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JOB LOSS DUE TO HEALTH CARE REFORM

**Testimony Before the Senate Committee on Labor
and Human Resources, October 19, 1993**

**Jacob Alex Klerman
Dana P. Goldman**

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Prepared Statement of Jacob Alex Klerman and Dana Goldman**Job Loss Due to Health Care Reform**

With the release of the proposed Health Security Act, the great debate about health care reform in the United States has entered a new phase. The fundamental issues in the debate involve how much health care should be guaranteed to which Americans, the role of government in the reformed health care system, and who will pay the additional costs of extending health insurance to the currently uninsured¹.

Like other proposals, President Clinton's plan would extend the current employment-based financing of health insurance. The plan would require employers to pay 80 percent of the health care costs for each of their employees. The required plans are not inexpensive; the President's plan will cost approximately \$1,800 per year for an individual policy and \$4,200 for a two-parent family policy.² Average annual earnings in the United States are approximately \$24,500, and a full-time employee working at the minimum wage only earns \$8,840 annually. Thus in the absence of subsidies, employer contributions towards health insurance for an individual earning the minimum wage would constitute 16 percent of a single worker's earnings ($80\% \times \$1,800 / \$8,840$), and 38 percent of earnings for a worker in a two-parent family ($80\% \times \$4,200 / \$8,840$).³ For an individual with average earnings, projected premiums still constitute 5 percent of earnings for a single earner and 14 percent for earners in a two-parent family. Thus, health care reform may substantially increase labor costs for employers not currently offering health insurance.⁴

In a period in which employers have already pared employment and company balance sheets are lean, many policy makers and researchers are concerned about the potentially adverse effects of these cost increases on employment. A widely cited report by June O'Neill and Dave O'Neill, "The Impact of Health Insurance Mandate on Labor Costs and Employment" for the Employment Policies Institute, projects that health care reform would result in 3.1 million lost jobs.⁵ In this testimony, we attempt to outline what is known about the likely employment effects of requiring employers to pay 80 percent of the health insurance costs of each of their employees.

The paper proceeds as follows. In the next section, we consider how an employer mandate might affect firm behavior. There we discuss recent research which finds that when government requires employers to provide benefits to employees, most of the cost is shifted to employees in the form of lower wages. We also note that for workers with very low hourly wages, it is illegal for firms to lower their wages enough to completely shift the cost of the employer contribution to employees. For employers of such low-wage workers, the mandate effectively becomes an increase in the minimum wage. We then discuss recent research on the employment effects of increasing the minimum wage.

In the second section, we discuss the methodology and results of the O'Neill and O'Neill study. For several reasons, we conclude that their estimates overstate the number of jobs lost. In the third section, we use the recent evaluations of the minimum wage and new tabulations of the characteristics of the uninsured from the 1990 Survey of Income and Program Participation to derive our own simple aggregate estimates of the likely employment effects of the Health Security Act as it is currently formulated. The paper concludes with a summary of the key policy issues, as well as a discussion of details of the final legislation that would cause significant shifts in our estimates of employment effects.

1. The Employer's Perspective

1.1. The Employer's Choices

To provide perspective, it is useful to consider the choices facing a firm that does not currently offer health insurance. After health care reform passes, such a firm will pursue some combination of four actions.

- First, the firm can absorb the increased labor costs, in which case the new mandate will result in *lower profits*.
- Second, the firm could *raise the prices* it charges for its products. In so far as the firm's competitors also do not currently offer health insurance, their labor costs will also increase. Thus, while an employer may feel there is no leeway to raise prices now, doing so may be easier in the context of health care reform. If this occurs, consumers bear the burden of the mandate through higher prices.

- Third, the firm can *reduce workers' wages* so that its hourly labor cost remains unchanged after a transition period. Since earnings usually increase with job tenure, over the intermediate term firms need not actually reduce the wages of any current employee. Firms could simply forgo wage increases, or keep them below the rate that would have prevailed in the absence of health care reform.⁶ This strategy may be particularly appealing to employers for young, low-wage workers. Evidence suggests that the median wage increase for workers starting at the minimum wage is 20 percent after the first year (Smith and Vavrichek, 1992). In addition, low-wage and uninsured jobs have considerably higher job turnover than insured jobs, so firms could explicitly lower wages as new hires replace departing workers (Klerman, Buchanan and Leibowitz, 1992).
- Fourth, the firm can *reduce employment* (possibly through attrition) of workers who do not warrant the increased compensation.

1.2. Who Pays for an Employer Mandate?

Recent experience with other employee benefit mandates suggests much of the increased costs to firms will be passed on to workers in the form of lower wages. Gruber and Krueger (1990) examine workers' compensation insurance. Worker's compensation insurance premiums vary widely across states and across time periods. Comparing changes in wages with changes in insurance premiums (for high-risk occupations where the premiums are large), they find that firms passed on approximately 85 percent of the increase in workers' compensation costs to employees in the form of lower wages. In other words, for every \$10 increase in worker's compensation premia, employee paychecks were reduced by \$8.50. Because of this backward-shifting onto wages, they find little evidence of a significant decrease in employment.

Gruber (1992) explores the effect of state requirements that firms offering health insurance cover childbirth. In the 1970s, several states passed such legislation, and then in 1978 the federal government passed a national requirement. Gruber studies the relative changes in earnings for women of childbearing age before and after the legislation passed, across states which did and did not pass such legislation. He finds that essentially all of the increase in costs per female of childbearing age (between \$250 and \$950 in 1990) was passed on to the female population in the form of lower wages. He also finds evidence for a small reduction in employment.^{7,8}

These results are both encouraging and discouraging for the proponents of a mandate. They are encouraging because they imply that, for most workers, the probability that any individual will lose his or her job due to health care reform is likely to be small. However, if health care reform is designed to provide an additional benefit of health insurance to the working poor, these results may be discouraging. After all, if employers backward-shift the costs of a mandate onto wages, then the currently uninsured will pay for much of their new health insurance out of their own earnings. Perhaps the working poor would prefer to buy other goods with these wages, such as food or housing.

From the perspective of the working poor, health care reform is regressive not simply because it would require them to buy health insurance in place of other goods they may prefer. Under the current system, if the uninsured get very sick, they will almost always receive some care at minimal cost in a public hospital or as uncompensated care. Health care reform forces them to buy insurance to pay for such care. This economic phenomenon has been called the "Samaritan's dilemma" and has been used as an argument for forcing people to buy income insurance such as Social Security, even though its effects are regressive (Summers, 1989).

Community rating provides further disincentives for the healthy to buy insurance. It requires that all individuals, regardless of age, race, sex, or health status, be charged the same premium. The currently uninsured are disproportionately young⁹. As a result, their health care costs are approximately 33 percent lower than the average, so they will implicitly subsidize the premiums of older workers.¹⁰ Therefore, community rating implies that the young workers subsidize old workers; and since young workers earn less on average than old workers, low-wage earners subsidize high-wage earners.¹¹

To address the regressive burden on low-wage earners and the large increase in employer costs, the Health Security Act includes subsidies to small employers and low-wage earners. These subsidies limit employer contributions for health care as a percentage of payroll. These caps range from 3.5 to 7.9 percent of payroll, depending on the average wage for a full-time equivalent worker. For firms with fewer than fifty employees and average per-full-time equivalent payroll of less than \$12,000, the contribution is capped at the lowest rate. Thus, contributions by small firms hiring predominantly minimum wage employees are limited to 3.5 percent of payroll. Since our earlier calculations suggested that employer costs could increase by as much as 38 percent, these subsidies significantly alter the burden of the mandate.

Clearly, the impact on employment costs is dramatically lower with the subsidies. In addition, the subsidies make the proposed reforms more progressive.

1.3. Employer Responses to Increases in the Minimum Wage

The argument that employees bear the cost of lower wages breaks down for very low-wage workers. The Fair Labor Standards Act, known as the minimum wage law, provides that as of April 1, 1991 most employees may not be paid less than \$4.25 an hour. For employees currently earning less than the sum of the minimum wage (\$4.25) and the hourly cost to the employer of the health benefit (approximately \$1.00 to \$2.00 per hour depending on family composition), employers cannot legally cut wages in the intermediate term. Standard economic theory suggests that firms will cut employment until the remaining workers are each worth \$5.25 to \$6.25 per hour (Stigler, 1946). Some workers earning between \$4.25 an hour and \$5.25 to \$6.25 an hour will lose their jobs.

The crucial question then becomes: How many? For employers of these low-wage workers, health care reform will act like an increase in the minimum wage (in this case minimum total compensation). Thus, we can look at historical experience to determine the job loss associated with a rise in the minimum wage. The magnitude of this employment effect is the subject of a large empirical literature on labor economics. That literature has grown considerably with studies of the increases in the minimum in April 1990 (from \$3.35 to \$3.85) and in April 1991 (from \$3.85 to \$4.25).

Contrary to the expectations of many economists and businessmen, the answer appears to be "not many." Few of the workers earning between a new, higher minimum wage and an old, lower minimum lose their jobs. A series of case studies of the 1990 and 1991 increases in the federal statutory minimum find no employment losses at all.¹²

With sufficiently large samples and lagged effects, a slightly more subtle picture emerges. Many economists have compared changes in aggregate employment of teenagers (16-19) and young adults (20-24) with changes in the statutory minimum, while attempting to control for possible confounding factors such as the number of young people, the overall level of wages, and the size of the military. Those studies report estimates of the elasticity of employment with respect to the minimum wage; i.e., the percentage change in overall

employment with respect to a percentage change in the minimum. Thus, if the elasticity is 0.1, then a 10 percent increase in the minimum wage (as we had in 1991) will lower teenage employment by 1 percent. The estimates of this employment elasticity are small and relatively stable. The estimates range from 0.1 to 0.3 for teenagers and from 0.0 to 0.2 for young adults.¹³ Extending the standard time-series analysis through 1986, Wellington (1991) obtains elasticities at the low end of the range; 0.076 for teenagers and 0.012 for young adults¹⁴.

We prefer the most recent work by Neumark and Wascher (1992). They apply a time-series of cross-sections methodology. Exploiting state minima, they are able to include dummy variables for each time period and for each state. Furthermore, they consider, find important, and correct for lagged effects of the level of the minimum wage. Together, these changes result in a larger (in absolute value) elasticity estimate: 0.17 for both teenagers and young adults (defined as 16-24 year olds).¹⁵ Finally, note that no recent study has attempted to estimate a minimum wage elasticity for workers over age 25.

2. The O'Neill and O'Neill Study

In their widely publicized study,¹⁶ O'Neill and O'Neill (1993) make different assumptions in pursuing an alternative approach to estimating the employment effects of health care reform. Their approach yields job loss estimates of 3.1 million. They base their estimates on a series of industry-wide calculations, which we heuristically describe here (the actual computations are more disaggregated). First, they compute the change in payroll costs for each industry, based on the percentage of workers who are uninsured, whether the uninsured are full-time or part-time, whether the uninsured are single or in families, the estimated price of insurance, the degree of backward-shifting onto wages, and the current payroll. On average, they estimate that payroll costs for uninsured employees will rise by 28 percent.

Next, O'Neill and O'Neill translate this increase in labor costs into a percentage reduction in employment using an estimate of the *elasticity of employment with respect to labor costs*.¹⁷ They assume an elasticity of 0.3, which they argue falls in the middle of the range of the relevant empirical estimates. Thus, the 28 percent increase in labor costs for the uninsured translates into an employment loss of approximately 8.4 percent ($0.3 \times 28\%$). Because their data indicate that approximately 32.6 percent of the nation's workforce will be affected by this mandate, they estimate that, overall, approximately 3 percent of all workers will lose

their jobs ($\approx 32.6\% \times 8.4\%$). They disaggregate this figure according to whether the individual is currently covered under another family member's employer-based plan and by industry.¹⁸

Given our analysis of the effects of mandated health benefits, several methodological aspects of their approach appear to upwardly bias their estimates. In addition, their paper was written before the details of the President's plan were public. Differences between the plan they simulate and the President's proposal suggest several other reasons why their estimates are too high.

- *Choice and application of elasticities.* O'Neill and O'Neill compute the increase in payroll costs for an industry as a whole. Multiplying the percentage increase in labor costs by an employment elasticity, they compute the percentage of workers who will lose their jobs. However, mandated health benefits will not uniformly raise all employment costs as would be required for a strict application of the labor cost elasticities they use. Those who do not have insurance and therefore might lose their jobs are predominantly those individuals in the low-wage industries earning close to the minimum wage. Thus, we prefer a strategy that draws on this analogy by applying the appropriate minimum wage elasticity estimate to the subpopulation of young adults.¹⁹

O'Neill and O'Neill argue that there is a downward bias in the elasticity estimates based on the federal minimum wage analogy. This bias arises because a firm cannot substitute capital for labor in the short-run, and so the long-run response will be more elastic than the short-run elasticity estimates suggested by the empirical literature.²⁰ Our preferred estimates (Neumark and Wascher, 1992) does allow for these lagged effects. Substituting these estimates to compute an intermediate-run response would cut O'Neill and O'Neill's predicted job loss by almost 50 percent.

- *Assumptions about labor's share of the burden.* O'Neill and O'Neill assume employers shift none of the cost back to employees earning less than \$25,000, and only 50 percent of the cost to employees earning above that level. In their appendix, they do report estimates assuming costs were shifted for employees earning \$15,000 or more, but only at a rate of 50 percent. As we noted in the previous section, the empirical evidence suggests that for workers earning above the minimum wage (plus the cost of the additional

mandate), the employee bears nearly all of the increased cost. Assuming an 85-percent shift in costs would reduce their estimates by approximately 30 percent.

- *Plan costs.* Using data from a private benefits consulting firm, O'Neill and O'Neill assume a family plan costs \$5,310 and an individual plan costs \$2,160. These figures are approximately 25 percent higher than the more recent estimates by the Clinton administration of \$1,800 and \$4,200.²¹
- *No firm subsidies.* O'Neill and O'Neill have assumed no offsetting subsidies to small firms or employers of low-wage workers. The draft proposal calls for limits on employer contributions to between 3.5 and 7.9 percent of payroll. It is the explicit intention of such subsidies to minimize employment effects. For the industries they estimate will lose the most jobs, O'Neill and O'Neill assume payroll costs will increase between 4.0 and 16.4 percent, even after taking into account offsetting reductions in wages. These numbers clearly exceed the caps identified in the Clinton plan.

3. Better Estimates of Employment Effects

In this section, we generate preliminary estimates of the employment effect of the Health Security Act under a set of assumptions that we believe most closely reflects its likely effects. It is undoubtedly possible to generate more disaggregated estimates of the minimum wage elasticity and to apply them to disaggregated population counts. We do not pursue such an approach here. Rather, we provide an aggregate estimate of the jobs lost for the age group considered most at risk due to the imposition of a mandate in both the subsidized and unsubsidized cases.²²

Table 1 presents estimates of the job loss under the Health Security Act under six scenarios: two sets of minimum wage elasticities (Wellington vs. Neumark and Wascher) and three sets of assumptions about the effect of the employment subsidies. We have already discussed the minimum wage elasticities above. Wellington's (1991) estimates update to the conventional time-series methodology for estimating the minimum wage. Neumark and Wascher (1992) implement what we believe is a superior econometric methodology yielding much larger minimum wage elasticities and therefore much larger employment effects.

Table 1
Job Loss from the Health Security Act

Elasticity	Wellington (1991)		Neumark and Wascher (1992)	
Cap on Employer Contributions	% Reduction in Employment	Jobs Lost (millions)	% Reduction in Employment	Jobs Lost (millions)
None	0.22%	0.251	1.48%	1.662
7.9%	0.07%	0.082	0.49%	0.545
3.5%	0.03%	0.036	0.22%	0.241

Even given the choice of minimum wage elasticity, there is an issue about how to extrapolate to the population over the age of 25. We define the “vulnerable” population as the set of workers who do not currently have employer provided health insurance and whose hourly wage is less than the sum of the minimum wage and the (unsubsidized) hourly cost of the health benefit (based on the worker’s marital status and presence of children). Using Wave 5 of the 1990 Survey of Income and Program Participation (for the Spring of 1991), we compute that the vulnerable population constitutes approximately 24 .0 percent of all employees under age 25, but only about 6.3 percent of workers age 25 and over. Thus, it is not surprising that it is difficult to detect an effect of increasing the minimum wage on this group’s aggregate employment. Nevertheless, workers aged 25-64 constitute over sixty of all vulnerable workers. The estimates in Table 1 extrapolate from the percentage of vulnerable workers aged 20-24 who lose their jobs to all vulnerable workers over age 25.²³

The rows of the table vary the estimates to reflect different levels of government subsidies. The first row shows the effect of the legislation without the associated subsidies. From our data, it is not possible to exactly simulate the effects of the subsidies. There are two related problems. The first problem is that the Health Security Act provides subsidies on a sliding scale depending on the firms average per-employee payroll (and firm size)²⁴. Our SIPP dataset does not include average per employee payroll of an employee’s firm.

The second row corresponds to a 7.9 percent cap on employer contributions to health insurance, assuming the cap was takes a basis of individual earnings. This estimate of the number of workers who will lose their jobs is both overstated and understated because of this assumption. It is overstated, because some firms (those with under 50 employees and low average per-employee personnel costs; e.g. a firm which is all minimum wage workers) will

receive subsidies equivalent to a lower cap²⁵. It is understated because some low wage workers are employed by firms with high average per employee personnel costs (e.g. the mail clerk in a small law firm); thus, these employers will not receive a subsidy.

The third row corresponds to a 3.5 percent cap on employer contributions to health insurance. This corresponds to the outcome if all employees worked in small firms with low average per employee personnel costs. This estimate provides a lower bound because most firms will face a cap higher than 3.5 percent. By how much it is too low, is however, unclear.

The legislation provides strong incentives to reorganize employment such that low wage workers work for small firms (under 50 employees) with low average per-employee personnel costs. In the extreme case, the magnitude of the subsidy is over \$3,000 per employee. A low-wage worker in a high wage firm is ineligible for any subsidies. The cost to the firm for his health insurance is thus the full 80 percent of the premium (\$2,479 for a couple with children, \$1,546 for a single individual). However, if the firm contracts out the work to a firm eligible for the 3.5 percent cap, then the cost to the firm for his health insurance is capped at \$309 (3.5% of \$8840). Employment costs fall by over \$2,000 for a married person with children, and over \$1,200 for a single individual without children. These subsidies are respectively 25 and 14 percent of payroll. Clearly this large differential in the subsidy creates strong incentives for firms to outsource their relatively unskilled labor-intensive tasks in order to appropriate some of these government subsidies.

The possibility of this reorganization is the second problem with choosing which of the rows of the table to use to generate an estimate. The more such reorganization occurs, the closer the employment effect will be to the third row (and the higher will be the cost in the form of subsidies). Phasing-out the subsidies or enacting regulations to discourage such reorganization would have the effect of lowering government costs but also raising employment losses.

Although there are many uncertainties involved in the calculations, we have greater confidence in the Neumark and Wascher methodology than in those involved in other estimates in the literature. We believe that the 7.9 percent cap is probably a good estimate of the net effect of the offsetting biases (some low wage employees in high wage firms will be ineligible for subsidies; some workers are, or will find themselves after the reform, in firms eligible for caps below 7.9 percent of payroll). Under these assumptions, we estimate that the

Health Security Act will yield a decline in employment due to the burden of the required premium of about half a percent of total employment (of 18 to 64 year olds). This estimate is only one-sixth of the estimate of O'Neill and O'Neill using a different methodology which we discussed earlier.

4. Conclusion

In this white paper, we have reviewed the theory behind estimating employment effects of health care reform, critiqued a widely cited set of estimates, and provided alternative estimates of the job loss associated with a mandate. Our best estimate is that job losses will total about half of one percent of employment. This estimate is about a sixth of the estimates of O'Neill and O'Neill. Ultimately, the magnitude of these employment effects will depend on the details of the final health care reform legislation.

Our estimates have only considered the direct employment effects due to job losses as employers react to increases in the minimum legal compensation. There are several other possible employment effects which we have not considered here. First, an explicit goal of the Health Security Act is to reorganize the health sector to yield better health care at lower cost to more Americans. In as much as firms see their health insurance bills go down (either due to lower cost of health care itself or due to lower loading factors), firms may increase employment. Similarly, the HSA's guaranteed health coverage should alleviate problems of job-lock and welfare lock. These changes may also increase employment.

On the other side, some of the effects of the plan may yield lower employment. First today some people work in order to gain health insurance. Under the plan, health insurance will be available even to non-workers. This effect is likely to be most important for older workers considering early retirement. Second, in as much as firms pass the cost of health insurance on to workers in the form of lower wages, some people may choose not to work, the cash wage per hour worked has declined. This effect is likely to be most salient among secondary workers.

Finally, it is possible that the shift of expenditures into or out of the health sector (depending on the net effect of the reform on employment in the health sector) may cause a change in total employment. To a first order, however, the dollars spent in the health sector

are dollars not spent in some other sector, so net employment effects will be a function of the relative employment in the health sector for a dollar of expenditure. These effects are likely to be small.

Though our employment effect estimates are lower than many other estimates, this does not imply that health care reform will increase health insurance coverage at minimal cost (beyond the explicit on-budget expenditures). Our estimates are low specifically because we expect that firms will successfully pass on the cost of their share of the health insurance premium to their employees in the form of lower wages. Real wages for low skilled workers have fallen considerably over the last two decades, so the assumption of downward flexibility of wages seems plausible. Thus, the currently uninsured will pay much of the cost of the expansion of health insurance. This gives this apparently progressive legislation a significant regressive component.

The obvious way to mitigate the regressive nature of employer-based health insurance finance is to provide government subsidies to low-wage workers. Doing so will mitigate the negative employment effects and the fall in wages. However, doing so is also expensive. The higher the subsidy, the higher the budgetary expense. An alternative is to subsidize only firms that do not offer health insurance (and then possibly only their low-wage workers). However, this creates large incentives for firms to rearrange production to take advantage of the subsidies.

In summary, our best estimates of job loss are much lower than many of those which have been cited in the debate over the Health Security Act. The magnitude of these changes involved in a major reorganization of a major sector of the economy lead us to treat our estimates as informed guesses; with such a major reform unexpected consequences seem possible, if not likely. Nevertheless, our best estimate is that job losses due directly to increased costs to employers will be under one half of one percent of total employment. Plausible alternative estimates are much lower. We conclude that direct job loss need not be a major consideration in the evaluation of the President's plan. However, these low estimates of job loss are a direct result of our assumption that most of the cost of the mandated health benefit, including what is nominally the employer's share, will be shifted back to employees in the form of lower wages.

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Endnotes

¹This testimony draws on our ongoing research at RAND. It does not necessarily represent the position of RAND or its sponsors.

²Personal communication with staff at the Council of Economic Advisers indicates that the estimated premiums are \$1,800 for single individuals, \$3,600 for married couples, \$3,700 for single-parent families, and \$4,200 for two-parent families.

³Average earnings come from the Bureau of Labor Statistics, *Employment and Wages Annual Averages, 1991*, Bulletin 2419, United States Department of Labor, January 1993. The computations for employer contributions as a percentage of payroll are as follows: A single individual working at the minimum wage earns \$8,800 annually. Under the mandate, the employer contributes 80% of the cost of insurance (\$1,800). Thus, the employer contributes 16 percent of earnings towards health insurance ($80\% \times \$1,800 / \$8,800$). For a worker in a two-parent family, the contribution is 38 percent of earnings ($80\% \times \$4,200 / \$8,800$).

⁴Subsidies may limit employer contributions to between 3.5 and 7.9 percent of payroll.

⁵The O'Neill and O'Neill report has been cited by the Boston Globe (September 8), Christian Science Monitor (September 24), Newsweek (August 30), New York Times (August 30, September 28, and September 30), San Diego Union-Tribune (September 1 and September 22), Wall Street Journal (August 20), and the Washington Times (August 31).

⁶Over the last decade, the real earnings of low-wage earners have proven to be quite flexible downward. Karoly and Klerman (1993) estimate real earnings for low-wage workers have fallen 15 percent.

...(continued)

⁷Various problems with Gruber (1992) limit its applicability to the more general mandated benefits case. For instance, Gruber (1992) finds that a \$1 rise in the cost of maternity care on average leads to a .22 percent reduction in the probability of employment. Extrapolating to the case of a mandate that increased costs by only \$250, his results imply a 50-percent reduction in the probability of employment. This figure is implausibly high.

⁸Gruber's work revises earlier work on the effects of payroll taxes on wages. Currently, both the employer and the employee nominally contribute 6.2 percent of taxable earnings to Social Security and 1.45 percent to Medicare. However, many economists argue that employees bear all the burden of both the employer and the employee's share in the form of lower wages (Brittain, 1971). Some researchers have tried to exploit slight annual changes in these tax rates, and larger differences across countries, to estimate the extent of backward-shifting of employer contributions. Not surprisingly, the empirical evidence on this question is mixed. Brittain (1971) and Vroman (1974) both use cross-national comparisons to demonstrate that labor bears 100 percent of the burden of the tax. However, Hamermesh (1979) estimates that only 33 percent of the tax is shifted for white males. Because of the disparity in these estimates, we cannot infer much from this literature that is relevant to the debate on mandated benefits. In conjunction with the above analyses of narrower mandates, we tentatively conclude that higher wage employees bear much of the burden of a mandate in the form of lower wages.

⁹For instance, 27.4 percent of individuals 18 to 24 years old are uninsured, whereas only 10.5 percent of individuals 45 to 64 years old are without coverage (Ries, 1991).

¹⁰Using data from the 1987 National Medical Expenditures Survey, Hahn and Lefkowitz (1992) compute mean health care expenditures for the entire United States population, as well as for the subpopulation of 18- to 44-year-olds. For the entire population, the mean annual expense for health care is \$1,521 (computed as the product of two figures in Table 1 of their findings: the percent of persons with expense and the mean annual total expense per person with expense). For 18- to 44-year-olds, the mean expense is \$1,019. For those under 65, the mean expense is \$1,150. Thus, 18- to 44-year-olds have mean expenses that are approximately 33 percent lower than the national average and 11 percent of the average for those under 65.

...(continued)

¹¹The President's plan further subsidizes the rich at the expense of the poor. By financing the benefits expansion through cigarette taxes rather than the taxation of premium contributions, the President implicitly taxes low-wage earners (who may have a greater propensity to smoke) at the expense of high-wage earners (who may have a greater propensity to purchase expensive health care plans).

¹² In a study of fast-food restaurants in Texas, Katz and Krueger (1992) find no employment response to the 1990 and 1991 increases in the minimum wage. Card (1992a) compares the changes in employment in states with high and low wages around the increases in the federal minimum in 1990 and 1991. He also finds no evidence of a regular impact on employment. Card (1992b) analyzes employment responses to changes in California's minimum wage in 1988 for the retail industry, which employs almost 50 percent of the minimum and subminimum workers. By comparing retail trade in California with other states that did not change their minimum, he also finds no employment effects. From these case studies it is clear that firms reactions to the minimum are not simply to fire all (or even a large share of) workers with wages between the old and the new statutory minimum.

¹³Brown, Gilroy and Kohen (1982) and Brown, Gilroy, and Kohen (1983) are the standard references on the effects of the minimum wage. Their two papers survey the previous research, provide updated estimates of employment elasticities with respect to changes in the minimum (as of the early 1980s) and explore the sensitivity of the results to several estimation decisions. Following earlier literature, they estimate the elasticity of teenage employment with respect to the minimum wage, where an elasticity of x implies: if the minimum wage rises by 1 percent, teenage employment falls by x percent. Also following the literature, they estimate this elasticity using time-series regressions on aggregate employment counts since the late 1950s. Thus, the parameter of interest is the percentage change in employment of teenagers or young adults with respect to a percentage change in the minimum wage. Since over most of the post-war period the minimum wage was relatively constant, the estimates are necessarily imprecise. Still, Brown, Gilroy and Kohen (1983) find a small but significant employment elasticity. According to their estimates, a 10-percent increase in the minimum wage lowers teenage employment from 1 to 3 percent (an elasticity in the range of 0.1-0.3).

In the late 1970s and 1980s, the nominal wage remained fixed, but substantial inflation eroded the real minimum's value. This natural experiment provided substantial variation in the real minimum wage,

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prompting speculation that a larger employment elasticity (more in line with the stark predictions of economic theory) could be found. Brown (1988) provided some back-of-the-envelope calculations suggesting that a large elasticity was unlikely to emerge from extending the time series. Klerman (1992) and Wellington (1989) capitalize on this natural variation in the real minimum over the 1980s to update these estimates. They find even lower elasticities than Brown, Gilroy and Kohen—an elasticity of less than 0.1 for teenagers and approximately zero for young adults. This elasticity implies only a 1-percent decline in teen employment due to a 10-percent increase in the minimum wage.

Neumark and Wascher (1992), exploiting variation in state minimum wages from 1973-1989, also estimate a 1- to 2-percent decline in teenage employment due to a 10-percent increase in the minimum. Thus, it seems safe to conclude, as Brown, Gilroy, and Kohen (1983) do earlier, that there is “...little evidence that the effect of the minimum wage on the employment of white, male, or female, teens differed appreciably from the 1 percent estimate.”

¹⁴These elasticities are her base case plus the enrollment to population ratio. Her base case (without the enrollment to population ratio) is not significantly different from zero. Even including the enrollment to population ratio, the estimate for young adults is not significantly different from zero.

¹⁵Specifically, we prefer Neumark and Wascher’s (1992) specifications (2) and (6) from Table 5.

¹⁶The study has been cited in the Wall Street Journal (August 20), New York Times (August 30), Newsweek (August 30), Boston Globe (September 8), Washington Times (August 31), San Diego Union-Tribune (September 1), and the results have been entered into the Congressional Record (September 22).

¹⁷O’Neill and O’Neill (1993) base their estimates on the following calculation for those individuals affected by the mandates:

$$\left(\frac{\% \text{ change in}}{\text{employment}} \right) = \left(\frac{\% \text{ change in}}{\text{employment}} \right) \times \left(\frac{\% \text{ change in}}{\text{labor costs}} \right)$$

The first quantity on the right-hand side is the elasticity of demand for labor; thus, the relationship may be written as:

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$$\left(\begin{array}{c} \% \text{ change in} \\ \text{employment} \end{array} \right) = \left(\begin{array}{c} \text{elasticity of} \\ \text{employment} \end{array} \right) \times \left(\begin{array}{c} \% \text{ change in} \\ \text{labor costs} \end{array} \right)$$

By multiplying this elasticity by the percentage change in labor costs, they compute the relative change in employment.

¹⁸O'Neill and O'Neill identify seven industries characterized by relatively low wages or a large fraction of uninsured that will be extremely adversely affected by the mandates: eating and drinking, private household services, agriculture, repair services, personal services, other retailing, and construction.

¹⁹Ideally, we would like to know how the minimum wage legislation affects all segments of the age distribution, not just teenagers and young adults. However, for most segments of the wage distribution, the mandate will have little effect on employment for those earning greater than the sum of the minimum wage and the hourly cost of the mandate. Thus, older workers will be relatively unaffected by a mandate due to the strong link between age and earnings. For exactly this reason, researchers examining the minimum wage do not estimate elasticities for older segments of the population, since the law is not binding for this group. With regard to a health insurance mandate, older individuals are far more likely to have health care and higher wages. Thus, a health insurance mandate will not significantly affect employment for these individuals. Therefore, the appropriate elasticity for older individuals should be very close to zero, or at the very least bounded by the minimum wage elasticity.

²⁰O'Neill and O'Neill also dismiss the case-study evidence showing elasticities much closer to zero, because, in their view, it considers only short-run changes, because it uses data from three national chains of restaurants that may be atypical in a number of ways, and because the results do not include the effect of the minimum on firm entry and exit. This point is made by Neumark and Wascher (1992), whose methodology is designed to accommodate these effects.

²¹A nationwide survey of employers indicates the average annual premium was \$1,728 for an individual and \$4,260 for family coverage (Sullivan et al., 1992). Assuming an employer mandate did nothing to reduce premiums, O'Neill and O'Neill's figures still exceed the average nationwide cost by approximately 25 percent.

²²Most investigations of the effect of the minimum wage estimate elasticities for teenagers (16-19) and young adults (20-24) only. These subpopulations constitute the majority of individuals who are most likely

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to be affected by changes in the minimum wage. If a researcher were to estimate an employment elasticity with respect to the minimum wage for individuals over 25, this elasticity would be very close to zero. Most workers in this age bracket earn more than the minimum, and so the legislation is non-binding for this age group. Analogously, the majority of individuals over the age of 35 already have health insurance or their earnings are sufficiently high that they are not at risk for losing their jobs. Thus, we look for employment effects only in the subpopulation under the age of 35.

²³The estimates are based on employment counts for Calendar Year 1992 from the Current Population Survey (the Household Data) as reported in *Employment and Earnings*, January 1993: 3.3 million workers aged 18-19, 12.1 million workers aged 20-24, and 96.6 million workers aged 25-64. The number of vulnerable workers are 1.5 million aged 18-19, 2.2 million aged 20-24, and 6.0 million aged 25-64. As is noted in the text these numbers are computed based on the percentages of vulnerable workers in the SIPP (0.440, 0.185, and 0.063) multiplied times the 1992 employment counts.

²⁴Only firms with 50 employees or less are eligible for a subsidy. The subsidy rate varies with average payroll, as indicated in the following table:

Subsidy as a Function of Average Wage

Average Wage per Full-Time Equivalent	Subsidy
\$12,000 or less	3.5%
\$12,001 to \$15,000	3.8%
\$15,001 to \$18,000	4.4%
\$18,001 to \$21,000	5.5%
\$21,001 to \$24,000	6.5%
\$24,001 or more	7.9%

²⁵In executing the simulations, this cap merely requires that we reestimate the employment effects assuming the increase in labor costs is the minimum of the subsidy or our estimate of the increase in labor costs in the absence of subsidies.

