The Business Case for Employer-Provided Health Benefits: A Review of the Relevant Literature

March 2000

Prepared for the
California HealthCare Foundation

by

Thomas C. Buchmueller
Graduate School of Management
University of California, Irvine

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I. Introduction and Overview

In the latter half of this century, employers have played a central role in the financing of health care for the non-elderly in the United States. Although employers remain the dominant source of private health insurance coverage, the percentage of workers receiving health benefits has been declining for nearly two decades (Kronick and Gilmer 1999). While the expansion of eligibility rules for the Medicaid program has acted as a buffer, the decline in employer-sponsored coverage has led to an increase in the number and percentage of Americans who are uninsured. These trends present something of a quandary for policy makers and health care advocates interested in increasing insurance coverage: should efforts be targeted at bolstering and expanding the employer-sponsored system, or to developing alternatives to it?

Since health insurance is a voluntarily provided benefit, employer-provided coverage will only be maintained, let alone expanded, if employers believe there is a "business case" for offering health benefits—i.e., if they believe that purchasing insurance on behalf of employees has a positive effect on the company's bottom line. Therefore, in deciding whether it is desirable to build on the current system of employer provision (and if so, how) policy advocates must understand the economic arguments for and against employer provision.

In this paper I identify several possible arguments upon which the business case for offering health insurance might be made, discuss the economic logic pertaining to each, and summarize the relevant empirical evidence. In doing this, my goal is to determine whether the various arguments are relevant to the types of firms that are currently least likely to offer health benefits—small firms employing low skill workers.

A key issue in addressing these questions concerns the conceptual model upon which the analysis should be based. As Mark Pauly (1997) points out, business managers and economist tend to think about the financing of employer-provided insurance in quite different ways. While managers and the business press typically speak of the burden of health care costs falling on employers, economists generally believe that it is workers who ultimately pay for insurance through lower wages or reductions in other benefits. While in order to "sell" employers on the notion of offering insurance it may be necessary to make the case in the language of the "business view," in this paper I will adopt the economists' conceptual framework.

According to the economic viewpoint, the key question "why should employers provide health benefits?" is more appropriately framed as "why should workers prefer to receive health insurance through their employers, rather than purchase coverage directly as individuals?" The answer has a great deal to do with economies of scale associated with group purchase and with the preferential tax treatment of employer-provided health insurance. Together these factors lower the cost of employer-provided insurance. Thus, workers who want insurance are generally better off receiving it as a fringe benefit than purchasing it directly.

When the value workers place on health insurance is at least equal to the employers' cost, employers will be able to recoup the full cost of health benefits in the form of reduced wages. That is, firms will be able to satisfy the desires of their employees without increasing their compensation bill. In fact, when the cost (or tax) advantages to employer provision are quite large, employers may be able to lower their total compensation bill and still make workers better off. When workers are willing to pay for insurance with reduced wages and direct contributions there exists what I will call the "primary argument" for offering health benefits. The next section discusses the factors affecting the primary argument and the circumstances under which it is more and less likely to hold.

When wages cannot be reduced by the full cost of insurance, offering coverage to employees will increase an employer's compensation bill. In such situations, offering insurance will only make good business sense if doing so either reduces other costs to the firm, or increases total output. Section 3 considers the potential for such spillover benefits operating through the effect of insurance on the following outcomes: employee turnover, workers' compensation costs, employee absenteeism, and employee productivity. Empirical evidence on the existence and magnitude of these effects comes from a number of recent academic studies. Where empirical evidence is limited, I draw on economic theory to suggest a way of thinking about such effects and their likely magnitudes. Concluding remarks are in the fifth and final section.

II. The Primary Argument for the Provision of Health Insurance by Employers

Employers ultimately care about total compensation costs, not how that compensation is divided among cash wages, health insurance and other fringe benefits. Thus, there is only a "primary argument" for offering insurance when workers are willing to pay the employer's full cost of coverage in the form of lower wages, reductions in other benefits or direct premium contributions. Generally workers will be willing to do so because there are cost and tax advantages to employer-provided insurance.

Cost Advantages of Employer-Provided Insurance

Relative to individually purchased insurance, there are two main sources of savings associated with employer-provided health insurance, both of which are related to firm size. First, there are significant scale economies associated with purchasing insurance through a group.[1] Second, group purchasing minimizes the problem of adverse risk selection, which is a significant concern in the individual market.

These two factors explain the pronounced negative relationship between firm size and insurance "loading fees" (Phelps, 1992, p. 297) and, in turn, the strong positive relationship between firm size and insurance provision. While only about one third of establishments with fewer than 10 employees offer insurance, over 80 percent of those with 25 to 99 employees and essentially all with more than 100 employees do (National Center for Health Statistics 1997). An obvious implication is that efforts aimed at increasing employer offers of insurance must target very small employers. Moreover, in making the business case to such firms, it is important to stress arguments that are not related to firm size.

Preferential Tax Treatment of Employer-Provided Insurance

An additional advantage of employer-provided insurance comes from the fact that employer payments for health insurance are exempt from income and Social Security payroll taxes. This preferential tax treatment means that employer-provided insurance is effectively purchased with pre-tax income, whereas individually purchased insurance is paid for with after-tax income. For the average worker, the tax exemption reduces the cost of employer-provided health insurance by 27 percent (Gruber and Poterba 1994). Because the tax discount is a positive function of a worker's marginal tax rate, the subsidy will be greater for firms with higher

[1] From the employer's perspective, certain administrative costs are fixed, which means that the average cost of managing an employee benefit program decreases with firm size. Since many costs associated with marketing and servicing insurance policies are also invariant to group size, it is much less costly (per insured life) for insurers to market and sell coverage to a group of 500 than to 50 groups of 10.

income workers, and smaller for firms that have a predominantly low wage workforce (i.e., firms that are least likely to offer insurance).[2]

Worker Demand for Health Insurance

Whatever the cost or tax advantages to employer provision, there will only be a primary argument for offering insurance in cases where employees place a sufficient value on having health insurance in the first place. While there surely are some exceptions, there is good reason to suspect that many workers currently in non-insuring firms are not willing to accept the wage reductions necessary to finance insurance coverage.[3]

A significant fraction of workers in non-insuring firms will have a low demand for insurance through their *own* employer because they have coverage through another source, most likely the employer of a spouse or parent. Monheit and Vistnes (1994) show that in 1987, among workers in two-worker households, those in small firms were 65 percent more likely to receive employer-provided insurance as a dependent than through their own employer. More recent data from the February 1997 Current Population Survey show that just under 60 percent of workers in non-insuring firms had some type of health insurance: 29 percent had coverage through a family member, 22 percent had individually purchased insurance, and the remaining 8 percent had public coverage (Thorpe and Florence 1999). While some with individually purchased insurance might prefer an employer-sponsored plan, it is doubtful that workers who are covered through a family member or government program would like to lower their wages to receive a benefit they already enjoy.

Uninsured workers in non-insuring firms include individuals who have a low preference for insurance (due to a high tolerance for risk and/or low expected medical expenditures) and workers who would like to have insurance for themselves and their families, but have other economic needs, like food, shelter and clothing, that are more pressing. Both of these groups would be made worse off if their employer decided to offer health insurance and reduce their wages to fully finance the new benefit.

The results of a number of studies are consistent with the hypothesis that the problem of the uninsured is largely one of insufficient demand, rather than problems on the supply side. For example, Marquis and Long (1992) note strong similarities between workers who work in non-insuring firms and workers who decline offers of employer-provided insurance. In particular, the two groups are much more likely than workers with employer-sponsored coverage to be young and have low incomes.

[2] Unlike the other two sources of savings, the tax subsidy is not directly related to firm size. However, since there is a positive relationship between firm size and worker pay, the average tax advantage of employer provision is likely to be smallest in very small firms.

[3] For a more detailed discussion of these issues, see Swartz (1990).

Research on trends in insurance coverage also point to the importance of employee demand and the tendency of some workers to decline coverage offered to them. Currie and Yelowitz (1999) note that the reduction in insurance coverage in the 1980s and early 1990s coincided with significant increases in medical costs (and hence insurance premiums) and that both coverage and costs were stable in the latter part of this decade. From this they conclude that the fall in health insurance coverage was simply a response by consumers to rising prices. Pierce (1999) comes to a similar conclusion, while noting that a decline in total compensation paid to lower skilled workers was also an important factor.

Several studies conclude that the downward trend in employer-sponsored insurance over the past decade or so is explained by an increasing tendency of workers to turn down coverage offered to them, rather than a decline in employer offers (Cooper and Schone 1997; Farber and Levy 1998). The main reason that some workers decline insurance offers is that they are unwilling to pay the direct premium contribution required by their employers.[4] While the incidence and size of employee contributions have increased in recent years, it is important to keep in mind that these out-of-pocket payments are still much less than the full premium. This indicates that workers who decline coverage value health insurance at substantially less than the cost to the employer (which itself is less than what it would cost to purchase the same coverage as an individual).

One implication of the literature on employee demand is that even if more employers could be encouraged to offer insurance, the effect on the number of people with insurance would likely be small. A substantial fraction of workers in these firms are already insured. Some currently uninsured workers would certainly take up coverage, but others would decline it rather than pay for it with a combination of reduced wages and/or direct premium contributions.

Health Insurance Reform and Availability of Small Group Health Insurance

A final factor that may influence employer health insurance decisions is the practices and policies of insurers that sell coverage in the small group market. Historically, insurance carriers in this market employed a variety of marketing and underwriting practices that discriminated against small firms seen to represent higher than average medical risk. In the early 1990s, nearly every state enacted legislation aimed at curbing the most egregious of these practices, with the goal of reducing non-price barriers faced by "high risk" firms.

Proponents of these incremental reforms had hoped that they would ultimately increase insurance coverage. Some critics argued that by driving up the cost of insurance, the reforms would cause younger, healthier consumers to drop coverage, perhaps leading to an overall decline in insurance coverage.[5] Enough time has

[4] Chernew et al. (1997) and Shore-Sheppard et al. (1997) find a negative relationship between take-up and required employee premium contributions.
[5] See Hall (1994) and Blumberg and Nichols (1996) for good discussions of the reforms and their potential effects.

passed that data are available to assess the effects of the state-level reforms. Several studies suggest that while the hopes of reform advocates have not been realized, neither have the fears of reform critics (Buchmueller and Jensen 1997; Sloan and Conover 1998; Buchmueller and DiNardo 1998; Monheit and Schone 1999; Zuckerman and Rajan 1999).

The fact that the reforms had little or no impact is not surprising. Research on the reasons employers do not offer insurance suggest that even prior to the reforms, the percentage of employers who said they were denied coverage was very small (Morrisey et al. 1994; Cantor et al 1995). Demand-related factors, such as low employee income, were much more commonly cited.

That being said, given the sensational way health insurance issues are often portrayed in the media, it is possible that prior to the reforms some firms did not seek out insurance because they assumed that they could not obtain coverage, even if that were not true. In addition, some low risk firms may have not purchased insurance based on the assumption that if an employee ever got extremely ill, the insurer would cancel the policy (essentially defeating the purpose of purchasing insurance). Since the awareness of health insurance legislation among non-insuring firms has been shown to be fairly low (Morrisey and Jensen 1996), some employers may still have a distorted impression of the barriers to purchasing insurance. If so, it may be possible to expand coverage by educating small employers about the rules that are applicable, and the options that are available, in today's small group market.

Under current market conditions, it is insurance brokers and agents whose job it is to make this educational effort. According to a recent study by Mark Hall (1999), many insurance brokers and agents have viewed the reforms as "a real boon to business," and an opportunity for increasing sales to small firms. At the same time, Hall reports that in some markets insurers continue to attempt to avoid high-risk groups, often by attempting to manipulate agents and brokers. Where brokers and agents are already being quite aggressive in using small group reform legislation as a marketing device, the benefits of a publicly funded educational initiative (or, similarly, one funded by a private foundation) will be limited. In contrast, such efforts might be fruitful in areas where brokers and agents are engaged in "field underwriting" rather than marketing to the small firms that were intended to benefit from the reforms.[6]

[6] "Field underwriting" refers to situations where brokers or agents act on behalf of insurance carriers to do the type of screening that carriers are prohibited from doing themselves.

III. Cost Implications of Offering Health Insurance: Are There Spillover Benefits?

When the full cost of health insurance cannot be passed along to workers in the form of wage reductions, offering insurance will increase a firm's compensation bill. While a less than dollar-for-dollar trade-off argues against offering insurance, it is possible that a narrow focus on compensation costs may overlook additional benefits associated with offering health insurance. In particular, higher payroll costs may be offset by a reduction in other costs within the firm or an improvement in productivity. In this section, I consider four potential spillover benefits of offering insurance: a reduction in costs related to employee turnover; a reduction in workers' compensation costs; a reduction in absenteeism; and an increase in worker productivity.

The Effect of Insurance on Employee Turnover

Because not all jobs offer health insurance, employers that offer insurance are likely to experience lower employee turnover than those that do not. How this impacts the bottom line depends on what types of workers are retained. If health insurance reduces the mobility of highly valued workers, its provision will likely lower an employer's costs relative to the alternative of paying cash wages only. On the other hand, it is possible that the workers whose decisions are most influenced by health insurance will be those who are in poor health or who have a sick dependent. To the extent that such workers are less productive than other workers (in addition to being more costly to insure) a negative relationship between health insurance and employee turnover may actually raise employers' costs.

A number of recent empirical studies provide evidence on the relationship between health insurance benefits and employee turnover. These papers are motivated by a concern about "job-lock," which is commonly defined as a situation where workers remain in a job in order to maintain health benefits. From the perspective of an individual employee, job-lock is welfare-reducing: workers would be better off if insurance were portable and they could choose among jobs according to the total level of compensation rather than its composition. As just noted, from the employer's perspective, whether a negative relationship between health insurance and turnover is a good or bad thing depends on which types of workers are retained when health insurance is offered. Two recent papers provide a detailed review of this literature (Currie and Madrian 1998; Gruber 1998). Here, I will focus on the issues that are most germane to the question of whether employers can reduce turnover related costs by offering insurance.

A key methodological issue in the job-lock literature concerns distinguishing mobility effects arising from unique aspects of health insurance from other factors generating a negative correlation between insurance and mobility. In particular, since desirable job attributes tend to be positively correlated, there is a concern that

even in a multiple regression framework what looks like job-lock is really a "good job effect." Unobserved worker heterogeneity is also a potential source of bias. For example, it is likely that more risk averse individuals will have a greater demand for health insurance and, all else equal, a lesser tendency to change jobs often.

For public policy purposes, it is important to obtain estimates of job-lock that are purged of both sources of bias. Clearly, if the observed relationship between health insurance and mobility is due to the fact that workers with health insurance are in better jobs than those without insurance, laws that make insurance more portable between jobs will have no effect on worker mobility—workers in "good" jobs will still be less likely to quit than workers in "bad" jobs. Similarly, efforts to enhance portability will have no effect on job mobility if the correlation between insurance coverage and turnover derives from the fact that risk-averse workers prefer both health insurance and job stability.

From the perspective of private employers, however, there is a subtle, but important distinction between a good job effect and worker heterogeneity. To the extent that the empirical relationship between insurance and mobility is merely a good job effect, offering insurance will not reduce turnover costs any more than raising wages or offering other benefits. In fact, if this is the case, there may be more effective and less costly ways to reduce turnover costs.[7] On the other hand, if workers who value health insurance are less likely to change jobs, such workers will be attracted to insurance-providing employers and those employers will experience lower turnover costs that employers that do not provide insurance.

While the first published job-lock study is by Cooper and Monheit (1993), the most widely cited paper in the literature is by Madrian (1994). Both use data from the 1987 National Medical Expenditure Survey (NMES). The most important contribution of Madrian's paper is her use of a "difference-in-differences" (DD) approach to mitigate the bias associated with other job characteristics that are correlated with insurance. Rather than directly comparing workers with and without insurance, she compares groups of workers who receive health benefits on the job, but are likely to differ in their valuation of those benefits. One contrast is between married men whose wives also have insurance with those whose wives do not. The logic is that only the latter group should be subject to job-lock, as the former can get coverage through their wives if they decide to change jobs. Since both groups receive health benefits themselves, there is little risk of confusing the effect of insurance with a good job effect. Madrian's results imply that health insurance coverage reduces the probability a worker will change jobs by between 26 percent and 31 percent.

[7] For example, since there are costs associated with health plan enrollment and disenrollment, if health insurance only reduces mobility by raising total compensation, raising cash wages may be a less costly way to achieve the same goal.

Buchmueller and Valletta (1996) extend Madrian's work in several ways, two of which are worth noting here. First, since the data set they use (1984 Survey of Income and Program Participation, or SIPP) includes a richer set of job and personal characteristics than the NMES, it is possible to better control for job and worker heterogeneity, and therefore to assess the validity of Madrian's approach. Second, the more detailed control variables make it possible to estimate the effect of insurance on the mobility behavior of single workers, for whom the DD approach is not a viable option. Buchmueller and Valletta's results for married men are generally consistent with Madrian's. In addition, they find significant job-lock for two groups that Madrian had not studied: married and single women. They find very little evidence of job-lock, however, for single men.

Anderson (1997) also finds support for the job-lock hypothesis, as well as for the notion of "job-push," which she defines as higher than expected mobility for workers without health insurance. Other studies, though, find no evidence of job-lock. Holtz-Eakin (1994) finds small and generally insignificant job mobility effects. This result appears to be driven by the differences between the data set he uses (the Panel Study of Income Dynamics) and others that have been used to examine job-lock, rather than by any methodological innovation. Penrod (1993) and Kapur (1998) modify Madrian's DD model by interacting measures of health status with insurance coverage. The logic is that workers in poor health should place the highest value on insurance and thus be most subject to job-lock. One problem with this approach is that the health status measures they use identify very few workers as being in poor health and are subject to substantial measurement error. It is not clear how much their finding of no significant job-lock is related to these problems, which will tend to bias the results in the direction of insignificance.

Overall, the job-lock literature suggests that employers who offer health insurance will experience lower employee turnover, which in turn will mean lower hiring and training costs. Since that literature focuses on workers rather than firms, it tells us little about the magnitude of such savings or how they are distributed across firms. Studies on the determinants of employer hiring and training costs shed some light on the issue. This research shows that higher skilled workers are more costly to recruit and hire (Barron, Bishop and Dunkleberg 1985; Barron, Berger and Black 1997), and tend to receive more employer-provided training (Frazis et al. 1998). Training costs also tend to increase with firm size (Frazis et al. 1995, 1998). Thus, to the extent that there are turnover-related benefits from offering health insurance, they are probably greatest for firms that offer insurance anyway, and smallest for firms currently not offering coverage.[8]

There are two final caveats that should be kept in mind when drawing inferences from the job-lock literature. First, as noted above, to the extent that offering health insurance has the effect of binding certain workers to

[8] Indeed, for small firms that experience high turnover with or without insurance, the administrative cost of enrolling and disenrolling employees may actually increase the total turnover costs.

the firm, the workers who are most affected are likely to be those who are either in poor health themselves or who have a dependent who is.[9] Not only will such workers be costly to insure, but their productivity may be low relative to healthier workers.

The second caveat is that all the research on job-lock is based on data that pre-dates the 1996 HIPAA legislation, which was designed to weaken the link between health insurance and job mobility. Research by Gruber and Madrian (1994) on continuation of coverage benefits provided by the 1986 COBRA legislation indicates that such laws can have a significant impact on reducing job-lock. As a result, the negative relationship between insurance and turnover may not be as strong as it was even a decade ago.

The Effect of Insurance on Workers' Compensation Costs

While health insurance is a voluntary benefit, all employers are required to purchase workers' compensation insurance. Individuals who receive medical care under workers' compensation have first dollar coverage and no limits on their choice of provider. As a result, it is believed by many in the benefits field that workers who do not have health insurance (or whose health insurance requires significant cost-sharing) will feign workplace injuries to receive treatment for conditions incurred outside the workplace. Such behavior, it is argued, explains the fact that a disproportionate number of workers' comp claims are filed on Mondays. The suspicion is that many of those claims are actually injuries sustained off the job during the prior weekend. To the extent that this type of abuse is common, a reduction in workers' compensation costs is a potential spillover benefit from offering health insurance.

Despite the widespread belief that the "Monday effect" exists, there is very little scholarly evidence on the subject. Indeed, a recent paper by Card and McCall (1996) is the only paper in the economics literature that attempts to estimate the relationship between health insurance coverage and workers compensation claims. Their analysis is based on workers' comp claims data from Minnesota. Since the health insurance of workers making claims is not observed, they merge the claims data with information on insurance coverage from the Current Population Survey, and use a two-sample estimation technique to compare the incidence of Monday claims for workers who differ in their likelihood of having insurance.

While tabulations from the CPS indicate that workers without insurance are slightly more likely to receive workers' comp benefits during the course of a year (1.79 percent vs. 1.57 percent), Card and McCall find no effect of predicted insurance coverage on the prevalence of Monday claims. For a large number of empirical tests, the effect of insurance coverage is insignificant, and usually has the "wrong" sign. From this they

[9] As noted, Penrod (1993) and Kapur (1998) test this and find no significant interactions between insurance and health status. However, as noted, given problems of measurement and small cell sizes, it is difficult to interpret their results.

conclude that the high percentage of claims made on Mondays is not a result of fraudulent behavior. Thus, Card and McCall's analysis provides no support for the premise that firms that offer insurance reap a benefit in the form of lower workers' comp claims.

Even if workers without health insurance are more likely to file workers' comp claims, there are two reasons to doubt that a firm that currently does not offer insurance could reduce its workers' comp costs by doing so. First, any savings due to a substitution of health insurance for workers' compensation insurance are likely to be small relative to the cost of health insurance. Data from the U.S. Bureau of Labor Statistics (BLS) allow for some illustrative "back-of-the-envelope" calculations. According to the BLS, in 1998 employer expenditures on workers' compensation averaged 68 cents per hour of work for blue collar workers, and 23 cents per hour for white collar workers. (The average per hour expenditure for service sector employees were 24 cents.) Medical expenditures represent only about 20 percent of workers' comp premiums, which translates to 14 cents per hour for blue collar, and 5 cents per hour for white collar workers.

In contrast, employer expenditures for health insurance average 1.24 per hour for both blue and white-collar workers.[10] Thus, even if offering health insurance were to cut workers' compensation medical claims in half—an unrealistically large effect, particularly in light of the Card-McCall findings—the savings would represent only 6 percent of health insurance costs for blue collar workers (.056 = (.5 x .14)/1.24) and 2 percent for white collar workers (.020 = (.5 x .05/1.24). Framing these calculations in terms of the economist's view of health benefits, they suggest that potential workers compensation savings would justify employers bearing only a very small fraction of health insurance premiums.

The second reason to doubt that workers' comp-related spillovers are an important part of the "business case" is that reductions in workers compensation *claims* will only lead to reductions in workers' compensation *premiums* for firms that are experience-rated. But, roughly 80 percent of firms in California are too small to be experience-rated (California Workers Compensation Institute 1998). Firms that are large enough to be experience-rated for workers' compensation almost surely offer health insurance already, while the vast majority of small firms that currently do not offer insurance are not paying experience-rated workers' comp premiums.

[10] Since BLS figures are for all employers, including those not offering insurance, this figure understates the average cost of health insurance. However, it is likely that firms that are on the margin of offering or not offering insurance will tend to choose less expensive policies and/or require employees to cover a greater share of premiums. Therefore, the BLS figures may nonetheless be appropriate as a "ball park" estimate.

The Effect of Insurance on Employee Absenteeism

A recent article in the *Wall Street Journal* (Lagnado 1999) described how a very tight labor market in the Kansas City area has caused a number of small employers to offer insurance for the first time in order to fill positions. According to the article, one such employer—a church-based day care center—discovered an additional benefit of offering coverage: reduced costs associated with sick days. With insurance, sick employees returned to work more quickly because they spent less time seeking care—going to a doctor's office, rather than waiting hours in an emergency room—and got well more quickly. As a result, the day care center did not have to pay as much over-time to employees filling in for their sick colleagues.

Beyond anecdotes such as this, there is little direct evidence on the relationship between health insurance and worker absenteeism and on-the-job productivity, though the case is often made that these types of effects are important. For example, such effects are often cited as arguments for wellness or employee assistance programs (e.g. Scanlon 1991), and advocates of improved insurance coverage for mental health care (i.e., mental health parity) have argued that the cost of such care is offset by a reduction in the cost of absenteeism and lost productivity (see, e.g., England 1999).

Theoretically, it is possible to imagine health insurance having both negative and positive effects on employee absenteeism. As just noted, many workers without health insurance will seek medical care from hospital emergency rooms and free clinics, settings where waiting times are quite long. Longer waits will mean more time away from work. Similarly, children who lack health insurance may take longer to recover from mild illnesses, causing their parents to miss more work. Health insurance coverage will mean better access to prescription drugs, which allow workers with chronic conditions to function at a higher level and thus miss less work.

At the same time, there are ways that insurance coverage may increase the use of sick days. For some workers, insurance will mean the difference between ignoring minor ailments (and continuing to work) and seeing a doctor. Not only might such workers miss work to make the visit, but in some cases the doctor may recommend that the workers stay home until well. Similarly, by increasing access to the health care system, health insurance may raise workers' awareness of certain health conditions or allow them to seek elective treatment for minor chronic conditions, which in turn may result in more lost work time. Also, since health benefits receipt is not tied to workers' actual hours of work, shifting compensation from wages to insurance reduces the marginal opportunity cost of work absences.

While there are a number of empirical studies on the determinants of employee absenteeism, the vast majority does not include health insurance as an explanatory variable. Some evidence on the effect of insurance on

missed work days is available from two recent papers using data from the 1987 NMES and also from the RAND Health Insurance Experiment (HIE).

Vistnes (1997) uses data from the NMES to estimate the effect of health status and other factors on illness-related absences. Like other studies (Leigh 1983; Paringer 1983), she finds the expected positive relationship between poor health and lost workdays. However, controlling for health status and other employee and job characteristics, her reduced form regressions indicate a *positive* effect of health insurance on both the probability of missing any work over a 12 month period and the number of days missed conditional on missing any. She interprets this as an income effect—i.e., insurance raises a worker's total compensation, which in turn increases his or her demand for time off work. An alternative explanation for this result is that it respresents a "good job effect," similar to what was discussed above with respect to job-lock.

Gilleskie (1998) also uses the NMES, though takes a different empirical approach, estimating a complex structural model of the decisions to see a doctor and miss work in the event of an acute illness.[11] In her model, insurance coverage is parameterized in terms of the percentage of the cost of a physician visit borne by the patient. For uninsured individuals, and those with indemnity coverage who have not reached their deductible, this variable equals 100 percent; the figure is lower for individuals with first dollar coverage or who have reached their deductible.

Gilleskie reports several "policy experiments" that get at the effect of insurance coverage on absences from work. According to her simulation model, providing full insurance to all workers (and holding all other factors constant) would increase physician visits by 12 percent on average, and would decrease the probability of having a work absence by an average of 9 percent. The number of days missed conditional on having an absence also fell, but only by 1.7 percent. These results suggest that physician visits and work absences are substitutes. Other results indicate that the effect of insurance coverage on absenteeism depends on whether or not workers have paid sick leave. She simulates the effect of increasing insurance coverage as just described and simultaneously extending paid sick leave to all workers. In this case, the result is a 13 percent *increase* in the percentage of workers missing work due to the illness and an 11 percent *increase* in the number of days missed.

Gilleskie also considers what would happen if patients were not able to receive care within the first three days of an illness episode. This situation may be similar to that faced by many uninsured workers who rely on free clinics or other safety net providers. Her simulations indicate that such delays decrease the number of work

[11] The complexity of Gilleskie's model requires numerous sample exclusions. Most importantly, her sample is limited to workers who over a 12 month period either missed a day of work or saw a doctor for certain types of illnesses.

absences by 6 percent. This finding suggests that if extending insurance to currently uninsured workers would reduce the delays they face in receiving care, it would have the side effect of increasing work absences.

The RAND HIE was a large-scale social experiment that has contributed tremendously to knowledge about the effect of health insurance on medical care utilization and other outcomes. The most important feature of the HIE was the random assignment of study participants to health insurance plans that differed in the amount of cost-sharing required of patients at the time care was received. The effect of insurance was then inferred by comparing the behavior of people with full insurance to those in plans requiring greater cost sharing. Because assignment was random, the problem of self-selection bias was avoided.

The most widely noted results from the HIE have to do with the effect of health insurance on medical care utilization. RAND researchers also examined the effect of insurance on health status (see below), restricted activity days and days of lost work.[12] Their results indicate that individuals assigned to the most generous insurance plan (denoted as the free plan because patients paid nothing for their care) had more restricted activity days than individuals in plans that required cost-sharing by patients, though the difference was not statistically significant at conventional levels (Newhouse et al. 1993. pp.211-217). The effect of insurance coverage on work loss days was even smaller and also insignificant.

To summarize, the limited research that exists on the topic provides little support for the notion that offering health benefits lowers the cost to employers of employee absenteeism. Gilleskie's (1998) analysis of the NMES provide some indication of a negative effect of insurance on absenteeism, though some of her results, like the simpler analysis by Vistnes (1997) indicate the effect may go in the opposite direction. Evidence from the RAND HIE suggests a zero effect of health insurance on absenteeism.

The Effect of Insurance on Employee Health

Absenteeism is just one form of reduced productivity that may result from employee health impairments. The economic theory of human capital posits a positive relationship between health status and worker productivity. To the extent that health insurance can be viewed as an investment that helps individuals maintain their stock of health capital, offering insurance may have a positive effect on worker productivity. In order to assess such possible effects, it is useful to consider their component parts: the effect of health status on workers productivity, and the effect of health insurance on health status.

There are a huge number of "cost of illness" studies, which seek to quantify the economic burden of various conditions. In addition to direct treatment costs, these studies attempt to calculate indirect costs associated with reduced productivity and work effort. However, for a number of reasons, estimates from this literature

are not very useful for estimating the extent to which productivity-related benefits will accrue to employers that offer insurance.

First, the counterfactual implied by these studies—what would be the savings from totally eliminating a particular disease or condition—is not very informative. Second, the empirical studies upon which the productivity calculations are based have been shown to be flawed (DiNardo 1994). Third, and most importantly, even if we were to take these calculations at face value, estimates of productivity-related costs are typically based on the relationship between those conditions and wages or earnings. A negative effect of a particular disease on wages indicates that workers would benefit from eliminating the disease; employers would only benefit if the increase in wages did not reflect the full increase in productivity.

This last point has implications not only for interpreting existing estimates of the productivity cost of various diseases, but also for thinking about whether employers benefit from reducing those costs. As Currie and Madrian (1998, p. 3) point out, good health is probably best thought of as a form of general human capital, which is portable across firms. If this is true, most of the returns to investments in health are likely to be captured by workers rather than their employers.

Of course, even if employers do benefit when the health status of their employees improves, health-related spillover benefits from offering insurance will only exist if insurance coverage has a significant impact on workers' health status. The best evidence on the subject comes from the RAND HIE, which considered the effect of insurance on a number of indicators of physiological and mental health (Newhouse et al. 1993, Chapter 6). RAND researchers concluded that "[f]or the average person there were no substantial benefits from free care (p. 201)." Exceptions to this finding are beneficial effects of insurance on hypertension and vision, particularly for low-income individuals who were at elevated risk at the start of the experiment.

The HIE also tested the effect of insurance on health-related attitudes and behaviors. People who knew they had a condition were asked if they worried about the condition or if it caused pain. By increasing access to care, insurance coverage might reduce anxiety about such conditions even if the underlying condition could not be treated. However, the results do not bear this out. The results also indicate no effect of insurance on smoking, alcohol consumption or the level of physical activity.

In the RAND HIE, participants were tracked for three to five years. While one could argue that this is too short a period for the health-improving effects of insurance coverage to be realized, it could also be argued that the relevant time horizon for most small firms is shorter. That is, even if there are long-term health gains associated with health insurance, they will only contribute to the business case if employers expect to keep the

[12] The definition of a restricted activity day includes, but is not limited to, work loss days.

same workers for a number of years. Most employers that currently do not offer health insurance would continue to experience relatively high turnover even if they offered coverage.

The Effect of Insurance on Employee Morale

Worker productivity depends not only on how much time is spent at work and workers' capabilities (which will be related to their health status), but also on their work effort while on the job. If offering health insurance increases work effort or motivation there might be an argument for firms to offer insurance even if workers' wages could not be reduced by the full cost of the benefit.

Other than anecdotal reports in the popular media,[13] there is really no empirical evidence on the relationship between employer-provided health insurance and worker productivity. Part of the problem is simply one of measurement. As noted above, we cannot directly measure productivity (only wages and earnings), let alone the effect of employee morale on productivity (holding other factors constant). On top of these problems is the practical impossibility of measuring the impact of insurance on morale. In the absence of such evidence, economic theory provides some guidance for thinking about these relationships.

The most relevant strand of theoretical research is that related to the economics of "efficiency wages." Efficiency wage theories depart from standard neoclassical economics by assuming that a worker's productivity may be affected by how much he or she is paid. The basic notion is that in choosing their work effort, workers calculate the relative costs and benefits of working hard vs. shirking on the job. The main cost of shirking is the risk of being caught and then fired. If a worker can easily get another job that pays the same amount, the incentive to work hard will be limited. On the other hand, if the worker is paid more than what he could receive elsewhere, the cost of being caught shirking is higher. Thus, the theory predicts that firms paying above-market wages may be able to induce a greater work effort from employees.

Another way that paying higher wages may increase productivity comes from workers' concerns about being treated fairly. Workers' judgments in this regard will depend on how their pay compares to how well the company is doing overall, and differences within the company in what different workers are paid. Individuals who believe they are being treated fairly with respect to these benchmarks are more likely to put forth effort and commitment, whereas those who feel unfairly treated will be more likely to withhold effort and may go so far as to "sabotage" output.

[13] As just one example, a recent (4/24/99) article in the San Diego Union Tribune on a new program offering subsidized insurance for firms with low income workers quotes one small employer as saying that offering insurance has "been a lot better for morale and productivity."

A simple application of efficiency wage theory might suggest that there are potential productivity gains from offering health insurance to workers whose alternative prospects for insurance are limited. While there may be some cases where this is true, the real question is whether adding health insurance to the compensation package (and not fully reducing wages) has a larger effect on productivity than raising cash wages by an equivalent amount. In other words, we are back to the question of how much workers value health insurance relative to other goods they can buy when paid in cash.

While it is not clear that a simple efficiency wage model would argue for offering health insurance rather than increasing wages, it is possible that a dollar spent on insurance will have a different effect on employees' perceptions of how fairly they are treated than will an additional dollar of wages. Offering health insurance may be an effective way for employers to signal concern for their employees. Also, to the extent that all workers in a firm have the same insurance coverage (or can choose from the same set of plan options), offering health insurance may promote a sense of solidarity within a firm.

Starbucks is a commonly cited example of a company that offers health benefits to workers (part-time as well as full-time) and reaps a benefit in the form of improved employee morale. The ultimate payoff to Starbucks, it is argued, comes in the form of better customer service (which leads to higher sales), and lower turnover. One of Starbucks' competitors, Peets Coffee & Tea, also offers health insurance to employees and claims to experience lower turnover relative to other retailers as a result (Guynn 1998).

One caveat, however, is that workers will vary in their perceptions of equity. Offering insurance raises new possibilities for some workers to feel poorly treated relative to others. For example, since many workers have alternative sources of insurance, firms that begin offering health benefits must think about how they will treat workers not taking health insurance coverage through the firm. Such workers are likely to be resentful if they perceive that all workers' wages have been reduced to offset the cost of health insurance. Thus, there is a potential fairness argument for giving workers who opt out of the company plan an equivalent cash payment. On the other hand, offering higher wages to workers with alternative coverage raises the overall cost of providing health benefits and, if covered workers do not appreciate the cost of their benefits, may cause them to feel mistreated. The fact that the cost of insurance varies across different types of workers—e.g., single vs. those with dependents, young vs. old—also raises important equity issues.

IV. Summary and Conclusions

The vast majority of private health insurance is received through the workplace not because of the benevolence of employers, but because there are several economic advantages to employer provision relative to individually purchased insurance. The rate of employer-provided coverage will only be maintained, let alone increased, if employers continue to believe there is a "business case" for offering health benefits.

The standard economic assumption that it is workers who pay for benefits with reduced wages suggests that the business case depends primarily on the underlying demand for insurance on the part of workers. Consistent with this view, the results from several recent studies suggest there is a simple demand story behind the decline in employer-sponsored health insurance in recent decades: it was a response to large increases in the price of insurance and, for less-skilled workers, a decline in income. The fact that the decline arose mainly from workers turning down coverage they were offered, rather than employers rescinding offers of coverage, further underscores the importance of employee demand.

When the amount of cash wages workers are willing to give up in return for insurance coverage is less than the employer's cost of that coverage, there will only be a business case for offering insurance if doing so reduces some other costs within the firm or increases the firm's output. A review of several strands of academic literature suggests that the potential for the provision of insurance to offer spillover benefits is limited.

The most promising source of spillover benefits comes from the fact that health insurance is negatively associated with employee turnover. However, the benefit of reducing turnover (by any means) will vary across firms, and is likely to be smallest for the types of firms that are least likely to offer insurance—small firms employing less-skilled workers. The scholarly literature provides even less support for the notion that offering health insurance will reduce employers' costs associated with workers' compensation or employee absenteeism. Similarly, the literature gives no reason for employers to expect that offering insurance will cause worker productivity to increase dramatically. Thus, it appears that for the small firms that choose not to offer health benefits, the decision is one that makes sound business sense.

The main implication of this conclusion is that there is little potential for increasing insurance coverage by improving employer awareness of the advantages of offering health benefits to their employees. Rather, the only way to increase employer-sponsored coverage is either to make such coverage more affordable to small firms and their employees (through premium subsidies, for example) or to increase their purchasing power (say, with vouchers or refundable tax credits). Efforts to increase employer provision without doing either of these things are likely to be ineffectual.

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