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THE LABOR MARKET IMPACT OF FEDERAL REGULATION: OSHA, ERISA, EEO AND MINIMUM WAGE

Olivia S. Mitchell

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1050 Massachusetts Avenue
Cambridge MA 02138

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Assistant Professor, New York State School of Industrial and Labor Relations, Cornell University, and Faculty Research Fellow, National Bureau of Economic Research. Helpful suggestions were provided by Charles Brown, Lee Dyer, Jennifer Gerner, Alan Gustman, Janet Johnson, Tom Kochan, Dan Mitchell, Michael Piore, Steve Welch, and the participants at the MIT Industrial Relations Workshop. The research reported here is part of the NBER's research program in Labor Studies. Any opinions expressed are those of the author and not those of the National Bureau of Economic Research.

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ABSTRACT

This paper critically evaluates the contribution of labor economics and industrial relations research to our understanding of the impact of government labor market regulation. Recent theoretical and empirical literature is analyzed for four major policies: (a) workplace safety and health; (b) employer-provided pensions; (c) wage minimums; and (d) employment and pay practices with regard to women and minorities. Studies on EEO and OSHA reforms find small but positive impacts on the outcomes they sought to alter: the minimum wage literature indicates low skilled workers were not benefited much by wage floors; and as yet no analysis exists on whether ERISA improved pension security. Directions for future analysis are suggested, including the role of research in policymaking, whether and how regulatory policy affects labor productivity, and the distributional impact of different forms of regulation on various labor market groups.

Olivia S. Mitchell
NBER--1050 Massachusetts Avenue
Cambridge, MA 02138
(617) 868-3911

or

NYSSILR-Ives Hall
Cornell University
Ithaca, NY 14853

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This paper critically evaluates what we have learned about the impact of federal regulation of the workplace in the last decade. Policies selected for special attention are those affecting (a) workplace safety and health, (b) employer-provided pensions, (c) wage minimums, and (d) employment and pay practices with regard to women and minorities. Discussion of each policy is organized in the same way. First, we present a brief overview of the major legislative, administrative and judicial developments in the policy area that occured during the 1970's. Next, the theoretical literature is summarized, followed by a discussion of studies on the specific labor market regulation. Finally, for each policy, we ask the question: What have we learned about the effect of the regulatory policy on the level and distribution of social well-being? General observations on all four regulatory programs appear in a final section.

I. Occupational Safety and Health

Until 1970, occupational safety and health standards were not uniform or consistent across the nation's workplaces. In a few industries, federal government supervision was the norm, as with the Mine Safety Act. Some states ran programs varying in scope and impact. For the most part, however, industry-level groups in the private sector developed their own concensus standards for job health and safety, and complied with them on a voluntary basis. During the latter half of the 1960's, public policy on workplace safety began to change, in part responding to high and rising injury rates on the job. This concern found a voice in the Occupational Safety and Health (OSH) Act of 1970, and in subsequent judicial and administrative developments in the area.

1. Policy Overview

The Act's goal was to make the workplace "healthful and safe for working men and women" (Smith, 1976, p. 14), imposing on employers the responsibility for insuring that workers were not exposed to hazardous conditions. In addition to this general mandate, employers were instructed to abide by a rather lengthy list of safety and health standards that had been devised by private industry, as well as other federal safety laws such as the Mine Safety Act and the Walsh Healey Act. Enforcement of the law's general safety and health clause as well as a multitude of individual standards, devolved upon Department of Labor inspectors. While inspectors were most frequently allocated to firms in targeted industries, they could also be invited in by employees suspecting violations. Employers found in noncompliance were usually fined, about $25 per violation during the mid-1970's (Smith, 1976). Additional administrative agencies were charged with reviewing practice and suggesting changes in policy. These included the Occupational Safety and Health Commission, the National Institute for Occupational Safety and Health and the National Advisory Commission on Occupational Safety and Health. The OSH Act also indirectly facilitated the formation of union management committees to deal with occupational and safety matters at the firm and industry level ((Kochan, Dyer, and Lipsey, 1977).

Various judicial interpretations of the OSH Act influenced the form and substance of the legislation over time.[1] For instance, the Act did not require OSHA inspectors to obtain a search warrant; however in 1978 the Supreme Court ruled that employers could require inspectors to obtain one. Employers and workers both were granted permission to accompany safety inspectors on rounds. An important case in 1977, Marshall v. Daniel Construction, produced the ruling that employees would not be allowed to refuse to work even if they feared or

suspected dangerous working conditions on the job. The most controversial issue in the safety and health area was only recently reviewed by the Supreme Court: The question was whether economic cost-benefit analysis could be used in evaluating health and safety standards. Several textile firms argued that compliance with the Act's standards would be so expensive as to threaten their economic viability. The defendants argued, and the Court agreed, that the OSH Act did not require a comparison of compliance costs and benefits in determining new standards.[2] The long-term impact of this decision is still unclear, since the Agency's director has argued that OSH standards must still be "the least expensive way of reaching a specific level of protection".[3] The pros and cons of cost-benefit approaches in this context are considered in more detail below.

2. The Impact of Safety and Health Policy

Most theoretical analysis of safety and health policy applies a neoclassical framework. This approach focuses on how OSH law affects labor costs, and traces its impact through the economic system. In a world where all employers and workers are competitive and well informed, wages paid in the labor market would reflect workers' evaluations of the risk they face on the job. Different types of employees demand different amounts of on-the-job safety, and employers supply different amounts depending on their own technology and the cost of lowering job risks. The labor market rewards workers willing to take risks with wage premiums depending on the distribution of workers' tastes and employers' technologies. (Lucas, 1972; Rosen, 1974; Thaler and Rosen, 1973).

In this neoclassical world, imposing minimum legal standards on workers' physical environment raises employers' costs of hiring labor. Profits are lowered and firms have an incentive to substitute away from labor to capital.

Depending on the degree of responsiveness in labor demand and consumption, this process produces a cutback in employment and in overall output. Many neo-classical analysts would therefore view an OSH-type standards approach with some skepticism, since it creates inefficiencies in markets presumed to operate efficiently.

Somewhat less orthodox approaches have also evolved in the last decade which perceive safety regulation somewhat differently. Many such analysts believe that workers are exposed to too much risk because the costs of making jobs safer appear too high. This is explained by workers' and/or firms' imperfect information -- they do not have the technical and medical capabilities required to monitor and alter the work environment. As yet, there exists no careful study of the ways in which workers obtain, process and act on information pertaining to workplace safety and health. Bacow (1980) suggests that most workers do have difficulty monitoring compliance with OSH standards. Complimentary evidence from Kochan (1980) finds that union workers appear to obtain higher risk premiums than do their nonunion counterparts. On the other hand, Smith (1979) and Viscusi (1979) find no significant effect of unionism on the injury rate. Thus, the evidence suggests that large organizations like unions may improve workers' perceptions of risk on the job, but perhaps cannot significantly lower those risks. There is at least fragmentary evidence indicating that there are scale economics for firms in the production of job safety and safety information; Gordon (cited in Smith, 1974) suggests that large firms are more able to implement standards for this very reason. Oi (1974) along with Cooke and Gautchi (1981) also find that injury rates are lower in large firms, which is consistent with the view that firms may experience scale economies in injury reduction.

Whether or not these studies judge OSHA favorably in terms of improving the functioning of the labor market depends on whether information problems or scale economics are more important. OSH-type standards imposed by the government benefit workers most if they are unable to determine desireable safety levels on their own. On the other hand, legally required safety equipment and job redesign may be costly and in fact be more expensive than fully informed workers would be willing to incur in changing their own working conditions.

Another group of studies has inquired about whether the labor market responds enough to information about workplace hazards. The evidence here is mixed. Viscusi (1979) concludes that workers are often poorly informed about workplace hazards, and adapt slowly by quitting their jobs, as they learn about the risks involved. Smith (1979) reviews the literature on wage premiums for higher risks of death on the job, and concludes that riskier jobs do pay more though injury rate differences across industries do not appear to be reflected in wage premiums. Smith (1974) also examined firm behavior, focusing on the relationship between workplace injuries and risk premiums that firms pay their workers. He concludes that "employers do seem to be responsive in their safety efforts to the cost of injuries" (p. 741), and will react to economic incentives by making the workplace safer. However, this responsiveness is not large; he estimates that it would take a per-injury penalty of $1,600 to $3,000 (in 1974 dollars) to lower the injury rate 10 percent. This was about 100 times as large as the average OSHA penalty at the time. All three types of studies would suggest that OSH regulation was a necessary though probably not sufficient policy to improve working conditions.

Differences in theoretical frameworks have generated different empirical approaches for evaluating the impact of OSH law. Some authors provide fascinating

descriptive analyses of the medical, technical, practical, and bureaucratic difficulties encountered during OSHA's first year of life. Ashford (1976) has an extensive review of problems encountered in medical research and the difficulties of converting these medical/technical finds into OSH standards. He also provides an interesting overview of the bureaucratic obstacles encountered in developing new standards, complemented by Mendeloff's (1979) review of vinyl chloride and mechanical press standards.

Other new initiatives in the safety area are the focus of authors interested in union-management negotiations over changes in workplace health and safety practice. Bacow (1980), for instance, reviews the quite different approaches to worker safety of the United Auto workers, United Steelworkers and the United Association of Plumbers and Pipefitters. Kochan, Dyer and Lipsky (1977) study the relationships between a single union (Machinists), the perceptions of the workers represented by this union, and management's perception of safety and health issues. These case studies provide a wealth of information about the ways in which particular unions and companies interact altering workplace safety and health, and will serve as models for institutional researchers in the future.

In addition to these more descriptive evaluations of OSHA, a few more quantitative studies are also available. Unfortunately, these studies are plagued by almost insurmountable data problems. Perhaps the single most serious problem deterring good quality research in this area is that no good data exist on workers' exposure to risk.[4] Thus, there is no way to determine the relationship between the number of workers affected by workplace illness or injury and the total number actually at risk on their jobs. A second problem with workplace safety data is that statistics collected prior to the

passage of the OSH Act are incompatible with post-OSH Act statistics. Analysts therefore cannot determine the effect of OSHA directly[5] by examining trends in injuries or illness over time, and instead must focus on differences in workplace hazards as reflected in post-OSHA data alone. This may lead to under-estimates of the effect of OSHA, since one would suspect that inspections would have some spillover effects even on firms not directly subject to inspection.

A third drawback of workplace safety data is that the reporting requirements are better for injuries and very poor on occupational illness (Ashford, 1976). Thus, policy evaluations have been restricted almost exclusively to the analysis of work injuries. Virtually nothing is known about the long run effect of OSH on occupational illness. Other analysts have criticized available data for still another reason: "assessment of small risks requires immense amounts of data" in order to be certain that changes in injury rates are indeed permanent and not due to measurement error (Rosen, 1981, p. 242). Efforts to reduce measurement error in data have led analysts to examine industry level statistics, yet such aggregation obscures a great deal of variation across firms in an industry [6] (Oi, 1974).

Another serious drawback of quantitative data in this area is attributable to the problem of defining and measuring the policy variable of interest. Some analysts focus on industry-wide probabilities of OSHA inspection or citations.[7] However, the likelihood of inspection is distributed unevenly across firms, implying that the impact of OSH policy on individual firms is not well measured by industry level data. Other analysts have focused on plant-level data, representing the effect of OSHA policy by timing of inspections, whether or not there was an OSHA inspection in a given year, or the number of citations over time (Smith, 1979; Cook and Gautchi, 1981). No study has yet determined which is the most useful and sensible measure of the policy variable, and more

work needs to be done in this area.

With these caveats in mind, let us turn to the evidence. Most empirical studies focus on injury rates as the dependent variable, and relate them to measures of OSHA policy. Mendeloff (1979) uses time series information, focusing on national injury rates. He concludes that injury patterns after the passage of the Act did not differ significantly from the overall injury rate that would have been predicted in the absence of OSHA. His further analysis with state-level statistics are almost as inconclusive. Smith (1974) looked at cross-sectional injury rate statistics for 3-digit industrial groupings, and rejects the hypothesis that Target Industries program reduced injury rates significantly. Viscusi (1979) also uses industry level data, but follows the same industries over a period of four years; the policy variables he includes are the industry-specific OSHA inspection rate and the proposed OSHA penalty for noncompliance. Again, no significant effect of the government policy was detected.

Because of the drawbacks noted earlier in national and industry level aggregate data, a few analysts have looked at injuries at the plant level. An early report by DiPietro (cited in Mendeloff, 1979) studies firms' injury rates in 1973 as a function of whether or not firms were inspected in the previous year. Firm size and changes in employment were also controlled. Overall, results from this study reiterate the evidence generated by aggregate analyses--OSHA inspection apparently had no statistically significant effect on firm level injury rates. That author suggested that the null finding might be attributable to the fact that inspections were often targeted at firms with exceptionally poor injury records; in other words, the inspection variable was probably endogenous and thus biased toward zero. A more recent study by Smith (1979) controls for this potential problem by focusing on a subsample of plants, all of which had been inspected in either 1973 or 1974. In order to measure the effect of inspection,

Smith differentiated between plants which were inspected early in the year, and others which were not visited until the winter months. He postulates that firms visited earlier would have a longer period over which to correct workplace hazards and thus should have experienced lower injury rates than the plants visited later. Interestingly, the evidence indicates that days lost due to injury were significantly reduced by early inspection in 1973, but not in 1974. Various explanations for the lack of consistency are suggested, the most plausible being that firms inspected in the later year were more likely to be "problem cases" as compared to the plants visited earlier in the program. Overall, the author concluded that injuries were reduced from 5 to 16 percent with additional inspections. A third study of plant level data (Cooke and Gautchi, 1981), investigated changes in days lost due to injury over the period 1970 to 1976. These authors found that an increase in the total number of OSHA citations over the same period reduced days lost due to injury by a (statistically significant) .3 to .5 days per worker in large plants. No effect was discerned in small workplaces, however.

Clearly much more work remains to be done in this area. To reiterate Rosen (1981), the dependent variable should measure which workers are at risk, rather than the very crude measures usually used. The endogenity of inspections at the firm level must also be an analyzed in more detail, ideally within the context of a model which takes into account the role of unions and management in enforcing the law. Better ways of modelling the implementation of OSHA policy must be devised, to better reflect the likelihood of apprehension, the likelihood that OSHA inspectors will actually perceive violations, the probable size of penalties if apprehended, and the role of follow-up investigations. On the basis of empirical work in the 1970's, it is suggested that the estimated effect of an

increase in OSHA inspections on workplace injuries ranges between zero and about 15 percent, where the lower end of the range is characteristic of empirical studies using aggregate data, and the higher estimates are produced by plant level studies. More empirical studies of behavior at the individual firm level in the future will probably produce estimates of the impact of OSHA at the higher end of this range.

3. Effects of OSHA Policy on Levels of Well-Being

Has national policy on occupational safety and health had any significant impact on the level and distribution of well-being? This is one of the most interesting of all the research questions in the occupational safety and health area, and yet the most overlooked.[8] There are, of course, many methods of devising answers to the question. One approach has been to use cost benefit analysis as an intermediate step in guiding decision-making (Oi, 1974). However, others (Chown, 1980; Wood, 1974) argue that cost-benefit places a price on illnesses and injuries, and "the worker must not be viewed simply as an economic entity." Regardless of whether cost-benefit is the only criterion that should be used, or whether instead it should be one of many, no one in the health and safety area has yet developed a list of the costs and benefits of OSHA and their distribution across the workforce. In addition, no one has asked whether other policies, such as those which impose more safety responsibilities on workers directly, might be more cost effective and/or equitable than the current standards-setting approach.

4. Conclusion

This review of what we know about job safety and health policy has revealed some strengths and many weaknesses. No one has inquired into the impact of OSH policy on employment and wages. The best available firm-level evidence indicates that current practice has a small negative effect on workplace injuries. No one has

examined the impact of OSH policy on occupational illness, and this area should receive highest research priority in the next decade. The evidence suggests that workers are not well acquainted with workplace hazards, though they do learn over time. Better ways of making available such information should be found. Firms act as though they face rather minimal incentives to reduce workplace hazards under current law and practice. While the socially desirable level and distribution of risk on the job has not been established, existing cost-benefit methodology is probably too narrow in scope to completely measure the effects of workplace risk. On the other hand, more attention must be devoted to understanding the costs and benefits of safety and health policy. A prerequisite to more useful research is better information on who is actually exposed to what kind of risks. Labor management and the federal government should join to produce and analyze these sorely needed data.

II. Pension Income Security: ERISA

Private pensions today cover roughly half of the workforce, and provide an average of $3,000 to retirees receiving a pension (President's Commission on Pension Policy, 1981). Pensions grew in importance as a source of retirement income mainly since WWII,[9] spurred by tax deferral of employer contributions to company plans, NLRB rulings that pensions were appropriate topics of collective bargaining, and the Taft-Hartley Act which provided the framework for private multi-employer pension plans. The Welfare and Pension Plan Disclosure Act (WPPD) of 1952 was an early attempt to organize data collection on the nation's patchwork of retirement and other employer provided welfare plans.

During the late 1960's and early 1970's, reports in the press began to surface about companies who reneged on or were unable to keep promises to pay retirement benefits. In addition, concern over workers' difficulties in vesting

was expressed in several Congressional hearings.[10] This discussion prompted passage of the Employment Retirement Income Safety Act (ERISA) of 1974; its purpose was "to reduce the risk of workers not receiving adequate pension benefits, despite long-term participation in a firm's pension plan, by establishing funding standards, reporting requirements, and regulations on information that must be provided to participants and minimum vesting rules" (Masters et al, p.43).

1. Policy Overview

ERISA establishes minimum standards with which a pension plan must comply, including (Skolnick, 1974):

a. Participation: A full-time employee must be allowed to participate in a plan if he is at least age 25 and has worked at the firm one year.

b. Vesting: The employee has full legal rights over employer pension contributions after having fulfilled one of three vesting requirements (the most common being 10-year "cliff vesting"). Employee contributions are immediately vested.

c. Information. Employees must be provided with an annual statement on their benefit and vesting status; the Department of Labor must receive periodic reports on a plan's financial standing.

d. Financial: All plans promising a specified benefit to retirees (defined benefit plans) are required to accumulate funds in compliance with actuarial principles. Unfunded liabilities must be amortized over a period of 30 years in most cases. A governmental non-profit firm, the Pension Benefit Guarantee Corporation (PBGC), insures a portion of defined benefit plans income by charging a flat per-worker premium. In case of plan illiquidity, the PBGC can claim up to 30% of a firm's assets to cover benefits promised.

e. Fund management: Pension plan sponsors are personally liable for pension investment performance if their investment advice is not in conformity with accepted money management practice (the "Prudent Man" rule). (This applies to both defined benefit and defined contribution plans, where the latter specify how much is contributed to the plan, but not payouts.)

f. Individual plans: Workers with no employer-sponsored plan may establish an Individual Retirement Account (IRA) or a Keogh plan (for the self-employed) into which tax-deferred contributions (up to a limit) may be deposited.

The law does not require employers to provide a pension nor does it interfere with the determination of pension contribution or benefit levels. The purpose of the minimum standards, therefore, is to increase the chances that a worker promised a pension actually receives some form of retirement income from the employer making the promise.

Administration and enforcement of ERISA policy is allocated to several different entities: the Labor Management Services Administration of the Labor Department monitors pension plan reporting and disclosure, and pension fund asset holdings. The Internal Revenue Service has responsibility for evaluating plans' compliance with participation, vesting and funding standards established in ERISA. In addition, the PBGC oversees plans' long-term and short-term financial status. Finally, individual employees are empowered to file suit against plan administrators--if benefits are illegally withheld.

Judicial decisions in the last decade have also modified the way ERISA is interpreted. The most recent Supreme Court decision found that an employer's pension promise should not be construed to be a guarantee of any particular benefit level, real or nominal.[11] The long-term implications of this finding are unclear at this juncture, but would seem to be far-reaching.

2. The Impact of Pension Reform Regulation

One group of studies evaluating the impact of pension policy classifies pensions as defined wages (Schiller and Weiss, 1979). In this view, workers like group pensions because (1) they permit tax deferral of income, and (2) they offer a higher return on savings and lower insurance costs than individual plans could provide (Mitchell and Andrews, 1981).

This approach has been criticized for not explaining why most pension plans require the employee to work for several years before vesting; why defined

the worker's income level while working; and, why many pension systems are underfunded (Logue, 1979). An alternative theory holds that pensions are an implicit contract between workers and employers, designed to improve worker productivity and lower turnover (Lazear, 1979c). Vesting and participation requirements are understandable in this light. Pension underfunding has been interpreted along the same lines (Treynor, Regan and Priest, 1976; Feldstein and Seligman, 1980; Smith, 1981). The underfunded pension will pay off if the firm is in good financial health, which induces workers to internalize incentives to become more productive, exhibit lower turnover, and require less supervision. The existence of defined benefit plans which are unrelated to workers' salaries may be explained by the view that workers are risk-averse, and prefer a flat dollar benefit with certainty to a benefit based on a worker's own (uncertain) income stream as he nears retirement age.

Though the different theories emphasize distinct aspects of the private pension system, no one yet knows what role pensions actually play in the labor market. For this reason, there is some disagreement about the expected impact of ERISA regulations in the literature. Those who believe the labor market behaves according to neoclassical rules predict that ERISA lowers the riskiness of a pension promise, by virtue of which the pension promise becomes more expensive. In response to more costly but more secure pensions, workers' wages and/or benefit levels may fall; however, expected total compensation over individuals' lifetimes would not necessarily change (Schiller and Weiss, 1980). On the other hand, the justification for ERISA might be different in a less neoclassical labor market. Research by Hamermesh (1981a), for instance, suggests that workers have very imprecise ideas about their own health and life expectancies, implying that they do need help planning their retirement savings.

Employees, especially at younger ages, tend to value pensions at a relatively low rate (Mitchell, 1980, 1982), suggesting that unions and other institutions are useful in making them more aware of the need for pensions (Gustman and Segal; 1972; Lester, 1967), and in redistributing income via pensions (Freeman, 19??). ERISA is needed in this non-neoclassical environment because it protects workers against the possibility of fraudulent pension nonreceipt. There is also some evidence that pension managers are less than perfectly "rational" in the economic sense,[12] and might not reduce other elements of the compensation package in response to the greater security of pensions.

Before turning to the results of empirical studies on the effects of ERISA, several comments are required on the severe data problems encountered by any would-be empirical researcher in this area. Perhaps the single most serious problem is that there is no way to measure the outcome variable of greatest interest to many researchers; i.e., the lifetime consumption and pension benefits eventually received by today's workers, as compared to what they were promised (and, perhaps, to previous cohorts' benefits). Until today's workers retire from the labor market, it will be impossible to determine what they actually received in total compensation. An additional problem is that it has been difficult to quantify the appropriate policy variable(s) associated with ERISA. For these reasons, empirical research on ERISA is almost nonexistent. The few available studies have focused on other (non benefit) factors: for instance, analysts have examined pension portfolios (Cummins et al, 1980), the impact of underfunding on firms' stock prices (Feldstein and Seligman, 1980 Gersovitz, 1980), and the costs of administering pension plans (Mitchell and Andrews, 1981, and Andrews and Mitchell, 1981). No one has carefully and systematically analyzed whether and how ERISA has changed wage and/or pension benefit levels and employees' rights to pensions; no one has determined whether pension plan termination

patterns are attributable to the regulation or the poor financial market; and there are virtually no representative pre-ERISA data that can be used to determine scientifically whether the regulations had any effect on any outcome variable over time. Therefore we must conclude at the outset that empirical evidence on the impact of ERISA is almost nonexistent and the few available studies do not examine the effect of the regulation on compensation levels, income distribution, employment patterns, or many other dependent variables of interest.

Two descriptive and two quantitative empirical studies focus directly on the impact of ERISA reforms. Logue (1979) and Ture and Fields (1979) sketch evidence on vesting and participation rules before and after ERISA, but do not develop a systematic empirical model. Cummins et al (1980) and Cummins, Percival and Westerfield (1979) analyze non-labor market aspects of the regulatory impact; the first paper focuses on plan administrators' attitudes about extra costs attributable to the law, while the latter paper attempts to determine whether ERISA had any significant impact on the portfolio composition of pension funds (Chapters 3 and 4). Both studies found little if any evidence that ERISA affected pension plan operation, though the former article suggested that costs for multi-employer plans may have been increased somewhat.

Two additional studies examine the impact of ERISA indirectly by focusing on pension underfunding patterns. Gersovitz (1980) finds that pension underfunding tends to lower a firm's stock prices, but only to the extent that underfunding is less than one-third of the firm's assets. This is significant because under ERISA, a pension plan has claim to that proportion of the company's assets; this study thus implies that ERISA indeed influences the probability of retirees receiving promised pensions. Nonetheless, the report

by Bulow (1979) shows that ERISA's regulations on pension underfunding are likely to be ineffective since actuarial assumptions are not specified in the law, and firms can alter their reported level of underfunding simply by selecting different actuarial assumptions. Finally, two studies (Mitchell and Andrews, 1981; Andrew and Mitchell, 1981) find that larger pension plans benefit from scale economies, and suggest that ERISA may encourage plan merger by standardizing pension characteristics.

3. Effects of ERISA on Levels of Well Being

Has the change in policy expressed in ERISA had any significant impact on society's level and distribution of well-being? As should be clear from the preceding discussion, the paucity of studies evaluating the effects of ERISA on the labor market makes it impossible to answer this equity question. Some overall descriptive material on the income distribution of retirees is available from various sources; for instance, the Presidents' Commission on Pension Policy (1981) finds that poverty among those over 65 years of age has declined relatively and absolutely over time, in part due to increases in private pension income.[13] However, no one has attempted to evaluate how much of this change in income was due to ERISA regulation, and how much is attributable to other causes. No study has determined whether groups who traditionally received little from pension plans, such as women and blacks, have indeed benefited from ERISA as a result of the less strict vesting and participation requirements. Impacts on the rest of the economy have been largely ignored this far: Cummins, et al (1980) suggest that small firms might be most seriously affected by the regulation, but careful analysis of this topic remains to be done.

4. Conclusions

One of the most surprising features of the literature on ERISA is that

there is so little of it, and that it is so unsystematic. In part this is explained by recognizing that pensions have become a topic of research interest only recently, and their role in the labor market and the economy as a whole is as yet not completely clear. This review of studies available to date suggests that ERISA has had no significant effects on the outcome variables examined -- pension portfolios and administrative costs -- but no data are yet available to address the issue of whether ERISA has affected benefit levels and/or benefit security for current or future retirees. It is hoped that researchers in the 1980's will devise better ways to fill some of the gaps identified here.

We also suggest that various reform proposals discussed in the last decade deserve serious research scrutiny. Some analysts suggest that existing regulations governing investment of fund assets are too restrictive and should be relaxed to permit a more innovative investment pattern (Rifkin and Barber, 1978). Others recommend looser participation and vesting provisions, to benefit workers with short job tenure who have difficulty qualifying for benefits.[14] A few researchers have begun to investigate the pros and cons of indexing pension benefits to inflation (Feldstein, 1981 ; Bodie, 1980). Some urge the establishment of a mandatory private pension system covering all workers, a position particularly favored by the Presidents' Commission on Pension Policy (1981). Finally, several researchers have proposed that the PBGC be revamped in light of its low level of reserves and its lack of experience rating (Treynor, Regan and Priest, 1976). As yet however, all of these proposed reforms remain in the planning stages.

III. Federal Minimum Wage Policy

Minimum wage legislation grew out of national concern over workers' standards of living and how to best improve them. During the 1920's and '30's,

proponents of the policy argued that employers should not be permitted to pay workers below-subsistance income. Thus a wage floor was expected to be and is still touted as an anti-poverty (Levitan and Belous, 1979). Opponents then and now contended that a legislated wage floor would be ineffective against poverty, since low wages reflected low productivity rather than exploitative employer practices (Welch, 1978). This portion of the paper reviews theoretical and empirical minimum wage research over the last decade.

1. Policy Overview

The Fair Labor Standards Act (FLSA) was passed in 1938, to bring about a "minimum standard of living necessary for health, efficiency, and general wellbeing of workers... without substantially curtailing employment or earning power".[15] The bill was of necessity born of compromise; several earlier efforts to implement state specific wage floors had failed in the courts, and Roosevelt's attempt to establish industrial wage minimums under the National Recovery Act met a similar fate in 1935. Initially the FLSA was limited to the 20% of the workforce engaged in interstate commerce. For employees subject to the law, the Act set a wage floor of 25 cents an hour for both men and women, or about 1/2 of the average hourly wage in manufacturing at the time.[16] The minimum has risen over time and now stands at about half the average manufacturing wage (F. Welch, 1978).[17] Coverage increased over the last 40 years from about 40 to about 80 percent of non agricultural civilian nonsupervisory employees. Administrative and enforcement powers under the FLSA were granted to a special Wage and Hours Division of the Department of Labor. The Labor Department was given responsibility for granting exemptions to the law where specified, including for companies with annual sales under a quarter of a million dollars.

2. The Impact of Minimum Wage Policy

A simple neoclassical model of the effect of a minimum wage was first stated four decades ago (Stigler, 1946). If employers and workers are competitive, a minimum wage set above the competitive level will reduce employment because firms cannot pay workers more than the value of their marginal product and thus the wage floor induces layoffs of workers that would otherwise be earning less than that floor. The extent of disemployment is a function of labor demand elasticity when coverage is universal and the wage floor uniform across workers (Welch, 1978), and of how high the wage floor is set. Incomes fall to zero for those who lose their jobs, and the overall distribution of earnings becomes more unequal.[18]

Theoretical neoclassical research of the 1970's elaborated on this simple textbook approach in several ways. Hashimoto and Mincer (1970) recognized that some firms are exempt from FLSA provisions, implying that they may lower wages and absorb those laid off from covered sector jobs. Wachter and Kim (1979) pointed out that some individuals may be unwilling to take uncovered sector jobs, preferring instead to remain unemployed in the hope of finding a job at a higher covered-sector wage. Therefore, Mincer (1976) concludes that unemployment rates are not particularly good measures of the impact of wage minimums. Other authors (Hamermesh, 1981) stress that firms' responsiveness to a wage floor depends on the ease of substitution between skilled and unskilled workers. A general equilibrium long-run theoretical model of the impact of a minimum wage which takes into account both physical and human capital formation has not yet been analyzed in detail, though recent efforts by Cox and Oaxaca (1981) are promising.

Though neoclassical models of the minimum wage impact grew increasingly

sophisticated over the last decade, their theoretical predictors became less and less clear cut, In general, the following theoretical conclusions follow from the analyses:

1. A wage floor will reduce labor demanded in firms covered by the minimum, though the quantity and distribution of labor cutbacks depends on the level and coverage of the real wage minimum, labor and product demand elasticities, substitutability of capital and labor of various types, and labor supply.
2. Aggregate employment may or may not fall.
3. Aggregate unemployment may or may not rise.
4. The effect of minimum wages on the overall income distribution cannot be determined a priori.

Resolution of these theoretical ambiguities requires empirical analysis.

Theoretical neoclassical models of the minimum wage have been challenged from three directions. All three emphasize labor market inefficiencies due to employer behavior; in contrast to the literature on other forms of labor market regulation, virtually no attention has been devoted to other labor market structures that might justify government regulation.

One interesting case, mentioned by Stigler (1946) and others, arises when employers are monoposonists and control labor purchases completely. In this type of market, a wage floor set high enough forces the monopsonists to raise wages and employment without reducing efficiency.[19] The single quantitative paper on this topic, West and McKee (1980) reports that firms' output indeed tends to rise significantly after the wage minimum is raised. If this finding is supported in other data, it would constitute an important argument in favor of minimum wage policy.

A second rationale for a wage floor was elaborated in the early writings of Webb (1912). He held that workers respond to higher wages by becoming more productive, so that a wage floor may improve earnings without

lowering employment at all. Why employers do not pay enough to benefit from this wage-productivity interaction is as yet unclear in the literature. A third argument for a minimum wage is usually termed the "shock theory". It states that employers are slow to adopt productive new technology, but a wage floor induces them to overcome this lethargy by investing in more innovative production techniques. Whether or not innovation in this form contributes to net employment increases or not, and why employers are slow to adjust, is unclear. These two rationales for a wage minimum seem to raise more questions than they answer, and require more theoretical and empirical attention before they can stand on their own.

The empirical literature on minimum wages is voluminous, perhaps larger than on any other single labor market regulation. Its quality is, however, uneven.[20] Most studies identify employment rates (or levels) as the dependent variable of most interest, though some concentrate on unemployment. In part, this relatively narrow empirical focus was a result of data shortcomings: aggregate figures on employment were typically easier to obtain than were other data. One disadvantage of an aggregate focus is that changes in group composition when people leave and enter the ranks of the unemployed may affect results. As individual level micro data become available, this problem of sample selection began to be addressed. Relatively few studies focus on the distribution of individual or family income. Fewer studies still analyze changes in income patterns over time and over peoples' lifetimes.

Data problems have also made it difficult to develop good measures of the appropriate policy variables. In any particular cross section of firms, all covered employers must offer the same minimum.[21] This uniformity means that cross section data do not contain a "control group" with which firms covered by

the law can be compared. Some cross section studies develop a variable which is the ratio of the federal wage minimum to some area-specific average wage, often multiplied by a variable proxying for coverage. This approach may be criticized by recognizing that regional variation in wage levels often reflects not minimum wage level differences, but other labor market features (like industrial structures) which may more readily explain regional disemployment. Other analysts use time series data, on the argument that changes in the price level and in the nominal wage floor over time should provide the empirical variation required for quantitative analysis. Time series studies have drawbacks too, because they pick up changes in workforce composition as females and youths entered the labor market. Finally, both cross section and time series studies have found it difficult to distinguish between the impact of the minimum level and coverage, since policy changes usually alter both variables at the same time.

With few exceptions, empirical studies tend to focus on teenage employment patterns, because this demographic group is the most numerous, the least skilled, and probably most susceptible to disemployment effects.[22] Keeping in mind the methodological and data differences across studies, the time series evidence suggests that a 10% increase in the minimim wage is associated with a 0.5% to 1.5% decline in youth employment; cross sectional evidence is more variable but also spans that range (Brown, Gilroy and Kohen, 1980). Some analysts claim that the wage floor has a larger disemployment effect on blacks than on whites, but this contention is as yet only weakly supported in the data.

Studies on adult employment response to the minimum wage are even more inconclusive; analysts disagree not only on the magnitude but also the sign of

the impact. Hamermesh (1981b) claims that adult employment is marginally enhanced by the minimum wage, while Gramlich (1976) finds no response. Mincer (1976) concludes that older males and many females lose jobs, but Parsons (1980) argues that adult females are, on net, not adversely affected. This evidence is thus contradictory and will remain so until empirical work controls for compositional changes in groups under study and identifies substitution between different kinds of labor and capital.

While the majority of studies takes a static perspective, a few analysts examine labor market dynamics as workers and firms adjust to new wage minimums over time. Here the conclusions are also in disagreement: Zucker (1973) reports that about 4/5 of the total employment changes occured within six months of a change in the minimum. This rapid adjustment is confirmed by Hamermesh (1981), but Moore (1971) in earlier work, found a much slower adjustment pattern. More research is needed on this topic in future years.

3. Effects on Well Being

Many have inquired about the distributional effects of the minimum. Welch (1978) and Parsons (1980) conclude that many minimum wage workers are from reasonably well-to-do families. Gilroy (1981) puts it differently (p.179-81)

> "As one might expect, a large proportion -- 43 percent -- of those workers in families below the official poverty level are making the minimum wage or less...What is surprising is that these workers account for only 11 percent of all mimimun wage workers."

In general, the policy does not appear to benefit the poor relatively more when evaluated in cross section data or even over short periods of time. This conclusion may be altered as new data become available on the impact of the wage floor on workers' skills and lifetime income patterns: studies by Mincer and Leighton (1980) and Ehrenberg and Marcus (1980) conclude that the life-long impact of minimum wage coverage may lower income for low wage workers.

4. Conclusion

The literature on one of the oldest forms of labor market regulation, the minimum wage, contains some strengths and some weaknesses. To a great degree, applied researchers in the last decade have tested only neoclassical empirical models. The available evidence suggests that teenage employment is somewhat lower than it could be as a result of wage floors, though in the long run effects are as yet uncertain. A less clear picture emerges about the impact of the minimum wage on adult employment. Our understanding of how the policy affects the distribution of income is as yet rudimentary; as better micro data on firms and workers are developed, this shortcoming must be remedied.

It must also be recognized that existing empirical studies have not viewed broadly enough the context in which minimum wage policy operates. Other institutions, regulations, and social policies also affect the eventual income distribution of earnings and nonlabor income, and should be taken into account as well. For instance, levels of and eligibility rules for welfare programs vary across regions and over time, influencing the payoff to work and participation as well as unemployment. Unemployment insurance plays a major role for some workers. Income and other taxes alter the relative returns to working as do in-kind transfers and their eligibility requirements. The role of labor unions in establishing and maintaining prevailing wages has not yet been taken into account in studies which purport to evaluate the minimum wage, either. The interactions of politics and institutions should be examined in order to develop a clearer understanding of the contribution of each to the distribution of income and employment. They are usually not, however.

Even this brief review of minimum wage policy would be incomplete without mentioning some of the more controversial topics surfacing in recent

years. The Report of the Minimum Wage Study Commission (1981) touches on several: What would result from a special subminimum for youth? On this topic, Brown (1981b), Hamermesh (1981), and Freeman, Gray and Ichniowski (1981) come to quite divergent conclusions. Should the wage floor be indexed to inflation? Does the minimum wage cause wage structure compression, or do employers maintain traditional wage differentials? Should the minimum be tailored to specific industries and regions? Evaluating these questions will, no doubt, receive a great deal of attention in the 1980's. Whether the wage minimum is the best way to alleviate poverty is an additional important concern that must also be examined in the next decade.

IV. Antidiscrimination Policy

Prior to the 1960's individual states had a variety of bills on the books protecting workers treated unequally because of race, sex, or age (Landes, 1968). At the Federal level, some concern over discriminatory practices was embodied in the 1938 Fair Labor Standards Act, but this law protected mainly against long hours and poor working conditions. Not until the 1960's did Federal regulation directly confront the labor market problems of minorities and women. This section evaluates what we have learned in the last decade about the impact of Federal antidiscrimination policy on blacks and women.[23]

1. Policy Overview

Government policy toward labor market discrimination in the 1960's found expression in two major pieces of legislation: the Equal Pay Act of 1963, and Title VII of the 1964 Civil Rights Act. The Equal Pay bill focuses specifically on sex discrimination, by prohibiting employers from maintaining separate pay scales for males and females. The law specifies that men and women must receive the same wage when they work at the same establishment, performing equal work which requires the same skill, effort and responsibility ("equal pay for equal

work"). It does permit pay differences across workers performing different jobs, or where seniority and piece rate systems produce different earnings outcomes.

Title VII of the Civil Rights bill contrasts with the Equal Pay Act because it proscribes discrimination due to race, religion and national origin as well as gender. Its pay provisions are broader than those in the Equal Pay Act because they are not explicitly limited to comparisons across equal jobs. Employment provisions figure prominently in this law: it prohibits unequal practices in hiring, training, promotion or discharge. A novel feature of this bill is that it establishes an enforcement arm, the Equal Employment Opportunity Commission (EEOC), charged initially with conciliation and preparation of court briefs and later permitted to initiate court proceedings and represent employees.[24]

A second important antidiscrimination tool wielded by the federal government is its leverage as a purchaser of goods and services. Executive Order 11246 (as amended in 1968) requires government contractors not only to abide by existing antidiscrimination law, but also to take affimative action in hiring, training and promoting minorities and women. If a firm is found in noncompliance, it may be penalized in several ways, including debarrment in the most extreme case.

In addition to Congressional Acts and administrative practice, a third antidiscrimination tool became important during the 1960's and 1970's: judicial action.[25] The Supreme Court took active stances in several important cases. In Griggs v. Duke Power (1971) for instance, it prohibited pre-employment tests which selected against racial minorities more often than whites, when they did not predict successful performance on the job. The principle of retroactive back pay was examined in a case involving American Telephone and Telegraph, culminating in a $38 million negotiated settlement for women employees (Wallace, 1976). More recently the Court has examined particular affirmative action plans.

In the Weber case, for instance, the Supreme Court found that a degree of reverse discrimination was permissible under Title VII.

Cases involving yet another principle have begun to emerge in the last few years. The controversey here is the principle of "equal pay for comparable worth", which holds that men's and women's pay rates should be equalized for jobs which are in some sense comparable though not identical (Livernash, 1980; Lindsay, 1980; Milkovich, 1980). The Supreme Court's recent (1981) decision on County of Washington v. Gunther was less than definitive on this new principle, because of several narrow interpretations of the legislative record. It is likely that this topic will continue to find its way to court during the 1980's.

2. The Impact of Antidiscrimination Policy

One of the most interesting features of national antidiscrimination policy is that it regulates labor market outcomes rather than labor market processes. Thus it differs from, say, health and safety policy which establishes standards for working conditions but does not specify worker health levels. This focus on outcome has some drawbacks: if the nature of discrimination is poorly understood, required changes in labor market processes may not occur as a result of policy (Marshall, 1974). On the other hand, a result of the law's focus on outcomes is that policymakers have been forced(with some difficulty) to focus on workers' earnings and employment patterns directly.

Because the regulatory approach is so direct, it might be thought that antidiscrimination policy might be more successful than other laws in attaining its goals. Neoclassical theorists find some ground for disagreement, however. Analysts in this tradition note that Federal pay provisions, in particular, can have unexpected results: raising blacks' or womens' wages may encourage employers to hire fewer of them, in favor of (now relatively cheaper) white males (Madden, 1973).

The simple theoretical approach suggests, then, that higher pay may be offset by employment losses for blacks and women.

Though equal pay regulations may be ineffective, employment and affirmative action provisions are more likely to reduce barriers confronting minorities and females, according to neoclassical analysts. These barriers arise from what Becker (1957) calls "tastes for discrimination" on the part of employers, fellow workers, and/or consumers. When equal employment legislation is effectively enforced, employers will find it expensive to avoid hiring women or blacks, and will increase their demand for these types of workers. If qualified females and minorities are available for hire, the policy should, on net, improve their earnings and employment both in absolute terms and in comparison with white male workers. The effectiveness of this policy is further enhanced if misinformed employers do not realize that women and minorities are as productive as are white males, and the law forces them to revise their expectations (Cain, 19__).

Challenges to the neoclassical view of the labor market and policy are quite numerous. Some authors emphasize that unequal outcomes occur because workers face difficulties in other markets. For instance, black workers have often paid more than whites for housing, transporation, and education (or received lower quality for the same price) as well as other services (Kain, 1968; Danziger and Weinstein, 1976; Welch, 1973;Butler, 1981). Women also face non-labor market barriers of various types (Loury, 1981; Frank, 1978). To the extent that these non-labor market factors determine entry to jobs and training opportunities, females and minorities find good jobs less accessible. Anti-discrimination policy was thus complemented by housing and educational subsidies of the last decade.

A second and influential group challenging the neoclassical model is

the dual labor market analysts (Doeringer and Piore, 1971). Writers in this group postulate that various institutional labor market features explain the lower job attainment of blacks and women, including co-workers' unwillingness to bring blacks and women into training and apprenticeship programs (Briggs and Foltman, 1981), inability of employees to turn educational skills into monetary rewards (Oaxaca, 1973), and difficulties of women and minorities in holding jobs once hired (Marston, 1976). In this view, vigorous affimative action was likely to be quite valuable in altering discriminatory labor market structures.

Monoply and monopsony have been emphasized in still other studies as factors contributing to the persistence of unequal pay and employment for women and blacks. Stiglitz' (1973) analysis led him to conclude that employer monopsonies were not strong enough to explain lower earnings for females and minorities, but more recent researchers find that monopolistic firms pay black workers less (Haessel and Palmer, 1978). Few alternative job opportunities for women is given as the explanation for lower wages in other studies (Frank, 1978; Cardwell and Rosenzweig, 1978); thus firm-side market power appears to depress women's earnings as well as blacks'. Others note that unions were discriminators in the past (Wallace and Driscoll, 1981), barring entry to all but white males. High union wage levels might also have facilitated employer discrimination indirectly, by creating a labor pool from which employers could select only the workers that they favored. Analysts writing in this vein tended to conclude that the equal pay and especially the affimative action provisions of antidiscrimination policy would be especially important in helping women and blacks override monopsonistic and union barriers.

Making the transition from theoretical to empirical policy analysis

proved to be difficult for many researchers, in part because of several data problems. Freeman (1973), Butler and Heckman (1977) and Brown (1981a) have written extensively on the fact that aggregate data can conceal flows of workers in and out of the labor market, so that increases in reported earnings attributed to policy initiatives might be spurious. Almost equally problematic has been the empirical difficulty of finding policy variables that adequately reflect antidiscrimination policy. Studies of compliance with federal contractors typically use companies without any federal contract as the "control group" for purposes of evaluating the impact of affirmative action policy. However, Brown (1981c) points out that federal contractors may differ systematically from noncontractors, making the comparison erroneous. Osterman's (1981) policy measure is more precise, since the term he uses is an industry specific tally of contract reviews and compliance agreements. EEO studies have even more difficulty quantifying the policy variable of interest: Beller (1980) focuses on EEO investigations by type, but is forced by data constraints to limit her attention to state-level data rather than individual company and employee groups.

Empirical studies of antidiscrimination policy may be divided into federal contract compliance studies, and research on EEO. Prominent in the first literature is a set of studies appearing in the Industrial and Labor Relations Review in 1976, as well as the review by Brown (1981c). Ahart (1976), for instance, provides a descriptive account of the difficulties encountered in enforcing the policy. The papers by Goldstein and Smith (1976) and Heckmen and Wolpin (1976) are some of the better-known econometric evaluations of the micro-economic data. Flanagan (1976) and Brown (1981c) compile and examine the evidence from time series and other studies. Overall these studies indicate

that federal contract compliance efforts were rather ineffective, at least with respect to relative employment rates of blacks and whites. Employment gains for black males are detected in a few studies (Brown (1981) concludes "no more than 10% in the long run"), but specific policy variables like contract reviews are usually not responsible. No effect is found for black females, in most cross sectional studies. Smith and Welch (1977) and Freeman (1973) examine relative earnings of blacks, and suggest that racial earnings differences between males were not strongly influenced by contract compliance policy. Only the Osterman (1981) study detects a significant policy impact, and that paper looks at turnover rates rather than earnings.

Less quantitative research analyses the direct impact of EEO, in part because of data problems noted earlier. A cross section study by Beller (1980) uses data on the probability of EEO apprehension and of having to pay a penalty to the EEOC or to state Fair Employment Commissions, derived from actual data on EEO investigations by state. Interestingly enough, the effectiveness of the law appears to differ across minorities and women: on net, policy variables are found to reduce black employment and have virtually no effect on black-white relative earnings; in contrast EEO policy significantly narrowed the sex difference in earnings over time by 3 to 8%.[26] A time series analysis by Freeman (1973) found that cumulative EEOC expenditure had a positive and significant effect on relative black earnings. Butler and Heckman (1977) correct for sample composition bias noted above and find virtually no effect of EEO variables. Smith and Welch (1979) also challenge Freeman's conclusion, saying that an improvement in educational quality was more likely the responsible factor in improving black relative earnings. Arriving at a firm conclusion in this area is difficult, but the

available evidence indicates that women's relative earnings were marginally improved by EEO policy, while black/white employment and earnings differentials were probably not significantly affected.

3. Impact on Wellbeing

It is difficult to evaluate the impact of antidiscrimination policy on the overall level and distribution of wellbeing. The consensus to date might be summarized as follows: overall employment probably was little affected by the policy, and relative earnings growth was largest for women. Both highly skilled females and minorities benefited more than did others (Freeman, 1973). No one has yet attempted an overall assessment of the short-run costs and benefits of antidiscrimination policy, nor a complete analysis of its effect on individual and family income and expectations. Long-run impacts have generally been neglected; two exceptions are found in Lazear's (1979a, 1979b) work, which concludes that job advancement is much more likely for females as a result of the policy initiatives, but not for blacks. Much research remains to be done in this area.

4. Conclusion

The main contribution of antidiscrimination analysis over the last decade has been its new insights into real world labor market institutions. Structures coming under scrutiny include the role of hiring and personnel policy, on-the-job training and apprenticeship, and the relationship between earnings, worker characteristics, and firm-level variables. More analysis is needed on each of these elements, in order to more fully understand how antidiscrimination policy works when it does, and why it failed when it did. In general, existing analysis indicates that antidiscrimination policy probably improved women's earnings, and had little effect on black workers' earnings and employment.

V. Concluding Remarks

Previous sections discussed the available research on workplace health and safety, pensions, minimum wages, and discrimination in pay and employment. It is also instructive to look across the policy areas to appraise the literature as a whole.

1. Did the government policies attain their goals?

Neoclassical and institutional research is uneven on the direct impact of the four regulatory policies. The evidence indicates that EEO and OSHA reforms had a positive though small effect on the outcomes they sought to alter; the minimum wage probably did not improve earnings for most low skilled workers; and no study examined whether ERISA improved pension security. More analysis needs to be done on the direct as well as the second-round effects of these labor market regulations, including their impact on total compensation and employment, collective bargaining, organizational structure, and whether they alter employer and worker attitudes. Most studies take a fairly narrow perspective, looking only at one particular program or policy at a time. A wider net must be cast to understand how any given policy initiative interacts with other political and economic entities in the labor market.

2. What were the costs and benefits of these regulatory policies and to whom did they accrue?

Rational social decision making should be based on an understanding of the level and distribution of costs and benefits associated with a given policy, yet the literature is far from helpful in this regard. No researcher has fully examined the direct costs of any of the four policies including compliance and enforcement expenditures. In only a few instances, analysts have investigated which labor market groups benefited from regulations -- the minimum wage studies stand out as exceptions. There are also no studies of the effect of

these regulations on overall productivity, and virtually no analyses on how the regulations altered the distribution of power between labor and management, if at all, and between these parties and the government. Each of these questions should be addressed in the next decade.

3. Was the actual regulatory package the best possible set of policy instruments available to attain the desired goals?

In evaluating existing programs, it is important to ask whether more beneficial outcomes might have been achieved with a different set of policies, given the same budget allocation and the same socio-economic circumstances. Most of the regulations impose standards on employers, but a variety of other schemes might be devised. For instance, many safety and health studies mention alternative policy tools to reduce risks; the various options should be enumerated and analyzed in other areas as well. We still have only a rudimentary understanding of regulatory agencies' behavior, goals and constraints; this gap must be filled too if realistic and feasible policy alternatives are to be considered.

4. What kind of policy research is likely to be the most useful in the next decade?

Labor market outcomes are the product of complex and fluid interactions between workers and employers, operating in the context of a variety of social, economic and political influences. Over the last decade, researchers have realized ever more clearly that good policy analysis requires a thorough understanding of what goes on inside the "black box" of the labor market. This is necessary because policy affecting one aspect of the employment relationship sometimes elicits unexpected reactions along other dimensions: for instance, wages may decline in response to regulations about job or pension risk. The most useful research must decode institutional and economic puzzles to find out how they work. To date, some influential insights of this type have

been provided by analysts of the discrimination area. To this analysis must be added research on how policymakers incorporate research findings in developing new regulations, a topic seriously understudied to date.

The questions that remain to be answered are challenging. More complete and sophisticated answers are beginning to emerge. However, if this trend is to continue, more and better data are required than have been available in the past -- particularly with respect to union, firm-level and government behavior. It is hoped that recent cutbacks in federal support for data gathering and research programs will not retard this endeavour too seriously.

Footnotes

[1]Savelson and Wainger (1978), have a discussion of recent legislative developments.

[2]See the exchange between MacAvoy and Williams in the New York Times, for instance.

[3]"Safety Agency to Forego Cost Benefit Analysis", New York Times, July 13, 1981.

[4]Rosen (1981) states this even more forcefully.

[5]Mendeloff (1979) examined trends by analyzing changes in injuries over time, rather than levels, but assumed that the underlying mechanisms generating injuries did not change structurally over time.

[6]Certain target industries were selected for concentrated government attention, though Oi (1974) points out that several industries not targeted had higher injury rates in 1970.

[7]Bacow (1980) has a succinct review of these studies.

[8]Mendeloff (1979) suggest that male, blue collar, and union employees were perhaps the groups most advantaged by OSHA policy, but confirmation of this surmise awaits further research.

[9]See Ture and Fields (1979) and Greenough and King (1976) for a history of private pension development in the United States.

[10]Ture and Fields (1979) cite several Committee findings and statements of concern.

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[12]For instance, Bulow's paper (1979) indicates that pension funds do not invest solely in bonds, though economic theory predicts that they should.

[13]Most of the increase is probably attributable to real improvements in Social Security benefits.

[14]See, for instance, the hearings summarized in the President's Commission on Pension Policy (1981).

[15]For a summary of historical precedents to the FLSA and the Act's major provisions see the Report of the Minimum Wage Study Commission (1981). Here we focus only on the wage floor provisions of the Act.

[16]Most of the minimum wage literature refers to "covered workers" though "subject workers" is the more technically correct terminology. The distinction here is that a covered worker may be exempt from the Act while a subject worker is both covered by the Act and not exempt from its provisions. In fact it has recently been estimated that one quarter of the employed wage and salary workers are covered, though exempt from the minimum wage provision of the Act. (S. Welch, 1981).

[17]Many states also established their own legislation governing wage and hours. These state floors are typically less than or equal to the federal level, but may cover more workers.

[18]Gramlich (1976) and Ragan (1977) recognize that workers hours might adapt rather than employment, particularly if the firm bears hiring and training costs. This does not materially affect the conclusions drawn from the model with respect to total earnings and employment changes, however.

[19]Whether a national uniform wage minimum is likely to be "correct" for all firms is unlikely, though how the correct levels might be set has not generated much debate in literature.

[20]Several early efforts sponsored by the Department of Labor in the 1950's focused on low-wage sectors such as the garment and lumber industries. Though these pieces

usually concluded that the minimum wage had little or no deleterious effect on employment in these sectors, their empirical conclusions did not stand up to re-analysis by Peterson and Stewart (1969) and Brown, Gilroy, and Kohen (1980).

[21]Ashenfelter and Smith (1978) argue, however, that compliance varies across firms and over time, depending on the cost and probability of being caught and penalized. Compliance is also influenced by regional and sectoral differences in wages and prices. Recent evidence indicates that minimum wage violations are concentrated among the retail and trade sectors of the economy, and disproportionately impact women and teenagers. (Sellekaerts and Welch, 1981).

[22] Teenagers under 18 years old are also covered by FLSA restrictions on child labor. Hence for that subset of teens, the minimum wage may not be the only cause of disemployment.

[23]Goldfarb (1974) has a well-organized review of papers appearing up to the early 1970's. The Report of the Minimum Wage Study Commission (1981) provides a bibliography and review of several works the Commission sponsored as well as independent research. The paper by Brown, Gilroy and Kohen (1980) is perhaps the most comprehensive.

[24]Antidiscrimination policy also covers workers indentifiable by religion, age, handicap and veterans status. Less attention has been devoted to these areas, however.

[25]See Smith (1980), Gold (1981) and Wallace and Driscoll (1981) for a review and discussion of legislative issues.

[26]The reduction in the earnings gap was largely due to lower male wages.

Wage increases for white females attributable to the antidiscrimination policy were estimated to be between 3 to 8%, higher in years of lower unemployment.

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