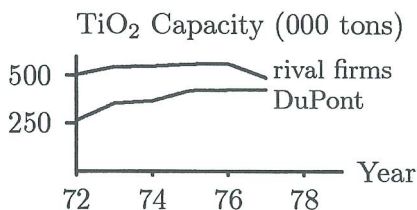


Titanium dioxide (TiO_2) is a white chemical pigment employed in the manufacture of paint, paper, and other products to make them whiter or opaque. The primary raw material for the production of TiO_2 is either ilmenite ore or rutile ore. By 1970, there were seven firms in the industry: a large firm, DuPont, and six smaller ones. During the 1960s, DuPont used mainly ilmenite, whereas its rivals used mainly rutile. In 1970, a sharp increase in the price of rutile ore created a significant cost advantage for DuPont with respect to its rivals: At 1968 ore prices, DuPont had a cost advantage of 22%; at 1972 prices, this advantage averaged 44%. Moreover, stricter environmental regulation meant that several of DuPont's competitors would have to incur large costs to continue production. DuPont found itself with a competitive advantage in several dimensions. First, its production process used a cheaper input than most of its rivals. Second, its production process complied better with environmental standards. Third, because of the cost advantage, the firm was in better financial shape; thus it was better positioned to expand capacity.

A task force was formed at DuPont to study how to turn these advantages to the firm's greater benefit. The result was the strategy of expanding capacity at a pace sufficient to satisfy all of the growth in demand in the ensuing years. The idea was that *by expanding rapidly, DuPont would discourage expansion (or entry) by rival firms*. It was the task force's conviction that deterrence of competitive expansion was necessary if DuPont was to establish a dominant position: According to the plan, DuPont's market share would increase from 30% in 1972 to 56% in 1980, and perhaps 65% in 1985.



DuPont never reached the 65% target, but a market share between 55% and 60% has been maintained since the late 1970s. By 1978, market share was already close to 50%, as the preceding figure shows. By 1985, five of the firms competing with DuPont in the domestic market had exited: three by acquisition, one by complete cessation of operations, and one by shutting down its U.S. plants. These facts seem roughly consistent with DuPont's prediction when formulating the growth strategy that would materialize its "first-mover" advantage.