

The preceding reveals that much of the profit variance which Conrad and Plotkin found among leading drug companies is the result of the product differentiation advantage held by some firms in the industry.

If we are correct in believing that differences in intraindustry profit variance actually measures differences in the degree of product differentiation rather than risk, then Conrad and Plotkin's correlation results may have been heavily influenced by the inclusion of highly differentiated industries. We now turn to an examination of this possibility.

To test the hypothesis that product differentiation caused profit variance is largely responsible for the statistical association uncovered by Conrad and Plotkin, we have analyzed separately their consumer goods and producer goods manufacturing industries. Product differentiation, of course, shows up primarily in consumer goods.

Figure 4 shows all the industries used by Conrad and Plotkin. They find a modest degree of correlation between intraindustry profit variance and profits using one measure of profits rates. Using a number of other measures they found less close relationships.

Figure 5A shows that the plotted observations of the consumer goods industries used in the Conrad-Plotkin analysis, and figure 5B shows the plotted observations of the producer goods industries. Among consumer goods industries, you will observe, there is a quite strong positive relationship, whereas among producer goods industries the relationship is very weak, and is not statistically significant.

In consumer goods, 76 percent of the variation among average industry profit rates is associated with the variance of intraindustry profit rates. Additionally, the slope of the regression line fitted to these observations is quite steep, which means industry profit rates rise sharply with high intraindustry profit variance.

On the other hand, when only producer goods industries are used in the analysis, the statistical relationship is extremely weak. Only 8 percent of the variation in industry profit rates is associated with variation in intraindustry profit variance. Moreover, the regression line is much less steeply inclined, indicating that average industry profit rates increase very slightly with increases in intraindustry profit variance.

These findings are extremely significant. They demonstrate that the statistical relationship found by Conrad and Plotkin was due almost entirely to the consumer goods industries in their sample. The fact that no significant statistical relationship remains when only producer goods industries are used to test their model is especially damaging to the Conrad-Plotkin analysis. A basic assumption of their method of measuring intraindustry risk is that the industries analyzed be homogeneous. Producer goods manufacturing industries are, of course, much more homogeneous than are consumer goods industries. Hence, according to their assumptions the "purest" relationship between "risk" and profits should have been uncovered in the analysis of producer goods industries. And, of course, there was none.

The close statistical relationship existing in consumer goods industries very probably results because intraindustry profit variance in consumer industries is a rough proxy for the height of entry barriers. Thus, Conrad and Plotkin unwittingly have made a case for the