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Work-Life Incentive Schemes

How does a firm motivate workers who are locked into a particular position and are virtually certain to remain there without a promotion for the rest of their careers?¹ One way is to make future raises contingent upon current performance. If workers plan to stay with an organization for a significant period of time, then the prospect of receiving a large raise can have important incentive effects, especially if that raise is a permanent one in real terms. Even if a worker's job title does not change, he may still be rewarded in the form of wage growth.

In some respects this kind of incentive scheme is very similar to a piece rate. A worker's performance is observed, and then he is compensated on the basis of that performance. There are two differences.

First, the period over which the evaluation is made is usually longer than is typically the case with piece rate pay. When workers are on a piece rate, they generally receive payment for work done over a very recent interval like a two-week period. When raises are used, the interval is usually much longer, generally a year or perhaps even a number of years. Using an upward-sloping experience-earnings profile is akin to a piece rate where the sample period is very long and observation points are infrequent. Here raises are given for good performance.

The second major difference between upward-sloping experience-earnings profiles and piece rates as motivators is that the worker must continue to be employed in order to reap the benefits of a raise for good performance. With piece rate pay the worker's past performance is rewarded in the form of a lump-sum payment, which is not contingent on future employment. In the case of an upward-sloping experience-earnings profile, the worker must remain with the firm in order to capture the rewards for good performance in the past.

The mechanism as first discussed in Lazear (1979, 1981) motivates workers by paying them less than they are worth when they are young

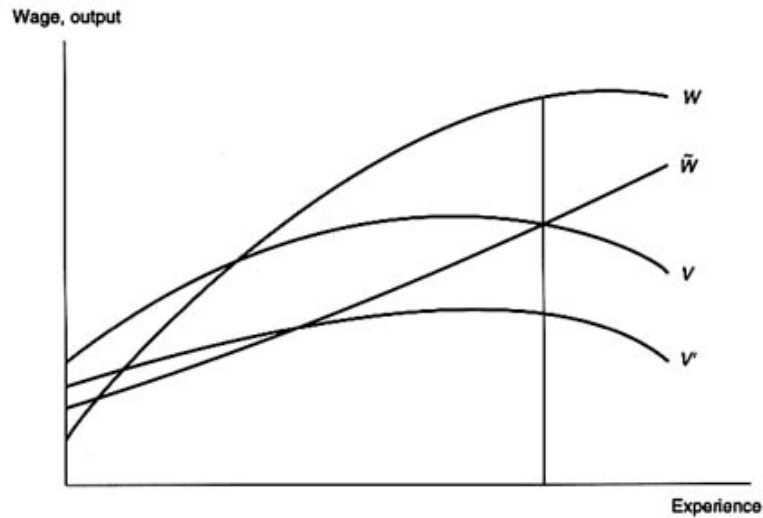


Figure 4.1

and more than they are worth when they are old. This tilted compensation profile is appealing and fits what many personnel managers believe to be occurring within their own organizations. Older workers are paid high salaries, not so much because of superior performance while they are old but rather because their high compensation serves to motivate them during the early years of their careers.

Middle-aged managers are motivated not so much by the hope of future promotions but rather by the hope of raises and continued employment in their current position. Upward-sloping experience-earnings profiles provide these kinds of incentives. An example of this is provided in figure 4.1.

A worker can choose to work at a high level of effort or he may shirk, putting forth a low level of effort. Suppose that a worker's output if he works at a high level of effort is given by the V profile in figure 4.1. If he shirks, his output is V' . But paying the worker V will not provide much of an incentive for him to perform at the high level of output. The W curve in figure 4.1 is the value of the worker's alternative use of time. In this context it is most easily thought of as the value of his leisure. Time T is the date of voluntary and efficient retirement. If workers receive compensation V , they would choose to retire voluntarily at time T because that is the point at which the alternative use of time just equals the

worker's marginal product or payment. Any scheme that duplicates the first-best outcome must have, as one of its features, separation of the worker at time T .

Consider two alternative payment schemes. One pays the worker path V throughout his career and the other pays the worker W , which starts below V but eventually rises above V . W is constructed such that the present value of the W path, from 0 to T , equals the present value of the V path from 0 to T . Workers who had access to capital markets would be indifferent between paths W and V if all else were equal. But all else is not equal. Consider a worker who is being paid according to V . As he approaches time T , he must decide whether to put forth the high level of effort or to shirk. As he nears time T , the incentives to shirk become overwhelming. Consider the worker's decision one day before time T . On that day he may either work at the high level of effort or he may shirk. If he shirks, the worst thing that can possibly happen is the worker gets fired. If he gets fired, he does not receive wage V during the next period, but he does get to enjoy the value of his leisure. At time T the value of leisure and V are equal, so the worker loses nothing by shirking, even if he gets fired. Thus there will come a point at which all workers will opt to shirk who are simply paid their marginal product.

Alternatively, the worker can be paid according to W . Now consider the worker's decision one day before time T . If the worker shirks and is dismissed, he gets to enjoy the value of his leisure W next period, but he forgoes wage W . Since W is set such that it is well above V at time T , a worker will forfeit quasi-rents by shirking. Thus the W profile if sufficiently steep will induce workers to perform at a higher level of effort than will the V profile. In fact it would be impossible to pay workers along the V profile because at some point in the worker's career his output would switch to V' .

The steeper age-experience profile W induces workers to put forth high levels of effort for which they receive additional compensation. If workers were paid according to V , they would be induced to put forth lower levels of effort and the entire experience-earnings profile would have to be adjusted downward to take into account this lower productivity. Because firms are limited in their ability to extract penalty payments from workers, forcing workers to forgo higher-than-alternative salaries when they lose their jobs provides an incentive against shirking and malfeasance.

One by-product of this particular compensation scheme is the need for mandatory retirement. Since the wage path W lies above the wage path

W , workers will not choose to retire voluntarily at time T . Instead they would prefer to continue working as long as the firm were willing to offer wage W . But doing so would not only bankrupt the firm, it would induce workers to remain with the firm inefficiently long. Mandatory retirement is a consequence of using a profile that pays workers more than their worth at their retirement age.

While this theory was first put forth as an explanation of mandatory retirement, the principle is much more general. The argument here relates more to incentives than it does to mandatory retirement, and this kind of a scheme could be used even in the absence of mandatory retirement. In fact there are alternative institutions that can actually act as well as or better than mandatory retirement to ensure that efficient separation occurs in the firm. Pensions (see Lazear 1982), whose value varies with age of retirement, can be used as a device to buy workers out of their current contracts. These efficient pension schemes, discussed below, accomplish the same goal as mandatory retirement and sometimes do it better.

I believe that this view of life-cycle earnings corresponds quite closely to that held by personnel managers. Senior workers are paid high salaries in the firm not so much for their current productivity but as a reward for past productivity and as a motivator for current productivity of their more junior counterparts.

There has been empirical work to support the contentions of this theory. A number of papers by Hutchens (e.g., 1987, 1989) support the view that upward-sloping age-earnings profiles are used as a motivator when workers are engaged in tasks that produce output that is difficult to observe or measure. Goldin (1986) finds that women are more likely than men to be paid a piece rate historically. She argues that women have less permanent attachments to the work force, so upward-sloping experience-earnings profiles cannot be used as effectively for women. Firms pay women piece rates as an alternative, despite the higher measurement costs. Finally, Kotlikoff (1988) finds evidence based on earnings functions across different occupational categories that is consistent with the life-cycle incentives view.

Pensions

Sometimes a pension can act as a buyout and can induce workers to retire voluntarily at the optimum age. Firms often use explicit pension buyout schemes when special circumstances arise. For example, a firm that would like to undertake a major reduction in force will often offer workers, within