5 The Demand for Capital in the Share Economy

5.1 EXCESS DEMANDS FOR FACTORS IN LONG-RUN EQUILIBRIUM

In the previous chapters we have been dealing with share systems within the Marshallian short run, in which both the number of firms and their capital stocks are given; of course, this implies that capital stocks, and therefore total profits, are generally different across firms. In this chapter we must pause to examine the problem of capital and investment, even though in a sense this is just a détour with respect to the main line of our inquiry. The reason to do so is that there is a classic argument against the efficiency of a share system which revolves around a disincentive to investment which is supposedly built into the system. This argument, which may be traced back to the sharecropping model reviewed in Chapter 2, has been recently reiterated by Meade (1986a, 1986b), Shapiro (1986), and Wadhwani (1987).

Keeping as before within a competitive framework which yields a full employment solution provided prices are fully flexible, we shall first set ourselves the following question: if we allow for adjustments in the capital stock, what becomes of the demands for the two production factors in a share firm?

We shall assume a total revenue function homothetic in K and L, that is:

\[ R = R(X), \]

where \( X \) is a composite factor which can be represented by means of a linear homogeneous function in \( L \) and \( K \), such as:

\[ X = L^\alpha K^{1-\alpha}. \]

The properties of this \( R(X) \) function are illustrated in Figure 5.1. This \( R(X) \) function is consistent with a perfect competition hypothesis, in which case we have a technology exhibiting first increasing, then decreasing returns to scale. It is also consistent with a
monopolistic competition hypothesis, in which case physical returns to scale may be continuously increasing but are sooner or later outweighed by monetary returns.

Consider a revenue-sharing firm which rewards labour with a fixed wage $\omega$ and a share of revenues $\lambda R(X)/L$, while capital is remunerated at the rental price $\varrho$. The profit function is then

\[ \Pi = (1 - \lambda)R(X) - \omega L - \varrho K. \]

Note that the firm is sharing with workers its revenues gross of capital costs $\varrho K$, and so is sharing all its accounting profits, not just pure profits. To grasp the meaning of this institutional hypothesis, consider a completely self-financed firm, so that $\varrho K$ becomes entirely an opportunity cost that the entrepreneur charges on the value of his firm. Granting that $\varrho$ is the market rate of interest, if one wanted to subtract capital costs from revenues in order to share with workers only pure profits the problem would still remain of valuing $K$, the equilibrium value of the firm at a given moment. The ascertainment of this value of $K$ would be a matter for endless controversy between firm and workers, so much so that sharing gross revenues seems to be the only practicable accommodation.

As we will presently show, this accounting definition of gross, rather than net, revenues for sharing purposes is of no consequence for the ‘true’ long-run equilibrium solution, in which the firm is free to adjust both the levels of factor usage and the labour compensation