

required during the season. This quality of the coal, conjoined with the last mentioned, makes the problem of storing coal at the mines or ports during waits for shipping a very difficult one.

(v.) Though the ultimate market values vary according to the different kinds of coal and their different uses, many of the costs of production and distribution are the same per ton, irrespective of the kind. Much of the cost of transport, for example, is the same whether the coal be large or small bituminous, or large bituminous or small brown. (The Railway Department charges differential rates: the highest on Australian coals, the medium on New Zealand bituminous, and the lowest on native brown coal.) One hewing-rate is paid for all coal in the same mine, with slight variations already pointed out in section 4 (vi) above. Many of the costs of distribution are the same whatever be the kind of coal traded in.

(vi.) It may be useful to set out here some of the main factors determining the price of coal as a preliminary guide to the subsequent more detailed treatment of prices in Chapters II, III, and IV.

It is a truism to say that the price is determined by supply and demand; it is necessary to analyse the conditions governing both supply and demand, and to ascertain how changes in these may affect one another and the price. On the side of demand the leading idea is utility, on the side of supply it is cost; price is fixed by the balancing of considerations of utility against those of cost. The utility of coal to the purchaser depends on the degree to which it serves his particular needs, and the intensity of his needs are determined largely by individual taste, habit, and fashion. But mere desire or need alone is insufficient to constitute an effective economic demand for coal; it must be accompanied by the offer of something in exchange—a price. Purchasing-ability is therefore an essential condition of demand, and, obviously, the total amount demanded at a given price will also depend on the number of persons who enter the market as purchasers. The price which purchasers are willing to pay for a given amount of the commodity is the *demand price*. But the amount of the price actually paid cannot be fixed solely by the intensity, effectiveness, and amount of the demand. The conditions which govern the supply of coal are also effective factors in fixing the actual price; the amount demanded may be producible at a high cost or at a low cost, and it is obvious that the higher the cost the higher the price that will evoke that supply and make it available to purchasers, and, conversely, the lower the cost, the lower the price. The cost of production varies according to the degree to which supply is limited. Supply may be limited by nature, by the great cost or effort involved in production, by monopoly, or by legislation restricting the action of producers. These are the broad factors that determine what may be called the *supply price*—that is to say, the price which will just satisfactorily remunerate those who are producing the commodity.

The price actually got in the market, where bargaining is free between producers and dealers and consumers, will in the long-run tend to coincide with the supply price or cost of production. But over a short period which is not sufficient to allow the producers to readjust their factors of production to changes in demand the price may depart much from that point. If the demand rises, then until such time as the supply can be increased by the existing means of production or their extension higher prices will be paid, because increased demand implies a greater effective desire to purchase. The tendency to a rise in price will be strengthened if at the same time there is a change in the conditions of supply leading to a decrease in the amount produced. Such actually were the broad features of the situation in the coal trade in New Zealand during the period under review. Supplies fell off owing to certain causes, mainly lack of shipping and shortage of mine labour, whilst the demand increased through a more intense need for coal, coupled with greater purchasing-power to attain that end. The coal-mining businesses of the Dominion in general conform to the principle of diminishing costs, or, what is the same, increasing returns—that is to say, they are at such a stage of development that, “other things equal,” they can increase their outputs at a greater rate than their total costs, so that an increasing output means a decreasing cost of production per ton, or the expenditure of a given sum means an increased return thereto; conversely, a diminishing output such as has ruled of late means an increasing per ton cost. But “other things” did not remain undisturbed; besides the mere fall in the output, due to shortage of labour, in itself sufficient to account for a rise of cost, there was the increase in the cost of most of the materials necessary to work the mines, and in the cost of the available labour. On the side both of supply and demand the altered conditions were therefore such as to raise market price. In the particular circumstances, lack of ships and labour, there appeared to be little hope of influencing supply in the direction desired, and little, if anything, was done to restrict demand. Rationing apportioned the supply more evenly over those demanding coal, but could not influence the effectiveness of their demand. The rising price had some effect in turning part of the old demand for coal into a demand for some substitute such as wood, which in turn raised its price; but in many cases substitution took the form of using one kind of coal instead of another, or of using gas, which in itself involved the consumption of coal. The substitution of lignite and brown coals for bituminous as house fuel led to a considerable rise in their demand price, as the demand for the inferior coals is much less elastic than that for the superior—in other words, the demand for them does not fall off in proportion to the rise in their price. When coal rises in price, the inferior qualities can be substituted for the better, and it is comparatively easy for the consumers of the better-class coals to economize in consumption.

The different kinds of coal from the same mine are what is technically known as “joint products”—that is to say, they are produced by one and the same process and at the one cost. It is impossible to distinguish between the cost of producing large or house coal and the cost of producing slack from the same working-place. The total price received must be such as to return in the long-run at least the cost of production of both; but their relative prices, subject to that condition, are determined by the relative demands for them. If cost of production rises, the greater part of the increased cost will be allocated to that one of the joint products—best screened or house, in the case of coal—for which the demand is the more intense, and which, therefore, will attract a higher price.