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Evaluation of profits in the ethical drug industry

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BOSTON UNIVERSITY

College of Business Administration

THESIS

Evaluation of Profits
In The Ethical Drug Industry


By

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(B.S. in B.A., Boston University - 1961)

Submitted in partial fulfillment of
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This thesis was prepared under my supervision,
and approval is hereby indicated.



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PREFACE

The purpose of this thesis is to evaluate profits in the ethical drug industry. A lot has been said and written about profits in the past and more will be said in the future. It is natural for the Soviet Union to denounce our profit system, but the word "profit" is not the most popular one in the most capitalistic country in the world: the United States of America.

Since profits have become so controversial, it will be one of the author's intention to analyze what profits have done to the ethical drug industry. Are the profits in the ethical drug industry too high? If so, why are they high? Is there a monopoly in the industry which keeps prices high? These are some of the questions that will be examined.

The author has an interest in the ethical drug industry since he is working for a leading pharmaceutical company. He has had experience in detailing and while carrying out this function, he has talked to hundreds of doctors about drugs, profits, and the well-being of people. This experience will surely be of great help in writing the thesis.

The assistance of Professor Carson is acknowledged here. Without his deep interest in students, the thesis would not have been completed.

CHAPTER I

HISTORY OF THE DRUG INDUSTRY

AN UNKNOWN INDUSTRY--INTRODUCTION

Until the widely publicized hearings in 1959 and 1960 before the Subcommittee on Antitrust and Monopoly headed by Estes Kefauver, the outside world accepted the drug industry for what it appeared to be, an "adjunct" of the medical profession. It came as a shock to most people to read that the drug industry was in business, like most companies in a free enterprise system, for one reason: to make a profit.

FUNCTION OF THE INDUSTRY

This industry, unlike other industries, owes its existence to the misery of mankind; for without sickness there would be no ethical drug industry to speak of.

What is the function of the pharmaceutical industry? This industry is devoted to the development, manufacture, promotion, and sale of medicines for prescription of physicians or for sale direct to the public.

Today there are about 1,300 companies in the industry of which 28 companies exceed sales of \$8,000,000 a year.¹ These 28 companies account for almost 90% of all drug sales in the United States.

INVESTIGATION OF THE DRUG INDUSTRY

One of the reasons for investigating the drug industry was to determine whether there existed a monopoly in the industry and whether the prices for drugs were "administered prices." As early as 1957 "evidence of possible price fixing irregularities in the drug industry came before Congress in 1957 in a report by the House Government Operations Intergovernmental Relations Subcommittee on activities of the Department of Health Education and Welfare relating to polio vaccine."² This, however, is not the first time that the drug industry was under fire. As early as 1934, it was charged that the drug industry "has advocated restraint of price cutting more consistently than any other group."³

The widely publicized hearings have resulted in a greater interest on part of the public about the drug industry. The ethical drug industry, too, is awakening and seems to take the warning of Prof. Blackmann seriously that there is a "paucity of readily available information on any continuous basis."⁴ More data is being made available to interested parties, and a public advertising campaign has been launched recently.

In order to gain a better understanding of the industry, the author will review briefly the history of the ethical drug industry.

BEGINNING OF THE U. S. DRUG INDUSTRY

For thousands of years, man has used herbs and

plant products to help himself when he was ill. The most ancient medical formulary in the world is supposed to be the Papyrus Ebers, which is believed to have been compiled somewhere around 1500 B.C.⁵ "Three hundred and ninety-five years ago, a Pharmacopoeia Augustava listing 1,100 medicinal agents was published."⁶ The number has increased to 30,000 by now.

DEVELOPMENT OF THE U. S. DRUG INDUSTRY

The development of the U. S. drug industry has been quite phenomenal. It changed from the peddler-type who made and sold his "pill for everything" to a \$2,500,000,000 industry which employs thousands of people. The ethical drug industry has helped to increase the life expectancy of the average American to the highest level in the world. It has developed effective drugs (more than 20 drugs in use for heart diseases; 15 major steroids now in use for inflammatory diseases and many others) that cure diseases which killed many people each year. On the other hand, however, there are those who claim that some drug companies have gone so far that "even new disease states have been invented to encourage the use of some drugs."⁷

The William S. Merrell Company is considered to be the oldest pharmaceutical company in the United States.⁸ The firm was established in 1828. In the following 60 years, some of today's giants were born: Parke-Davis in 1866,

Upjohn in 1886 and Abbott in 1888. These houses were established because doctors were dissatisfied with the uniformity and effectiveness of available medicines.

THE DOCTOR OWNED-COMPANY

The first doctor to set up his own company was Dr. Upjohn in Kalamazoo, Michigan. He was followed by Dr. Abbott in Chicago. Doctors would carry in their bags the drugs made by the doctors (Abbott and Upjohn). When business increased, the kitchen laboratories became too small and factories were needed. As the distribution moved to the drug-stores, doctors would specify in their prescription, for example, Dr. Upjohn's drugs. As doctor-founded companies came out with new products, they would "spread the word among doctors."⁹ Since most practitioners did not have the facilities and time to do research and make their own drugs, and since the makers of pharmaceuticals came to them with detailed data and samples of the product, the system appealed to doctors. The system has more or less gained the force of law among physicians over the years.

Three other factors are worth mentioning concerning this period. (1) During the Civil War, drugs moved from a local to a national level because troops were scattered all over the country. (2) In 1906, the Food and Drug Act was passed which prohibited certain medicine from being sold without prescription. (3) "At the turn of the century,

the synthetic organic chemical industry began to grow in importance."¹⁰

WORLD WAR I AND WORLD WAR II -- ITS EFFECT ON THE INDUSTRY

Much of the modern knowledge of drugs has been gained since the beginning of the 20th Century. The greatest growth, however, of the United States drug industry has taken place in an atmosphere of national emergency.

WORLD WAR I

Up until World War I, world production of medicinal chemicals was centered in Germany. Since World War I, "our weakness in things pertaining to materia medica was blatantly held up to public notice."¹¹ The United States lacked not only the special know how, but also the scientists of the various disciplines. This lack had never been noticed before since almost all synthetic compounds were imported from Germany. When the United States declared war on Germany in 1917, all imports ceased.

"The industry (U.S.) started in desperation from a standstill, marshaled homegrown talent, and by heroic effort cracked some of the synthesizing techniques the Germans had kept so secret."¹²

Although the industry had grown to independence at the end of the war, it had not yet come of age. German drug companies again set up affiliates in the United States after the war, but did not regain the virtual monopoly they had

before.

WORLD WAR II

Before the outbreak of World War II, sales of the drug industry ran between \$200 and \$300 million.¹³ However, during this war, the drug industry made the greatest progress yet. Among the important developments were penicillin and new drugs for tropical diseases. Most of the work had been done on behalf of the government for the armed forces. Over "200,000,000 shots of serum"¹⁴ were administered to American fighting men.

Until the mid 1940's, the drug industry consisted of four leaders: Abbott, Lilly, Upjohn, and Parke-Davis. Since vastly expanded capacity was required, and since many companies realized that it was much more profitable to formulate and merchandise drugs themselves, Merck, Pfizer, and Lederle, which had produced fine chemicals, entered the prescription field.

At the end of the war, there were "ninety-two plants in the medicinal chemical industry as contrasted with only ten establishments before World War II."¹⁵ The number of employees increased from "1,802 before the war to 9,414 in 1947."¹⁶

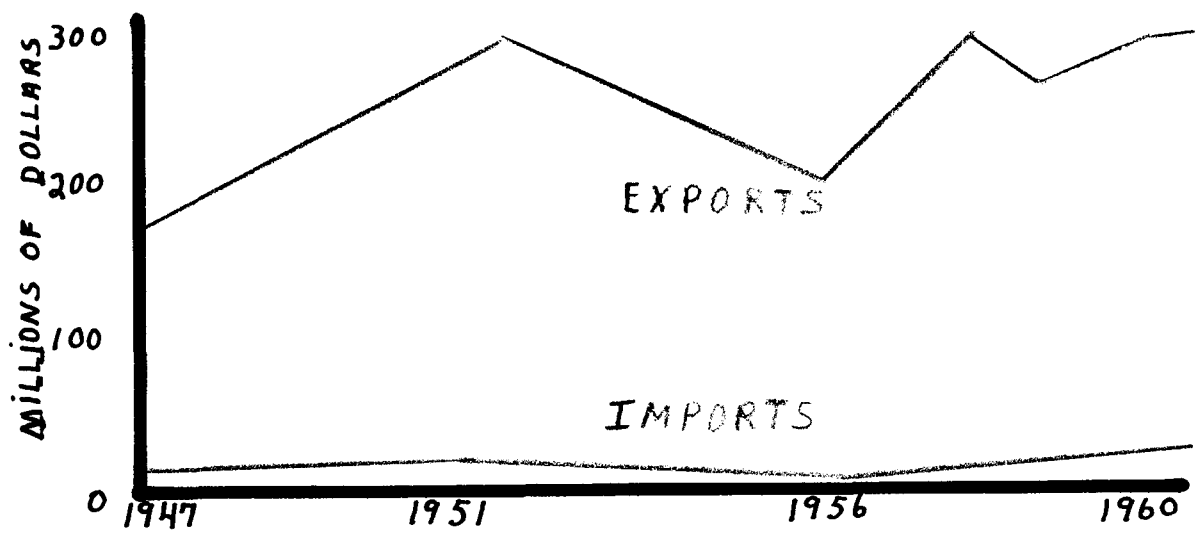
With the war over, the pharmaceutical companies had to intensify their search for new products since the armed forces sharply cut their drug purchases.

1945-1961 - "THE GOLDEN AGE"

After the war, pharmaceutical manufacturers increased their investments in extremely costly scientific research and development programs. Since then, new antibiotics have been developed with a potency undreamed of only a few years ago. The discovery and marketing of such "wonder drugs" as steroids, antihistamines, tranquilizers and oral diabetic drugs have turned ethical drug production into a major industry. Unlike before, the United States now became a source of new inventions and discoveries and the leading pharmaceutical exporter of the world. As we can see from the following chart, exports have risen sharply while imports remained virtually the same.

CHART I

EXPORTS VS. IMPORTS OF DRUGS



Source: "Drug Industry..Filling Prescriptions Under Fire," Business Week, (No. 1632; December 10,1960), p. 143.

RISE OF PROFITS

The years after the war have not only witnessed a tremendous increase in new products, and thus sales, but also in profits that were twice as high as in any other industry. As a result of the high rewards, new companies have entered the field which has resulted in increased competition and increased expenditures for research and promotion. Since the sales to profit ratio still remains at 12%, charges have been made in regard to "administered prices" and "unreasonable profits." As mentioned before, the industry received unfavorable publicity in the late 50's and early 60's. Earnings did go down somewhat as a result, but preliminary figures for 1962 show that the ethical drug industry has entered the "golden age" again.

In the following chapter, the author will examine those aspects of the ethical drug industry which make the industry so unique.

CHAPTER II

UNDERSTANDING THE DRUG INDUSTRY

TYPES OF PHARMACEUTICAL COMPANIES

The ethical drug industry can be classified as follows:

- (1) "Long Line Houses offer their own specialties and most package sizes of almost every competitive item.
- (2) "Short Line Houses offer just their specialties.
- (3) "Competitive Houses offer only competitive items which they might put out under a trade name."¹⁷ Competitives can be manufactured and sold by any drug company since there is no patent coverage.

A more meaningful way of classifying drug companies was given by John T. Connor of Merck & Company before the Kefauver Subcommittee on Antitrust and Monopoly:

- (1) "The creators, those companies that do the expensive work of developing new drugs."¹⁸ Companies in this group are the life blood of the industry because without the development of new drugs, there would be no growth for the ethical drug industry.

- (2) "Molecule Manipulator. The research budget of these companies is just enough to bring out competitors once the creative companies have shown the way.
- (3) The Coat-Tail Riders. Companies in this classification conduct no research at all."¹⁹ They wait until a market for a new product is established and then compound it cheaply. This is especially the case when the new product has not yet been patented.

Following is a table which shows clearly to what extent the coat-tail riders can underbid creators.

TABLE I

PREDNISONE 5 MILLIGRAM TABLETS IN BOTTLES OF 100
WHOLESALE PRICE TO THE DRUGGISTS IN THE U.S.A.

| COMPANY | SIZE (SALES PER YEAR) | PRICE PER 100 TABLETS |
|---------------------------|--------------------------|--------------------------|
| MERCK | OVER \$200,000,000 | \$17.90 |
| UPJOHN | 100 to 150,000,000 | 17.90 |
| SCHERING | 50 to 100,000,000 | 17.90 |
| U.S. VITAMIN & PHARM. CO. | 10 to 50,000,000 | 9.33 |
| PHYSICIANS DRUG & SUPPLY | 1 to 5,000,000 | 4.00 |
| BRYANT | 250 to 1,000,000 | 6.75 |
| LAMMETT | 100 to 250,000 | 12.00 |
| PENHURST | UNDER 100,000 | 6.95 |
| PREMO (bid to government) | ----- | 2.35 |

Source: David C. Coyle, How To Get Safe Drugs and Cut Their Costs, (Washington, D.C.: Public Affairs Institute), p. 4.

THE TWO C'S - THE ONLY ALTERNATIVE?

During the drug investigations, it was often pointed out by those speaking against the "creators," that these companies will "charge what the market will bear." We shall see later whether it is true. At any rate, it was said that the compounders and coat-tail riders are the only alternative to the high priced creators. While the author admits that the difference between high and the low bid is tremendous, we must keep the following important factors in mind.

(1) The two C's (Compounders and Coat-tail riders) are not interested in basic research. If every company had such an attitude, we would still be where we were one hundred years ago. The conclusion is simple; there would be no progress.

(2) The two C's do not stock a complete line of pharmaceuticals. These companies stock only the fastest moving items. However, in the interest of public health, it is necessary to stock items that are not in big demand, but which can be life savers when they are needed. This function again is handled only by the old line reputable companies.

(3) There is a real quality problem with the C's. Tests by the Food and Drug Administration showed that there is a difference in quality of drugs between creative

makers and the two C's. "Only 1/20 of 1% of the samples (8,376) examined from the leading companies were subject to legal actions. However, six per cent of the samples (8,621) taken from 1,200 companies doing 13% of the ethical business were found to be below standard."²⁰

PROPRIETARY VS. ETHICAL DRUGS

THE PROPRIETARY DRUG INDUSTRY

Americans spent \$5.3 billion on drugs and sundries in 1960.²¹ Approximately 30% of each year's total goes for proprietary preparations.

A proprietary product is a medicinal or curative packaged product sold under a brand name and extensively promoted for direct consumer purchase. Doctors have told the author that they are not friends of proprietary companies because these companies practice "medicine" via television and radio. The doctors, as a result, lose business.

The leading proprietary company is American Home Products with such leading products as Dristan and Anacin. Bristol-Myers, Richardson-Merrell and Carter Products are other top-ranked companies. In recent years the ethical as well as proprietary companies have cut into each others' field. Proprietary companies are getting into the ethical field because that's where the money is. Net income as a percentage of sales for 1961 for the ten leading proprietary companies (American Home Products, Bristol-Myers, Carter

Products, Mead Johnson, Miles Laboratory, Norwich Pharmaceuticals, Plough, Richardson-Merrell, Sterling, and Warner-Lambert) was "9.5% as compared to 13.4% for the ten leading ethical drug producers"²² which are Abbott, Lilly, Merck, Parke-Davis, Pfizer, Schering, Searle, Smith Kline and French, U. S. Vitamins and Upjohn. Observers of the drug industry blame the dependence on advertising for the lower earnings of the former group. Another reason why proprietary companies are getting into the ethical field is the fact that extensive government regulation of "over the counter" proprietary items limits sales growth.

ETHICAL DRUGS

Ethical drugs, in contrast to proprietary drugs, can only be obtained on a prescription basis. Advertising is not directed to the consumer, but rather to the person who has the power of decision over the prescription drugs: the doctor.

There is an increasing tendency on the part of the ethical companies to enter the proprietary field through acquisitions or through newly formed divisions. In fact, four of the top ten ethical companies are already in the proprietary field. With diversification the "theme" of most American companies, this trend seems bound to increase even more in the future.

STEPS INVOLVED IN THE DEVELOPMENT OF A DRUG

Developing a new ethical drug is extremely difficult. In 1958, for example, "the industry's laboratories worked with 114,600 different chemical substances."²³ Out of these substances came only "40 new drugs."²⁴ The "risk ratio" was 2,865 to 1. As can be seen from these figures, the odds to synthesize a new product are very high. With this risk ratio in mind, let us now examine the steps involved in the development of a new drug.

THE DEVELOPMENT OF A NEW DRUG

(1) The chemistry department within a company's research division analyzes compounds. If one of the hundreds of compounds analyzed should show any promise of being worthwhile to study further, a larger quantity of the compound will be made up, which in turn will be put in a dosage form.

(2) The biology department will now take over and study the effects of the new compound on the body. To determine whether the agent is suitable for trial on human beings, toxicity tests are first conducted on animals. In 1961 alone, nine million animals were used for such tests. Among others, "5.7 million mice, 2.2 million rats, and 739,000 chickens."²⁵

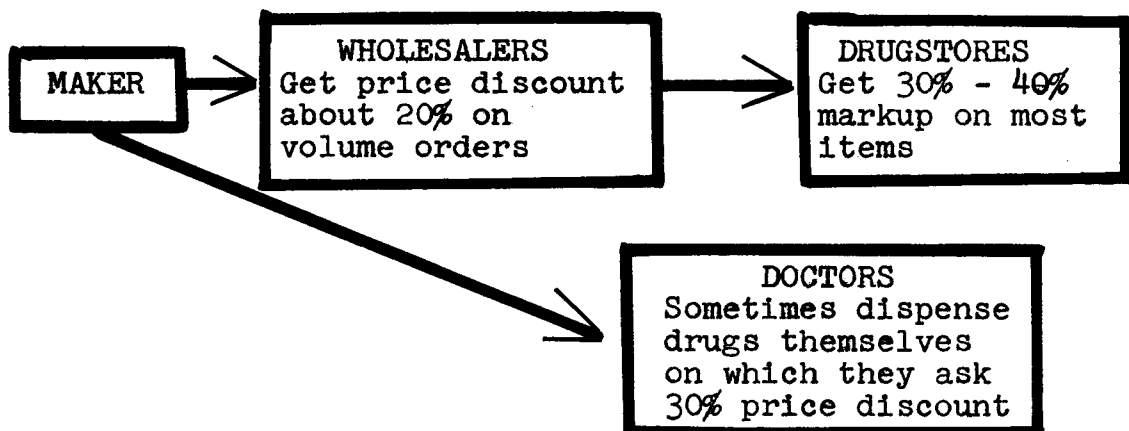
If research is to proceed, testing of drugs in humans must at some point be carried out. Should the tests in small number of humans be successful, the clinical department will administer and supervise a clinical trial on a large

scale. Often up to five years have elapsed since the compound was chosen as a potential drug. The next step is to submit all the data gathered so far to the FDA (Food and Drug Administration) for further evaluation and approval. Only when the agency has approved the new drug can the marketing process begin.

What channels of distribution are used to get this new drug to the ultimate user? This question will be answered in the following section.

CHANNELS OF DISTRIBUTION

The following diagram shows the way drugs are usually distributed.



Some companies such as Lilly sell only to wholesalers. In fact, they have an exclusive agreement with the National Wholesale Druggists' Association which has 335 members. Lilly agrees not to sell directly to retailers, and the wholesalers agree to buy competitive items only from Lilly.

Most other large companies sell to wholesalers as well as to retailers. As far as the dispensing doctors are concerned, they are usually located in low income areas. The dispensing physician charges between \$6 to \$8 per visit including drugs. The overall cost for the patient is reduced because the doctor usually buys drugs by generic name and the markup for the wholesaler and retailer is saved.

From personal experience the author would say that no more than five to ten per cent of the physicians are dispensing. If one could convince more doctors to dispense drugs, this would be a great step toward reducing the cost of medical care.

THE DETAILMAN

A detailman is a person employed in the drug industry to help promote ethical pharmaceuticals. Unlike his counterpart in other industries, the salesman, the detailman creates demand for the products by promoting the drug to the doctor who may then prescribe the pharmaceuticals. In other words the detailman will neither appeal to the wholesaler and druggist nor to the consumer to help him sell his drugs.

Salaries and expenses are estimated between \$10,000 and \$12,000 annually. Since there are an estimated 15,000 detailmen in the drug industry, the total bill is almost "\$200 million a year."²⁶

THE RIGHT HAND MAN

A survey among doctors sponsored by the American

Medical Association showed that "68% of the responding doctors indicated that the detailman is the best source for information on new product data."²⁷ Despite the fact that the average cost per doctor call is about \$6.55, companies that had only relied on journal advertising in the past are now using detailmen too because of their effectiveness. Although critics of the drug industry have called the detailmen "door to door peddlers," the author having been a detailman himself for six months disagrees with this statement. No drug can accomplish anything until doctors know about it. The professional service representative links the manufacturer and the doctor and is indispensable.

THE "CAPTIVE" CONSUMER

The ethical drug industry is probably the only industry which does not advertise directly to the consumer. It is established practice to advertise only to the prescribing physician. All other means are considered "unethical." Since the patient can not shop around for drugs but must buy what the doctor prescribes, one can call him a "captive consumer." A person who has to pay for something over which he has no choice often rebels. The author believes that this was one of the reasons why Senator Kefauver had such a tremendous public support during his investigation of the ethical drug industry.

THE ACTIVE CONSUMER

Many doctors have told me recently that the so-

called "captive consumer" has become "overactive" in the sense that he is actually telling the doctor what medicine he wants. Doctors attribute this mainly to Readers' Digest which often carries articles on drugs. To what extent this will change the "captive consumer" to one who has a choice over what he has to take can not yet be estimated. Since Readers' Digest has not yet explained the price advantages of generic name drugs, it is believed that the magazine really does not do a service to the "captive consumer."

SUPPLY AND DEMAND AS APPLIED TO THE DRUG INDUSTRY

Economists say that the price of a product usually depends on:

- (1) The cost of production
- (2) The product's usefulness
- (3) The magnitude of the demand²⁸

Cost of production plays only a small factor in determining the price. The product's usefulness is of greater importance. The price of a product is usually high when doctor and patient have waited for such a particular drug. Merrell's anti-cholesterol drug, the first such drug on the market, is such an example.

THE DEMAND FOR A DRUG

The magnitude of the demand, however, is the most important factor. As Francis Brown, president of Schering, told members of the Kefauver Committee "unlike consumer marketing, Schering can not expand its markets by lowering

prices."²⁹ As a result, companies figure in advance what the potential market is for the drug and then set a price. They must, as we will see later, recuperate their heavy research costs as fast as possible. Competition will sooner or later come out with a similar drug which will force the first company to lower its price.

In summary, the demand for a drug can not be created, it is already established even before the drug has been discovered. Demand, as the economist would say, is inelastic.

Having now gained some understanding of the ethical drug industry, let us proceed to the consumer health bill.

CHAPTER III

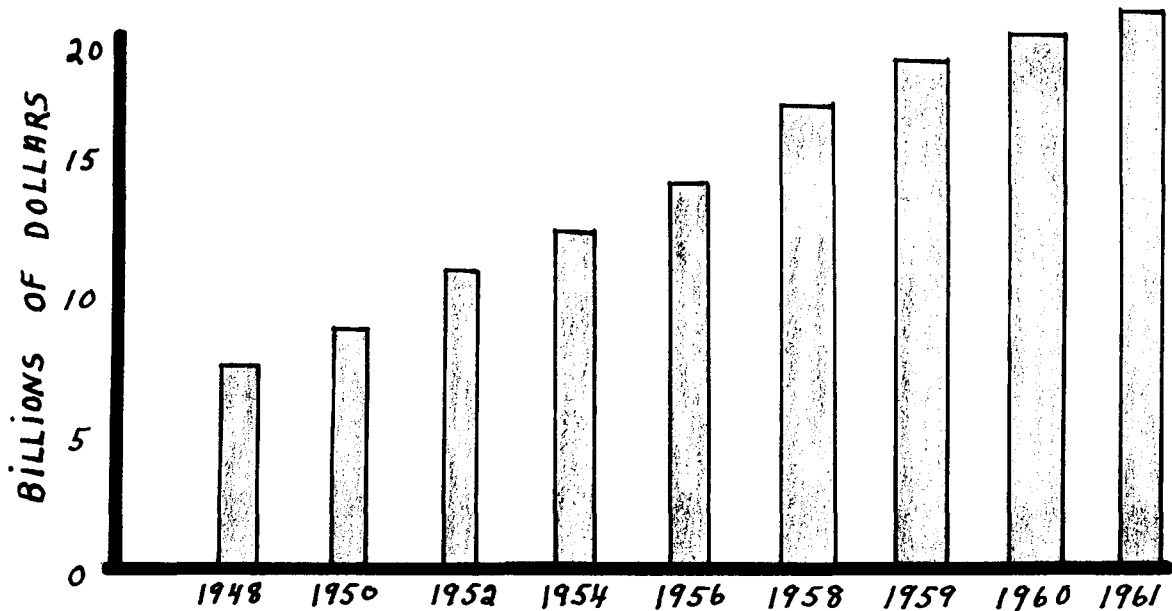
THE CONSUMER HEALTH BILL

MEDICAL CARE AND THE PEOPLE'S MONEY

Although the total expenditures for medical care amounted only to "4.9% in 1956 and 5.8% in 1961 of personal disposable income,"³⁰ this relatively small percentage is probably the most controversial item of all personal expenditures. Why? To understand the people's feelings, let us examine the nations' expenditures for medical care.

CHART II

PERSONAL CONSUMPTION EXPENDITURES FOR MEDICAL CARE



Source: "Health Insurance..Why Spending Is Soaring," Business Week, (No. 1660; June 24, 1961), p. 145.

Medical News Magazine, World of Medicine, (Vol. VII; No. 1, January, 1963), p. 83.

As we can see from Chart II, the cost of medical care has risen sharply over the past 13 years. In fact the increase amounted to over 85%. It is true that income after taxes and purchasing power has gone up too, but the real complaint is that medical care has gone up faster than any other item of the family budget.

Between 1960 and 1962 alone, the cost of medical care went up from "108.1 (1957 to 1959 = 100%) to 114.9 in October of 1962. The consumer price index rose only from 103.1 to 106.0 during the same time."³¹ In other words a 5.9% increase for medical care vs. a 2.7% increase for consumer prices.

Having looked at the chart which shows statistics over a thirteen year period and the latest figures available from the U. S. Department of Commerce, let us now examine the parties who make up the "medical care team."

THE HOSPITAL RATES

In defending those who make up the medical care team, it should be said that numbers tell nothing about the quality of the medical care Americans are getting.

Hospital care has been vastly improved and the latest machines contribute greatly to the well-being of the average patient. However, the author doubts seriously whether there is a justification in tripling hospital rates over the last thirteen years. Having come from a country which orig-

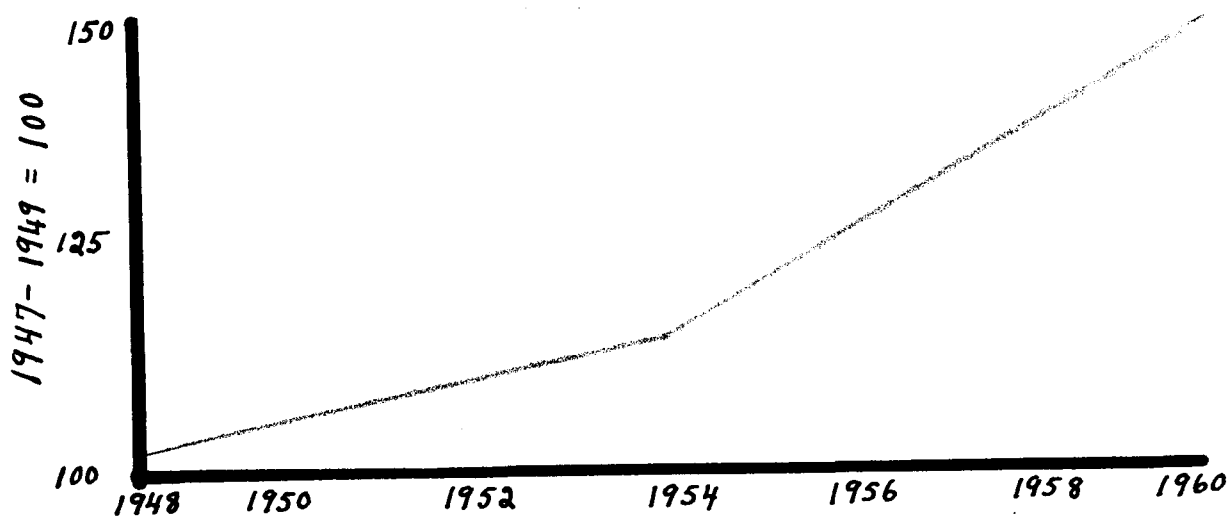
inated social security, the author must admit that there is a great waste in the American system. Every small hamlet wants a hospital of its own. This in itself is perfectly acceptable, but what the author criticizes is the large amount of duplication of extremely expensive machines. If X hospital would take care of all patients with Y disease in the area, the other hospitals would not have to buy the same machines too. Great savings and probably lower hospital rates would be incurred.

DOCTORS' FEES

As we can see from the following chart, the doctors' fees have increased 67% in the last thirteen years.

CHART III

DOCTORS' FEES



Source: "Health Insurance..Why Spending Is Soaring," Business Week, (No. 1660; June 24, 1961), p. 146.

Dr. Adenauer, Chancellor of West Germany, in a recent hour long talk over NBC TV called American physicians a closed corporation. To an extent, this is true because the supply of new medical students is controlled by the American Medical Association. The law of supply and demand has a real meaning here, because the reason why fees are so high and are rising is due to the scarcity of doctors. Since doctors probably have the most costly and most effective lobby in Washington, some time will pass before this profession will be investigated.

The smallest price increase occurred in the third member of the medical care team: drugs. The increase amounted to 40% in thirteen years. This is actually 25% less than the increase in the consumer price index. A more thorough analysis of drug prices will follow in the following chapter on profits.

From this brief analysis of the consumer health bill, we have seen that the drug industry was not entirely to blame for the large increase in the cost of medical care. Had this been made clearer during the Kefauver hearings on the drug industry, the author is sure that the public and press would not have had quite the ill feelings about the industry.

In the following chapter the author will come to the heart of the thesis: the profits of the ethical drug industry.

"Nothing contributes as much to
the prosperity and happiness of
a country as high profits."

David Ricardo

1820

CHAPTER IV

PROFITS AND THE ETHICAL DRUG INDUSTRY

Profits are excess revenues over applicable expenses. This definition sounds simple, but is it really that easy to determine what a company earns? According to Claude Robinson: "No one can know for sure what a business earns over its lifetime until it is liquidated."³² In order then to determine profits, the accountant must assume first the going concern principle; the assumption is that business will continue from year to year. A reasonably accurate report can be rendered if prices have remained fairly stable over an extended period.

PROFITS AND PROFITEERS

Assuming that we have been able to determine profits for a company, what does the public think about profits? Franklin D. Roosevelt called those who owned or controlled big companies "economic royalists" and "princes of profits."³³ President J. F. Kennedy called those who wanted to increase steel prices "irresponsible." In a recent survey, 40% of those people interviewed ranging from professionals to union members felt that American corporations were making too much money! Are U. S. enterprises still profiteering enterprises? "Over the past ten years National Income has almost doubled, but corporate profits after taxes actually amounted to \$22.7

billion in 1960 as against \$22.8 billion in 1950."³⁴ The rate of economic growth also declined and unemployment increased during this time. It is the author's belief that the life blood of the free enterprise system is adequate profits. Without an adequate level, the economy will have troubles growing, because there may not be the incentive to invest in new projects or there may even be a lack of funds.

PROFITS, PROFITS, PROFITS

A company in a free enterprise system is "very largely concerned to maximize the money margin between cost inputs and their revenue output."³⁵ One of the best tests of economic effectiveness is the profit level a company achieves. Because profits are such an effective test, some companies, at times, do not employ the most ethical means to reach their goal.

"Administered prices" is a relatively new term in our American word treasure. They are "those (prices) set without regard to supply and demand by a few large companies holding a large share of the market."³⁶ Every corporation that was studied by Business Week showed a certain amount of "administered prices in the sense that most companies determine prices in advance of production, basing it on cost calculations and market prospects."³⁷

Since there is a heavy concentration in many of our industries, such power can be misused to make what Senator Kefauver called "unreasonable profits." Since none of us

think alike, everybody has a different idea of what reasonable or unreasonable profits are. However, standards of comparisons can be employed which will help in the evaluation of profits.

STANDARDS OF COMPARISON

As we have seen in the preceding pages, it is very difficult to measure profits. It is also difficult to determine what standards of comparisons are proper for a particular company or industry. For example, it was charged that "drugs marketed by Schering were marked up as much as 7000%."³⁸ A close analysis revealed that selling costs were not included! Net income after taxes as a per cent of sales is in the author's opinion the standard that can be applied with fairness to any company or industry, because companies are in business to sell goods or services at a certain price above cost. At the end of the year (or whenever there is a need for it) the accountant will make up an income statement. To see how effective and efficient the company had operated, the first and last item on the income statement will be compared. This is what will be done now.

NET INCOME AFTER TAXES AS A PERCENTAGE OF SALES

The following table shows net income as a percentage of sales for a number of industries which were selected by the author because of their concentration. In each industry the top three companies are shown.

TABLE II
 NET INCOME AFTER TAXES
 AS A PERCENTAGE OF SALES - 1960

| INDUSTRY | NAME OF COMPANY | % PROFIT ON SALES | INDUSTRY AVERAGE |
|-------------------|------------------------|-------------------|------------------|
| Cement | Ideal | 13.7 | 12.4 |
| | Lone Star | 13.9 | |
| | Lehigh Portland | 9.6 | |
| Chemicals | Du Pont | 11.6 | 11.8 |
| | Union Carbide | 10.2 | |
| | Eastman Kodak | 13.5 | |
| Business Machines | I. B. M. | 11.7 | 6.5 |
| | Sperry Rand | 3.2 | |
| | National Cash Register | 4.4 | |
| Autos and Trucks | General Motors | 7.5 | 5.6 |
| | Ford | 8.2 | |
| | Chrysler | 1.1 | |
| Drugs | Lilly | 10.5 | 11.0 |
| | Pfizer | 9.7 | |
| | Merck | 12.8 | |

Source: Claude Robinson, Understanding Profits, (Princeton, New Jersey: Van Nostrand Company, Inc., 1961), p. 474-482.

The industries shown above have as much and even

more concentration among the top three companies than the ethical drug industry. There is no doubt that companies with a certain control over the market sometimes use this influence to charge prices which they would not charge under conditions if a single company did not have an appreciable portion of the market.

To demonstrate what control over the market means, note Table I in Chapter II on page 11. Three of the leading companies in the industry have the same wholesale price for PREDNISONE, a drug for arthritis. These are the companies that have a large number of detailmen and are in daily contact with doctors. Since the average doctor does not even know that the companies with the lower bids exist, he can not write for their brand of PREDNISONE. As we will see in the next chapter, there are often cross licenses between leading firms for certain products. If there is an agreement to sell the other company's product under a different brand name, there usually is no price competition between these companies. The company which can best talk the doctor into using his brand will get the greater share of the market.

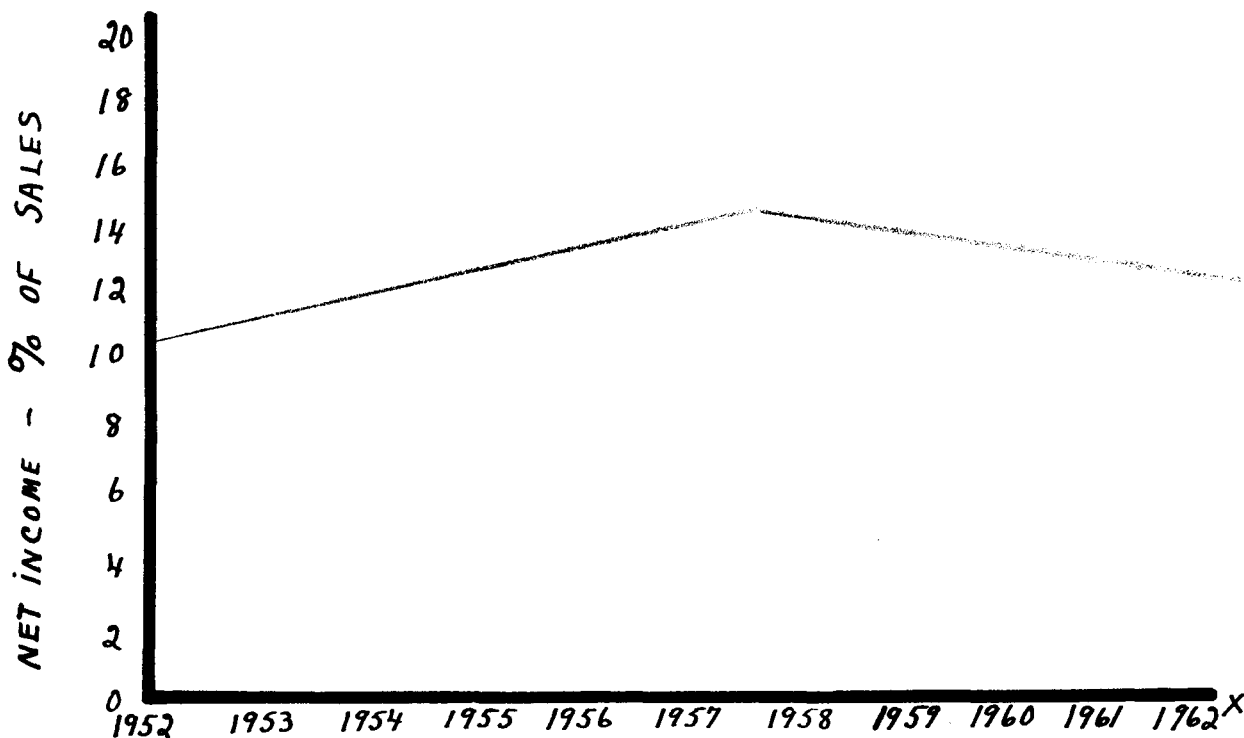
A PROFITABLE INDUSTRY

The following chart will give a greater insight into the ethical industry. The figures of eleven leading companies were combined to arrive at the industry average.

The chart reveals that up until the time of the drug investigation in 1959, net income as a percentage of sales for the industry had gone up ever since 1952. The highest level, 14.6%, was reached in 1958, up from 10.1% in 1952. The 14.6% figure is almost $2\frac{1}{2}$ times as high as the average for all industries. However, there has been a downward trend since the 1958 high to a preliminary figure of 12.1% for 1962.

CHART IV

NET INCOME AS A PERCENTAGE OF SALES
ETHICAL DRUG INDUSTRY 1952-1961



Source: Figures were computed by the author from the following sources: (1) Standard & Poors, Drugs, Cosmetics, (Vol. no. not given; Section 4, Industry Survey, December 20, 1962), p. D-6. (2) Standard & Poors, "Drugs, Basic Analysis," Drugs, Cosmetics, (Vol. no. not given; Section 2, December 13, 1962), p. D-20.

X: Computed from nine months figures since full year figures are not yet available.

Having evaluated profits according to the standard considered most meaningful, it is clear that the ethical drug industry is very profitable. In 1961, "return on sales for all pharmaceuticals was 10.5%."³⁹ This put the ethical drug industry in second place of all industries.

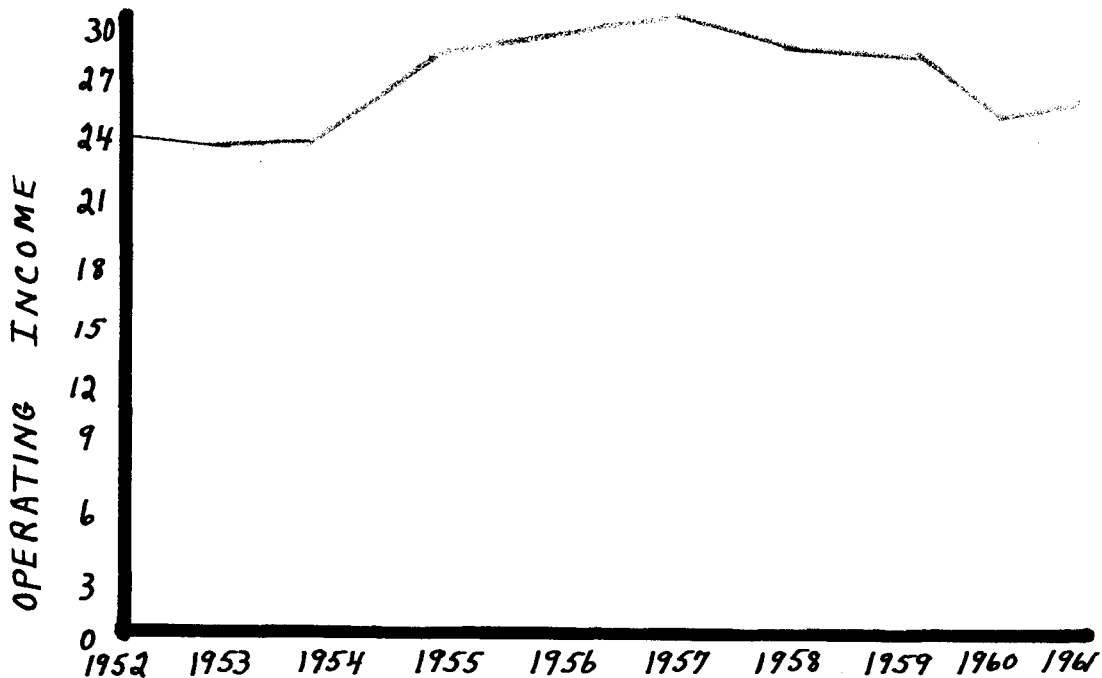
What is the industry's return on operating income? The following pages will answer this question.

OPERATING INCOME AS A PERCENTAGE OF SALES

Before the data is introduced, let us define its meaning. Operating income usually is the balance left from sales after deducting operating costs, selling, general and administrative expenses; local and state taxes; provision for bad debts and pensions. Depreciation charges and federal taxes are not yet deducted.

CHART V

OPERATING INCOME AS A PERCENTAGE OF SALES 1952-1961



Source: Standard & Poors, "Drugs, Basic Analysis,"
Drugs, Cosmetics, (December 13, 1962,
 Section 2), p. D-20.

(Data compiled by the author from figures supplied by
 Standard & Poors)

As Chart V reveals, an all-time industry high of 30% was reached in 1957. From 1957 until 1960 there was a decline of about 20% although this trend was reversed in 1961 when operating income as a percentage of sales was 26.2%. As in preceding charts, the wonder drug companies G. D. Searle and Smith, Kline & French inflated the industry average. Searle had a return of 49.5% and Smith, Kline & French a return of 34.9 % over a ten-year period.

The profit margin of the ethical drug industry is

probably the highest of all industries. Only Gillette can be ranked ahead of all ethical companies except for G. D. Searle when it comes to evaluating operating income as a percentage of sales.

In evaluating profits of an industry, the analyst should never be satisfied with one or two standards of comparisons. That is why the author will now look at the return on invested capital.

RETURN ON INVESTED CAPITAL

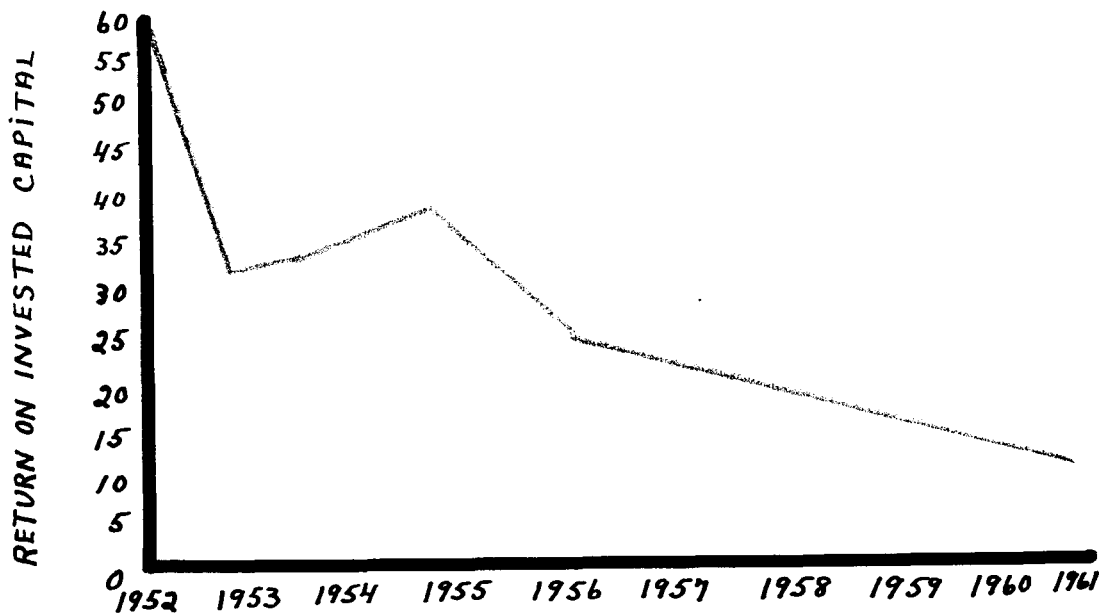
Return on invested capital can not be applied to all industries because some industries have large investments in fixed assets, whereas other industries need not have large sums invested. For example, a retail store with an investment of \$150,000 and a consulting firm with an investment of \$12,000 may both have net sales of \$600,000 per year with a profit of \$30,000, or 5% of net sales in each case. If the return is expressed in terms of invested capital, the former would have a rate of return of 20% and 250% for the consulting firm. This comparison would have no real meaning.

While the ethical drug industry employs capital, it is not used to the extent as in the steel or automotive industry. The ethical drug industry invests heavily in scientists. As we will see later, there are four times as many scientists in this industry as in any other industry. Therefore, while the following comparison will help to demonstrate

the profitability of the industry the preceding discussion should be kept in mind.

CHART VI

RETURN ON INVESTED CAPITAL
PERCENTAGE OF SALES 1952-1961



Source: Figures computed by the author from sales and capital data supplied by:

Standard & Poors, "Basic Analysis," Drugs, Cosmetics, (December 13, 1962), p. D-18.

ANALYSIS OF THE RATE OF RETURN

Here again we see that there was an almost embarrassing rate of return as related to capital. Again we see a decline, however, this time it starts as early as 1956.

Two reasons can be cited. (1) Heavy capital expenditures beginning in the mid 50's both here and abroad. (2) The adverse effects of the Kefauver hearings probably made companies think twice. By this I mean, instead of showing high returns some of the money was put into capital expenditures. Having worked in the finance section of one of the leading companies in the United States, (while this particular company was under fire for price fixing) the author witnessed the procedure explained above. When a company does not want to show excess profits for a period, the money can be put into a reserve account (bad debt, future contingencies, etc.) or the building program can be accelerated.

Rate of return on capital ranges from a 235% return for Smith, Kline & French in 1952 to 9.9% for Merck in 1959. Some companies such as G. D. Searle and Smith, Kline & French have shown a consistently high return averaging 56.1% over a ten-year period for the former and 50.3% for the latter. Old line houses such as Abbott and Parke-Davis "only" showed a 19.2% return and 20.4% return respectively. It is the author's opinion that the difference is due to the fact that Searle and Smith, Kline & French are relatively new companies and that their period of growth is just starting which will force them to have heavier capital layouts very soon.

How does the average compare with other industries?

According to Drug and Cosmetic Industry Magazine, the ethical drug industry led all other industries on return of invested capital in 1961.

COMPANIES WITH SUSTAINED MARGINS

In two major standards of comparisons, it has been shown that the drug business is profitable. In order to get the truest picture possible about the ethical drug industry, the following table may help the reader. The table shows how many drug companies are among the top fifty companies with the "best well-kept-up margins" despite a profit squeeze in recent years.

TABLE III

RATE OF RETURN ON SALES 1958-1961

| NAME OF COMPANY | POSITION AMONG 50 COMPANIES WITH A WELL-KEPT-UP PROFIT MARGIN | YEAR | | | |
|--------------------------|---|------|------|------|------|
| | | 1958 | 1959 | 1960 | 1961 |
| G. D. Searle | 5 | 21.4 | 21.2 | 20.3 | 22.2 |
| Upjohn | 11 | 13.8 | 14.8 | 14.3 | 13.8 |
| U. S. Vitamin Norwich | 12 | 12.5 | 13.4 | 14.1 | 13.6 |
| Pharmaceutical | 14 | 11.7 | 12.7 | 13.2 | 13.2 |
| Sterling Drug | 23 | 9.7 | 10.0 | 10.2 | 10.2 |
| Bristol Myers | 36 | 6.2 | 6.6 | 7.2 | 7.8 |
| Baxter Laboratories | 47 | 5.6 | 6.3 | 5.9 | 6.3 |

Source: Moody's Stock Survey, (Vol. LIV; No. 51, December 17, 1962), p. 263.

(Figures compiled by the author from 50 companies shown in Moody's)

To the credit or discredit of the drug industry, there are seven drug companies that are among the top fifty firms with the best sustained profit margin during the past four years. In fact, over 25% of the top fifteen companies with the greatest ability to resist a profit squeeze belong to the drug industry!

PROFITABLE -- WHY?

Searle is presently the only company with an oral contraceptive drug. Sales are presently over \$22 million on this drug alone, and quite profitable too since the company still enjoys a monopolistic position. Upjohn, on the other hand, also has a virtual monopoly in the oral diabetic market. A drug called ORINASE, which was introduced in 1957, is the only effective drug on the market so far. These two products are probably the reason why these two companies have had such outstanding profit margins over the past few years.

So far we have seen that the profits of the ethical drug industry are quite high. Since the public pays the price for the high drugs, how do 15,000,000 individuals, the investing public, view the industry?

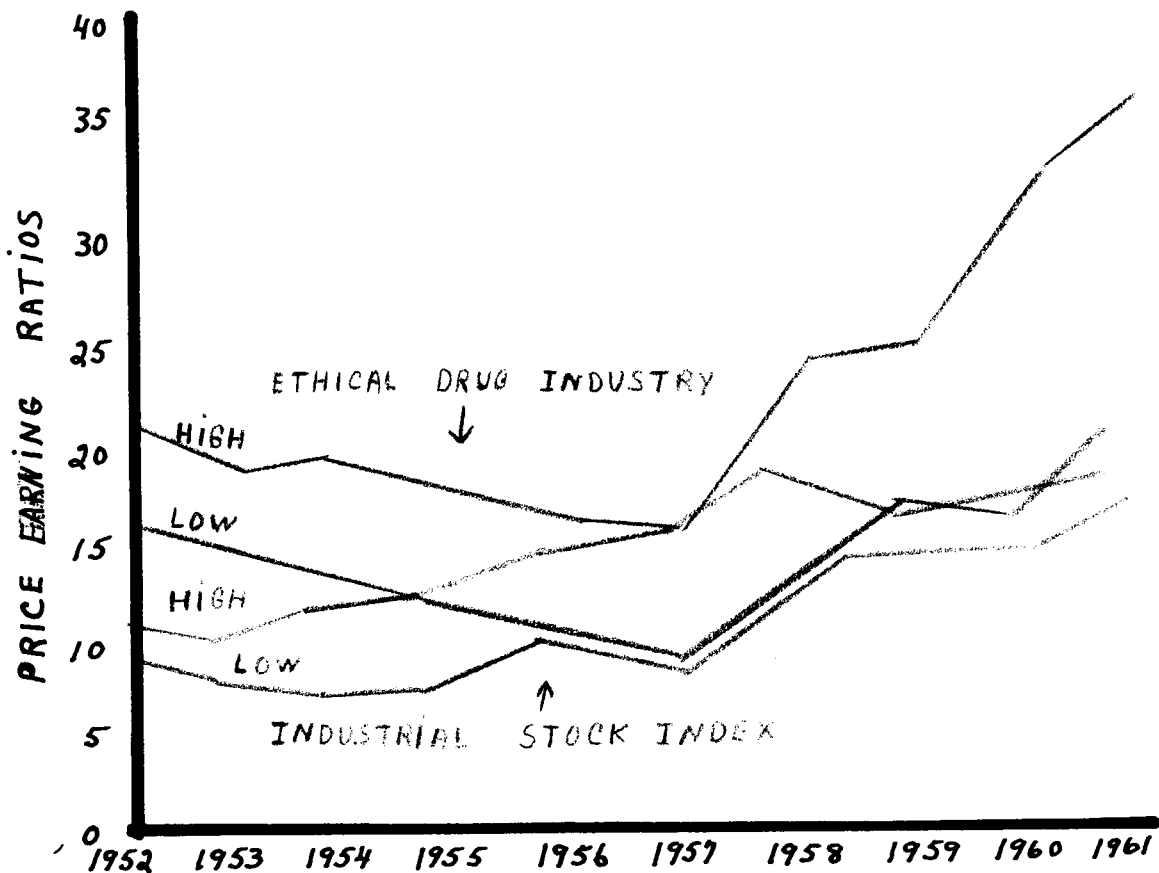
THE INVESTING PUBLIC AND PROFITS OF THE ETHICAL DRUG INDUSTRY

In the following chart the author computed the high and low of the price earning ratios for the industry. High "price earnings ratios" are usually associated with

growth industries. The ethical drug industry is not only a growth industry, but at the same time has offered the investors relatively high stable dividends.

CHART VII

PRICE EARNING RATIOS OF THE ETHICAL DRUG INDUSTRY
VS. THE RATIOS FOR ALL INDUSTRIES, 1952-1961



Source: Figures compiled by the author from data supplied by:

Standard & Poors' Industry Survey,
(December 13, 1962), p. D-21.

THE TREND

The chart shows a very interesting trend. Up until the time of the drug investigation, there was no significant difference in the price earning ratio of the ethical drug industry and that of the rest of the industries. Then, despite a slight decrease in profits for the following two years in the ethical drug industry, more investors than ever before realized that this industry gave them what they wanted: outstanding growth and excellent earnings. As a result, stock prices of the drug companies have gone up while prices of companies in the other industries have remained relatively stable.

FUNDED DEBT AND DIVIDENDS

Of the eleven leading companies with sales totaling over \$1.6 billion in 1961, the funded debt was only \$40 million of which \$25 million or 62% belonged to Pfizer. In other words, the tremendous expansion (sales were \$960 million in 1952 as compared to \$1.6 billion in 1961) was financed mostly from funds generated from within. Companies claim that they need above average profits to pay for the expansion, but critics say that outside financing rather than internal funds should be used to finance expansion. The author, too, feels that the funded debt of the ethical drug industry is unusually small; and rather than increase prices of drugs to finance expansion, more funds from the "outside"

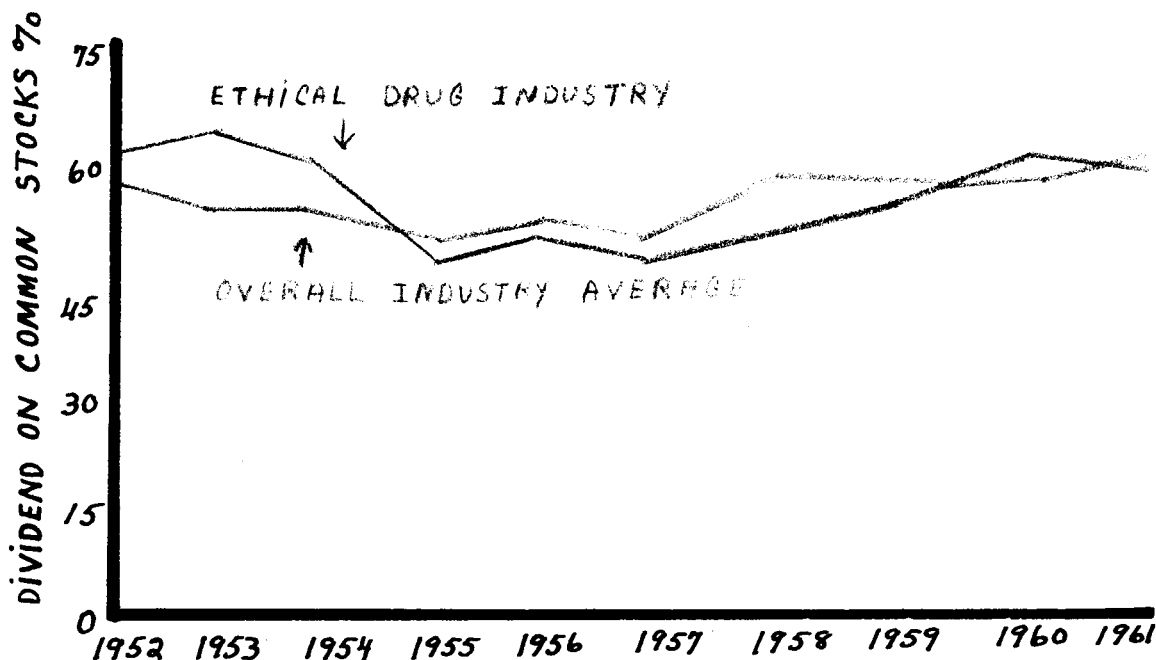
should be employed.

DIVIDEND POLICY

While the industry has been able to get along with a small amount of debt despite the huge expansion, they were also able to pay out a large percentage of the earnings per common share. In the following chart a comparison is made between "the common dividends as a percentage of earnings per common share" for the drug industry and the rest of the industries.

CHART VIII

DIVIDEND POLICIES
DIVIDEND ON COMMON STOCKS %
ETHICAL DRUG INDUSTRY VS. REST OF THE INDUSTRIES
1952-1961



Note: Overall industry average was computed by the author by multiplying price earning ratios times yields on industrial stocks. Ratios for the ethical drug industry were computed by the author from data supplied by Standard & Poors.

While there is no significant difference in the percentage payout of earnings per share, it should be remembered that the ethical drug industry was able to pay relatively high and stable dividends. "(Abbott since 1926, Merck since 1935, Lilly since 1885, Pfizer since 1901, Parke-Davis since 1878, Upjohn since 1909)"⁴⁰ while undertaking a very costly expansion program without incurring large sums of short and long term debts. How can this be done? Only through earnings well above average.

STOCK RATINGS

Stock ratings, too, are quite significant in evaluating the profits of an industry. Standard and Poors' ratings are based on "stability and growth of earnings; and stability, growth, and security of dividends. There are 31 drug companies listed by Standard & Poors of which 26 have a rating of A-, A, or A+. "Of all industries listed, only the electric utilities have a similar top rating."⁴¹

RATE EARNED ON COMMON STOCKHOLDERS' EQUITY

There are other standards of comparisons that can be used. Two more will be mentioned. "Rate earned on common stockholders' equity," sometimes referred to as "financial ratio" is calculated by dividing net income after taxes and after preferred dividend requirements by the equity of the common stockholders. The rate earned is above average since the industry's net income is extremely high and pre-

ferred dividend requirements as we shall see are very low.

TIMES PREFERRED DIVIDEND REQUIREMENTS EARNED

The last indicator, ability of a company to meet dividend requirements, is indicated in the following table.

TABLE IV

TIMES PREFERRED DIVIDEND REQUIREMENTS EARNED

| COMPANY | 1961 | 1960 |
|-----------------------|------|------|
| Baxter | 16 | 14 |
| Lilly | 346 | 296 |
| Merck | 73 | 74 |
| Abbott | NONE | NONE |
| Parke-Davis | NONE | NONE |
| Pfizer (Chas.) | NONE | NONE |
| Schering | 23 | 22 |
| Searle | NONE | NONE |
| Smith, Kline & French | NONE | NONE |
| Upjohn | NONE | NONE |

An interpretation of the figures shows that most companies do not even issue preferred stock. Preferred stock, at times, is issued when additional capital is required. As we have seen before, ethical drug companies have financed most of the expansion out of internal funds. Those companies that did issue preferred stock have the dividend requirements covered from 14 to 349 times. This, by itself, is another indicator of the profitability of ethical drug

companies if compared to companies in other industries.

Before a final conclusion is reached, an evaluation of the leading ethical houses will be made.

AN EVALUATION OF LEADING PHARMACEUTICAL COMPANIES

Companies in the ethical drug industry are not as large as those in other industries. In fact, Fortune listed not a single pharmaceutical company among the 100 largest companies in its latest survey. This is really not important; what is most significant is that these companies are one of the most profitable of any industry.

Following is a discussion of the leading ethical producers, which account for over 40% of ethical drug sales. The other 60% of sales is distributed among 1,300 other companies.

ABBOTT LABORATORIES

Abbott produces about 550 items including antibiotics, antihistaminic agents, hormones, sulfonamides, vitamins, and many other drugs. Since its founding in 1888, it has climbed to a prominent position in the ethical drug field.

Of the 1961 sales of \$129,850,090, "50% of the income came from products introduced in the past eight years."⁴² While the company's growth and profit margins are below industry average, heavy research expenditures (1960-\$8,200,000, 1961 - \$9,600,000) will insure that the company will continue

to grow.

ELI LILLY

Eli Lilly is a leading producer of pharmaceuticals biological, and antibiotic drug products. The company makes over 1,000 items which are distributed solely through wholesalers.

Research and development expenditures amounted to about \$130,000,000 between 1952 to 1961.

The company is the third largest ethical firm in the United States, and it was one of the few companies in the industry to report record earnings for 1962. Following are some "vital" statistics.

ELI LILLY COMPANY

| YEAR | NET SALES | NET INCOME | NET INCOME % OF SALES | EARNINGS PER SHARE | RESEARCH & DEVELOPMENT |
|---|---------------|--------------|--------------------------|-----------------------|---------------------------|
| 1961 | \$198,117,689 | \$23,075,670 | 11.6 | 2.88 | \$20,165,000 |
| 1960 | 178,548,121 | 18,751,576 | 10.5 | 2.34 | 19,717,000 |
| 1959 | 187,010,259 | 23,445,757 | 12.5 | 2.93 | 18,313,000 |
| 1955 | 141,316,999 | 16,328,081 | 11.6 | 2.12 | N.A. |
| Note: Earnings per share \$3.20 in 1962 | | | | | |

Source: Figures compiled by the author from the following sources:

- (1) "Weekly Technical Comments." E.F. Hutton & Co. (No volume number given; February 21, 1963).
- (2) Standard & Poors, Basic Analysis, (December 13, 1962), p. D-20.
- (3) Standard & Poors, Standard Corporation Descriptions, (Vol. XXIII; No. 25, Section 2, September, 1962), p. 6865.

As we can see from the figures, earnings are high but can change fast. In 1960, income was down by \$5 million from 1959 because the demand for polio vaccines had decreased. In 1961, sales had increased \$21 million over 1960, yet due to a profit squeeze and adverse publicity of the industry, net income was still lower than in 1959. Tears, however, should not be shed because the company's rate of return was still twice as high as the average for all industries.

MERCK & COMPANY, INC.

Merck, the second largest ethical drug company, not only sells to wholesalers and retailers but also to other manufacturers, and in 80 countries of the free world.

Leading product groups in 1961 were sterioids, hormones, and diuretics. Total sales amounted to \$228 million in 1961. Net income was \$27,190,000 or 11.9% of sales. Although Merck has not grown as fast as Pfizer, (Merck sales in 1952 were \$160 million vs. Pfizer's sales \$107 million) the company, however, has not only shown a higher rate of return but has invested much more money than Pfizer in research. (\$60 million for Merck vs. \$40,000,000 for research for Pfizer from 1959 to 1961).

PARKE-DAVIS & COMPANY

Parke-Davis is one of the most diversified ethical concerns in the country with some 500 different items. Pharmaceuticals, antibiotics, biologicals are some of the dif-

ferent product categories.

With a consistently high rate of return and dividends paid since 1878, the company has been a favorite of investors up until 1961. Like Lilly, Parke-Davis had a problem with its leading money maker: CHLOROMYCETIN. Because of the reported side effects, doctors turned away from the drug. Company sales dropped to \$184 million in 1961 from \$200,000,000 in 1960 and net income decreased from \$30 million in 1960 to \$22 million in 1961. Net income was 15.2% in 1960 and "only" 12.1% in 1961 of sales.

With total research expenditures of \$25,000,000 for 1960 and 1961, there is no doubt that this company will regain its place as one of the most profitable companies in the industry.

PFIZER (CHAS.) & COMPANY

Pfizer is presently the largest company in the ethical drug field. Sales in 1961 totaled over \$312 million, up from \$107 million in 1952. This company is without doubt the fastest growing and at the same time most controversial in the field. Its very aggressive promotion and advertising campaign has often been criticized. The campaign apparently is successful since sales continue to grow fast as we can see from the following statistics.

PFIZER (CHAS.) & COMPANY

| YEAR | NET SALES | NET INCOME | NET INCOME % OF SALES | EARNINGS PER SHARE | RESEARCH |
|------|---------------|--------------|--------------------------|-----------------------|--------------|
| 1961 | \$312,433,262 | \$31,442,905 | 10.1 | \$1.74 | \$13,555,000 |
| 1960 | 289,762,291 | 28,248,150 | 9.7 | 1.58 | 13,427,000 |
| 1959 | 253,672,721 | 24,862,955 | 9.8 | 1.51 | 13,682,000 |

Source: Standard & Poors, Standard Corporation Descriptions, (Vol. XXIII; No. 20, Section 2, June - July, 1962), p. 5746-5747.

Pfizer's rate of return is below the industry average, probably due to the very large research and capital expenditures, which amounted to \$110 million since 1959! The heavy research expenditures are already paying off. Nine-month figures for 1962 showed net income up 13% over 1961.

SMITH, KLINE & FRENCH

Smith, Kline & French develops, produces, and sells ethical pharmaceutical specialties. Tranquilizers, antihistamines, amphetamines, and anti-spasmodics are some of the areas of specialization.

Following is a breakdown of important company statistics.

SMITH, KLINE & FRENCH

| YEAR NET SALES | NET INCOME | NET INCOME % OF SALES | EARNINGS PER SHARE | RESEARCH & DEVELOPMENT |
|--------------------|--------------|--------------------------|-----------------------|---------------------------|
| 1961 \$161,161,726 | \$27,072,865 | 16.8 | \$1.85 | \$14,274,000 |
| 1960 147,987,335 | 24,390,916 | 16.5 | 1.67 | 13,651,000 |
| 1959 134,890,663 | 25,005,738 | 18.5 | 1.72 | 12,100,000 |

Source: Standard & Poors, Standard Corporation Descriptions, (Vol. XXIII; No. 20, Section 2, June - July, 1962), p. 6006.

Smith, Kline & French not only increased its sales by over 10% in each of the last three years, but unlike other fast growing companies was able to maintain the second highest rate of return in the ethical drug industry. Tranquilizers have helped in achieving this position .

Profitability in 1962 apparently kept up because "the quarterly dividend was increased to 30¢ from 25¢ in 1961 and a year end extra of 30¢ from 25¢ in 1961."⁴³ According to Standard & Poors' Stock Guide, earnings are estimated even higher in 1963 than they were in 1961 and 1962.

UPJOHN COMPANY

Upjohn is one of the few ethical companies left that is still controlled by the founder's family. Among the

more important product lines are antibiotics, steriods, nutritional products and since 1957 ORINASE, the first effective oral treatment for diabetes.

Upjohn's sales growth has only been 3% to 4% in the last three years as compared to an average industry sales growth of 10% annually, but what is more important, net income as a percentage of sales was 14.3% as compared to 12.5% for the other ethical drug companies.

The basic reason for the high rate of return is the drug ORINASE. The drug costs the company about 0.7 cents per pill to make and package. It sells, however, to the druggists for eight cents! Since the company has a virtual monopoly on the market, it can "charge what the market bears."

Let us now consider what conclusions can be drawn from the wealth of information presented in the last 20 pages.

CONCLUSION

From the foregoing discussion of the profits in the drug industry and the companies that make up almost half of the total industry sales, the following conclusions are reached by the author.

PROFITS ARE HIGH

(1) No doubt about it, profits are high in the ethical drug industry. They were already high up to 1954,

but from that year on net income as a percentage of sales reached a two-digit number for most ethical drug companies. Some critics say that the Eisenhower administration can be blamed for the increased profits because the administration was friendly with business. The author thinks that the "wonder drugs" are the basic reason for the high profits. As discussed in length in this chapter, there is almost a perfect relationship between extremely high profits and wonder drug manufacturers. Smith, Kline & French had a profit of 33.1% on net worth. Carter Products, Inc. had a 38.2% return and American Home Products Corporation a 33.5% profit on net worth. The three companies make the leading tranquilizers, THORAZINE, MILTOWN, and EQUINIL respectively.

(2) Profits in the ethical drug industry are twice as high as compared to the rest of the industries. While the "all industry average" is about 6% as a percentage of sales, the return for the drug industry has ranged from a low of 10.1% in 1952 to a high of 14.6% in 1958 and a present level of approximately 12.1%.

(3) Profitability can also be expressed in the following terms.

(a) Among the 55 most profitable companies in the United States, 13 are drug firms!

(b) Of the 15 companies with the "most well-kept-up profit margin" in the last four years, 25% are from

the drug industry, another indication of the profitability of the industry.

(4) The industry ranks highest if the return is measured in terms of invested capital. This standard, as already explained, is not the most meaningful but must be considered in an evaluation of profits.

(5) The ethical drug industry has achieved such a high profit rate that they were able to finance a large expansion program from funds generated from within; and at the same time, pay out about 55% of the earnings per share! This is quite unusual for a growth industry since companies in such an industry must rely to a great extent on outside financing.

OTHER CONSIDERATIONS

(6) Profits are high no matter how they are measured but the following factors must also be considered.

(a) The public demands, and physicians often prescribe drugs, especially wonder drugs, unnecessarily. The author has often been in a doctor's office when he actually heard patients tell the doctor to prescribe certain wonder drugs. People like these in the author's opinion have no right to complain about high prices because they themselves help set these prices through their demands. Phenobarbital instead of tranquilizers would do as well in most cases.

(b) Even those who criticize the drug indus-

try agree that in relative terms drugs are cheap at any price as compared with the cost of hospitalization, prolonged illness and lives that may be saved with the use of drugs that have an undreamed-of potency.

(c) From the evaluation of profits it has been shown that profit margins have declined 17% since 1958. This is due to:

(1) The drug investigation by Senator Estes Kefauver which resulted in much unfavorable publicity and made drug makers more aware of the public.

(2) Stiffer competition among drug makers especially those with wonder drugs.

(3) Increasing cost of doing business because of new government regulations.

(4) Fear on the part of the drug makers that continued unreasonable profits would result in government control over drug prices.

(d) A satisfactory level of profits plays a two fold role in connection with research. First, it provides the reward for successful research and as a result an inducement to spend money for this purpose. Without an adequate level of profits the life blood of the industry, new drugs, might be shut off.

(e) Lastly, the ethical drug industry needs a higher rate of return because of their greater risk expo-

sure, rapid product obsolescence, and above average rate of growth. However, whether this justifies a rate of return twice as high as in other industries will be discussed in the next chapter.

Profit is merely the index,
the proof that production was for use.
No one achieves a profit by producing
things that are not used. Useless
things do not bring profitable prices
and therefore quickly drop out of
production.

Gustav Stolper

CHAPTER V

IS THE LEVEL OF INDUSTRY PROFITS JUSTIFIED?

PROFITS - A REVIEW

INITIATIVE AND PROFITS

Profits, as has been indicated in the preceding chapter, is the lifeblood of our free enterprise system. As David L. Babson put it, "penalize them (profits) and initiative is throttled, economic growth is retarded and eventually the state takes over."⁴⁴ If, however, profits are encouraged, the system will flourish.

Many economists are stressing more and more the fact that "there is no more paramount business question today than the outlook and history of profitability of industry."⁴⁵ A person not knowing too much about our free enterprise system may ask: Why do you put so much emphasis on profits? To get a better understanding of profits, the author will try to determine the functions of profits.

THE FUNCTIONS OF PROFITS

According to a policy statement by the U. S. Chamber of Commerce, the functions of profit are as follows:

- (1) "A method of sparking and energizing human enterprise.
- (2) Stimulate risky, uncertain and innovative undertakings.

- (3) Allocating human and other resources to the most useful purpose.
- (4) Cutting costs and making resources go as far as possible."⁴⁶

As the history of the United States has shown, a profit oriented economy is a productive economy. In order to maximize profits, efficiency is promoted under such a system. With greater efficiency, costs will be cut which may then lead to a reduction in prices. With a reduction in prices, the consumers' purchasing power is increased because his dollars stretch further.

Another important function of profits is to encourage risk taking. Without adequate profits, the ethical drug industry would not have been able to spend countless millions (Lederle has already spent \$7.5 million for cancer research since 1948 yet sales of cancer drugs amounted only to \$150,000 in 1959) for research which may never pay off.

Lastly, without the incentive of profits, what would there be left?

A question often asked is how high should profits be? Let us try to find out.

HOW MUCH IS ENOUGH?

This question was answered by a group of economists from the University of Chicago in the following way:

"Profits should be sufficient to initiate, maintain, and ex-

pand production of the things we want and will buy."⁴⁷ Nobody agrees as to the exact amount because it varies from company to company, from industry to industry and even from city to city. It should, however, balance reward against risk and stimulate the production of those drugs which society requests. The risk, as we shall see in the pages to come, is indeed high in this industry. Secondly, since this is an industry which can only grow if there is continuous research, profits must be high enough to finance such costly outlays.

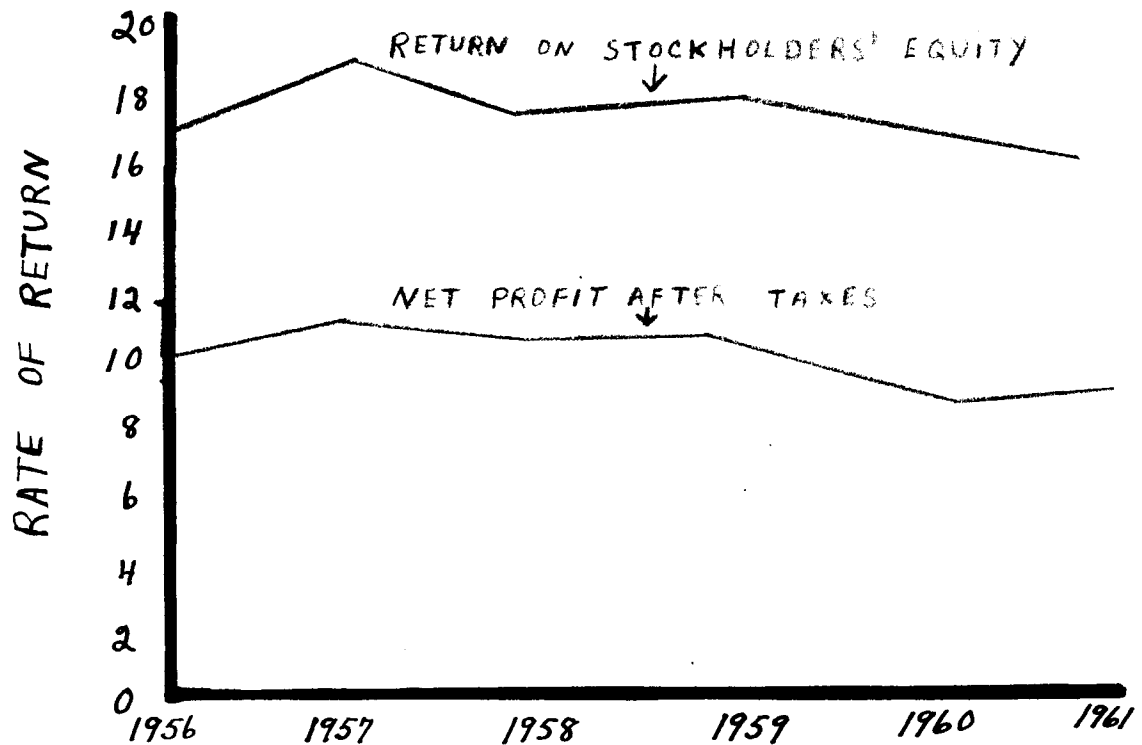
What, then, is the correct amount of profits?

According to economists at du Pont "it is not a rigid sum or ratio but an amount varying with time and human need. Flexibility is its paramount virtue."⁴⁸

Flexibility is demonstrated in the following chart showing the rate of return for the ethical drug industry. As Chart IX shows, profits are quite flexible but more important, the rate of return is not quite as high as is often charged. The F. T. C. - S. E. C. (Federal Trade Commission - Security and Exchange Commission) statistics show that net profit after taxes actually decreased from 10.3% in 1959, to 9.2% in 1960, and 9.4% in 1961. The annual rate of profit on stockholders' equity decreased from 17.8% in 1959, to 16.8% and 16.2% in 1960 and 1961, respectively.

CHART IX

RATE OF RETURN ON STOCKHOLDERS' EQUITY
AND NET PROFITS AFTER TAXES 1956-1961
ETHICAL DRUG INDUSTRY (ALL COMPANIES)



Source: Federal Trade Commission-Securities and Exchange Commission, Quarterly Financial Reports For Manufacturing Corporation, (U. S. Government Printing Office).

Issues used: Fourth Quarter 1956
First Quarter 1958
First Quarter 1959
First Quarter 1960
All issues in 1961

Since there is a certain relationship between high prices and high profits, the author will examine drug prices

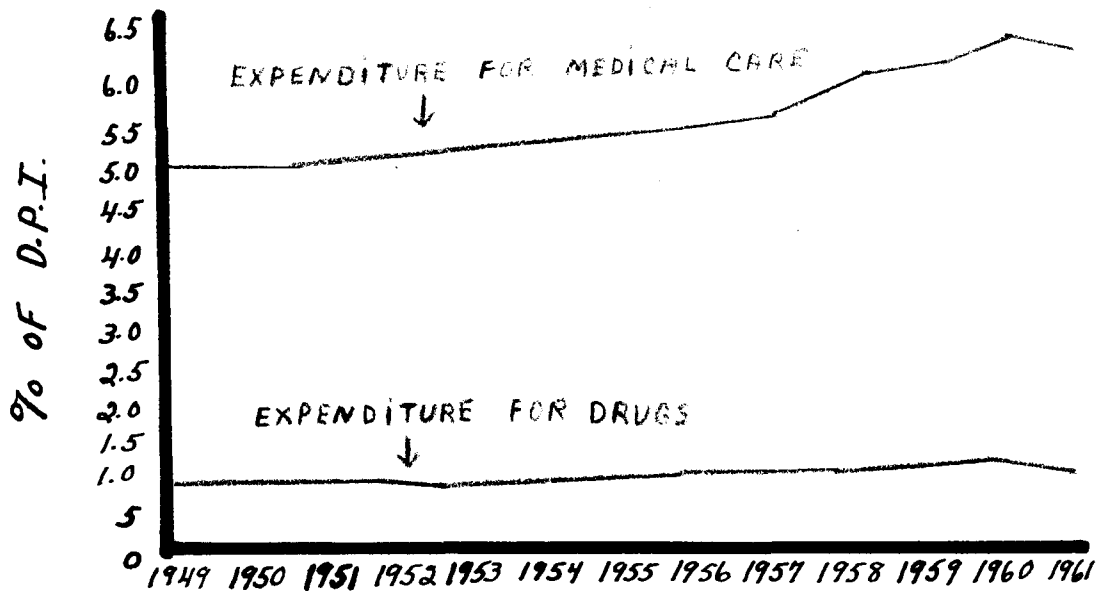
in the following section.

DRUG PRICES

As we have seen in Chapter III, Chart II, the cost of medical care has increased from approximately \$7.5 billion in 1948 to \$21.6 billion in 1961. Expressed in another way, medical care as a percentage of personal disposable income went up from 4.5% in 1948 to 5.8% in 1961. How about drug prices as a percentage of personal disposable income? The following chart shows a very interesting picture.

CHART X

PERSONAL CONSUMPTION EXPENDITURES
FOR MEDICAL CARE AND DRUGS
% OF TOTAL DISPOSABLE PERSONAL INCOME



Source: U. S. Department of Commerce, Survey of Current Business, Office of Business Economics, (Vol. XLII; No. 12, January, 1961), p. 17.

Chart X tells us that there has been a steady rise of medical care expenditures, between 1949 and 1961, whereas, expenditures for drugs as a per cent of personal disposable income has increased only .2% in the same time. In other words, while expenditures for medical care as a per cent of personal disposable income increased over 30% in twelve years, drugs increased by 20%.

The author feels that a greater understanding of drug prices will be gained if average family expenditures for drugs and medicines were examined. The Wharton School of Finance and the Health Information Foundation made comprehensive studies of drug expenditures per family. Following are their findings.

AVERAGE FAMILY EXPENDITURES FOR DRUGS AND MEDICINES

In the following table we find a breakdown of average family expenditures for drugs and medicines. The study was made in 1950 and covered over 15,000 households.

TABLE V
 AVERAGE FAMILY EXPENDITURES
 FOR DRUGS AND MEDICINES 1950

| FAMILY INCOME | CITIES IN THE NORTH | CITIES IN THE SOUTH | CITIES IN THE WEST |
|------------------|------------------------|------------------------|-----------------------|
| UNDER - \$ 1,000 | \$12.29 | \$12.82 | \$21.70 |
| \$ 1,000 - 2,000 | 19.31 | 13.24 | 21.20 |
| 2,000 - 3,000 | 24.98 | 20.69 | 24.82 |
| 3,000 - 4,000 | 27.44 | 33.56 | 33.22 |
| 4,000 - 5,000 | 26.39 | 39.95 | 34.86 |
| 5,000 - 6,000 | 31.78 | 50.17 | 30.11 |
| 6,000 - 7,500 | 43.06 | 36.53 | 44.63 |
| 7,500 - 10,000 | 43.72 | 35.44 | 64.03 |
| 10,000 and OVER | 52.16 | 64.46 | 39.33 |

Source: Wharton School of Finance, "Detailed Family Expenditures for Medical Care," Study of Consumer Expenditures, Incomes and Savings, Urban U.S.A., 1950, (Vol. XVI; Wharton School of Finance and Commerce University of Pennsylvania, 1957), p. 45.

In evaluating expenditures by income distribution, the more a family earns the higher the expenditures for drugs, but this is not true if expenditures are expressed in terms of percentage of income. For example, for the \$5,000 to \$6,000 income group .55% of personal disposable income was spent for drugs as compared to 2.40% for those making under \$1,000. The \$2,000 to \$3,000 income group spent 1% of its income on drugs.

In a nationwide study by the Health Information

Foundation similar findings appeared.

TABLE VI

MEAN GROSS EXPENDITURES FOR HEALTH PER FAMILY

| TYPE OF SERVICE | 1952 - 1953 | 1957 - 1958 | % CHANGE |
|-----------------|-------------|-------------|----------|
| ALL SERVICES | \$207 | \$294 | 42 |
| PHYSICIANS | 78 | 98 | 26 |
| MEDICINES | 31 | 60 | 94 |

Source: Odin W. Anderson, Patricia Collette, Jacob J. Feldman, Family Expenditure Patterns for Periodic Health Services, (National Survey - 1953 & 1958, Health Information Foundation), p. 7.

While expenditures for drugs are still lower than those for physicians and for dentists, the alarming part is that expenditures for drugs, according to this study, increased twice as fast as for other services. However, as was pointed out in Chapter I, between 1952 and 1958 great advances were made with new medicines. While the average family may have spent more for drugs, let us look at what some drugs have done for certain families.

The CORTISONE drugs have restored at least one mil-

lion patients to near normalcy who might otherwise be invalids today. Assume that the average hospital cost per patient is \$1,000 annually; multiplying \$1 million patients restored times \$1,000 amounts to \$1 billion saved in hospital costs. In addition, there was at least as much added to the G. N. P. (Gross National Product) because the restored were able to earn money.

Had all this been made clearer to the public during the drug investigations, the public may have appreciated the contribution of drug industry a little more.

Another way of examining drug prices is by analyzing the average price per prescription. Let us evaluate them now.

COST PER PRESCRIPTION

In 1960 "the number of prescriptions per family amounted to 13.5."⁴⁹ This compares to "eight prescriptions in 1954 and eleven in 1959."⁵⁰ This large increase is due to new drugs and greater demand on part of Americans for better services. Dividing the average annual expenditures for drugs by the number of prescriptions per year, we can see an increase in prescription cost from \$3.87 in 1954 to \$5.54 per prescription in 1959. As we have seen in the preceding chapter, profits of the drug industry increased to a two digit number in the mid 50's. Therefore, we can say that the increased price per prescription is due to:

- (1) Increased manufacturers' prices of drugs.
- (2) Introduction of new and very expensive wonder drugs.
- (3) Higher markup on part of druggists.

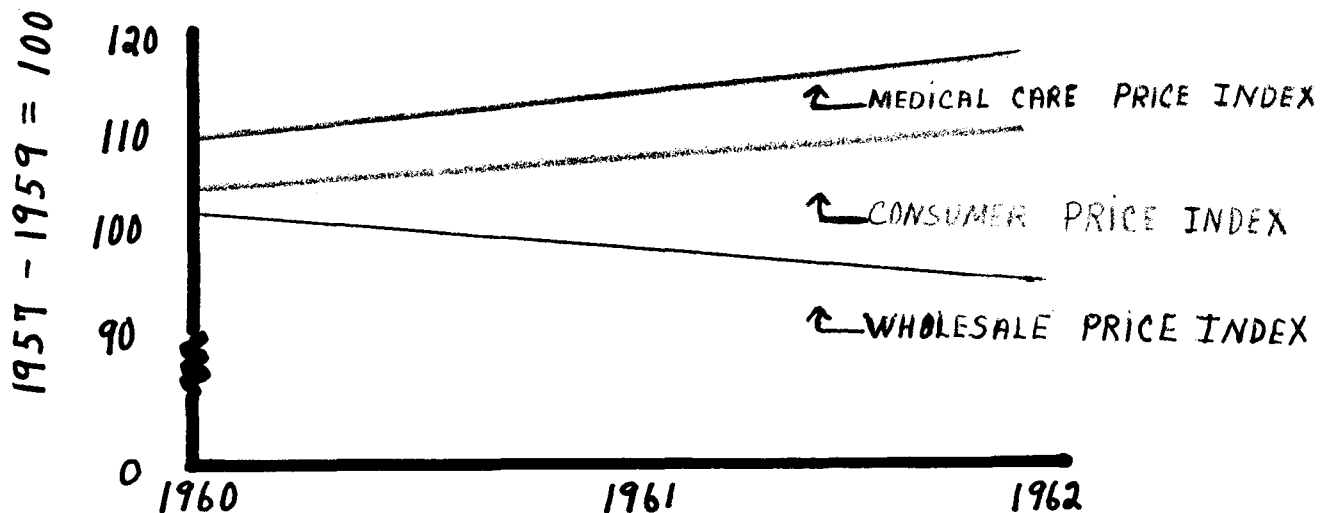
The manufacturer and retailer have made sure that they have an adequate margin, but what about the wholesaler? How did his prices hold up?

WHOLESALE PRICE INDEX FOR PHARMACEUTICALS

The following illustration compares the consumer price index, medical care price index, and wholesale price index.

CHART XI

MEDICAL CARE EXPENDITURE INDEX VS.
WHOLESALE DRUG AND CONSUMER PRICE INDEX 1960-1962



Source: U. S. Department of Commerce, Survey of Current Business, Office of Business Economics, (Vol. XLII; No. 12, December, 1962), p. S- 7-8.

The drug industry often uses the following statistics to show how cheap drugs are today: In the last ten years the wholesale price index rose only 3% whereas the wholesale prices for industrial products rose 22%. This is true, in fact wholesale drug prices are still dropping. The index for 1962 was 96.1 as compared to 100.2 in 1960. Compare this with an increase in the index for medical care from 108.1 in 1960, to 114.1 in 1962. The consumer price index, on the other hand, increased from 103.1 to 105.5 in the same time. What does it all add up to? Not much! It seems that whenever the wholesaler reduces his price, there does not seem to be a drop in the retail price. The retailer, in most cases, simply increases his profits by not passing on the savings to the consumer. This is one reason why most experts of the industry think that there would actually be no savings to the consumer if doctors would start writing for drugs by generic names instead of brand names.

If anybody should not be blamed for high drug prices it is the wholesaler. But the low profit margins are hurting wholesalers. Several wholesalers in the New York area had to give up their drug department because the department was losing money.

In summary, then, what has the section on drug prices shown?

While average personal expenditures for health

"rose from \$87 in 1956 to \$116 in 1961,"⁵¹ wholesale drug prices have actually declined over 10% in the same period. However, the lower prices were not passed on to the consumer since retail drug prices increased over 11% since 1955. As we shall see later the druggist accounts for a large part of the drug dollar pie.

The author feels that the retail price index as reported by the Bureau of Labor Statistics is completely inadequate. Only the following items are included: "Aspirins, milk of magnesia, multiple vitamins; non-narcotic and narcotic prescriptions and penicillin."⁵² The drugs that really hurt the pocketbook are not even included. They include all the expensive wonder drugs. According to the Citizens' Committee for Children of New York City, "antibiotics account for 40¢ of every dollar spent on drugs."⁵³ Since this is only one of the wonder drugs, the author thinks that the items presently covered by the B. L.S. (Bureau of Labor Statistics) make up only about 40% of the expenditures for drugs. Therefore the price index is quite understated.

Who makes the big profits on drugs? By breaking down the drug dollar, we might be able to get a better idea.

BREAKDOWN OF THE DRUG DOLLAR

It is very hard to get drug companies to release detailed figures on cost of drugs, but the following table will give the reader at least some idea of the breakdown of

the drug dollar.

TABLE VII

COST OF PREDNISON 5 MG TABLETS PACKED
IN BOTTLES OF 100

| TABLET PROCESS | CENTS PER TABLET | % OF DRUG DOLLAR ^X |
|----------------------------|------------------------|-------------------------------|
| Raw Material | 1.18 | |
| Making into tablets | .125 | |
| Wastage 3% | .036 | |
| Bottling and Labeling | <u>.02</u> | |
| Total factory cost | 1.36 cents | 4.85 |
| Research 8.5% of sales | 1.52 | 5.42 |
| Selling 33% of sales | 5.97 | 21.32 |
| Overhead, Taxes and Profit | <u>9.05</u> | 32.32 |
| Price to Druggist | 17.90 | |
| Druggists' markup about | <u>10.10</u> | <u>36.09</u> |
| Retail Price | 28.00 cent per pill | 100.00 |

Source: David Cushman Coyle, How to Get Safe Drugs and Cut Their Cost, (Washington, D.C.: Public Affairs Institute), p. 10.

X: Per cent of drug dollar computed by the author.

In Chapter II when the author discussed supply and demand as applied to the drug industry, the point was made that cost

of production plays an unimportant role in the determination of the ultimate price. As Table VII shows, factory charges amounted only to 4.8% of the retail price for this particular tablet. Research cost, on the other hand, made up 5.4% and selling and promotion costs amounted to 21%. The druggist, however, takes the biggest piece of the pie: 36%. There are many companies that offer or suggest an even higher mark-up.

To verify the figures of the Public Affairs Institute, let us now look at the breakdown presented by Life Magazine in an article on the ethical drug industry.

TABLE VIII

BREAKDOWN OF THE AVERAGE DRUG DOLLAR

| THE DRUG PROCESS | % OF DRUG DOLLAR USED |
|--------------------|-----------------------|
| Research | 5% |
| Raw Material | 4 |
| Manufacturing | 3 |
| Quality Testing | 4 |
| Distribution | 2 |
| Administration | 5 |
| Markup: Wholesaler | 15 |
| Druggist | 33 |
| | <u>71%</u> |

Source: "Big Pill Bill To Swallow," Life Magazine, (Vol. XLIIX; No. 6, February 15, 1960), p. 97.

The difference between 71% and 100% apparently consists of selling and promotional expenses, taxes, overhead, and the profit margin. As can be seen from an examination of Table VII and VIII, the figures coincide quite well.

In summing up, it is not the manufacturer who makes the biggest profit, but rather the druggist who has an average markup of 35% to 50% of the retail price. Since the druggist will be discussed in another chapter, for the time being it can be said that the druggist is a major contributor to high drug prices.

Manufacturers in their defense for above average profits have claimed that the average life span of drugs is very short. Let us look at a typical "life chart."

LIFE SPAN OF THE AVERAGE DRUG

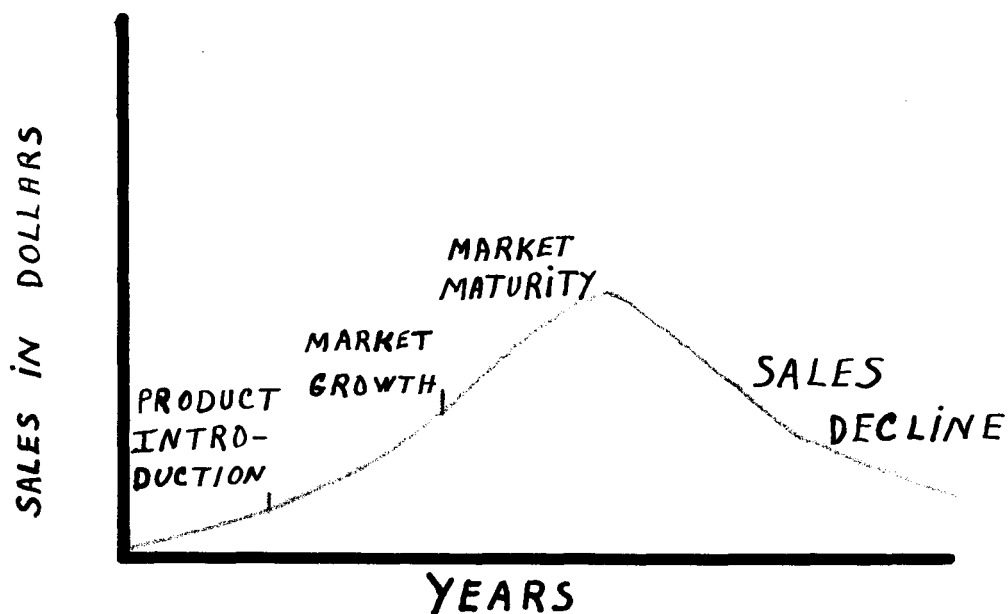
Due to intense competition and research, drugs that were so-called "drugs of choice" (the drug to use for a particular illness or disease) yesterday may be outdated tomorrow because of the new drugs that come on the market almost every second week. Therefore, the life span of the average drug is relatively short.

THE TYPICAL CHART

On the following page we will find a profitability curve and the life span cycle of the average drug.

CHART XII

PROFITABILITY AND LIFE SPAN OF THE AVERAGE DRUG.



Let us trace the life of the average drug. In the first place it probably took several years to develop and test it. When it is ready to be marketed often \$1 million or more will have to be **spent** on selling and promotional expenses to introduce the product to the medical profession. Since many doctors are conservative, they would not "write" for the drug immediately. It will take several detail calls and many samples (many of them will never get to the patient because I have known many doctors who throw all samples away) before the average doctor will start writing for the

drug. By that time a year or two may have already passed. Now the drug should reach its maximum potential. During the entire time the price of the new drug was high because companies must recuperate the high development expenses as fast as possible. But this will not last forever because competitors, in most cases, will be ready to introduce a similar but often improved product. When competition begins, prices will go down and some of the business will be lost to competitors. In due time other companies will come out with a vastly improved product and the drug, once a leader, will probably settle down to a small share of the market because of the introduction of competitive products.

WHAT IT MEANS

As we were able to see, the discovery of a spectacular drug will not necessarily mean permanently high returns for the manufacturer. When competition enters the market with an improved drug, prices will have to be reduced which may affect profits. Ultimately, the company will not only have to settle for a normal profit on the drug but may even begin to lose money because of the small number of doctors writing for the drug. In many cases the manufacturer is reluctant to withdraw the product because it might hurt the "goodwill" of the producer.

The cycle just explained has been the history of many drugs introduced in recent years.

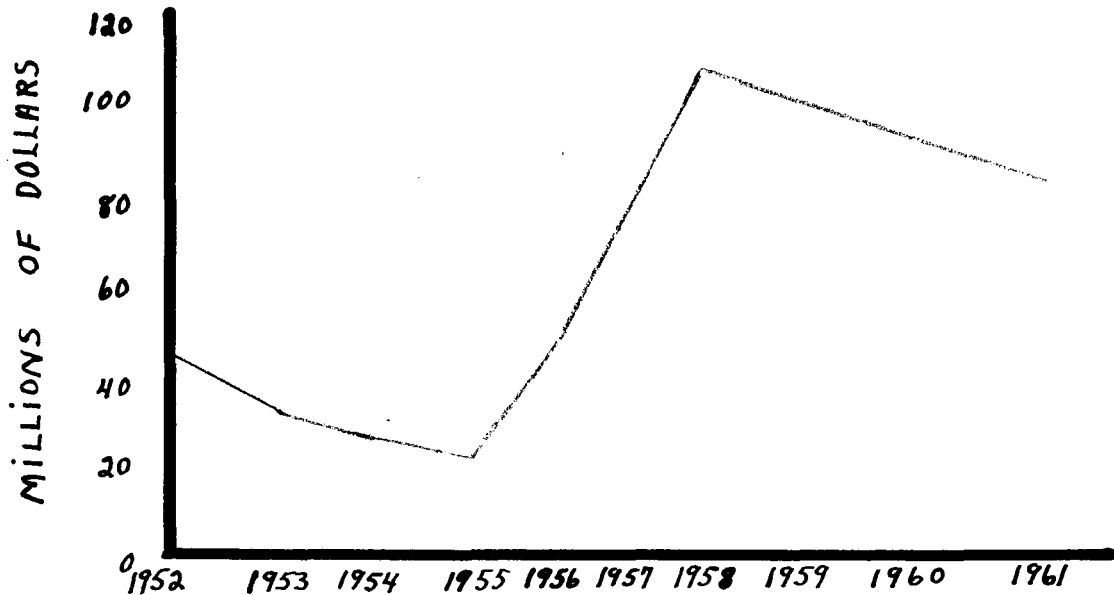
CAPITAL REQUIREMENTS

A MAJOR NATIONAL PROBLEM

The First National City Bank in its "Monthly Letter" made the following statement: "The need for more capital to provide jobs and finance economic growth is becoming recognized as a major national problem."⁵⁴ (Under-scoring added) This major problem is mainly due to the profit squeeze; "a continuing squeeze between depressed prices and increasing costs."⁵⁵

Most industries, but especially the ethical drug industry, rely on retention of profits to finance expansion since it is the most natural and probably the cheapest way. The profit squeeze, however, either does not leave enough extra funds to set aside for expansion or there is a lack of incentive on the part of companies. The author feels that the profit squeeze rather than the lack of incentive is becoming a problem in the drug industry.

In the following chart the capital expenditures for the leading ethical drug companies are shown.

CHART XIIICAPITAL EXPENDITURES-ETHICAL DRUG INDUSTRY
1952 - 1961

Source: Figures computed by the author based upon:
Standard & Poors, "Capital Expenditures,"
Drugs, Cosmetics, (December 13, 1962),
p. D-18.

As can be seen from Chart XIII, capital expenditures decreased from the all-time high of \$106 million in 1958, to \$84 million in 1961, a 20% decline. What happened to profits during this period? Chart IV in Chapter IV tells us the story. In 1958 net income as percentage of sales reached an all time high of 14.6%. It was in 1958 when the largest capital expenditures ever were made. However, since 1959 profits as well as capital expenditures have gone down every year. Therefore, one can safely make the statement that the profit squeeze has hurt ethical drug companies' ability to retain an adequate sum for capital expenditures.

Critics of the drug industry say that the industry should use more "outside" funds rather than those generated from within. It is true that the industry incurred only \$40 million in funded debt during a period when \$670.5 million was spent for capital expenditures alone, but it really is nobody's business to tell an industry or individual companies how to finance their expansion. On the other hand, the author sees no reason why the drug companies should not employ outside sources if they need more funds for capital expenditures rather than increase drug prices.

The drug industry needs larger amounts of capital than many other industries because "\$1 of invested capital in the industry generates only \$1.41 in sales as compared to such industries as grocery with a sales generation of \$9.85, meat packing \$7.53, and aircraft \$5.72."⁵⁶ In fact the ethical drug industry is in 22nd place of all industries in "sales generated by \$1.00 of invested capital." Because of the small amount of sales generated by \$1.00 of invested capital, the ethical drug industry contents that this is the reason why they need a higher profit margin to provide the needed capital.

In summarizing the findings of this section it must be said that the industry needs more capital than the average because it is a growth industry, and secondly \$1.00 of invested capital does not generate much in terms of sales.

While the above average profits of the industry have financed expansion in the past, this will become more difficult in the future because of the profit squeeze.

RESEARCH EXPENDITURES

RELATIONSHIP OF RESEARCH AND GROWTH OF THE DRUG INDUSTRY

"Since 1949 drug industry research and development expenditures for ethical pharmaceuticals have climbed 630%, while sales have tripled."⁵⁷ It is often said that "the main problem (underscoring added) for the industry (drug) is the high cost of research."⁵⁸

These two statements shed much light on the industry's problems. There is no doubt that the industry's growth has been phenomenal in the last decade, but this has been due almost completely to the enormous research outlays during this period which of course have produced the new drugs that have made this a major growth industry. This stress on research has resulted in one of the highest proportion of sales devoted to research for any American industry. A continuing growth of the industry depends directly on the development of new products. This search for new products is the hottest part of drug industry competition. For whoever develops a new product first will get very high rewards. However, with the introduction of new products there will be other products that become obsolete.

OBSOLESCENCE OF DRUGS

The late Prof. Joseph A. Schumpeter has called the creation of new services and remedies "creative destruction."⁵⁹ Basically, it means that new products and new techniques take the place of the old products. Critics of the drug industry often say that obsolescence of drugs is due to new styles rather than to real medical progress. The author admits that there is a lot of truth to this statement, but there is nothing wrong with improving a present product. This can be done in the following ways:

(1) Improving a present product by trying to eliminate side effects. This in itself is highly important because many deaths have been attributed to side effects. When penicillin was introduced many people died because of the side effects.

(2) New dosage forms are introduced. For example, instead of using a drug three to four times a day, a "long acting" drug may be introduced which will make it easier for patients to take the drug.

(3) To eliminate the monopolistic position of a company, other companies often come out with a similar product. This is quite healthy because it creates competition.

Rapid obsolescence, however, adds greatly to the industry's search for new or improved products. To show the

reader how fast the obsolescence is, "nearly 70% of ethical sales in 1960 come from products introduced in 1951 or later; 20% of 1960 sales come from products launched after 1957."⁶⁰ With the high turnover of drugs it becomes extremely important to make the right decision with regard to the particular drug group on which to concentrate research. For example, in 1949 nobody had heard of tranquilizers. Yet in 1960 this group made up over 8% of the total manufacturers' sales. On the other hand, vitamins decreased from 13% of the total sales in 1949 to 4% in 1960. If a company is not in the "right boat," its growth may be adversely affected. Therefore it becomes important to search continuously for new products.

THE COSTLY SEARCH

When the industry spent \$197 million in 1959 for research, this was called the "biggest privately financed assault on ill health in history."⁶¹ Indeed it was, and it has gone up ever since due to the stiffer competition in the industry.

Let us briefly examine the research expenditures of the ten leading companies before an evaluation is made of these expenditures.

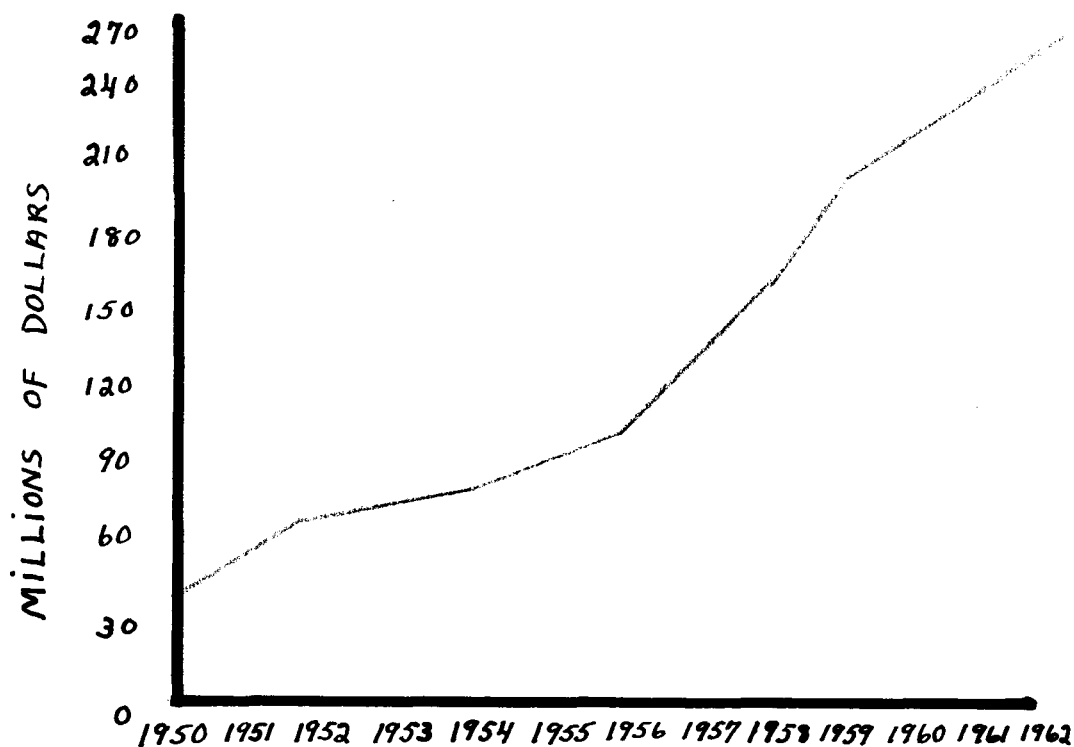
TABLE IX
RESEARCH EXPENDITURES
FOR THE TEN LEADING ETHICAL COMPANIES

| ETHICAL | -----1957----- | | -----1960----- | | -----1961----- | |
|-----------------------|-------------------|------------|-------------------|------------|-------------------|------------|
| | EXPENDED (MIL.\$) | % OF SALES | EXPENDED (MIL.\$) | % OF SALES | EXPENDED (MIL.\$) | % OF SALES |
| Abbott | 6.9 | 5.6 | 8.2 | 6.5 | 9.6 | 7.4 |
| Baxter | 1.5 | 5.1 | 2.0 | 5.9 | 2.2 | 5.9 |
| Lilly | 18.3 | 9.8 | 19.7 | 11.0 | 20.2 | 10.2 |
| Merck | 18.6 | 8.6 | 21.0 | 9.6 | 21.3 | 9.3 |
| Parke-Davis | 9.5 | 4.9 | 12.7 | 6.3 | 13.0 | 7.0 |
| Pfizer | 13.7 | 5.4 | 13.4 | 5.0 | 13.6 | 4.3 |
| Schering | 8.0 | 10.0 | 8.4 | 10.1 | 8.0 | 9.6 |
| Searle | 3.5 | 10.1 | 4.3 | 11.7 | 4.4 | 9.8 |
| Smith, Kline & French | 12.1 | 9.0 | 13.7 | 9.4 | 14.3 | 8.9 |
| Upjohn | 15.2 | 9.7 | 16.0 | 10.1 | 18.0 | 10.8 |
| Total Expenditures | \$107.3 | 7.8% | \$119.4 | 9.6% | \$124.6 | 8.3% |

Source: Standard & Poors, "Estimated Research Expenditures," Drugs, Cosmetics, (December 13, 1962), p. D-10.

While the research expenditures as a percentage of sales for these companies amounted to 8.6% of sales, the industry average is about 7.5%. For all industries the average is estimated at only 3%. The basic reason why the growth of the drug industry was achieved is due to the continuing search for new products. This search, on the other hand, has taken place because the industry could afford it financially. Why could the industry afford it? While many other industries

could just afford to do the necessary research for survival, the drug industry went beyond this step and searched for the unknown: drugs of unheard of potency. The result: phenomenal growth and above average profit margins. Does the industry have a right for above average return? This can neither be answered in the positive nor in the negative way, but it should be said that without the above average returns the industry would not have been able or willing to spend the sums which are shown in the following chart on the next page.

CHART XIVETHICAL DRUG INDUSTRY SPENDING ON RESEARCH
1950 - 1962 (ALL COMPANIES)

Sources: Lawrence Lessing, "Laws Alone Can't Make Drugs Safe," Fortune, (Vol. LXVII; No. 3, March, 1963), p. 156.

Standard & Poors, "Basic Analysis," Drugs, Cosmetics, (December 13, 1962), p. D-10.

"Drug Industry Research," The Commercial Financial Chronicle, (Vol. CXCIII; February 9, 1961), p. 13.

Oil, Paint & Drug Reporter, The Chemical Authority, (Vol. CLXXVIII; No. 5, August 1, 1960).

Sutro Bros. & Company, "The Drug Industry," Monthly Investment Letter, (February, 1961), p. 2;

Between 1950 and 1962 \$1,679,000,000 were spent on research! As can easily be seen from Chart XIV, research and development expenditures multiplied eight times since 1950, from \$39 million in 1950, to \$248 million in 1962. As Dr. Alan Waterman, Director of the National Science Foundation, said: "The industries that spend the highest percentage of their sales on research and development are almost always those with the highest rate of growth."⁶² The ethical drug industry has accomplished this growth.

The ploughing back of about \$1.7 billion into research represents, as said before, approximately 7.5% of sales. (The figure is an approximation since only total industry sales are reported. Generally speaking, however, about 70% of total sales are for ethical drugs. To give the reader the clearest picture possible, the research expenditures of the ten leading ethical companies which sell primarily ethicals were shown in Table IX) This figure is only topped by the aircraft industry, but almost all of that industry's research is financed by government subsidies. As far as government financing in the ethical drug industry is concerned, only about 1% comes from the taxpayer; the stockholders finance the other 99%.

The ethical drug industry is often charged with being only interested in research that would lead directly to patents or other exclusive patent making devices. This,

basically, is true because these companies are in business, as was noted in Chapter I, to make money. But of the \$197 million spent in 1959 on research, \$18 million went to medical schools, hospitals, and other research institutions in forms of grants and contracts. In 1962, this figure had increased to "\$25 million."⁶³

CAPITAL AND RESEARCH COSTS COMBINED

Chart XIII and XIV have shown the extremely high capital and research expenditures for the ethical drug industry. The following table combines research and drug expenditures as a per cent of sales for a number of industries.

TABLE X

COMBINED RESEARCH AND CAPITAL EXPENDITURE
VARIOUS INDUSTRIES (1960)

| INDUSTRY | EXPENDITURES FOR PROPERTY, PLANT, EQUIPMENT, RESEARCH AND DEVELOPMENT AS A PER CENT OF SALES |
|------------------------------|---|
| Prescription Drugs | 13.5% |
| Stone, Glass & Clay Products | 12.7 |
| Instruments | 9.5 |
| Chemicals & Allied Products | 8.5 |
| Electrical Equipment | 6.2 |
| Rubber Products | 4.2 |
| Food & Kindred Products | 2.2 |

Source: National Science Foundation, Funds for Performance of Research and Development in American Industry, 1960, (NSF 61-51(30); 3, U.S. Government Printing Office, September, 1961).

Federal Trade Commission-Securities and Exchange Commission, Quarterly Financial Report For Manufacturing Corporations, (Fourth Quarter, 1960, U. S. Government Printing Office).

It comes as no surprise to see ethical drugs as the industry with the highest per cent of research and capital expenditures as a per cent of sales. With these necessary expenditures defenders of this industry feel that their profits are not "excessive and unreasonable." Indeed it is rather hard to imagine how the drug industry could continue to discover new drugs at the rate they have been doing it without above-average profits.

SUMMARY OF ROLE AND COST OF RESEARCH

In summing up the role and cost of research, it should be pointed out that a satisfactory level of profits plays a two-fold role in connection with research.

(1) It provides the reward for successful research and secondly it gives the companies the inducement to spend even more in the future. It has been forecast that research expenditures will run between \$400 to \$500 million a year by 1970.

(2) Another contribution research has made is that it greatly increased competition in the industry. This, the author feels, is a very healthy situation for the general public.

(3) The ethical drug industry has performed a service to the nation as well as the entire world by discovering drugs such as antibiotics and tranquilizers which have reduced the suffering of many sick people.

Companies take great risks when they do research. Let us look at these high risks now.

HIGH RISKS

GREAT PROFITS, GREAT RISKS

An old Chinese proverb says: "Great profits, great risks."

There is always a degree of uncertainty in the ethical drug industry which, it has been said, is perhaps the most important single factor accounting for the traditionally higher earnings. The unstableness is due to many reasons:

(1) Obsolescence of drugs because of the introduction of new drugs. A company never knows whether it is going to recuperate the heavy research expenditures, let alone make a profit on the drug. Therefore, they must charge a high price for a new drug in order to decrease the great risk exposure.

(2) There is often a long lag between the investment of funds in a new research project and between the date returns can be realized. Since the time lag is so great, competing companies may have come out in the meantime with a product that is superior, thus decreasing the chances of the other company to recuperate its investments and gain a share of the potential market.

(3) Research often does not pay off. Some companies such as Lederle have put more than \$8 million into

cancer research. Although there is a tremendous sales potential in this market, no effective drug has been found so far. As has been pointed out before, the failure ratio in 1958 was 2,865 compounds to 1. That means out of 2,865 compounds synthesized, only one compound ended up as marketable drugs!

(4) Some drugs look successful in clinical tests, but they disappoint in actual practice. This could be due to undesirable side effects and doctors' and patients' preferences change. As to undesirable side effects, one recent example can be cited. The thalidomide affair is probably still remembered by everyone. The drug had been used in Europe by millions as a sleeping pill since 1956. Then a United States company, the William S. Merrell Company, acquired the right to market the drug here. All of a sudden there were reports of malformation in babies. After the company had spent untold sums of money on clinical tests, the drug naturally had to be dropped. Result: much money was lost.

During the first half of 1962, only 16 new drugs were introduced. As we can see from Chart XIV, \$248 million was spent for research in 1962. A tremendous sum! The introduction of new drugs is down 32% from 1961. There was not only a lack in breakthrough of drugs, but an increasing caution on part of manufacturers because of the large number of drugs that had to be recalled from the market during the year

Why do companies take risks? Because they may get a reward for taking the risk.

REWARD FOR SUCCESS

When a company has finally been able to introduce a drug, its price is likely to be quite high. This, in the author's opinion, is the only way the investment can be recuperated. In addition, there were **many** failures mentioned in the preceding section. In order to have enough money available for continued research, a high price must be charged. The price goes down, however, as the years pass.

In summary, then, the Chinese proverb: "High profits, high risks" has a real meaning in the ethical drug industry. The only way to take on high risks is to have high profits.

Critics have often charged that it is the monopoly in the industry that caused high profits. Is there a monopoly?

MONOPOLY IN THE DRUG INDUSTRY

FAILURE RATE

As has been said in Chapter I, there are 1,300 companies in the drug industry of which only 28 exceed sales of \$8 million a year. These 28 companies account for 90% of all drug sales.

Before we analyze this concentration let us look at the failure rate in the industry.

TABLE XI

FAILURE RATES IN THE U.S.A. (SELECTED INDUSTRIES)

| INDUSTRY | FAILURES | | | |
|----------------------------------|----------|--------|--------|--------|
| | 1955 | 1958 | 1959 | 1960 |
| Total | 10,969 | 14,964 | 14,053 | 15,445 |
| Mining & Manufacturing | 2,202 | 2,680 | 2,465 | 2,612 |
| Textile, Mill Products & Apparel | 506 | 493 | 420 | 435 |
| Chemicals & Allied Products | 49 | 66 | 62 | 63 |

Source: Statistical Abstract of the U. S. A., Industrial and Commercial Failures, (82nd Annual Edition, No. 665, Government Printing Office, 1961), p. 498.

Admittedly, the failure rate shown in Table XI is for the entire chemical industry, but even so the failure rate was only 3.5% of all failures in 1955, and 4.1% in 1960. Since the breakdown for the ethical drug industry is not given, no correct figures can be cited. The author, however, knows of no ethical drug house that has gone out of business in the last few years. Thus failures are not common in the ethical drug industry.

COMPETITION

A CHANGING PICTURE

In the following table the concentration of several industries can be observed.

TABLE XII
 PER CENT OF TOTAL SHIPMENTS
 MADE BY LARGE MANUFACTURING COMPANIES
 (SELECTED INDUSTRIES) 1947 & 1954

| INDUSTRY | CENSUS YEAR | NUMBER OF COMPANIES | PER CENT OF TOTAL VALUE OF SHIPMENT ACCOUNTED FOR BY | | |
|-----------------------------|-------------|---------------------|--|---------------------|----------------------|
| | | | 4 LARGEST COMPANIES | 8 LARGEST COMPANIES | 20 LARGEST COMPANIES |
| Pharmaceutical Preparations | 1947 | 1123 | 28 | 44 | 64 |
| | 1954 | 1128 | 25 | 44 | 68 |
| Cigarettes | 1947 | 19 | 90 | 99 | 100 |
| Motors & Generators | 1947 | 224 | 59 | 66 | 80 |
| | 1954 | 266 | 50 | 59 | 75 |

Source: Statistical Abstract of the U.S.A., "Large Manufacturing Companies, Per Cent of Total Shipments Made By Large Manufacturing Companies in Selected Industries," Statistical Abstract of the U.S.A. (No. 1094, 1961), p. 793.

In the cigarette industry we have the big five, in the automobile and in business machine industries the big three, and in the meat packing and aluminum industries the big four. The drug industry, as noted, has 28 companies which account for 90% of total sales. From Table XII it can be seen that the four largest companies accounted for 28% of total sales in 1947 and 25% in 1954. Not one single company accounts for

more than 10% of total industry sales. While eight companies in the cigarette industry accounted for 99% of industry sales in 1947, the eight leading drug companies accounted for 44% of total sales. In a recent study by Arthur D. Little, Inc., it was shown that 37% of the industry sales were accounted for by five companies. This is a decrease from the 49% in 1951.

These figures really do not give us a clear picture of the concentration in the industry. The following evaluation might be more meaningful.

MAJOR PRODUCT AREA

Antibiotics, which make up almost 25% (\$830 million in 1961) of total manufacturers' sales, are made by "28 companies."⁶⁴ Of these 28 companies, 12 dominate the field. In 1950 there was only one company that manufactured that drug. The competition that has developed in the field is very intense. In fact it finally led to a 15% cut of antibiotic prices during the first half of 1962. From his experience as a detailman, the author remembers the large quantities of samples, large amounts of promotional material, and the expensive service pieces that detailmen left with doctors so that they would prescribe their product. Competition? Real, stiff competition indeed!

The second largest drug group is hormones. Sales amount to about \$260 annually. However, here we have several

subsections such as sex hormones, cortico-steriods, and non-steriod hormones. There are eight companies which dominate the field of sex hormones. Having detailed one of these products myself for six months, the author can vouch for the competition in this field. There is particularly strong competition from the generic name drugs, which are always cheaper than brand names.

In the corticoids field we have Lederle, Lilly, Merck, Schering, Squibb and Upjohn who dominate the field.

In 1950 Merck was the only company with a steriod. By 1954 its share of the market had decreased to 27% because competing companies had entered the field. By 1956 it was down to 3%. Things change fast in the ethical drug industry. These changes are due to competition. It was the research and development program which has brought about these changes.

The non-steriod field has three leaders. Here, too, we have seen price pressures recently because supply exceeds demands.

Another big field are tranquilizers. About \$288 million were sold in 1961. Carter and American Home Products Company have had a large share of this market for years. It was in this drug group where some real problems have existed. The two leading tranquilizers Miltown and Equinil have not seen major price reduction for some time. In fact the Veterans

Administration was finally forced to buy tranquilizers abroad because Carter , which is the U. S. patent holder, would not go below the \$19.25 price. In the last few years other companies have entered the mild tranquilizer field and some competition seems to have developed.

Vitamins, which once accounted for 14% of total manufacturers' sales, now contribute only 4%. In this group competition is intense. It is due to "over the counter" promotion of vitamins and low cost imports. Only recently bulk producers have announced a "15% to 30% decrease on prices for bulk vitamins."⁶⁵

As we could see from an example in Table I, Chapter I, there are many identical bids to government agencies on the part of ethical drug producers. Is it due to monopoly? At times it might be, but "identical bids may sometimes be more honest, more competitive, more practical than any other kinds of bids."⁶⁶ Defenders of identical prices say that companies must charge a "going price." Also, when one company reduces prices others will follow. Then the price will stay at that level for some time before another downturn or upturn occurs. With more intense competition from abroad, prices may go down and we may see fewer identical bids.

According to Senator Estes Kefauver, the patent system is the primary reason for the high drug prices. His bill (S1552) would have reduced the patent protection from

17 to 3 years. (The Senate did not pass this part.) Why is our patent system so good or bad?

THE PATENT LAW

THE PRIMARY VILLAIN

During the drug investigations in 1959 and 1960, Senator Estes Kefauver said that the patent system was the primary villain of high drug prices and high drug profits. A brief review of the system is necessary.

Abraham Lincoln once said that "the patent system adds the fuel of interest to the spark of genius."⁶⁷ We have seen that companies are spending millions of dollars each year to develop new drugs. Without the protection of the patent law there would be no incentive to do research because as soon as a company has developed a new drug others could simply copy the drug without incurring the research costs.

Of all countries in the western world only Italy has no patent protection for new drugs. As a result Italy has not produced a major drug. But as we will see later, Italy is a master in copying drugs from other countries. If every country had such a system, there would have been hardly any progress in the development of new drugs.

In the U. S. A. companies are working very hard to discover new drugs and get a patent for it. Of course not all can be first. "And there is no such thing as a second-best drug, any more than there is a second-best poker hand."⁶⁸

Often when the two companies come out with a new drug at approximately the same time, a long fight will develop over who should get the patent. In the meantime such coat-tail riders as PREMO Company can copy the drug and sell it for any amount because they do not have to take out a license.

Once a patent has been granted to a company for a new drug what will other companies do? For one thing they can ask the company with the patent for a license.

CROSS LICENSE

Cross licensing has increased in the last few years because of the decrease of the number of new drugs introduced. Cross licensing simply means that the company with the patent will allow another firm to sell the same product under a different brand name. Carter Products, Inc., which was the patent holder for the first tranquilizer, granted a license to Wallace Laboratories. Companies usually pay an 8% royalty for the license. When a cross license has been granted competition usually begins for the greatest share of the market. Since there is hardly a difference in quality, whatever company has the best detail staff and the best promotional staff will get the greatest share of the market. From observation of such cross-licensing it seems that there is a lack of price competition. Only when another company comes out with a similar but chemically different product will price competition really start.

In order to generate more competition Senate Kefauver suggested a reduction of patent protection from 17 to 3 years. Is this a proper solution?

A SOLUTION?

To take the mystery out of the question, this part of bill S1552 was not passed.

Would a growth industry such as the ethical drug industry have been able to continue to grow if the protection had been reduced from 17 to 3 years?

In order to risk great sums on research and development, a company must be sure that it will recuperate the investment. If the patent protection had been reduced to three years it is the author's feeling that many companies would think twice before investing millions of dollars to develop a new drug. On the other hand Senator Kefauver would not have reduced the patent protection completely because he only wanted to force a company to grant licenses to other companies at the end of three years for a certain royalty.

The author thinks that the part of bill S1552 dealing with patents would have had a chance of passage if the protection would have been reduced to ten years instead of three years. As we have seen from Chart XII it takes quite a while before a new drug is accepted by the average doctor. After the THALIDOMIDE affair doctors have become

even more conservative than they were before. Therefore, the three year patent protection is inadequate. It would not have given companies enough time to recover investment costs. Also, many senators were probably quite dissatisfied with the section in the law that forced companies to grant a license. American firms are accustomed to choosing their own licensee and to stipulate their own terms.

What, then, should be done about the present patent system? In the author's opinion it would probably be in the best interest of all concerned to let the drug companies have the same protection as is granted to other industries.

Not a week goes by without a patent litigation in the ethical drug industry. Merck and Company, which only recently had to guard its patent on Vitamin B₁₂ against Squibb, will now have to put up a "vigorous defense of its vitamin patent against Richter Pharmaceuticals."⁶⁹ Even with the 17 year protection many small drug houses produce patent protected drugs illegally.

Senator Kefauver and other critics of the drug industry often say that there is a monopoly in the industry. In preceding pages the author has tried to evaluate this problem. The following section may help the reader in arriving at a conclusion concerning this subject.

COST OF PROMOTION

A NEED FOR INFORMATION

A new discovery, no matter how great it was, can

not alone cure a single living person or disease. No drug can accomplish anything until doctors know about it and until it is available at the local drugstore.

With the discovery of the drug the tough job is not finished. Now equal zeal and energy must be devoted to the task of education and distribution. Education can be accomplished in three ways.

(1) Direct mail. Doctors have told the author that they are getting over 100 pieces of literature each week. The degree of effectiveness is hard to measure, but many pieces never seem to reach the doctor because the nurse throws them away when she sorts the mail. Nevertheless, 25% of the doctors get new product information from direct mail literature.

(2) Publication advertising. In order to reach the 250,000 physicians in the United States, many companies (some exclusively) rely on medical journal ads. According to a survey by the American Medical Association in 1959, 32% of the doctors surveyed indicated that they rely on journal ads for new product data.

(3) Detailman. Since we have already discussed the detailman, it can only be repeated that 68% of all doctors interviewed felt that the detailman is their best source of new product data.

In order to make a profit, a company must be able

to sell its goods or, as in the case of the ethical drug industry, to educate the doctors about their products so that they can prescribe them. How high are the promotional costs in the ethical drug industry?

ADVERTISING EXPENDITURES

A decade ago "75% of the prescriptions were compounded in the drugstore itself. Today, more than 90% of all prescriptions call for already prepared tablets."⁷⁰ How significant is this statement? In the author's opinion it is quite significant. It shows how effective drug companies have been in "educating" doctors in prescribing drugs in terms of "brand names" instead of generic names. By doing so the druggist has no choice but to give the patient the specific drug the doctor requested. If the doctor had written the generic name of the drug on the prescription, the druggist would have had a choice of probably 100 different drugs from 100 different drug companies all with the same generic name. Then it would be up to the druggist, not the doctor, to choose the company with the best quality and as far as the druggist is concerned, with the lowest price or highest gross margin to him. As can be seen, this would have meant a shift of responsibility from the doctor to the druggist.

The shift in recent years to brand name drugs has been criticized by opponents of the drug industry. It has

been said that this shift was due to "brainwashing of doctors."⁷¹ Some critics (see Harvard Business Review, September-October, 1962, p. 97) have gone so far as suggesting that vigorous promotion of drugs is not necessarily socially desirable. But apparently there has always been a problem in drug advertising because as early as 1920 "the advertising of trade marked products was greater in the drug and toiletry field than in any other group."⁷²

How high are the expenditures for promotional activities? Advertising Age estimated that \$450,000,000 were spent by the major drug and toilet article manufacturers in 1960. Since this amount will not tell us how much was spent by drug companies let us look at the direct mail and medical publication expenditures of the companies with the highest expenditures.

TABLE XIII

TOP ETHICAL DRUG ADVERTISERS,
MEDICAL PUBLICATION EXPENDITURES AND
DIRECT MAIL COST, 1960

| ETHICAL COMPANY | EXPENDITURES IN DOLLARS |
|-----------------------|----------------------------|
| Wallace Laboratories | \$6,000,000 |
| Merck, Sharp & Dohme | 5,500,000 |
| Smith, Kline & French | 5,000,000 |
| Parke-Davis | 4,600,000 |
| Ciba | 4,500,000 |
| Lederle Laboratories | 4,000,000 |
| Chas, Pfizer | 4,000,000 |
| Roche Laboratories | 3,700,000 |

Source: Advertising Age, (October 16, 1961), p. 111.

Wallace Laboratories spends the largest amount because this company does not employ detailmen. Merck which had sales totaling \$218 million in 1960, spent \$5.5 million dollars on direct mail and in medical publications excluding the expenses for detailmen. Smith, Kline & French spent 3.4% of total sales on these two media alone.

REAL COMPETITION

It has been estimated that in one year about 3.8 billion pages of paid journal advertising are placed in journals. Many people feel that this is quite excessive. In fact many opponents of the industry charge that the "only

real competition is the tremendous competition for the eye and ear of the physicians."⁷³ But isn't it an indicator of competition? Why would a company bother spending so much money if they were assured a ready market? It is the author's opinion that the large promotional expenditures are a definite indicator of competition.

Combining promotional and selling expenses, about 16 to 25 cents of each sales dollar are spent for these activities! Very few industries have a higher ratio .

WHAT IS THE SOLUTION?

Many suggestions have been made as to how to reduce this high ratio.. Setting up of satisfactory noncommercial sources was one suggestion. The industry already has the Physical Desk Reference, a commercial source, which lists all brand name drugs in the United States. This reference is very popular among physician and a noncommercial source would be a duplication of efforts.

It is also said that if information is readily available, physicians will take the initiative to see that they keep up to date. From personal experience the author knows that many physicians do not even have the time to listen to detailmen, let alone take their own initiative to gather information.

Those who are in favor of generic drugs say that the doctor is not interested in the reputation of a company, only in the properties of the drug. Having put this state-

ment to a number of doctors, the author received a unanimous reply that a doctor has neither the time nor facilities to inspect the drugs. All said they rely on the company's reputation solely.

The present promotional system is quite expensive for the patient (he pays for the cost when he buys the pill), it must be admitted. But it is effective, as has been shown in the dramatic change from generic to brand name drugs.

USE OF PROFITS IN THE ETHICAL DRUG INDUSTRY

A growth industry such as drugs has to plough a lot of money back into the business for growth and progress. As we have seen in this chapter, between 1950 and 1962 almost \$1.7 billion were spent on research alone. Also, a lot of money was needed for plant and equipment.

An examination of financial data of ethical drug companies for 1961 show that 50% of the industry profits went for income taxes, 30% went to stockholders, and 20% was ploughed back for plant and equipment, increase of working capital, etc.. For 1959 the figures were 50%, 29%, and 21%, respectively. Since most of the expansion is already financed with the stockholder's money, it will probably be difficult to decrease the dividend payout even more. Otherwise, the hundreds of thousands of Americans who have invested their savings in drug concerns may think twice before they invest more money in this industry.

What conclusion can be drawn from the evidence presented in this chapter?

HIGH PROFITS JUSTIFICATION-PRELIMINARY CONCLUSION

It has often been said that there are three factors that keep prices high in the drug industry.

- (1) The patent system
- (2) Advertising and promotional expenses
- (3) Monopolistic conditions

As far as the patent system is concerned, it may be a "primary villain" to high drug prices, but we have also noted in the preceding sections the relatively short life span of the average drug and the large sums companies must spend on research to develop the drug in the first place. The author feels that drugs should be granted the same patent protection as any other American industry. Otherwise, there may be a lack of incentive to put millions of dollars into new research projects.

Advertising and promotional expenses have also been analyzed. The costs are high, but are paying off for drug companies because of the switch from generic name drugs to trade names in the last decade. If the hard hitting direct mail and journal advertising campaigns were reduced to some extent, (doctors are already reporting progress in this direction because the number of pieces of direct mail is down to about 65 a week) it would result in considerable

savings which may then be passed on to the consumer.

Lastly, the question of monopoly has been examined and it was found that there has been a certain lag of competition in some drug groups, especially tranquilizers, but with the entry of companies with chemically different tranquilizers, competition seems to have developed. Also, with greater competition from abroad in this specific field, prices may be coming down.

A more thorough conclusion of conditions in the industry will follow in a later chapter, together with recommendations as to how to eliminate some of the problems.

CHAPTER VI

PRICES OF DRUGS VS. PROFITS OF DRUG HOUSES

HOW ARE PRICES SET IN THE INDUSTRY?

What shall we charge for product X? This is a question which is probably asked thousands of times every day by marketing men all over the country.

As has been shown in Chapter V, the determination of a price is not a science. It depends on many variables and these variables change from industry to industry. In the ethical drug industry the actual cost of manufacturing the drug plays no role in the ultimate price. Rather it is the demand for the new drugs; the competition that already exists in that particular drug group (hormones, for example) and the research and development costs of the new drug that are considered in determining the ultimate price.

NEW DRUGS AND HIGH PRICES

When a new drug is marketed before competing drugs can be discovered, the richest earnings occur. Unless there are large earnings, "the quick kill with the quick pill does not pay off."⁷⁴ For example, Lederle, after many years of research had discovered what seemed to be a major breakthrough against pneumonia. Sales were excellent until the sulfa drugs came along 1½ years after the introduction of Lederle's drug. Millions of dollars in research costs had to

be written off because Lederle's drug was outdated. The company probably derived glory for saving many lives but nothing else.

This is typical of what can happen in the prescription industry. It is probably for this ever present uncertainty and high risk that a firm sets a relatively high price on a new drug. The price, however, of the new drug will not remain at this level forever. Depending upon the degree of competition, prices may drop fast. For example, "potassium and procaine penicillin were quoted by \$1,300 per billion units in 1948, and as low as \$34.50 for potassium in 1955 and \$47.50 for procaine in 1956."⁷⁵ Production efficiency as well as competition have helped to decrease the price.

No matter how one looks at it, drug prices are relatively high; but when they are compared with drug prices overseas, then they look completely out of line. The author will try to analyze the reasons for the big price differential in the following section.

WHAT THE DRUG DOLLAR BUYS

AS COMPARED TO FOREIGN COUNTRIES

During the 1959 and 1960 drug investigations by Senator Estes Kefauver, it was often pointed out that American firms charged far less for the drugs they sold overseas than what they charged in the United States. EQUINIL, for

example, sold for half the price in Germany.

What is the reason for the lower price? Opponents of the drug industry claimed that monopoly and promotional practices are the reasons for the higher prices in the United States. While promotional costs are high in the United States, they are equally high in Europe. It is the author's opinion that they are even higher overseas because doctors act as detailmen in some countries of Europe. As far as monopoly is concerned, the author analyzed the various drug groups in the preceding chapter and found a lot of competition in most groups. With monopoly and excessive promotional costs discounted, let us look at the real reason for lower drug prices overseas.

WHY DRUG PRICES ARE LOWER OVERSEAS

Drug prices are lower overseas in terms of dollars, but are the Europeans getting paid in dollars? We must look at the purchasing power of the currency overseas. Having worked both here and abroad, the author has had the experience to make a just comparison. While 1200 DEUTSCHE MARK (German mark) is a good salary in Germany, hardly anyone can live on \$300 a month (exchange rate is 4:1) in the United States. Therefore, it would be better to look at the "real" price of the drug, the hours of work required of the average person to buy a pill. To gain a better understanding of the subject, let us first look at the hourly earnings in various

countries.

TABLE XIV
HOURLY EARNINGS IN SIX COUNTRIES

| COUNTRY | AVERAGE HOURLY EARNINGS (ALL MANUFACTURING) |
|----------------|--|
| United Kingdom | 67.2 cents |
| West Germany | 53.8 cents |
| France | 47.3 cents |
| Japan | 35.9 cents |
| Italy | 34.9 cents |
| U. S. A. | \$2.41 |

Source: U.S. Department of Commerce, Survey of Current Business, "Hourly Earnings, All Manufacturing," Office of Business Economics, (Vol. XLII; No. 12, December, 1962), p. S-15.

"Hourly Wages in Five Countries," Business International, Weekly Report To Management of Business Abroad, (No volume number given; December 29, 1961), p. 2.

Table XIV shows that American earn three to four times as much in an hour as their counterpart in other leading countries of the world. Will a West German, who earns 54¢ an hour, get a bargain when he pays only half as much for a tranquilizer as his American counterpart? In the following table the hours of work required to pay for the tranquilizers

are shown.

TABLE XV
HOURS OF WORK REQUIRED
TO BUY DRUGS IN THE U.S.A. AND ABROAD
(1957 RETAIL PRICE OF TRANQUILIZERS)

| COUNTRY | RETAIL PRICE IN U.S. DOLLARS | HOURS OF WORK REQUIRED TO BUY 50 TABLETS (25 MG) |
|--------------|---------------------------------|--|
| France | \$.77 | 1 HOUR 57 MINUTES |
| U. S. A. | 5.05 | 2 HOURS 18 MINUTES |
| West Germany | 1.90 | 3 HOURS 18 MINUTES |
| Italy | 1.62 | 4 HOURS 46 MINUTES |
| Japan | 2.29 | 7 HOURS 38 MINUTES |

Source: Pharmaceutical Manufacturing Association, The Better Life, A Chart Story of Drugs and the Drug Industry, (No volume number given; 1961), p. 29.

While a West German worker only pays \$1.90 for 50 tranquilizers as compared to \$5.05 in the United States, the German, on the other hand, must work almost 1½ times as long as the American in order to buy the tranquilizers. The Japanese will have to work 3½ times longer than Americans to buy tranquilizers which cost the Japanese half the U. S. price.

In summary Americans are still better off than most foreigners even with the high price of drugs in the U. S. A.

HIGH DRUG PRICES AND THE PHARMACIST

In Chapter V, Table VIII, we have seen the large markup the pharmacist adds to the wholesale price. There are several reasons why the pharmacist's markup is so high.

HIGH MARKUPS AND THE PHARMACIST

The pharmacist, unlike most other retail groups, is still following the suggestion that the best way to build up profits and sales volume is by "maintaining fair pricing schedules."⁷⁶ With the exception of a few large states, noticeably New York, pharmacists have been able to control the entry of price cutters into the drug trade. In addition, the drug chain has not yet become very important in those states where "fair trade" is still being practiced.

Many times the author has come into a doctor's office, only to be told that the druggist had charged a lot of money for drug X. Closer questioning revealed that the druggist actually charged 50% more than he should have charged, assuming a normal markup of 45%. Drug makers, when confronted with this problem often say: "What he (the druggist) charges the customer is entirely his own affair."⁷⁷ With greater control and greater interest over resale prices, the drug industry would not only help themselves by avoiding the demand for cheap generic name drugs, but the public would certainly appreciate the lower prices too.

With the high markup for brand names there is no

good reason to believe that the druggist would pass on the savings of the cheaper bulk materials to the customer if doctors would start writing drugs by generic names.

In the table that follows, net profits of the average pharmacy are shown, together with sales.

TABLE XVI

AVERAGE OF RETAIL PHARMACY OPERATION (1952-1961)

| YEAR | SALES | PROPRIETOR'S OR MANAGER'S SALARY | NET PROFIT |
|------|-----------|-------------------------------------|------------|
| 1952 | \$ 95,985 | \$ 6,734 | \$5,694 |
| 1953 | 97,090 | 7,540 | 5,285 |
| 1954 | 101,881 | 8,116 | 5,193 |
| 1955 | 102,842 | 7,790 | 5,743 |
| 1956 | 111,445 | 8,470 | 6,464 |
| 1957 | 126,466 | 9,739 | 7,029 |
| 1958 | 126,191 | 10,151 | 6,484 |
| 1959 | 134,238 | 10,861 | 7,679 |
| 1960 | 138,342 | 11,377 | 7,301 |
| 1961 | 139,176 | 11,595 | 7,162 |

Source: F. C. Hecker, The Lilly Digest 1961, (30th Annual Edition, Copyright 1962), p. 48.

Between 1952 and 1961, the average pharmacist not only increased his net profit from \$5,694 to \$7,162, but in addition the proprietor's salary almost doubled during this time. The drug trade is quite profitable and failures are quite

uncommon. Of the 55,000 drugstores that existed in the U. S. A. in 1961, only "204"⁷⁸ went out of business. This, by the way, is the smallest number of failures of all retail trades listed in the Statistical Abstract of 1962.

Another way of measuring the profitability of drugstores is by analyzing the price per prescription the druggist charges.

TABLE XVII

AVERAGE PRICE PER PRESCRIPTION (1950-1959)

| YEAR | NUMBER OF PRESCRIPTIONS FILLED | PRICE PER PRESCRIPTION |
|------|--------------------------------|------------------------|
| 1950 | 9,020 | \$ 1.77 |
| 1951 | 9,875 | 1.90 |
| 1952 | 10,436 | 2.08 |
| 1953 | 10,295 | 2.19 |
| 1954 | 11,037 | 2.27 |
| 1955 | 11,273 | 2.46 |
| 1956 | 11,985 | 2.62 |
| 1957 | 13,502 | 2.85 |
| 1958 | 13,693 | 2.96 |
| 1959 | 14,656 | 3.09 |

Source: "Drug and Toiletory Study," This Week Magazine, (No volume number given; 8th Biennial, 1960), p. 25.

It must be admitted that the 50's were the period of the wonder drugs, but a price increase of 43% per prescription between 1950 and 1959 is quite high if the figure is compared with a wholesale price increase of only 3%. Apparently the druggist has increased his already high markup even more.

Many drug makers sell one or two "over the counter" preparations. If the drug makers did not need the cooperation of the druggists for these items, the author is sure that we would see a more energetic drive on part of the ethical drug industry for more reasonable markups of their drugs.

THE M.D. AND HIS RELATIONSHIP TO PROFITS

The author knows many doctors who own stock in the ethical drug industry. As far as the drug firms are concerned, they should be quite happy about this relationship (doctors and ethical drug stocks) because the doctors in most cases will prescribe the drug of the companies of which they are stockholders. It stands to reason that the doctor-stockholder is interested in high profits for his firm. How widespread the relationship between doctors and ownership in ethical firms is, can not be estimated. However, the more widespread this relationship, the harder it will be to talk doctors into prescribing in terms of generic name drugs because this could mean a decrease in ethical firms' profits.

Having now analyzed prices of drugs vs. profits of drug houses, let us now look at the contribution the ethical drug industry has made to the well-being of mankind.

CHAPTER VII

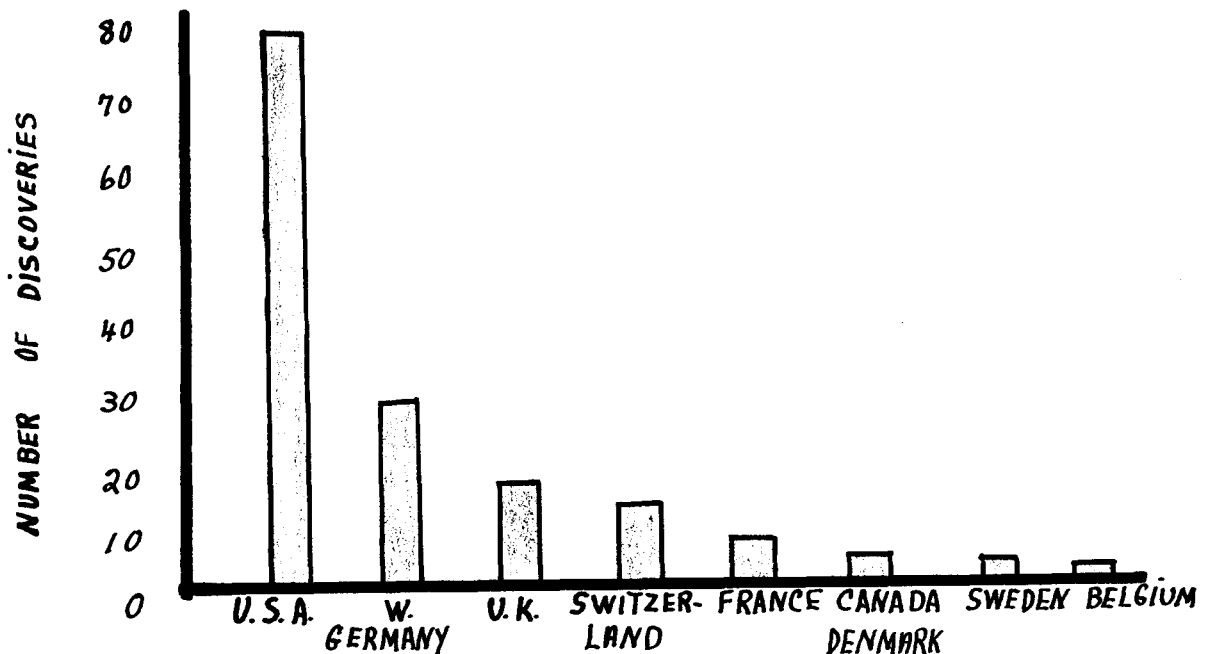
THE DRUG INDUSTRY AND THE WELL-BEING OF MANKIND.

WORLD LEADER IN DISCOVERY

Drug prices and profits may be higher in the United States than in any other country of the world, but credit must be given to the United States drug industry for the discoveries that have been made here. In the following table drug discoveries are shown by country of origin.

CHART XV

DISCOVERIES OF MAJOR DRUGS BY COUNTRY OF ORIGIN
(1951 - 1961)



Source: "Piracy - A Rising Worry For U. S. Business,"
U. S. News and World Report, Special Report,
(Vol. LIII; No. 10, September 3, 1962),
p. 83.

Chart XV was based on 161 major drugs now in wide use. Of these the United States discovered almost half while Germany, which has always been strong in drug discoveries, was in second place. Italy, which has no patent law for drugs, has not had a single major drug discovery.

As we have seen in the preceding chapter, returns can be quite high for new drugs. The high returns, combined with the patent protection, are probably the basic reasons for the high rate of discovery. These new discoveries have not only helped people in the United States, but also many sufferers in foreign countries who are thankful to the United States for its help.

To the credit of the industry, drug firms often develop products for which there is only a small market. Such pharmaceuticals are often called custom made preparations.

CUSTOM MADE DRUGS

The drug industry is basically only interested in those products that have a potential market. However, at times, drugs are introduced whose market potential is very small. For example, a product has been introduced for the prevention of mental deterioration in children with a certain metabolic disease, of which there are less than 1,000 known cases. Then there is the drug for a rare type of epilepsy of which there are only thirty known cases.

With demand so small in many cases, the unit cost would be so high that none of the people with the sickness could afford the pills. Manufacturers usually set a fair price for such a drug and the loss must naturally be absorbed by the few best selling pharmaceuticals. This is another reason why it is often hard to look at one fast moving drug and compare the selling price with the production costs. What one can not find in these figures are research costs of the less successful and wholly unsuccessful drugs, and, of course, the drugs for which there is no large market. Coat-tail riders, which were discussed in Chapter II, may be able to produce fast moving drugs at a lower cost than the research firms, but they are completely disinterested in drugs for which there is only a small demand.

In summing up, there may be high profits for certain drugs, but one must also consider that there are many, many other drugs a company carries that are actually loss leaders.

In the preceding 100 pages we have seen that drug firms have a higher rate of return than most other industries. We have also seen tremendous capital and research expenditures on part of drug manufacturers. What have all these expenditures resulted in? In short, they resulted in high profits, but also in the greater well-being of mankind.

ACCOMPLISHMENTS OF PHARMACEUTICAL RESEARCH

The drug industry can not claim all the credit for the excellent health statistics that follow, but new drugs have made a great contribution toward the well-being of mankind.

TABLE XVIII

DEATH RATE PER 1,000 POPULATION

| YEAR | DEATH RATE PER 1,000 AT BIRTH | DEATH RATE PER 1,000 UNDER ONE YEAR | DEATH RATE PER 1,000 75-84 YEARS |
|------|-------------------------------|-------------------------------------|----------------------------------|
| 1910 | 14.7 | 131.8 | 122.2 |
| 1920 | 13.0 | 92.3 | 118.9 |
| 1930 | 11.3 | 69.0 | 112.7 |
| 1940 | 10.8 | 54.9 | 112.0 |
| 1950 | 9.6 | 33.0 | 93.3 |
| 1960 | 9.5 | 28.8 | 87.0 |

Source: U. S. Department of Commerce, "Vital Statistics, Health and Nutrition," Statistical Abstract of the U. S. A., (83rd Edition, No. 67, No. 49), p. 52 & 63. (1962)

Death rate per 1,000 under one year has shown a sensational decline in the last 60 years. This is not only due to more advanced medical standards but also to drugs of highest potency. During the last 20 years when the drug industry made

the greatest progress, the death rate of the under-one group, as well as the 75 to 84 age group had the greatest decline in the rate of death. The millions of dollars spent for research to discover new drugs for the very young and the very old have definitely paid off.

During the last 40 years we have also seen an increase in life expectancy.

TABLE XIX

LIFE EXPECTANCY IN THE U.S.A. 1920-1959

| YEAR | EXPECTATION OF LIFE AT BIRTH |
|------|------------------------------|
| 1920 | 54.1 |
| 1930 | 59.7 |
| 1940 | 62.9 |
| 1950 | 68.2 |
| 1959 | 69.7 |

Source: U. S. Department of Commerce, Statistical Abstract of the U. S. A., (83rd Edition, No. 63, 1962), p. 60.

Table XIX shows that life expectancy increased from 54 to almost 70 years, during the 40 year period. These added years have contributed billions of dollars to the Gross National Product since the productive years of the average per-

son has been increased considerably.

In summary, new drugs have disarmed within the last 20 years such killers as diphtheria by 100%; tuberculosis by 91% and syphilis by 89%. These gifts of life and health have come from the combined efforts of the health team. The pharmaceutical industry has played a great role in the fight against disease.

PUBLIC BENEFITS OF THE COMPETITIVE SYSTEM

IN THE DRUG INDUSTRY

The drug industry has demonstrated to the public that it can operate quite well without government control. With more intense government control or even ownership of the industry, there is no reason to assume that cost of drugs should drop. Government ownership of various industries in Germany has not only led to increases in cost of operations, but also to inefficiency. Of a total of 540 single chemical entities which were introduced between 1941 and 1961 only one was reported from behind the Iron Curtain as compared to 333 from the U. S. A.

The competitive profit system in the drug industry will benefit the public in the following ways.

- (1) Best incentives for developing needed drugs.
- (2) Assured quality and reasonable safety of drugs.

- (3) Prompt distribution of drugs and necessary information to the health team.
- (4) Outstanding foreign drug discoveries are made available quickly.

Without the stimulating competition, freedom from unneeded regulation and deserved rewards for new drugs have made the United States drug industry the recognized world leader in drug discoveries.

In the following chapter the author will discuss ways to lower cost of drugs.

CHAPTER VIII

WAYS TO LOWER COST OF DRUGS.

GENERIC NAME

There are many ways to reduce the cost of drugs, but there is only one effective way to reach this goal: have doctors prescribe drugs by generic name instead of brand names.

Senator Estes Kefauver realized the importance of generic name drugs when he proposed that generic names must appear in all advertising and labels in type at least half the size of the trade name. This, of course, is intended to make doctors remember generic names, but the author feels that sales of generic name drugs will not increase appreciably.

GENERIC NAME DRUGS - A SOLUTION TO HIGH PRICES?

What are generic name drugs? As each new drug is discovered, a generic name is chosen as the common name for the drug. This is required by federal law. A specific trade name drug is manufactured by only one company whereas its generic equivalent can be manufactured by any drug firm. When the physician, and only 10% of them do, prescribes a drug by generic name he will not know what manufacturer will supply the chemicals. However, by prescribing trade names there will generally be "consistent results and uniformly dependable products of a reliable manufacturer."⁷⁹ In Chapter

II the wide difference in product quality of small drug houses and drugs made by the large companies with research facilities. In fact of the 1,200 companies doing 13% of the ethical volume, nearly 6% of the samples examined were subject to legal action. This is 120 times greater than for drugs examined by the 28 leading companies doing 87% of the ethical drug business. While many companies may make the same generic name drug, there can be wide differences as to "potency, sustained release medication, enteric coated tablets, tablet disintegration time, drug solubility, particle size, choice of vehicle base and quantity of active ingredient."⁸⁰ In an article published in Die Pharmazie, investigators found "therapeutic differences between the (PREDNISON) two products of such magnitude that, when patients on product A were switched to product B the healing process stopped or was even reversed."⁸¹ Such differences are due to factors listed above.

REAL SAVINGS

As noted, the single greatest apparent saving in drug costs would be to persuade doctors to prescribe by generic rather than by brand name. Advocates of this system talk of savings up to 50%. There is no doubt that patients can save that much, but if most drugs are prescribed by generic name, where will the incentives be for the research companies to invest money in new projects? If a company can

not even recover its development costs, there is no sense investing in new projects. We have seen in Chapter II, Table I, page 10 that small drug houses that specialize in generic name drugs can underbid the large companies easily. The reason for the cost differential is that these coat-tail riders have no research and development expenditures.

Bill S1552 which was recently passed by Congress may increase sales of generic name drugs by a small percentage, because the generic name must appear at least one-half the size of the trade name on advertisements and labels, but it is the author's belief that the trend toward trade name drugs (90% of all prescriptions called for today are in prepared tablets as compared to 25% a decade ago) will not be reversed.

DRUG PURCHASES ABROAD

Although government purchases of ethical drugs amount only to 3% of total U. S. A. drug sales, almost every ethical drug company is interested in government contracts because of the relatively large size of the contracts and the lower packaging, handling, and distribution costs that will be incurred by making one large shipment.

CONSIDERABLE SAVINGS

In the last few years domestic drug firms have not received as many contracts as they had hoped for. Instead various agencies of the government went abroad to purchase

their drug requirements. This change can be attributed to "persistent refusal of the domestic drug companies to furnish cost data, in contrast to most other defense contractors, makes it impossible for the Department of Defense to assure fair pricing to the Government in drug purchases."⁸² In addition, Assistant Secretary Morris charged that "drug companies will charge the government what the 'market will bear.'"⁸³

The Medical Defense Supply Center, which makes all the drug purchases for the Armed Services, claims that it can save millions of dollars in taxpayer's money by buying drugs overseas. The following table will serve as an illustration.

TABLE XX

DEFENSE SUPPLY AGENCY PURCHASES OF DRUGS

| PRODUCT | NUMBER OF CONTRACTS | TOTAL \$ VALUE OF FOREIGN CONTRACTS | TOTAL \$ VALUE OF DOMESTIC CONTRACTS | \$ SAVINGS PER PRODUCT |
|--------------------|---------------------|-------------------------------------|--------------------------------------|------------------------|
| Tetracycline | 14 | \$4,831,070 | \$ 9,023,026 | \$ 4,191,956 |
| Meproamate | 6 | 944,921 | 5,829,519 | 4,884,598 |
| Nitrofurantion | 6 | 549,574 | 1,558,162 | 1,008,586 |
| Chloretetracycline | 3 | 388,126 | 794,112 | 405,986 |
| Sulfadiazine | 2 | 130,842 | 267,358 | 136,516 |
| | | \$6,844,533 | \$17,472,177 | \$10,627,642 |

Source: Military Operations Subcommittee, Staff Memorandum, Defense Procurement of Foreign Made Drugs, (87th Congress, 2nd Session, October, 1962), p. 34.

A 10 million dollar difference on five drugs alone demonstrates the amount of money that can be saved by government agencies. The Veterans Administration, too, has gone overseas to buy tranquilizers. A Danish company offered "\$3.84 per bottle of 500 pills. The lowest price offered by Carter, the U. S. patent holder was \$19.25."⁸⁴

OTHER FACTORS TO CONSIDER

Such savings, as shown in Table XX, look quite impressive. It must, however, be taken into consideration that the Veterans Administration will have to set up a special inspection system overseas which will increase the cost of the drugs indirectly. In addition, the government, by buying drugs overseas, encourages piracy on part of foreign companies, especially in Italy and Denmark. As was pointed in a special report by U. S. News and World Report "instead of helping these companies (drug) stamp out theft, some Congressmen say the government is buying some "'bootleg'" items at cut-rate prices."⁸⁵ Since the foreign companies copy patented U. S. products and pay no royalty for them, the purchases by U. S. Government, therefore, infringe on the domestic companies' patents.

CUT-RATE STORES

One way of reducing the cost of drugs for the consumer is by establishing cut-rate stores. While this practice is well established in the New York area, it has not yet gained force in many other parts of the country.

UNION PHARMACY

In New York City the Medford Plan, Inc., a union pharmacy, has 350,000 members and offers drugs at a 30% savings. The plan was financed through a \$1 contribution by each member. Apparently the system is working out quite well because more stores will be opened in the future.

THE DISCOUNT PHARMACY

Unlike the union pharmacy, the discount pharmacy is open to everyone. In Manhattan alone, at least 50% of all drugstores offer some discounts. The consumer by shopping around for the lowest prescription price can save up to 25% per prescription. People in outlying areas of New York City are becoming aware of the savings and more and more of them travel to Manhattan to have their prescriptions filled.

HOSPITAL FORMULARY

There are always several trade names for a generic name drug. If a hospital carries all brand names of this particular drug, it would not only result in a large investment but also in some duplication. To avoid large investments and duplications of similar drugs, hospital formularies are used by a ever increasing number of hospitals.

Some hospitals claim savings of up to 25% by switching to generic name drugs whenever possible and hold the number of brand name medicines to a ~~minimum~~. There is very intense competition among drug firms to get their product on the "formulary." When the product is not on the formulary,

it is very difficult to sell the particular product to the hospital pharmacy.

The author feels that the system is an excellent way of reducing the overall cost of drugs, but it must also be remembered that a doctor has no choice of the various drugs that are available for the particular sickness. He must, generally speaking, use the drug on the formulary whether he wants to or not.

DISCOUNTS FOR WELFARE PATIENTS

Merck & Company, Inc. in 1961 initiated a system whereby they make a 10% refund to certain states for all prescription expenditures they incurred for welfare patients. "California's check covering January (1961) came to \$4,485.20; Florida's to more than \$3,000."⁸⁶

It is the author's opinion that the system initiated by Merck will not only help financially the states involved, but the company too since Merck can expect to gain a lot of goodwill which, in turn, may express itself in increased business.

LOWER DRUG COST -- SUMMARY

In the preceding pages the author discussed several ways to lower the cost of drugs to the consumer. The most effective way is to ask doctors to prescribe drugs in terms of generic names. The patient is sure to save money assuming the druggist passes on the low bulk material prices to the

patient, but it must also be admitted that the quality of many generic name drugs that are made by small drug houses do not always meet the high standards of the trade name drugs.

As far as drug purchases abroad are concerned, they will have no effect on retail drug prices in the United States. A consumer, however, can save up to 30% if he has his prescriptions filled in a cut-rate store.

Most consumers are not aware of the various ways they can save on prescriptions. If consumer and labor unions would educate the public about the possible savings through some of the ways discussed in this chapter, they would do a real service to the public.

In the following chapter an analysis will be made of the drug industries of several foreign countries.

CHAPTER IX

DRUG PRICES IN OTHER COUNTRIES

DRUG PRICES AND SOCIALIZED MEDICINE

"The drug bill has continued to increase, so has the cost of individual prescriptions, and so have the industry's profits."⁸⁷ "The prices of some highly effective preparations are four, five, and even six times the wholesale prices."⁸⁸

The first quotation comes from the Comptroller and Auditor General of the United Kingdom. The second is from the Health Minister of the Soviet Union, Maria D. Kovrigina. These are only two of the many statements that can be presented in connection with the subject. One can therefore assume that high drug prices are a universal problem.

PRICE CONTROL OF DRUGS

In order to stop the rising tide of high drug prices, some countries specify what markup a wholesaler and retailer can charge. Belgium's new drug law allows "a wholesaler markup of 12.5% of the manufacturer's price and the pharmacist may set a 30% markup of the retail price."⁸⁹ However, "for new products growing out of research in Belgium, the manufacturer is allowed a five-year markup at a higher rate."⁹⁰

Belgium has discovered only one of the 161 major

drugs on the world market today. It is therefore understandable that some form of incentive (higher markup for new drugs) be given to find new drugs.

In the United Kingdom a so-called truce had been agreed upon between the Comptroller and Auditor General and drug makers. One of the agreements was that drug makers would not raise prices. Apparently the truce was not kept because prices as well as profits went up during the truce. According to the Economist, profits of drug makers are above those of the general industry average.

A WAY OUT?

The British Health Ministry, like the U. S. Veterans Administration, went to Italy two years ago to buy wonder drugs. Officials of the Health Ministry had saved millions of dollars by buying drugs from the Italian drug manufacturers. American companies in the United Kingdom in the meantime did not sit idle while they lost their business to the "pirates" in Italy. Four weeks ago (February, 1963) "the High Court of Justice (United Kingdom) has enjoined the British Health Ministry from buying cut-rate, unlicensed drugs."⁹¹ The author believes that a similar ruling might come in the United States in the future. United States drug firms, especially Chas. Pfizer, have indicated that they will go to court to enjoin government agencies from buying unlicensed drugs overseas.

NATIONAL HEALTH PLANS

Social security was first initiated in Germany under Bismarck in 1888, and has spread from one country to another ever since. Today most countries in the world have social security in one form or another.

RUSSIA

In Russia, "drugs are given free in hospitals, but others prescribed outside the hospital must be purchased in a local drugstore."⁹² However, in the U. S. S. R. there is only one preparation for each chemical composition and there are no brand names. When new drugs come on the market, a general announcement is made in the medical press.

The state-owned drug industry, by the way, has not discovered a major drug in 44 years!

AUSTRALIA

Eighty per cent of the eleven million people in Australia are covered by the country's health program. The Commonwealth pays for certain drugs "life savings" (those absolutely necessary) but not for such things as tonics. Australia's system, administered by its conservative government for eleven years, is considered less socialized than the system in the United Kingdom because the patient has more freedom in regard to the choice of doctors.

UNITED KINGDOM

In the fiscal year 1958 - 1959, expenditures for

the health services by the National Health Service amounted to 696 million pounds whereas receipts amounted only to 149 million pounds. "Seventy-two per cent of the difference had to be met by the Exchequer."⁹³ As was seen in the previous page, there is a loud cry on the part of the Comptroller and Auditor General of the United Kingdom to decrease the price of drugs so that the Exchequer would not have to pay for such a large deficit.

In the United Kingdom there is a one shilling (14 cents) charge for each item prescribed; the actual cost is paid out of the National Health Service Fund.

With the exception of Germany, the United Kingdom had the highest number (23) of drug discoveries between 1941-1961 among countries with socialized medicine.

ADVERTISING REGULATIONS

In foreign countries firms do not advertise as heavily as in the United States.

Medical practitioners in France do not get the flood of free articles serving as advertising since pharmaceutical manufacturers "are not authorized to give free articles serving advertising purposes."⁹⁴ In Denmark and France "advertising of medicines in the press is only permitted if the advertising has been approved by the Health Department."⁹⁵

While United States drug manufacturers do not have to get prior approval for a new piece of advertising, the

Federal Trade Commission does keep a close eye on all advertisements that appear in the lay, as well as in the medical, press. It would certainly be in the best interest of the public to have an even greater control over lay press advertisements because sometimes drug firms, especially those in the proprietary field, knowingly place exaggerated claims into advertisements. By the time firms are forced to withdraw the ad they have gotten enough "mileage" out of it.

The new drug law passed recently tightens control over almost every segment of the drug industry. What will the new law mean in regard to drug prices and profits? An analysis of this question follows in the next chapter.

CHAPTER X

THE FUTURE OF THE U.S. ETHICAL DRUG INDUSTRY

DRUG INDUSTRY LEGISLATION

The Senate on August 23, 1962 passed by a 78 to 0 roll call vote the amended drug bill S1552.

The bill resulted in a tighter control over manufacturers; it will increase the cost of making drugs, and will increase the time-span between the development and marketing of new drugs. The Food and Drug Administration now has 180 days to act on a new drug; compare this with "15 days in Peru and 4 weeks in Lebanon."⁹⁶ Unlike previously, the F. D. A. will now have enough time to evaluate and test new drugs. This will slow down the introduction of new products, but it will definitely be in the interest of consumers since more tests might reveal a greater amount of positive as well as negative information about a drug.

NEW PRODUCTS

The Kefauver investigation, the new drug bill and unfortunate side effects of drugs on the market have slowed down the introduction of new drugs in 1962. Only "30 new drugs were introduced in 1962 as compared to 41 in 1961, 45 in 1960 and 40 in 1958."⁹⁷ While the slowdown will be very costly from the manufacturers' point of view, "the prescription drug industry favored the idea that manufacturers should

present 'substantial evidence!'"⁹⁸

RESEARCH

The public will get an unexpected bonus from the new bill. Many manufacturers are putting new products through longer periods of research study, including laboratory and clinical trials. In addition more technical and supporting staff will be hired. This will increase the cost of research, which may sooner or later result in higher drug prices. Senator Kefauver had hoped to accomplish just the opposite. The author believes, however, that people may be willing to pay a few more cents per pill as long as they know they get effective and reasonably safe drugs.

COMPETITION, PRICES, AND PROFITS

A forecast by the Magazine of Wall Street lists three factors which will influence the profitability of the drug industry in the future.

- A. "Competition
- B. Price softness
- C. Readjustment arising from Kefauver investigation still beset the industry."⁹⁹

Competition will increase for two reasons: (1) Increased research in the various drug groups. (2) As companies introduce fewer new drugs, they tend to concentrate on existing products and promote them more heavily than before.

Price softness in the drug industry can be demon-

strated through the decrease in bulk material prices for vitamins and decrease in antibiotic prices. With increased competition in the various drug groups, we may see a further price softness in other pharmaceuticals.

Several new products had to be withdrawn in 1962. This may hurt profits considerably because new products are the best source for high profits. Therefore, "over the long term, only a steady flow of new products will assure financial growth."¹⁰⁰

The three factors mentioned by the Magazine of Wall Street may also account for a slowdown in the growth rate of the industry in the future. During the 50's, the annual industry growth was about 10%; for the 60's the growth is estimated at 6% annually. Sales of foreign subsidiaries will greatly contribute to this growth rate; in fact "with percentage gain in foreign sales significantly outpacing that for domestic sales."¹⁰¹ But, "the fact must be accepted while the industry is still moving ahead, the period of most rapid growth is probably in the past."¹⁰²

The factors that will create the fairly normal growth (6% annually) are population growth, untapped markets for new drugs and an aging population. Should the medical bill be passed by Congress, this would be an additional spur to drug sales because of the medical assistance which would be provided to the aged.

CONCLUSION

During the past few years, the drug industry has been subjected to a variety of examinations by the courts, legislative groups, administrative agencies, and by citizen organizations. As a result of these examinations, the pharmaceutical industry has been called monopolistic, profiteering and conspiratorial.

These charges were made because ethical manufacturers have a higher rate of return no matter how returns are measured. Higher profits, however, do not necessarily mean that the industry or several companies are monopolistic or conspiratorial. Why?

(1) The drug industry is a major growth industry. Its annual growth in the 50's was 10%. This growth involved \$1.7 billion in research expenditures and \$670 million in capital outlays from 1950 to 1961. To quote President John F. Kennedy "only by higher income and profits can we provide the incentive and means of increased investment."¹⁰³

The research expenditures seem unusually high, but:

a. The drug industry employs 4.5 scientifically trained men for every 1,000 other employees as compared to 1.27/1,000 in the chemical industry.

b. A growth industry requires heavy research expenditures in order to discover new products and maintain the industry's growth rate.

c. Stiff competition forces pharmaceutical firms to spend considerable sums for research so that they can keep in pace with market developments.

d. Pharmaceutical research has produced new life-saving drugs that have revolutionized medical practice and helped to eliminate and shorten periods of hospitalizations.

(2) Adequate profits are the life-blood of the industry. Profits:

a. Spark a human enterprise.

b. Stimulate risky and uncertain undertakings. Risk is twofold in the ethical drug industry.

1. Only one out of every 2,865 compounds synthesized turns out to be a marketable drug.
2. Heavy research expenditures often result in new products which make others obsolete.

(3) Who can say how much profits are enough? There is no definite answer, rather rewards should balance risks. When it comes to risks, the ethical drug industry can claim its share. This is one reason why in 1961 the drug industry's rate of return on sales was 10.5%; the overall in-

dustry's return was 6%.

The 10.5% rate is an average for all companies in the pharmaceutical field. However, for the eleven leading firms the rate of return was 12.1%. In addition, companies that manufacture "wonder drugs" have an even higher rate of return. G. D. Searle had a 21% return on sales in 1961; Smith, Kline & French had a net profit of 17% on sales in 1961.

Using operating income as a percentage of sales, the drug industry is ahead of all other industries. Finally, when profits are measured in terms of invested capital, the industry average for 1961 was 16.9%. This ranks the ethical industry highest of any industry.

Profits are high no matter how they are measured, but the drug firms have used the higher profits wisely. Over \$2.4 billion were re-invested into research and capital expenditures in the last eleven years. Out of these expenditures came the greatest discoveries ever made: antibiotics, tranquilizers, diuretics, etc. Many new drugs have cut down the length of hospitalization and that of prolonged illness. This, by itself, decreases the cost of sickness since the patient will save a lot of hospital expenses. In addition, he will be able to return to work earlier, thus earning instead of losing money.

Drugs have also slashed death rates from once-

feared diseases; influenza and pneumonia death came down 68% in the last 30 years; the death rates from gastritis and colitis have decreased 83% between 1930 and 1960.

Sixty-six per cent of all major drug discoveries in the world between 1941 to 1961 were made in the United States. Without adequate profits, the drug companies would not have been able to make such phenomenal discoveries.

As far as competition is concerned, the 20 largest companies account for 68% of total ethical drug sales. Yet, not one single firm accounts for more than 10% of industry sales. There may have been a lack of competition in the tranquilizer field when Carter Products, Inc. had exclusive control over the market, but Carter not only has been forced by the courts to grant licenses to any qualified company starting now (March, 1963), but other companies have come out with chemically different tranquilizers that compete effectively with Carters' tranquilizer. In all the other drug groups, the author has found a lot of competition.

The United States patent system has often been blamed for high profits. In the author's opinion the system is vital for the continuous growth of the industry. Without the patent protection, there may be a lack of incentive to invest more money for research.

In summary, drug profits are admittedly higher than average, but profits are an essential factor for both economic

growth and for social usefulness; using both of these criteria to make an evaluation, the drug industry has an outstanding record. Moreover, above average profits are necessitated by:

- (1) Unusually large research expenditures.
- (2) High capital requirements.
- (3) Exceptionally high risks.

No profits equal no capital, no capital equals no drugs, no drugs equal no jobs!

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