ented substitutes.100 No small firms entered production, however, because of the higher costs involved than in the case of prednisone. Here, lower prices could be quoted by major firms in spite of appreciably higher costs because of the very

large profit margins made on substitute patented drugs.

In the oral antidiabetic drugs market, no comparisons between the prices of patented and unpatented drugs can be made in view of the absence of the latter. Costs may, however, be compared with prices in the case of "Orinase" (Upjohn's name for tolbutamide). The Senate Subcommittee staff estimated the cost of producing one thousand 500 milligram tablets to be \$6.86, which is only 8.0 per cent of the wholesale price of \$83.40. Upjohn, however pays a royalty of 7.5 per cent of the sales price to the German patent holder, which increases the cost to 15.5 per cent of the wholesale price. 101

None of the tranquilizers is unpatented, but price competition has been allowed to develop in the case of a single drug, reserpine. CIBA obtained the patent, but elected to take the unique course of licensing the patent widely, and also allowing the licensees to sell the drug in bulk powder form. 102 The licensees sold the bulk powder to small firms which fabricated their own capsules and proceeded to cut prices by as much as 90 per cent below CIBA's price. CIBA charged a wholesale price of \$39.90 per bottle of one thousand 25 milligram tablets; other firms quoted prices as low a Panray's \$2.65. The cost of production of such a bottle is a matter of record: sixty-three cents. This is only 1.6 per cent of the wholesale price.

Price competition in the antibiotics market is brisk for unpatented drugs, such as the earlier penicillins, and for streptomycin, the patent for which was licensed by Merck to several other firms. Price competition is, however, extremely slug-

gish for the later patented antibiotics.

Penicillin declined in price by about 85 per cent between 1945 and 1948, and by almost 90 per cent between 1949 and 1952. 105 Between 1952 and 1960 the price fell by another 80 per cent, although there was a marked increase from 1955 to 1957. Increasingly efficient production methods, coupled with the persisting competitive pressures resulting from free entry, made possible such a decrease in the price of this extremely important drug. Streptomycin prices declined by 95 per cent, 60 per cent, and 88 per cent for the same intervals, or by about the

same amount as penicillin, and for the same reasons.

Broad spectrum prices show very different patterns. Lederle set an initial price of \$15.00 for sixteen 250-milligram capsules of chlortetracycline. This may have been above the profit maximizing price; within two months it was cut to \$10.00, the same price at which Parke, Davis entered the market in March. 1949. On February 1, 1950, both sellers cut prices by 20 per cent, to \$8.00. In April, 1950, Pfizer entered the market with oxytetracycline, selling at \$8.40, 5 per cent above its rivals. In May, 1950, these rivals cut their prices by 25 per cent, to \$6.00, but Pfizer did not meet the cut until November. On September 27, 1951, Pfizer cut its price by 15 percent to \$5.10, and by November 1 its rivals had met the price cut. Tetracycline and demethylchlortetracycline came later, and sold also for \$5.10. No further price cuts were made for almost nine years, when Pfizer in August, 1960, again acted as the price leader by initiating a 15 percent "trade discount" adjustment which eventually became a 15 per cent price cut to \$4.34.108 (This price cut came one month before the Senate Hearings on antibiotics were scheduled.) 107 From 1948 to 1949, broad spectrum prices fell by one-third; from 1949 to 1951, by 49 per cent, and from 1951 to August, 1960, by zero per cent. It

¹⁰⁰ Hearings on Administered Prices, pt. 14, at 8020.
101 Subcomm. Report 20.
102 Reserpine is the name given to the active substance isolated from the root of Rauwolfa Sepentina, a species of tropical plant the medicinal properties of which had been known in India for centuries. CIBA was therefore perhaps uncertain as to the validity of

known in India for centuries. CIBA was therefore perhaps uncertain as to the validity of its patent.

100 Hearings on Administered Prices, pt. 16, at 9369.

104 Hearings on Drug Industry Antitrust Act 16. (Cost data from McKesson and Robbins.)

105 FTC, Economic Report on Antibiotics Manufacture 164, 179-80 (1958).

106 Hearings on Administered Prices, pt. 24, at 13664.

107 Mr. Duncan of Lederle may have failed to sense the humor of the situation at one point during the Hearings. He testified that Pfizer had cut its prices on a Saturday in order to "steal a march" on the industry. The following colloquy ensued:

"Senator KEFAUVER: You mean after ten years of operation, they would suddenly steal a march on you?"

"Mr. Duncan: Yes, Senator. These things happen very rapidly. If you can get any kind of an advantage on your competitors, you try to do so." (Hearings on Administered Prices, pt. 24, at 13728.)