

industry. It is, therefore, not unreasonable to ask for a measure of expected risks based on historical industrial performance.

I would now call your attention to the fact that the noted economists Professor Cootner has referred to have offered very numerous definitions of uncertainty or risk. The common element in all these definitions, because they were all looking to the future as it unfolds before us, was the uncertainty or lack of predictability of the outcome of the venture.

The uncertainty involved in predicting the outcome of a particular investment or a particular investor's venture is, in general, what makes the process risky. The greater the uncertainty about final outcome of the event, the greater the risk for those investing in that venture, that future event.

With that rather simple proposition in mind, consider the two alternative propositions as though you are being offered two gambling propositions, one, the game of blackjack, the other a game involving dice; alternatively the choice may be between an offer to invest in the shares of companies making computers and the shares of an electric utility company.

May I call your attention to the chart, sir?

Senator NELSON. You are not talking just about high-risk ventures now?

Mr. PLOTKIN. No, sir. We considered the spectrum of American industry.

I might at this point make a statement about the data source. I think it is appropriate.

We did a pilot study where the data were very, very carefully looked at to make sure that industries were closely defined. There were only a small number of industries and a small number of companies, about 13 industries and 70 companies. The pilot study was just to test the hypothesis where we understood something about the risks of these industries to see whether we would get the line you referred to before, the upward sloping relationship between risk and return.

However, for a public and general presentation, the presentation to the scholarly and academic community to whom this study is also addressed and, therefore, being published in scholarly journals, we have taken the Standard & Poor's data source, something available to everyone, so everybody can repeat it, the data source, and Professor Cootner referred to this in his testimony, is the Compustat Annual Industrial Tape prepared by Standard Statistics. We have not changed one iota of their data, including their industry classifications as to which companies belong to which industries.

In one case we have some reasons to believe that the data might be less than fully accurate, although not having a great effect on the outcome of the study, I would just note, because we are particularizing on the drug industry, S. & P. have included in that industry the Gillette Corp. When I called them they admitted there was an error on their part, but that was in the tape, and it only went to, in fact, it greatly went to, increase the average rate of return in the drug industry as so reported, I have left that point in there, and we have done so in our analysis so as in no way to bias the standard authoritative source, the Standard & Poor organization.