

AN EXPERIMENTAL STUDY OF USER PERCEPTION
OF INFLATION ACCOUNTING DATA

A proposal submitted to the Research Board
of the University of Southern California,
Graduate School of Business

Miklos Antal Vasarhelyi
Assistant Professor
Department of Accounting

I. Introduction

In December 1974, the Financial Accounting Standards Board (FASB) in the United States and the Institute of Chartered Accountants in Australia proposed the adoption of financial reporting in units of general purchasing power. These proposals followed a similar proposal by the Accounting Standards Steering Committee in the United Kingdom in May, 1974. Likewise, in July, 1975, the Canadian Institute of Chartered Accountants advocated this GPP approach.

However, a change in this early trend toward general price-level adjustments occurred during 1975. For example, the Institute of Chartered Accountants in Australia took quite a different approach in a second proposal dated June, 1975. The Institute at that time suggested a current-cost valuation of assets in the balance sheet and profit measurement based on matching revenues and expenses expressed in current values. In August, 1975, the U.S. Securities and Exchange Commission (SEC) proposed to require that certain businesses disclose, in footnotes to annual 10-K filing, the current replacement cost (new) of replacing inventories and productive capacity, as well as the cost of sales and depreciation, depletion, and amortization expenses based on current replacement cost. In September, 1975, a blue ribbon British Commission recommended a system of Current Cost Accounting. Under this system, companies would carry assets on the balance sheet at their "value to business." The development outlined above suggests that there is no agreement among accounting experts regarding the most preferable inflation accounting method.

The literature on price-level and other inflation accounting methods is extensive. However, only a limited number of studies can be classified as scholarly research. Rather, studies either tend

towards advocacy or are too theoretical to draw valid conclusions. The bibliography attached to this proposal (see Appendix 1) illustrates the large volume of research in the area. On the other hand, despite this volume, there are no definite responses to the inflation problem, no inflation accounting method has been widely accepted, and a large number of dispersive efforts, are now in progress. The AICPA, in response to the failure of the FASB to address this issue effectively, issued an exposure draft of rules to comply with ASR-190 (the replacement cost disclosure requirement of the SEC) in relation to published financial statements. On the other hand, the recently disclosed exposure draft which the FASB has published, dealing with the theoretical framework, does indeed address the problem but evades an answer. Finally, our most recent research efforts concerning the utilization of simulation for the examination of inflation accounting alternatives (Vasarhelyi and Bao, 1977) has revealed a series of basic problems:

1. The approach was too structured, thus leading to "mechanistic" results, i.e., the structure of the model uniquely determined the results.
2. The simulation approach required a very rigid set of assumptions for its application, which decreased the validity of the model.
3. The simulation was very useful in determining the potential impacts of the different inflation accounting alternatives (see Minahan et al.) on various economic sectors.

Research efforts have been classified by Buckley into four categories: (1) Opinion, (2) Empirical, (3) Archival, and (4) Analytic. We can find prime examples in the inflation literature of each of these classes. Among these categories, the least explored path of research is the empirical. Most likely, this scarcity is due to the fact that organizations are difficult to experiment with, that

inflation rates are elusive control variables, and that the empirical methodologies are of difficult application in this type of effort.

Problem Statement

The key problems which confront the various scholars with regard to currency value changes are:

1. How to account for the various effects of currency changes on different items of financial statements;
2. What method of measurement or valuation is the most adequate;
3. How to conceptually define these methods;
4. What would be the consequence of any of these methods when used in an economy-wide or organization-wide framework.

The results to these questions are presented either in a theoretical framework (Ijiry, Chambers), on a concept-clarification level (Sterling), in a predictive-ability evaluation form (Samuelson), or in an industry-impact analysis (Minahan et al.).

The present proposal presents plans for a new approach to help resolve these controversies. It is argued that too much emphasis has been placed on the structural and mechanistic concepts of inflation accounting, with a total neglect of the key feature of inflation accounting measures: user perception and utilization of the different valuation procedures. Therefore, this study proposes the utilization of an experimental methodology and of surrogate decision makers for the better comprehension of the effects of different valuation bases. It combines the key issues in value accounting with the recent methodological developments brought to the field of accountancy from Psychology, as in the area of Human Information Processing. This study is practical in nature in that it attempts to establish the character of the user perceptions

of the different valuation bases and the subsequent decision-direction effect these perceptions imply.

Statement of Objectives:

More specifically, the research questions to be asked will be:

- Question 1: Which valuation basis will be more naturally or more frequently used by subjects?
- Question 2: What combinations of valuation basis make sense?
- Question 3: What effects, if any, do background and training of subjects have on valuation basis choice?
- Question 4: What effect do different inflation rates have on valuation basis choice?

The present project is divided into two main parts for which funding is being requested.

Part 1 will comprise: (from May 1 to August 31)

- a. Survey and taxonomization of the literature (partially completed).
- b. Design of four sets of cases, of a very simple nature, for experimental testing.
- c. Design of a bio-data and a protocol survey instrument to trace decision processes.
- d. Pilot testing of the cases and instruments.
- e. Redesign of the cases and instruments.

Part 2 will comprise: (Fall Semester)

- f. Experimental testing
- g. Data analysis
- h. Result write-ups

Results Expected:

Part 1 will produce a full valuation-based experimental setting and two basic outputs: an article on the taxonomy of inflation accounting

studies to be submitted to the Journal Accounting Organizations and Society, and a complete documentation of the experimental setting, pilot results and instruments tested to be used in Part II of the project. The field of value (inflation) accounting has produced a number of studies which are very similar in the usage of only a few methodologies. Hopefully, the proposed taxonomy will support this argument, summarize the state-of-the art, and suggest more productive lines of research. The preliminary literature search and analysis already performed seems to indicate the value of this sort of study.

Part 2 will be aimed towards the reporting of experimental results in the form of a major article to be submitted to the Manuscript Contest of the American Accounting Association for publication in the Accounting Review. This article will analyze the results obtained pointing towards the key issues in user perception and usage of value information. Inferences will be drawn on standards to be developed and will also discuss the pros and cons of this type of approach to value accounting research.

Methodology

A hypothetic deductive method will be used in the experiments: null hypotheses will be stated for each of the above research questions and one case (questions 1, 2 and 3) or a set of parallel cases (question 4) will be designed for each objective. The following four basic settings are planned for objectives one to four respectively:

1. A computer selection problem.
2. A capital asset replacement decision.
3. A stock purchase decision with controlled footnotes in the financial statements.
4. A stock purchase setting (as above) with different environmental scenarios.

Background and interest variations will be obtained by the utilization of different types of classes in the experimental settings (introductory accounting class, advanced elective accounting class, and a graduate quantitatively-oriented accounting class). Grade rewards will be offered for participation, in addition to required class assignments. This surrogation deserves mention. The accounting literature offers extensive discussion of the adequacy of the utilization of students as surrogate decision makers. One set of experimental subjects will be from the night program, the other will contain subjects of much less experience. The effect of this working experience is one of the experimentally controlled factors (question 3) to be examined.

The experimental design is displayed in Figures 1 and 2.

Insert Figures 1 and 2

Figure 1 shows the comparison between case results (using different subject populations) to be used for analysis of the specific questions. Figure 2, on the other hand, shows the sequential steps and instruments to be used in each of the experimental procedures.

Questions related to sample sizes, specific nature of the instruments and subject allocation procedures cannot be answered at this time; they will be dealt with in Part I of the research project.

Project Schedule

This project is expected to lead to the development of one experimental setting with four alternatives and two articles. The second, and most important article, will relate the results of these experiments; it has

Figure 1

Cases and Their Interrelationships

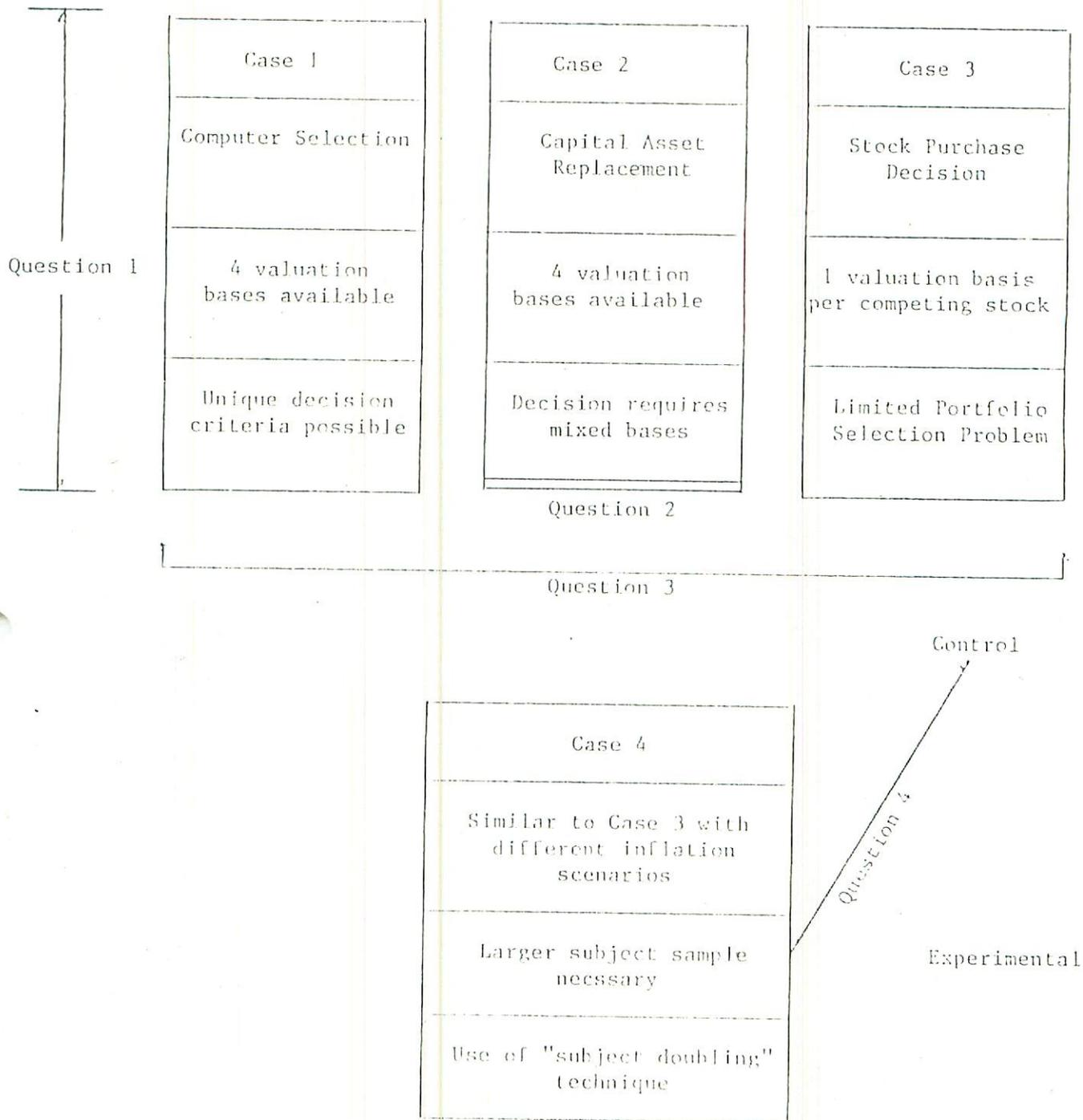
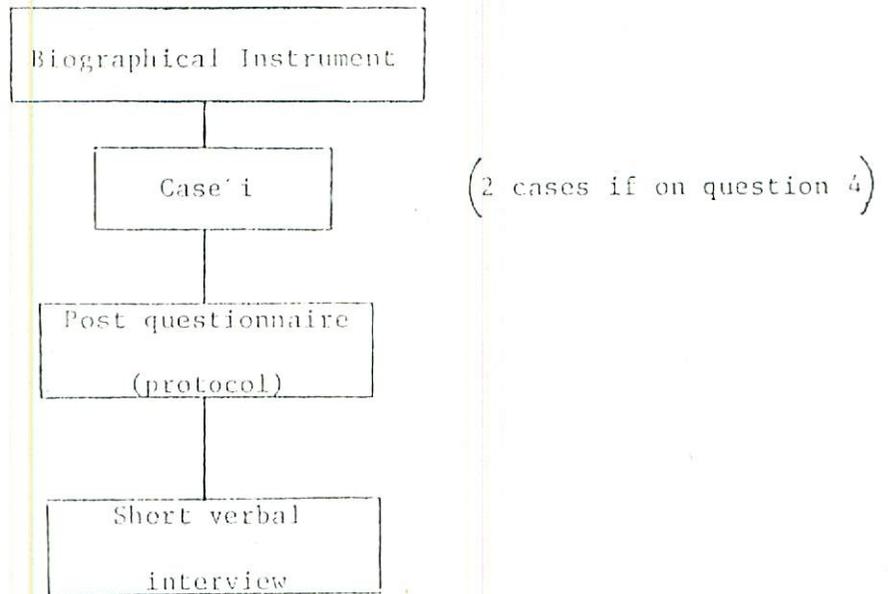


Figure 2

EXPERIMENTAL DESIGN



a submission deadline of January 15, 1978, to participate in the AAA Manuscript contest. Figure 3 shows the master schedule for this project; funding is now requested for Part 1.

Insert Figure 3

Resource Requirements

No additional funding will be requested for the second part of the project. This project, as planned, should achieve full completion (both parts) by January 15th. It is foreseeable that a request might be placed for Research Assistant support in this and other projects. This request is not being placed at this time as funding is expected to come from an outside source.

Figure 3

A Time Chart of Expected Project Development

