

**I. Medicare Reform**

Most current proposals to reform Medicare involve some form of choice. One option is to move to full-blown choice by issuing vouchers. If vouchers are issued, the government must determine the amount of the voucher – a decision which involves a tradeoff between equity/income distribution concerns and the government’s budget. To illustrate this tradeoff, consider the following simple, stylized situation (note that this is NOT the current situation in the U.S.):

The average cost for the entire Medicare population is \$2000. The government pays HMOs 90% of the average cost. The ‘market’ for Medicare offers three choices : traditional Medicare, HMO<sub>1</sub> HMO<sub>2</sub>. The market is in the following equilibrium.

	<b>% of patients</b>	<b>Average cost</b>
<b>Traditional Medicare</b>	75%	2100
<b>HMO<sub>1</sub></b>	12.5%	1800
<b>HMO<sub>2</sub></b>	12.5%	1600

Both HMO are successfully selecting patients that are healthier on average than the Medicare population as a whole. HMO #2 is particularly successful. Note that the government’s average per-Medicare recipient cost is :  $.75*2100 + .25(.9 * 2000) = \$2025$ .

The government wishes to move from this equilibrium to a voucher system. It can choose to issue vouchers equal to the average cost for the entire Medicare population, \$2000, or one of the above average costs : \$2100, \$1800 or \$1600. The following table illustrates the income distribution vs. government budget tradeoff :

<b>Voucher Amount</b>	<b>Change in government cost</b>	<b>Income transfer for former traditional Medicare patient</b>	<b>Income transfer for former HMO<sub>1</sub> patient</b>	<b>Income transfer for former HMO<sub>2</sub> patient</b>
<b>2100</b>	+75	0	+300	+500
<b>2000</b>	-25	-100	+200	+400
<b>1800</b>	-225	-300	0	+200
<b>1600</b>	-425	-500	-200	0

The sickest patients, those formerly in the tradition Medicare program, receive the most severe negative income shock as the government lowers the amount of the voucher.

## II. Job Lock

Intuition: People are afraid to leave a job because they don't want to lose health insurance benefits.

Basic Model:

- Assume perfectly competitive labor market. Worker  $i$  at firm  $j$  receives wage  $w_{ij}$ .
- Health insurance is a binary, homogenous good and is perfectly experience-rated. The cost of insurance for individual  $i$  is the same at every firm:  $c_{ij}=c_i$
- Firms can offer HI to some workers and not to others. Workers who receive health insurance have a negative compensating differential,  $\Delta w_{ij}$ . Since HI is perfectly experience-rated, firms lower a worker's wages by exactly the amount that insurance for that worker costs ( $\Delta w_{ij}=c_{ij}$ ).
- Utility is defined over wages and health insurance:  $U(w_{ij}, HI_{ij})$

Individuals desire HI if  $U(w_{ij}-\Delta w_{ij}, 1)-U(w_{ij}, 0)=V_{ij}>0$ .

If individuals wish to change jobs, they can simply ask their new employer to provide them with insurance and lower their wage by  $c_i$ . There is no inefficiency from health insurance: since workers will pay the same compensating differential  $c_i$  at any job, they will choose the job with the highest wages  $w_{ij}$ .

→ No job lock!

Now modify this model to better reflect the real world:

- Employers can't set employee-specific compensation packages, offering HI to some workers and not to others. This implies that there will be *match-specific* rents for workers attached to particular jobs.
- Employers face dramatically different costs of providing HI

As a result:

- 1) In a perfectly competitive labor market, there will be a market-wide (rather than individual) compensating differential,  $\Delta w$ .
- 2) Workers will work at firms offering HI if their valuation is at least as great as the compensating differential:  $V_i>0$ .
- 3) Firms will only offer HI if the cost of insurance per worker,  $c_j$ , is less than or equal to  $\Delta w$ .

In equilibrium, all workers with  $V_i>\Delta w$  will earn rents from working at a job with health insurance. All firms with  $c_j < \Delta w$  will earn rents.

→ Potential for job lock.

Suppose that a worker works in Job 0. Imagine  $W_{i1} > W_{i0}$ , but  $C_1 > C_0$ , so that Firm 1 doesn't offer HI at all. If  $U(W_{i0} - \Delta W, 1) - U(W_{i1}, 0) > 0$ , then the worker won't switch jobs, even though he would be more productive in Job 1.

Numerical Example:

Imagine that you are a worker and that, while health insurance products are homogenous, health insurance costs to firms vary by firm size. You value health insurance (for your family) at \$4000. Your marginal product at your current job (Job 0 in Firm 0) is \$50,000, but your marginal product at Job 1 (in Firm 1) would be \$51,000. This suggests that society would benefit if you moved from Job 0 to Job 1.

But Firm 0 is larger than Firm 1, so it is able to insure its employees more cheaply. This might result from the fact that fixed administrative costs are spread across more employees and adverse selection is considered to be less important when selling insurance to a large firm. As a result, the cost of health insurance to Firm 0 is \$1500 per worker, while the cost to Firm 1 is \$5000 per worker. Firm 1 has decided not to offer health insurance at all, because \$5000 is greater than the market compensating differential of \$1500.

Assigning a very simple utility function, suppose that:

$$\begin{aligned} U(w, HI) &= \text{net wages} + \text{your value of HI benefits received} \\ &= (\text{marginal product} - \text{HI Cost}) + \text{your value of HI benefits received} \end{aligned}$$

Utility from working at Job 0 =  $\$50,000 - \$1500 + \$4000 = \$52,500$

Utility from working at Job 1 =  $\$51,000$ .

Another way to think about this:

- At Job 0, you are collecting rents, because you value health insurance at \$4000, but only \$1500 is deducted from your salary to pay for it. So you are effectively earning \$2500 more than your marginal product!
- At Job 1, you lose these rents. Your utility if you take Job 1 is lower than your utility if you keep Job 0, so you won't switch.