seven firms; with regard to sales, only 17 were sold by only one firm, 12 by two or three firms, and 22 by four to thirteen firms.[36] Production of patented drugs is usually completely monopolized by the patent holder (unless there has been an interference settlement, with mutual licensing among contestants), but the sale of such drugs may not be monopolized. The patent holder may not have a sufficiently developed marketing network, enough detailmen, etc., to fully exploit the production monopoly, and may hence license other firms with wider marketing facilities to sell the finished product, such licensees tableting and bottling the bulk powder which the patent holder sells to them. For example, Carter licenses meprobamate ("Miltown") to Wyeth in order to increase its total sales.[37] While it is illegal for patent holders to dictate the pricing policies of licensees, price competition between such parties is almost unknown. But it is quite consistent with continual pure monopoly control of drug production that several of the licensees of the patent holder may alter their relative positions in the market from year to year. The turnover data presented by Markham do not indicate the extent to which this may be the case. The presumption made at the hearings that most of the turnover is induced by firms developing new products remains only a presumption; Mr. Mannis of Arthur D. Little, a participant in Markham's study, wasn't quite sure.[38] Markham placed great emphasis on the amount of turnover, but to assess the degree of workability of competition evidenced by such turnover, it is necessary to determine whether it was brought about by price competition, by genuine product competition, or by mere product differentiation with its accompanying wastes in the drug industry. The evidence (admittedly uneven in quality) of some ten thousand pages of Senate hearings indicates that a very small weight be placed on the first factor, a quite moderate weight on the second factor (less important since 1955), and the preponderance of weight on the last. But Markham seems to believe that turnover in itself is a good thing, and did not attempt to analyze its causes.[39]

According to Markham, the purpose of his study is "a thorough and objective appraisal of all economic aspects" of the drug industry.[40] But the study was sponsored by PMA, and PMA had its schedule. Markham continued, "We have begun by organizing our research schedule so as to center attention on the specific issues raised by the Subcommittee's report no. 448, entitled 'Administered Prices—Drugs,' published on June 27." (Markham's study began in July.) At the session of hearings when PMA presented its case in December, 1961, the study was apparently not yet complete. One of the issues slighted was price competition, although this issue had certainly been raised in the *Report*. During the examination on his testimony, Markham conceded that he had not examined the question as to whether or not any drug firm had experienced a change in relative sales rank because of price competition,[41] and Mannis also confessed to ignoring the role of price competition in effecting changes in concentration.[42] Markham agreed that price competition is of paramount interest to the consumer, but concluded his contribution to the Hearings with this statement: "I have not made any careful study of the workability of competition in the ethical drugs industry. I was examining primarily these particular issues that seemed to be important."[43] While a careful study of the workability of competition would admittedly take longer than the five months Markham had been able to devote to it prior to his

[36] Study of administered prices, *op. cit.*, p. 67.
[37] Ibid., pp. 17–18.
[38] Mr. Mannis testified, "Although I don't know, I would guess that back in 1951 or perhaps in the 1953 era, the leading product was quite different from the product that is leading the field now." *Hearings, op. cit.*, pt. 4, p. 2102.
[39] Ibid., pt. 4, p. 2106.
[40] *Ibid.*, Part 4, p. 2088.
[41] *Ibid.*, Part 4, p. 2096. Other attempts to support the existence of price competition were also less than convincing. Professor E. V. Rostow of Yale University, testifying in behalf of PMA, was asked to give instances where patented drug prices had weakened. His "best example," upon closer inspection, pertained to an instance where prices had temporarily declined, not because of competition among different patent-licensed manufacturers, but as a result of manufacturers disciplining their own wholesalers (who had sold at low prices to hospital formularies and in other competitive bid markets) by undercutting their prices, then cutting off their supplies, and later restoring the original prices. *Ibid.*, Part 4, pp. 2081–2082.
[42] Mr. Mannis attributed such changes as had occurred to "competition between and among products based on their merit. *Ibid.*, Part 4, p. 2102. This would be more acceptable if genuine product competition—even at identical prices—were prevalent in drugs; but when product differentiation becomes the road to sales, "merit" becomes what is measured by a popularity contest.
[43] Ibid., pt. 4, p. 2111.