3 Sharing Markets and Market Shares

Design and produce and compete!
Some win, others quit in defeat.
You’re bankrupt, you say;
Just bills left to pay.
Demise is a firm’s sole retreat.

The insularity of the English (‘the wogs start at Calais’) resulted in the huge contributions of Augustin Cournot (1801–1877) of France being neglected for at least forty years. (We might say the same of the huge contributions of Dupuit, Antonelli, Slutsky, and Walras, or von Thünen.) Today every college sophomore studying economics is exposed to two sellers competing for market share in the Cournot duopoly model. A first cut at a notion of a standoff between these two sellers is called Cournot equilibrium and this idea has come to pervade the whole realm of the analysis of competition among individuals in small groups. The idea is simplicity itself. If I must conjecture what you will do if I choose market share alpha, the most reasonable thing to assume is that you will do what is best for you assuming that I will do what is best for me assuming that you are doing what is best for you! This in general differs from us pooling our resources and reaping the rewards. This latter is monopoly. And there is no indeterminacy from infinite regress in the conjectures. A Cournot equilibrium is not hard to find . . . with pencil and paper, that is. It is very hard to figure out how two sellers might end up at one unless they were ‘placed there’ by some deus ex machina. In jigging and jogging to a Cournot equilibrium each competitor must continually have his current belief about what his rival is up to fail to be corroborated, up until they each get to the equilibrium! Much of economics is plagued by this problem – equilibria in search of equilibrating mechanisms.

Game theory (the science of strategy in competition) has been addressing this deficiency in recent years. The relevant branch of game theory breaks the competitive interaction of say two sellers into a tree or family of sequences of moves and develops arguments for selecting certain branches as equilibria. The dominant notions are foresight by each player and rational expectations (an absence of surprises), in a broad sense, of the
opponent's actions at each move. The extreme version of this reasoning is of two chess players sitting down to a game, remaining in thought for a while and 'black' getting up and saying, 'You win. Your first mover advantage makes it impossible for me to beat you.' Complete enumeration of all sequences of moves and perfect foresight by both players makes such a caricature above of chess logically valid. The catch is of course that the legitimate sequences of possible moves is in the billions and no human can sift through these, anticipate that his opponent has correctly sifted through them, and pick the winning sequence. Chess is a game in which the optimal sequence has been impossible to isolate, simply because there are so many sequences to consider. With noughts and crosses (Os and Xs), this problem does not arise. After playing a few times it becomes apparent that with two intelligent players (using foresight) no one can ever win. In this situation after the first two moves are made, each can enumerate all remaining sequences and select the branch that prevents the other from winning. We discuss game theory in more detail later in this chapter and from a different perspective in Chapter 8.

With our two sellers above, the Cournot equilibrium market shares will result in a market price above that which would be observed under competition. In fact one can increase the number of firms in Cournot's two firm scenario and observe the market price for output declining with each new firm added. Eventually the market price will decline to what it would be if the firms were acting as price-takers (the competitive mode) as more and more Cournot acting firms are introduced to the market for output. This provides a specific notion of what competition means for situations involving firms muscling for market share. Competition becomes the state in which the presence of one more firm in the market has no effect on the price of the product being sold by the competing firms. The farm as a firm is about as good an example as we can imagine of a small price-taker in a large market. The independent wheat farmer is the quintessential competitive firm operator. The essentials for pure competition are many sellers, a homogeneous product, and free entry by potential sellers. Retailing seems to be a competitive industry except that firms often arrange special deals with particular suppliers in order to lessen competition and improve profit margins. The selling of equities in financial markets is competitive except when special deals can be worked out by a seller for underwriting the sale of new blocks of shares. Automobile manufacturing? Entry used to be very difficult because of the scale needed to bring costs down. Now entrants like Hyundai of Korea absorb huge losses while they penetrate new markets and expand their scale. Once established in a new market, the 'entry costs' are amortized over future sales. This needless to say is a highly risky strategy