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ANALYSIS OF THE DYNAMICS OF THE JOB CREATION PROCESS IN THE UNITED STATES AND AN EVALUATION OF MEDIUM AND LONG TERM PROSPECTS

VOLUME III: FACTOR PRICES, EMPLOYMENT, AND INEQUALITY IN A DECENTRALIZED LABOUR MARKET

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ANALYSIS OF THE DYNAMICS OF THE JOB CREATION PROCESS IN THE UNITED STATES AND AN EVALUATION OF MEDIUM AND LONG TERM PROSPECTS

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Volume III: "Factor prices, employment, and inequality in a decentralized labour market"

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Abstract

This paper reviews evidence on two quite different views of the economic effects of the U.S decentralized labor market on employment and wages: (1) the view that the decentralized market produces wage flexibility which in turn is job-creating; (2) the view that decentralization increased income inequality in the 1980s.

It finds that some aspects of decentralized wage flexibility, notably changes in wages by age, have been employment-enhancing while others, changes in wages by industry, union status, employer size category, have probably been "non-competitive" and thus not helped U.S. employment. It also finds evidence of rising inequality in various aspects of economic well-being in the U.S, some of which are potentially attributable to labor market factors.

Factor Prices, Employment, and Inequality in a Decentralized Labor Market

If there is one characteristic of the U.S. labor market that distinguishes it from the markets of most other developed countries, it is the decentralized nature of wage determination. In the U.S., economy-wide union and employer federations do not dominate the industrial relations scene, as is the case in Scandinavia; national wage patterns are not set by a "shunto" offensive, as in Japan; wages are not affected by the minimum wage and governmental extension of collective agreements, as in France; arbitration tribunals play no part in wage setting, as in Australia; and the national government only rarely intervenes in the market for purposes of influencing wage settlements. Even in the sector where wages are set by collective bargaining (a rapidly declining segment of the market) local rather than national bargaining is the hallmark of the American scene.

There are two basic views about the performance of the decentralized U.S. labor market over the past fifteen or so years. On the one hand, there are those who extol the U.S. system as performing well in creating employment because the decentralized labor market has produced flexible wages relative to other factor prices and significant changes in wages across categories of labor. The U.S. experience has led many European analysts in particular to focus attention "on labour market flexibility as one explanation of the long-standing disparities in employment performance between the main regions in the OECD area"[1] and to suggest various policies to "free up" the labor market in Europe along American lines. The other view, expressed by critical-minded Americans, is that the decentralized market has performed poorly for sizeable numbers of workers, permitting continued long-term unemployment, declining real wages and low productivity growth, and increased income inequality. Changes in the income and job structure have led some to claim that the U.S. is "deindustrializing," creating low-quality service sector jobs at the expense of traditional manufacturing, which, in conjunction with rising income inequality, threatens to erode the middle class.[2]

What does extant evidence say about these two views of the labor market? Has the decentralized U.S. system determined wages in ways that helps create employment or in ways that create greater inequality? Has the American labor market done a good job in adjusting to changing supply, demand, and technology? To what extent is the sizeable growth of employment in the U.S. (22 million additional employed workers from 1973 to 1985) attributable to the operation of a decentralized market? Has decentralized wage-setting increased inequality and created poorer quality jobs?

This paper examines these questions with evidence from readily available data sources and studies on the performance of the U.S. labor market. It seeks to assess the two views just described and to determine where each is right, and where each is wrong.

Section one describes the basic patterns of changes in wages and labor costs in the U.S. It compares labor costs to other factor prices and analyses structures of wages across sectors and demographic groups. Section II evaluates the potential contribution of the observed wage changes to employment and unemployment. It develops the concepts of "competitive wage flexibility" and "non-competitive wage flexibility" to guide these analyses. The main finding is that some aspects of flexible wages in the U.S. have contributed to expanding employment while others have not. Section III evaluates the controversial claims that U.S. labor market flexibility is producing inequality, deindustrialization, and deteriorating job structure with dire potential consequences for the stability of the middle class. The paper concludes with a summary of findings.

Section I: Wages and Labor Costs in the U.S.

How have labor compensation and costs changed in the U.S. in the past 15 years in the aggregate and across sectors and demographic groups? To what extent do the changes differ from those in other developed countries?

In this section I examine these fundamental questions with wage and earnings data from national establishment surveys, the Current Population Survey, and some more limited data sets. I consider first changes in wages in the aggregate, then turn to changes in the structure of wages across sectoral and demographic groups.

1.1 Aggregate Changes

Possibly the most important fact about the pattern of change in U.S. labor compensation in the past fifteen years has been the near constancy in real earnings over the period-- a relatively unique development in the history of the country. Table 1.1 documents this fact using several different compensation series based on surveys of both employers (lines 1-2) and individuals (lines 3-4) and three deflators, the Consumer Price Index, the Wholesale Price Index, and the implicit GNP deflator. There are three striking findings in the table.

First, while the pattern of change in real wages differs moderately depending on the wage series, the deflator and the time period covered, in every case real wages grow at much less than the 2½-3% per annum rate that has characterized the past.[3]

Second, and less widely recognized, is the striking divergence between the deflators from 1973 to 1980 and 1980 to 1985. In part because of the way in which the CPI treated interest on mortgages prior to 1983 the CPI increases more rapidly than the WPI deflator in the 1980s so that CPI-deflated wages show a much slower growth of real wages than WPI-deflated wages. Indeed, the WPI-deflated series show sizeable real wage increases in the 1980-85 period, of a magnitude close to longterm historical rates. As for the implicit GNP-deflator real wage series, it shows yet a different pattern, as the GNP deflator falls relative to the CPI from 1973 to 1980 and remains steady thereafter. Because of the different patterns of change in the real wage series, which series one chooses is important in evaluating the contribution of wage changes to employment changes. In particular, if the WPI is taken as the best indicator of the prices relevant to employment decisions, one cannot attribute 1980-85 growth of employment to stable or declining real wages in the U.S., as is commonly done, because the WPI-deflated series shows <u>increases</u> in that period.

Third, there are differences between the wage series based on source of information and definition. The largest increases in wages are for real compensation per hour, which includes fringes and social security; the next largest is for hourly earnings; both reported by employers; the two series reported by individuals show the smallest increases (greatest decreases).

The near-constancy in real wages in the U.S. can be contrasted to the pattern of real wage growth in other OECD countries (see figure 1.1 which treats manufacturing) which has led some to suggest that in the aggregate the U.S. has been more flexible in real wage setting in the face of sluggish economic conditions than other major industrial countries. While this is a reasonable interpretation of the evidence on the entire period, some analyses of real wages over shorter periods do not show much responsiveness to economic conditions. In an analysis of quarterly and of annual real wages in the U.S., Ashenfelter, and Ashenfelter & Card, among others, show that holding fixed for differential trends over longer periods, real wages moved randomly, suggesting little if any flexibility with respect to conditions in the short run. In addition, comparisons of changes in wages to changes in shipment by Medoff and Fay show that sizeable changes in shipments in U.S. industry have had only modest effects on wages. An evaluation of aggregate wage flexibility requires that one contrast the

Table 1.1 Indexes of Real Wages in the U.S., 1970-1985, (1977=100)

	1970	1973	1980	1985	%Δ 1973-85	%Δ 1980-85
1.Index of Adjusted Hourly Earnings, Private Nonagricultural, deflated by:						
Consumer Price Index(CPI):	95.7	101.1	93.5	94.3	-6.4	0.9
Wholesale Price Index(WPI):	100.8	105.1	93.5	103.4	-1.7	10.6
Implicit GNP Deflator(IGNP)	98.4	100.7	99.9	100.9	0.2	1.0
2.Index of Real Compensation Per Hour Business Sector[a], deflated by:						
(CPI):	90.1	96.7	96.7	98.3	1.7	1.7
(WPI):	94.9	100.5	96.7	107.8	7.3	11.5
(IGNP):	92.6	96.3	103.3	105.1	9.1	2.8
3.Index of Annual Income, Full-Time Year Round Male Workers, deflated by:						
(CPI):	95.1	103.8	93.6	92.9	-10.5	-0.3
(WPI):	100.2	107.9	93.6	99.3	-8.0	6.1
(IGNP):	97.7	103.4	100.0	99.4	-3.9	-0.6
4.Index of Usual Weekly Earnings Full-time Wage and Salary Workers, deflated by:						
(CPI):	95.7	101.7	92.3	92.3[b]	-9.2	0.0
(WPI):	100.8	105.7	92.3	101.2	-4.3	9.6
(IGNP):	98.4	101.3	98.6	98.7	-2.6	0.1
5.Index of WPI to CPI	94.9	96.2	100.0	91.2	-5.2	-8.8
6.Index of GNP deflator to CPI	97.3	100.4	93.6	93.5	-6.9	-0.1

a Includes Contributions for Social Security and Private Pensions

b 1986, quarter 1

Source: Economic Report of the President, February 1986, table B-43
U.S. Bureau of Labor Statistics, Employment and Earnings, various editions.
Handbook of Labor Statistics, December 1980; December 1983.
U.S. Bureau of the Commerce, Consumer Population Reports, Series P-60.

performance of wages(other prices) over different time periods in conjunction with the aggregate shocks to which the market is subject, not in isolation.

1.2 Nominal Wages

In table 1.2 I turn to the pattern of change in nominal labor costs as measured by the private sector "employment cost index" of the Bureau of Labor Statistics for union and nonunion workers. The table reveals two aspects of "flexible wages" in the U.S. First, it shows that union wages, after outdistancing nonunion wages in the 1970s, have experienced a significant relative decline in their rate of growth in the 1980s, presumably part-and parcel of the widely heralded concession movement. During the 1970s union wage contracts, many with COLA clauses, tended to maintain or raise real wages while nonunion wages fell in real terms. In the 1980s, the union advantage has been declining to more traditional levels. Second, and of greater import to the aggregate economy, is the remarkably sizeable deceleration in both sectors in the '80s, which has revived interest in "Phillips-Curve" type relations, which make nominal wage changes a function of unemployment or other measures of the labor market as well as of the rate of change of prices.

1.3 Fringe Benefits

Labor compensation in the U.S. consists of three distinct components: wages and salaries; privately determined fringes; and publicly determined fringes, including social security payroll taxes. For years the fringe costs, both privately determined and publicly determined, have risen more rapidly than have wages. Table 1.3 examines how fringe benefits have changed in the period under study. While three of the four fringe benefit measures presented in the table show a rising share of fringes through 1984, the Chamber of Commerce series, which deals with the nation's large leading companies, shows for the first time a decline in the share, suggesting that perhaps the rapid increase in the fringe ratio in the U.S. will be levelling off in the future. Certainly, both management and labor negotiators are aware of and are seeking to reduce the growth of fringes. Finally, line 4 of the table shows moderate increases in the payroll tax from 1970 to 1983. In 1983 employee-employer payroll taxes accounted for 13.4% of payrolls in the U.S., up from 9.6% in 1970.

How does the U.S. compare to Europe in fringe shares of compensation? Table 1.4 contrasts the U.S. structure of compensation with that in Europe. It shows that the fringe share of compensation in the U.S. (and Canada and the UK) has historically been lower compared to fringe shares in Europe.

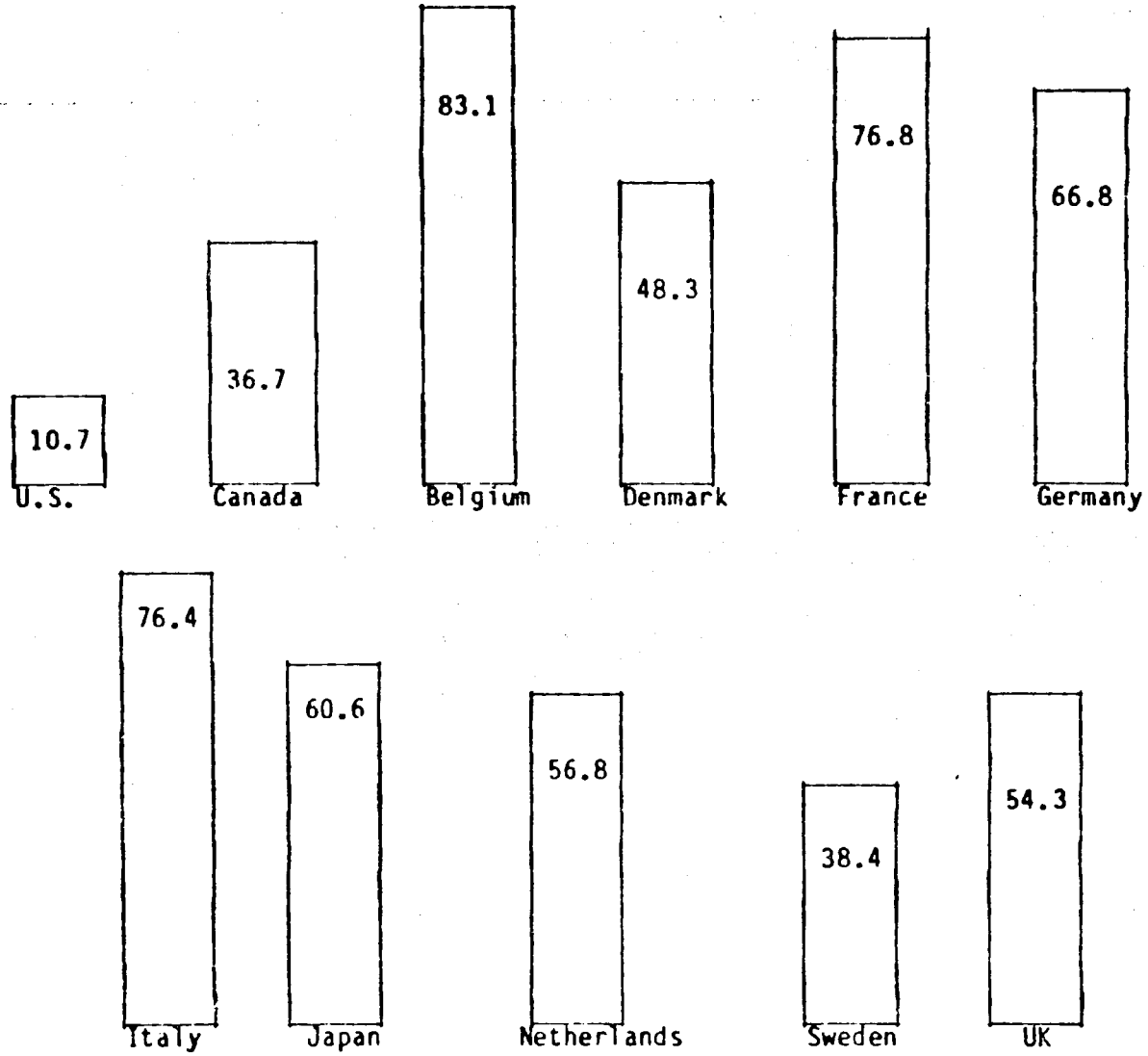
1.4 Relative Factor Prices

For the purposes of understanding employment, wages must be examined relative to the prices of other inputs. After all, firms choose technologies, and make employment, capital, and material wage decisions on the basis of relative factor prices.

Table 1.5 presents several indicators of the change in employment cost relative to the costs of their inputs. If labor costs fell relative to capital costs or to material costs, one would presumably expect some of the employment increase in the U.S. to be due to the aggregate "flexibility" of wages compared to other factor costs. In fact, the table shows that from 1975 to 1985 labor costs rose less rapidly than did materials costs but more rapidly than the cost of finished capital equipment.

How does the U.S. experience compare to that of other OECD countries? Figure 1.2 gives the results of a recent OECD analysis. In the OECD calculations, with 1973 as the base year, the U.S. and Canada are found to have declining relative price of labor compared to Europe. Note, however, that if one takes

Figure 1.1: **Changes in Real Hourly Compensation U.S. vs. Europe: Manufacturing, 1970-83**



Source: Statistical Abstract of the United States, 1985, p.853.

Note: Real hourly compensation excludes employer payroll costs not paid to workers.

Table 1.2: Annual Percentage Change in Employment Cost Index by Union Status

	Union	Nonunion
1973[a]	5.7	5.5
1974[a]	7.5	8.0
1975[a]	8.6	6.0
1976	8.1	6.8
1977	7.6	6.6
1978	8.0	7.6
1979	9.0	8.5
1980	10.9	8.0
1981	9.6	8.0
1982	6.5	6.1
1983	4.6	5.2
1984	3.4	4.5
1985	3.6	5.1

Source: Bureau of Labor Statistics, Current Wage Developments, various issues, for Employment Cost Index and Collective Bargaining Settlements data.

Bureau of Labor Statistics, Handbook of Labor Statistics, 1980 bulletin 2070, table 130 for Production Workers in Manufacturing Affected by Wage Decisions.

a estimated from changes in major contract settlements.

Table 1.3: "Fringe Benefit" Costs as a Share of Compensation in the U.S., 1970-85

	1970	1975	1980	1984
1.National Income and Product Accounts supplements/compensation				
all industry	10.3	13.4	15.2	16.9
Private manufacturing	12.6	16.4	18.6	20.2
2.BLS, estimated "additional compensation"/ in manufacturing	-	24.	26.	27.
3.Chamber of Commerce				
Survey of Large Firms, all fringes		35.4	37.1	36.6
government required fringes		8.0	8.9	9.6
4. Covered Employer-Employee Payroll Tax	9.6	11.7	12.3	(1983) 13.4

Source: line 1 U.S. Department of Commerce, National Income and Product Accounts.

line 2 U.S. Department of Labor

line 3 U.S. Chamber of Commerce, 1984 Employee Benefits.

line 4 Tax Foundation, Facts and Figures on Government Finance.

Table 1.4: **Structure of compensation for production workers in manufacturing, selected countries and years, 1965–79**

[Total compensation = 100]

Country and year	Pay for time worked [1]	Other direct payments to workers [2]				Employer social welfare expenditures			Total compensation	Total compensation plus taxes [7]
		Pay for leave time [3]	Bonuses [4]	Pay in kind [5]	Total	Legally required insurance	Private benefit plans [6]	Total		
United States										
1966	82.4	5.6	.8	(8)	6.2	5.5	5.8	11.4	100.0	—
1972	79.0	6.2	.5	(8)	6.6	6.2	8.2	14.4	100.0	—
1977	74.8	6.9	0.4	(8)	7.3	7.4	10.4	17.8	100.0	—
Canada										
1968	84.1	7.0	.3	[9].5	[9]7.7	3.0	5.2	8.2	100.0	—
1971	83.1	[10]7.7	.2	[9]0.6	[9]8.5	[11]3.8	4.6	8.4	100.0	—
1978	78.1	8.9	([12])	([12])	[9]11.7	4.2	[12]6.1	10.2	100.0	—
Japan [13]										
1965	64.6	3.2	18.2	4.2	25.6	4.8	4.9	9.8	100.0	—
1971	61.2	3.2	21.3	4.1	28.6	5.2	5.0	10.1	100.0	—
1978	56.7	4.7	20.3	4.0	29.1	6.9	7.4	14.3	100.0	—
Belgium [14]										
1966	67.1	[10]9.9	[11]2.5	.2	12.7	19.7	.5	20.2	100.0	—
1972	60.8	[10]12.8	[11]3.5	.2	16.5	22.2	.4	22.7	100.0	—
1978	57.0	[10]10.8	9.7	.1	20.6	21.8	.8	22.4	100.0	—
France [15]										
1966	63.7	[10]7.8	[11]2.8	1.1	11.7	22.0	2.6	24.6	100.0	103.8
1972	67.2	[10]8.4	[11]3.0	1.0	12.4	22.5	3.5	26.0	100.0	—
1978	57.4	[10]7.8	5.6	.9	14.3	22.1	6.1	28.3	100.0	—
Germany, F.R [15]										
1966	72.1	[10]10.2	[11]2.8	.5	13.5	12.1	2.3	14.4	100.0	—
1972	67.2	[10]11.2	[11]3.5	.3	15.0	16.6	1.2	17.8	100.0	—
1978	59.9	[10]10.8	8.4	.2	19.4	18.2	2.3	20.5	100.0	—
Italy [15]										
1966	57.0	[10]8.5	7.2	.3	16.0	26.0	.9	26.9	100.0	—
1972	53.6	[10]9.9	8.4	.2	18.5	27.4	.6	27.9	100.0	—
1978	51.7	[10]10.4	8.6	.2	19.2	27.3	1.8	29.1	100.0	—
Netherlands [16]										
1966	67.1	10.8	4.7	.7	16.2	10.8	5.7	16.6	100.0	—
1972	62.4	12.5	4.3	.7	17.5	14.2	5.9	20.1	100.0	—
1978	57.2	8.2	10.1	.2	18.6	17.5	6.7	24.2	100.0	—
Sweden										
1968	80.3	10.3	[11].4	—	10.7	8.3	.7	9.1	100.0	—
1972	78.8	9.9	[11].2	—	10.2	10.0	.9	11.0	100.0	101.8
1979	62.0	10.9	[11].3	—	11.2	22.8	4.0	26.8	100.0	—
United Kingdom [17]										
1968	86.0	5.6	.8	.2	6.3	5.2	2.6	7.8	100.0	98.2
1973	83.2	[10]7.6	[11].5	.1	8.4	5.9	2.4	8.4	100.0	99.2
1976	75.5	[10]8.8	.8	.1	9.7	9.6	5.2	14.8	100.0	99.5

Source: U.S. Department of Labor Handbook of Labor Statistics, 1983.

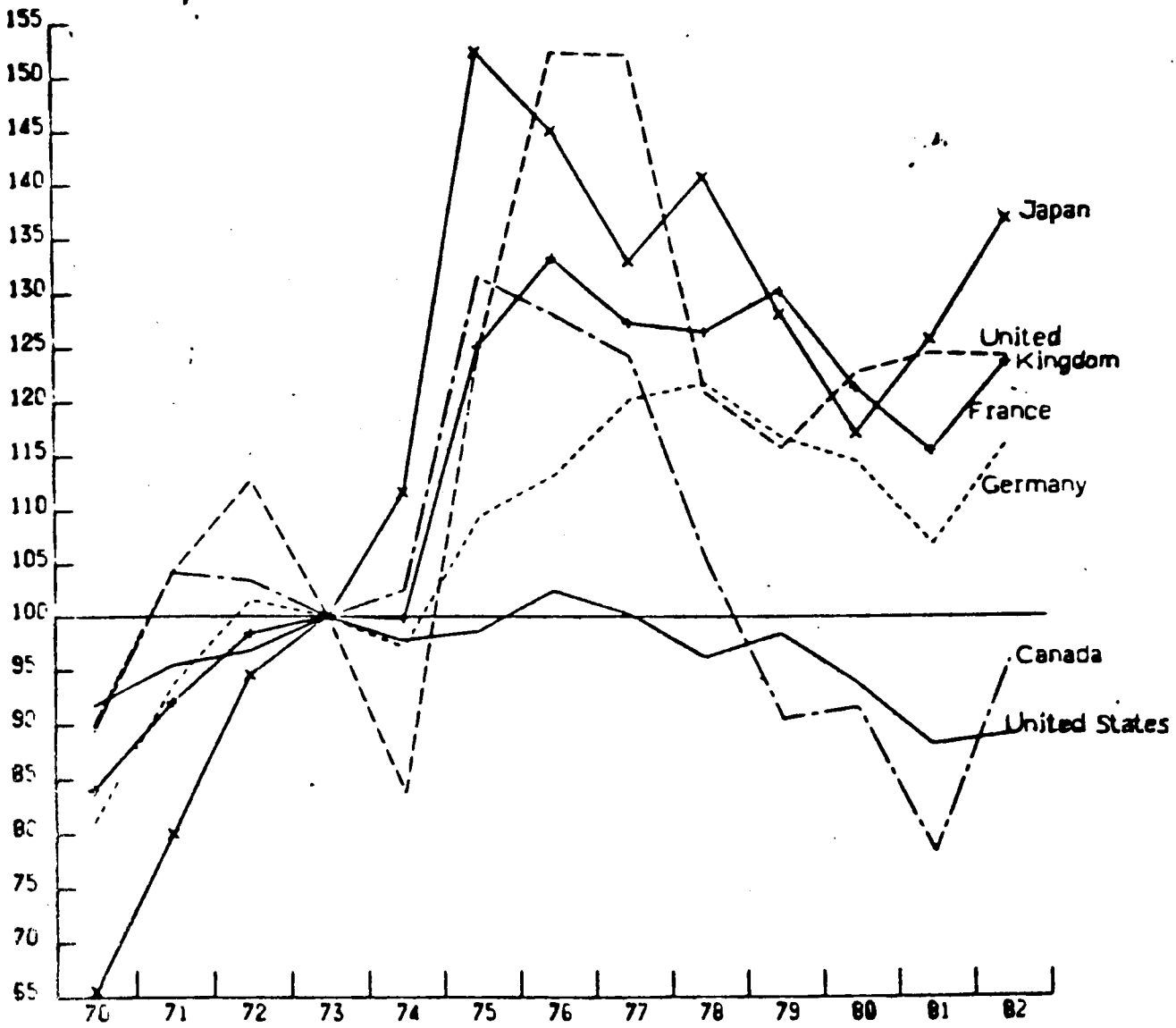
Table 1.5: Indexes of Nonwage Labor Costs v. Nonlabor Costs in the U.S., 1975-85
(indexes 1975=100)

	1975	1980	1983	1985
1. Employment Cost Index(wages)	100	148	180	200
2.Price of Intermediate Materials, Supplies, and Components	100	158	174	177
Energy	100	220	246	240
3.Crude Materials for Future Processing Energy	100	220	296	281
4.Finished Capital Equipment	100	148	177	185

Source: line 1, Bureau of Labor Statistics
lines 2-4, Economic Report of the President 1984

FIGURE 1.2

RELATIVE PRICE OF LABOUR IN THE SIX MAJOR OECD COUNTRIES(a)
1970-1982 (1973=100)



a. Data of compensation of employees in the private sector divided by index of user cost of capital ("rental price of capital")

Source: OECD Working Paper No. 24, Labour Market Flexibility and External Price Shocks L. Klau and A. Mittelstadt, September 1985.

1975 as the base, the U.S. experience no longer looks especially good. The U.K. and Canada have much more rapid declines in relative cost of labor than the U.S. post-1975. Also, note that if one takes 1970 as the base, the U.S. also no longer looks like a place where labor/capital costs are declining relative to costs elsewhere. The timing of comparisons is thus important for any claims that the U.S. has diverged from other countries in relative factor prices, making it difficult to sustain strongly the notion that the U.S. employment expansion, which was fairly steady over the entire period, can be attributed largely to factor prices changes.

1.5 Productivity, Unit Labor Costs, and Exchange Rates

Has the modest rise of money labor costs in recent years reduced unit labor costs in the U.S., and improved the U.S.'s ability to compete with foreign countries?

The answer to these questions depends on how the change in money compensation compares to productivity (unit labor costs= compensation/productivity) and, in the international context, to how unit labor costs change relative to such costs elsewhere and to changes in exchange rates.

Table 1.6 presents data on productivity, unit labor costs, and exchange rates for the U.S. and other major OECD countries. The top part of the table gives compound annual changes for 1980-84. The bottom part provides historic background for 1970-1980. A minus in the relative contribution of a factor to relative unit labor costs implies that the U.S. did relatively poorly in that factor; a plus implies that the U.S. did better than the other country. Note first that from 1970-80 and 1980-84 the productivity figures show that the U.S. has had an exceptionally poor performance in measured productivity growth. As a consequence the relatively moderate wage growth did not translate into a relatively better unit labor cost picture for the U.S., in contrast to major competitors either historically, or in the 1980s. Moreover, from an international competitive perspective, exchange rate fluctuations have dominated unit labor cost changes, producing rising prices relative to competitors through late 1985, when the value of the dollar began to fall. Note, moreover, that there are marked differences in the relative contribution of the exchange rate, productivity, and labor costs to the worsened U.S. position. The exchange rate was only a minor factor in the worsening unit labor costs of the U.S. versus Japan but it was the dominant factor in U.S. relative unit labor costs versus Europe.

1.6 Wage Gaps

In the Bruno-Sachs analysis of the labor market under stagflation, the key variable is labor's share of output. When changes in real wages exceed changes in productivity, causing labor's share to rise, their analysis suggest a "real wage" problem causing unemployment. Table 1.7 presents readily available Bruno-Sachs evidence on wage gaps for the U.S. and other OECD countries. It shows that the sluggish growth of real wages and productivity in the U.S. have produced only a modest rise in labor's share of output, in contrast to increases in labor's share in several European countries. Note, however, that the U.S had a greater increase in the wage gap than did Canada while at the same time having a better unemployment record. Also, Japan- for which data are not reported- had one of the largest increases in wage gaps, but one of the best unemployment records. While huge increases in real wages versus productivity are harmful to employment, as Bruno-Sachs argue, other factors are also important.

A key issue in evaluating the real wages, productivity, and employment experience of the U.S. and other countries concerns the causal linkages among these variables. One interpretation is that real wage growth is exogeneous,

Table 1.6: Manufacturing Labor Costs (in U.S. dollars) for 11 Countries

for the period 1980-1984

COMPOUND ANNUAL PERCENTAGE CHANGES

	JAP	CAN	GER	U.K.	FRA	ITA	BEL	DEN	NETH	NOR	SWE
Change in relative unit labor costs (U.S. Dollars)	-6.0	+.5	-11.8	-12.5	-12.4	-8.0	-17.1	-12.2	-12.9	-8.6	-14.1
Contributions of (relative to U.S.)											
productivity	-3.5	+0.8	+0.2	-2.0	-1.4	-0.2	-1.3	+1.3	-1.1	-0.6	-1.3
wage	-1.5	+2.5	-1.3	+3.1	+7.4	+11.3	+1.9	+1.4	-0.3	+3.4	+3.6
exchange rate	-1.3	-2.5	-10.6	-12.9	-16.6	-16.4	-15.0	-14.1	-11.3	-11.8	-15.4
accounting error (absolute value)	.3	.3	.2	.7	1.8	2.7	2.7	.8	.2	.4	1.0

for the period 1970-1980

COMPOUND ANNUAL PERCENTAGE CHANGES

	JAP	CAN	GER	U.K.	FRA	ITA	BEL	DEN	NETH	NOR	SWE
Change in relative unit labor costs (U.S. Dollars) per year	+4.5	+0.6	+7.1	+8.8	+6.6	+4.8	+6.3	+5.0	+6.4	+7.8	+5.8
Contributions of											
relative productivity	-5.2	-0:4	-1.8	-0.1	-2.5	-2.4	-4.7	-3.3	-3.7	-0.5	-0.9
relative wage	+4.9	+2.2	+1.3	+9.4	+6.3	+11.3	+5.5	+5.4	+3.7	+4.2	+4.5
exchange rate	+4.7	-1.1	+7.2	0.0	+2.7	-3.1	+5.4	+2.9	+6.2	+3.8	+2.1
accounting error (absolute value)	.1	.1	.4	.5	.1	1.0	.1	0.0	.2	.3	.1

Source: Department of Labor News, June 10,1985

Table 1.7: **Adjusted Wage Gaps, 12 OECD Countries, 1965-1983**

(1964-69 = 0.0)

	1965	1970	1973	1976	1979	1981	1982	1983
U.S.	**0.2**	**0.1**	**6.0**	**2.9**	**6.8**	**8.1**	**8.6**	**8.4**
Canada	**-1.9**	**1.9**	**-0.5**	**3.3**	**0.8**	**2.2**	**2.9**	**3.5**
Europe								
U.K.	**-2.0**	**2.2**	**4.6**	**11.0**	**16.4**	**24.1**	**25.0**	**26.4**
Belgium	**2.1**	**-0.8**	**13.6**	**30.2**	**37.2**	**40.7**	**35.2**	**-**
Denmark	**-2.3**	**2.5**	**8.1**	**13.0**	**17.6**	**16.4**	**13.7**	**9.2**
France	**0.0**	**-3.4**	**-0.4**	**7.9**	**10.7**	**14.3**	**17.4**	**-**
Germany	**2.0**	**1.5**	**7.2**	**13.0**	**15.3**	**19.1**	**15.9**	**12.9**
Italy	**2.3**	**6.4**	**15.4**	**19.5**	**11.8**	**9.1**	**7.6**	**5.9**
Norway	**-2.5**	**-4.3**	**-1.3**	**13.9**	**17.3**	**7.7**	**6.4**	**6.2**
Sweden	**2.7**	**-1.1**	**-5.2**	**3.7**	**-1.6**	**-4.0**	**-7.1**	**-9.6**

Source: Jeffrey Sachs "High Unemployment in Europe: Diagnosis and Policy Implications," NBER Working Paper No. 1830.

reducing expansion of employment and inducing productivity growth along a demand for labor curve. Another interpretation is that productivity growth is exogenous, determining the other variables; yet another is that output growth is exogenous, presenting countries with a productivity growth-employment growth tradeoff. In section II I will examine these alternative interpretations. Whichever interpretation one takes, however, it is important to recognize that the sluggish growth of real wages in the U.S. has occurred in conjunction with sluggish productivity growth.

1.7 Wage Structures

Concerns on the one hand that rigid wages across sectors may impede employment growth, and, on the other hand, that changes in wage structures are contributing to inequality, have spurred interest in the otherwise neglected topic of wage structures, defined as wage differentials among groups of workers, classified by employer (industry, size of firm, union status, etc.) and employee (occupation, demographic, education, etc.) characteristics. Governmental interventions in wage-setting to reduce discriminatory differences in the U.S. and other countries and its potential consequences for employment and inequality have also been at the center of much debate. In this section I examine the patterns of change in wage structures, differentiating where necessary between changes due to structural factors and those due to cyclical factors.

1.8 Employer Characteristics

The three principal dimensions along which wages differ among employers are industry, size of firm, and union status. One of the most striking changes in wage structures in the U.S. in recent years has been a sizeable rise in differentials along all three dimensions.

Data based on employer surveys and from the Census of Population show a marked rise in inequality of wages across industries, defined either broadly or narrowly. For example, in 1970 U.S. manufacturing paid 37% more than retail trade; in 1985 the differential had risen to 59%; while within manufacturing the ratio of pay between the high-wage petroleum and coal products and low-wage apparel rose from 2.02(1970) to 2.50(1985). Taking all industries together, figure 3 shows the overall pattern of change in inter-industry differentials, as measured by the variance of log earnings. Regressions of the variance on cyclical indicators show that while industry wages widened in the past because of the weak labor market of the seventies the rise in inequality shown in the figure is not a normal cyclical phenomenon.[4]

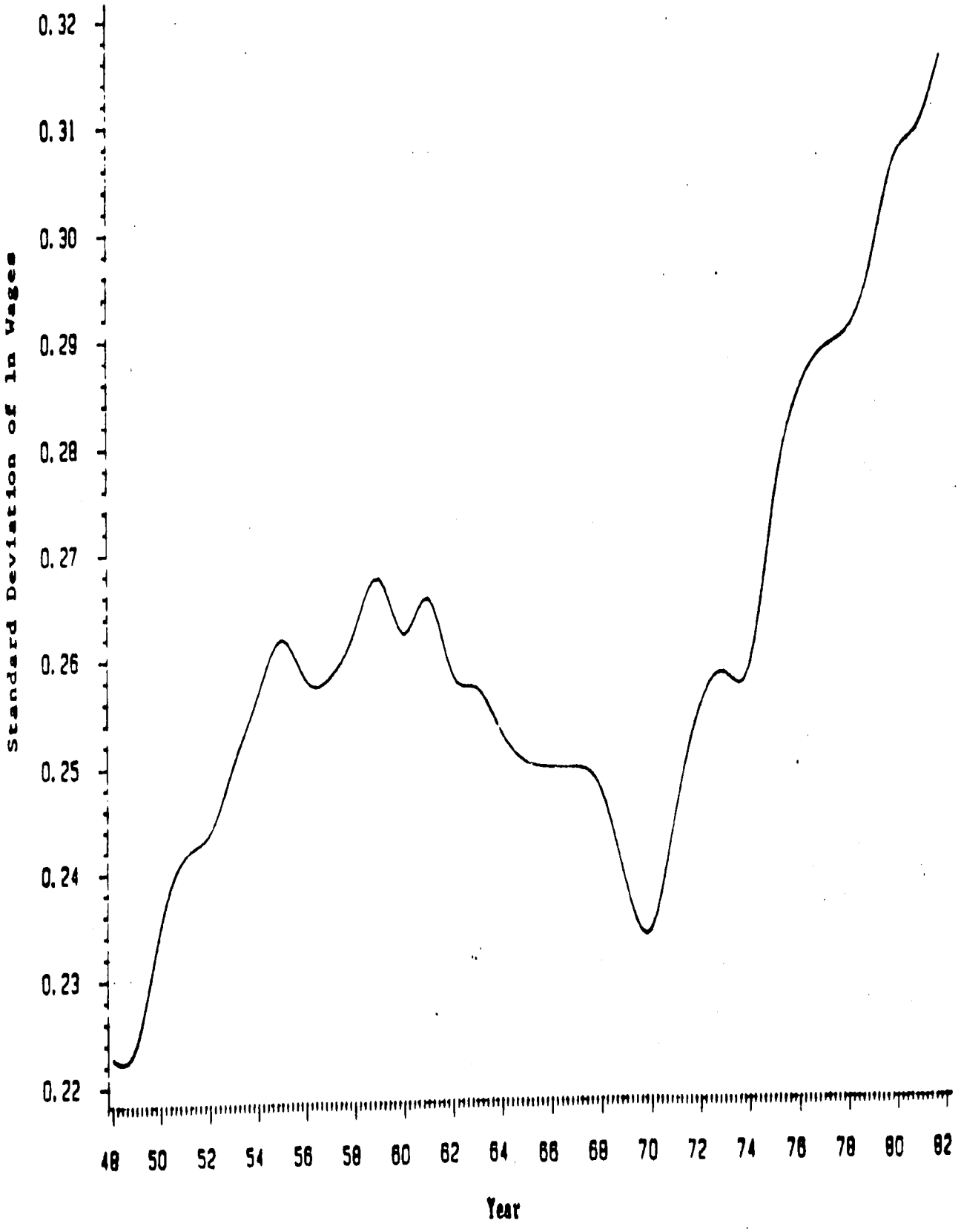
Comparisons of the U.S. with other countries show that the rise in differentials across industry is for the most part an American phenomenon (see Bell and Freeman, OECD). As studies of international differences in inter-industry wage structures have found that the U.S. has historically had greater inequality than other countries, the recent developments have increased international differences, making the U.S. more than ever the outlier in terms of inequality of wages among industries.

Turning to the union premium, virtually all analysts of union wage effects have found a rise in the union wage advantage in the 1970's. A rough generalization would be that the 10-15% premium of the 1950s and 1960s rose by ten points to 20-25% by the end of the 1970s. In the 1980s, by contrast, concession bargaining brought about a noticeable drop in the premium, according to data on wage settlements given in table 1.2. However, the primary source of data on union and nonunion workers within industries, the Current Population Survey, does not show such a pattern, making it difficult to determine if the concessions involve declines in the union premium within sectors or a decline in the wages for union and nonunion workers in highly organized sectors.[5]

FIGURE 1.3:

Standard deviation in Ln of Nominal Wage

(from Bell and Freeman)



Pay differentials by size of firm also increased markedly during the 1970s period, as can be seen in figure 1.4. Considerable effort has been directed to explaining the level of firm differentials in terms of worker characteristics and productivity but as yet the only explanation of the change is in terms of 'union threat' effects, according to which large firms tend to match union pay in order to discourage organization of their workers.

Finally, turning to occupational differentials, the evidence in table 1.8 tells a remarkable story about patterns of change in occupational earnings. In the three separate surveys for which data are available- the May CPS; the Employment Cost Index, and the March CPS-- the figures show that in the 1980s white collar, especially professional, workers have enjoyed much greater wage increases than have blue collar workers, especially the lower skilled (laborers). The weekly earnings figures show the greatest differential change, while the Employment Cost Index shows the least. All of the data sets, however, indicate that-for whatever reason- the wage structure shifted in favor of white collar skilled labor-a sharp break from historic patterns.

1.9 Personal Differentials

There have been striking changes in the structure of wages among American workers by age, sex, race, and education.

Almost alone among the major developed countries, the U.S. has responded to the "baby boom" generation's appearance on the labor market by reducing the relative pay of young workers (see table 1.9). In 1970, before the baby boom, men aged 45-54 earned 73% more than men aged 25-34. By 1984 they earned 123% more (panel B, line 1). It is, I argue in section II, no coincidence that the youth unemployment problem of the U.S. has been less severe than in countries where the ratio of adult to youth wages has remained constant or decreased.

Table 9 also shows changes in rates of pay by race and sex, with lower paid blacks enjoying increases relative to whites through 1980 but apparently experiencing a significant drop in relative earnings in the 1980s, particularly in 1984-85. This is a striking indication of retrogression which, if confirmed with more detailed analysis, suggests that the weak labor market of the '80s or reduced governmental pressures for Equal Employment and Affirmative Action have begun to cut into the post-1964 gains of blacks. For women, by contrast, the figures show rough stability in wages relative to men through 1980 and marked increases thereafter.

With respect to education, the U.S. (and other developed countries) experienced a sizeable drop in the premium paid educated workers through the late 1970s - a phenomenon atributable largely to the expansion of the educational system and the graduation of educated baby boomers into the job market. In the 1980s there has been a marked turnaround in the differentials in the U.S., with more educated workers enjoying greater wage increases than less educated workers.

1.10 Summary

In sum, the data on wage structures shows considerable changes in relative pay in the U.S.. The pay of some groups has risen (fallen) sharply relative to that of others, indicating that indeed the wage-setting process in the U.S. is quite flexible among groups of workers. Whether this "flexibility" has contributed to employment expansion, however, remains to be seen.

Table 1.8: Changes in Wages, by Occupation

A. Median Usual Weekly Earnings

	1970	1980	1985	%Δ 1970-85	%Δ 1980--85
Professional	181	336	477	163.5	42.4
Managerial	190	372	474	149.5	27.4
Clerical	109	211	273	150.5	29.4
Operative	119[a]	226	281	161.1	24.3
Crafts	157	324	392	149.7	20.9
Laborers	110	219	247	124.5	12.8
Service	87	177	207	137.9	16.9

B. Employment Cost Index

White Collar	65.2	96.2	128.3	96.8	34.8
Managers	67.6	94.7	128.4	89.9	35.9
Professionals	64.5	96.3	131.6	103.9	38.0
Clerical	64.4	95.7	127.9	98.6	33.6
Blue Collar	62.5	95.7	122.0	95.2	27.5
Craft	63.4	961	123.8	95.3	28.8
Operative	61.4	95.5	121.5	98.0	27.3
Laborers	62.0	95.7	119.8	93.2	25.2
Service	63.5	94.8	126.6	99.4	33.5

C. Annual Earnings of Year-Round Full-Time Workers by Occupation of Longest Job

	1970	1980	1984[a]	%Δ1980-84
White Collar	12403	24923	31737	27.3
Blue Collar	8371	17368	21507[b]	23.8
Laborers	6418	13708	15846[b]	15.6
Service	7297	14260	17253	21.0

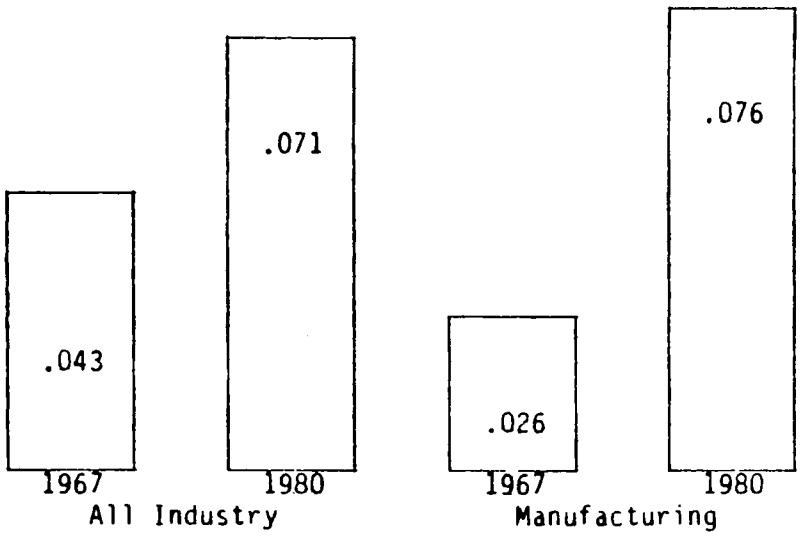
Source: A. U.S. Department of Labor, Employment and Earnings
B. U.S. Department of Labor
C. U.S. Department of Commerce, Consumer Income, Series P-60

Note: Panel has been adjusted to deal with changes in classifications over time. I took the figures for 1982.IV and 1983.1 and made ratios of the following series to adjust the new figures to the older definitions professional.

[a] 1972.

[b] Estimated from percentage change in median income for year round full time.

FIGURE 1.4: Estimates of the Effect of Log Number of Employees Per Establishment on Log Wages



Source: Nicole Garris "Secular and Cyclic Variability of the Firm Size-wage Differential" (Harvard College, March 1985), p.30, p.37.

Table 1.9: Changes in the Structure of Wages by Personal Characteristics

A. Median Usual Weekly Earnings

	1967	1970	1980	1985 (3)
1. Age				
Males, 25+/16-24	1.35	1.43	1.62	1.90
Females, 25+/16-24	1.07	1.09	1.25	1.44
2. Race				
Males, bl/wht	.69	.72	.77	.73
Females, bl/wht	.80	.85	.92	.86
3. Sex				
Females/Males	.62	.62	.63	.69

B. Income of Year Round Full-Time Workers

	1970	1980	1984
1.Age			
Males, 45-54/20-24	1.73	1.92	2.23
45-54/25-34	1.18	1.33	1.38
Females, 45-54/20-24	1.20	1.36	1.44
Females, 45-54/25-34	1.00	1.01	1.05
2.Race	(1964)		
Males, bl and other/wht	.63	.75	.69[c]
Females, bl and other/wht	.75	.91	.89
3.Sex			
Female/Males	.57	.59	.63
4.Education			
College 4 yrs./high school, all			
Male	1.46	1.44	1.46[a]
Female	1.46	1.35	1.44[a]
College 4 yrs./high school, 25-34			
Male	1.33	1.21	1.32[b]
Female	1.41	1.30	1.37[b]

Source: panel A, U.S. Department of Labor
panel B, U.S. Bureau of the Census, Current Population Reports, Consumer Income Series P-60, 1970, 1980, and advance 1984 reports.

[a] Estimated by percentage change in median incomes for groups, 1983-84.

[b] 1983.

[c] 1983 value was .76, which implies large single year decline.

Section II: Relation of Wage and other Factor Price Changes to Employment

Have the changes in wages and other factor prices affected employment? Have they produced more jobs than would otherwise be found? More low-quality jobs?

These are difficult questions to answer, particularly in the aggregate where any answer must depend on the macroeconomic model in which one imbeds the observed changes in wages. In this section I will address the question of the linkage between wage changes and employment in reverse order of section I, beginning with the more readily tractable problem of relating changes in wage structures to changes in employment structures in the U.S. before offering an interpretation of the aggregate wage performance.

To guide the discussion I distinguish between two types of wage flexibility: Competitive wage flexibility, defined as changes in wages in response to exogenous shifts in supply or demand that facilitate employment in a partial equilibrium supply-and-demand framework. This is the type of flexibility which persons favoring flexible wages have in mind when they advocate greater flexibility: when wages are competitively flexible, we should be able to explain the observed changes in terms of standard supply and demand analysis; and Non-competitive wage flexibility in which changes in wages can not be attributed to shifts in supply and demand and which thus do not facilitate employment changes. One example of non-competitive wage flexibility would be a wage increase in a firm in a growing industry that is not needed to increase labor supply. Another is a union-induced increase in wages for workers already paid above market rates.

Investigation of the pattern of wage changes across sectors and workers suggests that some of the flexibility in wage structure found in Section I has contributed to growth of employment while other components have not. Specifically, I believe that flexibility by age and potentially by education and occupation have facilitated employment growth while flexibility in the union wage premium, in the large firm premium, and in interindustry differentials have been largely noncompetitive. Because some of the change in wages by sex and race is attributable to government equal opportunity and affirmative action programs which raise demand as well as cause movement along a demand schedule, the extent to which these wage movements are to judged employment-facilitating or not is less clear.

2.1 Instances of Competitive Wage Flexibility

2.1.1 Age Earnings Differentials

The U.S. (along with many but not all other developing countries) experienced an enormous increase in the percentage of young workers in the work force in the 1970s, which created a significant exogenous shift in supply in the job market of relatively unprecedented magnitude. All else the same, this increase could be expected to reduce the relative wages of young workers in accord with competitive market precepts and thus to be employment facilitating. Does research on the determinants of the decline in the relative wages of the young in the U.S. support such an interpretation?

The answer to this question appears to be an unequivocal yes. In a recent survey of the literature Bloom and Freeman cite 14 separate studies, all of which find a significant impact of the size of the baby boom cohort on earnings.

Was the wage structure by age flexible enough to absorb all of the new workers in sufficient numbers as to preserve youth to adult unemployment rates?

The evidence here is somewhat more mixed: of five studies examining unemployment, Bloom and Freeman cite two as finding little or no effect of cohort size on unemployment rates, indicating that the main effect of generational crowding is on wages and not unemployment, but also cite three that find significant effects of cohort size on unemployment. While there is thus some disagreement over whether wages adjusted sufficiently to absorb all of the increased relative supply of the young, there is no denying the dominant role of the wage flexibility in the U.S. response to the rising number of young persons in the labor force. By contrast, the relative wages of youths did not decline- indeed rose- in several European countries, presumably exacerbating the youth unemployment problem in Europe.

Did the U.S. "absorb" young workers solely into low-wage service jobs, as some have suggested?

To answer this question I have calculated the proportion of young workers, by sex, in the workforce of diverse U.S. industries and used the following identity to decompose the growth of the youth share of employment into three components:

$$(1) \quad \Delta Y = \Sigma a_j \Delta I_j + \Sigma I_j \Delta a_j + \Sigma \Delta I_j \Delta a_j$$

where Y = youth employment
a_j = share of workers in industry j who were young.
I_j = industry employment
and where Δ=change from 1970 to 1980.

The three components are:

(1) Growth due to expansion of youth employment industries; $(\Sigma a_j \Delta I_j)$

(2) Growth due to changes in youth intensity of employment within industries; $(\Sigma I_j \Delta a_j)$

(3) Interaction effects. $\Sigma \Delta I_j \Delta a_j$

As can be seen in table 2.1. youth shares of employment rose in virtually every sector, by comparable amounts, indicating that all American industries responded to the relatively cheaper youth labor by hiring proportionately more young workers. The decomposition shows that all of the rise in the male youth share of employment is due to changing youth -intensity of employment within sectors, rather than to any growth of youth intensive industries. A better example of a situation in which flexible wages facilitated employment of an increased supply of workers across the economy would be hard to find.

2.1.2 Education and Occupation

The striking patterns of change in the premium paid educated workers in the

Table 2.1: The Proportion of Workers Aged 20 - 29 in One Digit Industries in the U.S., 1970 - 1980

	Male Workers			Female Workers		
Industry	1970	1980	D	1970	1980	D
Agriculture, Forestry, & Fisheries	.15	.25	.10	.18	.25	.07
Mining	.20	.34	.14	.31	.40	.11
Construction	.22	.32	.10	.23	.30	.07
Manufacturing	.24	.27	.03	.26	.30	.04
Transportation, Commerce & Other Public Utilities	.22	.24	.02	.35	.34	-.01
Wholesale Trade	.22	.28	.06	.27	.33	.06
Retail Trade	.23	.30	.07	.20	.29	.09
Finance, Insurance, & Real Estate	.23	.22	-.01	.34	.37	.03
Business and Repair Services	.24	.30	.06	.30	.34	.04
Personal Services	.18	.26	.08	.18	.23	.05
Entertainment, Recreation Services	.22	.33	.11	.22	.32	.10
Professional and Related Services	.25	.25	-	.28	.30	.02
Public Administration	.18	.21	.03	.25	.30	.05
Total	.22	.28	.06	.25	.30	.05
Predicted Change due to Industry Mix			.00			.01
Predicted Change due to Youth Intensity			.05			.05
Interaction			.01			.01

Source: U.S. Census of Population, 1970 and 1980.

U.S. (and in most developed countries) also appears attributable to flexible wage-setting of the competitive form. In this case research shows that the increase in the labor supply of more educated workers resulting from the expansion of educational systems in conjunction with the baby boom caused the marked decline in the ratio of earnings of more to less educated workers through the late 1970s. The sharp rise in education premium found in some data sets thereafter, however, is somewhat more difficult to explain: one part is due to the decreases in the relative supply of new male university graduates; another part seems attributable to the lengthy recession of the 1980s, which has a greater effect on less educated than more educated labor, another part may be due to shifts in demand, and the deindustrialization issues described in section III. As yet no definitive analysis of the relative importance of these three factors has been made, leaving interpretation of the 1980s rise in education premium somewhat unclear.

With respect to occupation the story is similar: prior to the 1980s rise in the premium paid to white-collar and professional workers, changes in the occupational wage structure seemed to have been 'competitive'. Teachers wages went up in 'shortage' periods and fell as supply increased. The wages of scientists and engineers rose following Sputnik and fell as supply increased. The recent increase in occupational wage inequality may represent a shift in demand and responses to the business cycle, in a similar competitive manner, but this has yet to be established. Indeed, the rise in occupational inequality in the 1980s, has, surprisingly, been ignored almost completely in debates over U.S. wage flexibility.

2.2 Uncertain Instances

The relative earnings of minority and female workers increased in the period under study, though with quite different time patterns and rates. Black-to-white earnings rose among men in the early part of the decade, then levelled off, while female-to-male earnings rose at the end of the 1970s-early 1980s. While some might be tempted to label the wage changes as noncompetitive, due to antibias laws and activities, which made minority and female labor more expensive, such an interpretation would be erroneous, for government policies were designed largely to raise demand for these workers. A more plausible reading of the evidence is that the policies both raised wages and shifted demand, so that the net employment effects of the policies is open to question. With respect to blacks, Leonard's direct studies of employment by establishment have found that affirmative action has unequivocally raised black employment: Lang and Tomashefsky have, however, found that increases in the relative wages of blacks across states are positively correlated with increases in unemployment, suggesting some tradeoff along a demand curve as well. My analyses and those of others relating to the time series show that much of the increase in black-to-white wages is explicable in terms of increased demand for labor, making the changes in wages a competitive form of wage adjustment; on the other hand, there is evidence that some of the measured increase in the relative wages for black men is associated with declines in their labor participation rate.

With respect to women, as yet we have no clear analysis of the differential impact of the rise in supply (which may or may not have been largely exogenous) and of the shift in demand on wages, which leaves us with similar uncertainty. In an international context, the relative earnings of women in the U.S. have been especially low and have increased less rapidly than elsewhere, while labor participation has risen rather sharply, suggesting that any noncompetitive element in the wage changes may be small. It is important to recognize in this regard that much of female-male pay differences in the U.S. are attributable to the concentration of women in low wage service-type industries and to the fact

that within industries women tend to be employed in lower wage firms.

2.3 Instances of Noncompetitive Wage Flexibility

I come now to three cases where the pattern of changes in relative wages appears to be inconsistent with the dictates of a competitive labor market. In two of the cases-- the rise in the union premium in the 1970s and the corresponding rise in the large-firm premium in that period-- there is little disagreement about the deleterious impact of the increases on the structure of employment. In the third case-- that of interindustry differentials-- there is debate about whether the pattern of rising inequality in the U.S. has or has not positively affected employment.

2.3.1 The Union and Large Firm Premium

That the successful effort of most American trade unions to maintain or increase real wages in the weak labor market of the 1970s had negative effects on employment of union workers, and, even more, stimulated employer opposition to unionism in the U.S. has been the theme of several recent studies. Table 2.2 taken from Wachter and Linneman, shows that the vast bulk of the decline in the manufacturing share of employment occurred in the union sector and was associated with a sizeable increase in the union premium in that area. Indeed, Wachter and Linneman interpret their results as indicating that the union wage increases operated along labor demand curves, making the change noncompetitive flexible by our definition. My analysis of the rise in union wage premium shows that it induced additional employer opposition to unions, with resultant difficulties for unions to organize workers. While there are theoretic models of union optimal contracts which predict that changes in union wages and employment are "competitive efficient," little evidence has been provided for the relevance of this view to the real world. The best paper in the area, by Abowd, showed that unexpected union wage increases in the 1970s had little effect on the stock market evaluation of firms, indicating that union-wage increases had at most minor effects on efficiency at the level of firms.

Just as the rise in the union premium in the 1970s is likely to have reduced union employment, the apparent decline in the premium in the 1980s has presumably had a beneficial effect. Indeed, the extent of concessions granted by American unions in several sectors in the 1980s suggest that unions- like their counterparts in Japan- have learned to be more flexible and sensitive to the problems of employers.

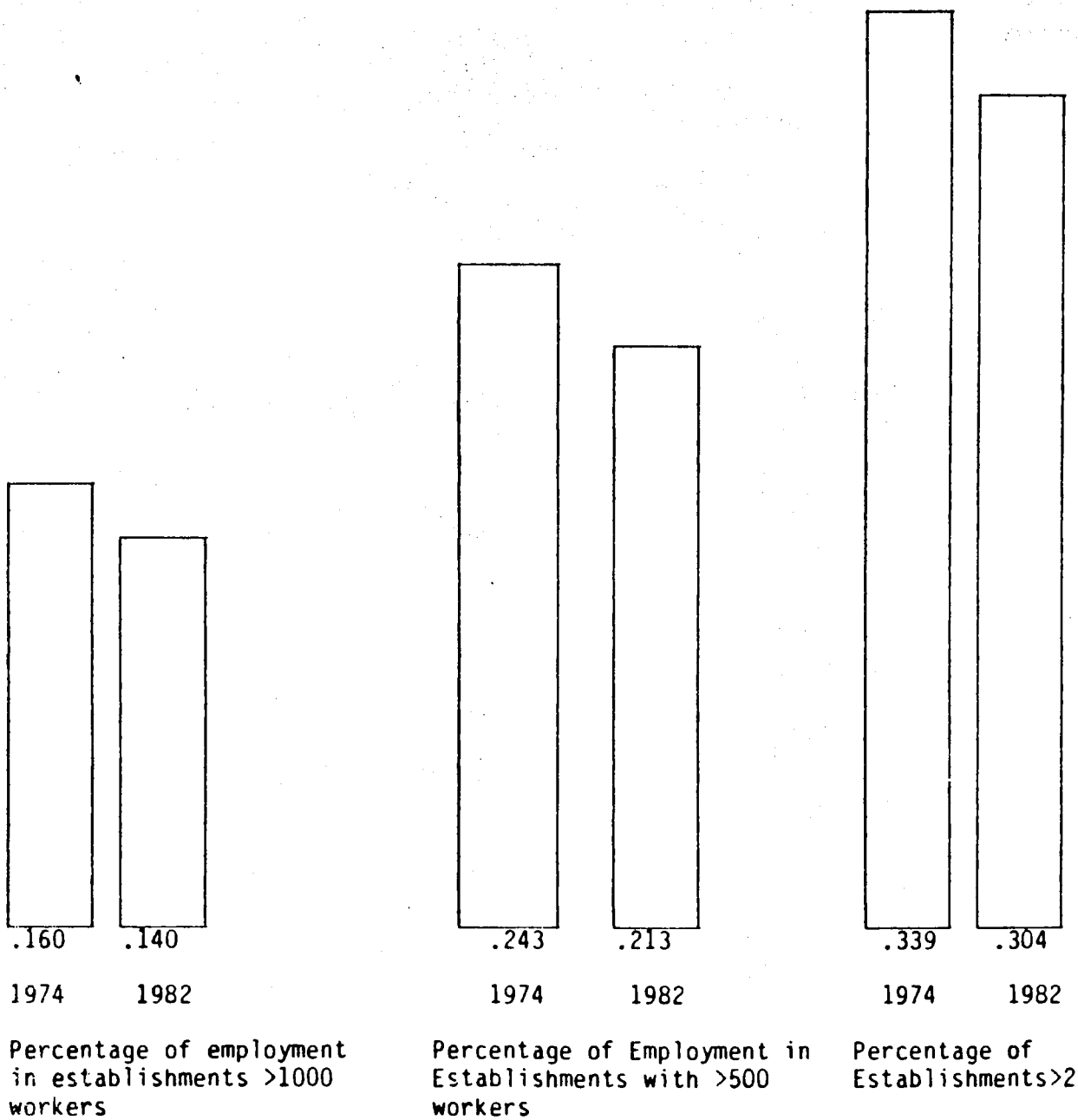
Finally, while there is - as noted earlier- no good explanation of the rising premium paid workers in large firms (beyond possible union threat effects), it is difficult to see how such increases can be competitive. After all, pay in large firms was already sufficiently above competitive levels in the early 1970s (see Brown and Medoff) as to constitute a genuine wage advantage, only moderately less than the union advantage. In any case, as figure 2.1 shows the share of employment in large establishments declined notably in the period. The concordance of rising wage premium and declining shares of employment in large establishments suggest that this is indeed a noncompetitive change in wages.

Table 2.2: **Changes in Employment and Wage Premiums 1973 to 1984**

	Change in share of total economy employment by sector		Change in union wage premium	Change in share of total economy employment due to union premium change
	Nonunion	Union		
Government	0.1	0.6	-0.4	0.1
Construction	0.2	-1.4	-10.1	0.4
Mining	0.5	-0.2	15.7	-0.2
Manufacturing Durables	0.3	-4.4	12.0	-2.0
Manufacturing Nondurables	-0.7	-2.1	10.9	-1.1
Transportation	0.9	-0.9	13.0	-0.5
Wholesale Trade	0.5	-0.2	16.9	-0.1
Retail Trade	1.5	-0.7	10.0	-0.2
F.I.R.E.	1.5	-0.1	1.8	-0.0
Service	2.0	2.4	-2.7	0.1
Total Economy	6.8	-6.8	1.8	-3.5

Source: Linneman and Wachter

FIGURE 2.1: The Declining Share of Employment in Large Establishments, 1974-1982



Source: U.S. Bureau of the Census, County Business Patterns, United States 1974, 1980, and 1982, Table 1B, p.3.

2.3.2 Interindustry Differentials

If the rising inequality of wages across industries in the U.S. can be explained in terms of competitive factors such as shifts in labor supply to different sectors (greater availability of women workers raising supply to female-intensive industries, in particular), and changes in demand, we would label the flexibility of industry/wages as competitive flexible. Several studies have found that changes in industry wages, while affected by competitive factors in the expected manner, have also been significantly influenced by changes in value productivity across industry lines, which runs counter to the basic principle of competitive industry wage determination--namely that changes in industry wages should be affected by economy wide factors, not by industry-specific factors (Bell and Freeman, OECD). The only possible way in which the observed positive correlation between changes in value productivity and changes in wages might be attributed to competitive forces would be if productivity changes were positively associated with employment changes. For the U.S., however, increases in productivity are either not correlated or negatively correlated with increases in employment, ruling out the demand-shift story. From the perspective of the factors that determine wages, therefore, the widening industry differentials would appear to be noncompetitive in the period studied.

As Bell and Freeman point out, however, there is still one possible way in which the increased inequality of wages across industries could raise employment. This is if employment were more responsive to relative wage declines than to wage increases, regardless of the reason for the increases. Put differently, if elasticities of labor demand were greater in the low wage industries which have had below-average incomes in wages than in the high-wage industries which have had above-average increases in wages, employment would grow as a result of the increase in inequality. Investigation of the relation between wage changes and employment changes by sector over the long run show, however, no asymmetry of employment responsiveness, implying that American industries that had especially small wage increases had employment increases comparable to the employment decreases in industries with large wage gains. Over the short run, however, the OECD reports some evidence that employment grew more in industries with low wage gains than it declined in industries with rapid wage gains. Finally, it should be noted that Lawrence and Lawrence offer an interpretation of the behavior of some high wage industries in terms of union 'end game'optimizing behavior, in which unions raise wages in declining industries as a form of optimal rent extraction. While this may be the case in some sectors, it is clearly not the story of the overall rise in industry wage dispersion in the U.S., which has occurred in nonunion as well as union settings, and runs counter to union wage concessions and expressed desires to save jobs.

In sum, the wage flexibility of the U.S. labor market which produced larger-than-average increases for already highly paid workers in unionized jobs, in large firms, and in high-paying industries has, in my reading of the evidence, not contributed to employment and is thus best viewed as noncompetitive in terms of the dichotomy given at the outset of this section.

2.4 The Macro-Economic Picture

Does the U.S. have particularly responsive nominal or real wages? Has real wage responsiveness aided U.S. employment?

Answers to these questions diverge widely. Bruno and Sachs present evidence that the U.S nominal wages tend to respond more slowly to price changes than do European nominal wages, which helps increase employment in periods of inflation, and that U.S. wages are also more responsive to unemployment than are

wages in several European countries. OECD analyses tend to tell a similar story, showing the U.S. Canada, and Japan with especially flexible real wages. (Klau and Mittelstadt). The contrast between these analyses and those of Ashenfelter, Ashenfelter & Card, and Fay & Medoff, which suggest only modest nominal and real wage flexibility in the U.S. is striking. Even if we accept, however, the claim that U.S wages are more flexible in the short-run, the effect of this on overall employment is problematic. One reason is that studies of the elasticity of labor demand for the U.S have come up with at most modest employment responses, making it difficult to argue that sluggish real wage or labor cost changes translate into sizeable changes in employment. A second reason is that, given the low productivity growth, real labor cost has not been as responsive to economic conditions as have real wages, though the figures in table 7 make clear that the U.S has not experienced European style increases in wage gaps.

As the debate over the U.S-Europe employment experience has tended to slight the differential productivity experience of the U.S and other OECD countries, it will be illuminating at this point to expand on the productivity-employment-output relations. Accordingly, I summarize in Panel A of table 2.3 evidence on measured changes in the three variables for the U.S, OECD Europe, and selected countries. Because of possible cross-country differences in measuring service sector output, panel B of the table presents comparable data for manufacturing.

Taking the GDP data first, note that from 1970 to 1983 real GDP grew at a similar rate between the U.S. and OECD Europe, but that productivity in the U.S. grew at less than one third the rate in Europe. Had the U.S. had the same GDP growth and European productivity growth, the American employment record would have looked like the European record. As noted, one interpretation of this is that U.S real wages grew only slightly, so that GDP translated into employment growth. Another is that, for other reasons, the U.S had poor productivity experience, which caused low real wage growth and, given GDP growth, sizeable employment expansion. In the more recent recovery from the 1983 depression the U.S. does look markedly better than Europe in GDP as well as in employment growth, though whether this is a matter of timing of the recovery in the U.S v. Europe or is a potentially longer-run phenomenon remains to be seen.

Turning to manufacturing, the country experiences are more diverse, but again the U.S does not enjoy especially large increases in output, and along with Canada, experiences exceptionally low productivity growth. Simply comparing the range of variation we see that the divergence in hours worked in manufacturing is "more" related to the divergences in productivity than to divergences in growth of output across countries.

Table 2.3: Growth Rates of Real GDP, Employment, and Productivity, 1970-85, and of Output and Employment Cost

A) All Economy

	1970-83			1983-85[e]		
	ΔGDP/GDP (1)	ΔE/E (2)	Δ Productivity (1)-(2)	ΔGDP/GDP (4)	ΔE/E (5)	Δ Productivity (4)-(5)
U.S.	37.7	26.1	11.6	8.9	6.3	2.6
OECD Europe	36.7	1.5	35.2	4.3	0.0	4.3
Canada	53.6	30.6	23.0	9.6	4.2	5.4
Japan	78.8	11.5	67.3	1.1	2.1	9.0
France	47.4	4.1	43.3	2.3	-1.7	4.0
West Germany	32.0	-6.6	38.6	4.9	-0.2	5.1
Italy	34.1	5.0	29.1	4.9	0.8	4.1
UK	25.8	-3.6	29.4	5.1	2.3	2.8
Belgium	36.6	-2.1	38.7	-	-	-
Sweden	24.9	8.2	16.7	-	-	-

B) Manufacturing

	Δ Output/Output (1)	Δ Hours/Hours (2)	Δ Output/Hours Output/Hours
U.S	34.4	-3.1	39.7
Canada	35.4	-3.2	40.1
Japan	112.2	-3.3	119.6
France	46.5	-20.7	84.8
W. Germany	19.5	-28.4	66.9
Italy	39.7	-19.7	73.9
UK	-6.2	-38.6	60.0
Belgium	41.7	-41.6	138.3
Sweden	13.7	-26.8	55.5

Source: OECD, National Accounts.
OECD, Employment Outlook.
Economic Report of the President 1986.

U.S. Department of Labor, Output Per Hour, Hourly Compensation, and Unit Labor Costs in Manufacturing, Twelve Countries, 1950-1984.

[e] estimates from OECD.

Section III: Areas of Labor Market Problems

The argument that decentralized wage-setting in the U.S. labor market has had deleterious effects on economic well-being has focused on three issues: (1) rising income inequality and poverty potentially attributable to labor market factors, and declines in the size of the middle class; (2) deindustrialization of the American labor force, with a growing dichotomy in the kinds of jobs held by workers, some being high paid and skilled and others low paid and unskilled; (3) a marked worsening in the relative joblessness experience of selected groups in the economy, notably black men, displaced workers, and to some extent female heads of households.

These issues have generated much popular and professional debate. In this section I ask if the factual evidence support the claims of economic problems in the labor market and what part the flexible labor market has played in exacerbating (or reducing) the problems.

3.1 Rising Income Inequality, Poverty, and the Declining Middle

There is general agreement, based on CPS annual data, that income inequality and poverty have increased in the U.S. Published CPS data summarized in table 3.1 show no growth in real family income from 1970 to 1984, an increase in the index of income concentration (Gini coefficient); and a marked drop in the shares of the lower income groups in the income distribution. Analyses of the underlying data by Bloom and Blackburn, summarized in table 3.2 confirm the picture in the official published data: a sizeable increase in income inequality in the U.S. in the 1970s and 1980s.

Perhaps even more disturbing than the evidence of rising inequality in incomes among families is evidence that the rise in poverty is concentrated among families with children so that an increasing number of children in the U.S. are born into poverty. Danzinger and Gottschalk have, in particular, found not only a rising trend in inequality and poverty among families with children from 1977 to 1984 but a magnitude of change that brings the rate of poverty for families with children 30% above levels in 1967!(see table 3.3)

With respect to the declining middle, some detailed examinations of the income distribution tend to show decline in the middle class (Bloom and Blackburn, Thurow, Lawrence); while others (Danzinger and Gottshalk) find that for the groups they study the increase in the poor is the dominant change in the period under consideration; while yet others (Rosenthal, Medoff) find no decline in the middle class share of the society. The strongest evidence for a declining middle is found in total family income figures, of the type shown in figure 3.1where one sees not only an increased proportion of families in the two tails but also a noticeable change in the central part of the distribution.

The biggest differences between the studies that find a declining middle-class and those that do not find a declining middle-class is in data used for analysis. Declines are generally found in March Current Population Survey (CPS) data for family income and annual earnings. Declines are not found in May CPS data for weekly earnings overall or by occupation. One possible reason is that there are genuine differences between annual income or earnings and weekly pay by occupation, due perhaps to patterns of hours worked over the year and unemployment. Another is that there are inconsistencies between the March and May surveys, for reasons yet to be determined.

3.1.1 The Role of the Labor Market

The labor market factors that might have altered the distribution of income in the period under study are:

Table 3.1: **Changes in Income Distribution and Poverty, 1970-1984**

	1970	1980	1983	1984
1.'Real' Median Family Income	26,394	26,500	25,724	26,433
2.Proportion of Persons Below Poverty Level	12.6	13.0	15.2	14.4
3.Proportion of Families Below Poverty Level	10.1	10.3	12.3	11.6
4.Index of Income Concentration	.364	.365	.381	.384
5.Shares of Groups in				
lowest fifth	5.4	5.1	4.7	4.7
2nd fifth	12.2	11.6	11.1	11.0
3rd fifth	17.6	17.5	17.1	17.0
4rth fifth	23.8	24.3	24.4	24.4
highest fifth	40.9	41.6	42.7	42.9

Source: Calculated from Economic Report of the President 1986 and from U.S. Bureau of the Census, Consumer Income Series, P-60.

Table 3.2

Inequality Measures, 1968-1982

Variance of the Logarithm of Income (L)

	1968	1978	1982
Total Family Income	.7976	.8742	.9704
Equivalent Income (Across Persons)	.5658	.6561	.8203

Coefficient of Variation (C)

Total Family Income	.7206	.7389	.7916
Equivalent Income	.6834	.6793	.7474

*The population used for these inequality measures is all families with total family income above zero but below $138,725 (in 1982 dollars).

Source: D. Bloom & M. Blackburn, "An Analysis of the Changing American Middle Class," Harvard, 1985.

Table 3.3 **Incidence of Low Weekly Earnings of Heads of Families,[a] 1967-1984**

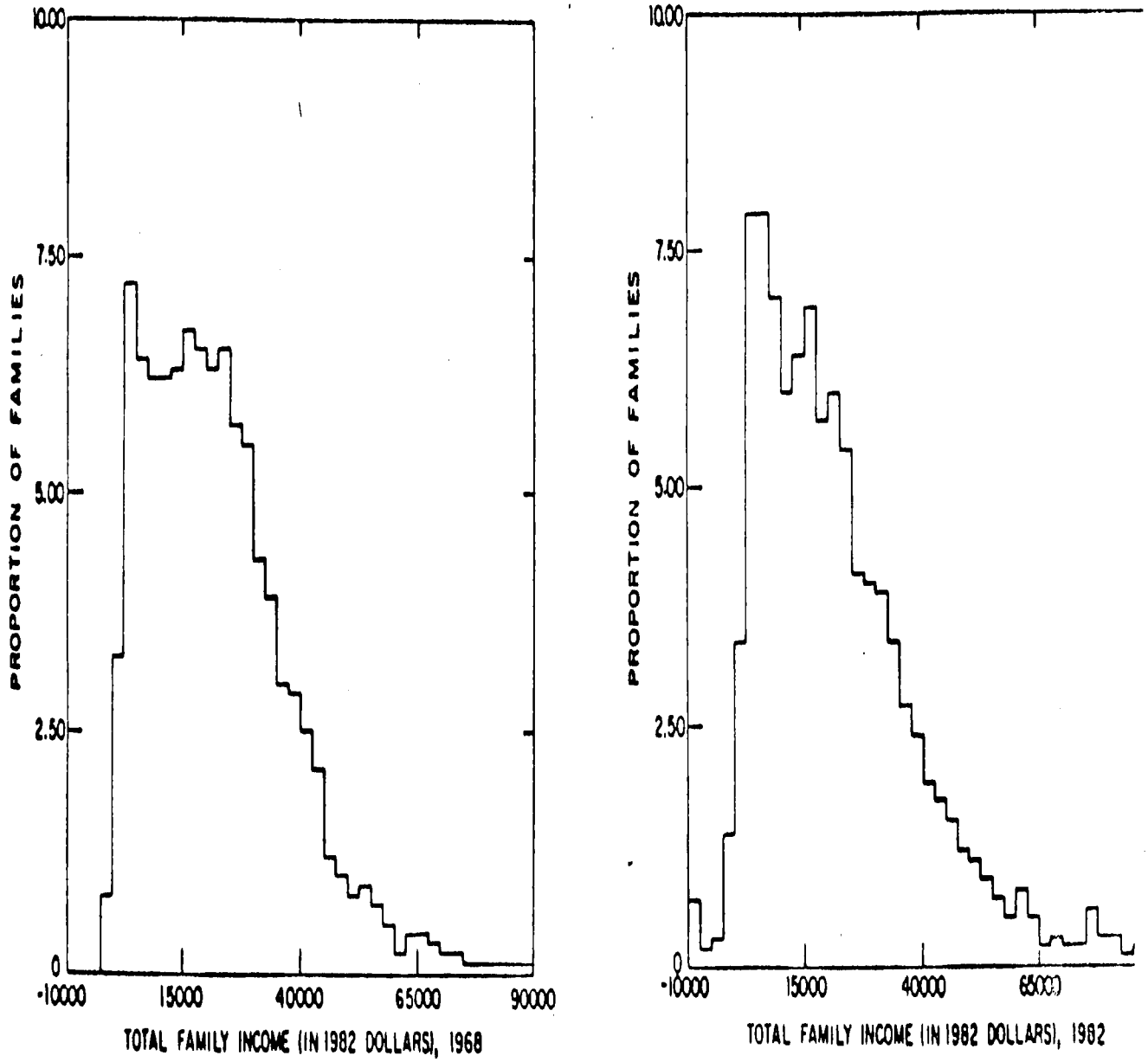
Heads of:	1967	1973	1979	1984
All Families with Children	**20.8%**	**21.5%**	**23.8%**	**29.9%**
White	17.1	17.7	19.6	25.5
Black	48.3	45.6	46.9	51.5
Hispanic	n.a.	32.8	34.6	44.0
All Two-Parent Families with Children[b]	**14.3**	**12.7**	**14.1**	**19.5**
White	12.4	11.4	12.6	17.7
Black	32.1	24.5	26.6	32.8
Hispanic	n.a.	19.2	22.2	30.1
All Female-Headed Families with Children	**71.1**	**68.9**	**61.9**	**65.5**
White	64.8	63.8	56.7	61.4
Black	83.9	78.4	71.7	72.7
Hispanic	n.a.	81.6	75.4	79.8

[a]"Low earners" are family heads with weekly earnings below $204 per week in constant 1984 dollars. Such persons could not earn the poverty-line income for a family of four even if they worked 52 weeks a year at their current weekly wage.

[b]Husbands are classified as the heads of two-parent families.

Source: Sheldon Danziger & Peter Gottschalk, "How Have Families with Children Been Faring?" Joint Economic Committee, November 1985

FIGURE 3.1



Source: Bloom & Blackburn, OP CH.

(1) Increased wage inequality. Using March CPS data, Harrison, Bluestone, and Tilly have found that there is marked "U-turn" in the pattern of inequality (measured by the variance of logs of annual earnings) for full-time year round workers, whose earnings can be viewed as wage rates. (see figure 3.2) Consistent with this, Danzinger and Gottshalk attribute some of the rising poverty among children to the increased incidence of low weekly earnings of heads of households, which suggests a role for increased earnings inequality here also. By contrast, using May CPS data on usual weekly earnings, Medoff finds no change in inequality beyond what might be expected on the basis of the business cycle.

(2) That it is due to increased inequality in the structure of unemployment or joblessness. Baily has pointed out that the dispersion of unemployment rates by demographic group and region(figure 3.3)(but not industry or occupation) has tended to widen. Table 3.4 shows the pattern of change in unemployment and joblessness rates for groups, which is in concord with his claim. It shows higher rates of unemployment for black youths, women who maintain families, and for persons unemployed for long periods of time compared to the overall unemployment rate, with the recovery of 1983-85 leaving these groups with higher rates of unemployment than in 1980 when the aggregate rate was roughly on the

(3) The other two factors that are likely to have affected income distribution in the period under study are changes in welfare income, notably AFDC payments, whose value fell by 30+ percent in real terms from the early 1970s to the early 1980s. Problems with reporting of welfare and other transfer payments on the standard CPS survey make it difficult to determine the extent which filling AFDC benefits have caused greater income inequality and poverty.

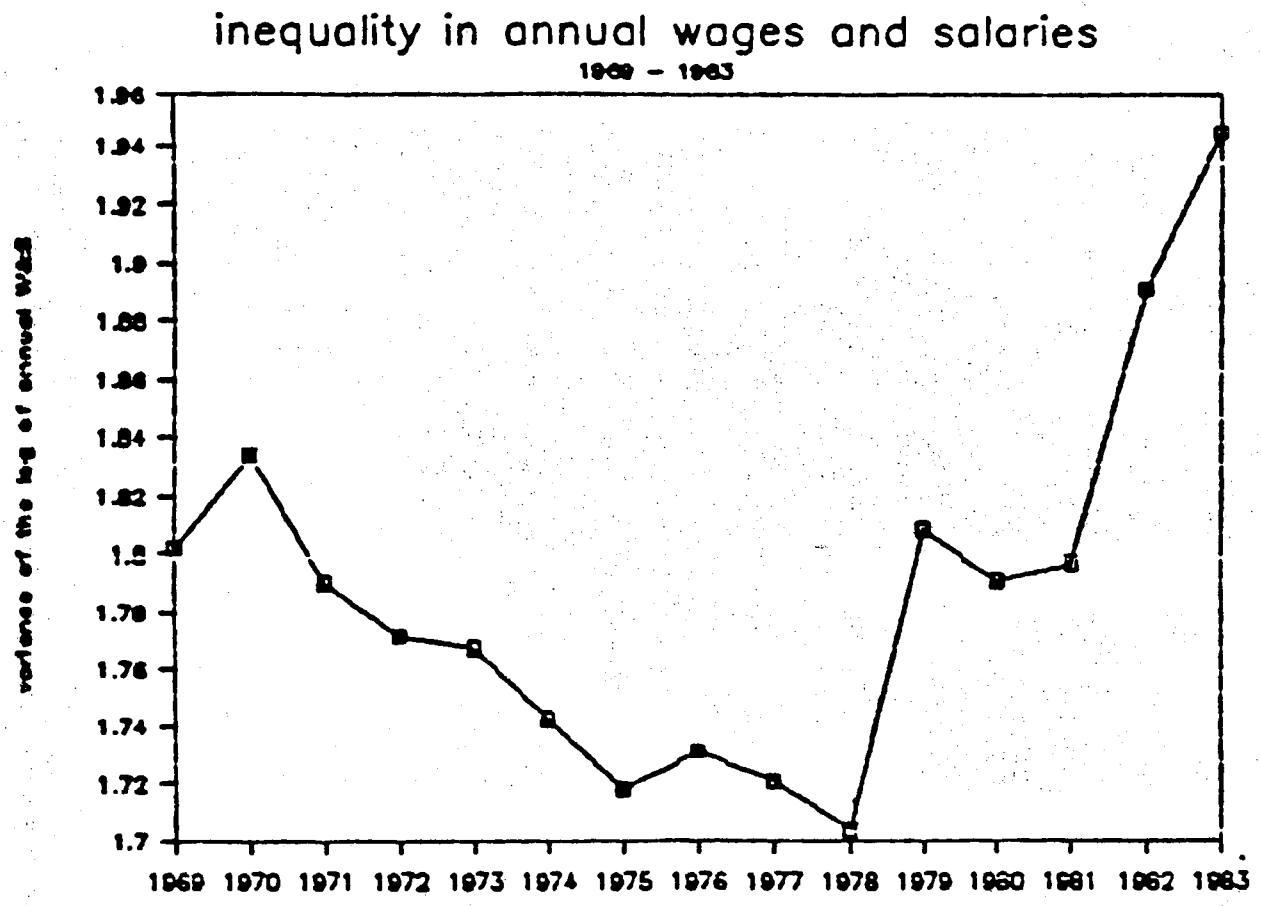
(4) Changes in family composition, notably the rise of single person families and increased number of female-headed homes, especially among blacks. Bloom and Blackburn, in particular, have examined this factor in detail and attribute the bulk of changes in the income distribution to the rise of female-headed households. Danziger and Gottshalk's recent analysis shows how the rise in the female-headed household had contributed to rising poverty among families with children; in their data, roughly half of the rise in poverty is due to this factor (see table 3.5)

3.2 Deindustrialization and Structure of Jobs

That the share of the work force in the U.S. in manufacturing has fallen partcularly sharply in recent years is undeniable. The debate over deindustrialization, however, involves a broader set of issues. First, does one want to use the share of the work force in manufacturing as an indicator of an economic problem? Part of the decline in the manufacturing share of employment is due simply to greater growth of productivity in manufacturing than in services and in consequent differential price changes and elasticities of demand for products. Lawrence has insightfully pointed out that the share of constant dollar GNP originating from manufacturing has been relatively constant in the U.S. (table 3.6) In addition, comparisons of changes in manufacturing's share of employment in the U.S. and in other developed countries show that the U.S. has not had an exceptional decline in manufacturing employment relatively, and given overall expansion of U.S. employment, certainly not in terms of absolute numbers. Finally, Wachter & Linneman find that outside the union sector, there has been almost no decline in manufacturing's share of employment in the U.S.

The issue of manufacturing's share of employment and deindustrialization can, however, be put into a broader context. From the point of view of the labor market, the issue is not what is happening to manufacturing per se but rather what the changing composition of the economy and labor demand is doing to

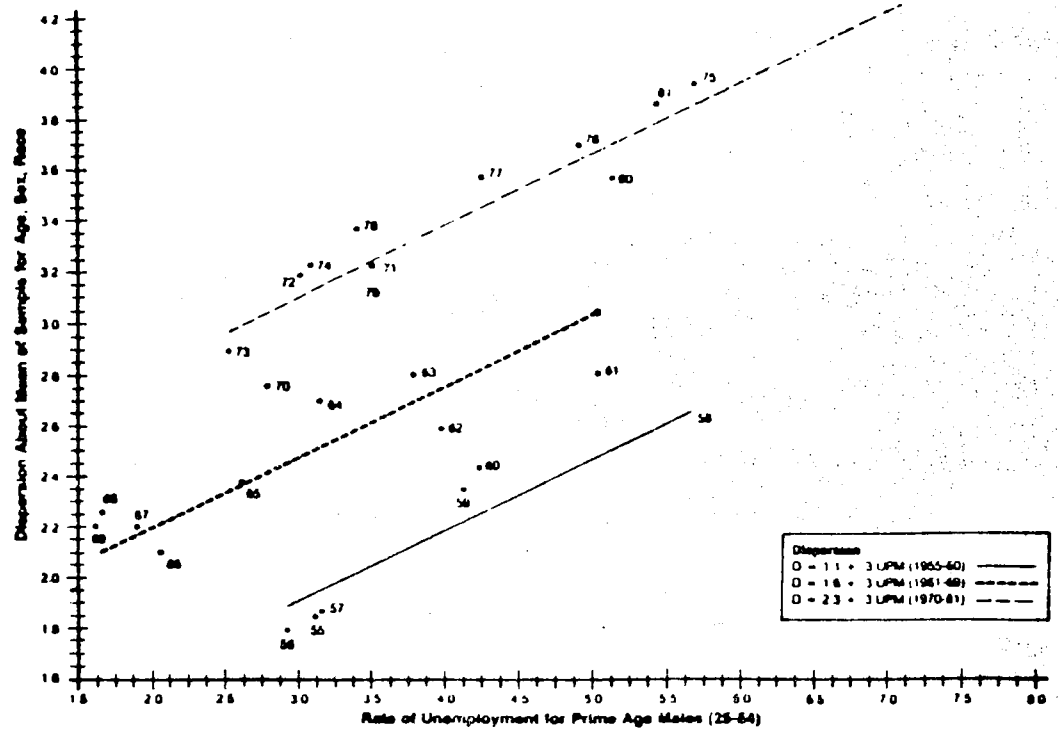
FIGURE 3.2



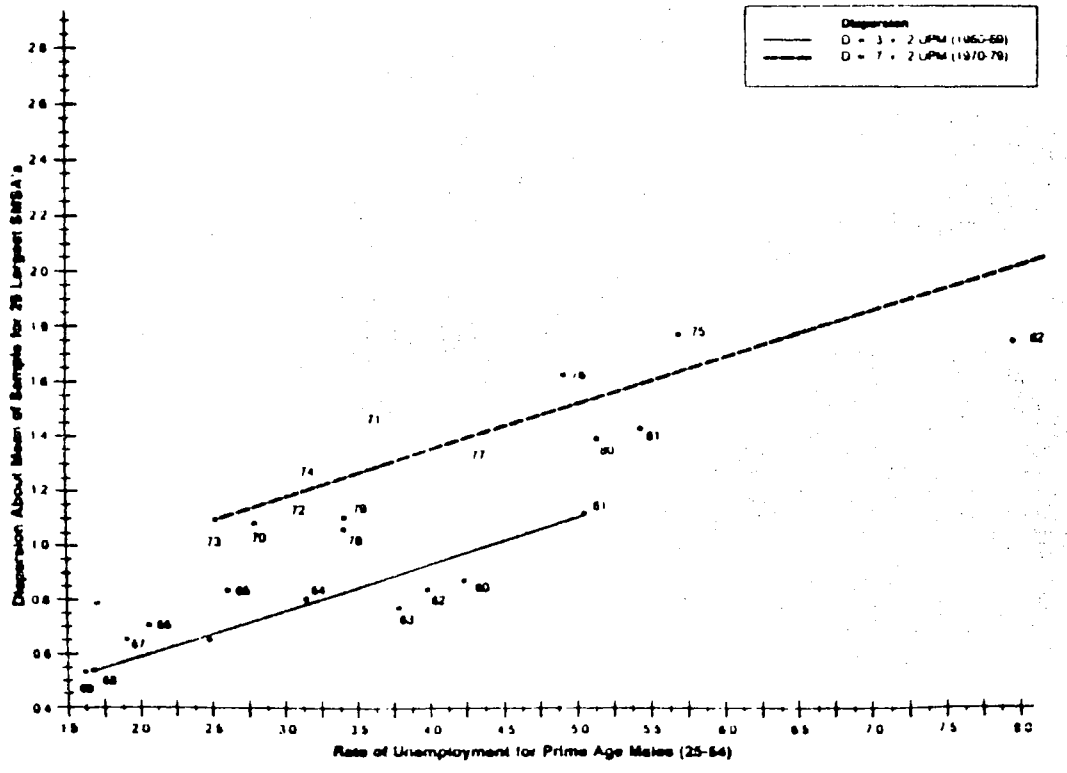
Source: B. Harrison, B. Bluestone, and Chris Tilly "The Great U-Turn" Joint Economic Committee.

FIGURE 3.3

The Dispersion of Unemployment Rates by Demographic Group



The Dispersion of Unemployment Rates by the Thirty Largest Urban Areas



Source: M. Baily "The Problem of Unemployment in the U.S." Brookings Review.

Table 3.4 Unemployment Rates, by Group

	1970	1980	1984	1985
1. Adult Males	3.5	5.9	6.6	6.2
2. Black	8.6[a]	14.3	15.9	13.7
3. Black Males, 16-19	(1971) 31.7	37.5	42.7	41.0
4. Women who Maintain Families	5.4	9.2	10.3	10.4
5. Unemployed 27 Weeks and Over	0.3	0.8	1.4	1.1

Source: Economic Report of the President, 1986.

[a] my estimate from black and other.

Table 3.5: The Composition of Families with Children, by Number of Parents and Sex of Head, and the Number of Families, 1967-1984

	1967	1973	1979	1984
All Families with Children				
Two parents	88.1%	83.6%	78.4%	75.3%
Single parent, male	1.5	1.8	2.5	3.4
Single parent, female	10.4	14.6	19.1	21.3
	100.0	100.0	100.0	100.0
Number (millions)	29.0	31.1	32.2	33.3
White Families with Children				
Two parents	90.9	87.4	83.0	80.2
Single parent, male	1.3	1.6	2.3	3.3
Single parent, female	7.8	11.0	14.7	16.5
	100.0	100.0	100.0	100.0
Number (millions)	25.5	26.8	27.3	27.7
Black Families with Children				
Two parents	66.1	57.3	48.3	44.1
Single parent, male	3.1	3.0	3.8	4.1
Single parent, female	30.8	39.7	47.9	51.8
	100.0	100.0	100.0	100.0
Number (millions)	3.2	3.8	4.3	4.6
Hispanic Families with Children				
Two parents	n.a.	78.1	75.3	70.5
Single parent, male	n.a.	2.1	2.8	4.0
Single parent, female	n.a.	19.8	21.9	25.5
	n.a.	100.0	100.0	100.0
Number (millions)	n.a.	1.8	2.3	2.8

Note: Because white, black, and Hispanics are not mutually exclusive categories, the number of all families with children does not equal the sum of the three groups shown. See footnote 2 in text for details.

Source: Danziger and Gottschalk.

Table 3.6: Manufacturing Share of Output and Employment, 1980-84

	Share of nonagricultural payrolls	Share of Current $ GNP	Share of Constant $ GNP	Millions of Employers
1960	33.7	29.1	21.4	15.2
1970	27.3	24.8	21.0	19.4
1980	22.4	21.2	20.9	20.3
1984	19.9	20.1	21.8	19.4

Source: Economic Report of the President 1986

the quality of jobs. Are the jobs lost through change better or worse than those created in growing sectors?

On the side of those worried about deindustrialization, the industrial structure of the U.S. is definitely shifting toward lower wage and lower productivity employment. In crudest form, this can be seen in the decline of the manufacturing share of employment. More sophisticated analyses which calculate share-shift decompositions (as in our equation (1)) show, that the change in industry mix reduces average wages only relatively modestly (Bureau of Labor Statistics, Gorham), though the effect for some workers with specified characteristics may be quite substantial. Countering the worsened distribution of jobs by industry, however, is the continued improvement in the job structure by occupation, with employment in professional,managerial, and technical jobs growing more rapidly than employment in low-wage occupations (Rosenthal). Finally, within industries there is some evidence that, while occupational distributions are shifting toward more skilled jobs they are doing so in such a manner as to produce a more bifurcated occupational structure. In an unpublished PhD dissertation Patrick Walker has found evidence of such a pattern in most U.S. industries, using data on detailed occupational composition. Whether these results will be confirmed by earnings or wage data within industries, however, is open to question.

A major difficulty in interpreting the changes in job structure in the U.S. is a general failure by analysts to investigate the causes of the changes. If the growth of low-wage service sector jobs reflects the rise of the female work force, and increased number of young workers into the job market, one would be less concerned than if it represents changes in demand and technology with long term consequences for the job and income distribution of primary (male and female) workers as opposed to secondary workers. Similarly, one would be less concerned than the relative decline of manufacturing employment in the U.S. if it is due to presumably short-term overvaluation of the dollar, rather than longterm structural change; or if the service sector will be "creating" better jobs in the future.

Just as one must examine the supply and demand factors that influence wages to evaluate what wages do to employment, so too must one examine the supply and demand determinants of changes in the job structure (the "flexibility" of the job structure?) to determine if those changes are desireable or not.

3.3 Troubled Groups

It is common to distinguish between two groups of workers having job market problems: displaced workers defined as those who lost relatively high-wage and desirable jobs; and disadvantaged workers, whose position in the market never gave them high earnings or employment stability-- and concluded that only the latter faced significant problems.

Evidence on displaced labor in the 1980s shows (Flaim and Sehgal; Podgursky and Swain):

(1) A rather large proportion of displaced workers remaining unemployed long after their displacement, with nearly six months of joblessness on average and with nearly 30 percent of blue-collar workers and 20 percent of white-collar and service workers having spells of joblessness over a year.

(2) loss of health insurance during joblessness for large numbers.

(3) sizeable losses of wages, particularly for those from the durable manufacturing sector, where workers suffered a 21% drop in wages between loss of job and receipt of new job.

While absence of a survey comparable to the recent BLS survey makes it difficult to reach a firm conclusion, the situation faced by displaced workers seems to be worse than previously. Even so, however, most analysts would agree that the economic problems faced by the disadvantaged -- minority youth, female

heads of households-- continue to be more severe. Whereas some displaced workers do very poorly, the proportions with very low incomes is far below the proportions of "disadvantaged workers."

IV Summary of Findings

This review of evidence on the performance of the decentralized U.S. labor market in the 1970s-1980s has revealed several aspects of the U.S. system of wage and employment determination.

(1) The U.S. wage system is relatively flexible across groups of workers and has generated sluggish nominal and real wage growth in a period of time when such growth seems to be a reasonable response to macro economic conditions, namely the oil shock and sluggish overall economic growth.

(2) However, because of a divergence between the CPI and WPI indexes, wages deflated by product prices actually rose substantially in the 1980s while those deflated by consumer prices did not, creating doubts about the contribution of sluggish real wages to the growth of employment in that period.

(3) The fringe benefit share of U.S. pay has continued to rise, with however some indication of a levelling off at least among large firms.

(4) Employment costs in the U.S. have fallen relative to the cost of energy but not relative to the cost of capital, and appear to have behaved no better than relative factor costs elsewhere.

(5) Because the slow growth of wage in the U.S had been accompanied by slow productivity growth, unit labor costs did not improve compared to other countries. Moreover, fluctuations in the value of the dollar have been more important in the U.S competitive position than wage developments.

(6) Wage differentials have risen for union workers, large establishment workers and workers in high-wage industry in what seems to be noncompetitive ways that are deleterious to employment. In each of these cases rising (declining) relative wages were associated with declining (rising) relative employment.

(7) Wage differentials have changed by age, and education and occupation in ways potentially contributing to employment. In each of these cases, when relative wages went down, relative employment grew.

(8) Relative wages have risen for minorities and women with little apparent impact on employment; however wages of blacks may have fallen relative to whites in the 1980s.

(9) The sizeable growth of employment in the U.S compared to Europe has not been accompanied by a superior growth of GDP. It is, by contrast, linked to sluggish productivity growth.

(10) Income inequality and poverty have risen sharply, especially for families with children, though the extent to which this is due to changes in wage structure and other labor market factors is not established. By contrast evidence regarding the declining middle is mixed, with family income data showing a decline and weekly earnings showing no such pattern.

(11) Inequality of joblessness has risen along demographic and geographic lines with black youths, and women who maintain families doing particularly poorly.

(12) Deindustrialization, defined as a relative decline in employment or manufacturing, is less in the U.S. than elsewhere. Measured as a share of constant dollar GDP manufacturing did not become smaller in the economy through the 1980s.

(13) Displaced workers appear to have had greater problems in the job market in the 1980s than in earlier decades, but are still, on average, better off than disadvantaged workers.

All in all, the experience of the U.S. labor market has been more diverse and complex than is recognized by European analysts who glorify "wage flexibility" as an economic cure-all. First, there are questions about the overall contribution of wage flexibility to the employment success of the U.S. While one can cite the decline in youth relative to adult wages as a strong

case-in-point for flexible wages creating jobs, there are other instances of changes in relative wages which did not have such obvious positive employment effects. Second, the decentralized U.S. system may have produced greater inequality than another wage-determining system. If sluggish real wage growth did greatly enhance employment, which is questionable, it did so at the expense of real living standards and increased poverty. Like everything else in economics, a decentralized labor market has negatives as well as positives.

Footnotes

1. OECD, Employment Outlook, September 1985 back cover.

2. See B. Bluestone and B. Harrison; L. Thurow.

3. See R. Freeman in M. Feldstein "Evolution of the American Labor Market 1948-80", The American Economy in Transition, (University of Chicago, 1982) for changes over the long run.

4. It is important to recognize that not all data sets show the increased inequality in wages. Data from May Current Population Surveys show little change in inequality across industries.

5. See R. Freeman, "In Search of Union Wage Concessions in Standard Data Sets," Industrial Relations, 1986.

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