

This actual profit experience seems to fly in the face of the Conrad-Plotkin-Markham-Cootner inference that drug manufacturing is a uniquely risky business. The explanation, of course, is to be found in their definition of risk. Using a different definition of risk, Dr. Irving N. Fisher and Dr. George R. Hall of the Rand Corporation concluded that risk accounts for a very small portion of the high profits of drug companies.²⁴ The findings are shown in Table 3. They show that for the period 1959-1964 drug companies earned an average return of 18.32 percent. Fisher and Hall attributed 1.68 percent of this to risk. They concluded that the "risk premiums" for drugs are "very low," and that the explanation for high drug profits "must be sought in factors other than risk."²⁵

It is true that Conrad and Plotkin have found a statistically significant relationship between their measure of risk and industry profits. But they have misinterpreted the casual factors responsible for their statistical relationship.

TABLE 3.—FISHER & HALL ESTIMATES OF AVERAGE INDUSTRY RISK PREMIUMS
[In percent]

Industry group	Average observed rate of return	Risk-adjusted rate of return	Average risk premium
Drugs.....	18.32	16.64	01.68
Aerospace.....	15.70	13.35	02.45
Chemicals.....	14.09	11.31	02.78
Petroleum.....	11.47	10.26	01.21
Rubber.....	10.96	10.21	00.75
Food.....	10.72	09.15	01.57
Electrical machinery.....	11.96	08.57	03.39
Automotive.....	14.77	07.54	07.23
Office machinery.....	14.08	07.24	06.84
Steel.....	08.25	07.03	01.22
Textiles.....	07.89	05.94	01.95

Source: Irving N. Fisher and George R. Hall, "Risk and Corporate Rate of Return," paper presented before the Econometrics Society, Dec. 29, 1967.

Upon close analysis, the Conrad-Plotkin measure of risk turns out to be a better proxy of relative market power than of risk. Their measure assumes the existence of "homogeneous" industries; that is, "industries in which all the firms produce similar products, compete in the same markets and, in general, face the same elements of risk and uncertainty."²⁶ In fact, however, when broad industry definitions are used, such as those in the Conrad and Plotkin study, the constituent firms within each "industry" are frequently highly differentiated from one another by a variety of factors.²⁷ Hence, each firm in the industry may face different risks and other factors having a bearing on profits. This is particularly true in consumer, service, and other so-called differentiated product industries. Because of advertising and other factors, some firms in such industries have a pronounced and persistent advantage over others. As a result, the most advantaged firms earn persistently higher profits than the less advantaged firms. Such a difference between the profits of the most advantaged and least advantaged firms in an industry may provide a rough measure of the height of the entry barriers into the industry.²⁸ Economic theory predicts and empirical analysis verifies that the higher an industry's entry barriers, the higher its profits.²⁹

²⁴ Hall and Fisher, "Risk and Corporate Rate of Return," paper presented at the meetings of the Econometrics Society, December 30, 1967. Their complete study appears in *Risk and the Aerospace Rate of Return*, The Rand Corporation, Santa Monica, California, December 1967. Hall and Fisher measure risk as the variance of the profit rates of companies overtime taking into account trends in profit rates.

²⁵ Hall and Fisher, *op. cit.*, p. 16.

²⁶ Fisher and Hall, *Risk and the Aerospace Rate of Return*, *op. cit.*, p. 31. Fisher and Hall conclude that not only does Conrad and Plotkin's measure of risk involve serious practical measurement problems, but that it also "does not fully agree with a reasonable theoretical notion of risk." *Ibid.*

²⁷ *Ibid.*

²⁸ Joe S. Bain, *Barriers to New Competition*, 1962. The difference in the profits of the most advantaged and least advantaged firms most accurately measures the height of entry barriers when the least advantaged firms earn only a "normal" profit.

²⁹ *Ibid.*