NATIONAL HEALTH INSURANCE AND SMALL BUSINESS:
A PRELIMINARY ANALYSIS

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Among fully employed workers, it is those employed or self-employed in the small business sector who are least likely to be covered by group health insurance plans. It is hypothesized that small employers are more burdened than large employers by the costs associated with such health plans and are therefore less likely to provide them. Three suggested components of this cost are: 1) the relatively greater cost of group health plans to small employers, 2) the relatively greater labor-intensiveness of small business, and 3) the relatively smaller pass-through potential of small business. These three components interact multiplicatively in a typical fixed-coefficients mark-up pricing model, yielding a substantially regressive impact—biased against small business—from modest assumptions concerning individual comparative costs. A National Health Insurance program which mandated employer-employee group health insurance would therefore be inimical to the interests of small business, particularly when the disparity between existing levels of coverage across small and large firms is considered. Two recommendations emerge from this analysis: 1) If there is to be National Health Insurance, it ought to be administered on the basis of geography and not employment. 2) Any program which would mandate employer-financing of employee benefits should be examined in light of its potential for regressive impact. This second recommendation is particularly germane to the current discussion surrounding Social Security and pension reform.
A major argument used in support of national health insurance (NHI) is that millions of people are not well served by the existing system of private health insurance. The traditional target groups in this discussion have been the poor and the elderly; it is not surprising that special programs to serve them (Medicare and Medicaid) are also viewed by some as forerunners of a future, more comprehensive system.

Yet a strong case could be made that there are not two, but three target groups for national health policy: the poor, the elderly, and workers—employed and self-employed—in the small business sector. The first two include those who are either not employed or only marginally employed; the last includes those who work but who are least likely to be covered under a private health plan.

Unfortunately, the existing literature in the field of health policy does not identify the problem in this way. For instance, neither the path-breaking study by Karen Davis for Brookings in 1975 nor the recently-issued compendium by the Urban Institute discuss the role of small business in either the current private health insurance system or its proposed public replacement. The concerned reader must search between the lines to find information and argument specific to the competitive sector.
This lacuna in the literature has served to weaken our understanding of two important issues. First, why has the private health insurance system so largely bypassed small business, and what impact has this had on the competitiveness of our economy? Second, how will the economic burden of national health insurance be distributed by firm size? Will NHI itself undermine competitiveness?

These questions cannot be answered within the scope of this study, but the discussion can at least be commenced. In the following pages I will briefly survey the rise of employer-employee group health insurance (GHI), the demand for NHI, and the position of small business with respect to both of these. I will then sketch a formal model of labor costing and price formation in a two-sector economy, and then employ this model under various data assumptions. Finally, I will develop tentative policy conclusions, concerning both NHI and other issues similarly of interest to small business.
While early initiatives in employer-employee GHI date from the 1930's, it was not until the great post-World-War II economic boom and collective bargaining stabilization that this system began to prosper.

In 1950 less than half of all wage and salary workers were covered for hospitalization, surgical and regular medical expenses; by 1974 over two-thirds of such workers were covered. Less than 1% of wage and salary workers had major medical expense insurance as a fringe benefit in 1952, but by 1974 a third of such workers had secured coverage...Combined employer and employee contributions to benefits are now more than 25 times their 1950 levels, reflecting larger benefits paid, more workers covered, broadened scope of services offered, and inflated medical care prices. (3)

As the numbers indicate, individual coverage has been widespread for a long time; group coverage is more recent. Yet, as health insurance consumers have increasingly recognized, individual coverage tends to be more expensive than group, all else being equal. Since it is primarily through the workplace that individuals become "groups" in our society, such household services as health insurance, credit unions, and, more recently, political action committees are organized through the firm. This, in turn, depends on the status of employee relations, the role of labor organizations, and the economic strength of the private sector. Viewed from this perspective, the
modern history of group health insurance makes considerable sense.

But the growth of GHI has been uneven, primarily at the expense of small businesses and their employees. In 1972, while only 70% of full-time workers were included in a group health plan, 90% of those employed by firms with 100-plus employees were covered, compared to only 50% in firms employing 25-minus.4

The problem this situation poses for small business employees is well known; less understood are the consequences for the small businesses themselves. At least three potential difficulties can be identified: 1) Small businesses may be at a disadvantage in their recruitment of a quality labor force. 2) Small businesses may experience higher turnover (and associated search and training costs) due to the instability of a medically unprotected labor force. 3) Small businesses may experience absenteeism and productivity problems stemming from less-than-adequate health care provision. Unfortunately, the economic significance of GHI non-coverage for the employer has not been studied, but the related issue of health and productivity has a wide literature. As one might expect, healthy workers work better. Monheit sums up the findings this way: "...formal research by economists has found health status a significant determinant of various components of labor supply and of increased productivity."5
All else being equal, then, small businesses should have no less an interest in providing their employees with the best available health services. That they are frequently unable to do this indicates that the cost of such provision imposes a greater burden on the small employer than it does on the large one. A public program such as NHI that could improve the health status of competitive sector employees would be of great value to their employers, \textit{providing such a program does not impose on small businesses the same burdens they have hitherto avoided.}

In this connection, it is important to distinguish between two different forms of NHI--employment-based and geographical. Employment-based NHI is incorporated in \textit{all} current U.S. proposals, including the Kennedy plan. This approach builds upon the existing structure of GHI, mandating its use in most or all workplaces.

Geographical NHI organizes coverage through the community, irrespective of employment. Britain's NHI is structured this way, and other European systems have at least an element of this approach (e.g. the Federal Republic of Germany).

Interestingly, the earliest proposals for NHI in this country largely predated the rise of GHI and therefore were generally geographic in outlook. More recent proposals reflect the experience of the 1950's and '60's with private GHI and are employment-based.
Our initial starting point is the recognition that small businesses are far less likely to provide GHI than large businesses, in spite of the equivalent prospective benefits (in labor supply and productivity) available to both. This implies that the economic cost of GHI varies inversely with firm size.

Why should this be the case? We can consider various hypotheses. Perhaps there are economies of scale in the provision of health insurance which small businesses cannot enjoy. The economics of group health plans would appear to support this kind of reasoning: it is largely for this reason that consumption of health payment services is organized through the workplace instead of the household. Or it could be that the relative labor-intensiveness of small business makes it more difficult for the small employer to offer fringe benefits routinely provided by his or her big business counterpart. Finally, it could be that the more competitive environment of small business makes it difficult for the small employer to pass on increased labor costs associated with GHI. In this section I will explore these hypotheses in greater detail and provide some crude estimates of the economic costs involved.
1) It is generally more expensive to provide group coverage for small groups than for large:

The group-health-insurance-premium rate varies with the size of the insured group. An employer securing insurance for 500 employees will be charged a lower rate per employee than an employer whose group contract covers only 25 or 50 employees. Premium discounts may be as much as 12 to 15 percent and can be allowed because the insurer's administrative expenses do not increase in proportion to the number insured. Also the larger group will exhibit a more stable claims experience and can be safely insured at a rate that has a smaller contingency margin than is needed to insure a group of 25 employees. (7)

To test this assertion, the five leading providers of GHI were contacted in a telephone survey. (Details may be found in Appendix 1 at the end of this paper.) It was learned that those companies that operate strictly on an employer-by-employer basis continue to discount large groups by as much as 15-20%, holding constant coverage and claims experience. On the other hand, the practice of "pooling"--grouping several smaller policies together to create one large one--has become common, much to the advantage of small businesses and their employees. Pooling virtually eliminates size-based premium differentials, but it has not yet won complete acceptance from the largest insurance companies. (A useful project would be to explore the movement toward pooling and the barriers to its further development; in a wide variety of employer-related services pooling can be a valuable aid to the competitive sector.)
Graphically, this situation is illustrated in figure 1, where unit production cost, c, is plotted against firm size, holding unit labor input constant across size:

![Diagram showing unit production cost (c) plotted against firm size](image)

This diagram assumes that the premium cost borne by the employer can be treated as though it were a direct cost of doing business. This follows Keintz, who, quoting Davis, notes, "Under a mandatory employee-employer plan, the employer is usually required to pay the largest part of the premiums for employees, but this premium contribution is 'in reality...the same as a tax imposed on employers.'" As a result, the greater the premium cost to the employer, the greater the supply cost of the employer's product. This is reflected in figure 1, where the slope of the curve varies with the difference between the unit premium costs of different size firms.

2) Any mandatory fringe benefit constitutes a tax on employment. As such, its incidence will vary with a firm's
unit labor input. Small firms, which generally have a higher labor-output (and smaller capital-output) ratio than large firms, will be disproportionately affected. This differential impact will in turn be reflected in the supply cost of output. Figure 2 illustrates this relationship, this time holding the premium cost or employment tax--constant across size. The slope of the curve will change with changes in the difference between unit labor inputs (measured in number of workers) of different size firms.

![Diagram](image)

**Figure 2**

3) Economic theory holds that it is competitive pressure which prevents firms from simply "naming" their profit margin. Very small firms in large industries are "price-takers", and their profit margins reflect the transitory impact of changing supply and demand constraints. A pure monopolist, by contrast, can set higher prices and earn greater profits by quantity restriction, in accordance with the flexibility permitted by the demand elasticities he or she faces. Between these two extremes are most firms, partly price-takers, partly price-setters.
For our purposes, we can employ a "mark-up" model of pricing, similar to that pioneered by Michael Kalecki and now widespread in forecasting, input-output work, inflation analysis, etc. Firms charge a price that at least covers their costs; if they cannot do this they are not viable. Profit-making firms set prices above costs by some positive percentage; this is their mark-up. It its initial position each firm can be assumed to be profit-making. When costs rise firms attempt to raise their prices by the amount of that cost plus that amount factored by the mark-up. To do this would be to preserve profit margins. This is not always possible, however; particularly not in the short run. In general, some portion of the desired price change will be realized: this fraction, between zero and one, is the pass-through coefficient, p. Clearly p is a short run phenomenon, since competitive capital markets necessitate equal profit margins across all firms in the long run. Of course, a great deal—perhaps everything—takes place in the short run. Thus, if p varies by size of firm, we would expect this to impact strongly on the differential profitability of small and large firms. The hypothesis that p does vary is illustrated in figure 3. A large p would imply a small (1-p), meaning that the firm would bear little of the burden of a supply price increase; a small p would have the opposite effect. In this way the vertical component of the diagram measures the burden of cost increases to the firm after price increases have been
figured in. The slope of the curve represents the difference in pass-through capabilities of different size firms.

The next step in formalizing the three hypotheses concerning differential costs is to see how they interact with one another. To do this it is necessary to construct a more complete pricing model. To make the argument as simple as possible I will not attempt to depict the full spectrum of firm size, but will assume that there are only two such sizes, large and small. (Other assumptions, such as fixed techniques of production and homogeneous labor input, are usual in such models and do not require further comment here.)

As suggested earlier, each firm seeks to achieve a satisfactory gross margin—sales minus costs—on goods or services sold. As a proportion of supply cost this margin is designated the mark-up, and we will assume that it is equal for all firms before the imposition of mandatory GHI. (This last assumption is not realistic, of course, but it has no bearing on the results of this study; it only serves to simplify the arithmetic.)
The expression for the average gross margin, or pre-tax profits for each good sold, is

\[ \Pi = m(Lw + K) \]

where \( \Pi \) is average profit (amount, not rate), \( L \) is unit labor input, \( w \) is the wage rate, and \( K \) is the unit capital input (measured in value terms).

Because of competitive labor markets we may make the further assumption that wage rates are equal for all firms. We do not assume, however, that \( K \) and \( L \) are equal; on the contrary, it is suggested by the data that small firms tend to be more labor-intensive than large firms. To reflect this fact, let us modify (1) to include two profit equations, one for the smaller business, the other for the larger, with subscript indicating firm size:

\[ \Pi_1 = m(L_1 w + K_1) \]
\[ \Pi_2 = m(L_2 w + K_2) \]

Here (1a) can be the profit equation for the small firm, (1b) for the large firm. This suggests that \( L_1 > L_2 \) and \( K_1 < K_2 \). Market pressures, of course, would tend to equalize the sum of supply costs for both firms.

Now, suppose NHI is enacted, and both the large and small firms (neither of which supplied it previously) are required
to provide GHI. In this case, the desired increase in average revenue $R^d$—that sufficient to maintain constant mark-up in the face of increasing costs—will be different for the different firms:

\begin{align*}
(2a) \quad R_1^d &= (1+m) \left[ L_1 (w+t_1) + K_1 \right] - (1+m)(L_1 w + K_1) = (1+m)L_1 t_1 \\
(2b) \quad R_2^d &= (1+m) \left[ L_2 (w+t_2) + K_2 \right] - (1+m)(L_2 w + K_2) = (1+m)L_2 t_2
\end{align*}

where $t_1$ and $t_2$ are the health insurance costs for the small and large employers respectively considered as a tax on employment (see Keintz and Davis, page 8 above). With $L_1>L_2$ and $t_1>t_2$ (see section (1) above), it is clear that $R_1^d>R_2^d$.

Firms desire a particular revenue increase to fully offset cost increases; as a rule they do not achieve all of this. Their actual revenue increases $R^a$ will reflect their different pass-through capabilities:

\begin{align*}
(3a) \quad R_1^a &= (1+m)p_1 L_1 t_1 \\
(3b) \quad R_2^a &= (1+m)p_2 L_2 t_2
\end{align*}

where it is assumed that $p_1<p_2$.

The difference between desired and actual revenue increase will be the net burden $B$, imposed on the firm by the imposition of NHI.
Finally, and this is the point of the entire exercise, we may compare the differential impact of NHI by expressing (4a) and (4b) as a single ratio:

\[
\frac{B_1}{B_2} = \frac{(1-p_1)L_1 t_1}{(1-p_2)L_2 t_2}
\]

Equation (5) describes the comparative burden of NHI as the product of the small/large ratios in the three variables (1-p), t and L. Since we hypothesize that each of these ratios is greater than unity, small businesses can be expected to suffer a relatively large comparative burden.

To express this result graphically, we can index the comparative burden ratio for all firms along a spectrum of small to large: \( \frac{B_i}{B_n} \) where the \( i \)th firm is identified by size and the \( n \)th firm is used as a statistical base. The interplay of (1-p), t and L is reflected in figure 4, where the relationships depicted in the first three figures are, loosely speaking, "stacked" atop one another.
It is now clear that the effect of the pricing model depicted above is to magnify the combined effect of employment taxes in production costs and output markets. The result is an economic pincer that squeezes hardest those firms most vulnerable to competitive pressures—the small business sector. It is this sector which experiences the largest cost increases, but has the least market power to pass those costs on to the rest of the economy. The result is a substantially higher burden, which can only mean a lower effective mark-up over total costs, old and new. Of course, this is not simply a problem for the small businesses that may find themselves in such a situation; public policy that drives a wedge between rates of return on small and large enterprise threaten the status of competition in the economy as a whole.
Appendix 2 contains a few simple "order of magnitude" calculations, based on different assumptions about the size of the component ratios. As these numerical examples make clear, fairly modest assumptions concerning the differential cost and pass-through conditions of small and large business can yield a strikingly regressive result.

As a final note, it should be mentioned that the foregoing analysis is based on the differential impact of NHI on two firms, large and small, neither of which previously offered GHI. Of course, many employers already offer such coverage; in those cases where existing policies meet the standards imposed by prospective national law there is no added cost. The immediate burden is therefore zero and may even be negative if the employer reaps windfall gains due to price increases by other firms. Such employers, for whom NHI is not a burden and may even be a boon, are disproportionately the larger ones. To add this factor to the above analysis is to recognize that the difference in prospective impacts of NHI on small and large business is likely to be very substantial indeed.
Uneven growth in the employer-employee GHI market—the lack of coverage for millions of small business employees and self-employed—has given NHI much of its political impetus. Yet the relatively limited use of GHI in the small business sector is based on real cost considerations, and by ignoring these factors existing NHI proposals would seriously undermine the competitive position of many smaller firms. Worse yet, this burden, not transmittable to the small business consumer, may be passed on to the small business employee, for, as Rita Keintz points out, "Facing the circumstances of increased 'taxes' or costs of labor, the employer will either lower wages or reduce the amount of wage increases." It would be ironic if the ultimate result of a policy intended to aid competitive sector workers was to make their economic position more vulnerable than before.

It should not be necessary to pursue the deleterious aspects of a regressive employment "tax" burden any further; the point is to avoid it altogether. Of course, this could be achieved quite simply by not implementing any NHI proposal at all—by maintaining the status quo in health policy. It is not the purpose of this paper to argue that position, however. Acceptance or rejection of NHI entails weighing many issues in ethics, economics, and public administration; small business impact
alone cannot be decisive.

Yet even should the sentiment for NHI eventually prevail, those interested in preserving and strengthening the competitive sector can and should have a role in designing such a policy so as to minimize its regressive impact. In light of the earlier discussion of the nature of NHI (see page 5 above), this can mean only one thing:

(1) If there is to be National Health Insurance, it ought to be administered on the basis of geography and not employment. Private sector enterprises are designed to capture economies in production, finance, and marketing; it is irrational to make them equally the instruments of public entitlement programs. There is no reason why organizations efficient at the first set of operations should be efficient at the second; there is every reason to believe that the costs imposed by the second will interfere with the first.

The regressive impact of existing NHI proposals stems from their tendency to function as a sort of "employment tax". It is actually not very important for our purposes that workers and receiving health benefits in return for their and their employers' contributions. The crucial role is played by the inability of small firms to capture economics in workers' consumption, by their relative labor-intensiveness, and by
their relative inability to pass their added costs on to the consumer. Clearly, any and all of these factors may be present should employers be required to pay some other kind of employment "tax". This means that the result generated in this paper have a potentially wider significance than simply in the debate over NHI. From this realization comes the second and final conclusion of this study:

(2) Any program which would mandate employer-financing of employee benefits should be examined in light of its potential for regressive impact. At the present time, this prescription should be applied to the current debate over Social Security and pension reform. This may be a good opportunity to restructure Social Security to make it less onerous for small vis-a-vis large business. Current proposals to make pension plans mandatory, however, are economically all but indistinguishable from NHI and are subject to the same difficulties. Whatever its other merits or problems may be, the principle of general fund financing of intergenerational transfers avoids the issues raised in this study and is therefore favorable from a small business standpoint.
APPENDIX 1

Five firms were contacted in connection with this telephone survey:

Connecticut General Life Insurance Company (Connecticut)
Equitable Life Assurance Society of the United States (New York)
Metropolitan Life Insurance Company (New York)
Prudential Insurance Company of America (New Jersey)
The Travelers Insurance Company (Connecticut)

These are the only firms whose group health insurance premium assets exceeded one billion dollars; they are the industry leaders. (Source: Bests Insurance Reports 1980, A.M. Best Co., Oldwick, New Jersey) Since none of these companies wished to supply pricing data "for the record", only the range of responses can be recorded here. One firm discounts large firms by up to 20%; two firms admitted discounting but gave smaller figures; one pools smaller groups and is able to offer equivalent rates; and one would not reveal any pricing data to this interviewer.
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\((1a)(2a)(3b) = 1.21275\)

\((1b)(2b)(3b) = 1.331\)

\((1b)(2b)(3c) = 1.452\)
References

2) Feder, Judith, Holahan, John, and Marmor, Theodore (Eds.), National Health Insurance: Conflicting Goals and Policy Choices, The Urban Institute, 1980
4) Davis, op. cit., p. 39, citing Kolodrubetz, 1972
5) Monheit, op. cit., p. 180
10) Keintz, op. cit.