If legislative or regulatory action should force drug profits to the average level, one of two things will happen. Either new capital will avoid an area with the continuing risks of this industry but no chance of a corresponding profit, and managements will diversify out of ethical drugs and into products of less importance where profits can be earned without drawing public or congressional resentment; or human nature will be found to have changed and people to be employing their savings with the primary purpose of helping their fellow men. I would expect the first.

What have the drug industry's reinvested profits accomplished? First let me cite two statistical series. The public demand for drugs has been met with a rapidly rising physical volume of production. Consumer purchases of ethical plus proprietary drugs and sundries—an increasing proportion, now over 60 percent, being ethical drugs—expanded by 5.5 percent annually from the first postwar year, 1946, to 1966, as compared with only 3.7 percent for all other consumer expenditures.

The second series, research and development expenditures by the industry, advanced from \$50 million in 1951 to \$416 million in 1966—faster than either profits or net worth. Total R. & D. for 1957-1966 seems to have been greater than dividends paid.6 In 1965, according to the National Science Foundation, 95 percent of this R. & D. was financed privately, as against only 45 percent for all of industry.

Many hundreds of new drugs, as documented by earlier PMA witnesses, resulted from this profit-motivated research. What they have done for health need not be detailed to this informed body. As an economist, I shall merely mention that the monetary value of working time saved through improvement of physical

and mental health and lengthening of life is probably in the billions.

We imperil further gains if we strike at so-called "excess" profits which, in fact, have furnished the driving force. For a mere 6 cents in dividends per dollar of sales of all types of products made by companies classified in this industry, or less than a cent and a half in dividends for each dollar of total medical care costs, the industry has done its essential job. This is not primarily one of basic pharmaceutical and biological research—though it happens to lead all industries in percentage of R. & D. going to basic research 10—but one of discovery and bringing into use of new medicines. Eliminate 2 of the 6 pennies in dividends-make them average for all manufacturing-and investor enthusiasm will decline to average also. Does anyone really expect enough psychological satisfaction from ensuring that this one industry earns only average returns to warrant endangering future investment in the search for cures of our dread diseases?

It is implicit in my argument that drug prices are not "too high." I shall review briefly what seem to be the three most common reasons given by those who contend that they are: the size of profits, the contrast between some branded and unbranded drug prices, and inability of low-income groups with chronic illnesses

to pay.

1. To call higher than average profits a proof of excessive prices overlooks the economic functions of profits as I have already detailed. It forgets also that in a free market earnings tend to vary with risks. When privately financed R. & D.

^{*}Derived from U.S. Department of Commerce, The National Income and Product Accounts of the United States, 1929-1965: A Supplement to the Survey of Current Business, pp. 48-49. The figures are dollar estimates translated into terms of quantity by adjusting for price changes, The percentage increases are, of course, compounded annually. The 5.5 percent would undoubtedly be higher if the expanding distribution of drugs through hospitals and government purchases were included.

*R. & D. from annual PMA surveys. The increase was 732 percent, compared with 627 percent for net earnings and 564 percent for net worth in the First National City Bank sample.

*The PMA R. & D. totals for these ten years amounted to \$2,530 million. Drug industry dividends of \$2,660 million were reported in FTC-SEC, ip. cit. A substantial part of these dividends, however, may be assumed to have been earned in proprietary drugs, chemicals and other products—sales of which in 1966, according to the company reports to PMA, were about a third of the total sales of these products plus drugs for the FTC-SEC sample.

*PMA Report, Pharmaceutical Industry Research and Development Activity, 1966-1967, p. 4 and National Science Foundation, Basic Research, Applied Research, and Development in Industry, 1965, p. 20.

*Sales in 1966 were \$7,281 million; dividends, \$426 million. FTC-SEC, op. cit.

*Private medical care expenditures (exclusive, therefore, of those paid by government) were estimated at \$31,250 million in 1966. U.S. Department of Commerce, Survey of Current Business, July 1967, p. 23.

*National Science Foundation, op. cit., p. 78.