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Minimum Wages and On-the-Job Training

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Preface

One of the most serious effects of minimum-wage legislation is the impairment of on-the-job training (OJT) for young workers. Consisting of many kinds of learning through experience as well as formal training programs, OJT provides young workers with basic skills, stimulates their motivation, nurtures their sense of responsibility, and generally cultivates attitudes conducive to productivity in work. By creating a barrier to OJT, minimum wages may cause serious harm to their future labor-market experience.

The primary purpose of this monograph is to formulate a theoretical argument and to present empirical evidence on the effects of minimum wages on OJT. According to my findings, minimum-wage legislation forces young workers to forgo some OJT and in effect to bargain away some of their future earnings in exchange for a small increase in their current wages. The prospect that minimum-wage legislation will discourage OJT raises serious doubts about the law's wisdom, especially concerning its application to young workers.

Chapter 1 casts this research into perspective by briefly reviewing recent evidence on minimum-wage effects, by discussing some new directions in research, and by presenting some relevant background on the labor-market history of young workers. Chapter 2 presents an analytical framework appropriate for the analysis of how OJT affects earnings and discusses some empirical evidence on the relevance of this framework to reality. In chapter 3, I formulate a theoretical model of a competitive labor market and analyze how such a market determines the mix of current wage and OJT. I then analyze the manner in which minimum wages affect both this mix and employment. In chapter 4, I use the model to measure the effects on OJT of the 1967 amendments to the Fair Labor Standards Act, which involved a major expansion of coverage as well as an increase in the minimum wage. I then discuss my findings based on this model and offer additional evidence and insights culled from the literature. Chapter 5 offers summary discussions and some policy implications.

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The State of the Knowledge about Minimum-Wage Effects

After months of congressional squabble against a history of judicial opposition, the federal minimum wage, along with other employment-related provisions of the Fair Labor Standards Act (FLSA), was finally enacted in October 1938.[1] By 1980, the minimum-wage provisions had been amended six times, most recently in 1977, the level of the nominal minimum rising with each amendment and major expansions of the coverage taking place in 1961, 1967, and 1974.

Table 1 shows the persistent upward trend and widening scope of the federal minimum-wage law. Clearly, the most notable change has occurred in coverage. Although the basic minimum wage relative to the average manufacturing wage has fluctuated around the 50 percent mark, the coverage almost doubled between 1938 and 1980. As column 3 of the table indicates, the federal minimum wage now covers almost 84 percent of the nonsupervisory labor force. Column 4 presents a standard measure of the effective minimum wage calculated as the product of columns 2 and 3. This measure incorporates both the relative size of the basic minimum wage and the extent of coverage. It shows a persistent upward trend over time, and by January 1981 the effective minimum wage will have increased by 140 percent since October 1938. As for the future prospect, coverage is likely to continue expanding, and attention may increasingly be directed toward

[1] For an informative historical sketch of the evolution of the minimum-wage law, see Jonathan Grossman, "Fair Labor Standards Act of 1938: Maximum Struggle for a Minimum Wage," *Monthly Labor Review*, vol. 101 (June 1978), pp. 22-30. Welch presents a useful synopsis of changes in the minimum-wage provisions. See Finis Welch, *Minimum Wages: Issues and Evidence* (Washington, D.C.: American Enterprise Institute, 1978), chap. 1.

TABLE 1
THE BASIC MINIMUM WAGE AND AGGREGATE COVERAGE, 1938–1981

Month/Year of Change in Minimum Wage	*Basic Minimum Wage Changed to (dollars)* (1)	*Basic Minimum Wage as a Percentage of Average (straight-time) Manufacturing Wage* (2)	*Percent Coverage of All Nonsupervisory Employees in Private Nonagricultural Work* (3)	*Effective Minimum Wage* [(2) × (3)]/100 (4)
October 1938	0.25	41.7	43.4	18.1
October 1939	0.30	49.5	47.1	23.3
October 1945	0.40	42.1	55.4	23.3
January 1950	0.75	54.0	53.4	28.8
March 1956	1.00	52.9	53.1	28.1
September 1961	1.15	51.2	62.1	31.8
September 1963	1.25	52.7	62.1	32.7
February 1967	1.40	51.5	75.3	38.8
February 1968	1.60	55.6	72.6	40.4
May 1974	2.00	47.2	83.7	39.5
January 1975	2.10	45.1	83.3	37.6
January 1976	2.30	46.0	83.0	38.2
January 1978	2.65	48.4	83.8	40.6
January 1979	2.90	49.7	83.8	41.6
January 1980	3.10	49.9	83.8	41.8
January 1981	3.35	51.9	83.8	43.5

SOURCE: Columns 1 through 3 are from Welch, *Minimum Wages*, table 1.

raising the rate of compliance with the law.[2] The prospect that the scope of the minimum-wage law will continue to widen adds urgency to the need to evaluate the effects produced by the law.

The primary intent of the law is clearly to reduce poverty among low-skilled workers. Economists have long been concerned with the possibility that the law produces undesirable side effects. They are especially concerned with the possibility that the adverse effects fall primarily on the young and the low-skilled, the very labor groups that the law is intended to protect. Much of the recently accumulated evidence tends to bear out the validity of such concerns. For sound evaluations and informed policy discussions of the law, one can ill afford to ignore the evidence that has accumulated about its adverse effects.

Most of the studies undertaken by economists have aimed at assessing the effects of the minimum wage on employment and unemployment rates. The theory of employment and unemployment effects of minimum wages is a straightforward application of elementary demand-supply analysis. An effective minimum-wage law, by definition, raises the wage rate in the covered sector above its level in the absence of the law. Since labor becomes more expensive than before, employers reduce the quantity of labor services they purchase, a phenomenon resulting in disemployment effects. The consequent reduction in the employment demand leads to some unemployment in the covered sector. The minimum wage may also attract workers to the covered sector to look for employment at the increased wage, thereby adding to the unemployment effect. Of course, a precise analysis must take into account the fact that the reduced probability of finding a job in the covered sector will counteract the effect of the increased wage on the incentive to look for employment there. Also, one might expect unemployment to disappear eventually, as

2 Both noncompliance and noncoverage evidently are important phenomena, especially among very-low-wage workers. Gramlich reports that in 1975 the minimum-wage law raised the wage of only about half of all low-wage workers. See Edward M. Gramlich, "Impact of Minimum Wages on Other Wages, Employment, and Family Incomes," *Brookings Papers on Economic Activity*, no. 2 (Washington, D.C., 1976), pp. 409-61. Ashenfelter and Smith estimate that for the United States as a whole the compliance rate was about 69 percent in 1973. See Orley Ashenfelter and Robert Smith, "Compliance with the Minimum Wage Law," *Journal of Political Economy*, vol. 87, no. 2 (April 1979), pp. 333-50. The extent of noncompliance is likely to be greater if employers have less room to adjust in the total compensation package offered to workers. As we shall see in chapter 2, a compensation package typically contains various fringe benefits, opportunities for on-the-job training, etc., in addition to wages. Thus employers may comply with the law but may respond to an increased minimum wage simply by reducing these nonwage payments.

those workers not finding employment in the covered sector move to noncovered sectors or to activities outside the labor force. In a dynamic economy in which the inflow of new workers to, and outflow of old workers from, labor markets are pervasive, however, unemployment effects tend to persist as long as the minimum wage remains effective. Since these effects are greater the higher the minimum wage relative to the wages that would prevail in the absence of the law, they are most likely to be felt by low-skilled workers.

Past studies by and large confirm the prediction that higher minimum wages reduce employment opportunities and raise unemployment, particularly for teenagers, minorities, and other low-skilled workers. The reader is referred to a recent monograph by Welch, which offers a comprehensive treatment of the current state of knowledge about minimum-wage effects.[3] In addition, a study by Moore, which Welch does not discuss, is of some interest to us.[4] Moore estimates separately the effects of expanded coverage and the effects of the basic minimum wage on the unemployment rate of teenagers and young adults. His findings indicate, as expected, large unemployment effects exerted by both coverage and the basic minimum wage on teenagers' unemployment rates. According to his findings, the effects tend to diminish as youths reach the twenty- to twenty-four-year-old group. By then, their wage is likely to have increased above the minimum. Generally, measured unemployment effects are greater for nonwhites than for whites.

The minimum wage has also significantly reduced the availability of full-time jobs for teenagers.[5] Evidently, teenage workers tend to be sorted into part-time jobs, which typically pay lower wages than full-time jobs. As we shall see in chapter 4, increased part-time jobs may reflect increased school enrollments as a result of minimum wages. Part-time work is an important method of financing education for many youths. It may also signify a reduction in on-the-job training

[3] Welch, *Minimum Wages.* For some illuminating discussions of the policy relevance of some of the past studies, see Robert Goldfarb, "The Policy Content of Quantitative Minimum Wage Research," *Industrial Relations Research Association Proceedings* (1974), pp. 261-68. Recently, Brown, Gilroy, and Kohen have surveyed the literature on minimum-wage effects on youth employment and unemployment for the Minimum Wage Study Commission. See Charles Brown, Curtis Gilroy, and Andrew Kohen, *Effects of the Minimum Wage on Youth Employment and Unemployment,* Minimum Wage Study Commission Working Paper, no. 1 (Washington, D.C., 1980).

[4] Thomas Gale Moore, "The Effects of Minimum Wages on Teenage Unemployment Rates," *Journal of Political Economy,* vol. 79, no. 4 (July/August 1971), pp. 897-902.

[5] Gramlich, "Impact of Minimum Wages," pp. 442-43.

(OJT), for part-time jobs are likely to offer less OJT than full-time jobs. In addition, observers have noted adverse minimum-wage effects on the labor force participation rate—the proportion of a specific population that is either employed or unemployed. A 1970 study by Hashimoto and Mincer, as well as the recent study by Ragan, documents the sequence of effects, from increased minimum wages to reduced employment opportunities and, eventually, reduced labor force participation.[6] These effects were observed to be more pronounced among low-wage groups. Evidently, many marginal workers sooner or later drop out of the labor force altogether rather than wait in the queue of the unemployed to find a job paying the minimum wage.

The preceding discussions refer to minimum-wage effects on employment and unemployment. There are also important minimum-wage effects on the stability of employment. Over the course of fluctuating economic activities, marginal workers often tend to experience unstable employment. Basically, this phenomenon reflects employers' attempts to adjust labor costs to changing economic conditions without having to incur the high fixed costs that are involved in altering the employment of physical capital and skilled workers. Thus when labor demand rises, employers expand labor inputs first by increasing the overtime for the existing work force and by expanding the employment of low-wage workers before adding to the skilled employees. When demand drops, they contract labor inputs by letting go of the low-wage workers first as well as by reducing overtime. Note that employers could adjust labor costs in response to changing demand by altering wage rates. Such a strategy would help reduce their total reliance on employment as an adjustment mode. For marginal workers, however, such wage adjustments may have to occur around the minimum wage. An effective minimum wage represents a floor below which the employers cannot cut wages. As a result, firms are forced to use employment reduction as an adjustment mode.

[6] Masanori Hashimoto and Jacob Mincer, "Employment and Unemployment Effects of Minimum Wages," mimeographed (Washington, D.C.: National Bureau of Economic Research, 1970); and James Ragan, "Minimum Wages and Youth Labor Market," *Review of Economics and Statistics*, vol. 59, no. 2 (May 1977), pp. 129-36. Labor force withdrawal obviously lessens the minimum-wage impacts on the *measured* unemployment rate, for the measured unemployment is defined as the number of persons unemployed divided by the sum of those employed and unemployed. Mincer discusses a model using the probabilistic nature of job search to address this and other, related phenomena. See Jacob Mincer, "Unemployment Effects of Minimum Wages," *Journal of Political Economy*, vol. 84, no. 4, part 2 (August 1976), pp. S87-S104.

The definitive work on this issue is by Kosters and Welch.[7] They find that between 1954 and 1968, a typical teenage worker was more than four times as likely as a typical adult worker to lose a job during a downturn in economic activity. The minimum-wage hikes during these years, according to their study, seem to have reduced the cyclical employment variability of white adult males by about one-third but to have more than doubled teenage employment variability. Although it has long been recognized that teenagers and other low-skilled workers suffer from cyclical instability of employment, the recent evidence on the role of the minimum wage in promoting these workers' employment instability is a matter of added concern.

Finally, the following excerpts from a recent *New York Times* article offer direct evidence bearing on minimum-wage effects on the employment opportunities of young workers. Referring to an unpublished report by the United States Department of Labor, Shabecoff writes:

> The survey found that a majority of the young people would be willing to take low-paying jobs in such areas as fast-food restaurants, cleaning establishments, supermarkets as well as dishwashing. A substantial number of the young people surveyed said they would work at below the minimum wage.
>
> The survey suggests that the younger the worker the lower the wage and level job he is willing to accept. It also indicated that young minority group workers will take lower level work than young white people.[8]

These findings conform perfectly to the predictions based on an elementary economic logic.

The preceding brief discussion reveals that the minimum-wage law reduces employment opportunities for low-skilled workers, increases their unemployment as well as their withdrawals from the labor force, and reduces their employment stability in the course of the inevitable fluctuations in economic activity. The results of these studies indicate, therefore, that the minimum-wage legislation is inconsistent with the policies of enhancing job opportunities for low-skilled workers. To be sure, one may quibble with the precise

[7] Marvin Kosters and Finis Welch, "The Effects of Minimum Wages on the Distribution of Changes in Aggregate Employment," *American Economic Review*, vol. 62, no. 3 (June 1972), pp. 323-32.

[8] Phillip Shabecoff, "U.S. Finds Big Jobless Rate in Youth Ranks," *New York Times*, February 29, 1980. The U.S. Department of Labor report is based on the findings from a recent National Longitudinal Survey.

magnitudes of the effects or may complain about the inconclusiveness of some of the findings. It would be very difficult, however, to offer enough counterevidence to undermine the general consensus to which the existing evidence points.

New Directions in Studies of Minimum-Wage Effects

Research interests recently have shifted increasingly toward topics other than the traditional employment and unemployment effects. It is recognized, for example, that minimum wages may reduce fringe benefits received by covered workers.[9] Faced with an increased wage mandated by the law, employers may counter by cutting back on various nonwage payments, including flexibility in hours of work, pleasant work environment, job safety, and on-the-job training. Extending the notion that minimum wages encourage labor force withdrawals, some investigators have analyzed the effects on enrollment in school, a major alternative use of time for many young workers. The argument is that a minimum-wage-induced increase in unemployment lowers the opportunity cost of attending school while increasing the payoff to schooling, the completion of which is likely to lead to jobs with wages greater than the minimum wage. Evidence from recent studies indicates that minimum wages do indeed reduce fringe benefits and increase school enrollments of teenagers.[10] In chapter 4, we shall relate the significance of these findings to our own in some detail.

My main concern in this monograph is one component of fringe benefits. Although fringe benefits include such standard amenities as pleasant working environment, inexpensive insurance, and job safety, perhaps the most important fringe benefit for young workers is the opportunity that jobs offer to acquire new skills and knowledge and to improve on the old. Such opportunity is referred to as on-the-job training and is essential to enhancing the future productivity and earning capacity of young workers. Although jobs undoubtedly differ in both the quantity and quality of OJT they offer, learning processes, associated with both formal training programs and informal learning

[9] Mixon's, to my knowledge, is one of the first empirical studies of the effects on fringe benefits. See Wilson Mixon, "Some Economic Effects of Minimum Wage Legislation" (Ph.D. diss., University of Washington, 1974). At this writing, Lazear, Leighton and Mincer, and Wessels are studying minimum-wage effects on the formation of human capital and on fringe benefits. See chapter 4 of this monograph for results of some of these studies.

[10] Findings by Ehrenberg and Marcus, Cunningham, and also Mattila on school-enrollment rate will be discussed in chapter 4.