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THE EVOLUTION OF THE AMERICAN  
LABOR MARKET 1948-1980

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The Evolution of the American Labor Market, 1948-1980

ABSTRACT

The United States' Labor Market has experienced significant changes in the composition of the work force, the type of work performed, the institutional rules of operation and the structure of wages, employment, and unemployment since World War II. Some of these changes continue historic trends while others have diverged from developments in earlier decades. This paper identifies seven of the most important changes, documents their magnitude, and seeks to estimate their impact on the economy.

The seven changes are: 1. a decrease in the rate of growth of real wages and labor productivity; 2. a change in the age, sex, and education composition of the work force; 3. a significant change in the composition of labor demand and employment; 4. a decline in the proportion of workers in trade unions; 5. changes in operations rules and procedures of firms and unions; 6. the altered structure of wages; and 7. changes in the rate and composition of unemployment and its relation to wage inflation.

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Since World War II, the labor market in the United States has experienced significant changes in the composition of the work force, type of work performed, institutional rules of operation and structure of wages, employment and unemployment. Some of the changes continue historic trends. Others, however, have diverged from developments of earlier decades to create new labor market conditions and problems. In this paper, I identify seven of the most important changes, document their magnitude, and seek to estimate their impact on the economy. The seven changes are:

(1) A decreasing rate of growth of real wages and labor productivity.

For the first time in recent American economic history, the real (constant dollar) pay and average output per worker have failed to increase substantially over an extended period of time. From 1900 to 1966, real earnings increased by 2.1% per annum. From 1966 to 1978, real compensation per manhour increased by just 1.7% per annum. Output per worker grew by 2.4% from 1900 to 1966, compared to just 1.8% from 1966 to 1978. Slackened growth of real earnings and productivity in the 1970s represent one of the major changes in the United States' labor market.

(2) A changed age, sex, and education composition of the work force.

Continuing historic trends, the percentage of the work force that is female, and the percentage with high school and college training have increased, while the labor participation rate of older men has declined. The age structure of the work force was also altered as a result of the post World War II "baby boom". These demographic changes make the typical worker in the latter part of the 20th century different from the typical worker in earlier decades and have led to different market problems.

(3) A significant change in the composition of labor demand and employment.

Continuing long-term historic trends, the fraction of workers employed in

white collar occupations, in government, and in the service industries increased in the period under study, while the fraction working as factory operatives or laborers, and in agriculture declined. In more detailed sectors, there were also marked changes in the composition of employment, with the number of workers in some industries (i.e., coal) decreasing in early postwar years and then increasing in the latter years, while the converse occurred in other industries (i.e., education). In a strikingly new development, the growth of demand for educated workers fell short of the growth of supply, with the result that the quality of jobs obtained by the educated declined. The sizeable changes in employment by industry and occupation highlight the flexibility of the work force in response to dynamic changes in demand for labor in a modern economy.

(4) A declining proportion of workers in trade unions

In 1954, 35% of nonagricultural workers in the U.S. were in trade unions; in 1974, only 26% were so organized -- a decline in the extent of union organization of comparable magnitude to the decline in percentage organized in the 1920s. The decline in the proportion organized is the resultant of two divergent trends: a steep fall in the proportion of private wage and salary workers who are organized, even in traditional union strongholds; contrasted with a sharp rise in the proportion of public sector workers who are organized. Thus, unionism has become less prevalent and qualitatively different than in the immediate post-World War II period.

(5) Changes in the rules and procedures of operation of firms and unions.

Three important sets of forces have fundamentally altered the way in which companies hire, fire, promote, and otherwise treat workers: equal opportunity and affirmative action legislation by the federal government; other federal laws such as in occupational health and safety; and the advent of computerized personnel files. These forces have transformed the personnel practices of companies to an extent unprecedented since the onset of the

scientific management movement of the 1890-1920s. They have had a particularly significant effect on the way enterprises treat minority and women workers.

(6) An altered structure of wages.

Differentials in wages by race, age, education, and occupation have undergone fundamental changes in the period. The wages of young workers have fallen relative to the wages of older workers. Blacks have gained relative to whites. The composition of the wage package has also altered, with fringes becoming an increasingly large share of labor cost. Sizeable medium term changes in the differentials paid different groups of workers highlight the flexibility of wage structures.

(7) Changes in the rate and composition of unemployment and its relation to wage inflation.

The average rate of unemployment in the United States drifted upward in the period under study. In the 1950s, unemployment averaged 4.5%; in the 1970s, 6.2%. The fraction of the unemployed who are young workers, particularly young minority workers, has risen noticeably as has the fraction in high skill groups. The rate of change in money wages coincident with given levels of unemployment rose over the period, destroying the once widely held belief in the existence of a stable Phillipps curve linking wage inflation to unemployment.

Plan of Study

What are the quantitative dimensions of the seven changes sketched out above?

To what extent do the changes represent continuance of past labor market developments or fundamentally new patterns of change?

What caused the seven major changes?

The paper seeks to answer these questions. First it analyzes the magnitude of each of the seven changes and the extent to which they represent a continuation

of historical trends or fundamentally new economic developments. Then it tries to determine the cause of the changes and their meaning for the operation of the United States' economy.

Change (1): Growth of Real Earnings and Labor Productivity

Perhaps the most disturbing post-World War II trend in the American labor market has been the notable retardation in the growth of real wages and output per manhour that began in the late 1960s. As Table 1 shows, long-term increases in real compensation per manhour on the order of 2.1% per annum, which had risen in the 1947 to 1966 period, declined to just 1.7% from 1966 to 1978. The rate of growth of real average hourly earnings (which exclude fringe benefits and are thus a less desirable measure of earnings, but which is widely used in analyses) fell from 2.4% (1947 to 1966) to just 0.8% (1966 to 1978). Concomitant with the decline in real earnings was a sharp fall in the growth of output per manhour.

Is the retardation in the growth of real earnings and productivity the result of sectoral shifts in the economy, such as the reduced flow of workers out of agriculture or the shift into services? Analysis by the U.S. Bureau of Labor Statistics suggest that 22% of the reduction in growth from 1947-1966 to 1967-1978 can be attributed to sectoral shifts,<sup>1/</sup> which falls far short of accounting for the bulk of the retardation. That sectoral changes are not the prime force at work is documented by the fact that productivity growth has decreased in most industries: in 47 of the 62 industries for which the B.L.S. calculates productivity, rates of change in output per employee hour were lower from 1966 to 1976 than from 1947 to 1966. Similarly, while rates of change in earnings differ for various groups of workers [see the discussion of Change (6)] only in coal was the rate of increase in real earnings higher post-1969 than pre-1969.<sup>2/</sup> The seventies's retardation is not the result of the changing industrial mix of the economy.

Table 1

Retardation in the Rate of Growth of  
Productivity and Real Earnings

	<u>Compound Annual Rates of Change</u>		
	1900-1966	1947-1966	1966-1978
<b>Productivity</b>			
1. Output per manhour (NBER)	2.40%	3.39%	-
2. Private businesssector output per hour of all persons (BLS)	-	3.30%	1.83%
<b>Real Earnings</b>			
3. Annual earnings	2.14%	2.90%	-
4. Compensation per manhour	-	3.30%	1.71%
5. Average hourly earnings, private industry	-	2.36%	0.84%

Source: Line 1: U.S. Bureau of the Census, Historical Statistics, Part I. Series D-683, p. 162.

Line 2: U.S. Department of Labor, Bureau of Labor Statistics, Handbook of Labor Statistics, 1978. Bulletin 2000, Table 79, p. 229 with 1978 from Monthly Labor Review, August 1979, Table 31, p. 103. (Note: 1947-66 based on hours worked concept from labor force data with 1978 estimated from 1977-78 from change in output per hour using established data).

Line 3: U.S. Bureau of the Census, Historical Statistics, Part I. Series D-726, p. 164 for 1900-60; Series D-722, p. 164, deflated by E-135, p. 210. I calculated the growth rate from 1900-60, then from 1960-66, and used the final figure to calculate 1900-66. A similar procedure was used to get 1947-66.

Line 4: U.S. Department of Labor, Bureau of Labor Statistics, Handbook of Labor Statistics, 1978. Bulletin 2000, Table 80, pp. 231-232 with update from Monthly Labor Review, August 1979, Table 31, p. 103. Because of slight inconsistencies between the series, I used the percentage change from 1977-78 in the Monthly Labor Review to update the series.

Line 5: U.S. Department of Labor, Bureau of Labor Statistics, Monthly Labor Review, p. 81 for average hourly earnings, p. 89 for consumer price index deflator in 1978 with earlier figures taken from Handbook of Labor Statistics, 1978, Table 118, p. 399.

The retardation in growth rates is also not directly explicable by the sluggish state of the economy in the 1970s. Regression analyses of the log of real earnings or productivity per manhour on a trend variable, a 1970 trend, and a measure of business cycle, the level of unemployment, yield significant negative 1970 trend coefficients. Comparable regressions using a first difference format and using different trend breaks yield similar results.<sup>3/</sup>

Accepting the retardation of growth as real, what factors can be adduced to explain the pattern of change?

A major effect to account for the 1950s slowdown has been made by Denison, who has used standard growth accounting methods to attribute the decline in productivity to selected factors. Table 2 presents the results of his analysis for the period 1948-1973 and 1973-1976. While Denison's period is shorter than that in Table 1, suffers from reflecting cyclical (the 1974-1975 recession) as well as secular patterns and other problems, his estimates offer the best available evaluation of the magnitude of factors at work.

With respect to labor inputs, Denison finds little impact of changes in workers' hours and attributes to the decelerated growth rate: the sizeable increase in the educated work force in the period, which tends to raise growth, is balanced off by the decrease in labor input due to fewer hours worked and the changing age-sex composition of employment. Extending these calculations over a longer period of time is unlikely to greatly alter the results [see Change (2)].

With respect to the other major input, capital, Denison's calculations suggest only a modest role to slower capital formation per person in the retardation. From 1948 to 1973 Denison finds a growth of capital and per person employed of .35 points, compared to .24 points from 1973 to 1976, a modest retardation of .11 points compared to the decline in productivity of 2.97 points. Using different data, Mark obtains an even stronger result as he finds that "the capital-labor ratio grew at about the same rate from 1966 to 1976 as it did from 1947 to 1966" (p. 198), eliminating it as an explanatory factor.



Three other possibilities for explaining the retardation deserve attention. First is the decline in expenditures on R & D relative to national output. While the drop in R & D may have complex effects on the economy, estimates of its contribution to the retardation of growth using standard growth accounting suggest only a modest impact (Denison, Griliches).

Second is what Denison calls "changes in the legal and human environment," due in large measure to governmental regulation [see Change (6)]. While there is general agreement that regulations have reduced measured productivity, estimates of their magnitude are difficult to obtain. Those of Denison indicate that costs incurred to protect the physical environment and health and safety of workers may explain as much as 13% of the retardation (-.40/-2.97).

The third, and most controversial factor, is the rise in energy prices. Some analysts place great weight on the increase in energy prices and resultant decline in energy used in their analyses of productivity (Jorgenson & Hudson). The fact that the timing of the drop in productivity and real wages was concentrated after 1973, which is roughly coincident with the rise in oil prices due to OPEC, tends to support this interpretation. On the other hand, other analysts (Perry, Denison, Bruno & Sachs) attribute a smaller impact to the rise in energy prices, largely because energy use has not declined dramatically and does not constitute a large share of national product.

As Table 2 shows, the bottom line in Denison's calculations for productivity growth in the 1970s, like those for earlier times, leaves the final explanation open to question, for the key factor is changes in the residual "advances in knowledge and miscellaneous determinants", which dropped from positive 1.41 to negative -.75 in the period covered. In sum, while there is general agreement that there was a marked break in trend in productivity and real wage growth in the period covered, the cause and possible long-term persistence of the change remain open to question.

Is the retardation a phenomenon unique to the United States in the

Table 2

National Income Per Person Employed in  
Nonresidential Business: Growth Rate and Sources of Growth  
1948-73 and 1973-76

	1948-73	1973-76	Change
Growth Rate.....	2.43	-0.54	-2.97
Contributions to growth rate in percentage points			
Total factor input:			
Changes in workers' hours and attributes:			
Hours.....	-.24	-.54	-.30
Age-sex composition.....	-.17	-.25	-.08
Education.....	.52	.88	.36
Changes in capital and land per person employed:			
Inventories.....	.10	.02	-.08
Nonresidential structures and equipment.....	.29	.25	-.04
Land.....	-.04	-.03	.01
Output per unit of input: <sup>1</sup>			
Improved allocation of resources <sup>2</sup> .....	.37	-.01	-.38
Changes in the legal and human environment <sup>3</sup> .....	-.04	-.44	-.40
Economies of scale.....	.41	.24	-.17
Irregular factors.....	-.18	.09	.27
Advances in knowledge and miscellaneous determinants <sup>4</sup> .....	1.41	-.75	-2.16

1. Contributions to the growth rate shown in subsequent lines are restricted to effects upon output per unit of input.
2. Includes only gains resulting from the reallocation of labor out of farming and out of self-employment and unpaid family labor in small nonfarm enterprises.
3. Includes only the effects on output per unit of input of costs incurred to protect the physical environment and the safety and health of workers, and of costs of dishonesty and crime.
4. Obtained as a residual.

Source: Edward F. Denison, *Accounting for Slower Economic Growth: The United States in the 1970s*, The Brookings Institution, 1979, Table 7-3. (To be published)

post-1967 period, or is it a more general process?

Table 3 presents evidence on the growth of productivity and real wages in several developed countries and in the United States which suggest that the retardation has characterized most of the developed countries, and is thus more likely due to worldwide economic trends than to developments specific to the United States.

What stands out in Table 3 is the fact that both before and after the period of retardation, the growth rate of the United States was exceedingly dismal: worse than that of every country save the United Kingdom. Moreover, though in earlier decades slower growth in the U.S. might be attributed largely to higher initial levels of productivity and real earnings, such an explanation has decreasing validity. Despite serious problems of comparison due to exchange rate fluctuations, there is no doubt that the U.S. no longer has a major advantage in real income over other major developed countries: by the latest B.L.S. comparisons, in fact, the U.S. had lower compensation per hour worked than did Belgium, Germany, the Netherlands, and Sweden.<sup>4/</sup> Finally, it also is important to realize that the more sluggish increases in real wages in the United States compared to other developed countries are partially attributable to the rough constancy of labor's share of compensation in national income in the U.S. in the period, compared to an upward trend in labor's share in several of the other countries.<sup>5/</sup>

Since growth of productivity and real wages is the essence of economic progress, the declining rates of increase in the 1970s represent a potentially major economic problem. Productivity advances are necessary for improving average living standards and make numerous national goals easier to attain. Reduction of poverty, increased real defense spending, allocation of a greater share of desirable jobs to women and minorities, and increased support of older persons is easier, most would agree, in a rapidly growing economy than in a sluggish one. In the late 1950s, the Rockefeller Brothers issued a report comparing the growth of the U.S. to that of the Soviet Union and called for a major effort to raise the U.S. growth rate. If the falloff in the

Table 3

Compound Annual Increase in Output Per Hour and  
Real Hourly Earnings in Manufacturing  
1960-1977

	Output Per Hour In Manufacturing		Real Hourly Earnings of Production Workers In Manufacturing	
	1960-1967	1967-1977	1960-1967	1967-1977
U.S.	3.4	2.4	1.5	0.9
Belgium	5.2	8.2	5.2	5.5
Canada	4.2	3.7	2.0	3.6
Denmark	6.0	6.4	4.1	5.1
France	5.5	5.5	3.4	5.1
Germany, F.R.	5.7	5.4	5.5	4.5
Italy	6.3	4.0	5.1	7.8
Japan	9.6	7.5 <sup>a</sup>	4.1	7.4
Netherlands	5.8	7.9	6.4	4.5
Sweden	6.8	4.6	4.0	3.2
United Kingdom	3.8	2.4	2.5	1.8
Austria	-	-	4.7	5.7
Switzerland	-	-	3.7	3.2
Norway	-	-	3.1	4.5

<sup>a</sup>  
Based on 1967-1976.

Source: U.S. Department of Labor, Bureau of Labor Statistics,  
Hanbook of Labor Statistics, 1978. Bulletin 2000  
(United States Government Printing Office, Washington,  
D.C., 1979). Table 164, p. 582 and Table 168, p. 586.

1970s represents a new secular pattern of productivity growth rather than a temporary phenomenon, national attention should, perhaps, focus once more on policies to strengthen productivity growth.

Change (2): The Composition of the Work Force

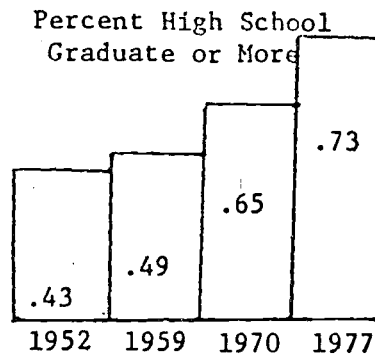
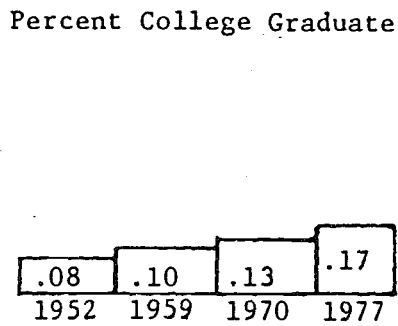
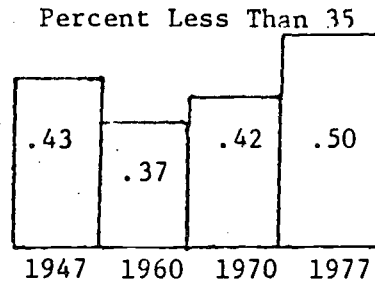
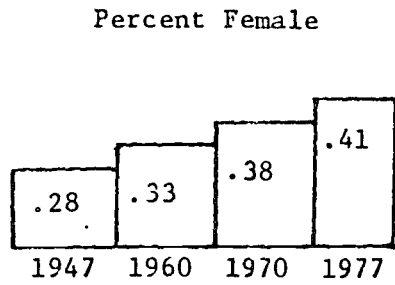
In 1978, there were over 103 million persons aged 16 and over in the U.S. work force, of whom 94.4 million were in the civilian work force. Forty-one percent of the work force were women; nearly half were less than 35 years of age; and about one-fourth were between 16 and 24; approximately one in three had attended college for at least one year and one in six was a college graduate; over 70% were high school graduates; and about 10% may have been illegal <sup>6/</sup>aliens.

Thirty years earlier, the composition of the labor force was quite different, with relatively fewer women, young persons, and highly educated workers. The labor force participation rate of married women with spouse present more than doubled over the period, and the proportion of married women in the labor force with children under six nearly tripled. The participation of men, by contrast, fell, especially those in the 55 to 64 age bracket and non-white. In the span of only three decades, the work force had changed to a remarkable extent (see figure 1).

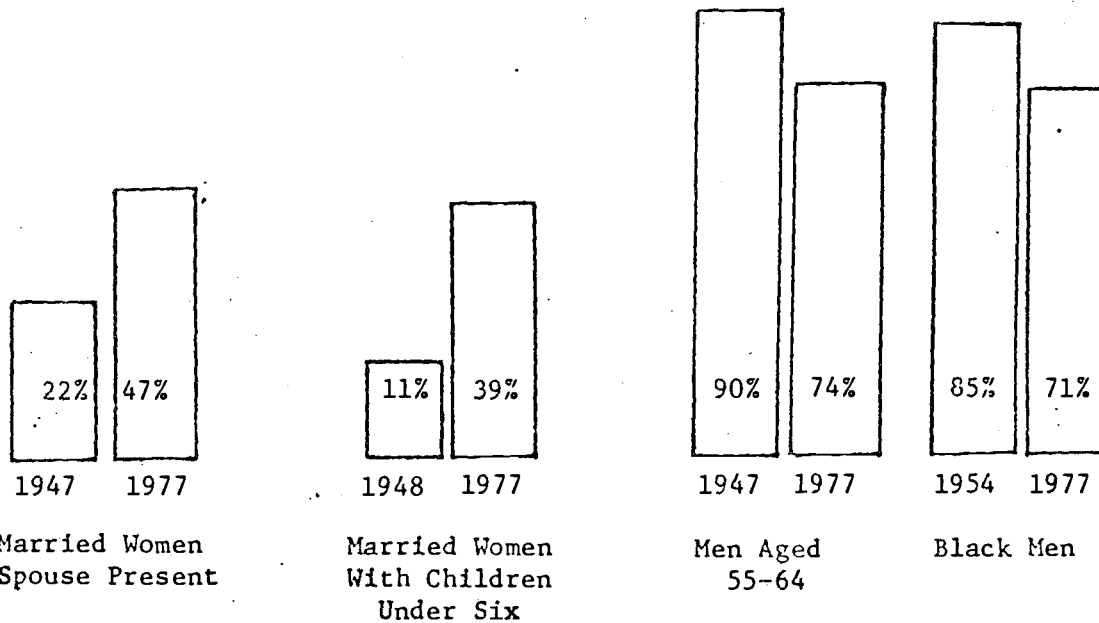
The most important change was the influx of women into the job market, particularly of married women with children. In the early part of the post-World War II period, most of the increase occurred among older women, many of whom were returning to work as their children reached school age. Nearly 80% of the growth in the female work force between 1947 and 1965 resulted from increased numbers of women aged 35 and over, whose labor force participation rate rose sharply. By contrast, in the late 1960s and early 1970s, the major source of growth of the female work force was among younger women, with 77% of the increase coming from persons less than 35 years old. From 1965 to 1977, the participation rate of women aged 20 to 24 rose from 50% to 67% while that of women aged 25 to 34 rose from 39% to 60%.<sup>7/</sup>

Figure 1:

Fractions of Work Force



Labor Force Participation of Workers



Source: U.S. Bureau of Labor Statistics, Handbook of Labor Statistics 1978. Table 1 (percent female), Table 3 (age data), Table 4 (male participation rate), Table 12 (education data), Table 14 (female participation rate).

The increased participation of women in the work force was related, presumably partly as cause and partly as effect, to several important social developments. The downward trend in fertility that followed the postwar baby boom was undoubtedly linked to the change in participation, though the influx of women with children into the work force makes it clear that the link is not the predominant factor at work. Similarly, the growth in the number of female-headed homes, which was especially sizeable among blacks, is also likely to have been closely tied to increased female participation. By 1978 only 23% of homes fit into the traditional stereotype husband-wife homes with men employed and no other household member in the work force.<sup>8/</sup>

On the job side, the female work force was associated with a marked increase in part-time jobs, which are largely filled by women. In 1950, 16% of persons with work experience over the year were part-time workers: in 1975, 12%, and in 1977, 21%.<sup>9/</sup>

Because of the changes in fertility noted above, there was a remarkable shift in the age structure of the work force. In the 1950s, the proportion of the work force below 35 years of age was relatively small because of the low birthrate during the Depression. In the mid-1960s, however, the number of younger workers began increasing at unprecedented rates due to the postwar baby boom. The proportion of workers under 35 years of age jumped from 35% to 50% in the span of only one decade. As the proportion of the young going on to higher education increased in the period, much of the growth in the labor force of younger workers occurred among the college-trained. In 1966, there were 0.49 male college graduates aged 25 to 34 per graduate 35 years of age and over; by 1976 the ratio had jumped to 0.78.<sup>10/</sup>

The large size of the youth population has had several socio-economic consequences. It has, as will be seen later, altered the earnings of younger relative to older workers and made youth unemployment a major national concern. Coupled with 1960s increases in the proportion of young choosing to go on to

college, the increased number of youths sparked a large expansion of the education sector and a "golden age" for colleges and universities. Because crime is an activity disproportionately conducted by the young, it also raised rates of criminal activity (see Freeman and Medoff, 1980).

Despite the extraordinary increase in the number of young persons and growth in their labor participation rate, youth unemployment did not rise dramatically in the period studied. Among white youth aged 16 to 19 the number employed rose from 4.1 million in 1964 to 7.0 million in 1977 as the proportion employed actually increased. Among minority youth, however, the proportion in the labor force and the proportion employed fell while the proportion unemployed rose. The differential employment prospects facing white and black youth became 11/ one of the major problems of the decade.

One of the most surprising labor force changes shown in figure 1 is the marked drop in the participation of adult males, particularly older men and non-white men. In 1954, 86% of men 16 and over were in the work force; in 1977, 79%. Among non-whites the decline was even more precipitous, from 85% in 1954 to 71%. The downward trend in non-white male participation is the major discordant pattern in a period of broad non-white economic advance. Both among whites and non-whites the drop in participation was concentrated among older men, with the participation of all 55 to 64 year old men falling by 16 percentage points.

The principal qualitative change in the labor force in post-World War II years was the increased educational attainment of workers. In contrast to the situation before World War II, high school graduation became common among the young, while a substantial fraction of young men and women chose to go on to college during the 1960s. Between 1954 and 1969, the proportion of 18 to 19 year old men going to college rose from .30 to .44 while the proportion of 18 to 19 year old women going to college increased from .23 to .36. As a result of increased enrollments, in the late 1960s and the early 1970s, the number of graduates



grew rapidly. From 1966 to 1974, the number of bachelor's degrees granted doubled, while the number of master's degrees and doctorates increased at nearly the same pace. The boom was accompanied by sizeable changes in the fields of study and occupations of new graduates, with some specialties like law or MBA management enjoying extraordinary growth and others experiencing different patterns of change (i.e., engineering).

At the outset of the 1970s, however, enrollment in higher education began leveling off. The proportion of 18 to 19 year old men in college dropped to just 34% by 1974; whereas in 1969 there were 0.5 graduate level enrollees per college graduate aged 22 to 29, in 1975, there were 0.4 enrollees per bachelor's graduate in the 22 to 29 year old age bracket. In some Ph.D. specialties, enrollments and degrees granted fell by as much as 40%. Stabilization or decline in enrollment rates among the young did not, however, reduce or even greatly affect the rate of increase in the overall educational attainment of the work force. Even with the rates of the 1970s, the average education of the labor force rose noticeably. This was because of a continued sizeable difference in years of schooling between retiring and entering workers. The proportion of college workers among the young, but not in the work force as a whole, stabilized.<sup>12/</sup>

#### Causes of Change

The economic model of labor supply, in which supply decisions reflect economic incentives, can be used to analyze changes in female participation, male participation, and educational investments.

In the simple economic model, changes in labor force participation are due to changes in market wages and in the value of time spent working at home (the 'shadow wage' for household activities). Increases in market wages will raise labor participation (substitution effect), while increases in the value of working at home, due to higher income of other household members, will reduce participation (income effect).

Improvements in household technology, which take the form either of

new machines or techniques or of lower prices for given techniques, can increase or decrease work activity depending on the extent to which they substitute for household time, among other things.

The basic effort to explain participation rate patterns follows a two-stage procedure. First, the effects of the wages of women and of their husbands on participation are estimated by cross-sectional (more recently, longitudinal) data. Then the changes in these explanatory factors over time are multiplied by their estimated effects to assess the impact of the changes on participation. Because the wages of men and of women have risen at roughly the same rate over time, the model requires greater female responsiveness to female wages than to the incomes of their husbands to account for the upward trends in participation. While most studies have found that women react more to their own wages than to their husbands' earnings, the differences have not been sufficiently large to explain the bulk of increased female participation.<sup>13/</sup> Addition of other factors, such as number of children, does not greatly enhance the ability to track the trend. Perhaps most discouragingly, the most recent results for the 1970 Census of Population show that the economic factors "which together once explained three-quarters of the variation in wives' participation rates across SMSAs (Standard Metropolitan Statistical Areas) now account for only one-third of it. Many of the variables are no longer significant, and the strength and explanatory power of all except the unemployment variable have declined."<sup>14/</sup> We are far from accounting for the rise in the participation of women in terms of simple economic factors.

One possible missing element from standard models is the nature of household technology. The household sector is surprisingly capital intensive. In 1975, the average household had \$6,900 in consumer durables. From 1952 to 1975, the accumulation of durables increased by 5.4% per annum.<sup>15/</sup> Refrigerators, washing machines, and related equipment became increasingly prevalent in the home.

Although cause-and-effect cannot be readily disentangled, the growth of fast food services and other restaurants have come to offer a more readily available (and chosen) alternative for one of the main household products. In the absence of estimates of the quantitative effect of these factors (and of the substitution between time and goods in household production), however, we can do no more than speculate about the effect of technology in "freeing" women's time.

Another possible missing element, which must be brought into the story with care, is attitudinal changes, potentially associated with the women's liberation movement of the late sixties and seventies. That there were significant changes in attitudes over the period is apparent from diverse opinion surveys. As late as 1967, 44% of first-year college women and 67% of first-year college men thought "a woman's place is best at home." In 1974, only 19% of entering college women and 40% of entering college men agreed with that view.<sup>16/</sup> Clearly, it had become (for whatever reason) more socially acceptable for women to devote themselves to careers as opposed to marriage and family. The extent to which these changes in attitudes were caused by or caused the labor force patterns is difficult to determine.

The basic economic model can also be used to analyze the decline in the labor participation of older men. One important economic factor that can be expected to reduce participation of men 65 and over has been the expansion of social security coverage, which places a higher tax on earnings after that age.

Another factor likely to lower older male participation is private pension plans, which have also become more widespread in recent years (Skolnik) and which typically provide strong incentives to leave the job, often in the form of mandatory retirement. Indeed, mandatory retirement provisions are sufficiently widespread as to constitute a major institutional provision in labor contracts (Lazear). Recent changes in the law regarding vesting of

pensions and mandatory retirement [see Change (6)] may provide an important "test" of how private pensions and mandatory retirement rules in fact affect retirement decisions.

Most empirical studies find sizeable response parameters to economic variables in retirement behavior, with older men estimated to be more sensitive to wages or nonwage income than men in general (Cain & Watts, 1973). Although detailed analysis of the effect of social security on retirement is just beginning, the evidence seems to support the attribution of a considerable effect to the social security mode of retirement pay (Boskin & Hurd, Boskin, Burkhauser and Turner, Pellechio, Quinn). Recent analysis of the work incentive effects of social security -- the strong dependence of benefits on final years' pay, which can increase participation -- does, however, raise some doubts about its impact (Blinder, Gordon & Wise).

The puzzling drop in the labor force participation of black men has been explained in part by another component of Social Security: Disability Insurance (SSDI). About half of older black men out of the labor force are recipients of SSDI. Because of their concentration in blue-collar jobs with substantial risk of job-related injuries and lower wage rates, black men turn out to have been more affected by the program than white men (Leonard). Still, a significant proportion of their decline in participation remains unexplained.

Finally, the human-capital analysis of investment in skills provides a reasonably successful explanation of the changes in the qualifications of the work force. In the human-capital model, decisions to obtain a certain level of schooling or skill are made by comparing two income streams: the stream that results from the investment and the stream that would obtain in its absence. If, at a given interest rate  $r$ , the present value of the former exceeds the latter plus the direct cost of the investment, the individual is expected to choose the investment. Because about two-thirds of the private cost of educa-

cation turns out to consist of foregone income, as opposed to direct costs, the analysis directs attention to differences in the wages of more and less qualified persons as the major factor in investments in schooling.

Analyses of the link between enrollment patterns suggest that much of the postwar expansion and the seventies' contraction in the higher education system can be attributed to changes in economic incentives, measured by wages or other indicators of rates of return. The growth of enrollments in the 1960s was spurred by improved earnings opportunities for college graduates while the decline of enrollments in the 1970s appears to be the result of the falling return to college workers [see Change (5)]. Cross-section (Rosen and Willis) and time series (Freeman, 1975) analyses find sufficiently high elasticities of response as to account for the bulk of the changes in male enrollments in terms of the economic model. The slow-down in doctorate production also appears explicable in terms of the economic factors at work in that market, although, in this case, nonprice factors, notably the difficulty of obtaining academic employment, may be as important as wages in causing changes (Freeman, 1980a). Finally, the selection of particular fields of study has also been found to respond to market factors with, for example, relatively many students choosing education in the 1960s when the school system was expanding and few choosing this concentration in the 1970s when the teacher's job market deteriorated (Hebl). Though by no means without problems, the economic analysis does appear to provide a good handle on the changing educational attainment of the work force.

Overall, if one single conclusion about the labor force is to be drawn from the post-World War II experience, it is that the labor supply undergoes substantial dynamic shifts and evinces high supply responsiveness in several dimensions and thus cannot be viewed as a stable, inflexible component of the labor market. Much of the variation of course, rises from

marginally attached groups -- young persons, women, older workers -- rather than from the prime-age male workers.

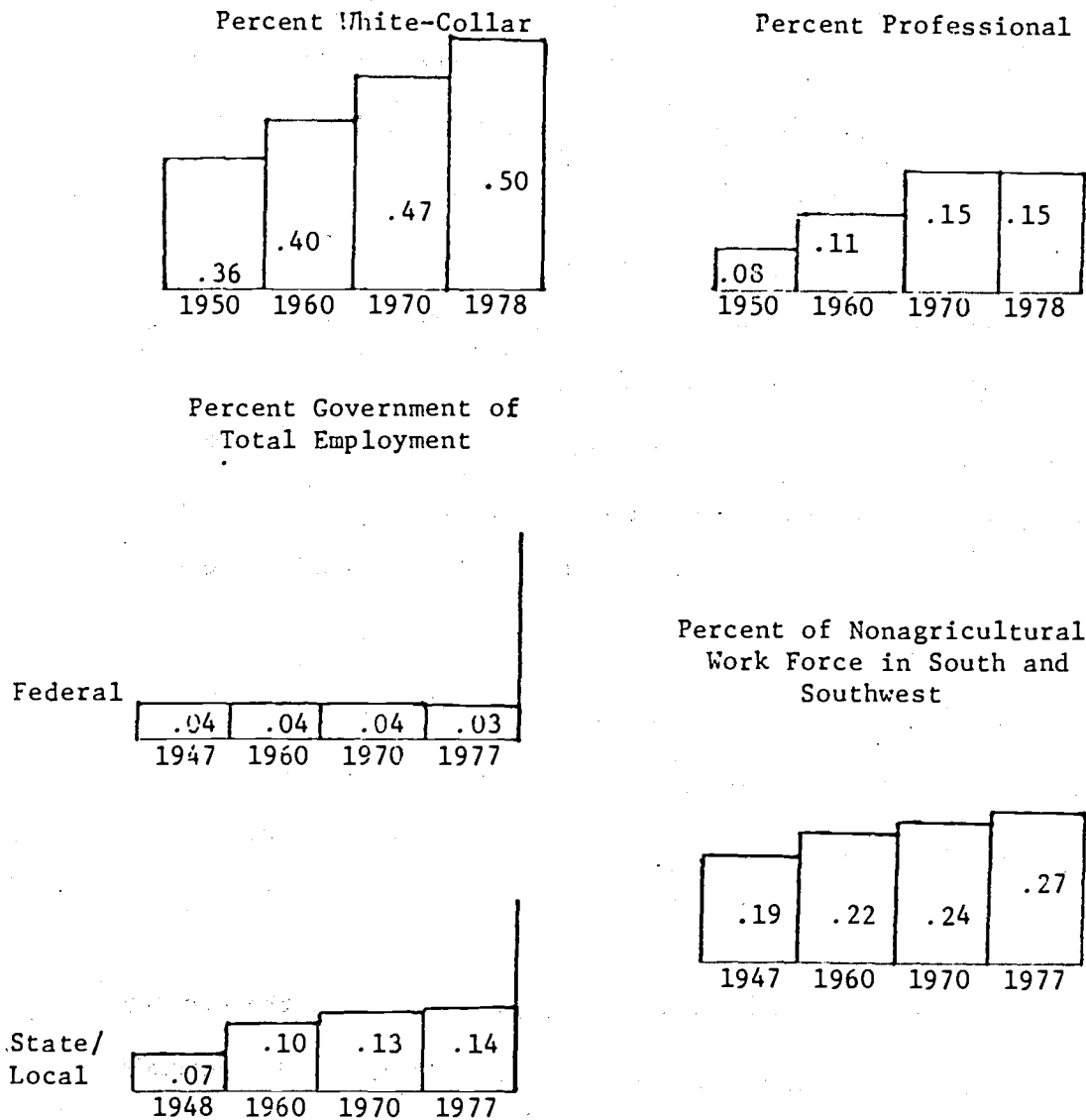
### Change (3): Demand and Employment

Figure 2 highlights some of the most significant changes in the composition of employment in the post-World War II period. With respect to occupations it shows a massive shift in employment from blue-collar work, including agricultural, to white-collar work, particularly into professional, technical and clerical jobs. Note, however, that the rate of expansion of the white-collar sector levels off noticeably in the 1970s. Between 1950 and 1960 the proportion in white-collar jobs increased by 4 percentage points; between 1960 and 1970, the increase is by 7 points, whereas from 1970 to 1978 it is just 3 points. Among professionals the slackened rate of increase in the 1970s is even more striking: after increasing by 3 points between 1950 and 1960 and by 4 points between 1960 and 1970, the professional share of employment was virtually unchanged between 1970 and 1978.

The slowdown in the growth of professional and white-collar employment at a time when the number of college graduates is increasing rapidly caused a major "underemployment" problem in the college job market. As Table 4 shows, there was a substantial downgrading in the types of jobs held by graduates, with fewer holding professional and technical positions and more in blue-collar and lower level white-collar jobs. The modest increase in the proportion of male graduates in managerial positions and the sizeable increase in the proportion of women in those jobs is, it should be stressed, dwarfed by the decline in the proportion in technical and professional jobs. The Bureau of Labor Statistics predicts that in the next decade or so the demand for professionals will continue to expand more slowly than supply, creating an even greater underemployment problem.

The reduction in the quality of jobs and in the relative earnings of the more highly educated might expect a drop in the job satisfaction of more highly educated workers, and, according to the University of Michigan Quality

Figure 2: Employment Distribution



Source: 1950-1970 white-collar and professional - U.S. Department of Commerce Historical Statistics to 1970, D182-232, p. 139.

1978 white-collar and professional - U.S. Department of Labor, Bureau of Labor Statistics, Employment and Earnings, January 1979, p. 172, 174.

Government data from U.S. Department of Labor, Bureau of Labor Statistics, Handbook of Labor Statistics 1978, table 50 with the total employment from table 1. Regional data from table 52 with total nonagricultural employment from table 42. South and southwest, defined as regions IV, VI, and Arizona and Nevada, from region IX. See table 52, p. 159 for precise definition of regions.

of Work Survey, such appears to have been the case. Whereas in 1969 college workers scored higher than high school workers on an overall job satisfaction index by a considerable amount, in 1977 they scored much lower than in 1969 and no higher than high school workers.<sup>17/</sup> A major burden has been placed on employers to adjust to the new availability of college graduates for jobs that have traditionally been held by the less educated and to the distorted age structure of the college work force.

Figure 2 also displays one of the most important changes in the industrial distribution of the work force: the doubling in the state and local governments' share of employment in the postwar period. By 1977, one in seven workers was employed by state and local governmental bodies compared to one in fourteen three decades earlier. One-third of the growth of employment over the entire 1948 to 1976 period is attributable to expansion of the public sector (including federal employees). At the other end of the spectrum there was a continued shift of the work force out of agriculture, leaving just 3.8% of employed workers in that sector in 1976, and a drop in the self-employed, nonagricultural labor force.<sup>18/</sup>

The increased importance of the governmental labor force in the economy has raised a whole host of industrial relations problems. Consider, for example, the following type of issue: a locality forbids public workers from striking. This same locality reaches an agreement with the public workers on a certain wage settlement after collective negotiations, but the citizens of the locality refuse to raise taxes to pay for this wage settlement. The public sector workers cannot strike. Should wages be raised to the negotiated levels? If not, should the public sector workers be permitted to strike to pressure voters to meet the agreement? What should be done? A wide variety of answers to these questions have been employed by various states. As yet, there is no



Table 4

Percent Distribution of Occupations of  
Employed College Graduates, 1968 to 1978

	MEN			WOMEN		
	<u>1968</u>	<u>1978</u>	<u>Δ</u>	<u>1968</u>	<u>1978</u>	<u>Δ</u>
Professional & Technical	60.6	52.1	-8.5	81.1	65.0	-16.1
Managers & Administrators	22.2	24.5	1.8	4.1	8.7	4.6
Sales Workers	6.8	8.9	2.1	1.2	4.6	3.4
Clerical Workers	4.4	4.7	0.3	10.6	15.4	4.8
Craft Workers	2.2	3.9	1.7	1.2	1.9	0.7
Other Blue-Collar Workers	1.3	2.7	1.4	1.2	1.9	0.7
Service Workers	1.1	2.1	1.0	1.5	3.8	2.3
Farm Workers	0.9	1.2	0.3	0.3	0.5	0.2

Source: S.C. Brown, "Educational Attainment of Workers: Some Trends from 1975 to 1978", Monthly Labor Review (February 1979, p.58, Table 5).

general agreement as to the best mode of dealing with public sector industrial relations problems.

Another widely heralded shift in employment, shown in figure 2, is the relative decline of employment in the Eastern and Midwestern industrial belt. The fastest growing regions of the country were the South, Southwest, and, to a lesser extent, the West Coast. Many industries moved into the South and Southwest in this period, locating new plants in such states as Texas, Louisiana, Florida, Arizona, and Colorado. Industrialization of those areas and loss of employment in New England and the Midwest became a subject of considerable controversy, due to, in part, the federal government's alleged spending decisions which favored the Sun Belt over the Snow Belt.

The shifts in jobs among occupations, industries, and areas are the tip of an iceberg of changes in employment in the job market. Among disaggregated categories there were large changes in employment, with some groups growing rapidly and others declining and with the growth sectors of one decade often being the declining sectors of the next and vice versus. School teaching, for example, was a booming occupation in the 1960s, but not in the 1970s. Employment in aircraft and parts rose by 184% from 1950 to 1969 and then fell by 42% from 1969 to 1977. Employment in all mining dropped from 901,000 in 1950 to 619,000 in 1969 and then shot up to 837,000 in 1978.<sup>19/</sup>

It is important to recognize that the changes in the composition of employment are more extensive than the changes in the structure of wages. The standard deviation of log changes in employment in three-digit Census of Population occupations from 1960 to 1970 was .39 compared to a standard deviation in the log changes of earnings in those occupations of .13. Similarly, the standard deviations in log changes in employment among two-digit manufacturing industries far exceed those in wages. From 1961 to 1977 (which have roughly similar cyclical conditions) the standard deviation on log changes in production worker employment in 20 two-digit durable and non-durable industries

was .25, while the standard deviation in the log changes of average hourly earnings, exclusive of overtime, was .09.<sup>20/</sup>

One of the fundamental features of the United States' economy appears to be much greater variability in employment by sector than in earnings by sector. Though the wage structure changes over time, it has greater stability than employment.

#### Causes of Change

The principal cause of the structural change in employment among occupations and industries appears to be dynamic shifts in demand for labor, which alters employment along relatively elastic supply schedules. While there are other possible explanations for the concordance of large changes in employment with more modest changes in wages, the demand/elastic supply interpretation of the patterns appears to offer the best explanation of the observed phenomenon (Freeman, 1980b). Some of the shifts in demand are attributable to broad economic swings, such as growth of demand for some goods rather than others, while others are attributable to technological changes.

#### Employment and Productivity

Considerable concern has often been expressed about the effect of technological change on the level of employment in industry. Does employment increase or decrease in industries undergoing significant technological progress? The impact of differential increases in productivity and industry of employment is twofold. All else being the same, industries with large increases in productivity will experience relative declines in employment since fewer workers are needed for production. But all else will not remain the same. An industry with substantial gains in labor productivity will find that labor costs per unit of output and total costs decline rapidly. The decline in cost causes prices to fall and induces consumers to purchase more of the industry's

output. Hence, the decline in labor demand associated with the need for fewer workers per unit of output may be offset by the increased demand for output.

Empirical evidence for the United States in the postwar period indicates that the employment creating effect of the growth of output are roughly offset by the disemployment effect of rapid productivity gains. Specifically, the correlation between changes in output per employee hour and employee hours in the industries for which the B.L.S. calculates productivity indexes is a bare <sup>21/</sup>-.03. Thus, rapid productivity is essentially unrelated to growth of employment by sector. Technological change alters the distribution of employment among industries and occupations, but does not have the feared effect of creating significant loss of jobs in sectors with rapid productivity growth.

#### Change (4): Unionism

Collective organization of the U.S. labor force has changed substantially in the postwar period. Since the mid-1950s, the fraction of private sector workers who are unionized has fallen gradually while, by contrast, organization of public sector workers has jumped enormously. These two changes have altered the labor movement in the country and the operation of the labor market.

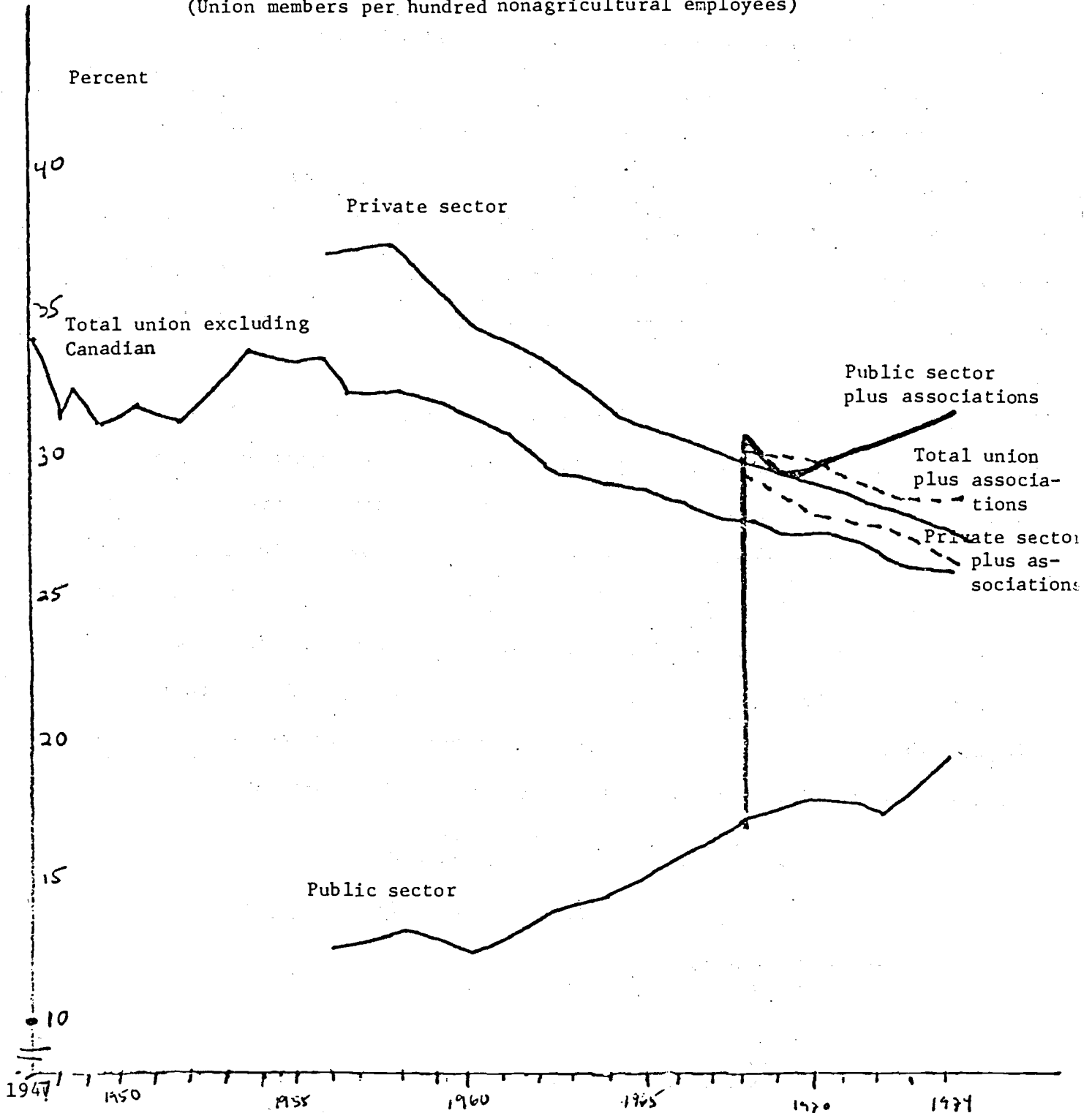
The two divergent patterns and their net impact on unionization in the country are depicted in figure 3, which records the fraction organized in the private and public sectors and in the country overall. In 1956 the Bureau of Labor Statistics data showed 34% of private nonagricultural workers to be organized; by 1974, the fraction had dropped to 26%. In the public sector organization grew from 12% in 1956 to 19% in 1974, reaching 34% if members of associations, like the National Education Association, are included as union members. Because the majority of workers are private employees, the overall percentage has also fallen.

Data on the success of unions in National Labor Relations Board representative elections tell a similar story about the diminution of private sector unionism in the United States. In 1950 unions won 74% of NLRB elections; in 1976 their victory rate was below 50%. The fraction of eligible-to-vote workers in elections won by unions fell even more sharply as unions had increasing difficulty

Figure 3

Union Organization of the Non-Agricultural Sector, 1947-1974

(Union members per hundred nonagricultural employees)



Source: Total from U.S. Bureau of Labor Statistics, Handbook of Labor Statistics, 1978, Bulletin 2000, Table 150, p.507. Public sector estimated by multiplying the percent of union members in the public sector from Table 147, pp. 498-503, by the total proportion by the ratio of nonagricultural employment to government employment from Table 42, p. 134. Public sector including associations obtained by multiplying public sector figures by the ratio of union plus association membership to union membership from U.S. Bureau of Labor Statistics, Directory of National Unions and Employee Associates, 1975, Bulletin 1935, Table 15, p.70. Private sector and private sector plus association figures calculated using the same tables and methodology. Total association data from Directory, Table 6, p.63.

in elections in large establishments. Barely a third of workers in elections were in districts won by unions. As a result, the ratio of workers organized due to the NLRB elections to the total nonagricultural private work force fell from 1.7% in 1950 to a bare 0.3% in 1977.<sup>22/</sup>

While trade unions have contracted in earlier time periods -- notably the 1920s when the percentage of nonagricultural workers organized fell from 20% to 12% -- the drop in the 1950s to 1970s represents a sharp break with the long-term trend and a pattern in marked contrast to the growth or stability of unionism in other developed countries, including Canada, where many of the same unions and firms operate.

What explains the erosion of private sector organization of the United States' labor force? One important factor has been the demographic and employment changes in the composition of the work force. The proportion of workers who have historically tended to be less organized -- women, the young, Southwestern workers, white-collar workers, and so on -- have grown while the proportion in the traditionally organized categories have fallen. Estimates by Freeman and Medoff suggest that about 60% of the decline in unionism can be explained by such structural changes (Table 4, p. 24).<sup>23/</sup> Still, even among blue-collar workers in traditional strongholds of unionism, there was a sizeable drop in union coverage:

Percentage of production workers covered by collective bargaining<sup>24/</sup>

	<u>1958</u>	<u>1960</u>	<u>1970</u>	<u>1974-1976</u>
Metropolitan Areas	-	73	-	61
Northeast	-	77	-	66
Manufacturing	67	-	61	-
Electrical Mfg.	73	-	58	-
Petroleum Refining	89	-	74	-

Ratio of Union Workers to Nonagricultural Employment\*

Transportation & Public Utility	81	81	73	69
Contract Construction	84	79	73	69

\* These figures are merely illustrative as the concepts and sources of the data are quite different.

A second major factor underlying the erosion of unionism among private wage and salary workers has been increased managerial opposition, abetted in part by changes in the law. In the early years of the Wagner Act, employers were severely limited in what they could say or do to oppose unionism. Since the late 1940s, however, legal enactment (Section 8C) of Taft-Hartley and diverse NLRB and Supreme Court decisions regarding management right to "free speech" in opposition to unionism has significantly altered the nature of the election process. Nowadays, managements contest elections, making extensive efforts to convince workers to vote against union, and often employing specialized labor management consultants to advise or run their campaigns. In Canada, where the same unions and management often deal with one another but where the method of recognizing unions does not allow for management campaigns against organization, trade union organization of the work force has grown.

Quantitative data from the AFL-CIO and National Industrial Conference Board suggest that active management opposition has significant effects on the success of unions. According to the AFL-CIO study, unions won 97% of elections with no opposition compared to 30% to 40% in which management opposition was extensive. According to the NICB study, unions won 85% of elections in which companies made either no effort or a limited effort in the form of a written letter opposing organization; won 51% in which the company held anti-union meetings, but won only 34% of elections in which written communication, group and individual meetings were used to communicate. While these studies suffer from potential simultaneous problems due to the possibility that management does not fight when the outcome is a foregone conclusion in the union's favor, both union and management officials place great stress on the impact of opposition, particularly use of expert labor/management consulting firms.

In addition to legal opposition, however, there has been a marked increase in illegal opposition to unions. The number of 8(a) (1) cases -- those

involving discrimination in employment to discourage unions -- has skyrocketed from 4,472 in 1950 to over 26,000 in fiscal 1977 while the number of 8 (a)(3) cases -- firing for union activities -- has risen from 3,213 in 1950 to over 16,000 in 1976. The penalty for breaking these provisions of the law are sufficiently slight as to be only a moderate deterrent to companies strongly opposed to unions. Statistical analysis finds a significant negative correlation between unfair labor practices or other indications of managerial opposition and union success (Ellwood & Fine, Freeman & Medoff 1976). Finally, in certain cases, even when management has lost an election, it may bargain so as to never sign a collective agreement.

A third potential cause of the diminished success of private sector unionism is the growing similarity in personnel practices between organized and nonorganized companies, especially among the largest enterprises. Many large nonunion firms pay union-level wages and have work conditions comparable to those in organized plants (i.e., job bidding systems for positions, seniority rules on layoffs, grievance procedures). This is particularly the case in firms that have some organized plants and some nonorganized plants. In addition, to some extent at least, unions may be suffering from the fact that increased governmental regulation of the labor market and funding of worker benefits [see Change (5)] have also eroded the payoff to joining a union.

Another factor which may contribute to the changed position of unions has been a drop in favorable attitudes toward the institution. Beginning roughly in mid-1957, when the McClellan Labor-Management Relations committee began its sensational hearings, stories dealing with labor in the major newspapers, Time and Newsweek, became unfavorable. In public opinion surveys by Gallup, responses to the question, "In general, do you approve or disapprove of labor unions?", show a steady deterioration in favorable attitudes:



<u>Period</u>	<u>Average Approval</u>
1950-1957 (Sept.)	75%
1957 (Sept.) - 1959	68%
1960s	68%
1970s	60%

Source: Gallup Polls

This drop in public approval for unions has occurred within broad occupational categories (professional and business, white-collar, blue-collar, and farmers). According to Gallup, it has dropped most rapidly in the past decade among adults under 30.

Even with changing attitudes, however, a relatively large fraction of nonunion workers would like to be unionized. Kochan found that in the 1977 Quality of Employment Survey 39% of blue-collar workers would vote for union representation in their workplace, if an election were held, while 28% of white-collar workers, excluding the self-employed and managers, would also vote for unions. "Perhaps the most striking finding was that 67% of all black and other minority workers would vote to unionize" (Kochan, p. 25). While all of these workers could be in plants where even in the absence of management campaigns to discourage organization the majority of workers would vote down unions, it is more likely that at least some are in plants that would be-organized if institutional procedures were different.

Will private sector unionism continue to diminish in the future? The answer to this question is unclear. On the one hand, even modest efforts to reform the labor laws in the United States in such a way as to reduce the ability of management to discourage unionism, (e.g. the Labor Law Reform of 1978) have been defeated. On the other hand, unionism has traditionally grown in sudden spurts which were never predicted by experts.

What are the economic effects of a proportionately smaller trade union movement? From the perspective of the monopoly "face" of unionism the decline can be expected to reduce the monopoly misallocation of resources due to

unionism and, to the extent that union monopoly wage gains depend on the fraction of the labor force organized (Freeman & Medoff, 1979), also reduce the union wage advantage. On the other hand, however, reduced unionism can be expected to adversely affect many of the positive effects of strong unionism -- lower dispersion of earnings among workers; lower quit rates; and higher productivity due to pressures on management to reduce costs in organized firms. As the United Mine Workers organization and industrial relations in coal have deteriorated, productivity in union mines has fallen sharply. The broader social effects of a diminished trade union movement remain to be seen.

### Public Sector Unionism

While private sector unionism has declined, public sector unionism has grown rapidly. The largest union in the AFL-CIO is the State, County and Municipal Workers. Teachers have become one of the most highly organized occupations in the country. In most cities, policemen and firemen negotiate for wages and work conditions. About half of the federal work force is organized. This organization of public sector workers brings the U.S. closer to other developed countries, where unionism of government employees has long been important, and alters the face of the American labor movement. Public sector unions rely on political rather than economic muscle to obtain desired benefits. Public sector unions are usually not allowed to strike. Negotiated settlement must be approved, in many cases, by bodies that decide taxes. As noted earlier, these distinct characteristics create new industrial relations issues.

What explains the success of unionism in the public sector compared to the diminution of organization in the private sector?

A good case can be made that the direct cause of union success in the public sector has been explicit changes in the law regarding public sector labor relations. First, states with laws that are more favorable to public sector collective bargaining have the highest proportion unionized. Second,

and more importantly, over time public sector organization has grown rapidly in states following passage of the more favorable laws and has not grown rapidly in states which maintain laws that discourage public sector unionism. In one study, it was found that organization of police increased sizeably following passage of a law that required localities to meet and confer with unions (Lauer). Third, at the federal level, President Kennedy's Executive Order 10988 and ensuing policies toward unionism clearly precipitated the successful organization of federal employees. While the political and attitudinal changes that underlie the new laws may be properly viewed as the fundamental causes of the increased public sector unionism, new laws appear to be a necessary condition for organizational success.

Concomitant with an increase in unionization in the public sector has been a growth of strikes among public employees, including white-collar workers like teachers. In 1956 BLS data show that outside of education there were just 27 work stoppages in the public sector. In 1976 the number of stoppages was 378. For the education sector, National Center for Education Statistics data reveal only two teacher work stoppages (involving just 210 people) in 1959 compared to 218 stoppages (involving 182,300 teachers) in 1975 (NCES 1978, Table 4.9, p. 182). Despite the illegality of public sector strikes in most states, teachers and other public sector workers (except for police and firemen) have come to view the strikes as a legitimate mode of seeking contract changes.

Most studies of the effects of public sector unionism on the pay of public employees have found moderate differences between the wages of public sector workers in cities that are organized and cities that are not (see Lewin for a summary), a surprising result in view of widespread concern with public sector unions and belief that absence of competition for government functions would create inelastic demands for their services and thus, great power in bargaining (Wellington & Winter). One reason for the modest estimated effect of public sector unions appears to be the extensive "spillover" of wages

across cities as a result of the extensive reliance of local governments on comparability comparisons in wage setting (Ehrenberg & Goldstein). A nonunion city near a union city in the same state is likely to pay wages similar to those in the union city. One study has found that while police in union and nonunion cities in the same state receive roughly similar pay, police in highly unionized states obtain a considerable advantage over those in less organized states, suggesting that public sector unionism has indeed had sizeable economic consequences that escape detection from city comparisons (Lauer). Other studies have found that public sector unions have larger effects on fringe benefits than on direct pay (Gustman & Segal, Ichniowski, Edwards & Edwards).

#### Change (5): Governmental Regulations

One of the major changes in the labor market in post-World War II years has been an increased role of governmental regulations in determining market behavior and outcomes. In the area of collective bargaining, legislative enactment and NLRB and court decisions have brought internal union affairs and the bargaining process under greater regulation than ever conceived by the proponents of the Wagner Act. In the area of personnel policy, the antibias and affirmative action rules of the federal government have revolutionized employee selection, promotion, and remuneration policies. In the area of work place conditions, occupational health and safety acts and environmental policies have brought governmental rules and regulations into the work places of thousands of enterprises. Compensation has also been affected, both by equal pay legislation and regulation of pension plans. Finally, through its taxation and social welfare programs, the government has altered the rewards from working and the floor beneath which those who cannot work may fall.

### Regulation of Collective Bargaining

In the period under study, two major pieces of labor legislation were enacted by the U.S. Congress. The Taft-Hartley Act attempted to redress what was viewed by many as an imbalance in the labor law favoring unions. The main purpose of the Landrum-Griffin Act was to regulate the internal affairs of trade unions to guarantee democratic procedures and reduce the possibilities of corruption. The laws, interpreted by the National Labor Relations Board, the Representative of Labor (expressly responsible for the Landrum-Griffin Act), and the courts have established the method of determining union representation, modes of bargaining and conflicts, and internal union practices.

### Representation

As noted in Change (4), court rulings and the Taft-Hartley "free speech provision" have greatly expanded the extent to which employers can campaign against unions in NLRB elections, making the electoral process more an adversary procedure than had previously been the case. In addition, the Taft-Hartley Act outlawed closed shop clauses, which made union membership a prerequisite for a job, and permitted states to outlaw the union shop, which required membership after employment. Evidence suggests that these changes have contributed to the gradual diminution of private sector unionism. (Freeman and Medoff, 1976; Ellwood and Fine).

### Bargaining Topics and Procedures

The government has also come to play a role in determining the subjects of collective bargaining, prescribing mandatory topics about which parties must bargain (as opposed to permissive topics, about which they can choose not to discuss), and outlawing other topics. When the Supreme Court ruled in 1949 that pensions were a mandatory topic, there was a sharp increase in the proportion of the wage bill going to pensions in unionized industries. In the 1964 Fibreboard Case (which made contracting out a mandatory bargaining topic under certain con-

ditions) the Supreme Court noted the extent to which the original intent of the Wagner Act (to get parties into a room to negotiate, but not to affect the substance of the negotiations) had been changed.

"There was a time when one might have taken the view that...the courts have no power to determine the subjects about which parties must bargain... too much law has been built upon a contrary assumption."<sup>26/</sup>

A second, more complex legal obligation on the two parties is "bargaining in good faith". In several important decisions, the NLRB and the courts have outlawed certain forms of bargaining -- such as Boulwarism (the General Electric strategy of making its first offer the full and final offer and engaging in a tough propaganda program to sell the offer to workers) -- and have sought to interpret the state of mind called "good faith". As there are no obligations to reach an agreement, however, it is unclear what effect the duty to bargain has on negotiations.<sup>27/</sup>

#### Weapons of Conflict

The Taft-Hartley Act outlawed certain forms of conflict, making it an unfair labor practice for unions, as well as managements, to coerce employees, for instance by mass picketing, to engage in secondary boycotts, and to strike for jurisdictional purposes. The Landrum-Griffin Act added "hot cargo" clauses (in which management agrees to refuse to deal with other enterprises having labor disputes) to the list of illegal weapons of conflict.

#### Internal Union Practices

Far-reaching federal controls on the governance of unions were established by the Landrum-Griffin Act, passed following the sensational McClellan Committee hearings on criminal elements in trade unions: the electoral procedures in unions were brought under the law; a "bill of rights" was enacted to guarantee normal democratic freedoms to members; trusteeships over locals were restricted; and union leaders ordered to report certain financial transactions.

To some extent the extensive and detailed regulation of collective

bargaining and internal union democracy may be a necessary concomitant of the use of government-regulated elections to establish unions. Once the government has set up a procedure for organizing, next it can reasonably be expected to concern itself with the process and outcome.

#### Antibias Regulation of Personnel Policies

No institutional change has transformed the labor market more than the outlawing of discriminatory employment practices by Title VII of the Civil Rights Act of 1964 and the requirement that federal contractors engage in Affirmative Action under Executive Order 11246. "The world of the personnel manager was changed drastically as the EEO and the courts have enforced and implemented Title VII of the Civil Rights Act" (Miner and Miner, p.4). Many traditional modes of recruiting, testing, and selecting workers were ended by the EEO laws, replaced by Affirmative Action searches and "fast tracks" to promote women and minorities. As Table 4 indicates, a whole set of new personnel practices were initiated as a result of the Equal Employment Opportunity pressures of the government. As the Bureau of National Affairs puts it:

Equal Employment Opportunity (EEO) Programs complete with Affirmative Action Plans (AAP) are viewed as 'a fact of life' by nearly all employers, and the personnel function has changed in a variety of ways as a result of the government's efforts to enforce the employment provisions of the act (p. 1).

The muscle behind the EEO effort has been the court decisions, which first tended to weigh heavily the interests of protected groups as opposed to other workers. Through the early 1970s most court decisions tended to favor active Equal Employment and Affirmative Action programs. In the mid and late 1970s, however, the tone of court decisions changed. Instead of *Griggs Power*, which came down heavily against employment tests with disparate effects, there was *Washington vs. Davis*, which supported tests for the District of Columbia police force. Instead of finding discrimination on the basis of statistical disparities, additional information on specific cases of discrimination was also required in several cases. In the *Weber*

Table 4

New Personnel Practices Due to EEO

	<u>% of companies</u>
1. Have <u>Formal</u> EEO Program	86
Including Affirmative Action Plan (of those subject to OFCCP regulations)	96
2. Have had investigation or other action under Title VII	63
3. Changes in selection procedures for EEOC reasons:	60
testing procedures	39
revised job qualifications	31
application forms	20
recruiting techniques	19
4. Special recruiting programs:	
for all minority workers	69
for minorities in professional/managerial positions	58
5. Programs to insure EEO policies are implemented	
communications on EEO policy	95
follow-up personnel or EEO office	85
training sessions on EEO	67
periodic publications of EEO results	48
EEO achievements included in performance appraisals	33
6. Special training programs	
for entry-level jobs	16
for upgrading	24
for management positions	16

Source: Bureau of National Affairs Personnel Policies Forum, Equal Employment Opportunity: Programs and Results, PPF Survey No. 112, March 1976 (line 1-2, Table 9, p. 15; line 3, Table 3, p. 4; line 4, Table 1, p. 9; line 5, Table 6, p. 9; line 6, Table 5, p. 8).



Case the entire notion of voluntary affirmative action that involved inverse discrimination came under attack. The decision of the court in favor of Kaiser Steel and the Steelworkers may have drawn the bounds, however, on the changed direction of court decisions.

There is a wide variety of evidence indicating that governmental equal employment efforts have substantially improved the economic position of black workers. As Table 5 indicates, there was a marked acceleration in black economic progress post-1964, when the federal antibias effort began (Title VII of the Civil Rights Act outlawing discrimination took effect on July 1, 1965). As might be expected given pressures of affirmative action programs to place and promote minorities into higher level jobs that were previously closed to them, many of the gains were concentrated among the better educated and skilled. For the first time in American history, blacks began to obtain managerial and professional jobs in major corporations. The most rapid gains were made, it is important to recognize, by young blacks and by black women, both of whom attained rough economic parity with whites in many markets. Finally, most studies of the employment of blacks have found greater increases in employment in companies influenced by federal antibias and affirmative action pressures than in companies that are less influenced by such pressure (Burman, Ashenfelter & Heckman, Heckman and Wolpin; see Goldman and Smith for an exception).

While most would agree that at least some of the post-1964 black economic progress is due to the effect of antibias laws on company employment practices, some have cited other factors as being important as well. Welch stresses improvements in the quality of education obtained by blacks, while Butler and Heckman suggest that reduced work force participation of black relative to white workers may also have contributed to the observed changes. <sup>28/</sup>

Though apparently less affected, the position of women appears to have also improved, in some respects, by the federal laws. Some women were moved into traditionally male occupations and others benefited from special promotion

Table 5

Ratios of Nonwhite to White  
Economic Position and Annual Changes in Ratios  
1949-1964 and 1964-1976

	Year			Annual Change	
	1949/50	1964	1976	Before 1964	After 1964
<b>Males</b>					
Median wages and salaries:					
All workers:					
Full-time, year-round workers:	.50	.59	.73	0.6	1.2
Part-time workers:	.64 <sup>a</sup>	.65	.77	0.1	1.0
Median income: Professionals	.57	.69	.84	1.1	2.1
Relative number of:					
Professionals	.39	.45	.65	0.4	1.8
Managers	.22	.22	.41	0.0	1.7
<b>Females</b>					
Median wages and salaries:					
All workers:					
Full-time, year-round workers:	.40	.58	.97	1.8	3.5
Part-time workers:	.57 <sup>a</sup>	.69	.99	1.3	2.3
Relative number of:					
Professionals	.47	.60	.83	0.9	2.1
Clericals	.15	.33	.69	1.3	3.3

<sup>a</sup>1955.

Source: Incomes from U.S. Bureau of Census, *Current Population Reports, Consumer Income Series P-60*. Employment from Census of Population, 1950 and U.S. Department of Labor, *Handbook of Labor Statistics, 1977*.

policies designed to alleviate under-representation in high level jobs.

#### Computerization

In addition to EEO pressures, the personnel practices of major corporations were also greatly affected by new computer techniques in the period. For the first time companies have computerized personnel files available (some put together as a result of court cases regarding discrimination) which permit more detailed and rigorous tracking and analysis of internal labor markets. The new technology has begun and will continue to transform personnel policy into a more integral part of corporate policy making.

#### Other Market Regulations

The federal government enacted several other major pieces of legislation regulating the labor market in the period under study. Among the most important were:

(a) The Coal Mine Health and Safety Act (1969), which established dust and ventilation standards in mines and compensation for victims of black lung disease. In the years following the Act, fatality rates fell in bituminous coal, apparently, at least partially, as a result of the regulations (Connerton).

(b) The Occupational Health and Safety Act of 1970 (OSHA), which requires that places of employment be free from "recognized hazards that are causing or are likely to cause death or serious physical harm to employees" and mandates the Department of Labor to promulgate and enforce occupational health and safety standards. Despite the significant powers given to OSHA and efforts of the agency to monitor work places, it is generally agreed that OSHA failed to live up to its potential for reducing job injury and disease. There is increasing realization of the complexities involved with health and safety problems, which will not yield to simplistic strategies based on simple approaches (see Ashford, Smith, Viscusi).

(c) The Employee Retirement Income Security Act, which mandated that all retirement plans be vested after ten years, established financial stan-

dards for pensions, and which provided federal insurance for pension plans. As is often the case with governmental regulations, in addition to its planned effects on pension plans, ERISA appears to have unanticipated effects causing a number of plans by small companies to be closed down. <sup>28/</sup>

(d) Extension of Minimum Wage coverage. While the level of the minimum wage has not changed relative to average wages, the fraction of the work force covered has increased greatly, which can be expected to increase its effect. In 1947 56% of workers were covered by the minimum wage; by 1968 the fraction covered had risen to 79%.

(e) Age Discrimination in Employment Act, which outlaws discrimination against workers between the ages of 40 and 70, and the Rehabilitation Act of 1973, which outlaws discrimination against handicapped workers.

#### Spending and Taxation

In addition to direct regulations, the government has influenced the operation of the labor market through its social insurance and welfare manpower training and taxation policies. In the post-World War II period, many new programs were initiated and expenditures on existing programs increased while tax rates rose significantly.

In 1960 the United States federal expenditure on manpower programs was approximately \$250 million; in 1975 expenditures were over \$5 billion a year, more than a 20-fold increase. The legislative cornerstone of this expansion is the Comprehensive Employment and Training Act of 1973 (CETA), and its subsequent amendments, which is designed to provide training, employment, and related services for economically disadvantaged, unemployed, and under-employed persons. The major titles of CETA authorize: a nationwide program of employment and training services, including training, employment, counseling, testing, and placement administered for the most part by state and local governments; transitional public service employment and other manpower services in areas with high rates of un-

employment; nationally sponsored training and job placement programs for such special groups as youth, criminal offenders, persons of limited English-speaking ability, seasonal farmworkers, and others with particular market disadvantages; the Job Corps program of intensive education, training, and counseling for disadvantaged youth; and temporary emergency public service jobs to reduce the impact of high unemployment. For persons on welfare, the Work Incentive (WIN) Program is designed to provide comparable aid in obtaining skills and finding jobs. In 1976 there were about 2.5 million persons in CETA programs and over two million registered for WIN. While the results of studies of manpower training programs are not uniformly positive, it appears that trainees may have benefited from their experience, though the return to the investment may not be that high (Ashenfelter).

Other programs gave direct financial aid to persons unable to work or temporarily out of work. Public, social welfare expenditures broadly defined, the most important of which is Aid to Dependent Children, which provides money largely for families lacking a male head of household, increased drastically in the 1960s and 1970s, from 10% of GNP in 1960 to 19% in 1975. Other major programs include Social Security disability insurance, and workmen's compensation, which assist persons injured at work. Another set of programs seeks to provide funds for particular types of purchases. In 1976, \$5.6 billion were given in Food Stamps to help low income families with food coupons. These stamps can be used only for purchases of food. Medicare similarly provides funds for the medical expenses of older persons. Yet another, Unemployment Insurance, provides money for persons who have lost their job.<sup>29/</sup>

The effects of these various programs are two-fold. On the one hand, they clearly raise the economic well-being of persons suffering economic distress. One estimate of the net effect of the welfare programs suggests that upwards of 16 million persons have been raised above the official poverty level.<sup>30/</sup> On the other hand, the programs also reduce the incentive to work and thus reduce labor force participation.

On the taxation side, the gap between before and after tax earnings has grown steadily in the post-World War II period, as a result of increases in income, social security and other taxes. In 1949 taxes took up 23% of net national product; in 1975 taxes amounted to 33% of net national product (NNP). In 1949 the individual federal income taxes were 7.6% of NNP, while social insurance taxes accounted for 2.3%. By 1979 the income tax share was 11.5% and the social security share 7.2%. While there does not exist a set of widely accepted estimates of the effect of taxes on the quantity, quality and effort devoted to work, many believe that the increased gap between what employers pay and what workers receive in earnings has significantly affected the market. <sup>31/</sup>

#### Change (6): Structure and Composition of Wages

Once thought of as relatively inflexible, the structure of wages in the United States, by which I mean the differentials paid workers categorized in various ways, underwent significant change in the post-World War II period. Educated workers, young workers, and many highly skilled workers had slower increases in wages than less educated, older or less skilled workers in the 1970s after more rapid increases in the 1950s and 1960s. Black workers, as noted, had greater increases in earnings than white workers. While differentials may not have changed as rapidly as might be desired for optimal allocation of workers or elimination of discriminatory differences, there is no gainsaying the flexibility of relative wages in responding to the changes in the supply-demand balance.

Table 6 summarizes evidence on some of the principal changes in the wage structure in post-World War II years.

#### Education

One of the most widely heralded changes in the structure of wages has been the decline in the advantage received by college graduate men. As the table shows, from the 1950s through the 1960s, college men earned a sizeable differential over men with just high school training. In the 1970s, however, the differential eroded rapidly -- part and parcel of the declining occupational

Table 6

Changes in the Structure of Earnings in the U.S.

	<u>Ratios of Earnings</u>	
	1968	1975-1979
<u>Education</u> <sup>a</sup>		
College/high school men		
all	1.53	1.38 <sup>b</sup>
25-34	1.38	1.16 <sup>b</sup>
<u>Age</u>		
Men 25-34/men 45-54		
all	.85	.79 <sup>c</sup>
college	.72	.61 <sup>c</sup>
<u>Industry</u>		
Mining/all private	1.11	1.28 <sup>d</sup>
Construction/all private	1.53	1.32 <sup>d</sup>
<u>Specific Skills Group</u>		
R&D doctorate women/all full-time workers	2.68	2.47 <sup>c</sup>
Professors/all full-time workers	2.50 <sup>e</sup>	2.20 <sup>f</sup>

Source: R. Freeman, "Effect of Demographic Factors on Age-Earnings Profile" Journal of Human Resources, Summer 1978, Table 2.

"The Facts About the Declining Economic Value of College" Journal of Human Resources, Winter 1979, Table 1.

U.S. Department of Labor, Employment and Training Report of the President 1977, Table C-3 and Monthly Labor Review, August 1979.

a Education data for 1977 has been adjusted for change in imputation procedure in 1975.

b 1977.

c 1975.

d 1979.

e 1969-1970

f 1975-1976

position of graduates depicted in Table 3 earlier. The drop in the advantage to college workers was most pronounced among the young, with starting bachelor's graduates in several cases earning much less in real terms in the mid-1970s than comparable workers earned at the end of the 1960s. For instance, the real pay for beginning B.S. science majors dropped by 21% from 1969 to 1975 and that of social science or humanities majors by 23%.<sup>32/</sup> Since the direct costs of college rose in the period, the rate of return to college fell markedly which in turn lowered enrollment rates among young persons.

The principal cause of the decline in the relative earnings of young college graduates appears to be the enormous increase in the number of graduates in the 1970s -- the result of the high fraction of (baby boom) young persons enrolling for higher education -- rather than decreased demand for college relative to high school graduates. Viewed strictly from a human capital investment interpretation, however, an alternative explanation of the change can be developed: namely that the wages of young graduates have fallen because graduates are making greater investments in on-the-job training as a means of coping with the increased supply. This view suggests that the earnings of the workers who graduated in the 1970s will rise rapidly in the 1980s (Welch & Smith). While the long-term significance of the depressed college market of the 1970s thus will not be clear for some time,<sup>33/</sup> the changes of the period show dramatically the impact of supply and demand on relative earnings and investments in skills.

Another important change in the structure of wages has been a marked twist in age-earnings profiles. As Table 6 shows, in 1968 25-34 year old men earned 15% less than 45-54 year old men. By 1975 the differential had risen to 21%. Among college men, the ratio of 25-34 year olds earnings to those of 45-54 year olds fell from .72 in 1968 to .61 in 1975. The remarkable increase in the income advantage of older over young male workers in the period appears to be primarily due to the changed age composition of the work force noted earlier, apparently because younger and older male workers are imperfect substitutes in



production. It previously eased the inflow of the large numbers of young workers of the period into employment and enabled the market to adjust to the baby boom cohort without massive increases in youth unemployment. It may also have created, however, a lifetime "cohort earnings gap" for the entrants of the 1970s. Whether the sizeable drop in the earnings of the young in the 1970s will persist, however, remains to be seen (Welch and Smith).

#### Specific Skills Groups

Workers in certain occupational and industrial groups also experienced marked changes in earnings relative to other workers in the postwar period. In the 1960s, construction average hourly earnings zoomed, rising from 1.26 times those in manufacturing in 1947 to 1.56 times those in manufacturing in 1969, only to fall to 1.37 times those in manufacturing by 1979. Scientists, engineers, college faculty and doctorate personnel enjoyed substantial increases in income in the sixties and sluggish increases in the seventies. Workers in the oil industry had sizeable gains in the 1970s, as did those in coal.

Overall, the pattern of the 1970s was toward lower differentials between more and less skilled workers, in contrast to stable or rising differentials in the 1950s and 1960s. As in other changes in the wage structure, the prime reason appears to be shifts in the demand for those workers compared to the supply.

Finally, as noted earlier, one of the major changes in the wage structure occurred along the racial dimension. Black-white differences diminished significantly, apparently as a result of increased demand for labor spurred by governmental EEO efforts.

#### Significance

The finding that relative wages have changed in the postwar period in response to labor market conditions suggests that the price system has at the least operated in the right direction in rewarding and allocating workers among sectors. According to the post-war experience, large increases in numbers of workers in particular groups, relative to demand, produced sizeable drops in

wages relative to those of other workers, while large decreases had the opposite effect.

Composition of the Wage Bill

Table 7 documents another important change in the pattern of wage payments in the U.S.: the increased importance of fringe or supplementary benefits. By 1977 over one-third of compensation in major companies consisted of fringes, with pension plans, vacation and holiday pay, and health insurance constituting the bulk of privately agreed-upon fringes and social security, the most important component of legally-required payments.

There are several reasons for the growth of fringe benefits: the tax advantages which accrue to most fringes, increased worker desires for certain benefits as incomes rise, union pressures for fringes following rulings that fringes are valid bargaining topics (fringe benefits are a larger share of wage bills in union than in nonunion companies) and changes in social security and other laws.

While there are serious problems in international comparisons of wage bills, particularly with regard to the institutional structure of work forces. (distinction between regular and temporary workers, for example) available data suggest that the tendency for a larger share of compensation to take the form of fringes is not unique to the United States, and that the ratio of supplementary payments to earnings in the U.S. is by no means high on an international scale.

Ratios of Additional Compensation to Hourly Earnings

	1960	1978
United States	18.0	34.5
Italy	71.7	93.4
Germany	35.0	60.9
United Kingdom	26.5	29.4
Canada	15.4	24.1
Sweden	16.0	60.7
France	54.5	75.7

Source: United States Bureau of Labor Statistics, Estimated Hourly Compensation of Production Workers in Manufacturing, October 1978.

Table 7

Changes in the Composition of the Wage Bill  
In Large Companies: Fringe Benefits as a  
Percentage of Payroll Expenses

	<u>1951</u>	<u>1977</u>	<u>Change</u>
<u>Total</u>	<u>18.7</u>	<u>36.7</u>	<u>+18.0</u>
1. Legally required payments	3.5	8.5	+ 5.0
a. OAS(DH)I	1.4	5.4	+ 4.0
b. Unemployment Compensation	1.4	1.5	+ 0.1
c. Workmen's Compensation	0.6	1.5	+ 0.9
d. Railroad Retirement Tax, etc.	0.1	0.0	- 0.1
2. Pension, insurance, & other agreed-upon payments	5.4	12.7	+ 7.3
a. pension plan premiums, etc.	3.6	5.9	+ 2.3
b. life insurance premiums, etc.	1.4	5.9	+ 4.5
c. i. separation or termination pay allowances	*	**	-
allowances			
ii. salary continuation or long-term	**	0.2	-
disability			
d. dental insurance premiums	**	0.2	-
e. discounts on goods and services	0.2	0.1	- 0.1
f. employee meals	***	0.2	-
g. miscellaneous	0.2	0.2	-
3. Paid rest periods, etc.	1.9	3.5	+ 1.6
4. Payments for time not worked	6.0	9.8	+ 3.8
a. paid vacations	3.2	5.0	+ 1.8
b. holidays	2.0	3.2	+ 1.2
c. sick leave	0.6	1.2	+ 0.6
d. payments for National Guard duty, jury, death in family, other personal, etc.	0.2	0.4	+ 0.2
5. Other items	1.9	2.2	+ 0.3
a. profit sharing	0.7	1.1	+ 0.4
b. employee thrift plans	***	0.4	-
c. bonuses	1.0	0.4	- 0.6
d. employee education expenditures	***	0.1	-
e. special wage payments ordered by courts, payments to union stewards, etc.	0.2	0.2	0.0
Total as ¢/Hour	31.5	226.4	+194.9
Total as \$/Year-Employee	644.0	4692.0	+4048.0

\* < .05%

\*\* not included

\*\*\* included in 2g miscellaneous in 1951

Source: U.S. Chamber of Commerce, Employee Benefits 1951 and 1977.

The increased role of supplementary or fringe benefits has substantially changed the nature of remuneration for work and complicated the meaning to be attached to "wages". Whether workers behave differently when a sizeable proportion of their pay does not appear in the weekly pay check than when it does has not been seriously investigated, however.

Change (7): Unemployment and Wage Inflation

From the point of view of national policy two basic labor market problems plague national economics: unemployment and hourly wage inflation. In the post-World War II period under study, the level of unemployment drifted upwards, the composition of unemployment changed, and there was a significant change in the level of wage inflation and its link to unemployment and aggregate economic activity.

Level of Composition and Unemployment

The level of unemployment in the United States appears to have increased in the 1970s relative to the 1950s and 1960s. From 1950 to 1959 unemployment averaged 4.5% per year, with a range from 2.9% to 6.8%. From 1960 to 1969, the average was slightly higher at 4.8%, with a range from 3.5% to 6.7%. From 1970 to 1977, however, unemployment averaged 6.3%, with a range from 4.8% to 8.5%.<sup>34/</sup>

Analysis of the unemployment rates of separate groups of workers shows that while changes in the demographic composition of the work force have contributed to the higher rate, the upward drift in the 1970s is not primarily the result of changing mix of workers but is, instead, a phenomenon found among virtually all groups of workers, though it is more pronounced among some than among others. While part of the upward drift in unemployment rates may be attributable to changes in unemployment insurance, which leads some workers to remain on unemployment compensation for large periods of time due to the receipt of funds while out of work, most analysts would attribute the higher rates of unemployment to the state of the aggregate economy -- in particular, the level of demand for labor (itself affected by changes in oil and other natural resource prices) and to

governmental macroeconomic policy. Most other major countries have also experienced an increase in unemployment rates in the 1970s, pointing to world market conditions as an underlying cause of the problem.

The incidence of unemployment in the U.S. has also changed significantly, with young workers in general and black teenagers, in particular having higher rates of unemployment relative to other workers than in the past, exacerbating the concentration of and inequality in unemployment. On the other end of the spectrum, white-collar workers and more highly educated workers have also had higher rates of unemployment relative to others than in the past.

The changing patterns of unemployment rates over time is examined in figure 4 in terms of the rates of unemployment for selected groups of workers and the rates predicted by regression of those rates on those of other workers. When the deviation between actual and predicted rates rises over time, the rate of the specified group worsens relative to the other group, and conversely, if the deviations decline over time.

The figure shows:

- a moderate increase in the unemployment rate of 16 to 19 year old white young persons at given levels of total unemployment in the 1960s but not in the 1970s.
- a more surprising and less noticed increase in the unemployment of 25 to 34 year old white men relative to older workers, possibly attributable to demographic forces;
- a marked increase in the unemployment rate of black teenagers relative to the total unemployment rate. The causes of the extraordinary deterioration in the employment position of these youth has yet to be satisfactorily explained. Whatever the causes, however, few would disagree with the proposition that the deteriorated employment of non-white youth constitutes one of the major socio-economic problems of the period.

Figure 4

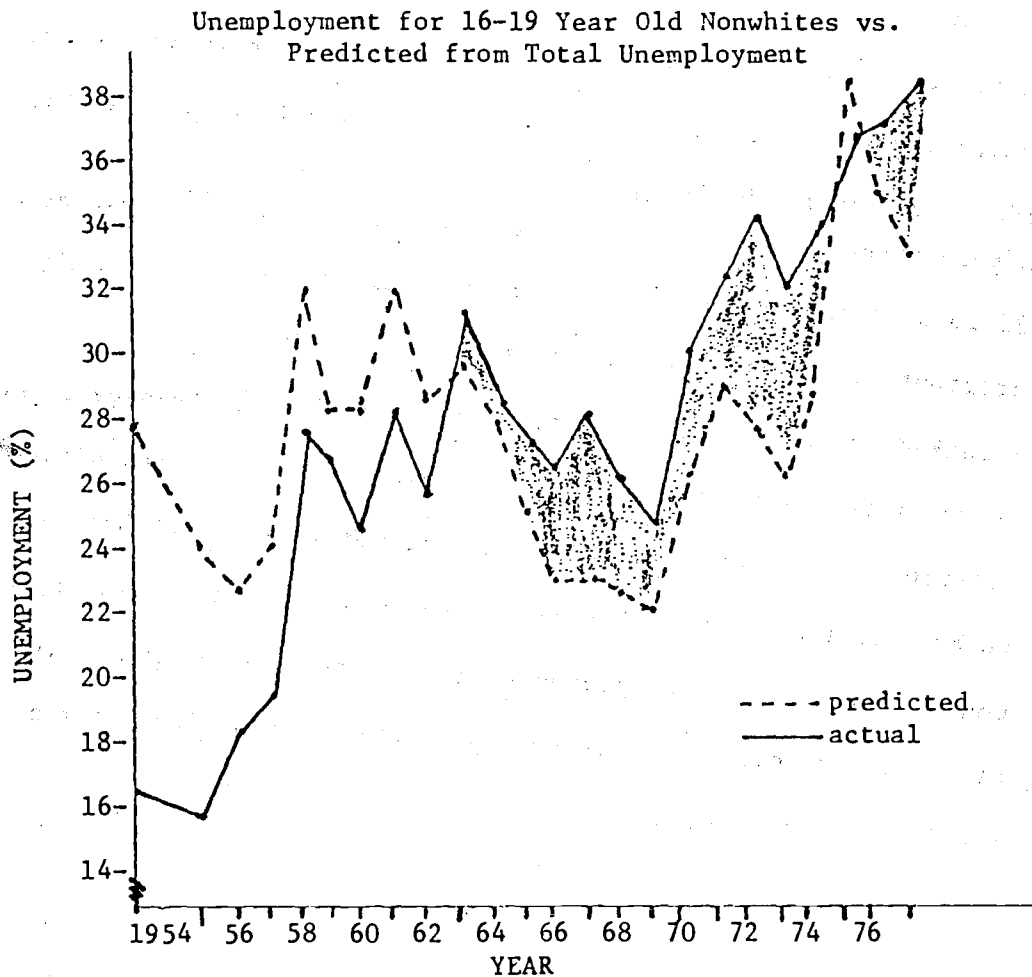
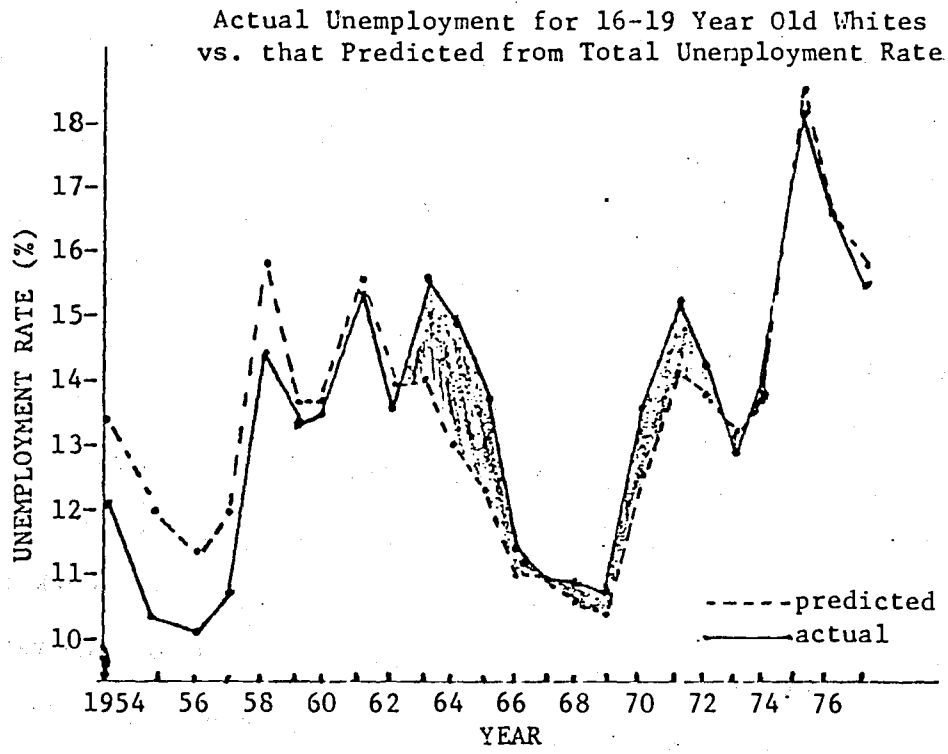


Figure 4

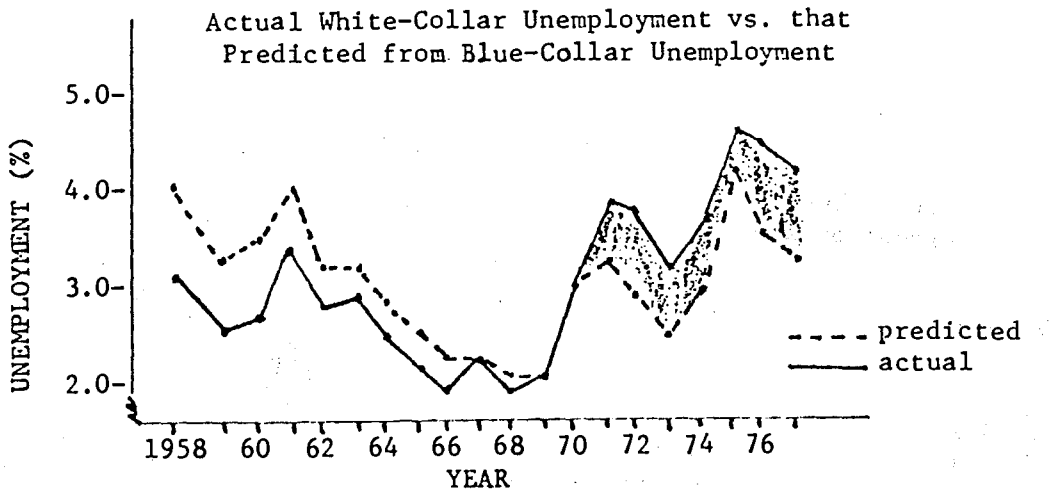
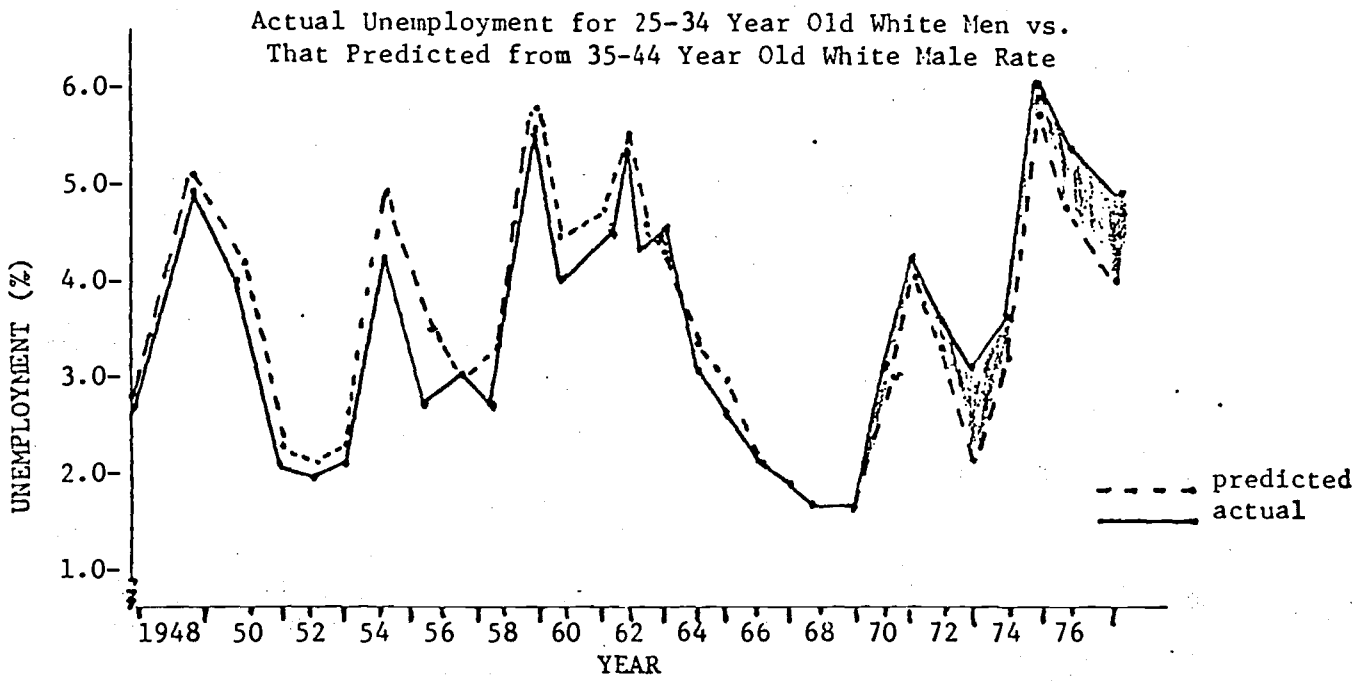
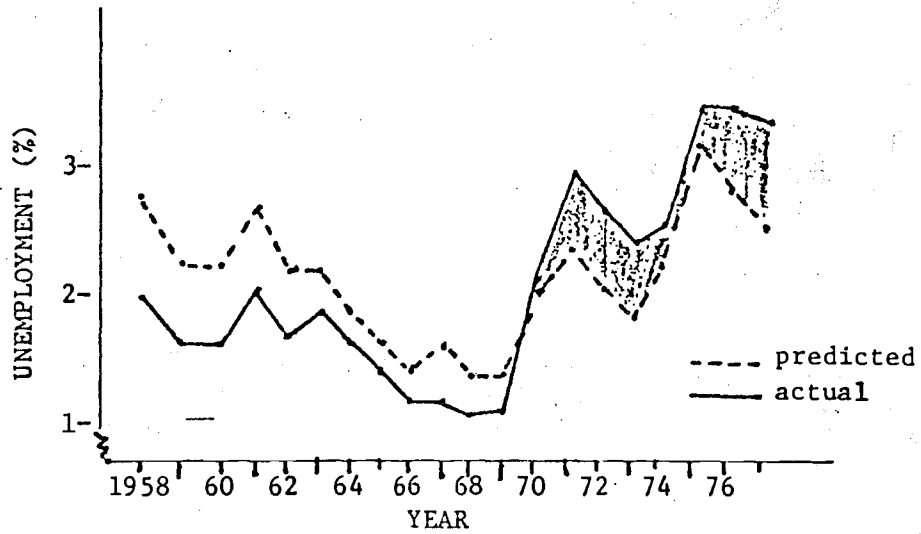
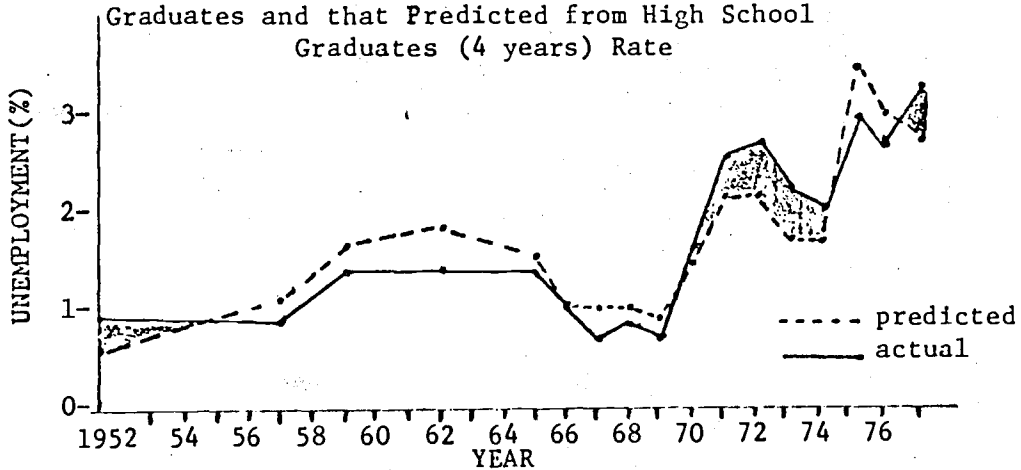


Figure 4

Actual Unemployment of Professional, Technical, & Kindred Workers vs. that Predicted from Blue-Collar Unemployment



Actual Unemployment of College (4 or more years) Graduates and that Predicted from High School Graduates (4 years) Rate





- an increase in the unemployment rate of white-collar workers, relative to blue-collar workers.
- an increase in the unemployment rate of professional and college trained workers relative to the less skilled and educated workers, yet another indicator of the turnaround in the college job market discussed earlier.

As a result of the changed pattern of unemployment rates and changes in the composition of the work force, the unemployed worker of the late 1970s had very different characteristics than the unemployed worker in earlier years. The unemployed worker of the late 1970s was more likely to be young, black, and also highly educated and skilled than in the past.

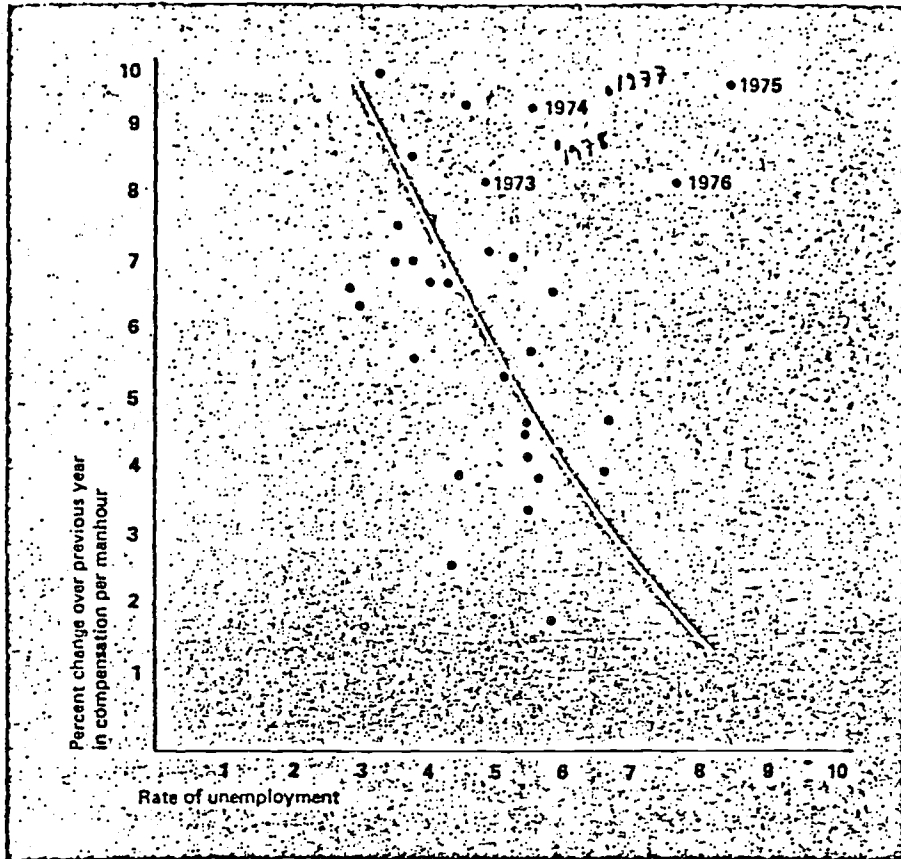
The changing composition of unemployment suggests the need for different policies to aid the jobless than in the past. Young unemployed workers, particularly minority youth in inner cities, have a greater need for job training and related skill acquisition than the unemployed experienced heads of households of previous periods. Unemployed professional, managerial, and other white-collar or college educated workers also represent a new problem, for which existing policies may be inadequate.

#### Wage Inflation

Concordant with the upward drift in unemployment over the period has been an increase in the average rate of wage inflation, creating a substantial policy problem. From 1950 to 1959, hourly compensation of all persons in private businesses increased by 5.1% per annum; from 1960 to 1969, hourly compensation of all persons in private business increased by 4.9% per annum; from 1970 to 1977, the rate of increase was 7.1%. As figure 5 shows, the increase in wage inflation in the 1970s despite increased unemployment appears to have significantly raised the Phillips curve relation which once guided thinking on the unemployment-inflation problem. Whereas in the 1950s and the 1960s a level of unemployment

Figure 5:

The Relation of Unemployment to Changes in Money Wages  
in the United States, 1948-1979



Source: U.S. Department of Labor, Employment and Training Report of the President, 1978, Table G-2, A-19.

of 6.0% to 7.0% was associated with wage inflation of 4.0% to 5.0%, in the 1970s it was associated with wage increases nearly twice as high. While it is not universally agreed that the experience of the 1970s proves that there is no long-term stable tradeoff between unemployment and hourly wage inflation, there is no doubt that whatever relation exists is quite unstable and an inadequate guide to policy.

More detailed analyses of the cyclical behavior of wages have shown a further change in the responsiveness of wage to unemployment and aggregate cyclical conditions in the period under study: a sizeable decline in the reduction in the rate of wage inflation associated with a given shortfall in aggregate activity. According to one set of estimates, the effect of unemployment on the rate of change in wages has become significantly lower in the postwar period than in the earlier part of the 20th century (Sachs). One important reason for the declining cyclical sensitivity of wages is the spread of long-term collective bargaining contracts. At the outset of the postwar period most contracts covered a one year period. By the 1970s, most major industrial agreements were written for a three year period. Wages set over a three year period are likely to be unresponsive to unemployment or other measures of market conditions except in the year the contract is signed. Other factors, such as effective macroeconomic policy, have also been cited as potential causes of the decreased cyclical responsiveness of wages (Sachs).

The upward shift and reduced slope of the unemployment-wage change schedule make aggregate economic policy more difficult, which directs attention to a more disaggregated and sectoral approach to both unemployment and wage inflation problems.

Conclusion

"Each generation believes itself on the verge of a new economic era, an era of fundamental change" (NBER, Recent Economic Changes in the United States, 1929, p. ix).

In three decades examined in this study, seven major changes have taken place in the American labor market, significantly altering the wages, employment, and institutions at the work place. First, the rate of growth of real wages and productivity declined sharply. While some of the decline is attributable to sectoral shifts in employment, the changing age-sex composition of the work force, changes in capital-labor ratios, increased regulation, changes in energy prices, and reduced R & D effect, for the most part the retardation in growth is a story of changes in the famous "residual", about which, by definition, we know little.

Second, there have been sizeable demographic changes in the composition of employment: more women workers, more young workers, more educated workers, and fewer older male workers. In part these changes can be explained by changes in labor market incentives, but at least some remain a puzzle.

Third, the composition of employment has changed substantially, with the number of workers in white-collar and skilled jobs, in the South and Southwest, and in local and state government employment rising while the number in blue-collar and lower skilled jobs has declined. One noticeable pattern has been that employment in skilled areas has fallen short of the growth of the supply of educated labor, with a resultant drop in the quality of jobs held by the educated. Another is for employment changes to vary more across sectors than wage changes.

Fourth, the trade union share of the work force has diminished substantially, with a sharp drop in the proportion unionized in the private sector overpowering a rise in the proportion organized in the public sector. Changes in the age-sex-skill mix of the work force explain perhaps 60% of the decline

in private sector organization, but increased managerial opposition and effectiveness in contesting NLRB elections is also important in accounting for the diminished number of private sector unionism. Growth of public sector organization appears to be closely linked to changes in public sector labor relations laws.

Fifth, governmental regulation of the labor market and of the internal operation of management and labor has been greatly expanded. Equal employment legislation and affirmative action requirements have changed the personnel function. A wide variety of acts, like Occupation Health and Safety or the Employee Retirement Insurance Security Act, have changed the "rules" of labor market behavior, in some cases with sizeable effects on basic economic factors.

Sixth, the structure of earnings has been significantly altered by shifts in the demand/supply balance. In the period studied, college graduates, particularly the young and those in the educational sector, young male workers, and those in several highly skilled occupations have suffered declines in relative earnings. Black workers have significantly gained compared to white workers. Fringe benefits increased in importance in the wage package.

Seventh, the composition of unemployment and its relation to wage inflation has also undergone major change. Young black workers and highly educated men have come to bear a greater share of unemployment. The rate of inflation consistent with particular levels of unemployment has increased rapidly.

#### Comparisons With 1929 NBER Conference

The changes delineated in this paper can be fruitfully compared to those examined half a century earlier at the 1929 NBER Conference on Recent Economic Changes, in which Leo Wolman wrote a section on labor.

Which of the seven changes are similar to those cited in the earlier volume? To what extent do our changes represent continuation of long-term developments and to what extent do they significantly diverge from historical

changes?

Answers to these questions should provide perspective on the nature of changes in the post-World War II period.

Four of our changes, while different in some cases in direction, have definite parallels with those in the earlier period.

In 1929, as in 1979, the changing demographic structure of the work force, due to declining birth rates and immigration was of some concern. In 1929, however, the increased participation of women was not given serious attention.

Similarly, in 1929, as in 1979, patterns of change in the composition of employment -- increases in white-collar and skilled jobs, declines in farming -- received attention. While the 1970s may be relatively unique in that growth of employment in skilled areas has fallen short of the growth of educated labor there is nothing surprising in the existence of significant shifts in employment among sectors.

Sizeable changes in the wage structure were also observed in the 1929 volume. Though the direction and nature of changes differed fundamentally between the periods, changes in relative wages appear to be a hallmark of the United States' labor market.

Decline in unionization in the 1920s parallels to some extent the decline in the post-World War II period, though here more fundamental differences also arise. In the 1920s, the total number of union members, as well as the union share of the work force fell, whereas in the post-World War II period, union membership rose, while the proportion of workers covered fell. Moreover, there was nothing in the 1920s comparable to the spurt in public sector organization in the later period. Still, in the period covered by this essay and in the earlier period, declines in unionization were a major development.

Three of our seven changes, by contrast, seem to differ greatly from those stressed in the 1929 volume.

First is the increased governmental regulation of the labor market and

of the internal operations of management and labor. Governmental intervention in the market following World War I seems to have been sufficiently modest as to draw virtually no attention from analysts. Peace time growth of governmental regulation in the recent decades appears to be a relatively unique development.

Second is the 1970s concern over the growth of real wages and productivity, which has no parallel in the earlier period of time. In the 1929 conference, continued rapid advance of the economy was assured by all: "The spread of higher living standards [is] not new, but in its degree and scope it has taken on new importance" (NBER, P. xi). The loss of confidence in growth, due to the sluggish performance in the 1970s, is a strikingly new development.

Third is the drift upwards in both unemployment and rates of wage inflation, which constitutes the aggregate economic problem of the 1970s. By contrast, in 1929, there was little concern with overall levels of unemployment (which were viewed as satisfactory) or with inflation, due to an "increasing tendency" toward price stability.

Finally, it is important to remember that all of the labor market changes stressed in the 1929 conference were, of course, completely overshadowed by the change about to occur -- the Great Depression, the development of which no analyst managed to foresee. Hopefully, the changes examined in this paper will not be overshadowed by forces escaping current attention that will yield a new economic disaster.

Footnotes

1/ See J. Mark "Productivity Trends and Prospects" in C. Kerr & J. Rosow Work in America: The Decade Ahead (Van Nostrand Reinhold, 1979).

2/ This can be seen by examining the earnings by industry data in U.S. Bureau of Labor Statistics Handbook of Labor Statistics 1978, Table 92, p. 313. In coal the rate of increase in real earnings rose from 1.6% (1950-1969) to 1.8% (1969-1977), using the C.P.I. Deflater.

3/ Regression of the log of output per manhour (O) on unemployment (U), trend (T) and trend post-1970 (T70) yielded:

$$O = 3.97 + .033T - .010U - .012T70 \quad R^2 = .995$$

(.001) (.003) (.002)

Regression of the log of real compensation per manhour (C) on the same variables yielded:

$$C = 3.97 + .031T - .019T70 + .000U \quad R^2 = .998$$

(.0004)(.001) (.002)

An alternative way of showing the changed trend in productivity growth and real wages is to assume that the y follow a random with a drift and regressed changes ( $\Delta$ ) in the variables. (Suggested by Orley Ashenfelter). The results of this calculation are given below:

$$\Delta O = -.005 - .005T70 + .008U - .007\Delta U \quad R^2 = .366$$

(.001) (.003) (.003)

$$\Delta C = .02 - .003T70 + .002U - .004\Delta U \quad R^2 = .270$$

(.001) (.003) (.002)

4/ The Bureau of Labor Statistics data are contained in U.S. Department of Labor, Bureau of Labor Statistics, Office of Productivity and Technology, "Estimated Hourly Compensation of Workers in Manufacturing; Ten Countries, 1960, 1965-1978", (October 1978).

If one correlates the rate of growth of real wage for 1967 to 1977 with the level of real wages in 1967 in that document, one does find a negative



Spearman rank correlation of  $-0.55$ , indicating that there is a pattern for slower growth in higher wage countries. However, less than 25% of the country variation in real wage growth can be explained by variation in initial levels.

5/ Thus the United States lags more in real wage growth than in productivity growth.

6/ U.S. Bureau of Labor Statistics, Handbook of Labor Statistics 1978, all figures except for illegal alien which is a rough estimate from M. Piore.

7/ U.S. Bureau of Labor Statistics, Handbook of Labor Statistics 1978, p. 34.

8/ Estimated by multiplying the percentage of all households composed of husband-wife families by the percentage of those families with husbands in the labor force and wives not. A comparable figure for 1955 was 46%. See U.S. Bureau of Labor Statistics Handbook of Labor Statistics 1978, Table 27 and U.S. Department of Commerce Statistical Abstract 1976, Table 50.

9/ U.S. Bureau of Labor Statistics Handbook of Labor Statistics 1978, p. 12.

10/ See U.S. Bureau of Labor Statistics, Educational Attainment of Workers, March 1977.

11/ Data from U.S. Bureau of Labor Statistics Handbook of Labor Statistics 1978, Table 15.

12/ See R. Freeman The Overeducated American (Academic Press, 1976) for these and related data.

13/ See, for example, O. Ashenfelter and J. Heckman, "The Estimation of Income and Substitution Effects in a Model of Family Labor Supply", Econometrics 42 (January 1974): pp. 73-86.

For a review of the time series literature see J. Mincer, "Labor Force Participation of Married Women", in Prosperity and Unemployment, edited by R. Gordon (New York: Wiley, 1966).

14/

Fields, J. "A comparison of Intercity Differences in the Labor Force Participation Rates of Married Women in 1970 with 1940, 1950, and 1960", Journal of Human Resources, Fall, 1976, p. 576.

15/

1975 estimated by dividing current (1975) dollars of consumer durables of \$497 billion as reported in the U.S. Bureau of Census, Statistical Abstract 1976, p. 428, Table 695, by 71.1 million households (ibid., p. xiii) with 1952 data for trend from U.S. Bureau of Census, Historical Statistics of the U.S., Colonial Times to 1970, Part 1, p. 252, series F-373, and Historical Statistics of the U.S., Colonial Times to 1957, p. 15, series A242. The 1952 value was \$2,079 (in 1958 dollars).

16/

These data taken from Freeman (1976), p. 168, figure 29.

17/

This is based on an index of job satisfaction rather than a single measure. See R.P. Quinn & G.L. Staines, The 1977 Quality of Employment Survey, p. 306, Table 18.5.

18/

U.S. Bureau of Labor Statistics, Handbook of Labor Statistics 1978, Table 42, p. 134; Table 34.

19/

U.S. Bureau of Labor Statistics, Employment and Earnings, U.S. 1909-1975, p. 4 and p. 313, and Employment and Earnings, January 1979, p. 75 for coal mining, March 1973, p. 64 for aircraft and parts.

20/

The data for three digit Census occupations are from R. Freeman, "An Empirical Analysis of the Fixed Coefficient 'Manpower Requirements' Model, 1960-1970", Journal of Human Resources (1980b). The other data calculated from U.S. Bureau of Labor Statistics, Handbook of Labor Statistics 1978, Table 45 and Table 95.

- 21/ Calculated from data in U.S. Bureau of Labor Statistics, Handbook of Labor Statistics 1978, Table 81.
- 22/ Data from 1977: numbers in elections won by unions from National Labor Relations Board 42nd Annual Report, p. 294. Numbers of nonagricultural workers from U.S. Bureau of Labor Statistics, Handbook of Labor Statistics 1978, Table 42.
- Earlier years: R. Freeman and J. Medoff "The Dwindling of Private Sector Unionism in the U.S." (in process).
- 23/ This estimate is obtained by calculating the unionization rate one would expect in one year given the fractions organized of various demographic groups in another year.
- 24/ U.S. Bureau of Labor Statistics, Handbook of Labor Statistics 1978, Table 157, Table 147, 42.
- 25/ See Freeman and Medoff "The Dwindling of Private Sector Unionism in the U.S." and National Labor Relations Board, 42nd Annual Report, Table 2, p. 269.
- 26/ U.S. Supreme Court decision in Fibreboard Case.
- 27/ Bok and Dunlop among others, have argued that the duty to bargain has little impact. For a contrary view see Ross.
- 28/ For a survey of the literature see R. Freeman "Black Economic Progress Post-1964, Who Has Gained and Why?". The Butler & Heckman survey is unfortunately marred by use of incorrect data, which leads to an underestimate of the effect of post-1964 governmental policy.
- 29/ Social insurance statistics taken from U.S. Bureau of the Census, Statistical Abstract 1976, line 459, p. xvii; line 630, p. xix.

- 30/ Calculated from data in M. Paglin "Transfer in Kind: The Impact on Poverty, 1959-1975", Hoover Institution Conference on Income Redistribution, October 1977.
- 31/ Calculated from data in Tax Foundation, Facts and Figures on Government Finances, 1977, Tables 15, 21, and 82.
- 32/ See R. Freeman, The Overeducated American for this and other related evidence on the falling value of college.
- 33/ According to some analysts, the college job market will improve for new graduates in the 1980s when the supply of new degree recipients falls.
- 34/ Calculated from data in U.S. Bureau of Labor Statistics, Handbook of Labor Statistics 1978, Table A-1.

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