



SOCIETY OF ACTUARIES

Article From:

The Actuary

February 1985 – Volume No. 19, Issue No. 2

UNITED WORLDWIDE RESEARCH

by *Barnet N. Berin and
Robert J. Myers*

There is a Land-of-Oz type scientific analysis that is appearing more and more frequently in reports funded by institutions that purport, by their name, to be respectable, scholarly, and clearly capable. Consider the *Study Series* of United Worldwide Research, Inc., a Lewis Carroll organization.

Each paper is appropriately numbered for easy reference. It is odd, but apparently unnoticed, that the *Series* (often referred to affectionately as the *World Series*) began with number 53-22-355 and increased by three to five each time thereafter with each monthly issue.

What is intriguing is the apparent quality and precision of their research, often mathematical, sparse in style, but lavish in symbols and graphs. An outstanding feature is that the problems studied can be understood by the lay reader, and the conclusion often is confirmed in advance or is self-evident. It was helpful to know, for example, that families receiving Social Security benefits with a low total income receive most of their support from such benefits, and those with a high family income receive most of their support from other sources of income. Without this study, we would have been guessing. There appears to be a fairly sizeable market for simple studies that appear difficult only if ignored. It is best to illustrate this by an example or two, taken from recent reports.

This month, the *World Series* study investigated the proposition, tested statistically, at the 50 percent confidence level (half-right or half-wrong), that Pleasure increases with the number of days of vacation in excess of 10 days, all of which must be taken consecutively. Pleasure is defined as an abstract, but known, function of many variables, but age, sex, and race are ruled out because the study is funded by the Federal government, and these variables violate EEOC guidelines. In any event, Pleasure is defined as a multi-variate function in (n-3) dimensional space, but for the sake of simplicity, this is reduced to two variables (height and weight, or length and width, and so on).

It is shown, by mathematical induction, that Pleasure does increase as the number of days of vacation increases, in

Deaths

C. Ross Brereton	FSA 1945
K.E. Verner Carlson	FSA 1945
Abraham M. Niessen	ASA 1946
W. Ward Nipper	ASA 1932
Wilfred W. Terryberry	FSA 1926

excess of 10 consecutive days. However, with smoothing of the results, once the number of vacation days exceeds the number of working days, Pleasure soars and becomes infinite. (Statistical significance averages about 0.50, despite several sample values close to zero or one.)

The conclusion of this Pleasure study is that Pleasure is apparently a monotonically increasing function of consecutive vacation days in excess of 10, but that this may not be true in all cases. More work remains to be done, subject to the development of an appropriate sponsor and fee.

The study for next month will be a definitive analysis of the operation of the major stock exchanges around the world. This is possible because the report will concentrate only on those days where the number of stocks increasing in price was one-third of the total, and where the number of stocks remaining the same in price was one-third of the total, and where the number of stocks decreasing in price was one-third of the total. Several key questions will be tested, including: Does this phenomenon occur one-third of the time? Is there correlation ($r = \frac{1}{3}$) with three-day weekends? Can one-third of the brokers be given these days off, thereby increasing their non-consecutive days of Pleasure? (A neat tie-in to the previous month's study.)

United Worldwide Research, Inc., also seeks projects involving opinion surveys. For example, in raising the question about the solution of the financing problems of the Social Security program, it was felt that simplicity was essential. Only one question was asked, "Do you believe Social Security benefits should be cut?" This one-question survey was impressive in both response time (one day) and unanimity (99 percent were opposed to cuts). But

this did leave room for analyses by age, sex, city of postmark, and color of ink used in checking the boxes.

Yet another example is to ask the respondent about family income and its sources. These are often cited because they show this country to have a lower average income than Ethiopia. UWRI is not concerned about such minor details as people not being eager to disclose their incomes for some lack of enthusiasm in sharing this information with the Internal Revenue Service.

The history of this organization is interesting. UWRI started with dignified letters, in calligraphy, on parchment, sent to 1,000 distinguished athletes in 100 countries, worldwide, asking a donation of USA \$10.00 to support the *World Series*. Because these were distributed in October, in a year when there was an exciting playoff and a seven-game squeaker, the results were rather spectacular. This has been repeated every year since, expanding the audience to non-athletes and raising the basic subscription by USA \$10.00 each time.

The address of this clever organization is not revealed in their reports, but there is a telephone number furnished, which is pointedly not an "800" number. On calling, an operator politely asks you to hold and considerately switches to "Dial-A-Joke" to amuse you during the waiting period. For those few who are still waiting there is a transfer and, soon thereafter, a busy signal which is loud, sharp, and interminable.

Evidently, there is a good market for such scientific research, presented obscurely, but clearly discussing everyday problems that vary from trivial to unimportant. Obvious conclusions are presented that all can appreciate, even if, in retrospect, some are in error.

A future study, already announced, and one that is eagerly anticipated, is, "Pleasure versus Pain—Is there a contradiction?" □

Ed. Note: For this cheerful satire we deviate from normal procedures, and reprint, with permission and condensation, from *Pension World*, January, 1984.