Chapter 5
Frictions in the Labor Market

Summary

In previous chapters, it has been assumed that firms were always wage takers; in other words, a firm would have to hire at the market wage or all employees would leave. Similarly, all labor costs have been considered to be variable, directly proportionate to the amount of time that an employee works. Thus we are implicitly assuming that it is easy for workers to change firms and easy for firms to hire and fire workers. However, there are usually frictions in the labor market, which implies that it is costly for one or both groups to make such changes.

The chapter first considers costs to workers of changing jobs, and thus how hiring decisions are different when there are mobility costs. If mobility is costless, then workers who have identical skills and who are performing the same job must receive equal wages. However, real-world data does not generally support this prediction; there are significant differences in wages for similar jobs in different geographic markets and for jobs requiring similar skills within the same geographic markets. This implies that there must be a cost to mobility, or low-wage workers would simply move to higher paying jobs. Some mobility costs are monetary (printing résumés and moving, for example), but there are also nonmonetary costs such as time, stress, and possible nonwage benefits of the current job. These nonmonetary costs are likely to vary significantly between workers.

If there are positive mobility costs, then the supply of labor to the firm is now upward-sloping rather than horizontal. As the firm raises wages, it will attract some workers from other firms (presumably those with relatively lower mobility costs), and likewise, if the firm lowers wages, it will lose some but not all workers. Mobility costs also influence the elasticity of labor supply; relatively low mobility costs imply a more elastic supply of labor. Upward-sloping labor supply curves facing individual firms are called monopsonistic conditions.

A labor-market monopsonist has traditionally been defined as the sole employer of labor in a given market, and thus the firm faces the market supply of labor. However, while cases of pure monopsony power in labor markets are considered very rare at best, degrees of monopsony power exist in a wide variety of labor markets. To determine optimal employment levels in the case of a firm having monopsony power, the given information must include specification of the labor supply curve. For a monopsonist, labor supply is upward sloping (because it is the sole employer of labor or because there are mobility costs). Thus the marginal expense of hiring one more worker is not constant, because to attract one more worker, the firm must raise the wage. Raising the wage for one worker is assumed to require raising the wages of all workers, and thus the marginal expense for the last worker is greater than the wage rate. (Assuming that the labor supply curve is linear, it could be written in the form $W = a + bL$, where $a$ and $b$ are typically assumed to be positive constants. Assuming that the firm is free to set any wage and that it pays the same wage to all its workers, the marginal expense of labor is given by the expression $ME_L = a + 2bL$. This expression is then set equal to the marginal revenue product expression to find the optimal employment level of the firm. The wage the workers receive is found by taking the optimal employment level and substituting back into the market supply equation.) Thus the monopsonist will hire fewer workers than an equivalent competitive firm and will use its market power to pay them lower wages.
Within the same labor market, firms may have different marginal revenue product curves (due to differences in plant and equipment and other factors influencing productivity) and different labor supply curves (due to differences in the nonwage benefits of different employers and other mobility cost factors that may vary between firms), and thus workers with similar skills performing similar jobs may well earn very different wages.

Shifts in the supply of labor change the marginal expense of labor and thus change the monopsonist’s desired level of employment and wage. For example, a decrease in the supply of labor increases the marginal expense of labor and thus reduces desired employment and increases the wage. In the long run, this may also lead the firm to substitute capital for labor, and employment will decrease further.

Sometimes a monopsonist is bound by a government-enforced minimum wage law or has negotiated a union scale wage, above the market equilibrium in either case. In these situations, the stipulated wage functions as a portion of the firm’s ME\_L curve and again the ME\_L is equated to the MRP\_L. Depending on the exact level at which the minimum or union wage is set, it is possible for the firm’s optimal employment level to increase relative to the level that is optimal when there is no market interference. Why? Mandated wages increase the average cost of hiring, at least initially, but they can reduce the marginal cost, since hiring one more worker no longer implies raising the wages of all workers. With a lower marginal expense of labor, the firm is likely to wish to hire more workers. In such cases, minimum wages can increase both the wage and the level of employment (in contrast to the competitive model discussed in Chapter 4).

Since there are positive mobility costs, workers must decide whether it is worth incurring the costs of a job search or whether it is better to stay with the existing job. While there are many reasons (some of which are discussed later in the text) why wages differ, one reason may simply be luck. Some workers may initially be hired by high-wage firms and stay there, while those who are initially matched with a low-wage employer may wish to search more. More searching may result in a better match but also involves costs; depending on the level of costs and the expected increase in the wage, it may not be worth searching for a better match.

Costs of job search provide one explanation for why we observe that wages tend to increase with overall labor-market experience and with time on the job. One reason why job search is costly is because it takes time and effort, and job openings may appear randomly. Thus workers who have been in the labor market longer will have had more chances to acquire better offers and improve their matches (and thus earn higher wages). Likewise, workers who have chosen to stay with an employer are probably those who found a good match to begin with, and thus are observed to have higher wages. High search costs may also be correlated with longer unemployment spells and higher unemployment rates, as workers are more likely to turn down an offer if it is more costly to search again once employed.

We now turn to issues relating to labor demand. The major friction on the demand side of the labor market is the existence of quasi-fixed labor costs, costs that vary with the number of workers hired, but not with the number of hours existing employees work. For example, when an additional worker is hired to regularly work forty hours per week, the firm will almost certainly incur hiring and training costs, contribute to the provision of employee benefits (e.g., medical insurance), and be required by the government to make payments on the worker’s behalf (e.g., contributions to the unemployment insurance fund). These quasi-fixed costs fall into two categories: investments in the workforce (such as hiring costs and training), and employee benefits.
Hiring costs involve such factors as advertising positions and screening applicants, as well as the record-keeping costs of having another employee. Training costs are of three types: the explicit cost of materials and trainers used in the training process; the implicit cost of using existing employees and capital equipment to train the new employee; and the implicit (opportunity) cost of the new employee’s time. Finally, there may be a cost of terminating the worker, if necessary. Hiring and training costs are considered to be investments because the costs occur in the present and have benefits in the future and, like most investments, are inherently risky.

Employee benefits include both legally mandated expenses, such as contributions to unemployment insurance Social Security programs, and privately-provided benefits such as medical insurance and vacation pay. These costs all vary with number of workers rather than number of hours and thus are categorized as quasi-fixed costs. Treating the average workweek of existing workers \(H\), and the number of workers \(M\), as two distinct inputs, the cost-minimization rules developed in Chapter 3 require that

\[
\frac{ME_M}{MP_M} = \frac{ME_H}{MP_H},
\]

where \(ME\) refers to the marginal expense of an additional unit of the input \(M\) or \(H\), and \(MP\) refers to the marginal product of an additional unit of the input \(M\) or \(H\). The ratio of \(ME\) to \(MP\) gives the marginal cost of producing an additional unit of output using either more workers or longer hours. The growth of quasi-fixed costs increases \(ME_M\), destroying the equality and raising the marginal cost of producing output using workers. This creates a window of opportunity for the firm to produce the same output in a less costly manner by substituting longer hours for some of its existing workers.

Some have proposed increasing \(ME_H\) by increasing the overtime pay premium, with a goal of expanding employment by making additional hours per worker more costly and hence less attractive to employers. Such an increase in \(ME_H\), however, may not translate into significant employment gains for a number of reasons. The optimal output of the firm is likely to be reduced because of higher costs (a scale effect). Also, the firm may shift to more capital-intensive production processes (a substitution effect). In addition, the unemployed available for hire may not be good substitutes for those currently working overtime, and the straight-time wage rate may be adjusted downward so as to keep total compensation the same.

The cost-minimization framework can also be adapted to look at the effect quasi-fixed costs, such as those associated with the mandated provision of health insurance, have on the choice between different categories of labor. For example, the choice between full-time and part-time workers, or skilled and unskilled workers can be affected by the growth of quasi-fixed costs in the same manner the employment/hours choice is affected.

Training costs create a different type of friction because they are often paid in part by the workers themselves. For training to be desirable, it must be true that the training increases the marginal productivity of the employee by more than it increases the wage (so that the employer receives some return on the training investment), and secondly, the worker must stay with the firm for long enough for the employer to receive this return.

In the case where the training expenditures are general (i.e., they make the employees more productive in the eyes of all employers), all training expenses must be recovered during the current or training period. This means that, in equilibrium, the wage must equal marginal productivity less the training cost, meaning the employee is “paying” for the training. In all future periods, we should expect the worker to be paid the value of his productivity. If it were not so, workers, now more productive due to the training received in the first period, could be bid away by competing firms. Firms will only pay for general training if mobility costs are so high that trained workers will not seek a different job (and thus the firm can recoup its training cost).
However, in the case where the training expenditures are specific (i.e., they make the employees more productive only in the eyes of the current employer), employers will pay for at least some of the training costs with a training wage that exceeds marginal productivity less the training cost. It is expected the firm will recover this training investment gradually over time by setting the wage in future periods to be less than the corresponding marginal product, provided the present value of the entire compensation package remains at least competitive with what employees can attain elsewhere. The firm is willing to incur some of the initial training cost because it can recoup these costs by underpaying the worker (relative to productivity) in later periods; the worker is willing to stay even though paid less than the value of marginal productivity in the future because with specific training, the value of the worker’s skills is higher at this firm than it would be to other firms. In other words, where training is specific, the worker is overpaid relative to productivity during training and underpaid relative to productivity in later periods. Both workers and employers have invested in training, and thus both have an incentive to make the employment relationship work and share in the rewards. The share of the training cost borne by the employer will reflect the size of mobility costs as well; if mobility costs are high, then the firm will be willing to pay more of the training cost as it will not need to increase the post-training wage much in order to retain workers.

The gap that exists in equilibrium between the $MP$ and the post-training wage gives the worker some protection from temporary layoffs caused by declining demand. It will not be in the firm’s interest to lay off workers as long as it is still recovering some of its training investment. The gap between $MP$ and the post-training wage suggests that the firm will not have to worry about the worker quitting since the wage it is paying is higher than what the worker could earn elsewhere. Thus the existence of quasi-fixed costs like hiring and training costs can foster a more stable employment relationship. It can also explain why average productivity tends to fall at the beginning of a recession. Firms may “hoard” skilled labor, as they are unwilling to lay off trained employees. This surplus of labor relative to utilized capital causes average productivity to appear to fall during a recession, but it also means that firms can easily expand output without incurring new hiring and training costs when the economy picks up.

An alternative strategy for responding to quasi-fixed hiring costs may be to attempt to reduce them as much as possible. One method some firms use is to rely on credentials or screening devices instead of closely investigating each individual applicant. This can lead to statistical discrimination in the hiring process. For example, a firm may prefer hiring men, not out of prejudice against women, but because data suggested that on average, men had longer expected job tenures, which in turn would make the recovery of hiring and training costs more likely. In situations where upper-level positions require extensive firm specific knowledge, firms may rely on an internal labor market policy of filling most positions from the ranks of current employees, thus learning about future applicants gradually over time and eliminating the need for extensive screening.

### Review Questions

Choose the letter that represents the **BEST** response.

#### Definitions

1. The best definition of quasi-fixed costs is
   
   a. nonwage labor costs.
   b. hiring and training costs.
   c. costs that vary with the number of workers employed.
   d. costs that vary with the number of workers employed, but not with the number of hours worked by existing employees.