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BY THE US GENERAL ACCOUNTING OFFICE

**Report To The Committee On Labor
And Human Resources
United States Senate**

Minimum Wage Policy Questions Persist

GAO examined the effects of the minimum wage and found that while economic analysts generally agree that it reduces total employment, they do not agree by how much. Although the minimum wage is generally believed to help the poor, after GAO reviewed available statistical evidence, it was unable to clearly determine how the minimum wage affects income distribution.

GAO summarized the potential advantages and disadvantages of several alternatives to current policy suggested by the Minimum Wage Study Commission, notably establishing a youth subminimum wage and indexing the minimum wage for inflation. GAO also examined employment tax credits.



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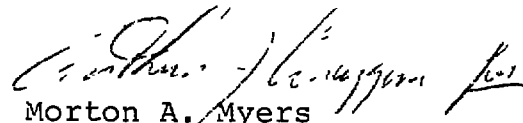
B-209635

The Honorable Orrin G. Patch
Chairman, Committee on Labor
and Human Resources
United States Senate

The Honorable Donald L. Nickles
Chairman, Subcommittee on Labor
United States Senate

This report is in response to your request that we summarize the economic knowledge about how the minimum wage affects employment and the distribution of income. Our study is based on published research and economic analysis. We also examined the May 1981 Report of the Minimum Wage Study Commission. We did not obtain agency comments on this report.

A copy of this report is being sent to cognizant congressional committees, the Secretary of Labor, and other interested parties.


Morton A. Myers
Director

The Fair Labor Standards Act of 1938 first established a minimum wage for many American workers to ensure them of at least a minimal standard of living. In six major amendments to the Act, the Congress increased the minimum wage and the number of jobs subject to the Act's minimum wage provisions. Today, the Federal minimum wage is \$3.35 per hour, and over 80 percent of nonsupervisory employees in private, nonagricultural establishments are covered by the legislation.

EMPLOYMENT EFFECTS OF THE MINIMUM WAGE

Looking at recent econometric studies of how the minimum wage affects labor markets, GAO found virtually total agreement that employment is lower than it would have been if no minimum wage existed. This is the case even during periods of substantial employment growth. This finding is consistent with predictions from economic theory.

The available studies do not present a generally accepted estimate of how many jobs are lost due to the minimum wage. In its report, the Minimum Wage Study Commission surveyed the current research and reported a rough consensus that a 10 percent increase in the minimum wage would lead to a 0.5 to 2.5 percent decrease in teenage employment relative to the employment possible if the minimum wage remains unchanged.

The severity of the employment loss varies among different age, gender, and racial groups in the population. Teenage workers, for instance, have greater job losses, relative to their share of the population or the employed work force, than adults.

INCOME DISTRIBUTION EFFECTS OF THE MINIMUM WAGE

The minimum wage exerts a less clear influence over the distribution of income among workers, households, and families. As the minimum wage reduces employment (relative to the level that would otherwise occur), some workers lose jobs

or are unable to find jobs, and thus lose income. (Again, this income loss is measured relative to the income that these workers would have earned without a minimum wage law.) Moreover, as these workers try to find jobs not covered by minimum wage laws, wages in these jobs may become depressed. At the same time, however, other workers are earning more than they would without the minimum wage. So they enjoy income gains.

Economic theory does not predict whether there will be an overall gain in income or the extent to which employment will be reduced, and empirical evidence does not settle the matter.

ALTERNATIVES TO THE EXISTING STRUCTURE OF THE MINIMUM WAGE

Under the 1977 amendments to the Fair Labor Standards Act, the Congress established the Minimum Wage Study Commission to examine the "social, political, and economic ramifications of the minimum wage . . ." (P.L. 95-151, Section 2(e) (2)). The Commission's report (issued in May 1981) and its working papers (released in July 1981) present a comprehensive review of the issues associated with the minimum wage and of the current economic research on this topic. Most of the Commission's recommendations concern industry exemptions from the Fair Labor Standards Act. GAO did not examine the arguments for and against these recommendations. GAO did look at the Commission's recommendations concerning a youth subminimum wage and an indexed minimum wage.

In its report, the Minimum Wage Study Commission recommended against establishing a national youth subminimum wage. Some observers have suggested such a wage to lessen job losses among teenage workers. This subminimum wage would be lower than the conventional minimum to induce employers to hire teenage workers. The Commission also decided not to suggest local experiments with a youth subminimum wage.

Available economic evidence and analysis neither support nor refute the recommendation against a youth subminimum wage. The evidence does indicate a high probability that the minimum wage is a substantial obstacle to employment among

teenagers. A lower wage for teenagers may make their employment more profitable and attractive to employers. On the other hand, this incentive may become too attractive. Employers may substitute teenage employees for adults. Since adults are more likely to be the primary earners in households, this expense may not be socially acceptable.

The Commission also recommended that the statutory minimum wage be indexed, or adjusted, for inflation. If the statutory minimum wage does not change in response to inflation, the earning power of one hour's labor at the minimum wage is diminished. Indexing the minimum wage may be the fairest and most efficient way of maintaining a constant real purchasing power, or income, for minimum wage workers. At the same time, however, inflation without indexing lessens the real cost to the employer of hiring a minimum wage worker, possibly leading to higher employment.

Subsidizing the employment of low-skilled labor by tax incentives has attracted some support as another alternative to the minimum wage. The subsidy might be designed to relieve the disemployment effects of the minimum wage or, alternatively, to be the cornerstone of a replacement policy for the minimum wage. Just as there is uncertainty about how the gains and losses of the minimum wage are distributed, there is also uncertainty about how this option would change the distribution of income or the substitution of subsidized for unsubsidized employees. The Commission made no recommendations concerning employment tax credits.

LIMITS TO ECONOMIC ANALYSIS OF THE MINIMUM WAGE

Economic analysis has definite limits in the minimum wage debate. It can clearly tell that minimum wage policy does cost society something: employment opportunities among low-skilled workers, such as teenagers, are reduced. Likewise, economic analysis points to the gains of the minimum wage: workers with minimum wage jobs may earn higher incomes. Measurements made by economists of these gains and losses are becoming more precise and reliable, but there still remains inadequate data and differing perspectives on the relationship between wages, employment, unemployment, and the distribution of income. Even

where reasonably precise measurement is possible, these benefits and costs are not evenly distributed across the population. Political questions of distributional fairness and social policy become key elements in assessing minimum wage policy. These questions cannot be answered through economic analysis alone.

OBJECTIVES, SCOPE, AND METHODOLOGY

GAO undertook this study at the request of the Chairmen of the Senate Committee on Labor and Human Resources and the Subcommittee on Labor. They asked GAO to summarize the economic knowledge about how the minimum wage affects labor markets. This overview of the research, while not exhaustive, also can provide a framework for assessing future investigations in this area.

GAO did not solicit comments from executive agencies. This report does not examine the operations of any agency nor does it recommend any administrative or policy changes.

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ABBREVIATIONS

FLSA	Fair Labor Standards Act
FTS	Full-time student
P.L.	Public Law
TJTC	Targeted Job Tax Credit

CHAPTER 1

INTRODUCTION

Despite the level of attention that minimum wage legislation has attracted and the amount of research conducted to evaluate its effects, analysts still do not agree on how extensively minimum wages affect employment and the distribution of income. Proponents of minimum wage legislation argue that such laws ensure that workers are paid at least enough for a minimum standard of living. Opponents counter that minimum wages destroy jobs by making it unprofitable for business to employ some low-skilled workers.

Minimum wages are more important to some groups of workers and employers than to others. While over 80 percent of employed workers are covered by the Federal Fair Labor Standards Act (FLSA) minimum wage standard, many of those workers generally earn more than the minimum wage. Skilled workers generally earn higher wages than unskilled workers. So, for example, highly skilled production workers in the primary metal goods industry who earn \$8.97 an hour are not affected by minimum wages in the same way as employees in retail trade who average \$4.53 per hour, with many earning just the minimum wage. 1/

Responding to a request from the Chairmen of the Senate Committee on Labor and Human Resources and the Subcommittee on Labor, we reviewed recent economic research into the consequences of minimum wage legislation. We were asked to pay particular attention to the final report of the Minimum Wage Study Commission, released in May 1981, and the Commission's published research.

OBJECTIVES, SCOPE, AND METHODOLOGY

Our work has two objectives. The first is to examine the employment and income effects of minimum wages. Among the questions that we address under this topic are

1. What changes in employment and unemployment, especially among low-skilled workers, have minimum wages caused?
2. If some workers lose jobs (or are unable to find jobs) because of minimum wages, are the costs of these losses offset by the income gains enjoyed by those whose jobs pay a higher wage because of minimum wages?
3. Are the losses due to the minimum wage policy disproportionately borne by any particular group in the population, such as teenagers?

1/Bureau of Labor Statistics, Handbook of Labor Statistics 1980, Tables 90 and 92 (pp. 184 and 186).

The second objective of this study is to survey several proposed alternatives to the existing structure of the minimum wage and present brief assessments of their justifications. These alternatives include a youth subminimum wage, an indexed minimum wage, and an employment tax credit.

This report does not present any new research into the economic effects of minimum wages. The overriding goal is to present a framework and criteria for assessing the validity of the frequently conflicting conclusions. It would have been impossible to examine every study that looked at minimum wages, and studies will continue to be published after this report is issued. Our framework puts the studies we assessed into the context of other research, helps reconcile differences in analysis and conclusions, and provides a basis for deciding how firmly a study's conclusions and recommendations are based.

Our methodological approach is to review published research, including books, monographs, and articles, that address the primary questions of this report. We rely heavily on economic analysis.

Several criteria underlie our evaluation and review of this research. First, the theoretical and conceptual explanation of how minimum wages affect workers and employers must be logically sound. This is important since it tells us what types of effects we should expect, such as changes in employment levels. In some instances, the theoretical analysis identifies the general nature of the effect, such as decreased employment in industries covered by minimum wage legislation. The theoretical analysis, however, does not predict how large these changes will be, nor will it predict the direction of all changes. Economic theory, for instance, cannot tell us whether the incomes earned by low-skilled workers will increase or decrease following an increase in the minimum wage.

The second criterion for evaluating the minimum wage is that the data used and the analysis performed must be consistent with accepted statistical methodology and the methodology suggested by economic theory. The data chosen for examination and the statistical methods selected for the analysis should not prejudice the results. The story told by empirical analysis should be consistent with the predictions of the theoretical analysis. If not, and the differences are not adequately explained, the empirical results cannot be a persuasive basis for accepting the conclusion.

The report is organized as follows: Chapter 2 provides a brief background for discussing minimum wages. It discusses the intent of the Federal minimum wage law, the coverage of the law, and the changes made in the level of minimum wages. Chapter 3 examines the employment effects of minimum wages. It first surveys the predictions of economic theory and then examines the empirical research in this topic. Chapter 4 looks at how minimum wages affect the distribution of income among households and

families, again considering both the theoretical predictions and empirical findings. Chapter 5 reviews several alternatives to the current structure including, a youth subminimum, an indexed minimum wage, and employment tax subsidies. Finally, chapter 6 presents our concluding observations.

CHAPTER 2

MINIMUM WAGES: BACKGROUND

The central aim of the Congress in setting minimum wages is to achieve and maintain minimum living standards. The Congress felt that substandard wages or working conditions would be detrimental to workers and, so, endanger business:

The Congress finds that the existence, in industries engaged in commerce or in the production of goods for commerce, of labor conditions detrimental to the maintenance of the minimum standard of living necessary for health, efficiency, and general well-being of workers (1) causes commerce and the channels and instrumentalities of commerce to be used to spread and perpetuate such labor conditions among the workers of the several States; (2) burdens commerce and the free flow of goods in commerce; (3) constitutes an unfair method of competition in commerce; (4) leads to labor disputes burdening and obstructing commerce and the free flow of goods in commerce; and (5) interferes with the orderly and fair marketing of goods in commerce. 1/

While the Fair Labor Standards Act minimum wage requirement does not apply to all workers, more people are covered now than when the Act became law in 1938. At that time, the minimum wage standard covered less than half of the nonagricultural and non-supervisory workforce 2/ Coverage varied among different industries. Virtually all jobs in service and retail trade industries were excluded, as were agricultural jobs.

Starting in 1950, amendments to the Fair Labor Standards Act expanded coverage. Today, it is estimated that 83.8 percent of nonsupervisory employees are in nonagricultural jobs covered by the minimum wage standard. Table 1 summarizes this expansion. The level of the minimum has also been increased through a series of amendments. 3/ A recent amendment, enacted in 1977, increased the minimum wage to its current \$3.35 per hour level. 4/

1/29 U.S.C. 202(a).

2/F. Welch, Minimum Wages (Washington, D.C.: American Enterprise Institute, 1978), p. 3.

3/See Welch (1978) for a summary of the amendments. Recent amendments have also extended coverage to some agricultural jobs. But the research we reviewed focuses almost exclusively on non-agricultural employment.

4/29 U.S.C. 206(a) (1).

Table 1

Minimum Wage Coverage Under Federal
Fair Labor Standards Act, 1938-1981

<u>Date of Change in Minimum Wage Coverage</u>	<u>Percentage Covered by FLSA</u>
10/38	43 4
1/50	53 4
3/56	53 1
9/61	62.1
2/67	75.3
5/74	83 7
1/78	83.8

Source F. Welch, Minimum Wages (Washington, D C American
Enterprise Institute, 1978), p 3

The effect of minimum wage legislation on labor markets depends on how limiting the law is in the wage setting process: A law that covers few workers influences wages less than a law mandating universal coverage. Similarly, a minimum that is less than the wage most workers would earn even if there were no legislation does not matter as much as a substantially higher minimum. Finally, how effectively the law is enforced will affect its significance.

MINIMUM WAGE COVERAGE AND COMPLIANCE

While the coverage of the minimum wage affects its importance, coverage is difficult to measure. The coverage ratio--the percentage of employees in jobs subject to minimum wage requirements--is the most commonly used measure, but it is not perfect. The change in the coverage ratio depends on changes in the relative supply and demand for labor in jobs covered and not covered by the minimum wage. Changes in the composition of the economy's output, in technology, in labor force participation, education, and skills could all influence the supply and demand for labor in covered and uncovered jobs.

The coverage ratio, as it is measured, cannot capture some labor force changes attributable to minimum wages. A hypothetical situation helps illustrate this point. Suppose 50 workers are employed in each of two "sectors" of an economy and that a minimum wage is imposed on one sector. The coverage ratio then would be 50 percent (50 covered ÷ 100 workers). If the minimum wage is set higher than the prevailing wage, however, some workers will lose jobs in the covered sector. Some, though not necessarily all, may get jobs in the uncovered sector. For example, if 10 workers lose jobs and only 5 have been rehired in jobs not covered

by the minimum wage, then the coverage ratio is 42 percent [(40 covered ÷ (40 covered + 55 uncovered)] and the unemployment rate is 5 percent. The coverage ratio, by itself, does not tell whether such a change occurred. Similarly, the coverage number does not show whether or not employers in the covered sector change some jobs from full- to part-time to save on labor costs.

Further, since not everyone complies with minimum wage laws, the coverage ratio can be misleading. 1/ Some employers may find it more profitable to risk fines and not pay the minimum wage than to pay the minimum. Others may not understand the requirement. If employees do not report a violation, the chances of it being discovered may be fairly small, especially in some types of work where employment agreements can be informal. 2/

One of the few studies on compliance concluded that "while substantial, compliance is anything but complete." 3/ Researchers estimated that the overall compliance rate in 1973 was 69 percent, that is, that 69 percent of workers covered by the FLSA minimum wage provisions actually received at least the minimum wage. 4/ Compliance did vary among different population groups. In general, compliance appeared to be higher among workers where the "market incentive to violate" the Act is strongest, i.e., low-skilled workers. 5/ (Teenage workers appeared to be the exception to this finding, having compliance rates lower than adults.) The authors noted that the Government's enforcement strategy targets the employers with the greatest incentive to violate the law.

LEVEL OF MINIMUM WAGES

Several measures can show how important the minimum wage is. Since a minimum wage will not have any effect if it is set below a level that workers would earn regardless of the legislation, comparing the minimum with wages earned in different industries

1/In a GAO report, "Changes Needed to Deter Violations of Fair Labor Standards Act" (HRD-81-60), substantial evidence of non-compliance with minimum wage (and other provisions) of the FLSA was found.

2/For example, some day labor is paid in cash. The worker may find it worthwhile to work for less than the minimum (if the job is covered by the FLSA) without the transaction being recorded for tax purposes. Such "underground" transactions are extremely difficult to detect.

3/O. Ashenfelter and R. Smith, "Compliance with the Minimum Wage Law," Journal of Political Economy (1979), pp. 333-350.

4/The 95 percent confidence interval for this estimate is 63 to 75 percent.

5/Ashenfelter and Smith, p. 333

helps point out which industries are most likely to be influenced by minimum wages.

Other measures also contribute to showing the effect of minimum wages. Real minimum wages (i.e., minimum wage corrected for inflation), for instance, better measure how the minimum wage level has grown over time than the more familiar current dollar level. A comparison between the annual income of full-time minimum wage employees and the poverty level of income can show how attractive the wage actually is to low-income workers.

Table 2 compares the Federal minimum wage for three industry groupings since World War II. As the table shows, manufacturing industries have average wages that greatly and consistently exceed the minimum. In those cases, the minimum wage does not matter as much as it does in other industries. On the other hand, the average hourly earnings in retail and wholesale trade is closer to the minimum. So, the minimum wage should be more important for trade than manufacturing. This is where we should expect to see any effect from minimum wages

Table 2
Real Values of Federal Minimum Wages
And Average Hourly Earnings In
Selected Industry Groupings, 1947-1980
(1972 dollars)

<u>Year</u>	<u>Minimum Wage a/</u>	<u>Average Hourly Earnings</u>		
		<u>Manufacturing</u>	<u>Services b/</u>	<u>Wholesale and Retail Trade</u>
1947	0 76	2 29	c/	c/
1950	1 32	2 52	c/	c/
1955	1 17	2 88	c/	c/
1960	1 39	3 15	c/	c/
1965	1 62	3 39	2 66	2 64
1970	1 73	3 63	3 04	2 94
1971	1 66	3 70	3 15	2 99
1972	1 60	3 82	3 27	3 05
1973	1 51	3 87	3 29	3 06
1974	1 72	3 81	3 23	3 00
1975	1 68	3 86	3 21	2 99
1976	1 75	3 96	3 28	3 02
1977	1 65	4 07	3 33	3 06
1978	1 78	4 14	3 35	3 13
1979	1 79	4 12	3 30	3 12
1980	1 73	4 07	3 27	3 06
1981	1 73	4 12	3 31	3 06

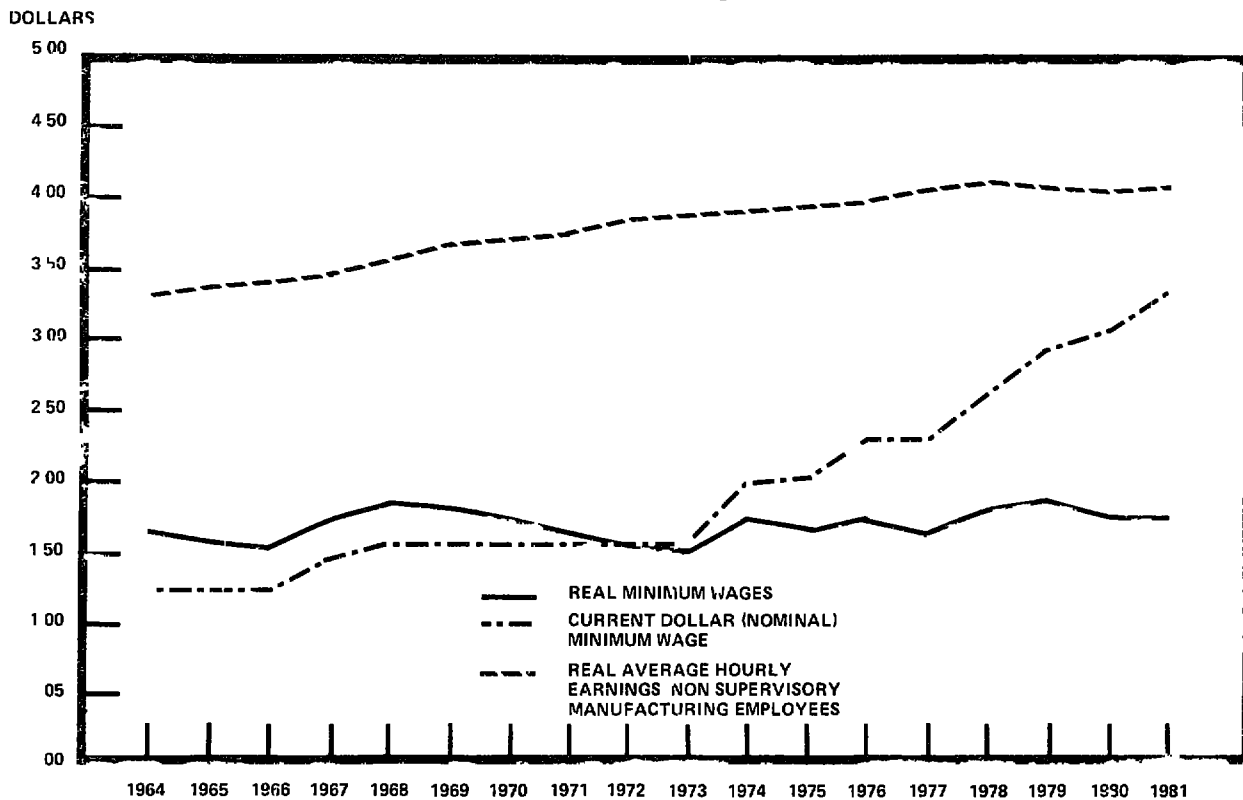
a/Highest value of Federal basic minimum wage during calendar year divided by personal consumption expenditure implicit price deflator

b/This classification is the same as that defined by the Bureau of the Census to cover all service workers including those employed in private households

c/Data not collected until 1964

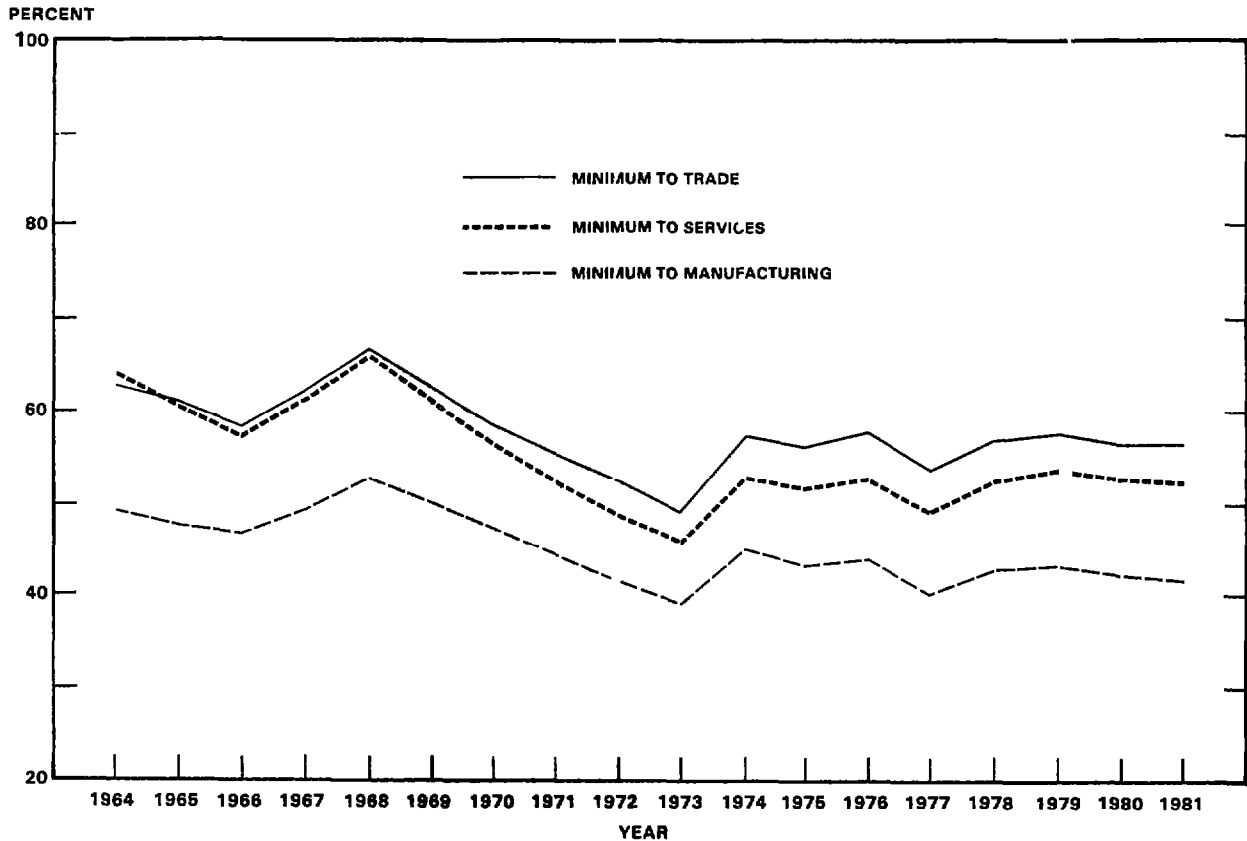
Figure 1 tells a similar story. It compares the real value of the minimum wage with the nominal (current dollar) value and with real average wages in manufacturing ^{1/} First, the real value of the minimum fluctuates much more than the nominal minimum. Second, the real minimum wage is closer to the real average wage in manufacturing in some years than others. We would expect it could be more important during those years, but it still does not directly affect many workers, particularly in manufacturing. As figure 2 shows, the basic minimum is generally about half the value of the average hourly earnings in manufacturing and slightly more than half the value of the average hourly earnings in services and in wholesale and retail trade.

FIGURE 1
COMPARISON OF MINIMUM WAGE TO
AVERAGE WAGES



^{1/}The consumption expenditure deflator used in computing the National Income and Product Accounts was used to deflate the two wages. This measure best captures the way that inflation affects earnings. The measure, like all similar deflators and price indices, does have its limitations, however

FIGURE 2
FEDERAL MINIMUM WAGES AS A PERCENTAGE OF AVERAGE HOURLY EARNINGS
IN SELECTED INDUSTRY GROUPINGS

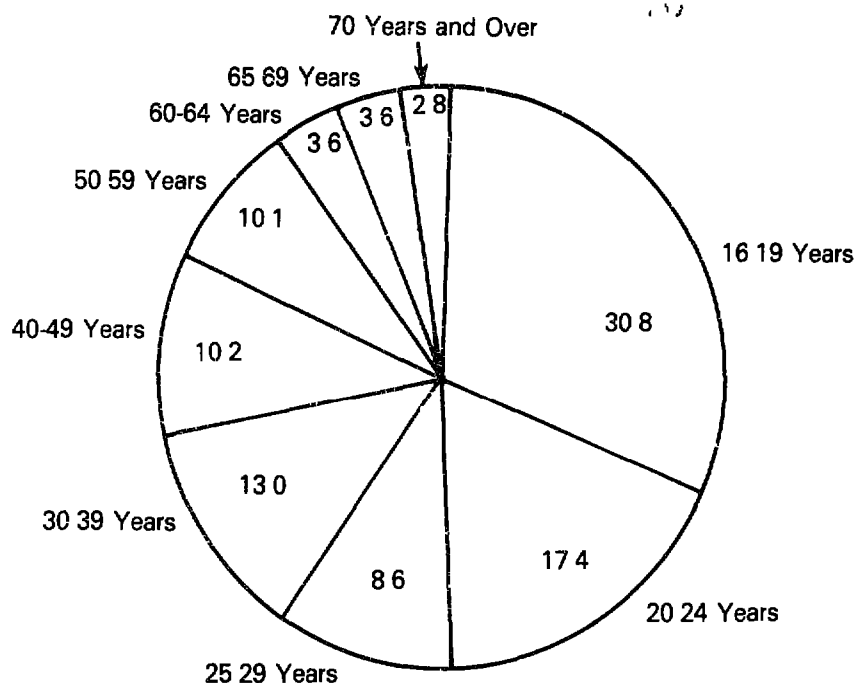


Some characteristics of the low-wage population

Many social, demographic, and economic characteristics could be used to describe the minimum wage group. Three important ones are age, family income, and family relationships. These characteristics of minimum wage workers distinguish them as a group from the general work force.

Figure 3 shows the age distribution of workers at or below the minimum wage. Nearly half of all such workers are under 24 years of age, while another 10 percent are over 60. The remaining 40 percent of workers receiving the minimum wage (or less) are scattered more or less evenly between 25 and 59. Teenagers, with 31 percent, are the largest sub-group in the distribution.

Figure 3
Distribution of Employed Wage and Salary Workers At or Below the Minimum Wage
by Age, Second Quarter 1980



Source: Gilroy, A Demographic Profile of Minimum Wage Workers (1981) Figure 2 p156

The allocation of low-income workers by total family income is shown in table 3. It is of interest that while one-fourth of low-wage workers are in families with incomes below \$6,000, almost 40 percent have family incomes in excess of \$15,000. 1/ Clearly, minimum wage workers do not live only in poor families.

It has been suggested that large numbers of the low-wage population are either wives or teenage children of the family head, who is usually, but not always, primary earner in the family. 2/ Table 4 shows that household heads make up only 27.3 percent of all minimum and subminimum wage workers while nearly 70 percent are either spouses or other relatives of the head. Moreover, less than 7 percent of all household heads who are employed as wage and salary earners receive the minimum wage or less.

1/In 1978, the median family income was about \$16,000

2/The Census Bureau defines the husband, if present, as the head of the household irrespective of his earnings.

Table 3
Wage and Salary Employment of Persons At or Below the Minimum Wage
by Family Income, May 1978

(Numbers in thousands)

Family Income	All Employed Workers ¹	Minimum Wage Workers ²						As % of All Minimum Wage Workers
		Total		Below Minimum		At Minimum		
		Number	Percent	Number	Percent	Number	Percent	
(A) All Workers ³	65 512	9 229	14.1	4 805	7.3	4 424	6.8	100.0
Less than \$6 000	5 933	2 271	38.3	1 305	22.0	966	16.3	24.6
\$6 000 \$9 999	8 375	1 589	19.0	799	9.5	790	9.4	17.2
\$10 000 \$14 999	14 160	1 846	13.0	902	6.4	944	6.7	20.0
\$15 000 \$24 999	23 327	2 238	9.6	1 130	4.8	1 108	4.8	24.3
\$25 000 \$49 999	12 538	1 146	9.1	573	4.6	573	4.6	12.4
\$50 000 and over	1 179	139	11.8	96	8.1	43	3.7	1.5

Note Individual items may not add to totals because of rounding

¹Refers to wage and salary workers only

²The minimum wage was \$2.65 per hour in May 1978. Those working at the minimum include the interval \$2.60 - \$2.69 to account for rounding problems which would otherwise exclude workers who were reported as not earning exactly \$2.65. Those workers earning less than \$2.60 are included in the below minimum group.

³Refers to annual income over the 12 month period prior to the (May) survey. This figure is somewhat less than the reported level of wage and salary employment because about 1.4 million employed persons did not answer the question on family income.

Source: Ciloyp op cit p 178

Table 4
Wage and Salary Employment of Persons At or Below the Minimum Wage
by Household Relationship, May 1978

(Numbers in thousands)

Family Income and Household Relationship	All Employed Workers ¹	Minimum Wage Workers ²						As % of All Minimum Wage Workers
		Total		Below Minimum		At Minimum		
		Number	Percent	Number	Percent	Number	Percent	
<u>All Workers</u>								
Total	65 512	9 229	14.1	5 055	7.7	4 177	6.4	100.0
Household Head	37 427	2 520	6.7	1 585	4.2	935	2.5	27.3
Spouse of Head	15 424	2 470	16.0	1 275	8.3	1 195	7.8	26.8
Other Relative of Head	10 754	3 889	36.2	1,961	18.2	1 928	17.9	42.1
Nonrelative of Head	1 912	353	18.5	234	12.2	119	6.2	3.8

Note Individual items may not add to totals because of rounding

¹Refers to wage and salary workers only and excludes self employed and unpaid family workers. This figure differs from the 87.8 million officially reported employed wage and salary workers in the Current Population Survey because it excludes those self employed workers whose businesses were incorporated.

²The minimum wage was \$2.65 per hour in 1978. Those working at the minimum include the interval \$2.60 - \$2.69 to account for rounding problems which would otherwise exclude workers who were reported as not earning exactly \$2.65. Those workers earning less than \$2.60 are included in the below minimum group.

Source: Gilroy op cit p 180

SUMMARY

The Fair Labor Standards Act of 1938 first established a minimum wage for many American workers. In six major amendments to the Act, the Congress increased the minimum wage and the number of jobs subject to the Act's minimum wage provisions. Today, the Federal minimum wage is \$3.35 per hour and over 80 percent of nonsupervisory employees in private, nonagricultural establishments work in jobs covered by minimum wage legislation. Since minimum wages have not been annually adjusted for inflation, their real value has fluctuated considerably more than the nominal or current dollar values. Coverage ratios also have limits in capturing the labor force effects of minimum wages.

CHAPTER 3

EMPLOYMENT EFFECTS OF MINIMUM WAGES

Since the earliest analyses of how minimum wage laws influence choices made by employers and workers, there has been a persistent fear that the higher wages earned by some workers come at the expense of others who lose jobs. Employers may find it unprofitable to employ some workers, particularly those without experience and skills, at the legally mandated wage. So, employers may fire some employees or, more likely, decide not to hire some applicants or as many applicants as they might have if no minimum wage law existed. Alternatively, some employers may cut the hours worked by some minimum wage employees. The potential loss of jobs illustrates the dilemma of minimum wage laws: Do the benefits of higher incomes among some employees outweigh the job losses and foregone employment opportunities of others? In this chapter we explore the evidence concerning the employment effect of minimum wages.

WHAT CHANGES HAS THE MINIMUM WAGE CAUSED?

The most rudimentary explanation of how minimum wages affect employment points to job losses when employers find it unprofitable to employ current workers or applicants. ^{1/} More sophisticated analyses extend this reasoning to recognize that some workers who lose jobs (or are unable to find jobs) when covered by the minimum wage may find other jobs that are not subject to minimum wage requirements. Each of these theoretical explanations is discussed in turn.

Basic theory of minimum wages

Employers decide to hire workers so that their product-- either a good or a service--can be made and sold at a profit. The profit motive plays a critical role in the employer's decision of how many workers to hire and/or what wage to pay. Workers, similarly, base their job decisions on wages and salaries, job conditions, and other variables.

While this rudimentary model of the market for labor services obviously does not come close to telling the complete story of how the interactions of employers and employees lead to determining

^{1/}For the remaining part of this chapter, the terms "job losses" and "employment losses" refer not only to any job terminations that result from imposing a minimum wage or increasing the minimum, but also to potential jobs lost. Later discussion notes that employment may continue to grow even after a minimum wage is imposed or increased. If that increase is less than it would have been apart from minimum wage changes, the additional jobs that are not created are counted as "lost" jobs.

employment levels and wages, it is good enough to depict some consequences of minimum wage laws. While some features of this model prevent it from being applied to the real world, its simplicity highlights the nature of the results.

Figure 4 is a convenient way to demonstrate the workings of the basic model. The demand curve, DD, represents how much labor service employers are willing to hire at a particular wage. (Labor service can be measured either in the number of employees or the number of hours worked.) The supply schedule, SS, indicates how much labor is available at different wages. The supply curve slopes upward since more people are willing to work, and want to work longer hours, when wages are high than when wages are low. ^{1/} Conversely, the demand for labor slopes down, since employers are willing to hire less labor at higher wages than they are at lower wages. Somewhere between the two, supply and demand are balanced, and workers and employers "agree" on the employment of L units of labor services at a wage of W . This occurs at "e"--the equilibrium in the labor market.

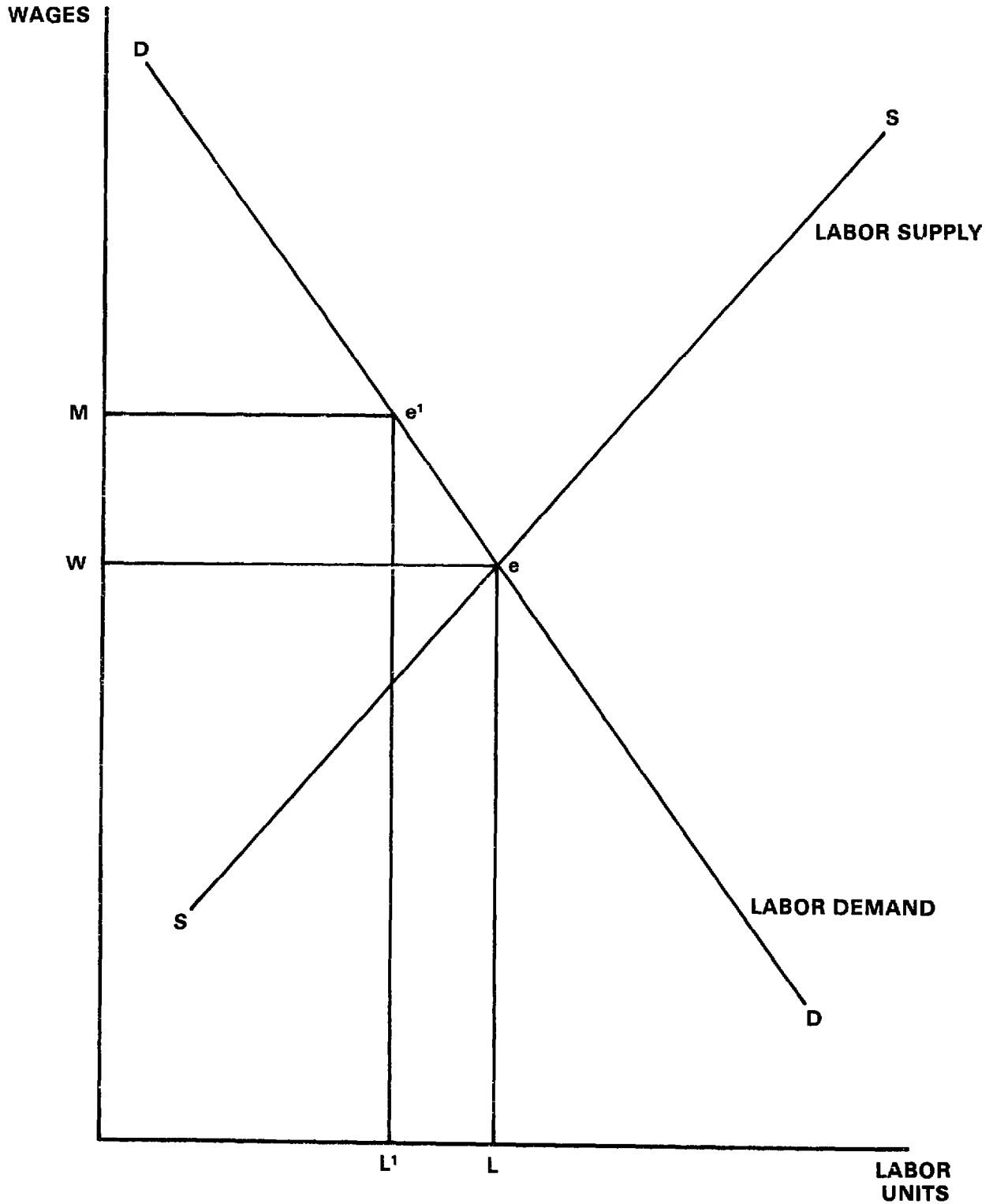
When a minimum wage, M , is imposed, the old equilibrium can no longer be reached. The equilibrium shifts to point e^1 and employment drops to L^1 . More people are willing to work, or work longer hours, at the minimum wage, M , than at the old equilibrium wage, W . Employers, however, are not willing to hire all applicants (or to employ them for as many hours), nor are employers willing to hire as many workers at wage M as they were at wage W . As a result, employment falls when the minimum wage is imposed.

While this simple textbook exercise obviously does not depict the full operation of a labor market when a minimum wage is imposed, it points to two important results or consequences of the minimum wage. First, employment will fall unless something changes employers' decisionmaking processes. (Potential causes of such changes are discussed later in this chapter.)

Second, the predicted employment drop in jobs subject to a minimum wage after the minimum becomes effective depends on how steep the DD line is. Smaller employment drops are associated with steeper lines, larger drops with less steeply sloped lines. Steep lines show that employers do not vary employment demand as much in response to wage changes as they would if the DD lines were less steeply sloped. If employers are not very responsive (in terms of changed employment) to wage levels, imposing a

^{1/}Some empirical work suggests that the labor supply curve bends backward at some high wage level as potential labor is withdrawn from the market. At high incomes, for instance, workers may be unwilling to work additional hours and may prefer to take more leisure time. Since we are primarily interested in low skilled and low-wage workers, this phenomenon is not explored here.

FIGURE 4
EFFECT OF MINIMUM WAGE ON EMPLOYMENT
RUDIMENTARY MODEL



minimum wage will cause less of a loss of jobs than if the employers' demands for labor services were more sensitive to wage changes.

Economists measure this sensitivity to wages by estimating the "elasticity of labor demand." This elasticity is defined as the percentage change in employment demand divided by the percentage change in wages. The elasticity measure is better than absolute estimates of employment change since elasticity estimates are not confused by differences either in the units of measure or the relative magnitudes. Employment, for example, is measured in hours worked while wages are measured in dollars. Expressing both employment and wage changes in terms of percentage change prevents making potentially misleading estimates of how sensitive employment demand is to wages over a range of wages. 1/ Inelastic demand at the existing wage means that a rise in the minimum wage would cause a relatively smaller (possibly much smaller) fall in employment. In other words, with inelastic demand for unskilled labor, the number of people employed at the minimum wage is not very responsive to changes in that wage. Consequently, the more inelastic is the demand, the smaller are the employment effects and, thus, most other effects attributed to a rising legal minimum wage. 2/

Elasticity estimates also gauge the effect of minimum wages on the income of workers. If the estimated elasticity of labor demand shows it to be inelastic, for example, workers' total incomes will jump when a minimum wage becomes effective. (Income earned under a minimum wage (M times L') is greater than income earned in the absence of a minimum wage (W times L)). Referring back to figure 4, suppose that "labor units" are measured in hours of work. We know from the figure that after the minimum wage is raised employers will reduce the number of hours employees work. Even though workers earn more, individually and as a group employment must fall. Economic theory, however, does not predict how much it will fall. Estimating the size of the fall is a statistical task, using the available data on labor markets.

1/Elasticity estimates are fairly easy to interpret. Since the demand for labor falls as wages rise, the elasticity will be a negative number. If the elasticity is less than -1 (such as -1.5), then demand is said to be elastic. In the example of an estimated elasticity of -1.5 , a 1 percent increase in wages will lead to a 1.5 percent decrease in employment. Conversely, if the elasticity is greater than -1 (but less than zero), labor demand is inelastic. An elasticity estimate of -0.5 , for instance tells that a 1 percent increase in wages will lead to a 0.5 percent decrease in employment.

2/Strictly speaking, these comments about the responsiveness of employment to changes in the minimum wage are true only for relatively small changes in the minimum wage.

Elasticity estimates are key pieces of information in assessing the effect of minimum wages on labor markets. Recently, the method of estimating the elasticity of demand for labor has become more sophisticated. The estimating methods allow the researchers to control for variables other than wages that affect labor demand so that the elasticity estimate is not clouded by changes in these other variables. Among the variables considered in these more sophisticated studies, but not discussed above, are

- the existence of jobs not covered by minimum wage laws,
- variations in the level of economic activity that help explain employer demand for labor, and
- differences among workers and employers, such as differences in the employment of teenagers relative to adults or skills required of workers by employers.

Despite these improvements, estimating the elasticity of labor demand is both difficult and subject to measurement errors. Some of these problems will be discussed later. Imprecise elasticity estimates are one of the reasons for the continuing lack of a consensus on the effects of minimum wage legislation.

Extension of the basic model of minimum wage effects

The basic model just outlined must be modified to include the reactions of employers and their employees in occupations or businesses that are not covered by the minimum wage. The "covered" sector will react, at least initially, in the same way as shown in earlier discussion centered around figure 4. As employees or work hours become too expensive to the employers, they will shed workers or reduce the number of hours that employees will work. Employers not subject to minimum wage rules may hire some of the displaced workers. (The "displaced" or "disemployed" workers include both those fired and those forced to work shorter hours.) The workers displaced by the minimum wage may try to find new jobs (perhaps second jobs) in the uncovered sector. The influx of workers into that sector, however, may lower wages there so much that some displaced workers may decide to be voluntarily unemployed until jobs open up in the covered sector (at the higher minimum wage).

If some workers lose jobs because of minimum wages and decide to try for jobs not covered by minimum wages, how many will be successful and what wages will they earn? Economic theory has not predicted how many workers, if any at all, will "transfer" from one sector to the other. But, the expanded supply of workers seeking jobs in the uncovered sector leads us to predict that wages there will fall, although we cannot say by how much. The number of workers who successfully transfer and the wages they will receive are empirical issues that have not been carefully investigated in the literature.

Skills and jobs

A second feature of labor markets not adequately considered in the simple model is the diversity of the labor force. There was no discussion of differences among workers--in terms of experience, skills, and training.

Incorporating differences in skill levels into the empirical analysis of how minimum wages affect labor markets is difficult because there is no generally accepted way to fully and objectively measure worker skill. Since no "perfect" measure exists, researchers have used several variables as "proxies," (variables that try to capture the essence of the unmeasurable skill variable). In some studies that observe the behavior of individual workers, years of experience can be an adequate proxy. More commonly, studies that track the number of employed workers over time break employment into categories determined by the age, race, and sex of the employees, and the researchers focus on how each group fares over time in the labor market. Finally, a time trend (i.e., 1, 2, 3, . . .) is often included to capture steady growth in labor skill (for the entire population) over time.

Labor force "tightness" and participation

Our earlier discussion of the simple labor market rested on an assumption that the supply and demand curves (SS and DD in figure 4) do not change over time. In reality, the supply of and demand for labor services, especially for a particular type or quality of labor or in a specific industry or firm, does shift. Employer demand for teenaged labor, for instance, will probably fall when adult unemployment is growing. Less experienced workers and teenagers are more likely to be fired or laid off. Several variables are used to account for these types of shifts and changes that underlie the labor market.

Frequently, adult unemployment is used to measure how "tight" a labor market is at a particular time. When adult unemployment is high, for instance, employers have more opportunity to hire adult workers rather than teenagers. Adults are preferred over teenagers, by some accounts, as more experienced and reliable employees. Conversely, when adult unemployment is low, fewer adults apply for jobs. So, teenagers, who may not have been hired otherwise, are more likely to be employed.

A related variable incorporated in the analyses is the labor force participation rate. It measures the percentage of a population group (such as teenagers) that is in the labor force, i.e., either employed or actively looking for a job. The participation rate helps tell how "tight" the labor market is and how well working competes with alternatives. If the labor force participation of teenagers is low because of school enrollment, this limits the supply of labor services that teenagers are willing to provide--

fewer teenagers chase the available jobs. Fluctuations in the participation rate, such as the seasonal jump in labor force participation of teenagers during summer months, will affect how many teenagers are employed.

Finally, shifts in the demand for the goods and services produced by a firm, industry, or the Nation, create changes in the labor market. During periods of growth, employers increase hiring. The opposite happens during slack periods in the economy. 1/ In estimating the effects of changes of minimum wage policy on employment levels, demand for final output has to be considered. National income is a commonly used variable for this.

STATISTICAL ESTIMATES OF EMPLOYMENT CHANGES

As the earlier discussion explained, the estimated elasticity of demand for labor services is the key to explaining labor market reactions to a minimum wage. While this estimate cannot stand alone, it is an integral part of the full explanation, which is why our discussion of the empirical research into minimum wages focuses on the elasticity issue.

Before summarizing the conclusions drawn from the empirical research, several points ought to be made about the way that we measure employment effects of minimum wages. First, we see the elasticity estimate as a measure of the percentage change in the number of jobs resulting from either imposing a minimum wage or increasing the mandated wage. Finding that the research consistently measures some job loss does not mean that we ought to expect declining levels of employment over the history of minimum wage laws, however. The estimated job loss is measured relative to the level of employment that would probably have existed had there not been a minimum wage. Thus, total growth in employment does not contradict the estimated job loss; the estimate simply means that the job growth is not as high as it would otherwise have been. 2/

Second, we are looking primarily at employment, not at unemployment. The two are not necessarily opposite sides of the coin. If minimum wages attract new workers to the labor market and these people do not find jobs, they are counted as unemployed.

1/When economists refer to the demand for labor services as "derived demand," this means that the demand for labor is derived from (or based on) the demand for final output.

2/Another way to look at this involves the ceteris paribus assumption (all else held constant) frequently used in economic analysis. Suppose that population, national income, etc. did not change the demand and supply of labor: how would a minimum wage effect the outcome of the labor market? Holding all other factors constant, the level of employment would fall.

Conversely, those who stop looking for jobs because no employers will pay the minimum wage are not counted as unemployed. ^{1/} Either way, the effect of minimum wages on unemployment rates is not only difficult to measure, the effect cannot be counted on to portray all the consequences of minimum wages.

General conclusions from empirical studies: employment

Several general conclusions about the employment effect of minimum wages can be drawn from the extensive empirical research:

- Employment is lower than it would have been had there been no minimum wage.
- Different groups of workers experience different job losses as a result of minimum wages. Teenagers seem to experience relatively higher employment losses than adults. Race, however, does not seem as important a distinction among workers as does age in measuring the consequences of minimum wages.

The available studies do not present a generally accepted estimate of how many jobs are lost due to the minimum wage. In its report, the Minimum Wage Study Commission surveyed the current research and reported a rough consensus that a 10 percent increase in the minimum wage would lead to a 0.5 to 3.0 percent decrease in teenage employment relative to the employment possible if the minimum wage remains unchanged. This suggests that the demand for this type of labor is quite inelastic.

In both its final report and in the research conducted by its staff, the Minimum Wage Study Commission extensively examined and ably summarized the econometric evidence relating to employment effects of minimum wages. ^{2/} Their surveys compliment other recent surveys of the issue. ^{3/} Rather than repeat their work, we

^{1/}People who are out of work and are not actively seeking employment are not considered part of the labor force. This "discouraged worker" problem is one of several issues that make unemployment statistics hard to interpret.

^{2/}See Chapter 2, "The Employment and Unemployment Effects of the Minimum Wage," in the Report (Washington, D.C.: G.P.O., 1981) and C. Brown, C. Gilroy and A. Kohen, "Effects of the Minimum Wage on Youth Unemployment and Unemployment," in Report of the Minimum Wage Study Commission, vol. 5: Effects of the Minimum Wage on Employment and Unemployment (Washington, D.C.: G.P.O., 1981.)

^{3/}Such as R. Goldfarb, "The Policy Content of Quantitative Minimum Wage Research," Proceedings of the Industrial Relations Association, 1974.

have decided to highlight the results of one study. James Ragan's examination of how minimum wages affect labor markets, particularly youth labor markets, was chosen as a well-known, recently published study that embodies many features of other work. 1/

Ragan investigates two reactions to minimum wages. First, "because coverage is incomplete, some youth displaced from the covered sector may obtain employment with uncovered firms, but, as long as others do not, the fraction of youths employed will decline." 2/ Second, unless the labor force participation rate of teenagers (i.e., the percentage of teenagers in the labor force) decreases sufficiently to counter this effect, measured unemployment rates will increase. Ragan tests the unemployment rate change indirectly by using participation rate and employment changes to estimate changes in unemployment.

Two equations form Ragan's model. One portrays the percentage of teenagers (between 16 and 19 years old) who are employed as a function of

- adult unemployment,
- minimum wages (using a variable discussed below),
- employment of teenagers in a manpower program (the Neighborhood Youth Corps),
- the ratio of the population aged 16-19 to the population (a measure of the availability or supply of teenagers), and
- seasonal adjustments (to capture the bulge of teenagers in summer jobs).

In the second equation, teenagers' labor force participation is determined by the same variables.

Ragan concluded that (1) minimum wage legislation reduces teenage employment and increases the unemployment rate of teenagers, (2) teenage entry into the labor force is not greatly affected, and (3) job losses may be more severe among non-white males than among other population groups.

The conclusions are based on the estimated elasticity of demand for labor services. Ragan estimated that this elasticity ranges from roughly -0.1 to -0.75 for males depending on age, race, and school status of the individual. For example, the elasticity of demand for the labor services of males aged 18 and 19

1/J. Ragan, "Minimum Wages and the Youth Labor Market," Review of Economics and Statistics, vol. 59, no. 2, May 1977, pp. 129-136.

2/Ibid. p. 129.

years old and enrolled in school is -0.75. This means that a one percent increase in the minimum wage (such as from \$2.00 to \$2.02) would decrease the share of teenagers employed by three quarters of a percent. (Hypothetically, if 60 percent of the teenagers in this class worked before the minimum wage, this would indicate 59.55 percent would work following the minimum wage.) The one estimated elasticity falling outside the range is for non-white teenagers 18 or 19 years old and enrolled in school. The estimate for them is -1.02: If 60 percent of these teenagers were working before minimum wages, 59.38 will work after minimum wages are imposed.

Several cautions in applying Ragan's estimates are necessary. First, his results are statistical estimates and have associated errors. This cannot be avoided in any form of statistical or econometric work.

Second, there is some room to question the measure of minimum wages that Ragan (and others) use. The minimum wage variable, in its simplest form, is defined as

$$\text{MIN} = \frac{\text{CM}}{\text{W}}$$

where MIN is the variable used to measure the effect of minimum wages on employment, C is the coverage ratio (the percentage of all jobs that are subject to minimum wage legislation), M is the statutory minimum wage, and W is average hourly earnings of non-supervisory workers in private, nonfarm establishments.

Two problems may arise by using this variable. First, putting the coverage and the level of the minimum wage law into the same variable makes it difficult to disentangle their separate effects. If coverage were decreased by 10 percent, for instance, would that have the same effect as decreasing the statutory wage rate by 10 percent? The use of this MIN variable implicitly assumes that these effects would be equal. No basis for this is found in the theory of minimum wages, however, and the implicit assumption is not statistically tested.

Even if the coverage and statutory minimum wage variables were considered individually, a second problem remains. The statistical estimates of the elasticity of demand for labor services are obtained from multiple regression analysis, a statistical method that estimates how a change in the level of one variable (the independent variable) in turn changes the level of another, dependent variable. In this case, the regression estimates changes in employment due to changes in the minimum wage.

Properly using regression analysis entails several conditions. One condition, in terms of the studies examined here, is that the values of the coverage ratio and the statutory minimum do not depend on each other.

As noted in the earlier discussion of how minimum wages will, in theory, influence employment, the implicit assumption that coverage and the statutory minimum wage are not linked to each other is open to challenge. The minimum wage, in fact, can lead to re-allocation of labor from covered to uncovered jobs and to a loss of covered jobs. Since the coverage ratio is the number of covered jobs divided by the total number of jobs, changes in the statutory minimum wage occur simultaneously with changes in the value of the coverage ratio. The multiple regression technique thus was not properly applied and the elasticity estimates provided may not be accurate. 1/

Differences in the way that researchers deal with coverage underlie some of the differences in estimates of how minimum wages affect employment. In a frequently cited study, Gramlich used a variable that measured whether there had been a change in the statutory coverage during a quarter. 2/ (Gramlich's variable also avoided the joint determination problem of using both the coverage ratio and the statutory minimum wage.) Gramlich's estimates of the elasticity of demand for teenage labor are, like Ragan's, generally in the inelastic range (i.e., a one percent increase in the minimum wage will lead to less than a one percent drop in employment).

This finding of inelastic demand for teenage labor, however, is not borne out by all research. Moreover, it cannot necessarily be extended to all minimum wage employment. Other reasons that could explain the different results found by capable researchers are using different data, expanding the same data to include additional years, or including alternative measures of labor market tightness or total economic activity. 3/

1/In econometric terminology, this problem is called "simultaneous equation bias." The estimated elasticity of demand for labor services is said to be biased, i.e., either too high or too low. We have no firm basis for predicting which way the bias pushes the estimate. Alternatives to the conventional multiple regression technique, called simultaneous equation techniques, are required in this situation.

2/E. Gramlich, "Impact of Minimum Wage on Other Wages, Employment, and Family Incomes," Brookings Paper on Economic Activity 1976: 2, pp. 409-451.

3/Most studies are based on time series data on employment and wages. A common problem in such analysis is that all the independent variables demonstrate the same trends over time. This situation (called multicollinearity) makes it difficult to tell the influence of one independent variable from that of another, so the statistical estimates frequently change with the addition of more data.

SUMMARY

Econometric research into the employment effects of minimum wages indicates that some jobs are inevitably lost due to minimum wages. Even when employment is high, the number of jobs in the economy is less than it would have been had no minimum wage existed. The size of this employment loss, however, is not clearly identified by the existing research.

Most recent research on teenage employment shows an inelastic demand for teenage labor. This suggests that the percentage increase in income received by those teenaged workers who retain their jobs after an increase in the minimum wage exceeds the income loss to those who lose their jobs. This provides little consolation to the newly unemployed, however. More importantly, estimation problems cloud the reliability of those elasticity estimates for teenage workers. At the same time, labor markets for other minimum wage workers may not exhibit the same elasticity as found for teenagers. The severity of the employment loss varies among different age, gender, and racial groups in the population. Teenage workers, for instance, are subject to greater job losses, relative to their share of the population or the employed work force, than adults. Relatively lower job skills and experience provide some explanation of why this happens.

CHAPTER 4

MINIMUM WAGES AND THE DISTRIBUTION OF INCOME

The concept of a legal minimum wage has always been strongly tied to the idea of a "living wage." That is, the wage rate should be high enough so that people, by working hard, can earn enough to provide a living for themselves and their families. Over time, the "living wage" concept has changed to reflect current concern with poverty--people who work hard should be able to earn enough to keep themselves and their families out of poverty.

While this argument helped to establish a legal minimum wage, most analysts agree that the law has had little measurable effect on income's overall distribution. Moreover, even the direction of the effect is unclear. As indicated in the discussion of employment effects, increasing the minimum wage or expanding the coverage will increase the income of those workers who keep their jobs. But other workers' incomes will probably fall as they become unemployed or move to a job in the uncovered sector. Even ignoring the possibility of "ripple" effects for higher paid workers, when increases in the minimum wage lead to increases in other wages, the net effect of an increase in the minimum wage level or coverage is indeterminate, with some low-wage earners gaining and others losing.

Some recent studies have looked at other distributional consequences of the minimum wage apart from these employment-related effects. Here, too, the effectiveness of increases in the minimum wage as a means of reducing poverty and increasing equality has been minimal and contradictory. As with most studies of income distribution, the results depend heavily on how the recipient unit and the income concept are defined. Several examples will show the importance of these definitions, and at the same time, the reasons why changes in minimum wage legislation are not very effective in reducing income inequality.

The two income definitions that we use are earnings, or that part of income received as wages or salaries, and total income, defined as all money income from any source, including wages and salaries, property income, or transfer payments. Recipient units, or income receivers, are defined as persons and families (i.e., a group of people living together who are related by blood, marriage, or adoption). Given these definitions, we can look at the effects of changing minimum wage laws on three different distributions: the distribution of personal earnings, the distribution of personal income, and the distribution of family income.

Of these three distributions, changes in the minimum wage are most likely to affect the distribution of personal earnings since how much a person earns is highly dependent on how much he/she makes in wages. So, to the extent that raising the minimum wage

narrows the wage spread, more equality in the distribution of personal earnings will result. A worker's wage rate, however, is only one of two determinants of his/her earnings. Total earnings equal the hourly wage times the number of hours worked. A high-wage earner who works part-time or part-year can still have relatively low earnings, and his or her earnings would not be affected by any change in the minimum wage.

Distributions of earnings or income are a way of approximating how material well-being is distributed. By making a widely-accepted value judgment, it is possible to say that more equality is better than less, or that increasing the share received by the poorest part of the population is socially desirable. Unfortunately, while the distribution of personal earnings is closely linked with the wage rate, it is a poor proxy for the distribution of material well-being. Somewhat better is the distribution of personal income.

People receive income from many sources besides wages and salaries. In our society, many people receive transfer payments from the government. These transfers come in many forms--social security, various welfare payments, aid to families with dependent children, and veterans benefits. People also receive income from dividends and profits. The sum of all these kinds of income is called personal income. Thus, the link between the level of the minimum wage and the distribution of personal income is less well defined than that between the minimum wage and personal earnings.

The link between the minimum wage earner and total income becomes even more remote when income is defined as total family income--i.e., the sum of all income types received by all family members. Many minimum wage workers, particularly teenagers and working wives, live in families with relatively high total incomes. Carolyn Shaw Bell found that "nearly two-thirds of all low wage workers, in 1977, lived in families with incomes above \$10,000; over 40 percent in families with incomes above \$15,000." ^{1/} Clearly, increasing the minimum wage to reduce poverty would not be appropriate here. It would simply increase incomes for many families already far above the poverty level.

Since 1973, eight studies have focused partially or completely on the distributional effects of minimum wage legislation. ^{2/} But seven of these studies ignored both the employment

^{1/}In 1977 the median family income was about \$16,000. "Minimum Wage and Personal Income," in The Economics of Legal Minimum Wages, Simon Rottenberg, ed., American Enterprise Institute, Washington, D.C., 1981, pp. 455-462.

^{2/}Volume 7 of the Report of the Minimum Wage Study Commission includes three of these studies: Johnson and Browning; Behrman, Taubman, and Sickles; Datcher and Loury. The volume's

effects of minimum wages and, in most cases, such ripple effects as may exist. 1/ Not considering the distributional effects of employment losses caused by increases in the minimum wage is likely to give a distorted picture of the effect of minimum wages on the distribution of income.

The conclusions of these studies were varied. Linneman concluded that the effect of minimum wage laws "is to weaken the economic status of those at the bottom of the distribution of earnings." 2/ Other studies found either no effect on the distribution of income or on poverty or that the effect was "inconclusive." A slight equalizing effect was found by Kelly 3/ and by Johnson and Browning who said "When considering both costs and benefits, increasing the minimum wage by 22 percent (and assuming no disemployment) has an equalizing effect on the distribution of household income, but the effect is extremely small." They further conclude that "the minimum wage [is] a very weak redistributive policy." 4/

Obviously, there is not a clear consensus on how the minimum wage is affecting the distribution of income and poverty. We believe that such relationships as may exist will prove to be weak and the effect, whether positive or negative, to be small. We need more research that better includes all the minimum wage effects bearing on the distribution of income, especially disemployment. Only then will a stronger conclusion be possible.

SUMMARY

According to the available economic evidence, the distribution of income has not been substantially affected by the minimum wage. Some workers gain by receiving higher incomes when increases in the minimum wage raise their wages. Other workers lose income,

introductory paper, by Kohen and Gilroy, summarizes these three studies as well as five other studies completed since 1973: Bell (1981); Gramlich (1976); Kelly (1976); Parsons (1980); Linneman (1982).

1/An exception is the paper by Behrman, Taubman, and Sickles whose conclusions represent a net effect of all the changes resulting from changes in the minimum wage. Unfortunately, their study has received considerable criticism and, in any case, their findings are mixed and inconclusive. See Kohen and Gilroy, pp. 6-7 and, in the same volume, comments by Barth, Cain, and Rottenberg.

2/Linneman, p. 30.

3/See Kohen and Gilroy, vol. 7, pp. 3-4.

4/Johnson and Browning, p. 57.

however, if they lose their jobs or have to work fewer hours as a result of an increase in the minimum wage. Even when abstracting from these employment-related effects by assuming no job losses, economic studies can find no clear evidence that increases in the minimum wage result in more income equality.

CHAPTER 5

ALTERNATIVES TO THE EXISTING STRUCTURE OF THE MINIMUM WAGE

In this chapter, two alternatives to the structure of the minimum wage are examined. a youth subminimum wage and tax subsidies to encourage the hiring of low-skilled workers. In addition, we also consider indexing minimum wages to maintain their value relative to other wages. This proposal, while not an alternative, was recommended by the Minimum Wage Study Commission as a desirable change to the present minimum wage system. The Commission decided against recommending a youth differential or subminimum wage. An economic analysis of the efficacy of these alternatives and options has to be somewhat equivocal, since economic arguments can be mustered for each side.

A YOUTH SUBMINIMUM WAGE

A youth subminimum wage policy would set a wage below the current minimum. Earlier discussions of the employment changes attributable to the minimum wage noted that teenagers appear to suffer the greatest job losses. But if employers were able to hire teenagers at a subminimum wage, the job loss among teenagers might be reduced. So, the issue of a youth differential or subminimum has attracted considerable attention.

Proponents see high employment of teenagers to be the principal advantage to this scheme. It recognizes that teenagers are probably new to the job market and may not have the necessary job skills. So they will not be as productive as more experienced workers, and the employer will have to provide them with training of some sort (including on-the-job training). Employers who have to pay such workers minimum wages will be reluctant to take them on. A subminimum wage could make it more attractive to hire teenagers.

Estimates of how effective a youth subminimum might be in encouraging greater employment of teenagers are based on the elasticity estimates discussed earlier. As we noted, there is some uncertainty about the estimated elasticity of demand for labor. There is general agreement that the elasticity estimates predict some job gains following the establishment of a youth subminimum, but there is no general agreement about how many jobs will be created. In its Report, the Minimum Wage Study Commission estimated that a 25 percent differential (moving the youth minimum from \$3.35 to \$2.50) might generate a 2.5 to 5 percent increase in teenage employment. Since the average number of employed workers aged 16 to 19 years old was 7,115,000 in 1981, this estimate range implies an increase of about 178,000 to 356,000 jobs. The seasonal nature of teenage employment, the frequency of job turnover, and the common occurrence of part-time employment among teenagers all suggest caution in relying on this estimate, however.

While the advantage of a subminimum wage would be more jobs available to teenagers, using a youth subminimum has several shortcomings. Employers may find it advantageous to substitute cheaper teenaged workers for more expensive low-skilled adult workers. Employment and income losses among adults are more serious since they are more likely to be primary wage earners. This shortcoming was cited by the Minimum Wage Study Commission in its decision. Adults with low skills have fewer opportunities than teenagers. Full-time school is an opportunity that adults may not have.

The Minimum Wage Study Commission cited two other problems with a youth subminimum. As the "baby boom" teenagers pass into adulthood, many of the unique problems of teenage labor markets will hopefully be lessened. Plus, it noted that "a youth differential would represent a departure from the principle of equal pay for equal work" ¹/

There is no doubt that the number of teenagers will decline in the next few years. The U.S. Bureau of the Census predicts that the percentage of the total population aged 14 to 21 years old will decline from 15.1 percent in 1979 to 11.2 percent in 1990. (See table 5.) It remains to be seen, however, how this demographic change will affect the teenaged labor market.

Table 5
U.S. Population Aged 14-21
Years Old, 1960-1990
(thousands)

<u>Year</u>	<u>Ages 14 to 17</u>		<u>Ages 18 to 21</u>	
	<u>Number</u>	<u>% of Total Population</u>	<u>Number</u>	<u>% of Total Population</u>
1960 (A)	11,155	6.2	9,214	5.1
1970 (A)	15,851	7.8	14,155	7.0
1979 (A)	16,275	7.4	16,991	7.7
1990 (P)	12,770	5.2	14,506	6.0

Sources: (A) Statistical Abstract of the United States, 1980, p. 33.

(P) Current Population Reports, "Projections of the Population of the U.S.: 1977-2050," 1977 (Series II).

¹/Report, p. 57.

The equal pay for equal work argument is closely intertwined with adult/teenage worker substitution. If teenagers displace adult workers, and are equally productive, they would earn less for the same work if paid a youth subminimum. (Counter attendants in fast food establishments are an example of jobs that may not vary with the age of the worker.) If teenagers are hired at the subminimum wage to do jobs that adults do not do, however, the equal pay for equal work principle may not apply.

The Commission also based its recommendation against a youth subminimum on its finding that "a youth differential has a limited potential for reducing the unemployment rate among teenagers because teenage employment increases probably would be modest and a differential is likely to attract additional teenagers into the job market." 1/ This is not a persuasive argument against a subminimum wage, in our opinion. While it is true that the effect of a youth subminimum on the unemployment rate cannot be predicted, the more important question concerns its effect on teenage employment. A youth subminimum wage would result in an unequivocal increase in employment among teens as long as the original minimum wage is above the equilibrium wage.

Full-time student differentials now in effect

Actual experience with a youth subminimum might have some lessons for this debate. Current law permits employers in certain industries to hire a limited number of full-time students at 85 percent of the minimum wage. The hours that these students may work are limited to 20 hours a week during school sessions and 40 hours other times. The number of employees that an establishment may hire is limited by its size and previous hiring patterns. A pledge not to use students as substitutes for other workers is a prerequisite for Department of Labor certification to hire at the full-time student (FTS) differential. During fiscal year 1980, 3 percent of students with jobs were employed under this provision. The 30,000 establishments (schools, farms, and retail and service businesses) employed 500,000 FTS workers. About 75 percent of these FTS workers were employed by colleges and universities.

In work performed for the Commission, Richard Freeman, Wayne Gray, and Casey Ichniowski found that the FTS differential did increase the number of hours that FTS employees worked. 2/ It was not clear, however, whether these increased hours of work substituted for reduced work hours by adults.

1/Report, p. 57.

2/"Low Cost Student Labor: The Use and Effects of Subminimum Wage Provisions for Full-time Students," Report of the Minimum Wage Study Commission, vol. 5, pp. 305-337.

Experience with the FTS program is of limited use in predicting the outcome of a youth subminimum. First, the program is limited to specific industries; jobs may not be available in some others. Second, employers can hire only a limited number of FTS employees, who can work only a restricted number of hours.

EMPLOYMENT SUBSIDIES

Government employment subsidies are designed to foster greater employment of targeted groups (such as teenagers) by lowering the employer's labor costs. The subsidy can be either a direct Government expenditure or tax expenditure. 1/ The Targeted Job Tax Credit (TJTC) is the only Federal employment subsidy. 2/ Briefly, the TJTC provides a 50 percent credit for the first \$6,000 of wages paid to target group employees. (The value of the tax credit is not necessarily \$3,000 for an employee earning \$6,000 since the credit lessens the employer's labor cost deduction.) 3/

The workings of employment subsidies in general are fairly straightforward. By subsidizing the employer's cost of hiring a particular worker, the Government seeks to lower after-tax labor costs and encourage hiring. Thus, this program could enhance the job opportunities of low-skilled or inexperienced workers.

Employment subsidies have inherent problems, however. First, employers receive a windfall in the subsidies paid for target group employees that they would have hired even if the subsidy did not exist. Second, employers may substitute target group employees for other employees. Third, tax credits are useless in encouraging firms with no tax liabilities, not all of which will be unprofitable firms. (Refundable credits circumvent this limitation; the TJTC is not a refundable credit.)

1/A tax expenditure can be either a deduction from the tax base or a credit against assessed tax liability, other than those credits and deductions necessarily part of the "normal tax structure," that is intended to encourage some form of spending or activity. Tax expenditures are analyzed analogously to direct expenditures, since the tax revenue lost to the tax expenditure could be used for other purposes, either general tax reduction or other spending. The tax expenditure concept does not imply any Government "right" to the lost revenue, but it does recognize the Government's role in the use of that revenue.

2/Internal Revenue Code Section 44B.

3/See U.S. General Accounting Office, "Comments on Employment Tax Credits," (PAD-81-73, June 5, 1981) and Congressional Budget Office, "Improving Youth Employment Prospects: Issues and Options," (February 1982) for more detailed discussion of the TJTC provision.

Our earlier analysis of the TJTC program suggests that the TJTC's narrow socio-economic targeting approach produced a program that was apparently grossly underused and that, in all likelihood, had little effect on the employment of target group members. 1/ Other analyses suggest that an underlying problem with TJTC is that "employers seem reluctant to hire youths lacking basic skills at any price." 2/ While the underlying principle is sound, the practical problems of TJTC's program design thus seem to limit its effect.

AN INDEXED MINIMUM WAGE

Since the Fair Labor Standards Act went into effect in 1938, it has been amended six times, primarily to increase the level of the minimum wage and expand the coverage. While the nominal (unadjusted for inflation) level of the minimum wage has risen in steps, the real level in terms of purchasing power has not. Each amendment has caused a substantial jump in the real wage rate, which thereafter slowly falls because of inflation until the next legislated boost.

To avoid this variability in the real minimum wage, the Minimum Wage Study Commission has recommended "that the minimum wage be indexed on the basis of average hourly earnings in the private economy and adjusted each year on the basis of the previous year's overall rate of change in the index." 3/

Some opponents of the minimum wage view the recurring inflation-caused decline in the real wage floor as desirable, since it periodically brings the minimum wage closer to the wages that would be set without the Government's intervention. However, since the minimum wage is an established public policy, indexing should be considered for several reasons.

First, a constant real wage for those receiving the minimum wage would be maintained. Second, political decisions about what the level of the minimum wage should be would not be necessary. At any point in the future, it should be the current level plus the percentage change in the chosen index. Other benefits suggested by Sellekaerks, of the Minimum Wage Study Commission, are "economic efficiency compared with transfer payments; [and a] contribution to overall economic stability." 4/

1/"Comments on Employment Tax Credits," p. 2.

2/"Improving Youth Employment Prospects," p. 33.

3/Minimum Wage Study Commission, Report, vol. 1, Washington, D.C., 1981, p. 84.

4/Brigitte Sellekaerts, "Minimum Wage Indexation," in Report of the Minimum Wage Study Commission, vol. 6, 1981, p. 150.

If, indeed, a policy objective of the FLSA and its proponents is the preservation of a certain living standard, then an indexed minimum wage is a better way to achieve this objective than irregular, legislated wage increases. The index could be chosen so that the minimum wage increases with any of several cost of living measures (the Consumer Price Index (CPI) or the implicit deflator for personal consumption expenditures (PC), to name two). Alternatively, an index of average wage increases could be chosen, as the Minimum Wage Study Commission did. Sellekaerts showed that an indexed minimum wage would not have resulted in a faster increase in the minimum wage level than actually occurred between 1967 and 1980. But the increase would have been much smoother. 1/

In her advocacy of tying the minimum wage to some index, Sellekaerts appears to have confused changes in real wages and incomes with changes in nominal wages. And indexed minimum wage, by definition, is constant in real terms. Sellekaerts, in one place, states that an indexed minimum wage might lead to decreased employment as the nominal wage rises. 2/ This weakens her own argument in favor of indexing. It is true that fewer people are employed with a minimum wage than without, but keeping the real wage constant during inflation should not, other things being equal, decrease employment relative to earlier periods. Without indexing, the real minimum wage decreases with inflation and employment increases. Thus, relative to an unindexed system, employment under an indexed minimum wage may be lower. This does not imply that inflation-induced increases in an indexed wage cause a loss in employment. Delays or errors in indexing could lead to employment changes, of course, as the real minimum wage falls with inflation.

Sellekaerts also suggests that "minimum wage indexation can effect an overall direct rise in real income of the low-wage sector, which is brought about via a rise in wage income, and not through less efficient transfer payment." 3/ An indexed minimum wage may, to be sure, keep real income in the low-wage sector from falling, but it will not result in an increase in real income. A good point is made, however, in noting that since many government transfer programs are indexed, failure to index the minimum wage means that some marginal workers may choose to quit working as their real wage falls during an inflationary period.

It is often believed that indexing for inflation becomes, in turn, a cause of inflation. Sellekaerks and the Study Commission argue that adjusting the minimum wage only for past

1/Ibid., pp. 159-160.

2/Ibid., pp. 150.

3/Ibid., pp. 150.

inflation invalidates this proposition. 1/ While they are correct in that indexing the minimum wage does not "cause inflation," it can make the rate of inflation higher than in the unindexed situation. The real value of an unindexed, fixed, nominal minimum wage falls during inflation, resulting in an increased amount of demand for labor. With increased employment comes an increase in output and a slower rate of inflation. On the other hand, the real value of the nominal minimum wage would not fall if it were indexed. Therefore, neither employment nor output would rise and, consequently, the rise in the price level would have to be greater than in the nonindexed case. We are inclined to believe, however, that an indexed minimum wage would have a very small effect on inflation.

Given a decision to index the minimum wage, it becomes necessary to choose the appropriate index. The Study Commission recommends an index of average hourly earnings in the private sector. Cox and Oaxaca find that a simulation using a wage index results in a substantial growth in employment. This occurs primarily because the simulated wage index falls, resulting in a fall in the nominal minimum wage and an increase in employment. 2/

SUMMARY

In its report, the Minimum Wage Study Commission recommended against establishing a youth subminimum wage. Such a wage has been suggested by some observers as a way to lessen job losses among teenage workers. This subminimum wage would be lower than the conventional minimum to induce employers to hire teenage workers. The Commission also decided not to suggest local experiments with a youth subminimum wage.

Available economic evidence and analysis neither support nor refute the recommendation against a youth subminimum wage. Plausible arguments may be mustered for and against it. The evidence does indicate a high probability that the minimum wage is a substantial obstacle to employment among teenagers. A lower wage for teenagers may make their employment more profitable and attractive to employers. On the other hand, this incentive may become so attractive that gains in teenage employment could come at the expense of adult employment. Since adults are more likely to be the primary earners in households, this expense may not be socially acceptable.

Subsidizing the employment of low-skilled labor by tax incentives has attracted some support. The subsidy might be de-

1/Ibid., p. 152.

2/James Cox and Ronald Oaxaca, "Effects of Minimum Wage Policy on Inflation and on Output Prices, Employment, and Real Wage Rates By Industry," Report of the Minimum Wage Study Commission, vol. 6, 1981, pp. 193-194.

signed to relieve the disemployment effects of the minimum wage or, alternatively, to be the cornerstone of a replacement policy for the minimum wage seeking to ensure that workers receive at least a minimal standard of living. Just as we cannot be sure how the gains and losses of the minimum wage are distributed, we cannot be certain how this option would change the distribution of income or the substitution of subsidized for unsubsidized employees. The Commission made no recommendations concerning employment tax credits.

The Commission did recommend that the statutory minimum wage be indexed, or adjusted, for inflation. If the statutory minimum wage does not change in response to inflation, the earning power of one hour of labor at the minimum wage is diminished. Current research in this area points to both advantages and disadvantages. An indexed minimum wage may be the fairest and most efficient way of maintaining a constant real purchasing power, or income, for minimum wage workers. At the same time, inflation without wage indexation lessens the real cost to the employer of hiring a minimum wage worker, possibly leading to higher employment.

CHAPTER 6

CONCLUDING OBSERVATIONS

Economic analysis has clear limits in the minimum wage debate. It can tell us that minimum wage policy does cost society something: employment opportunities among low-skilled workers, such as teenagers, are reduced. Likewise, economic analysis points to the gains of the minimum wage: workers with minimum wage jobs may earn higher incomes. But, inadequate data and differing perspectives on the relationship between wages, employment, unemployment, and the distribution of income leave large areas where the results are inconclusive. Even where reasonably precise measurement is possible, these benefits and costs are not evenly distributed across the population. Political questions of distributional fairness and social policy become key elements in assessing minimum wage policy. These questions cannot be answered through economic analysis alone.

The analysis of existing economic research by the Minimum Wage Study Commission and the additional research that it funded helped define the extent of our knowledge about how the minimum wage affects income and employment. The Commission's review of the existing literature was comprehensive and provided a sound summary of the points of agreement and disagreement in the literature. The funded research provided additional findings that are consistent with the existing body of research.

Because of the inherent limits of the available research, the recommendations made by the Commission inevitably entailed social policy decisions that cannot be made solely on analytical grounds.

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