CHAPTER 3 - THE DEMAND FOR LABOR

This chapter studies the downward sloping nature of the labor demand curve. It begins with a section that discusses profit maximization, and it moves deductively from the assumption of profit maximization to the marginal conditions with respect to labor. These conditions are expressed in simple mathematical terms, and they are also discussed verbally. Additional insights into the marginal productivity theory of demand are provided in a section discussing common objections to this theory of demand.

The analysis of demand begins with the assumption that both labor and product markets are competitive; in this context, we first consider the short-run before moving on to the long-run and the case with more than two inputs. Next we consider the demand for labor when the product market is not competitive, and then move to an analysis of demand when the labor market is monopsonized. In the latter context, we contrast the wage and employment effects of "market" and "mandated" shifts in the labor supply curve.

The chapter concludes with a policy analysis of payroll taxes that demonstrates the insights that can be derived from an understanding of the demand for labor. The principal conceptual tool employed involves distinguishing between the wage rate employers pay and the wages employees receive. When these two wages differ, one must be stated in terms of the other for the demand and supply curves to be shown together. When a payroll tax is introduced, one of the two curves must therefore shift, and there will be related changes in both wages and employment.

The appendix to Chapter 3 is designed for students who feel comfortable using microeconomic theory at the intermediate level. We derive the demand for labor graphically using a two-factor model in both the long-run and short-run. Both substitution and scale effects are graphically illustrated, and the assumptions underlying the demand curve are more rigorously presented. Any instructors wishing to skip over the appendix can do so without loss of concepts needed to understand the basics of the demand for labor.

List of Major Concepts

1. The assumption of profit maximization by firms underlies the theory of labor demand. The process of profit maximization requires considering small changes in inputs (or outputs), and comparing the marginal revenue generated by an additional input with its marginal expense.

2. The marginal product of labor is the added output generated by adding a unit of labor, holding capital constant.

3. If markets are competitive, firms perceive prices as given.

4. The difference between the short-run and long-run depends on the fixity of capital.

5. The concept of diminishing marginal productivity is discussed.

6. The relationship between the demand for labor curve and the downward sloping portion of a firm's marginal product of labor curve is analyzed.

7. The demand for labor can be stated in terms of either the real or the nominal wage.

8. The relationship between the demand curve of individual firms and the market demand curve is briefly discussed.

9. Two principal objections to the marginal productivity theory of labor demand are presented and discussed.

10. The conditions for profit maximization with respect to capital are relevant in the long-run, and adjustments of capital to changes in relative prices generate substitution effects on employment.

11. Generalizing to more than two inputs, the demand for one grade of labor is influenced by the wages of other grades of labor.

12. The concepts of substitutes in production, gross substitutes, complements in production, and gross complements are defined and related.

13. Product market monopoly affects the profit maximization conditions, and thus, the demand for labor.

14. Monopsony in the labor market affects wages, employment, and the labor conditions for profit maximization. The reason for this derives from the upper-sloping labor supply curve facing the individual firm, and the resultant increase in the marginal expense of labor above the wage rate.

15. In the context of monopsony, wage increases accompanying market shifts (to the left) in the labor supply curve produce the conventional expectations of decreased employment. Mandated wage increases, however, flatten the labor supply curve and reduce the marginal expense of labor, leading to ambiguous expectations regarding employment changes, at least in the short-run.

16. The imposition of payroll taxes on the employer will shift the demand for labor curve (when drawn as a function of employee wages) to the left, causing worker wages and/or employment levels to fall.

17. (Appendix) The graphical depiction of a production function is presented.

18. (Appendix) The demand for labor in the short-run is graphically derived.

19. (Appendix) The demand for labor in the long-run, showing both substitution and scale effects of a wage change, is graphically illustrated.