Labor Market Impacts of Policies to Expand Access to Health Care

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In the United States, private health insurance coverage is closely tied to employment—most individuals who are covered by private health insurance receive it either as part of their compensation for employment or through a family member who receives it as part of his or her compensation. As a result, policies designed to alter health care provision may have the side effect of influencing labor markets. That is, policy-induced changes in the health care system can be expected to alter the mix of employment, total employment, and wages.

This paper examines how various policies intended to expand health insurance coverage in a state may also affect that state’s labor market. The first section of the paper provides background data on the U.S. labor market; it explores the relationships among hourly wages, inclusion in an employer-provided group health plan, and coverage by any form of health insurance. Also provided are data on wages and health insurance coverage by industry. The second section of the paper develops the linkages between changes in health care policy and changes in wages and employment. Although we offer predictions about the qualitative impact of the policies (that is, directions of the policies’ impacts on the labor market), we are reluctant to make precise quantitative predictions because little of the empirical work needed to offer quantitative estimates of wage and employment impacts has been performed.
Table 1 shows the distribution of hourly wage and salary earnings in the United States in 1988 (see the first two columns). The figures show that nearly 2.7 million workers earned less than the minimum wage of $3.35 in 1988, and that another 6.8 million earned from $3.35 to $4.00 an hour. (Hourly earnings below the minimum wage are possible because of incomplete coverage of the Fair Labor Standards Act and because of imperfect compliance with the Act.) It follows that nearly 9.5 million workers—or about 11 percent of all wage and salary workers in the United States—had earnings near or below the minimum wage in 1988.

Table 1 also shows that an additional 8.3 million workers had hourly earnings of $4.01 to $5.00 in 1988. If we characterize all workers with earnings at or below $5.00 per hour as low-wage, then a total of 17.8 million workers in 1988—or over 20 percent of all wage and salary workers in the United States—would be characterized as low-wage.

Table 1 also shows that the inclusion of workers in employer-provided group health insurance plans is strongly correlated with hourly earnings (see the columns headed "Included in Group Health Plan"). Workers whose hourly earnings were $5.00 or less were far less likely to be included in an employer-provided health insurance plan than were workers whose hourly earnings were above $5.00. Only about 13 percent of workers with hourly earnings below $3.35 were included in an employer-provided health insurance plan, whereas nearly 88 percent of workers with hourly earnings over $15.00 were included.

Finally, Table 1 shows that even though low-wage workers are far less likely than high-wage workers to be included in employer-provided health insurance plans, they are only slightly less likely than high-wage workers to be covered by any form of health insurance (see columns headed "Covered by Any Health Insurance"). Low-wage workers—those earning $5.00 or less per hour—had roughly an 80 percent probability of being covered by any form of health insurance, whereas workers earning over $5.00 per hour had better than a 90 percent probability of being covered. The difference between the percentages of
Table 1
Inclusion of U.S. Workers in Group Health Plans,
by Hourly Wage and Salary Earnings, 1988

<table>
<thead>
<tr>
<th>Hourly wage and salary earnings</th>
<th>Total number of workers (1,000s)</th>
<th>Included in group health plan</th>
<th>Covered by any health insurance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Number of workers (1,000s)</td>
<td>Percent of total</td>
</tr>
<tr>
<td>Less than $3.35</td>
<td>2,674</td>
<td>346</td>
<td>12.9</td>
</tr>
<tr>
<td>$3.35 - $4.00</td>
<td>6,816</td>
<td>1,282</td>
<td>18.8</td>
</tr>
<tr>
<td>$4.01 - $5.00</td>
<td>8,267</td>
<td>3,097</td>
<td>37.5</td>
</tr>
<tr>
<td>$5.01 - $7.50</td>
<td>19,150</td>
<td>11,487</td>
<td>60.0</td>
</tr>
<tr>
<td>$7.51 - $10.00</td>
<td>17,203</td>
<td>12,936</td>
<td>75.2</td>
</tr>
<tr>
<td>$10.01 - $15.00</td>
<td>19,849</td>
<td>16,755</td>
<td>84.4</td>
</tr>
<tr>
<td>Over $15.01</td>
<td>13,613</td>
<td>11,962</td>
<td>87.8</td>
</tr>
<tr>
<td>All workers</td>
<td>87,590</td>
<td>57,865</td>
<td>66.1</td>
</tr>
</tbody>
</table>

NOTES: Figures displayed are authors' tabulations from the May 1988 Current Population Survey. The sample includes wage and salary workers who responded to the May Employee Benefits Supplement and reported information about occupation and industry of employment. Military and self-employed workers are excluded.
low-wage and high-wage workers who are covered by any health insurance is far less than the difference between the percentages of low-wage and high-wage workers who are included in an employer-provided group health plan. The reason is that most low-wage workers are either covered by a public program or are part of a family in which someone else's health insurance extends to the low-wage workers.

Table 1 suggests the importance of designing health care access policies that target the uninsured. In particular, the figures suggest that policies designed to include more workers as the primary insured in employer-provided health plans are less likely to target uninsured individuals than are policies that act directly to cover uninsured individuals. The reason is simply that most individuals who work in the labor market are, regardless of their hourly earnings, covered by some form of health insurance. Including more workers as the primary insured in employer-provided group health plans would result in the addition (as primary insureds) of many workers who are already covered by some form of health insurance.

In Table 2, the same sample of workers is broken down by industry of employment. The first two columns show that by far the largest sectors of the economy are professional and related services, retail trade, and durable goods manufacturing. The column labeled "Included in Group Health Plan" shows that there is much interindustry variation in the percentage of workers who are included in employer-provided health plans. In several industries, more than 70 percent of all workers were included in employer-provided group health plans: mining, durable and nondurable goods manufacturing, transportation, wholesale trade, finance, and public administration. But in other industries—agriculture, retail trade, and personal services—only about 30 to 40 percent of all workers were included. It follows that policies to expand the inclusion of workers in employer-provided health plans would probably have an uneven impact, affecting mainly industries in which health insurance provision tends to be low.

Although there is much industry-to-industry variation in the percentage of workers included in employer-provided health plans, Table 2 also shows that there is far less industry-to-industry variation in the percentage of workers who are covered by any health insurance (see
<table>
<thead>
<tr>
<th>Industry</th>
<th>Total number of workers (1,000s)</th>
<th>Included in group health plan</th>
<th>Covered by any health insurance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture, forestry, fisheries</td>
<td>1,468</td>
<td>443</td>
<td>30.2</td>
</tr>
<tr>
<td>Mining</td>
<td>665</td>
<td>570</td>
<td>85.7</td>
</tr>
<tr>
<td>Construction</td>
<td>4,806</td>
<td>2,748</td>
<td>57.2</td>
</tr>
<tr>
<td>Durable goods</td>
<td>10,578</td>
<td>9,053</td>
<td>85.6</td>
</tr>
<tr>
<td>Nondurable goods</td>
<td>7,982</td>
<td>6,299</td>
<td>78.9</td>
</tr>
<tr>
<td>Transportation, communications, public utilities</td>
<td>6,382</td>
<td>5,342</td>
<td>83.7</td>
</tr>
<tr>
<td>Wholesale trade</td>
<td>3,490</td>
<td>2,568</td>
<td>73.6</td>
</tr>
<tr>
<td>Retail trade</td>
<td>14,211</td>
<td>6,095</td>
<td>42.9</td>
</tr>
<tr>
<td>Finance, insurance, real estate</td>
<td>6,415</td>
<td>4,658</td>
<td>72.6</td>
</tr>
<tr>
<td>Business and repair services</td>
<td>4,072</td>
<td>2,198</td>
<td>54.0</td>
</tr>
<tr>
<td>Personal services</td>
<td>2,540</td>
<td>813</td>
<td>32.0</td>
</tr>
<tr>
<td>Entertainment and recreation services</td>
<td>894</td>
<td>415</td>
<td>46.3</td>
</tr>
<tr>
<td>Professional and related services</td>
<td>19,267</td>
<td>12,651</td>
<td>65.7</td>
</tr>
<tr>
<td>Public administration</td>
<td>4,820</td>
<td>4,014</td>
<td>83.3</td>
</tr>
<tr>
<td>All workers</td>
<td>87,590</td>
<td>57,865</td>
<td>66.1</td>
</tr>
</tbody>
</table>

NOTES: Figures displayed are authors' tabulations from the May 1988 Current Population Survey. The sample includes wage and salary workers who responded to the May Employee Benefits Supplement and reported information about occupation and industry of employment. Military and self-employed workers are excluded.
columns labeled ‘‘Covered by Any Health Insurance’’). Only in agriculture is the percentage of workers covered by any health insurance less than 80 percent, and in the four largest industries, the percentage of workers covered is 88 percent or greater. Again, it appears that most workers who are not included in an employer-provided health plan are covered nevertheless by some form of health insurance.

Table 3 shows the distribution of wages within each of the major industries in the United States in 1988. The table shows both the number and percentage of workers in each industry whose hourly wage and salary earnings were under $5.01, from $5.01 to $10.00, and over $10.00. In three industries—agriculture, personal services, and retail trade—at least 45 percent of all workers had hourly wage and salary earnings under $5.01 in 1988. At the high end of the wage scale were mining, durable goods manufacturing, transportation, and public administration. In all of these industries, at least half of all workers had hourly earnings over $10.00 in 1988.

Together, Tables 2 and 3 show that industries that tend to pay high wages also tend to include a high proportion of their workers in employer-provided group health plans. This apparent link between wages and employer-provision of health insurance suggests that high-productivity workers are highly compensated with both wage and non-wage benefits. This link bears implications for how changes in health care policy will affect different industries and groups of workers.

**Labor Market Analysis of the Policies**

Conventional labor market analysis can provide insights into how various policies to expand health insurance coverage might influence wages and employment. The strategy here is as follows. First, we set out a general labor market model that can be used to analyze the impact of various policies on the labor market outcomes that are of greatest concern: wages and employment. The model involves specifying two sets of factors: those influencing the quantity of labor that workers are willing to supply to a given labor market, and those influencing the quantity of labor that employers will demand from that same labor market.
### Table 3
**Distribution of U.S. Hourly Wage and Salary Earnings by Industry of Employment, 1988**

<table>
<thead>
<tr>
<th>Industry</th>
<th>Total number of workers (1,000s)</th>
<th>Number (1,000s)</th>
<th>Percent</th>
<th>Number (1,000s)</th>
<th>Percent</th>
<th>Number (1,000s)</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture, forestry, fisheries</td>
<td>1,468</td>
<td>839</td>
<td>57.2</td>
<td>496</td>
<td>33.8</td>
<td>133</td>
<td>9.1</td>
</tr>
<tr>
<td>Mining</td>
<td>665</td>
<td>46</td>
<td>6.8</td>
<td>169</td>
<td>25.4</td>
<td>451</td>
<td>67.7</td>
</tr>
<tr>
<td>Construction</td>
<td>4,806</td>
<td>587</td>
<td>12.2</td>
<td>2,203</td>
<td>45.8</td>
<td>2,016</td>
<td>41.9</td>
</tr>
<tr>
<td>Durable goods</td>
<td>10,578</td>
<td>784</td>
<td>7.4</td>
<td>4,173</td>
<td>39.4</td>
<td>5,621</td>
<td>53.1</td>
</tr>
<tr>
<td>Nondurable goods</td>
<td>7,982</td>
<td>1,370</td>
<td>17.2</td>
<td>3,403</td>
<td>42.6</td>
<td>3,209</td>
<td>40.2</td>
</tr>
<tr>
<td>Transportation, communications, public utilities</td>
<td>6,382</td>
<td>368</td>
<td>5.8</td>
<td>2,035</td>
<td>31.9</td>
<td>3,979</td>
<td>62.4</td>
</tr>
<tr>
<td>Wholesale trade</td>
<td>3,490</td>
<td>471</td>
<td>13.5</td>
<td>1,601</td>
<td>45.9</td>
<td>1,418</td>
<td>40.6</td>
</tr>
<tr>
<td>Retail trade</td>
<td>14,211</td>
<td>6,392</td>
<td>45.0</td>
<td>5,751</td>
<td>40.5</td>
<td>2,068</td>
<td>14.5</td>
</tr>
<tr>
<td>Finance, insurance, real estate</td>
<td>6,415</td>
<td>640</td>
<td>10.0</td>
<td>3,072</td>
<td>47.9</td>
<td>2,704</td>
<td>42.1</td>
</tr>
<tr>
<td>Business and repair services</td>
<td>4,072</td>
<td>933</td>
<td>22.9</td>
<td>1,755</td>
<td>43.1</td>
<td>1,384</td>
<td>34.0</td>
</tr>
<tr>
<td>Personal services</td>
<td>2,540</td>
<td>1,397</td>
<td>55.0</td>
<td>971</td>
<td>38.2</td>
<td>172</td>
<td>6.8</td>
</tr>
<tr>
<td>Entertainment and recreation services</td>
<td>894</td>
<td>323</td>
<td>36.1</td>
<td>373</td>
<td>41.7</td>
<td>198</td>
<td>22.2</td>
</tr>
<tr>
<td>Professional and related services</td>
<td>19,267</td>
<td>3,253</td>
<td>16.9</td>
<td>8,443</td>
<td>43.8</td>
<td>7,571</td>
<td>39.3</td>
</tr>
<tr>
<td>Public administration</td>
<td>4,820</td>
<td>355</td>
<td>7.4</td>
<td>1,909</td>
<td>39.6</td>
<td>2,556</td>
<td>53.0</td>
</tr>
<tr>
<td>All workers</td>
<td>87,590</td>
<td>17,757</td>
<td>20.3</td>
<td>36,353</td>
<td>41.5</td>
<td>33,480</td>
<td>38.2</td>
</tr>
</tbody>
</table>

NOTES. Figures displayed are authors’ tabulations from the May 1988 Current Population Survey. The sample includes wage and salary workers who responded to the May Employee Benefits Supplement and reported information about occupation and industry of employment. Military and self-employed workers are excluded.
Next, we define what we mean by a labor market and discuss the application of the model to the various policies that are of interest. Finally, we use the model to analyze in a general qualitative way the implications of the policies for labor markets. We plan in future work to derive quantitative estimates of how large the predicted effects would be.

The Model

In general, both economic theory and a significant body of empirical work suggest that the amount of labor willingly supplied to a given labor market [or labor supply to market $i$, $LS_i$] will depend on five influences: (1) hourly wage and salary earnings paid in that labor market [$w_i$]; (2) taxes paid by workers on their earnings [$t$]; (3) nonwage characteristics of work in that labor market [$n_i$], including the safety and desirability of the work, and the provision of health and pension benefits by the employer; (4) the ease or difficulty of gaining entry to the labor market [$e_i$] due, for example, to educational of licensing requirements; and (5) opportunities (including earnings) available to workers in other pursuits and other labor markets [$w_j$]. These considerations can be summarized compactly as a labor supply function, which shows the quantity of labor supplied to labor market $i$ as a function of the factors just described:

$$LS_i = LS_i(w_i; t, n_i, e_i, w_j).$$

The relationship between the quantity of labor supplied to labor market $i$ and the wage in that market can be summarized as a labor supply curve (see Figure 1), which shows that as the wage in labor market $i$ increases, more workers are willing to supply labor to this market, other things equal. Changes in the other factors in the labor supply function [$t, n_i, e_i, w_j$] can be shown graphically as shifts of the $LS_i$ curve.¹

The amount of labor that employers demand from labor market $i$ [$LD_i$] will depend on the following factors: (1) hourly wage and salary earnings paid in that labor market [$w_i$]; (2) nonwage costs of employing workers from that labor market [$c_i$], including training costs, costs of complying with safety regulations, and legally required payroll taxes for social security, unemployment insurance, and workers' compensation; (3) prices of other inputs into production [$p_j$], including capital.
Figure 1
Effects of Universal Health Insurance on Low-Wage Labor Markets
costs and the total cost of employing other kinds of labor; (4) the quantity of output \([q]\) desired by the employer, which may depend in turn on market conditions and current output prices; and (5) the technology of production or organization of the production process \([g]\). These considerations can be summarized as a labor demand function, which shows the quantity of labor demanded in labor market \(i\) as a function of the factors just described:

\[ LD_i = LD_i(w_i; c_i, p_j, q, g). \]

The relationship between the quantity of labor demanded from labor market \(i\) and the wage in that market can be summarized as a labor demand curve (see Figure 1), which shows that as the wage in labor market \(i\) increases, employers will demand less labor from this market, other things equal. Changes in the other factors in the labor demand function \([c_i, p_j, q, \text{and } g]\) can be shown graphically as shifts of the \(LD_i\) curve.

Applying the Model

The labor market model developed above can be applied to a wide variety of problems. Here we are interested in the labor market impacts of the following policies designed to expand access to health care: (1) universal health insurance managed by the state (chapter 3 in this volume); (2) mandatory employer-provided health insurance, coupled with a public sponsor for those not covered by employer-provided health insurance (chapter 4 in this volume; Mitchell 1989); and (3) a Small Employer Health Insurance Pool, coupled with Medicaid Buy-In programs for the unemployed uninsured and not-in-the-labor-force uninsured (chapters 5.2 and 5.3 in this volume).

We examine the impacts of these policies on two representative labor markets: "low-wage" and "higher-wage." The key assumption we will make about these two labor markets is that workers in low-wage labor markets do not currently receive employer-provided health insurance (although they may as a result of policy changes), whereas workers in higher-wage labor markets do. This assumption simplifies the analysis, and is roughly consistent with the empirical findings reported on low- and higher-wage workers.\(^2\)
In addition, it should be understood that low-wage labor markets include a disproportionate number of relatively young workers, minorities, and women, whereas higher-wage labor markets include a disproportionate number of workers aged 25 to 54 who are male. In the labor economics literature, low-wage labor markets are frequently referred to as “low-skill” or “unskilled” labor markets, whereas higher-wage labor markets are referred to as “skilled.” These characterizations are intended to be descriptive rather than normative, and there is clearly a whole range of labor markets in between these two types.3

Universal Health Insurance

The provision of a specified package of health care services by a single provider to all individuals, regardless of their income or employment status, is universal health insurance. Universal health insurance has become increasingly attractive in recent years because it has the potential both to eliminate incomplete coverage and to bring health care costs under control (chapter 3 in this volume). In view of the possibility that some type of universal plan will be adopted in the future, it is important to understand the labor market effects of such a policy.

Special Assumptions

To analyze the effects of universal health insurance, we adopt the following assumptions. First, we assume that the universal health plan is financed through an increase in personal income tax rates. (If the universal health plan were state-managed, this would imply an increase in state personal income tax rates; if federally managed, it would imply an increase in federal tax rates.)

Second, we assume that the universal health plan will provide health care more efficiently than the current system, in that the total amount of health care provided will increase, but the total resources spent on health care will remain constant. This assumption is one reasonable benchmark, based on the argument that a universal, state-managed, health plan would eliminate administrative and other inefficiencies that are inherent in the current system (see chapter 3 for further discussion).

Third, we assume that workers who are already covered by health insurance will receive health care under a universal plan that is similar
to the health care they now receive under their employer-provided plans. The implication of the second and third assumptions is that everyone who is currently covered by health insurance will receive equally good care under the universal plan, and further that individuals who are currently uninsured will receive health care that they would not receive under the current system.

Effects on Low-Wage Labor Markets

The effect of universal health insurance on the supply of low-wage workers is essentially a tax effect. That is, low-wage workers will experience a tax increase that reduces their hourly after-tax earnings. It follows that they will reduce the number of hours they are willing to work at a given before-tax wage (we show this tax effect in Figure 1 by a leftward shift of the labor supply curve from \( LS \) to \( LS' \)).

There would be no effect of the universal plan on the demand for low-wage workers, because we assume that low-wage employers do not currently provide health insurance. As a result, the equilibrium wage in low-wage labor markets would rise, and employment would fall, in response to universal health insurance (see Figure 1). The magnitude of these changes is potentially large, because low-wage workers tend to show a relatively large labor supply response to changes in the real (after-tax) wage.

Effects on Higher-Wage Labor Markets

The effects of universal health insurance on higher-wage labor markets are more complex. Consider first the effect of a universal plan on the supply of higher-wage labor. The tax effect would again apply—higher-wage workers will experience a tax increase that would reduce the number of hours they are willing to work at a given before-tax wage. We would expect this tax effect to be smaller than the tax effect for low-wage workers, because empirical evidence shows that the labor supply of higher-wage workers tends to be relatively insensitive to changes in the real wage. Accordingly, we show the tax effect by a small shift of the supply curve, from \( LS \) to \( LS' \) in Figure 2.

In addition to the tax effect, there will be a loss-of-benefit effect on the labor supply of high-wage workers. Universal health insurance
Figure 2
Effects of Universal Health Insurance on Higher-Wage Labor Markets

[Diagram showing the effects of universal health insurance on higher-wage labor markets with curves for demand (LD, LD'), and supply (LS, LS', LS'').]
would essentially sever the link between employment and the availability of health insurance. As a result, individuals would no longer need to be employed in order to receive health insurance, and an important non-wage aspect of employment would be eliminated. It follows that labor supply would be further reduced (see the shift from $LS'$ to $LS''$ in Figure 2).  

Consider now the effect of a universal plan on the demand for higher-wage workers. Because higher-wage employers currently provide health insurance, the adoption of universal health insurance could have a large impact on nonwage labor costs of higher-wage employers—it would eliminate the need to pay directly for employees' health insurance. As a result, the demand for higher-wage workers would increase (see the shift from $LD$ to $LD'$ in Figure 2).

Given the assumptions we have made, the increase in labor demand would be in proportion to the decrease in labor supply induced by the loss-of-benefit effect. It follows that, absent the tax effect on labor supply, the equilibrium wage would rise by exactly enough to offset the reduction in employers' nonwage labor costs, and equilibrium employment would be unchanged. But when we add the tax effect, the equilibrium wage increases by more than enough to offset the loss of benefit; as a result, equilibrium employment falls (see Figure 2). Hence, the model does not predict a reduction of total labor costs following adoption of universal health insurance, as some employers appear to expect. On the contrary, the model suggests that total labor costs would rise somewhat, and that employment would fall, in both higher-wage and low-wage labor markets.

Effects if Efficiency Gains Were Small

It is also important to consider how violations of the second and third assumptions made above would change our predictions. That is, what would happen if the efficiency gains from the universal health plan were small, so that even though the total resources devoted to health care would be unchanged, the process of expanding coverage to all individuals reduced average access to health care? In this case, employers would still be relieved of the direct burden of health insurance premiums, and the tax effect on labor supply would still occur. But the loss-of-benefit
effect would be blunted because individuals would have an incentive to work so as to pay for additional health care or insurance coverage (in order to receive access and coverage comparable to what they had received before). As a result, the decrease in labor supply would be less, the increase in the equilibrium wage would be less, and the decrease in employment would be less than shown in Figure 2.

Summary
The most likely effects of universal health insurance on low-wage labor markets are higher before-tax wages, higher total labor costs, and lower employment. The analysis of higher-wage labor markets is more complicated, but the results are similar: higher before-tax wages (and higher total labor costs) and lower employment. Our predictions do not appear to be sensitive to the assumptions we have made. Nevertheless, we would emphasize that our conclusions are qualitative, not quantitative, and that the empirical research needed to make quantitative predictions about the effects of universal health insurance on labor markets has not been performed. Filling this gap in the empirical work on labor markets should have a high place on the research agenda.

Mandatory Employer-Provided Health Insurance

In view of its adoption in Hawaii and Massachusetts, mandating has taken on considerable importance as a policy option. Most proposals to require employers to provide health insurance to their workers are coupled with creation of a public program that would sponsor health insurance for anyone who remained uncovered by mandatory employer-provided health insurance. Accordingly, we consider mandating and the public sponsor in tandem.

Mandating is highly controversial, in part because of its potential impact on labor markets. Curiously though, there is broad agreement among labor economists on the general qualitative impact of mandating on labor markets (see Mitchell 1989 for a review). The direct effects of mandating are on low-wage labor markets in which health benefits are not currently provided. There would be two kinds of direct effect. First, to an employer who does not now provide health benefits, the mandating of benefits connotes an increase in the nonwage costs of employing
labor \([c_{jt}]\). This would lead to a reduced demand for labor (in Figure 3, a leftward shift of the demand curve from \(LD\) to \(LD'\)). Second, the availability of health benefits from low-wage employment—where none had been available before—could lead a greater number of potential low-wage workers to actually offer their services in the low-wage labor market. This implies an increased supply of low-wage labor. (In Figure 3, we show a rightward shift of the supply curve—from \(LS\) to \(LS'\)—that is relatively small.)

In a labor market where there is no effective minimum wage, the outcome is a reduced wage and a likely decrease in employment. (In Figure 3, the wage falls from \(w_0\) to \(w_1\), and employment falls from \(L_0\) to \(L_1\).) But if an effective wage floor exists in the low-wage labor market, the wage cannot adjust downward. This would occur in the presence of an effective minimum wage, in which case the wage would remain constant, but employment in the low-wage labor market would fall by more than it would if the wage could adjust downward. (In Figure 3, if \(w_0\) is the wage floor, then employment falls from \(L_0\) to \(L_2\). The difference between \(L_0\) and \(L_2\) can be interpreted as the number of workers displaced from this labor market.)

The impact of mandating on higher-wage labor markets would be more subtle, but there are two possible effects. First, mandating would increase the demand for higher-wage workers to the degree that it increased the cost of employing low-wage workers. That is, the higher cost of low-wage labor would induce employers to substitute higher-wage (skilled) workers for low-wage (less-skilled) workers. It follows that the increase in demand for high-wage workers will be greater, the more inflexible are wages in the low-wage labor market (since the total cost of employing low-wage workers rises more when wages cannot adjust downward). We show the impact of mandating on the demand for higher-wage workers by a shift of the demand curve from \(LD\) to \(LD'\) in Figure 4. Second, the public sponsor component of mandating could have an impact on the supply of higher-wage labor by providing workers with a relatively low-cost means of obtaining health insurance without being employed. For example, the availability of low-cost public health insurance might increase the likelihood that a worker considering early retirement would actually retire. If so, then the supply of higher-
Figure 3  
Effects of Mandatory Employer-Provided Health Insurance (with a Public Sponsor) on Low-Wage Labor Markets
Figure 4
Effects of Mandatory Employer-Provided Health Insurance (with a Public Sponsor) on Higher-Wage Labor Markets
wage workers would fall under mandating with a public sponsor. (See the shift from $LD$ to $LD'$ in Figure 4. We show this as a small shift on the assumption that the labor supply effect of the public sponsor would not be great.) It follows that mandatory employer-provided health insurance (with a public sponsor) would lead to both increased wages and increased employment in higher-wage labor markets (see Figure 4).

Although economists agree on the qualitative impacts of mandating, there exists no work that offers quantitative estimates of the labor market impacts of mandated health benefits. We urge that high priority be given to obtaining such estimates.

**Voluntary Programs to Improve Access to Health Care**

Elsewhere in this volume we have explored two so-called voluntary programs to improve access to health care: the Small Employer Health Insurance Pool and Medicaid Buy-In programs for the unemployed and not-in-the-labor-force uninsured. Because a voluntary approach to improving access to health care would involve adoption of both of these programs, it is useful to examine their labor-market effects in tandem.

The Small Employer Health Insurance Pool would reduce the cost of providing health insurance for some employers—mainly small employers of low-wage workers. Specifically, employers who do not now provide health insurance (because their workers are either high-risk or low-productivity) would find the cost of providing health insurance reduced for two reasons. First, creating a pool within which risk could be shared would reduce the premiums needed to provide a given level of health benefits. Second, the policy is designed so that the employer’s cost of health insurance is subsidized if the total cost of health benefits exceeds 4 percent of payroll. In effect, the Small Employer Pool would provide a subsidy to employment of low-wage labor by reducing an important nonwage cost of employing low-wage workers ($c_l$, in terms of our model). Accordingly, the Small Employer Pool would increase demand for low-wage labor (in Figure 5, $LD$ shifts to $LD'$).
Figure 5
Effects of Voluntary Programs
(Small Employer Health-Insurance Pool and Medicaid Buy-In Program)
on Low-Wage Labor Markets

![Graph showing wage and employment impacts of voluntary programs.](image)
The Small Employer Pool (by itself) would also tend to increase the supply of low-wage labor. The reason is that the existence of health insurance benefits in low-wage jobs that previously offered no benefits would induce more workers to seek work in the low-wage labor market. (In terms of our model, a nonwage characteristic of working in labor market $i$, $n_i$, would be improved.)

However, the positive effect of the Small Employer Pool on low-wage labor supply would probably be offset by the Medicaid Buy-In programs that would also be part of a voluntary approach. Since the Medicaid Buy-In programs would allow individuals who are without employment or health insurance to buy a comprehensive package of health benefits (usually at subsidized rates), they would provide an income subsidy for the purchase of health insurance. Such a subsidy implies an improvement in the opportunities available to workers outside of the low-wage labor market (that is, a change in $w_j$ in our model). Accordingly, the Buy-In programs would tend to reduce labor supply to low-wage labor markets. The magnitude of this supply effect would be larger the more generous is the subsidy and the larger is the share of health insurance in low-wage workers' total consumption.

Since the labor supply effects of the Small Employer Pool and the Medicaid Buy-In programs would offset each other, the voluntary programs would have no (or only a very small) effect on labor supply. It follows that the main impact of the voluntary programs on low-wage labor markets would be to increase labor demand, which in turn implies higher wages and increased employment of low-wage workers (see Figure 5).

Whereas the voluntary programs would have a direct impact on low-wage labor markets, their impact on higher-wage labor markets would be indirect. Consider first the impact of the Small Employer Pool on labor supply to higher-wage labor markets. Because the compensation package in low-wage labor markets would improve as a result of the Small Employer Pool (compensation now includes health insurance in addition to wages), fewer workers would offer their labor in higher-wage labor markets. Most likely, this would occur at the margin, as prospective workers leave school and choose jobs and career paths. It follows that the supply of labor to higher-wage labor markets would fall (see the shift from $LS$ to $LS'$ in Figure 6).
Figure 6
Effects of Voluntary Programs
(Small Employer Health-Insurance Pool and Medicaid Buy-In Programs)
on Higher-Wage Labor Markets
The Small Employer Pool would also influence the demand for higher-wage labor. Because it provides a subsidy to employment of low-wage labor, the Small Employer Pool would induce employers to substitute low-wage for higher-wage workers. As already noted, this implies that the demand for low-wage workers would increase, but it also implies that the demand for higher-wage labor would fall (see the shift from $LD$ to $LD'$ in Figure 6).

We believe that the Medicaid Buy-In programs would have only a negligible impact on higher-wage labor markets. Accordingly, the impact of the Small Employer Pool on the higher-wage labor market also constitutes the total effect of the voluntary programs on that market. As can be seen in Figure 6, the voluntary programs would tend to reduce employment of higher-wage workers, and would have little if any impact on the wage.

**Summary and Conclusions**

Because private health insurance coverage is closely tied to employment, policies that are intended to expand the coverage of health insurance can also be expected to have side effects on the labor market. This paper offers both a characterization of the U.S. labor market with an eye to the role of employer-provided health insurance, and a sketch of the theoretical linkages between health policy and the labor market.

The main findings from the statistics we set out in the first section can be summarized as follows.

1. Roughly 20 percent of all individuals in the United States who worked during 1988 were low-wage workers, earning $5.00 per hour or less (see Table 1). Only 27 percent of these low-wage workers were included in employer-provided group health insurance plans. But 82 percent of these same workers were covered by some form of health insurance. Two points follow from this finding. First, there is far more variation in the degree to which workers are included in employer-provided group health plans than in the degree to which they are covered by health insurance. Second, policies designed to include more workers as the primary insured in employer-provided health plans are less likely
to cover uninsured individuals than are policies that act directly to cover uninsured individuals.

(2) There is much variation from industry to industry in the inclusion of workers in group health plans. Higher-wage industries tend to provide health insurance to a high proportion of their workers, whereas low-wage industries tend to provide health insurance to a relatively low proportion of their workers (see Tables 2 and 3). It follows that policies to expand the inclusion of workers in employer-provided health insurance plans would have an uneven impact, affecting low-wage industries more than others.

We set out a standard model of the labor market that offers predictions about the effects of three policies to improve access to health care. The predictions of the model can be summarized as follows.

(1) Universal health insurance would lead to increased before-tax wages paid to workers, increased total labor costs to employers, and lower employment in both low-wage and higher-wage labor markets. In particular, the belief that universal health insurance would reduce labor costs of employers is not supported by our model.

(2) There is considerable agreement among labor economists regarding the probable effects of mandatory employer-provided health insurance on the low-wage labor market. In the absence of an effective wage floor (or minimum wage), wages would fall and employment would fall somewhat in response to mandating. But in the presence of an effective minimum wage, total costs of employing low-wage labor would rise substantially, and employment of low-wage labor would fall by more than if wages could adjust downward. The increase in total cost of employing low-wage labor would in turn induce employers to substitute higher-wage (skilled) labor for low-wage (less-skilled) labor, and wages and employment in higher-wage labor markets would rise in the long run.

(3) Finally, we considered two voluntary programs to improve access to health care: the Small Employer Health Insurance Pool and Medicaid Buy-In programs for the unemployed and not-in-the-labor-force uninsured. The most important predicted effect of the voluntary programs is an increase in employment, wages, and total compensation in low-wage labor markets. This suggests that the voluntary programs would unambiguously improve the welfare of low-wage workers.
It also seems likely that employment would fall in higher-wage labor markets, although wages would be affected minimally if at all. Since any contraction of higher-wage labor markets would take place over a long period of time, and would result mainly from workers’ choices stemming from improved opportunities in the low-wage labor market, we conclude that this contraction would be rather benign from the standpoint of workers’ welfare.

NOTES

1. We separate the wage from the other factors in the supply function by a semicolon in order to distinguish factors that result in movements along the supply curve from factors that shift the supply curve.
2. In fact, some low-wage workers do receive health insurance, and some higher-wage workers do not. Our assumptions are made for analytical clarity.
3. See Dickens and Lang (1985) on the appropriateness of dividing the labor market into two sectors.
4. It is also possible that universal health insurance would have an income effect on the supply of low-wage workers. The reason is that some low-wage workers currently use part of their earnings to buy nongroup coverage, but universal insurance would eliminate the need for private purchase of health insurance. As a result, universal health insurance would be like an increase in income to these low-wage workers. The result would be a further reduction of labor supply.
5. Good summaries of the empirical work on labor supply responses to real wage changes include Keeley (1981) and Killingsworth (1983).
6. Two factors could make the tax effect larger, however. First, the effect would be greater if households were pushed into higher tax brackets by the increased taxable earnings that result from severing the link between employment and health insurance (see the discussion of the loss-of-benefit effect below). Second, the wage elasticity of labor supply for higher-wage workers could increase if health insurance were no longer linked to employment. (Currently, benefits are usually provided only to workers who work close to full time, so that higher-wage workers are unlikely to adjust hours as readily as they would if benefits were not tied to full-time employment.)
7. With the exception of work by Atrostic (1982), little is known about the magnitude of labor supply responses to changes in nonwage benefits. Atrostic’s work suggests that changes in non-wage benefits have a larger effect on labor supply than do changes in the wage.
8. For two reasons, the effect of mandating (with a public sponsor) on labor-supply would probably be small. First, many potential low-wage workers are (and would be) covered by another family member’s employer-provided benefits, as Table 1 demonstrated. Accordingly, many potential participants in the low-wage labor market are insensitive to the provision of health insurance. Second, the creation of a public sponsor to provide health insurance to anyone who remains uninsured would reduce the advantages of obtaining a job that provided health insurance.
9. Note that there is no guarantee that the wage reduction will exactly offset the cost of the newly provided health benefits, as some have contended. Only if the labor supply response were proportional to a labor demand reduction that precisely offsets the costs of mandated benefits would a dollar-for-dollar tradeoff between wages and health insurance occur.
10. In terms of the model, the price \( p \) of an input that can be substituted for higher-wage labor has increased. For evidence on substitution between various groups of labor, see Hamermesh (1986).
11. How many employers would actually participate in the Small Employer Pool is an important topic for further research. There is relatively little work on the reasons for employer participation in government programs, the paper by Ashenfelter (1978) being an important exception.
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