Conservative	Very Conservative
A (elite)	27%	28%	17%	17%	12%
B	19	22	17	23	20
C	14	19	18	26	22
D (lowest tier)	13	17	18	27	25

Table 16. Faculty Attitudes and Opinions on Collective Bargaining and Unionization

Category	Do not agree that collective bargaining has no place on campus	Favor a bargaining agent
<u>Scholarly competition is destructive to an intellectual environment:</u>		
Strongly agree	77%	81%
Agree with reservations	72	74
Disagree with reservations	69	71
Disagree strongly	62	64
<u>Base salary increases on merit:</u>		
Strongly agree	52	61
Agree with reservations	66	68
Disagree with reservations	76	77
Disagree strongly	79	81
<u>Base salary differences solely on age and seniority:</u>		
Strongly agree	73	81
Agree with reservations	77	83
Disagree with reservations	73	76
Disagree strongly	64	66
<u>Base tenure on most demanding national standards:</u>		
Strongly agree	62	66
Agree with reservations	69	73
Disagree with reservations	77	77
Disagree strongly	75	80
<u>Teaching effectiveness--not publica- tions--should be primary criterion for faculty promotion:</u>		
Strongly agree	71	75
Agree with reservations	72	73
Disagree with reservations	65	66
Disagree strongly	62	66

marketplace where research and publication has become a primary factor in determining salary, promotion, and tenure.

It is important to reiterate that survey research is a rather weak method to reveal persons true motivations and attitudes. Questions are always open to interpretations, respondents may express their ideology but behave differently when there are personal costs involved as a result, and, finally, people may not be able (or willing) to reveal the information necessary to expose the true motivation for their behavior. These problems would seem to be particularly exacerbated when a survey asks the respondent to consider a hypothetical situation. After all, individuals would not be expected to invest a great deal of effort in gathering and evaluating information concerning an issue which they have not yet been personally confronted with as a real, not hypothetical, problem.

One bit of hard datum which may be measured reliably is the growth in number of unionized campuses. From a mere 11 in 1966, there has been a steady increase, with the largest increase to date being for the years 1968, 1969, 1970, and 1971 when the total went from 65 to 230. This represents a 254 percent increase over those four years. Growth slowed thereafter until recent years when, from the end of 1974 (a 9 percent growth year) to the end of 1975, there was a 29 percent increase in unionized campuses (Kemerer and Baldrige, p. 1, and Means and Senas, p. 52).

CHAPTER VII

CHANGING MARKET CONDITIONS

This chapter will examine the impact of a changing market environment in which the demand for higher education is rapidly increased over a period of time which is followed by a period of relative stability in demand. The effect of such changes on the investment in capital goods and on the supply of labor will be examined. The predictability of demand changes and the training time for labor will be shown to be particularly relevant. The actual situation which did exist will be shown to be consistent with the model. The next chapter will examine the expected behavior of relevant individuals (administrators, legislators, faculty, etc.), given these changes in demand, supply of labor, and capital goods. The purpose will be to apply the model and relate these conditions to a desire by faculty to unionize, which will be done primarily in Chapter IX.

The actual changes in enrollment are shown in Table 17, with five-year summaries in Table 18. The most informative data are the average annual percentage change in enrollment by type of institution and the average annual percentage change in the 18-24 year old population, which are shown in Table 18. From 1960 to 1965, the average annual change at all public four-year institutions was 23 percent of the average annual change in the 18 to 24 year old population. This figure was 211 percent for 1965 to 1970, and 150 percent for 1970 to 1975. It seems reasonable to say that this segment of higher education

Table 17. Total Enrollment (in thousands) by Type of Institution, 1959-1975 (Percent Change from Previous Year)

Type	1959	1960	1961	1962	1963	1964	1965	1966	1967
Public Univ.		992					1,634		
Public 4-year	<u>1,616</u>	750 7.8	<u>1,873</u> 7.5	<u>2,055</u> 9.7	<u>2,297</u> 11.8	<u>2,559</u> 11.4	1,281 13.9	<u>3,100</u> 6.3	<u>3,383</u> 9.1
Public 2-year	356	392 10.1	456 16.3	519 13.8	551 6.2	621 12.7	738 18.8	840 13.8	966 15.0
All Private	1,392	1,474 5.9	1,532 3.9	1,601 4.5	1,646 2.8	1,771 7.6	1,916 8.2	1,988 3.8	2,043 2.8
Total	3,365	3,610 7.3	3,861 7.0	4,175 8.1	4,495 7.7	4,950 10.1	5,570 12.5	5,928 6.4	6,392 7.8
Type	1968	1969	1970	1971	1972	1973	1974	1975	
Public Univ.	2,006	2,102 7.8	2,278 5.4	2,302 1.1	2,310 0.3	2,406 4.1	2,514 4.5	2,678 6.5	
Public 4-year	<u>1,716</u> 10.0	1,804 7.2	2,003 8.9	2,090 4.3	2,154 3.1	2,154 0.0	2,280 5.8	2,417 6.0	
Public 2-year	1,170	1,413 21.1	1,520 20.8	1,623 7.8	1,694 6.8	1,829 4.4	3,195 8.0	3,739 74.7	17.0
All Private	2,036	2,069 -0.3	2,120 1.6	2,102 2.5	2,106 -0.8	2,131 0.2	2,235 1.2	2,350 4.9	5.1
Total	6,928	7,484 8.4	7,920 8.0	8,116 5.8	8,265 2.5	8,520 1.8	10,224 3.1	11,185 20.1	9.4

NOTE: Numbers underlined represent combined totals for all 4-year public institutions.

Table 18. Percent Change in Enrollment, Average Annual Percent Change, and Average Annual Percent Change in 18-24 year old population, by 5-year Intervals, 1960-1975, by Type of Institution

Type of Institution	1960-1965	1965-1970	1970-1975
Public University	65	39	18
Public 4-year	71	56	21
Public 2-year	88	106	146
All Private	30	11	11
Total	54	42	41
<u>Average Annual Percent Change:</u>			
Public University			3.3
Public 4-year	10.9*	8.0*	3.8
Public 2-year	13.6	15.7	22.2
All Private	5.4	2.1	2.1
Total	9.1	7.3	7.4
<u>Average Annual Percent Change in 18-24 year old population:</u>			
	4.6	3.8	2.4

*Represents combined total for all 4-year public institutions.

did experience a rapid and greater than demographically predicted growth in the 1960s, followed by moderate growth in the 1970s. The private schools have a moderated version of this pattern. The two-year public institutions have the most variation in growth, but they follow essentially the same pattern. The dramatic increase in enrollment at two-year public colleges in 1974 distorts the five-year data of 1970 to 1975.

The data in Table 19 and Figure 5 show the differences which have existed in the college age group population and enrollments, in terms of the growth rate of each. As can be seen in Figure 5, from 1960 to 1975 there was only one year (1972) in which the percentage change in enrollment was less than the percentage change in Carter's "weighted composite college-age group." For the year 1960-1962 and 1967-1970, the changes in the percentage change for enrollments and for the college age group were in opposite directions. These data indicate that even if population changes could be perfectly predicted, other factors could overwhelm the effects of the population changes on the change in enrollments.

The relationship between the total demand for faculty and enrollments is affected by the teaching loads of the faculty and the size of their classes. It seems reasonable to expect that during a seller's market for labor there would be improvements in working conditions to attract faculty. This would imply smaller classes and fewer hours of classes per faculty member. Smaller average class size would be expected because of the common belief in some inherent value to smaller

Table 19. Percentage Change in "Weighted Composite College-Age Group" from 1950-1976, by year

Year	Weighted Composite College-Age Group	% Change, Total Enrollment, All Institutions
1951	-1.6	----
1952	-1.9	
1953	-1.1	
1954	-0.8	
1955	0.1	
1956	0.9	----
1957	0.8	
1958	1.2	
1959	2.0	
1960	2.4	7.3
1961	5.7	7.0
1962	3.7	8.1
1963	2.6	7.7
1964	1.0	10.1
1965	8.1	12.5
1966	5.8	6.4
1967	5.3	7.8
1968	1.3	8.4
1969	2.9	8.0
1970	3.3	5.8
1971	2.3	2.5
1972	1.9	1.8
1973	2.3	3.1
1974	4.7	20.0
1975	1.4	9.4
1976	1.6	----

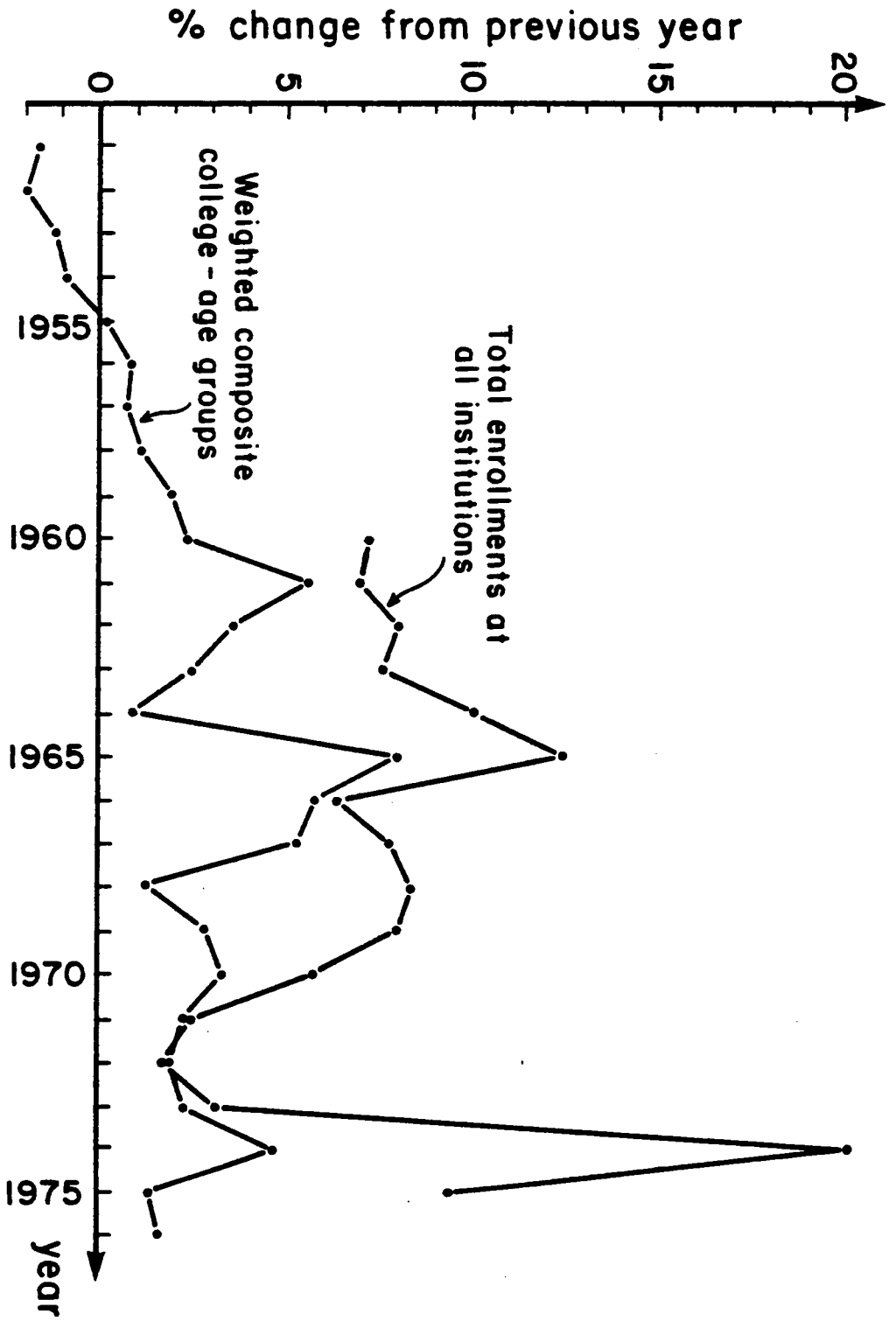


Figure 5. Percent Change in Enrollment and Percent Change in College Age Group Population, 1951-1976.

classes, and as a result of offering more "specialized" courses in which professors get to teach their primary area of interest (another way to improve working conditions). Both smaller class size and fewer classes per faculty member will reduce the student-faculty ratio and exacerbate a shortage of faculty. The data in Tables 20 and 21 show that student-faculty ratios for the period of 1958-1972 did peak in 1963 and were lowest in 1968, although the differences seem rather small. The changes were greater for full-time faculty than for a full-time equivalent faculty basis, and the explanation for this difference is also an explanation for the possibility of such a trend during a period of a relative shortage of faculty. The use of graduate students as part-time junior instructors provides a means for resolving this dilemma, especially if they are used to teach large sections of lower-level courses, as is the custom. Table 22 shows the changing percentage of part-time junior instructors at all institutions combined, which will be less than the change at those institutions with graduate students. Tables 23 and 24 show a comparison of teaching loads at different types of institutions for the years 1969 and 1973. They each have increases in the percentage of faculty teaching 13 hours or more.

The overall effect of changing enrollments on the demand for faculty would be exacerbated by the effects shortages and surpluses of faculty have on teaching loads and average class sizes. When there is a surplus of faculty, teaching loads and average class size are expected to increase, which would exacerbate the surplus. When there is a shortage of faculty, teaching loads and average class size are expected to

Table 20. Average and Incremental FTE Student-Faculty Ratios, 1958-1972

Year	FTE Enrollment (in thousands)		FTE Faculty (in thousands)		Average Student- Faculty Ratio	Incremental Student- Faculty Ratio
	Total	Actual Increments	Total	Actual Increments		
1958	2,658	161	188	6	14.14	26.83
1959	2,775	117	194	6	14.30	19.50
1960	2,943	168	204	10	14.43	16.80
1961	3,198	255	214	10	14.94	25.50
1962	3,457	259	228	14	15.16	18.50
1963	3,701	244	242	14	15.29	17.43
1964	4,117	416	274	32	15.03	12.91
1965	4,688	571	317	53	14.79	10.77
1966	5,080	392	351	34	14.47	11.53
1967	5,477	397	378	27	14.49	14.70
1968	5,954	477	413	35	14.39	13.63
1969	6,314	360	431	18	14.65	20.00
1970	6,712	398	452	21	14.85	18.95
1971	7,005	293	466	14	15.03	20.93
1972	7,094	89	471	5	15.06	17.80
1958-1972		4,436		283		15.67
Average of annual ratios						17.72

Table 21. FTE Degree-Credit Enrollment and Full-Time Faculty, Instructor and Above (in thousands)

Year	Enrollment		Faculty		Average Student-Faculty Ratio	Incremental Student-Faculty Ratio
	Total	Actual Increment	Total	Actual Increment		
1958	2,552	155	147	6	17.36	25.83
1959	2,665	133	149	2	17.89	56.50
1960	2,835	170	154	5	18.41	34.00
1961	3,092	257	163	9	18.97	28.56
1962	3,328	236	173	10	19.24	23.60
1963	3,547	219	184	11	19.28	19.91
1964	3,929	382	212	28	18.53	13.64
1965	4,460	531	248	36	17.98	14.75
1966	4,805	335	278	30	17.28	11.17
1967	5,174	379	299	21	17.30	18.05
1968	5,603	429	331	32	16.93	13.41
1969	6,000	397	349	18	17.19	22.06
1970	6,302	302	368	19	17.13	15.89
1971	6,496	194	379	11	17.14	17.64
1972	6,537	41	384	5	17.02	8.20
1958-1972		4,140				17.04
Average of Annual Incremental Ratios						21.55

Table 22. Composition of FTE Faculty (in thousands)

Year	Total FTE Faculty (1)	Full-Time Instructor or Above		Part-Time Instructor or Above		Full-Time Instructor or Above		Part-Time Instructor or Above		Percent		
		(2)	(3)	(4)	(5)	(2)/(1)	(3)/(1)	(4)/(1)	(5)/(1)	Full-Time Instructor or Above (3)/(1)	Part-Time Instructor or Above (4)/(1)	
1960	202	154	27	8	13	76.2	13.4	4.0	6.4	13.4	4.0	6.4
1961	214	163	29	9	14	76.2	13.5	4.2	6.5	13.5	4.2	6.5
1962	228	173	30	10	15	75.9	13.2	4.4	6.6	13.2	4.4	6.6
1963	242	184	32	10	16	76.0	13.2	4.1	6.6	13.2	4.1	6.6
1964	274	212	31	12	19	77.3	11.3	4.4	6.9	11.3	4.4	6.9
1965	317	248	31	15	23	78.2	9.8	4.7	7.3	9.8	4.7	7.3
1966	351	278	29	17	27	79.2	8.3	4.8	7.7	8.3	4.8	7.7
1967	378	299	32	14	33	79.1	8.5	3.7	8.7	8.5	3.7	8.7
1968	413	331	33	16	33	80.1	8.0	3.9	8.0	8.0	3.9	8.0
1969	431	349	33	15	34	81.0	7.7	3.5	7.9	7.7	3.5	7.9
1970	452	368	33	15	36	81.4	7.3	3.3	8.0	7.3	3.3	8.0
1971	466	379	34	16	37	81.3	7.3	3.4	7.9	7.3	3.4	7.9
1972	472	384	34	16	37	81.4	7.2	3.4	7.8	7.2	3.4	7.8

Table 23. Percent Change in Earned Doctorates and Percent Change in Total Full-Time Equivalent Faculty, 1956-1972

Year	Percent Change Earned Doctorates	Percent Change FTE Faculty
1956	-3.7	----
1957	2.1	----
1958	4.9	----
1959	5.1	----
1960	7.2	----
1961	10.0	5.9
1962	10.3	6.5
1963	13.2	6.1
1964	13.4	13.2
1965	9.7	15.7
1966	12.7	10.7
1967	11.1	7.7
1968	12.7	9.3
1969	13.8	4.4
1970	6.3	4.9
1971	2.1	3.1
1972	2.8	1.3

decrease, which would exacerbate the shortage. The use of graduate students in teaching would moderate these effects at those institutions with graduate programs.

In order to examine the effect of the predictability of the changes in demand, some assumptions must be made as to the cause of this change in demand. Demographic changes would, by themselves, seem to indicate that the demand for college education would increase. As the World War II baby-boom children matured to college age, there was an increase in the number of persons of college age. This bulge in the population distribution had demonstrated its impact in the markets for many goods and services, such as elementary and secondary education, and various products which were commonly used by those persons who were born during this baby-boom period. An assumption that the period of the mid-1960s would feature an inordinately large increase in the college-age population does not, by itself, lead to the conclusion that the number of college students would increase at that time. Further assumptions are necessary to indicate whether to expect the same, a greater, or a smaller percentage of college age persons to attend college during this time than during the earlier time periods. This would indicate whether a prediction of demand based only on demographic changes would under- or overestimate the actual demand.

One relevant assumption is that increasing social pressures emphasizing higher education as desirable would tend to increase the percentage of college age persons who choose to attend college. The launching of a Soviet satellite in 1957 created this type of environment

which probably did tend to cause a larger percentage of college aged persons to attend college.

The result of increasing affluence would tend to be an increase in the percentage of college age persons attending college. The period in question was one of increasing affluence in the 1960s, followed by relatively slow growth of affluence in the 1970s.

The Vietnam War and the military conscription can accurately be assumed to have increased the percentage attending college, since college attendance was the most socially acceptable way to beat the draft, at least through the early years. The effects of changes in the number of college aged men who were drafted into the armed forces and the changing conscription laws seem to be a plausible explanation for some of the deviation in enrollments not accounted for by demographic change. From 1966 to 1968 was a period of increases in the number of draftees, and from 1968 to 1970 the draft laws and local board decisions were altered to make it more difficult to avoid being drafted by going to college. With the introduction of the lottery system late in 1970, all deferments were eliminated. This pattern is consistent with the changes in enrollments over this period, as shown in Tables 17-19 and Figure 6. Attendance at two-year colleges seems to follow the pattern of the draft, and the 1974 increase may be due to the ending of the war and the use of the G.I. Bill, and the end of military conscription. However, as students became more involved in the anti-war movement, going to college became less desirable from the point of view of those who did not oppose the war. Therefore, the effect of the Vietnam War could be

said to increase the percentage going to college from about 1964 to about 1970, and after the war due to the G.I. Bill.

These factors (increased college age population, social pressures, affluence, and the Vietman War) all indicate that the World War II baby-boom had an impact on the demand for higher education which exceeded that of an increase in the college age population with no change in percent attending. In other words, it seems reasonable to assume there was a rather rapid increase in the demand for higher education services, and to the extent that these four basic factors were predictable, this increased demand was predictable.

These four factors had a major influence on the percentage of college age persons who attended college, but the impact of the change in attendance is affected by whether or not this change was anticipated by the producers and the suppliers of the factors of production. The increased emphasis on higher education which was a result of the space race (really a weapons delivery systems race) was predictable. The increased affluence was perhaps not very easily predicted, while the increase in college age population was easily predictable. The war in Vietnam and its relevance to college attendance was not easily predictable. Of course, the truly relevant question involves not only predictability but, more importantly, were the predictions in fact made, were they widely accepted, and did they alter individual behavior? If a prediction of a change in demand has no significant impact on individual behavior, then the most realistic assumption is that the change in demand occurred with little preparation by those who supply higher educational services. It is also relevant to consider which

groups of persons accept the prediction and alter their behavior accordingly. For example, if college administrators and state legislators anticipate the change and prepare for it by expansion of their institutions' physical plants, this will create differing situations depending on whether or not other individuals accept and act on this prediction by qualifying themselves for faculty positions. Before examining the expected effect of predictability on the investment in capital and the supply of labor, let us complete the scenario of the change in demand for higher educational services.

Following this period of rapid increase in demand was the period from 1970 through 1977 during which the demand for college education experienced only moderate growth. This represented a change from the rapidly increasing demand of the previous four years, and this change may also have been predictable. Once again, it is not sufficient that there were demographic changes, since such changes only affect the college age population and not necessarily the number of students. Several factors can be recognized as having an expected influence on the percentage of these college age persons attending college.

One factor would be the economy. This period saw the end of the overstimulation of the economy through Great Society programs and the Vietnam War spending, and eventually inflation and recession. This is expected to reduce the percentage of college age persons attending college.

During this period, the student deferment was replaced by a lottery, and eventually the draft was eliminated. This, also, should have had

a tendency to reduce the attendance as a percent of college age persons. Since neither of these phenomena were easily predicted, it is likely that this change in college attendance was not fully anticipated.

Effects of Changing Market Conditions

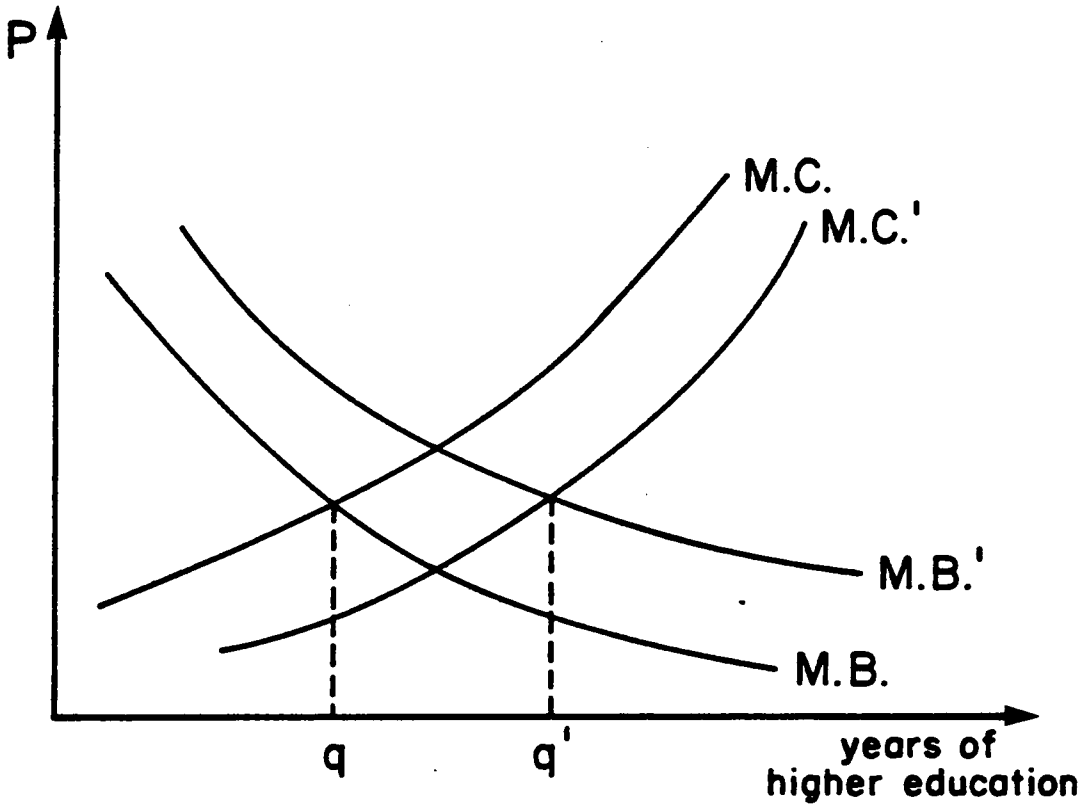
Having shown that it is likely that the changes in aggregate college attendance which occurred between 1960 and 1977 were not likely to have been fully anticipated, the question of the expected responses of individuals to these changes can be examined. Of particular interest will be whether these changes might be expected to be under- or over-estimated by relevant persons. The analysis involves two periods. The first is the period of rapidly increasing demand, and the second is the period of moderately increasing demand.

In a competitive market which experiences a substantial increase in the demand for its product, several effects are anticipated as the adjustment to a new equilibrium takes place. The primary effects would be on the price and quantity of the output and the cost of and demand for the inputs. These will be influenced by the price elasticity of demand and supply over the relevant time period, which in turn is influenced by the price and availability of substitutes and complements, the amount of time necessary to adjust, and the degree to which the changes in demand are anticipated.

Individual Demand

We must examine the dynamics of the effects of a shift to the right of the demand curve. In the case of higher education, it would seem reasonable to assume that the role of substitutes and complements

would be minimal, and therefore the price elasticity of demand would depend on the willingness of consumers to do without the product. This would normally depend on a comparison of the present value of a higher education to its cost, but in this case information is not likely to be very accurate. The present value of a college education is most likely to be determined by past experience, which may take the form of a heuristic--the way to get ahead in our society is through higher education. Therefore, present value may reflect the recent past more so than the current situation. Costs are also likely to be based on poor information. Most consumers probably do not consider the full opportunity costs, and especially the foregone earnings. Since much higher education is subsidized by some level of government, the individual costs are certainly less than the true costs. During the period of rapid growth in demand for higher education, the recent past history, which would provide the present value of a college education, did not reflect the increase in supply of college graduates which would be the result of this increased demand, and therefore the present value was likely to have been overestimated at that time. Costs can be expected to be generally underestimated, as shown above. Therefore, the marginal benefit and marginal cost for an individual consumer of higher education, and for legislators, would be distorted, as shown in Figure 6. The result will be a greater output of higher education in response to an increased quantity demanded, as compared with conditions of perfect information.



M.B. = marginal benefit with perfect information

M.C. = marginal cost with perfect information

M.B.' = marginal benefit with likely information

M.C.' = marginal cost with likely information

Figure 6. Decisions of Investment in Higher Education Under Conditions of Imperfect Information.

Supply

On the supply side, the price elasticity will affect the equilibrium price of inputs as a result of some increase in demand. The willingness and availability of resource mobility would be primary factors in determining elasticity and any shift in the supply curve. Higher education is a relatively labor intensive industry, with qualified faculty being a primary factor of production. The physical plant, or educational facilities, represent the capital. How the adjustment is expected to take place depends on the behavior of those individuals whose decisions are relevant.

The decision to expand the educational facilities are dependent on the willingness of those providing financial support to invest in this industry. If this were a perfectly competitive industry with a profit-maximizing motive, investors would base their decisions on the expectations of changes in demand which would generate predictions of marginal revenue, and the opportunity costs which would be used to find marginal cost. The opportunity costs would be affected by the price of all inputs, including labor. The rate of information, especially information concerning the future, is very important in an industry which employs long-lived capital or in which the supply of labor is dependent on a relatively long training period. Higher education exhibits both of these characteristics.

With perfectly predicted changes in demand, the various tradeoffs will be made to achieve the profit maximizing result, which will be economically efficient. For example, if demand were expected to increase, and then decrease over a short time (relative to the lifetime of the

capital), the current facilities may be used more intensively with rising prices causing supply to equal demand, and little investment would be made. However, if the increased demand were expected to last longer, relative to the lifetime of the capital, new investment would be greater, and prices would rise less. Similarly, if demand is fully anticipated to increase and then decrease, tradeoffs exist in the hiring and training of new labor, which represents investment. Information is never perfect and information is costly, so the optimal decisions are never made by everyone. What is relevant to higher education is whether there are any reasons for systematic bias which would affect the supply of educational services or the supply of labor as an input in the production of those services.

According to Allan M. Carter, there were a series of studies made by the NEA during the mid-1950s which indicated that because the percentage of new faculty holding a Ph.D. was declining, the quality of higher education was declining. These studies prompted policies of the federal government which increased the output of Ph.D.s in the 1960s. These studies overlooked the fact that more graduate students were accepting jobs before completion of their degrees, and then completing their degrees and remaining in academe. The percentage of college faculty holding a Ph.D. was rising at this time, but this fact went unobserved until the mid-1960s. The percentage of new Ph.D.s employed in higher education remained near 60 percent throughout this period (Carter, p. 127, 190).

Apparently the effect was to cause significant increases in the number of new doctorates (see Table 23 and Figure 7), but there was

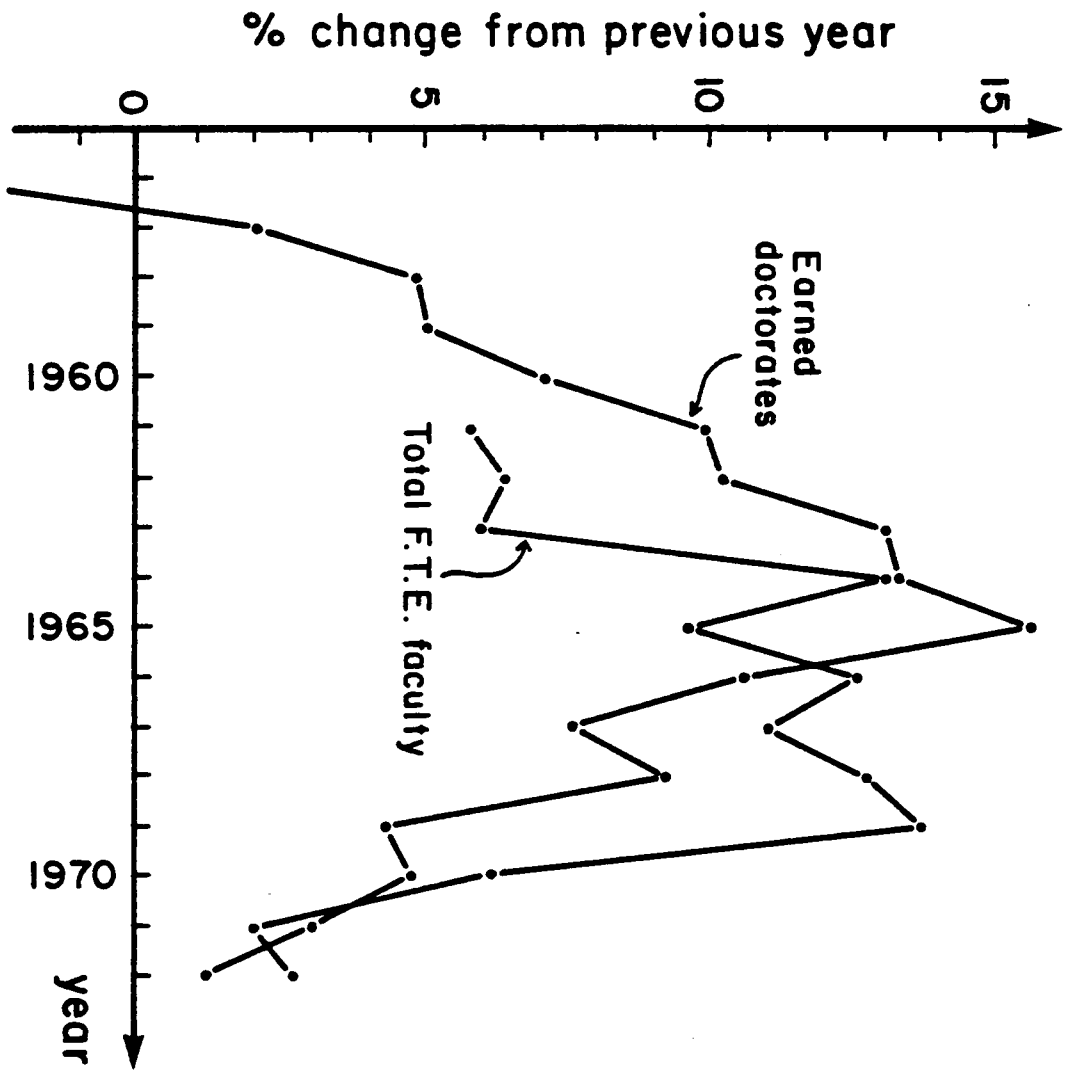


Figure 7. Percent Change in the Number of Persons Earning Doctorates and Percent Change in Total FTE Faculty, 1956-1972.

still a shortage of Ph.D.s in the mid-1960s (see Figure 8). This indicates that the increases in enrollments were greater than anticipated. Carter further argues that widely accepted projections of enrollments in the 1970s were erroneous. These projections grossly overestimated the enrollments and were a basis for continued government stimulation of the output of Ph.D.s (see Carter, chs. 2 and 3).

Tables 24, 25, and 26 demonstrate that the academic market for Ph.D.s was not as good in 1973 as in 1968. Table 27 shows the effect this has on the mobility of faculty. The supply of faculty was relatively short in the mid-1960s, and relatively in surplus in the late 1960s and early 1970s.

Capital

Also relevant is the effect of changing demand on the quantity of educational facilities, which represent capital investments. Was the demand pattern in higher education of the period from 1960 through 1977 anticipated? As shown above, the basic pattern is the result of demographic changes, while there were other factors which tended to cause some greater uncertainty in the magnitude of these changes. Both the large increase in the growth of demand and the decline in the growth of demand were probably anticipated but underestimated. The effect would be a period of overcrowding followed by underutilization. One way to possibly determine if this occurred would be by observing changes in the physical plant value per student. Table 28 shows this for public four-year, public two-year, and private institutions. There seems to be no pattern, but 1967 would seem to be a crowded year at public institutions. Private institutions had much greater total increase per student from

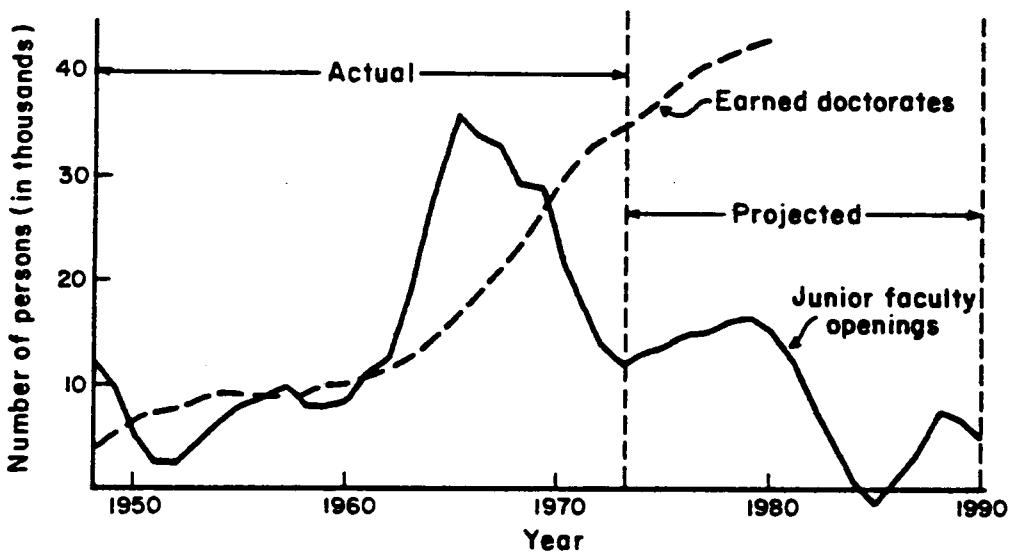


Figure 8. Comparison of Junior Faculty Openings with Earned Doctorates Awarded, actual 1948-1973, projected 1974-1990.

Table 26. Percentage of Doctorate Recipients Who Took Teaching Positions in Institutions of Superior, Equal, or Lower Prestige Ranking, 1968 and 1973

Class of Doctorate Institution	1968			1973		
	Superior	Equal	Lower	Superior	Equal	Lower
Group I		18.4	81.6		10.9	89.1
Group II	3.2	18.0	79.2	2.7	13.1	84.8
Group III	7.6	18.3	74.1	4.0	13.2	82.8
Group IV	7.8	28.8	63.4	5.2	22.1	72.7
Group V	20.9	36.6	42.5	15.8	28.3	55.9
All Groups	5.1	21.7	73.2	4.6	16.7	78.7

Table 27. Faculty Members Who Changed Institutions, 1968-1969 and 1972-1973

Category	1968-1969	1972-1973
Number of faculty changing institutions	15,022	6,221
Changes as percent of total faculty	4.5	1.4
Changes as percent of new hires	33.4	36.1
Percent Changes with Doctorate	48.7	73.5

Table 28. Physical Plant Value by Type of Institution

Type	1958	1959	1960	1962	1963	1964	1965	1966	1967	1969	1971	1972
<u>Gross Additions to Plant Value:</u>												
All												
Inst.	1,312	1,680	2,441	3,129	4,104	4,233	4,163	3,967				
% change pr. Year	27	45	28	31	3	-2	-5					
<u>Physical Plant Value:</u>												
All												
Inst.	11,180	13,588	16,728	21,336	26,916	34,506	42,094	50,153	53,815			
4-year Public	5,986	7,214	8,774	11,378	14,181	18,476	22,787	27,277	29,487			
2-year Public	476	635	839	1,122	1,687	3,636	3,865	5,148	5,808			
All Priv.	4,718	5,740	7,115	8,836	11,048	13,395	15,443	17,729	18,519			
<u>% Change in Physical Plant Value:</u>												
All												
Inst.	22	23	28	26	28	22	19	7				
4-year Public	21	21	30	25	30	23	20	8				
2-year Public	33	32	34	50	56	47	33	13				
All Priv.	22	24	24	25	21	15	15	4				

Table 28--Continued

Type	1958	1959	1960	1962	1963	1964	1965	1966	1967	1969	1971	1972
<u>Physical Plant Value per Student:</u>												
All												
Inst.	3,818	4,199	4,458	5,001	4,832	4,992	5,317	5,605	5,840			
4-year Public	4,443	4,815	4,985	5,397	4,865	5,365	5,666	6,146	6,527			
2-year Public	1,597	1,817	1,773	2,048	2,280	1,921	2,125	2,176	2,275			
All Priv.	3,679	4,134	4,683	5,487	5,767	6,391	7,434	8,268	8,637			

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% Change in Physical Plant Value per Student:

All												
Inst.	10.0	6.2	12.2	-3.4	3.3	6.5	5.4	4.2				
4-year Public	8.4	3.5	8.3	-9.9	10.3	5.6	8.5	6.2				
2-year Public	13.8	-2.4	15.5	11.3	-15.7	10.6	2.4	4.5				
All Priv.	12.4	13.3	17.2	5.1	10.8	16.3	11.2	4.5				

1958 to 1972, which may reflect a form of competition for students with the public institutions. Also, there was a trend toward larger enrollments at public institutions which was not followed by private institutions. Public institutions may have been capturing economies of scale not available to the smaller private institutions.

We might also expect some difference between public and private institutions. Those persons responsible for a decision on expansion of a private institution would find it more costly to make an error than those who decide for a public institution. The reason is the source of funds for each type (see Table 29). If a private institution expands in response to a temporary increase in demand, and then finds it has over-built, it will still have to generate funds to pay for the expansion. The expected tuition will not be forthcoming unless admission standards are lowered enough to fill the classrooms. The competition from state financed institutions, which charge only a fraction of the tuition of private colleges, will also influence expansion plans. Should the state institutions expand, this will reduce the expected demand for private higher education.

For public, state-run institutions, the relevant decision makers can be either a part of the institution's administration or politicians. Administrators would have incentive to seek expansion of their institutions in response to anticipated increases in demand as members of a bureaucracy. They would be less concerned with over-expansion for two reasons. First, they can offer their educational services at a lower price than competing private institutions and can therefore hope to

Table 29. Funds for Higher Education by Source and by Control of Institutions, 1961-1975, odd years (millions of dollars)

Type	1961	1963	1965	1967	1969	1971	1973	1975
<u>Public Institutions:</u>								
Total funds	3,397	4,397	6,047	8,707	10,934	13,613	17,043	21,655
Funds from:								
Students	430	601	854	1,209	1,735	2,333	2,735	3,478
Fed. Govt.	770	1,054	1,368	1,854	1,692	2,017	2,362	4,001
State Govt.	1,640	2,085	2,927	4,153	5,685	6,970	8,962	11,959
Local Govt.	184	220	311	483	715	945	1,196	1,500
<u>Private Institutions:</u>								
Total Funds	2,675	3,392	4,293	5,213	5,552	6,588	7,584	9,477
Funds from:								
Students	1,076	1,280	1,825	2,184	2,685	3,282	3,765	4,694
Fed. Govt.	771	1,117	1,296	1,510	991	1,081	1,157	2,476
State Govt.	48	54	85	66	103	151	220	298
Local Govt.	7	9	7	21	60	46	67	117
<u>Public Institutions:</u>								
Percent from:								
Students	13	14	14	14	16	17	16	16
Fed. Govt.	23	24	23	21	15	15	14	18
State Govt.	48	47	48	48	52	51	53	55
Local Govt.	5	5	5	6	7	7	7	7
<u>Private Institutions:</u>								
Percent from:								
Students	40	38	43	42	48	50	50	50
Fed. Govt.	29	33	30	29	18	16	15	26
State Govt.	2	2	2	1	2	2	3	3
	0.3	0.3	0.2	0.4	.1	1	1	1

maintain enrollments should total demand fail to meet expectations. Secondly, the expansion is financed by tax revenues and will not depend on tuition for payment.

Political entrepreneurs will also have an interest in expansion. So long as the public views a higher education as a good, they are likely to receive little opposition to such spending. As with most public spending, the beneficiaries are an easily identifiable group, while the costs are imposed on a larger, less cohesive group. For these reasons, we might expect expansion by public institutions to proceed and exceed that of private institutions, and also expect it to be more likely to be beyond an economically efficient level. This seems to be consistent with what occurred in the 1960s. The changes in enrollments are shown in Tables 17 and 18. Also, it is notable that since 1960, 74 percent of all newly established institutions were public (Digest of Educational Statistics, various years).

Labor Supply

The decision to supply labor for the higher education industry is an individual decision of the unit of labor. In a situation of increasing demand for the output of a competitive industry, there will be an increasing demand for all of the various inputs up to the point at which the marginal product of each unit is equal to its marginal revenue. As a new equilibrium is reached at a higher price and greater output, the wages of labor units will increase. College faculty represent a labor input which is not easily substitutable and requires a relatively long

training period. Therefore, the supply of qualified faculty would be relatively inelastic in the short run.

The available supply depends on individuals' decisions to choose to qualify themselves through their own investment in advanced higher education. Since there must be a time period of from three to ten years between the decision to work towards a Ph.D. (the typical qualification for four-year college faculty) and the acquisition of that degree, the supply of qualified faculty at any particular time would depend on individual decisions made some years earlier. These individual decisions will be based on many factors, but an important point is whether to expect these decisions to be biased in a direction which would create either a shortage or surplus at the market wage. This will explain changes in work satisfaction factors and job opportunities as demand changes.

The usual signals which attract more persons into a particular occupation are in the form of relative wages. Therefore, any relatively sudden increase in demand for a particular occupation will cause wages to increase at least until these increased wages attract new people. If there is training involved, quick adjustments are not possible, and the length of time between the increase in demand and the increase in the supply of labor to meet that demand will correspond to the length of the required training period. The difference which is relevant is between the supply of labor which would exist given perfect information and that which does exist in the real world. It was suggested above that the producers of higher educational services most likely anticipated but underestimated the increased demand of the mid-1960s. It will now

be suggested that individual decisions for job training are influenced by several factors, and that anticipation of future demand would be one which might be relatively unimportant.

The three factors which would seem to be most relevant in choosing an occupation would be interest and abilities, the past history of the job (including wage rates, type of work, skills required, etc.), and current and future demand. These factors interact with each other and involve tradeoffs which the individual must evaluate under changing conditions. Information is never perfect and is costly. There are always shortages and surpluses in various occupations at current market wages, and wages are expected to be the variable which changes to achieve equilibrium. Future demand could serve as a useful datum for estimating future wages.

In order to evaluate the process of choice of occupation for any systematic bias in certain occupations, risk and information must be considered. Those occupations which have experienced the most volatile changes in demand also have had the greatest surpluses or shortages of labor at market wages. Examples are coal miners in the 1950s and 1970s, computer programmers, and electronics and space flight experts. Table 30 shows the changes in demand for college faculty by three different estimates. Total enrollment is also proportional to total demand for faculty. Tables 17 and 18 demonstrate that total demand did increase, and mainly at two-year institutions since 1965. The best explanation for this is that labor units have imperfect information and are, generally, risk averse. This assumption allows us to predict that industries with increasing demand for their output (or demand which is decreasing less

Table 30. Demand for Faculty by Various Sources, 1960-1976

Year	New F-T Faculty ^a		Total F-T Faculty Source 2/Source 3	FTE Faculty Source 4	New FTE Faculty Source 4	
	Source 1 Total	w/Ph.D.				
1960			4.1			
1961			4.8			
1962	9.0	4.0	7.3			
1963	8.0	3.5	6.5			
1964	9.6	4.2	9.7			
1965	12.4	5.5	10.4			
1966	10.9	4.8	6.9			
1967	9.1	4.0	12.1	7.6		
1968	8.9	4.0	6.4	11.0		
1969	7.8	3.7	4.1	5.4		
1970	7.0	3.1	2.4	5.4		
1971				2.7		
1972				0.3	-0.7	3.9
1973				2.4	5.7	10.1
1974				4.4	7.3	11.9
1975				8.4	11.2	15.7
1976				-1.4	1.7	6.3

Source 1: Gordon, p. 294. Source 2: Gordon, p. 289. Source 3: Condition of Education, p. 184. Source 4: Condition of Education, p. 186.

^aNew F-T Faculty = New full-time faculty as a percent of previous year's full-time faculty; Total F-T Faculty = percent change from previous year in total full-time faculty; FTE Faculty = percent change from previous year in total full time equivalent faculty; New FTE Faculty = new full-time equivalent faculty as percent of previous year's total FTE faculty.

than in the recent past) would experience shortages of labor at previous market wages, and those with decreasing demand (or demand which is increasing less than in the recent past) would have surpluses of labor.

To be more specific about these shortages and surpluses, the training time involved in various occupations would be relevant. One basic reason is that those occupations requiring the shortest training time generally require the least skills. Therefore, a larger potential labor force exists, and mobility is easier and faster. This is why we would never expect wages of floor sweepers to be very high in a competitive market. As we consider occupations which require more training and skills, the investment increases and more and better information (other than current wages) would become desirable. Information about the future would be especially valuable.

Information about the future is always less reliable than information about the past. Therefore, information about the future is expected to be discounted more than information about the past. This would rationally reduce the risk involved in investment in training and specialization. Predictions of future demand are therefore relatively unimportant. For this reason, also, the greatest shortages and surpluses in this type of labor are expected to occur in industries with the greatest and least predictable changes in demand for their output.

If wages are flexible, there is another effect on the supply of highly skilled and specialized labor with a long training time. As the demand increases, wages will be driven up enough to compensate for the risk, plus an added increment due to the training time alone. If

people respond to these wages and begin their training in ignorance of the total number of people who are doing the same, a surplus of labor will exist at the end of the training time, since the wages were higher than would exist with a faster adjustment (due to a shorter training time). If demand is less than expected, a different effect is anticipated with flexible wages. Lower wages would prevail for a longer time, since specialized labor will not find other jobs very quickly and a surplus will exist for a longer time.

The application to higher education is apparent. As discussed above, the changes in demand for college education were probably underestimated, and therefore shortages are expected at the market wage in the mid-1960s (due to the underestimated increase in demand), and surpluses are expected in the late 1960s and early 1970s due to the lag resulting from training time and the reduction in growth of demand which was not fully anticipated. This does describe the conditions for faculty in these periods, as discussed above. The next chapter will analyze the effect this had on the behavior of the two relevant groups: administrators and legislators (management), and faculty (labor).

CHAPTER VIII
BEHAVIORAL EFFECTS OF CHANGING MARKET
CONDITIONS

The conditions of a shortage of qualified faculty followed by a surplus do not provide much insight into the probable cause of unionization. These market conditions must be used as the framework for evaluation of the behavior of "management" (administrators and legislators), and "labor" (faculty). By postulating rational behavior within this context and under various assumptions, and comparing this behavior with whatever observations we find to be reliably measurable, the model can be shown to be reasonably acceptable as an explanation of the phenomenon involved. Although the behavior of these groups are related in a complex fashion, it should be more effective to examine that of the "management" first and the "labor" second.

Administrators and Legislators (1961-68)

The behavior of administrators and legislators is of primary relevance since it is an important input into the behavior of faculty, even though administrators and legislators are influenced by the actions of the faculty. Before examining the effect of changing supply, the form of the expansion will be related to faculty behavior. As discussed above, expansion of facilities would be an important decision when demand was expected to increase. It was shown that public institutions would be more likely to expand, and even to expand beyond the long-run desirable amount. This seems to be what occurred

in the early and mid-1960s, and therefore we shall concentrate on public institutions. A relevant point, however, is the form of this expansion. The choices would seem to be between new institutions and expansion of existing institutions. Administrators of existing institutions would, as bureaucrats, seem to favor expansion of their particular institutions. As scholars and educators, these same administrators may have had some caution for two reasons. First, they may have recognized that rapid expansion would be difficult while maintaining the quality of their faculty, since the supply of the best qualified faculty is the most inelastic, over a short time. Secondly, they may have had a fear of expanding beyond the point where they can use their capacity without lowering their admission standards. Therefore, we might expect the most selective state schools to expand the least and the less selective to expand the most, assuming that the administrators did control the amount of expansion. However, the ultimate control over such matters usually lies with the state legislators.

Legislators usually promote the parochial interests of their constituents, at least to the extent necessary to win reelection. For this reason, the expansion of higher educational facilities is expected to be spread out among the various regions of the state. By bringing state money into a local institution of higher education, a local legislator would expect to be a net gainer of votes. By providing money for higher education in other parts of the state at the exclusion of his own district, a legislator would expect a net loss of votes. During the time period involved (1960-1967, assuming some expectations

and early planning), not only was the number of college aged persons increasing rapidly, but so was the number of voters with college age children. It seems clear that a politician could do well by supporting expenditures on higher education, but even better by supporting such expenditures in his home district.

Another factor to consider is that each politician would want his district to appear to do a little better than the others. There is no logrolling procedure which can cause this result in fact, and probably none which can even result in this appearance. The next best result is one in which the politicians' districts appear to do no worse than any others. The politically optimal solution would be some allocation of higher education funds which appears to treat equally the districts of the winning coalition. One way to achieve such appearances would be to organize a state-wide system with a central administration. In other words, everyone going to a state university can be attending but a different branch of the same "multiuniversity system." Efforts can then be made to provide a homogeneous product throughout the system.

Some states already had such a system, but in many states this was a teacher's college system which was separate from the major state universities. The major universities usually have their own political base which has developed over a long period of time. Usually these universities (which often incorporate the name of the state in their name) are thought of as state-wide institutions rather than having the regional character of the teachers colleges. They attract students from all parts of the state and send graduates to all parts of the state. The graduates of these major state institutions are more

likely to be influential and have more political power and higher incomes than average.

Given an increased demand for higher education, an environment in which public spending for higher education is generally approved of, and a political system based on regional representation, the most politically viable solution would seem to take the form described above, that is, increased funding for expansion of major state universities plus the combination of existing state teachers colleges and smaller state colleges into a single system under a central administration. The same reasoning can be applied to development of state systems of community colleges and expansion of city college systems.

There usually existed different variations of governance at the various types of institutions before the 1960s, and the growth pattern which developed in the 1960s had its impact on governance. Most private institutions and the higher quality state institutions used a collegial form of governance. In this form, the faculty had a major role in tenure and promotion decisions. By committee, they advised administrators on most matters of importance to them. Perhaps the most important feature of this system was that it gave individual faculty a great deal of freedom in teaching and research. The role of administration was minimal. Authority was the bottom of the pyramid, not the top. Most administrators were former faculty members and scholars. The situation might be described as orderly anarchy.

Teachers colleges were structured differently, more like a secondary school, with authority at the top of the pyramid, rather

than at the bottom. As these colleges grew into universities, the methods of administration often did not change. When setting up community colleges, most states relied on professional educators (Ed.D.s trained in administration), and most were administered by a method similar to secondary schools. Throughout this period, the influence of faculty in many decisions was increasing at these institutions. The complexity of the decision-making process was also increasing as many institutions were expanding and offering more diverse programs. Therefore, although faculty influence was growing, the influence of faculty as individuals may have been decreasing.

The differences in governance may be quite natural and appropriate because the most important distinction involves promotion and tenure decisions. Community colleges and teachers colleges mainly have faculty whose primary function is teaching, and, as such, they may be called teachers. Major universities of relatively good quality mainly have faculty who are scholars, and it is hoped that the students selected can learn from these scholars. Evaluation for promotion and tenure of teachers would have different criteria than evaluation of scholars, and evaluation would best be made with different techniques. Teaching can best be evaluated by observation, which exaggerates the subjective nature of the evaluation. Scholarship is generally evaluated on the basis of contributions to the individual's field of study. This, too, is subjective, but at least it has some quantifiable measures associated with it. These consist of publications, which indicate recognition as some form of contribution. Scholarship is

best judged by a consensus of others in the field, while teaching, as an identifiable task, is best evaluated by an expert in the performance of that task. Educators accept the concept that there are those individuals who are masters of teaching, and, as such, are able to evaluate others. Scholars recognize that contributions in a field cannot be evaluated by a single individual and must be subjected to the scrutiny of the scientific community.

Another aspect of the pattern of growth which affected governance in many universities is the growth of administrations within the major state universities which were expanding, and growth of the administrations of state university systems. As the institutions grew, so did their administrations. As the decision-making process became more complex and as the number of faculty under each administration grew, each faculty member had less influence in governance. As more resources of the state government were directed to higher education, the legislators also became more involved in the administration of these institutions. This further eroded the authority of the individual faculty member. However, during a period such as this, in which there is shortage of labor, one would expect working conditions (as defined by labor) to improve. In this sense, then, faculty are likely to be able to improve their working conditions, which include the amount of autonomy they have in teaching and research as well as the extent of their input into institutional decision making. Therefore, faculty at expanding institutions would be experiencing increases in their freedom in teaching and research and greater participation in many institutional decisions, but would have less influence over most

such decisions due to an increase in bureaucracy and legislative encroachment into the decision-making process. In other words, faculty were allowed input into more decision-making processes, but they represented a smaller share of the total influence in those decisions. In those decisions in which faculty had previously participated, it would be likely that faculty influence was now less than before. For those decisions upon which faculty previously had no influence, their influence was, of course, now greater but also likely to be less than expected.

Having examined more carefully the effect which changing demand conditions had on the type of growth of institutions of higher education, since this did affect the behavior of the faculty, the next area to examine is how the administrators and legislators responded to the shortage of qualified faculty.

Reference to a perfectly competitive, profit-maximizing firm would lead us to expect the wages of qualified faculty would rise at this time. There is no reason to expect administrators of state schools not to pay the competitive wage for qualified faculty rather than doing without. Not only did real wages go up during this period (1960-1967) (see Tables 31-34), but tenure and promotions were given as inducements to attract faculty and keep those already there.

During this period, college faculty worked in a competitive market, since there were no unions. In such a market, the ability and willingness of faculty to use mobility between competing employers is what determines the market wage. The relatively inelastic short-run supply of qualified faculty would be expected to cause wages and other

Table 31. Changes in Relative Faculty Salaries, 1963-1973

Year	Faculty Salary Relative to Weekly Earnings of All Workers (% change) (1)	Faculty Salary Relative to Total Per Capita Income (% change) (2)	Percentage Change in Real Purchasing Power Faculty Salary (3)	Cumulative Index of Faculty, Shortage or Surplus (4)
1963	4.1	1.7	7.4	0.2
1964	1.1	1.1	5.0	1.4
1965	0.4	(2.0)	2.5	2.4
1966	3.1	(1.4)	2.5	2.6
1967	2.1	(0.6)	2.5	2.0
1968	(1.3)	(2.4)	0.8	1.8
1969	1.5	(1.3)	0.8	0.9
1970	0.2	(0.7)	0.4	0.3
1971	(3.0)	(2.8)	(0.7)	(0.4)
1972	(4.3)	(3.9)	(1.4)	(1.1)
1973	1.3	(3.7)	(1.7)	(1.5)

NOTE: For columns 1, 2, and 3, parentheses denote a negative number. For the cumulative index of faculty, figures in parentheses are surpluses, other figures are shortages.

Table 32. Percent Change in Mean Salary from 1967 to 1972 and 1967 to 1974, by Rank and Type of Institution

Category	1967 Mean	1972 Mean	% Change from 1967	% Real Change	1974 Mean	% Change from 1967	% Real Change
<u>Universities:</u>							
Professor	16,432	20,792	26.5	2.6	22,514	31.0	-1.9
Associate	12,167	14,983	23.1	-0.1	16,623	36.6	-2.2
Assistant	9,965	12,464	25.1	1.4	13,582	36.3	-2.4
Instructor	7,617	9,779	28.4	4.1	10,737	41.0	0.9
<u>4-Year:</u>							
Professor	13,148	17,131	30.3	5.7	18,815	43.6	2.8
Associate	10,613	13,833	30.3	5.7	15,214	43.4	2.6
Assistant	8,950	11,741	31.2	6.4	12,658	41.4	1.2
Instructor	7,338	9,462	28.9	4.6	10,404	41.8	1.5
<u>2-Year:</u>							
Professor	10,152	16,231	59.9	29.7	18,343	80.7	29.3
Associate	10,928	14,426	32.0	7.1	16,569	51.6	8.5
Assistant	9,113	12,181	33.7	8.4	13,713	50.5	7.7
Instructor	8,658	11,959	38.1	12.0	14,716	70.0	21.7
C.P.I	100	123.3	+23.3		139.7	+39.7	

Table 33. Real Faculty Compensation Changes since 1967 for 1971-1977

Type of Change	1971	1972	1973	1974	1975	1976	1977
Salaries	6.9	6.8	7.2	3.4	-1.9	-3.1	-4.0
Fringe Benefits	36.1	46.1	54.2	58.9	55.3	60.5	67.8
Total (if fringe benefits equal 5% of salary in 1967)	8.3	8.7	9.4	6.0	0.9	-0-	-0.6
Total (if fringe benefits equal 10% of salary in 1967)	9.5	10.4	12.2	8.4	3.3	2.7	2.5
% of Salary for Fringe Benefits (if 5% in 1967)	6.4	6.8	7.2	7.7	7.9	8.3	8.7
% of Salary for Fringe Benefits (if 10% in 1967)	12.7	13.7	14.4	15.4	15.8	16.6	17.5

Table 34. Percent Change in Median Salary for 2-Year Intervals,
from 1959 through 1973

Category	1959- 1961	1961- 1963	1963- 1965	1965- 1967	1967- 1969	1969- 1971	1971- 1973
<u>Four-Year Institutions:</u>							
Professor	12.6	10.3	14.5	13.6	14.2	7.7	10.0
Associate Professor	11.4	9.8	13.3	13.3	14.0	7.5	9.8
Assistant Professor	10.7	9.3	11.6	12.5	12.9	7.6	9.8
Instructor/Lecturer	9.6	9.3	10.6	10.9	12.3	11.1	9.2
<u>Two-Year Institutions:</u>							
All Ranks		10.6 ^a		11.5	19.1	10.7	13.0
Percent Change in Consumer Price Index	2.6	2.3	3.1	5.8	9.8	10.5	9.7

^aMean used for this figure only.

benefits (including rank and tenure) to be higher than they would be if the increased demand occurred over a longer time period, for which the supply would be more elastic. Therefore, if a competitive market were to continue over a period of, first, increasing demand followed by stable demand, one would expect real wages to rise and then fall over this period as the short run became the long run. At the end of this period, real wages would be higher than at the beginning, but they would not be equal to their highest level of the period. Tenure and promotions would at first be easier to obtain, and since such benefits are very difficult to take away, those who did not benefit in this way before the demand stopped increasing would probably find these more difficult to achieve at that time. The reason can be seen by examining the expected effect of a wage rate which cannot go down under these demand conditions. To be analogous to the tenure and promotion situation, there would have to be a maximum total amount to be distributed as wages, since most institutions view the percentage of tenured positions and rank distribution to be nearly inflexible. If the total amount for wages were inflexible and if individual wages could not fall, it is expected that those entering the profession after the period of rapidly increasing demand would be offered lower wages, since those entering during the increase in demand would have received wages above the long-run equilibrium. This would leave less of the total available for wages to be distributed to the late entries.

Promotion and tenure are factors which may be considered as a part of the total inducements for faculty positions, and since these could not be taken from those who already possessed them, there would

probably be a moderating effect on the reduction in real wages as the demand began to stabilize and the supply began to increase in response to the previous wage and benefits increase. It is also expected that the percentage of tenured faculty will continue to rise somewhat, even after demand has stabilized, since most universities follow a policy of releasing those who are not granted tenure after a specified time. These institutions would have to offer tenure to any faculty members they wished to retain. Therefore, even though the percent of faculty with tenure would increase, it would be more difficult to get tenure.

The years of expanding demand were a period of continuous economic prosperity and a growing economy in the U.S. This also increased the demand for highly skilled labor and further increased wages of faculty through competition for their skills outside of higher education. At the same time, this general economic boom gave the governments a wealthier tax base, making it easier to finance the higher wages of the growth period.

It should be noted that many community colleges employed former high school teachers and persons with terminal master's degrees. The supply of persons with these qualifications would tend to be more elastic than the supply of Ph.D.s (or Ph.D. candidates) who would represent those qualified for faculty positions at most four-year institutions. The expected result could be less increase in the wages of community college faculty, and lower wages than the faculty of four-year colleges, given equal increases in demand. However, demand at two-year colleges had exceptional growth from 1967 to 1970 and again in 1974, which is reflected in the salary changes of these periods,

causing greater growth which resulted in higher salaries for junior faculty and two-year colleges than at four-year colleges after 1967, and nearly equal salaries for full professors by 1974.

The main effects of the growth of the higher education industry which are relevant to the changing supply of labor, and are the result of administrators' and legislators' behavior, are:

1. greater expansion of public institutions than private, and greater expansion of lower quality public institutions than higher quality public institutions;
2. greater autonomy and decision-making authority in general, and for faculty at former state teachers colleges, multi-university state-wide systems, large city college systems, and community college systems in particular;
3. greater complexity in decision making, especially at rapidly growing institutions;
4. substantial real wage increases for faculty; and
5. easier and faster promotion and tenure.

Administrators and Legislators (1968-77)

The next question is the effect on the behavior of administrators and legislators due to the slowing of the rate of increase in demand and the change from a shortage to a surplus of faculty. Administrators are bureaucrats, and, as such, they can be expected to wish to maximize their budgets. Therefore, as the growth of demand slowed, they would be expected to attempt to continue to attract as many students as possible. One way to do this is to lower admissions standards, and it

was at this time that open admissions began to spread, especially to schools which would have had declining enrollment otherwise. Administrators would be expected to change their behavior concerning faculty as the available supply increased relative to demand. As discussed above, changes in tenure and promotions were expected, as well as decreased wages. Since the quality of the educational services offered will influence enrollments, also predicted is an attempt to improve on the quality of the faculty by selecting the best qualified from the new surplus, and perhaps even replacing some less qualified faculty with new, better qualified recruits. One result of this type of behavior would be that some existing tenured faculty would be of higher rank and income than their better qualified junior faculty. If budgets become tight, administrators could reduce their outlay for faculty by replacing existing faculty with unemployed but qualified faculty who would accept a lower wage. Also, untenured faculty would be under pressure to outperform the expected performance of their new competition. This situation would be expected to influence the behavior of faculty, as discussed below.

Legislators' behavior could also be expected to change during this time, but not necessarily as a result of the changes in supply and demand. Certainly the reduced rate of growth in demand would reduce their desire to spend tax money on higher education, since the percentage of voters whose votes would be decided on this issue would be expected to decrease. In addition, the Vietnam War protests were identified with colleges, and these actions made allocations for higher education less desirable in the minds of many voters. Thirdly, the

national economy was slowing down and eventually entered a recessionary period. This put a higher constraint on the spending power of governments as the income of their tax base declined.

Legislators also became more involved in the administration of state universities as a result of the negative attitudes generated by campus protests against the war. As the recession took a greater toll on the economy and taxes increased at the same time due to inflation, and more college graduates could not find jobs, and more parents found they did not like the results they were getting (or the ideas their children were bringing home), the intrusion of the legislators into the administration of state universities continued to grow. The percentage of college students who were first generation college students also increased as higher education went to the masses due to the highly subsidized state tuition, the social pressures, and the common belief that a higher education is the key to success. These parents knew little about the workings of a university and were not sure their tax dollars were being wisely spent. Their expectations were too high, given the job market for college graduates in the 1970s. These factors all seem to point to a general dissatisfaction which influenced legislators to exert more control over state universities and to be more restrictive in their spending on higher education.

Therefore, the effect on the behavior of administrators and legislators due to the lower rate of increase in demand and emerging surplus of Ph.D.s in the period from 1969 to the present may be summarized as:

1. Administrators attempting to keep enrollments and budgets growing;
2. Legislators becoming more restrictive both in size and composition of university budgets;
3. Legislators increasing their influence in administration of higher education at state-supported universities;
4. Administrators were more selective in awarding tenure and promotions;
5. Administrators allocated less to wage increases, causing lower real wages on the average; and
6. Untenured faculty were replaced by new Ph.D.s, either because they showed more promise, or to give administrators more time before increasing the tenured faculty.

Faculty (1961-1968)

As a productive resource, faculty were in a seller's market during most of this time period. As discussed above, the demand for faculty exceeded the supply at the market wage during much of this period, causing real wage rates to increase. How should faculty be expected to behave in this situation? Two primary effects on faculty behavior would be expected. One is more frequent changes of employers; the other is a reduction in research as a per-faculty member average.

The primary way to ascertain and acquire one's market value in any occupation is through mobility, or at least a willingness to accept alternative employment. This involves transactions costs which prevent the market from working perfectly, by allowing wages to remain below

their marginal productivity level (in present value) by the amount of the transactions costs. Since alternative employment for college faculty is often only to be found outside one's geographic area (or commuting distance), the transactions costs would generally include all costs associated with moving. These transactions costs may be greater than those of many occupations, but they are probably not a significantly greater percentage of the present value of college faculty wages. Greater mobility among college faculty is expected during this time period than for the labor force in general. Table 30 indicates that greater mobility was likely to be possible simply because of the demand differences. Table 27 indicates that greater mobility existed in 1967 than in 1973.

Even though there was a general shortage of qualified faculty at this time, there were wage differentials based on qualifications. The best paying jobs went to those most qualified, usually by their research work. There is a limited number of faculty who have both the ability and the ambition to do research which is a contribution to their field. They would receive the best paying and most prestigious positions, usually at established, high-quality major universities. These institutions, however, did not represent the main growth in higher education.

Many new jobs were at lower quality institutions, such as former teachers colleges and community and city colleges (see Table 24). These institutions could not be as demanding of their faculty for research activity, and may have found it less desirable to demand research, since their primary concern was with providing instructors for their classes. This could be accomplished by having each faculty member teach

more classes, and therefore less research can be expected. The expected overall effect of a seller's market for faculty on research is that institutions, in general, could demand less in results of research. Faculty who were best qualified to do research would be able to obtain more time for research (lighter teaching loads) at the major research-oriented institutions, and those who were less qualified for research could find jobs at other institutions with greater teaching loads and little pressure to do research. Tables 3 and 4 show the differences for later years. Thus, the overall effect on research would be a reduction on a per-faculty basis. That is, fewer publications per faculty member, in general, than in previous, more stable time periods. One important effect of this could be a buildup of faculty members with few publications, and it would be these persons whose jobs would be in jeopardy when market conditions changed.

Faculty (1968-1977)

The next step in explaining the growth of unionization of college faculty is to analyze the expected behavior of faculty in the context of the changing market conditions. During this time period, the previous shortage of qualified faculty was eliminated and was followed by a surplus. The effects which this change had on the behavior of the administrators and state legislators have been examined, and the following is an analysis of the expected behavior of faculty.

An appropriate way to begin this analysis would be with perfect competition. In such an environment, a surplus of labor is expected to result in a decrease of compensation for the units of labor which

are in surplus. The reduced compensation would also be a reduction in production costs, which would lead to reduced prices and a new equilibrium with a greater output. The surplus would thereby be reduced. Alternative uses of the resource would also become more attractive, and the surplus would be eliminated. The market adjustment would be effected through adjustments in the price of the resource, which is labor in the case of faculty.

Changes in wages would not be equal for all units of labor unless the units are homogeneous. If there are differences in the surpluses of various types of labor, there will be differences in relative wage adjustments. Differences in productivity of similar units would also cause differences in wage adjustments, with the most productive units experiencing the smallest wage reductions. The process which would bring about this result would consist of employers who could offer the most productive positions (those whose output or finished product was most valuable, and who can combine resources most efficiently), bidding more for the most productive units of labor. Those employers who could offer less productive work would likewise be able to offer lower wages and would not be able to attract the most productive workers. There would be workers who would have to change jobs, most of whom would move from higher paying positions to lower paying positions, as they are replaced by more productive workers from among the new entrants into the labor pool.

It should be noted that the marginal product distribution of wages does not guarantee that everyone will find a job for which they have trained. For any particular job, the number of persons who can be

employed will be such that the least productive employee (the marginal employee) will be no more productive in this job than in his best alternative employment. His wage will equal his marginal product. For example, the least productive basketball player in the NBA will be no more productive, and earn no higher wage, than he would at some alternative employment, say as an insurance salesman. This alternative employment would be the highest paying alternative available, and it need not be in either his preferred occupation nor that which he has made his primary area of specialization. The basketball player who is almost as productive as our marginal player would not be able to find employment as a basketball player, if his marginal cost were more than the marginal revenue he can generate as a basketball player.

The situation for college faculty was similar in many respects to what would be expected in the perfectly competitive market, with some differences as a result of the peculiar circumstances of public subsidization and provision of higher education. As the labor pool of persons qualified for faculty positions increased in size, the quality of enough of the new entrants would exceed that of some of the existing faculty so that after all new positions were filled some persons seeking faculty positions would be of higher quality than some who held positions. Therefore, the unusual changes in both demand and supply created a situation in which some people held jobs which they would not have had in a more stable environment. The result would be a loss of jobs for these people if the employer is both willing and able to make the replacement.

The willingness is expected to have existed for several reasons. For one, administrators would be concerned with the quality of their faculty, both to attract students and to gain prestige for their institutions and themselves. This would be consistent with a desire to keep enrollments and budgets growing, which is anticipated from administrators in their role as bureaucrats. Secondly, the new replacements may be available at a lower wage, since experience does have some rewards in salary, and the previous shortage of faculty drove wages above the long-run equilibrium level. Thirdly, tenure was used as a means of attracting faculty when there was a shortage at the market wage, and this increased the percentage of faculty with tenure, leaving little room for more tenured faculty, since most institutions find it desirable to limit tenure to some percentage of the faculty. Most institutions also follow a policy of allowing only a limited number of years service without tenure, which they view as a period in which they can decide if they wish to offer tenure. After that time has passed, either tenure is offered or the faculty member is given notice that his employment will terminate at some time in the future. As a result of awarding tenure somewhat capriciously during the previous time period, many administrators had few tenured positions left, and they would find it desirable to replace those faculty who had to be tenured or fired with new entrants into the labor pool who were not necessarily better qualified. Thus, we find ample motive for replacing existing faculty with new entrants into the labor pool.

The ability to make these replacements is a constraint on the number of such replacements. The most obvious, and probably most important,

constraint comes from tenure, as tenured faculty cannot be replaced because a more qualified or more productive person is available. This would limit job losses to those faculty without tenure. There are also other considerations involved in replacing current faculty members. One is the effect it has on the morale of remaining untenured faculty. Administrators would not expect an insecure job situation to be conducive to productivity, although it may provide an incentive to perform. It is unclear which effect would prevail, but motivation through reward would seem more conducive to productivity. Also, faculty members who are disenchanted with their job security may create an environment which is more hostile toward the administration in general. A reputation of poor job security for untenured faculty may also hurt in recruiting new faculty to untenured positions. It seems that there are tradeoffs involved in the decision to replace existing untenured faculty with better qualified persons which make the expected result indeterminant. Empirical evidence would be necessary in order to determine if there was less job security at this time.

The analysis of this chapter will be more explicitly related to unionization in the following chapter. While the previous chapter dealt with the changing market conditions and this chapter analyzed behavior in the context of those conditions, the next chapter relates this to the theoretical analysis of unionization of college faculty.

CHAPTER IX

CONCLUSIONS

This chapter will bring together the conclusions of the previous chapters and discuss their relevance to unionization in higher education. The relevant factors are

1. the potential power of the cartel;
2. the rate of change in market conditions; and
3. the ability of free, competitive markets to perform, and the satisfaction with its results.

Each of these factors will be discussed in this chapter.

The potential power of the cartel was discussed in Chapters III and IV. The conclusion was that subsidization would generally increase cartel powers, and other factors related to cartel power suggested that it would decrease as the quality level of the institution increased. The rate of change in market conditions has been discussed in Chapter VII, and it was found to be relatively rapid and variable. The changes do, however, support the suggestion that they increase the difficulty of gathering accurate information, and therefore reduce the efficiency of the market for faculty. The most volatile and greatest changes were at two-year colleges during their periods of greatest unionization.

The factors which seem to be related to the functioning of a free and competitive market for faculty have been discussed in Chapters V, VI, and VIII. This chapter will relate these more directly to their effects on the desire to unionize. The effect on individual satisfaction

with the market as well as their effect on the efficient operation of the market will be examined. The individual's qualifications will determine which type of market environment he will work under. Therefore, the most marketable in the nearly perfectly competitive market for research faculty will be working in the most efficient market conditions, and are expected to be most satisfied. Those who do not qualify for work in this market will be employed in less efficient markets, and will be less satisfied. The last part of this chapter will summarize the factors relevant to unionization at different types of institutions.

An important factor, and one which helps explain the differences in unionization trends at various types of institutions, would be how well the individual bargaining process works. The better this process works, the greater are the costs of unionization. This involves both how closely the process comes to a free and competitive market solution as well as the willingness of faculty to accept the market outcome. The attractions to market allocation are objectivity and reward for individual action. There is a recognition of risk and uncertainty, and part of the choice of individual action involves choosing the amount of risk and the degree of uncertainty one is willing to accept. Although there are, no doubt, some faculty who would choose an alternate allocation system on principle, the median voter is not likely to be one of these persons.

Examination of the Ladd and Lipset data provides one view of the pattern of union support in 1969. From these data we find an indication of the greatest support at the lowest tier institutions, many of which

are two-year colleges, and the least support is from the elite universities (see Table 10). This is not surprising in view of the pattern of unionization. The interesting data concerns the attitude of faculty toward unionization when compared with their political ideology and factors which would seem to indicate marketability and success in the academic market. These factors include salary, teaching load, number of publications, research grants, and type of institution where the professor was employed.

Looking first at the relationship between the quality of institution and the political ideology, we see, in Table 15, a consistent pattern indicating that the higher the quality of institution, the more liberal the faculty. We also find, in Table 11, that support for unionization varies with political ideology, with the most liberal being most supportive and the most conservative being least supportive. These two trends, when viewed in the context of the pattern of support by institution type, require an explanation which can be consistent with other data found in the Ladd and Lipset study. One explanation is that the underlying factors of individual marketability and the success of the market mechanisms are partly responsible for the pattern of union elections among institutions.

Generally speaking, those professors with the greatest number of publications and most research grants would be most marketable. Tables 5 and 13 show the relationship between research grants and union support. We would also expect those most marketable to be at the highest quality institutions and receive the highest salaries. Table 13 also shows this relative to union support, and Table 35 shows that the most marketable

Table 35. Economic Rewards, Job Demands, and Scholarly Standing of Faculty: by the quality of school at which they teach, 1969 Carnegie data, as percentages (rows)

Quality of School	Salary: Under \$12,000	Research support received last 12 months: none	Number of hours taught per week: 11 and up	Number of scholarly publications, last 2 years: none
A (elite)	37	37	10	24
B	44	52	23	40
C	66	82	50	67
D (lowest tier, 4-year schools)	73	85	59	70
D (lowest tier, 2-year schools)	73	95	78	88

faculty do tend to be at the best institutions. Table 36 shows that the "high status" faculty are much more liberal than the "low status" faculty, but support unionism less. Obviously, support is not only an ideological phenomenon, and examination of union support when controlling for ideology shows that regardless of ideology, marketability and success in the market are important factors (see Table 37). Finally, we observe in Table 16 that those most supportive of unionization are least supportive of the usual market methods of reward for merit. Perhaps this is because they work less well for these persons.

At high quality institutions the pressure to demonstrate one's market worth is much greater than at other institutions, and the job security (for untenured faculty) is much lower. However, the rewards for success are much greater. Overall, the market works much better at these institutions, with both the rewards and punishments of market allocations being made more or less objectively, with reasonably clear criteria used for evaluation, and with relatively good information. With the existence of tenure, and the fact that most of the untenured faculty understood the criteria before accepting their positions, one would have to conclude that it is unlikely that there is enough displeasure with the outcome of the market allocations at these institutions to result in unionization.

At lower level universities and community colleges, the market fails to perform as efficiently as in the higher level institutions. The primary reasons are the lack of objectively measurable criteria for faculty evaluation, and less sensitivity to changing market conditions. The relevant difference in evaluation is the result of the expected

Table 36. Positions of High-Status and Low-Status Faculty on Unionism, and on Measures of General Ideological Orientation; 1969 Carnegie data, as percentage of n

Type	Disagree, no place on campus for faculty collective bargaining	Left-liberal by (liberalism-Conservatism Scale) ^a	Supportive of campus activism (by Campus Activism Scale) ^a
High-Status Faculty ^b (n = 6633)	50	55	49
Low-Status Faculty ^c (n = 6273)	64	30	32

^aPercentages in quintiles 1 and 2 are here combined (see Table 11).

^bHigh-status faculty are those at elite colleges and universities who received research grants and served as consultants in the 12 months preceding the survey.

^cLow-status faculty are those at colleges of the lowest tier who had not received research support or served as consultants in the 12 months preceding the survey.

Table 37. Support for Faculty Unionism, by General Ideology and Academic Career Variables^a

Position on Liberalism- Conservatism Scale	School Quality		
	C	B	A
	(lower tier)		(elite)
Left-liberal	79 (72)	73 (70)	67 (69)
Middle-of-the-road	67 (50)	53 (41)	45 (37)
Conservative	51 (31)	43 (25)	37 (24)
	Scholarly Publications Last Two Years		
	None	1-4	5 or more
Left-liberal	77 (72)	70 (69)	69 (69)
Middle-of-the-road	63 (46)	55 (42)	48 (40)
Conservative	50 (29)	44 (26)	39 (28)
	Age		
	Under 35 years	35-49	50 years +
Left-liberal	75 (76)	70 (68)	64 (56)
Middle-of-the-road	56 (46)	52 (41)	47 (34)
Conservative	48 (33)	43 (25)	37 (18)
	Salary		
	Under \$12,000	\$12,000 to \$17,000	\$17,000 and over
Left-liberal	77 (75)	69 (67)	60 (58)
Middle-of-the-road	60 (47)	49 (39)	41 (33)
Conservative	48 (28)	41 (24)	33 (20)

^aPercentages in each cell are, first, the proportion rejecting the proposition that collective bargaining has no place on a college campus; and, second, (in parentheses) the percentage agreeing that strikes are a legitimate means of collective action for faculty.

output of the faculty. Whereas the higher level institutions use research activity, as measured by publications, the lower level institutions use teaching quality to evaluate faculty. As previously discussed, this may be appropriate, but the inherent difficulty in measuring teaching quality means that the process is more open to abuses and subjective discrepancies which make the market less objective, less predictable, and therefore less acceptable. During a time period of fairly balanced supply and demand conditions, there would be an incentive for administrators to develop a more reliable measurement technique to help the market perform more accurately. The climate of the 1960s was one of a relatively short supply of qualified faculty, but it was also a period of rapid growth in higher education. This meant that the problems of market allocation of wages were minimal at that time because people were voluntarily filling new job openings in higher education. The period of the late 1960s and early 1970s was one in which new openings were few and a surplus of faculty was developing. At the same time, those who had entered the profession during the early and mid-1960s were finding that the kind of wage increases and job security which existed then were no longer available. This environment was not particularly conducive to an efficient working of the market, nor to individual satisfaction with market outcomes.

When a surplus of labor exists, the market may efficiently reduce the wages of that labor which is in surplus. However, those individuals responsible for wage determinations may reduce the wage rate to below the marginal product. If this should happen, two results should follow. Alternative employment may emerge to take advantage of the gains from

employing individuals at below their marginal product. This would continue until wages again were equal to the marginal product. Also, new entries into the supply of this type of labor would be reduced, with a long-term effect of a more balanced supply and demand situation. In the case of a highly subsidized industry, such as higher education, labor may have been receiving above its marginal product while in relatively short supply, and management may not have strong incentives to reduce that wage in a time of surplus labor. In the case of higher education at the lower quality institutions, management was encouraged by legislatures to provide more from their budgets due to the political climates discussed above. The consequent increased involvement of legislatures in the use of tax money in higher education increased the incentive for administrators to provide what the legislators wanted. Therefore, real wages of faculty did decline after 1973 as inflation made the task of lowering real wages more palatable, since nominal wages did not have to be reduced (see Tables 31 through 34).

The organization of state-wide systems of higher education also had adverse effects on the ability of market mechanisms to function efficiently. Initially, the effect was primarily due to the growth of bureaucracy, which reduced the sensitivity of the administrations of individual institutions to the qualifications of individual faculty members. Also, larger bureaucracies reduced the ability of administrations to deal effectively with changing conditions while allowing faculty participation, in the traditional collegial governance sense. This was perhaps more important than the effect on evaluation of individual faculty members, since there were many changes taking place

as a result of the changing demand for higher education and the popularity of being involved in actively supporting a cause. This type of student activism shifted some power to influence decisions away from faculty and to students at a time when growing bureaucracies were reducing the faculty influence. This compounded and exacerbated the loss of faculty power. In a climate of active support for "causes," one would logically expect the "cause" of unionization to be more popular at institutions where these conditions existed, and where the market worked least efficiently. The larger state systems would fit this description best, since community colleges experienced little student power (even though the market was inefficient), and the better state institutions, which usually have considerable autonomy, had efficient markets for faculty along with growth of student influence.

The governance system of institutions would be of primary importance in unionization of faculty, since it influences the ability of markets to efficiently determine wages, working conditions, and job security. Under a traditional collegial governance system, faculty have significant influence in these matters through committee recommendations for tenure and promotions. Their influence over wages is less significant, and usually more indirect, with market forces being of greater importance. Faculty were also involved in most academic decisions, such as degree requirements, curricula, etc. Growth of bureaucracy, increased legislative oversight, and increased student influence all reduced the effectiveness of collegial governance, which may be thought of as a change in working conditions which most faculty would find undesirable.

Unionization would be one way for faculty to regain some influence and power. The cost, of course, is measured in loss of individual bargaining.

The relative probabilities of unionization at various types of institutions can now be summarized. The three main areas to consider are cartel power, changing market conditions, and expected efficiency of free competitive markets for faculty. These will be discussed for each of four categories of institutions of higher education, which are: (1) major state institutions of higher quality, (2) former state teachers colleges, etc., which are a part of state-wide systems, (3) community colleges, and (4) private institutions.

The power of a cartel at major state institutions could be great if they are highly subsidized and one union could set the price for faculty at all such institutions in one state.

Major state institutions had efficient market, more faculty influence, less legislative oversight, less fiscal constraint, smaller bureaucracies than state-wide systems, and more student influence. They have less fiscal constraint due to greater federal funding. Only more student influence would tend to make them more subject to unionization than the other types.

The former state teachers colleges and other state four-year colleges will have cartel power about the same as the universities. Unionizing an entire state system produces the greatest cartel power. To whatever extent these institutions depend on commuter students, the power of a cartel at a single institution (or all similar institutions in the area) will be proportionately increased.

Institutions which are members of state systems have less efficient markets, less faculty influence in governance, more legislative oversight, greater fiscal constraint, larger bureaucracies, and less student influence. All of these factors, except less student influence, would make these institutions more likely to be unionized than the major state universities. State systems often consist of various quaiity institutions, and sometimes include the major, higher quality, state universities. In this case, a further impetus for unionization exists because the majority of the faculty of the system are non-research oriented and paid less than the faculty at the major universities. These faculty expect to gain from unionization since the union generally supports greater parity in salary within ranks throughout the state, and encourages salary determination by seniority.

Community colleges will have the greatest potential cartel power because they draw students from the smallest geographical area, so unionizing all state subsidized institutions is made easier. The other factors of cartel power are similar to those of the other public institutions.

Community colleges have still less efficient markets, less faculty influence, even greater fiscal constraint (if locally funded), smaller bureaucracies, and less student influence. Their smaller bureaucracies, lesser legislative oversight, and lower student influence would reduce the desirability of unionization. However, these institutions often have faculty with different qualifications and expectations. Many of their faculty members were formerly high school teachers, and an individual with a Ph.D. would often be considered overqualified. Two

effects are apparent. First, there are fewer opportunities for alternative employment. Secondly, a union tradition existed for secondary school teachers. These differences, along with the other factors which favor unionization, would lead one to conclude that unionization is at least as likely at community colleges as in state-wide systems. The prevalence of unions at community colleges would indicate that some of the factors which favor unionization at these institutions must be of greater importance to individual faculty. Greater significance can be attributed to the union tradition, and the inefficiency of the market which is the result of the lack of objective criteria for evaluation of teaching faculty.

Private institutions have much less potential power for a faculty union acting as a cartel. Primarily, this is because of the much smaller subsidies. Also, the subsidies are not reserved for one particular group of students, as some are at state universities. This means that in order for private college faculty to gain the kind of power which public college faculty can by unionizing all state institutions in a particular state, all private institutions in a very large geographical area would have to be unionized by the same union. This seems unlikely to happen due to organizational costs and lack of stability of such a cartel, and, even if it did exist, the cartel power would be less than at public institutions due to the differences in subsidization.

Private institutions differ mainly in their primary source of revenue, which is tuition. They also receive revenues from endowments, gifts, and both private and publicly funded grants. From 1961 to 1967,

private schools received about 40 percent of their general education funds from students and 30 percent from the federal government. From 1969 to 1973, they received about 50 percent from students and 17 percent from the federal government (see Table 29). This results in a different type of fiscal constraint, since they must sell their product directly to the consumers and to the legislators of a higher level of government where less voter opposition is expected. Public institutions receive about 50 percent of their funds for general education from their state governments, and 20 percent from the federal government. This means that the private institutions usually have the greatest constraint on total wages to be paid to faculty, which would reduce the potential return to unionization. They also have a greater incentive to accurately evaluate the skills of their faculty, so even if they are not research oriented, they will probably have more efficient market mechanism than public non-research institutions. They have the smallest bureaucracies, no legislative oversight, and little student influence. They may also rely on collegial governance as a method for saving money, since faculty perform many of the functions of the bureaucracy in this system of governance. Overall, there seems to be little reason to expect unionization at private institutions.

The analysis indicates that the unionization which is observed is consistent with the model presented in Chapter III. This pattern is expected to continue to exist unless faculty markets become more efficient at the lower level institutions or subsidization is reduced at public institutions. The main times for growth of unionization within this pattern have been whenever market conditions are changing

most rapidly and unexpectedly. This should continue to be true. However, changes similar to those of the 1960s and early 1970s are not expected to occur in the next few years, and therefore only moderate growth in unions among college faculty is anticipated.

APPENDIX

SOURCES OF TABLES

For Tables 19, 20, 21, 22, 24, 25, 26, 27, 31 and Figure 8, the source is: Allan Carter, Ph.D.s and the Academic Labor Market (New York: McGraw-Hill Book Company, 1976).

For Tables 6, 7, 8, 9, and 12, the source is: Frank E. Kemerer and J. Victor Baldrige, Unions On Campus (San Francisco: Jossey-Bass Publishers, 1975).

For Tables 10, 13, 14, 15, 35, 36, and 37, the source is: Everett C. Ladd, Jr. and Seymour M. Lipset, Professors, Unions, and American Higher Education (Berkeley, CA: Carnegie Commission on Higher Education, 1973).

For Tables 5, 11, and 16, the source is: Everett C. Ladd and Seymour M. Lipset, "The Growth of Faculty Unions," Chronicle of Higher Education, 26 January 1976, p. 11.

For Tables 1 and 2, the source is: Howard B. Means and Philip W. Senas, eds., Faculty Collective Bargaining (Washington: Education Projects for Education, Chronicle of Higher Education handbook, 1976).

For Tables 3, 4, 17, 18, 23, 28, 29, 32, and 34, the source is various issues of Digest of Educational Statistics (Washington: U.S. Government Printing Office). Also, for Table 33 the source is The Condition of Education, also a Government Printing Office publication in 1978.

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AN ECONOMIC ANALYSIS OF THE CAUSES
OF UNIONIZATION OF COLLEGE FACULTY

by

Everett Edison White, III

(ABSTRACT)

The fraction of the total labor force which is unionized has remained fairly stable, at about 25 percent, for the past quarter-century, while unionization in the public sector has increased rapidly over the last 15 years. One example of this growth has been the trend in unionization of college faculty. This particular group presents an interesting opportunity to study unionization, in that there are both private and public institutions of higher education; and there is a definite pattern of unionization in the public institutions, while few private institutions are unionized. Such differences allow for comparisons which help to identify the causes of unionization.

Unionization has been studied by economists and sociologists. Economists tend to emphasize aggregate analysis and relate unionization to environmental factors, such as the inflation rate and unemployment rate. Sociologists tend to relate prior socialization and attitudes to unionization. This dissertation applies the economic approach to human behavior to individual choice in the context of voting for or against unionization. That is, the benefits and costs of unionization

are assumed to be the relevant factors in the choice calculus of voting faculty.

The primary source of benefits and costs come from the competitive market environment, which exists in the absence of a union, and the cartel power of a union. Because of the cartel power of a union, job satisfaction factors (compensation, working conditions, and job security) can be offered to faculty, provided they give up the conditions of the competitive market. That is, collective choice will replace individual choice under unionization. The power of a cartel of labor and the efficiency of labor markets vary among institutions of higher education, and these differences are shown to be consistent with the pattern of unionization of college faculty. These differences can be said to reveal the causes of unionization of college faculty.