ABACUS A Journal of Accounting, Finance and Business Studies

ABACUS, Vol. 51, No. 4, 2015 doi: 10.1111/abac.12058

THOMAS R. DYCKMAN AND STEPHEN A. ZEFF

Accounting Research: Past, Present, and Future

This paper begins with a description of the accounting research environment prior to, and shortly following, the appearance of *Abacus* in 1965. During this period, the approach to accounting was predominantly normative in focus, but also reflected historical approaches, as researchers grappled with the accounting issues faced by practising accountants and bodies that established accounting principles. The 1960s witnessed the beginning of a major change in the interests and approach of accounting researchers. Articles increasingly reflected a decline in reliance on the normative approach, accompanied by an increase in empirical analyses. The new focus introduced the ideas and concepts of several sister disciplines, including the social sciences, notably cognitive psychology and mathematics, particularly statistics, into accounting research. This era, which is still with us today, stressed theory, mathematical modelling, and, importantly, statistical testing. Simultaneously, the new directions gradually abandoned the contributions of normative approaches and diminished the interest in history, both of which had enlightened the problems of practice that previously held centre stage. We examine a broad sample of research articles to inform our discussion and analysis, and then we comment on some of the limitations of the new data-driven approaches embedded in current research efforts. We conclude with ten recommendations for accounting researchers to consider as they tackle the complex issue of increasing the relevance of our efforts in the future. We hope that these recommendations, if adopted, will increase the academic relevance of academic research to the problems facing decision makers beyond the academic community.

Keywords: Accounting research; Research methodology.

Prior to the 1960s, most English-language accounting research was normative, arguing how accounting should be practiced. It was an era when treatises and monographs in the normative vein by the likes of Paton (1922), Canning (1929), Sweeney (1936), Sanders *et al.* (1938), MacNeal (1939), Paton and Littleton (1940), May (1943), Alexander (1950), and Littleton (1953) proliferated in the United States (US). Accounting textbooks also took a normative position on contested accounting

THOMAS R. DYCKMAN (trd2@cornell.edu) is a Professor Emeritus of Accounting at Cornell University and an Adjunct Professor at Florida Gulf Coast University, and STEPHEN A. ZEFF is a Professor of Accounting at Rice University. Both are former presidents of the American Accounting Association. The authors express their gratitude to Michael Granof, Tom Linsmeier, and Bob Swieringa for comments on earlier drafts.

practices and therefore were seen as an authoritative source of Generally Accepted Accounting Principles (GAAP) by accounting practitioners as recently as 1975 (Auditing Standards Executive Committee, 1975, para. 6). The only English-language accounting research journals then were *The Accounting Review* (*TAR*), founded in 1926, and the United Kingdom (UK) journal, *Accounting Research*, which existed from 1948 to 1958. Nonetheless, many articles written by accounting academics were published in *The Journal of Accountancy*, the *NACA* (later *NAA*) *Bulletin*, *The Accountant*, *The Australian Accountant* and other practitioner journals. Furthermore, practitioners wrote normative articles for the journals and read what others wrote in the journals. It was a time of a widespread and, in some quarters and on some topics, electric dialogue. Some of the leading accounting authors, such as Hatfield, Paton, Sweeney, and Littleton held PhDs—Canning and Alexander, also holders of PhDs, were economists—yet the great majority of accounting academics during that period had only bachelor's and master's degrees, but almost all were Certified Public Accountants. In other countries, such as Canada, the UK, and Australia, few to none had doctorates, and almost all were qualified accountants. There were no research conferences held at universities or elsewhere, and the only sponsored lectureships were the Dickinson Lecture at the Harvard Business School from 1937 to 1955 and the several annual lectureships at universities sponsored by an Australian accountancy body from 1940 onwards (ASA, 1962, pp. 47–48). Computers and electronic databases were not seen in accounting departments, and if an empirical study, such as a survey, were to be undertaken, all of the data would have to be hand-collected, as the term is used today. The American Accounting Association (AAA), for its part, sponsored a series of prescriptive 'principles statements' drafted by leading academics, which were published in 1936, 1941, 1948, and 1957, as well as eight 'supplementary statements' on specific topics from 1950 to 1954 (AAA, 1957). The AAA also published three monographs in the 1950s on the proper accounting for inflation. In 1969, the AAA began publishing a series of research monographs, some of which were in the normative vein.

This considerable normative literature, apart from that of Paton and Littleton (1940), did not achieve widespread acceptance, except insofar as the American Institute of (Certified Public) Accountants' Committee on Accounting Procedure adopted the academics' thinking in its *Accounting Research Bulletins*, but only so long as they had the blessing of the Securities and Exchange Commission (SEC). Paton and Littleton (1940) acquired a large following for an academic tract, especially by the SEC's accounting staff, because it was an elegant rationalization, for the most part, of generally accepted practice, including the use of historical cost. There was also a considerable amount of historical research in accounting being conducted. Much of it was stimulated by the works of Geijsbeek, Hatfield, Littleton, Yamey, De Roover, Goldberg, Baxter, Kats, Peragallo, Taylor, and others, and such research flourished in the journals and in some books.

A new era in accounting research dawned in the middle and latter 1950s and in the early 1960s. Two major developments occurred, one short-lived but large in impact, and the other, which has continued until today. The first represented a continuation of sorts in the book-length normative arguments cited above, but most of these

latter-day versions were more elaborate integrated frameworks than most of their predecessors. We cite here the books or monographs by Staubus (1961), Moonitz (1961), and Sprouse and Moonitz (1962) taken as a whole; and those by Edwards and Bell (1961), Mattessich (1964), Bedford (1965), Chambers (1966), Ijiri (1967), Thomas (1969), and Sterling (1970), in a period which Nelson called 'a golden age in the history of a priori research in accounting' (Nelson, 1973, p. 4). This line of normative research—when the authors contested whether historical cost, entry value, exit value, or some combination of these—or, in the case of Staubus (1961), whether 'decision usefulness' should supplant debates over which approaches to valuation should be preferred—dominated much of the literature during the decade. Much of this work, together with earlier normative approaches, has continued to be of interest to 'analytical' model-building researchers but has been ignored almost entirely by empirical researchers. In our experience, even the names of these normative authors are apparently unknown to recent empirical graduates of US accounting doctoral programs. Still, there was justified frustration with the normative literature, as it had no means of sorting out which theories should predominate. This frustration was confirmed by a blue-ribbon AAA committee (*Statement on Accounting Theory and Theory Acceptance*, 1977, p. 1), which concluded, 'In the view of this committee, a single universally accepted basic accounting theory does not exist at this time'.

Accounting research had a rebirth during the period from 1960 to 1970, as four new and important research journals were founded: *Journal of Accounting Research (JAR)* (1963), at the University of Chicago; *Abacus* (1965), at the University of Sydney; the *International Journal of Accounting Education and Research* (1965), at the University of Illinois; and *Accounting and Business Research* (1970), published by the Institute of Chartered Accountants in England and Wales.[1] *Abacus* went on to become one of the leading journals of truly eclectic scope, inspired by its founder and editor from 1965 to 1974, Ray Chambers. In 1964, research conferences began to be held at US universities, and in 1966 the AAA published a major committee report, *A Statement of Basic Accounting Theory*, which represented the first institutional acceptance of 'decision usefulness' as a way of developing a normative accounting theory.

The second of the major developments heralding the new era in accounting research drew its inspiration from two highly influential critiques of US business schools, both published in 1959: the Ford Foundation (Gordon and Howell) and the Carnegie Corporation (Pierson, 1959) reports. Both reports, which came to have an enormous impact on research and teaching at US business schools, recommended that research be based on underlying disciplines, such as the behavioural sciences and economics, and strongly encouraged the conduct of hypothesis-testing research. These reports had their earliest impacts at Carnegie Institute of Technology (now Carnegie Mellon University), the University of Chicago, and Stanford University. Carnegie placed greater emphasis on the behavioural sciences, while Chicago and

[1] In the 1970s and later decades, a great many journals were founded. By 1996, Zeff could identify 77 accounting research journals edited in the English language, and we are confident that the number today exceeds 110. There seems to be at least one journal for every research niche.

Stanford emphasized economics more heavily. Also in the 1960s, computers became increasingly available to academic researchers, and the emergence of computerized databases, such as Compustat in 1962 and CRSP, which was installed at the University of Chicago in 1960, provided researchers with voluminous data sets that could then be digested by computer-programmed regression models to test empirical hypotheses. Indeed, we find that 58% of the empirical papers published in *JAR*, *TAR*, and the *Journal of Accounting and Economics* (*JAE*) during the years 2011–14 relied in whole or in part on Compustat, CRSP, or both in their research database.[2] We also find that the majority of authors used additional data sources (some articles relying on up to nine different data sources), while a scattering of studies still based all, or partly all, of their work on hand-collected data.

Also in the 1960s, an increasing number of US business schools, spurred on by the American Association of Collegiate Schools of Business, the major accreditation agency, began requiring young academics to acquire a PhD and to become more conversant with empirical research methodology. Consequently, the number of PhD programs across the country expanded rapidly to permit additional years of coursework in research methodology and the necessary grounding in basic disciplines then being required of all candidates. These new demands gradually supplanted the previous foreign language requirement.

In 1966, the University of Chicago began holding annual empirical research conferences, and the journal of its Institute of Professional Accounting, *JAR*, gradually refocused its content in the 1960s from a diverse set of normative and historical papers to math modelling and empirical research,[3] involving statistical testing. *TAR*, published by the AAA, eventually came to follow *JAR*'s lead. The increase in empirical main articles increased from 6% to 27% in 1969 and to 60% by 1972. The increase was fuelled both by the empirical research conferences and also by the increasing attention to behavioural–empirical work encouraged by the editor of *JAR*, Nicholas Dopuch. Comparing papers published in *JAR* during the years 1963–1966 with papers it published from 1975–1978, the ratio of normative papers to analytical papers declined from 64% to 7% (Dyckman and Zeff, 1984, p. 265). After 1967, papers addressing historical and normative topics virtually disappeared from *JAR*.[4] The normative work enumerated above, plus others that have not been mentioned, have

[2] Leone *et al*. (2014) find a similar result for a large sample of 875 papers published between 2006 and 2010.

[3] Empirical research in this paper includes all hypotheses ultimately subjected to statistical testing.

[4] On a bright note, we find in the period 2011–14 that 25 articles dealing with international topics accounted for nearly 13% of all papers published in *JAR*, *TAR*, and *JAE*. Many of these were empirical papers on the impact of the adoption of International Financial Reporting Standards. International papers were common in the early years of *JAR* in part because of Chicago's relationship with the London School of Economics. The number declined substantially after this relationship was dissolved in the 1970s. Today, international authors are ubiquitous, and the number of countries represented by authors exceeded 20 fom 2011–14 versus a mere five in the period 1963–82 (Dyckman and Zeff, 1984, p. 252). Interestingly, in the period 2011–14 we identify no authors writing from India and South or Central America and only a single author from Africa.

had their adherents and detractors, and empirical researchers have claimed that these disputes among normative theorists yield no clear implications for accounting practice without being tested by empiricists to determine whether the capital markets respond, or do not respond, to accounting information shaped by these theory approaches. This is fair comment, and Beaver, Barth, and others have published empirical studies that test the market reaction to accounting measurements and disclosures, carrying forward usefully with that intention (see Beaver, 1998). But, unhappily, so much other empirical research—there have been thousands of articles published in this genre since the late 1960s—often seem to be tests of hypotheses that happen to accommodate conveniently available databases, rather than tests of hypotheses that are designed to provide insight into the capital markets response to accounting measurements and disclosures, whether mandated or voluntary. With respect to the large empirical literature on analyst forecasts, some of the work that attempts to throw light on the meaningfulness of earnings to financial analysts when they issue earnings forecasts may be more a matter of gaming than of necessarily providing investors with the measures of earnings they find decision-useful. Increasingly, a great deal of empirical research conducted by accounting academics and usually published in accounting research journals is seen to have minimal, if any, implications for the activity we know as accounting. Many are at the periphery, or even beyond the periphery, of accounting. More than 30 years ago, at the end of his five years as editor of *TAR*, Zeff expressed his concern about the accounting manuscripts he was seeing, then thinking more about research methods than databases:

> . . . more than occasionally the questions being addressed in manuscripts seem to be contrived in order that novel research methods might be given some exercise . . . . often it seems that manuscripts are the result of methods in search of questions, rather than questions in search of methods (Zeff, 1983, p. 134).

Beginning, it seems, in the 1970s, standards for achieving tenure at US universities were stiffened, and it was not long before the leading business schools—in an inexorable trend that has spread throughout North America and now overseas—places inordinate emphasis on publishing empirical and analytical research mostly in a small set of favoured journals. If a newly minted PhD graduate cannot satisfy the tenure requirement within, say, seven or eight years, the young person must move to a tenure track at another university, take a non-tenured position or leave academe entirely. This pressure on young and aspiring researchers has apparently induced many to engage in 'turn-key' research, involving exploiting an accessible and typically large database for whatever hypotheses might be generated in advance or by initially snooping the available data set prior to formulating the primary issues to be addressed.[5] That these hypotheses, whether validated or not, bear usefully on

[5] Exploring a data set for useful information in designing an interesting hypothesis is encouraged, but testing the hypothesis requires a different, new data set. Indeed, computers may soon be employed to search large databases for interesting and, we hope, important hypotheses. In other research, Dyckman (2015) finds that in the period 2011–14, over 70% of the data sets used in empirical studies, excluding behavioural studies, exceeded a sample size of 1,000. Two study data sets exceeded one million. Behavioural studies were typically less than 100.

accounting seems often to be beside the point. The game plan is to get published in one of the favoured journals, and quickly. One empathizes with the plight of untenured junior faculty.

There have been, then, a confluence of events that have had an explosive impact on the direction and intensity of accounting research. Those events, noted above, included: the Ford and Carnegie Reports; the development of the Compustat and CRSP tapes in the early 1960s; the newly available large data sets; the statistical programming capabilities that have been embedded in the computer; the impact of the new *JAR* in 1963; the 'market for statistical significance' propelled by the reputation impact required for promotion; and in particular the critically important role played by the yearly empirical conferences initiated at the University of Chicago in 1966. The Editor's Preface to the 1966 *JAR Supplement*, written by Sidney Davidson (1966, p. iii), set the tone, stating: 'Accounting thought will develop more effectively by increased reliance on the testing of *meaningful hypotheses* [italics added]; there is a need to look to evidence as well as to authority for the substantiation of accounting ideas'.[6] Cooper and Zeff (1992, p. 90) have written that many authors in the accounting literature fail

> to recognize the value of identifying problems from the world of practice as a needed part of research in accounting. Whether in empirical or non-empirical research, it must not only be recognized that accounting is a social science in which explanations and predictions of behavior are worthy objects of research and study, but it must also be recognized that this research forms part of the activities of a profession serving the needs of management and society.

The effects of these events on accounting resemble those caused on earth by the collision of two tectonic plates, the empirical plate driving over the normative plate. To capture the impact of these events over the last 50 years, we will be relying on the published work appearing in the three major accounting research journals (*JAR*, *TAR*, and *JAE*). We compare the 553 papers published in these three journals during the recent four-year period (2011–14) to the articles published in the five-year period from 1963–67, when *JAR* made its debut.

The most salient feature revealed from a comparison of these two multi-year periods is the striking increase in empirical articles. The percentage of empirical papers, all requiring statistical testing and therefore including behavioural studies, is 94% in 2011–14 compared to 2% in 1963–66.[7] Behavioural papers (included in the prior 94%) constituted 10% of the total papers.

[6] We also note that two earlier empirical papers epitomized the Davidson admonition. The first was a very short paper (Ashley, 1962) in the *Journal of Political Economy*, a University of Chicago publication. The second was a paper by Staubus (1965), who held a Chicago PhD, published in *TAR*. Several behavioural articles (Dyckman, 1964 and Bruns, 1965) also appeared during this period, the first in *JAR* and the second in *TAR*.

[7] We also note that four additional studies in *JAR* in 1965 would have been included but failed to involve statistical testing. Dopuch (1979, p. 72) performed another comparison and reports the percentage of empirical papers to be 65% for the period 1977–79. However, it is not clear whether Dopuch required the papers to include statistical testing.

Behavioural/empirical papers in accounting journals were essentially nonexistent prior to 1963 and appear now about 1.7 times per issue in *TAR* and about 0.9 times per issue in *JAR* during the period 2011–14.[8] The introduction of experimental/behavioural research in the accounting literature pioneered by Editor Dopuch expanded rapidly after 1967, particularly in *JAR* but also in *TAR*. Interestingly, *JAE* published only two behavioural studies in this recent four-year period.[9] The overall data strongly support the finding that empirical-based papers now dominate the literature, at least in the three foremost accounting journals.

In the late 1970s and into the 1980s, Watts and Zimmerman, at the University of Rochester, introduced agency theory as an appealing way to address certain accounting issues (see Watts and Zimmerman, 1986). In 1979, they founded *JAE* expressly to encourage such research. Most of the work in this field has taken the form of model building. However, most of the models constructed have not been subject to rigorous testing.[10] Indeed, this is true of nearly all the math models constructed to reflect accounting questions. Despite the appeal of mathematical modelling, papers on this topic have not flooded the accounting literature, as reflected in our three journals. During the last four years, only about 6.5% (36 articles, of which less than a third referenced Watts and Zimmerman's principal/agent literature) of the articles appearing in the three journals we examined qualify. For a somewhat more valid comparison over time, we classify 10% of *JAR's* papers during 1963–66 as model building. The percentage decreased marginally to 9% for *JAR* papers in the period 2011–14. While in the latter period articles reflected substantively more mathematical sophistication, we do not find support here for a principal/agent trend in accounting model building.

There exists a substantive disagreement between those supporting the principal/agent theory and those who rely on empirical testing as to the value of the latter to contribute to standard-setting issues. Holthausen and Watts (2001, p. 63) conclude that:

> While the existing value-relevance literature [papers that are at least partially motivated by a standard-setting purpose] is large, its contribution to standard setting seems modest. We cite a variety of reasons we believe the value-relevance literature has had little impact on standard setting. The major reason is that the literature does not seek to develop a descriptive theory of accounting and standard setting. Without such a theory there can be little assurance that the inferences drawn in the literature are valid.

[8] One reason for the apparently lower rate of behavioural papers in *TAR* and *JAR* was the existence since 1976 of *Accounting, Organizations and Society* (*AOS*), a journal devoted to publishing behavioural research. Behavioural papers constituted approximately 9% of those published by the three journals over the 2011–14 period. The numbers reflect *JAR*'s choice to concentrate on experimental work, while *AOS*'s focus was more generic.

[9] Of the 58 behavioural papers in the period 2011–14, 42 (over 70%) relied on student subjects, which seriously restrict the extrapolation of the results to other potentially more interesting populations.

[10] The only examples of modelling with empirical testing in the 2011–14 period are papers by Gerakos and Kovrijnykh (2013) and Chen and Li (2013). Also see Sikes and Verrecchia (2012) for a model with empirical evidence but that does not resort to regression analysis.

Yet Barth *et al*. (2001, p. 98) conclude, in part, that 'value relevance research provides insights into questions of interest to standard setters and other non-academic constituents'. The authors go on to say that 'It is important to emphasize that conducting value relevance research that provides insights into questions of interest to academics and non-academics alike is not an easy task' (p. 99). We believe that both sides of this debate have merit. Despite the technical limitations raised by Holthausen and Watts (2001), we believe that useful insights can be gained by other approaches, properly conducted. Yet we deplore the limitations implicit in the current and past published empirical research findings because of authors' nearly total reliance on the reporting of statistical significance rather than on the economic importance of their results.[11]

In our reading of the 460 empirical papers published in the period 2011–14, we find a number that Barth *et al*. (2001) would likely accept as containing useful insights for standard setters. But seldom do we get the impression that the authors have Barth *et al*.'s objective in mind. We believe that the 'market for statistical significance' has led to articles that potential readers with an interest in standard setting, let alone accounting practitioners, do not read and that would, for the most part, require an expert to explain fully. A problem with expecting empirical researchers to develop *meaningful hypotheses* is that, unfortunately, many young researchers seem to have only a superficial comprehension of the institutional accounting reality and, in some instances, even of accounting. From the 1990s until 2010, the AAA's Financial Accounting Standards Committee published a series of reports in *Accounting Horizons* that undertook to explain the empirical–analytical literature to the Financial Accounting Standards Board (FASB) in relation to its ongoing projects. If the authors themselves had been doing their job to explain the purport of their findings to non-expert readers—and if the journal editors and reviewers had urged them to do so—these special reports would, in all likelihood, not have been needed.

One factor contributing to this situation in the early years of empirical research was the complexity of the research itself. The changes in accounting that came so quickly in the 1960s required accountants to expand their knowledge to embrace several disciplines not typically studied in depth previously, including economics (particularly econometrics), psychology, mathematics, and statistics. A second factor in the 1960s was the minimal knowledge of these foundational disciplines possessed by senior accounting faculty in US business schools who were offering instruction to doctoral students. A partial solution was provided by the Ford Foundation, which offered summer courses for business faculty in mathematics and statistics in the early 1960s, and by the AAA, which offered an intensive professorial development

[11] We also are greatly concerned with the limitations of null hypothesis statistical tests used in all of the 518 empirical papers (including the behavioural papers) and the lack of replication studies (see Dyckman and Zeff, 2014). Some of the articles in the period 2011–14 conduct over 500 statistical tests. See Kwak *et al*. (2012) for an example where the results of over 600 tests are reported. We doubt that the data can stand this degree of abuse.

program for senior accounting faculty in the behavioural sciences and the quantitative disciplines in the late 1960s to early 1970s.[12] Otherwise, the general remedy was to grow the requisite knowledge through hiring new young faculty from existing business doctoral programs and hoping that the faculty already on board would educate one another. Academics' limited experience with computers also created delays. While we believe that there has been substantive improvement, the current state of the literature suggests that there still appears to be a long way to go to establishing the knowledge base necessary to assure that *meaningful hypotheses* are consistently identified and properly tested so that they may contribute effectively to the improvement of accounting theory and practice.

Another trend which we deplore is the almost entire absence, in the foremost US accounting journals, of articles using classical approaches to accounting research, such as history, and those that rely on field research, which is particularly important in the field of management accounting. The methodological narrowness in the leading journals is to be much regretted.

So, what can we conclude from this 50-year trip through journal-related accounting literature? One conclusion seems clear. Research of an empirical–analytical pedigree has flourished in the major accounting research-oriented journals. But has this research improved our understanding of the world we live in from an accounting perspective? On balance, we doubt that it has. Our understanding of the world we live in as it relates to accounting issues is still too murky. Our abilities to bring psychology, economics, and mathematics effectively and accurately to address accounting issues requires more expertise than has been displayed to date. The ability to communicate what we have learned to those in decision-making roles seems limited to a small number of interpreters bridging the gap between what academic accountants are doing and what those in decision roles require. Perhaps this role is being addressed through the many other journals and symposia that exist, but we have our doubts. Math modelling had been around for over 50 years before it received increased attention by academics during the 1980s due to Watts and Zimmerman. Yet this paradigm has not increased its penetration into the accounting literature, as would be indicated by a significant increase of principal/agent papers in *JAR*, *JAE*, and *TAR*. Behavioural work, which also has exhibited a steady but unspectacular publication history in *TAR*, *JAR*, and *JAE*, seems application-limited despite its inherent advantage of allowing the investigator to exert substantial control over the experimental setting.[13] The primary limitation of the academic literature is due to the heroic leap typically required to generalize results—typically of student subjects—to populations of general interest to practitioners.

[12] A behavioural research conference bringing researchers from accounting together with those from psychology and sociology was held at Tulane University in October 1970.

[13] The behavioural approach has made contributions to auditing, as reviewed by Kinney (1981), and continues to do so (see Libby and Brown, 2013). However, most of the progress on this front has come from practising CPAs.

Legitimate questions at this point include: how should our leading research journals assure that published research is held to the highest standards, that contributors optimally allocate the currently available resources, and that outside help is available when necessary? First, the journals should open themselves to high-quality research regardless of the methods employed. To achieve this end, they should diversify their panel of associate editors and members of their editorial boards as a signal to authors that research is invited across a broad range of methods. Second, the blind review process should be extended to assure that experts in statistics, economics, and psychology are included in the review process where the subject matter demands. To do so will require expanding the reviewer team beyond accountants. Third, when the research involves statistical testing, editors should demand that all of the test results be reported and that all data points deleted or introduced into a single data set be defended. Truncating by ceasing analysis or extending the sample process to produce a significant result, while difficult to identify, should be scrutinized and rejected where possible. Authors should be required to retain their data and make them, their research methods, their computer programs and commands, and all their test results—whether judged favourable or not—available on request for 25 years.

Fourth, we believe that theory and its testing need to be brought back together. A theory is a prerequisite to the development of a meaningful hypothesis. It is the resulting hypothesis that needs to be vetted by the sample evidence. Designing and conducting a meaningful test is contingent on the underlying theory. Testing alone with no theory may enlighten the researcher and suggest a theory to be examined but only in the light of totally new data.

Fifth, when adopting statistical tests, P—and α—values should be abandoned and interval measures of effects reported. Our interest lies not in rejecting the null hypothesis but rather in where we are led by the data to believe the finding of interest is to be found. Furthermore, research should attend to the economic rather than just the statistical significance of the results. Authors as well as editors and reviewers must recognize that finding and estimating a *statistically significant* result is not the same as finding and estimating an *economically important* result. Unfortunately, researchers seem to need to demonstrate only the former to secure publication, which, sad to say, is considered acceptable under current promotion and reputational standards. Statistical testing research methodology is evolving as we write, and it needs to penetrate accounting research. We can learn a lot about what is on the forefront of statistical testing from the psychologists.

Sixth, the journals' editors and reviewers should ascertain that authors not only have selected *meaningful hypotheses* but also have adequately explained the purport of their findings to a broad audience.

Seventh, instructors in doctoral programs should provide coursework in which students acquire a depth of understanding in the institutional accounting reality, and that they be schooled in the useful selection of hypotheses intended to provide insights to those charged with managing organizations as well as setting accounting standards and the application of those standards. Some empirical research to date has provided such insights, but a great deal of it seems not to be evocative of any

insights, appearing instead to be little more than exercises in demonstrating the authors' proficiency with mathematics or statistical testing methodology, sometimes even drawing on databases that seem to be ill-suited to the project. The process of crafting the analysis to the research issue requiring resolution is of equal import. Acquiring the requisite skills to identify the right question and acquire the ability to devise a solution needs to be a fundamental aspect of any doctoral degree program.

Eighth, consideration should be given to reinstituting directed research programs that could focus attention on, and perhaps even allocate funds to, the investigation of important accounting issues. The excellent example set by the October 2014 document, *The Effects of Mandatory IFRS Adoption in the EU: A Review of Empirical Research*, prepared and published by the Financial Reporting Faculty of the Institute of Chartered Accountants in England and Wales (ICAEW), addresses in part these concerns. The same ICAEW sponsors an annual P. D. Leake Lecture given by a leading accounting researcher and, since 2005, has held an annual Information for Better Markets conference at which accounting researchers present state-of-the-art papers in their field of expertise, which are discussed by accounting practitioners, financial executives, financial analysts, and regulators, as well as other academics. The Lecture and the conference papers are published in *Accounting and Business Research*. Sadly, there is nothing comparable to what the ICAEW does, and arranges to have published, by professional accountancy bodies in the US.

The FASB, for its part, over the past 15–20 years has held an annual summer program for about ten PhD students and junior faculty. Its primary aim has been to focus on how the standard-setting environment can be exploited to identify and develop deep and meaningful hypotheses about financial reporting issues suitable for use in empirical research.

Ninth, we believe strongly that replication studies—those in which the same research design is applied to different data sets—should become a staple in the accounting literature (see Dyckman and Zeff, 2014). Replication is a hallmark of the scientific method, and its absence from the accounting journals prevents researchers from distinguishing empirical results that are aberrations of the choice of data set from those that hold across data sets, and therefore are generalizable. Replications also enable the unearthing of academic dishonesty in the conduct of research. At times, authors either do not adequately vet their data set or they purposely falsify data to achieve the required significant results. A relatively recent example was uncovered in the accounting literature. There is no certain cure for this problem, but replication is an appropriate recommendation. We encourage the journals to institute the practice of publishing brief synopses of reviewed and acceptable replications, retaining the full paper to be available on request. The existence of the SSRN is helpful, but our journals must be on the alert as well.

And tenth, while we applaud bringing other disciplines into accounting research, we recommend that the researchers who are doing so secure a coauthor from the other discipline or at least arrange to present their research in workshops in the other discipline departments. As we see more accounting research drawing on such disciplines as religion, linguistics, sociology, and recently even neuroscience (Barton

et al., 2014; Farrell *et al*., 2014), by failing to confer with the experts in the field, accounting researchers run the risk of not faithfully borrowing from these disciplines. The consequence is that the resulting research is increasingly likely not to be on solid turf. Conferences that bring accounting researchers together with colleagues from other disciplines are a start. As an example, in October 1970 an AAA officer organized a Symposium on Behavioral Science Research in Accounting, to which he invited several leading researchers in psychology and sociology to meet with leading accounting researchers in behavioural accounting in order to comment usefully on early drafts of the latter's papers.[14] The symposium served to give the accounting researchers confidence that they were doing sound behavioural research. The accountants then spent a year on their topic and reunited at The Ohio State University for presentations and a second round of critics by well-known psychologists. Many of these papers were eventually published, helping to implant psychological concepts in accounting research.

Yet, because we retain strong reservations about the current academic reward system (Dyckman and Zeff, 2014) that is unlikely to experience any major change soon, we are pessimistic that substantive, constructive improvement in published accounting research is likely to occur in the foreseeable future.[15]

REFERENCES

Alexander, S. S. (1950), 'Income Measurement in a Dynamic Economy', in *Five Monographs on Business Income*, American Institute of Accountants, New York, pp. 1–95.

American Accounting Association (AAA) (1957), *Accounting and Reporting Standards for Corporate Financial Statements and Preceding Statements and Supplements* (1957), AAA, Madison, Wisconsin.

—— (1966), *A Statement of Basic Accounting Theory*, AAA, Sarasota, Florida.

—— (1977), *Statement on Accounting Theory and Theory Acceptance*, AAA, Sarasota, Florida.

Ashley, J. W. (1962), 'Stock Prices and Changes in Earnings and Dividends: Some Empirical Results', *Journal of Political Economy*, Vol. 70, No. 1, pp. 82–85.

Auditing Standards Executive Committee (1975), 'The Meaning and "Present Fairly in Conformity with Generally Accepted Accounting Principles" in the Independent Auditor's Report', *Statement on Auditing Standards No. 5*, American Institute of Certified Public Accountants, New York.

[14] The second author of this paper was the AAA officer who organized the symposium. When he sought funding for the symposium, he was informed by the AAA president that he could not ask the Big 8 accounting firms, because they were already staunch supporters of AAA programs. So the officer approached Robert M. Trueblood, of Touche Ross & Co., explaining his symposium proposal but without asking for funding. Trueblood, who was very much at home with academics and academic programs, promptly volunteered his firm's support, which the officer 'reluctantly' accepted.

[15] We are neither the first, nor will we be the last, to raise this concern. A roundtable organized by Nicholas Dopuch and Joshua Ronen held on 13 August 1991 at the annual AAA meeting in Nashville, addressed similar concerns. In an open letter sent prior to the roundtable, a group of leading accounting academics concluded that 'There is a widespread sense among accounting researchers and practitioners that academic accounting, particularly on the research level, currently faces a serious crisis . . . . Despite considerable research effort, it does not seem that we are any closer now than we were 20–30 years ago to addressing the fundamental issues in accounting, such as the optimal choice of accounting standards and the optimal structure of accounting institutions' (1991, pp. 1–2).

Australian Society of Accountants (ASA) (1962), *History of the Australian Society of Accountants and its Antecedent Bodies*, ASA, Melbourne.

Barth, M. E., W. H. Beaver, and W. R. Landsman (2001), 'The Relevance of the Value Relevance Literature for Financial Accounting Standard Setting: Another View', *Journal of Accounting and Economics*, Vol. 31, Nos. 1–3, pp. 77–104.

Barton, J., G. S. Berns, and A. M. Brooks (2014), 'The Neuroscience behind the Stock Market's Reaction to Corporate Earnings News', *The Accounting Review*, Vol. 89, No. 6, pp. 1945–77.

Beaver, W. H. (1998), *Financial Reporting: An Accounting Revolution*, 3rd edition, Prentice Hall, Saddle River, NJ.

Bedford, N. M. (1965), *Income Determination Theory: An Accounting Framework*, Addison-Wesley, Reading, MA.

Bruns, W. J. (1965), 'Inventory Valuation and Management Decisions', *The Accounting Review*, Vol. 40, No. 2, pp. 345–57.

Canning, J. B. (1929), *The Economics of Accountancy*, The Ronald Press Company, New York.

Chambers, R. J. (1966), *Accounting, Evaluation and Economic Behavior*, Prentice-Hall, Inc., Englewood Cliffs, NJ.

Chen, F. and Y. Li (2013), 'Voluntary Adoption of Independent Audit Committees: Theory and Empirical Evidence from Toronto Venture Exchange Listed Firms', *The Accounting Review*, Vol. 88, No. 6, pp. 1939–69.

Cooper, W. W. and S. A. Zeff (1992), 'Kinney's Design for Accounting Research', *Critical Perspectives on Accounting*, Vol. 3, No. 1, pp. 87–92.

Davidson, S. (1966), 'Editor's Preface', *Empirical Research in Accounting: Selected Studies 1966, Journal of Accounting Research*, Supplement to Vol. 4, p. iii.

Dopuch, N. (1979), 'Empirical vs. Non-empirical Contributions to Accounting Theory Development' in J. J. Davies (Ed.), *Papers Presented at the 1979 Accounting Research Convocation on the Subject of Seeking Full Disclosure*, School of Accountancy, University of Alabama, Tuscaloosa, pp. 67–82.

Dopuch, N. and J. Ronen (1991), 'A Statement of the State of Accounting Research', unpublished communication, 22 April.

Dyckman, T. R. (1964), 'The Effects of Alternative Accounting Techniques on Certain Management Decisions', *Journal of Accounting Research*, Vol. 2, No. 1, pp. 91–107.

—— (2015), 'Methodological Deficiencies in Null Hypothesis Statistical Tests in Regression Analysis', Working Paper, Cornell University.

Dyckman, T. R. and S. A. Zeff (1984), 'Two Decades of the *Journal of Accounting Research*', *Journal of Accounting Research*, Vol. 22, No. 1, pp. 225–97.

—— (2014), 'Some Methodological Deficiencies in Empirical Research Articles in Accounting', *Accounting Horizons*, Vol. 28, No. 3, pp. 695–712.

Edwards, E. O. and P. W. Bell (1961), *The Theory and Measurement of Business Income*, University of California Press, Berkeley, CA.

Farrell, A. M., J. O. Goh, and B. J. White (2014), 'The Effect of Performance-based Incentive Contracts on System 1 and System 2 Processing in Affective Decision Contexts: fMRI and Behavioral Evidence', *The Accounting Review*, Vol. 89, No. 6, pp. 1979–2010.

Gerakos, J. and A. Kovrijnykh (2013), 'Performance Shocks and Misreporting', *Journal of Accounting and Economics*, Vol. 56, No. 1, pp. 57–72.

Gordon, R. A. and J. E. Howell (1959), *Higher Education for Business*, Columbia University Press, New York.

Holthausen, R. W. and R. L. Watts (2001), 'The Relevance of the Value-relevance Literature for Financial Accounting Standard Setting', *Journal of Accounting and Economics*, Vol. 31, Nos. 1–3, pp. 3–75.

Ijiri, Y. (1967), *The Foundations of Accounting Measurement*, Prentice-Hall, Inc., Englewood Cliffs, NJ.

Institute of Chartered Accountants in England and Wales (ICAEW) (2014), *The Effects of Mandatory IFRS Adoption in the EU: A Review of Empirical Research* (2014), Financial Reporting Faculty of the ICAEW, London, available at http://www.iasplus.com/en/news/2014/11/icaew-research-report, accessed 17 September 2015.

Kinney, W. R., Jr. (1981), 'The Impact of Auditing Research on Practice and Policy', in J. W. Buckley (Ed.), *The Impact of Accounting Research on Policy and Practice*, 1981 Proceedings of the Arthur Young Professors' Roundtable, The Council of Arthur Young Professors, Reston, Virginia, pp. 37–52.

Kwak, B., B. Ro, and I. Suk (2012), 'The Composition of Top Management with General Counsel and Voluntary Information Disclosure', *Journal of Accounting and Economics*, Vol. 54, No. 1, pp. 19–41.

Leone, A., M. Minutti-Meza, and C. Wasley (2014), 'Outliers and Inference in Accounting Research', Working Paper, School of Business, University of Miami.

Libby, R. and T. Brown (2013) 'Financial Statement Disaggregation Decisions and Auditors' Tolerance for Misstatement', *The Accounting Review*, Vol. 88, No. 2, pp. 641–65.

Littleton, A. C. (1953), *Structure of Accounting Theory*, American Accounting Association, Urbana, Illinois.

MacNeal, K. (1939), *Truth in Accounting*, University of Pennsylvania Press, Philadelphia.

Mattessich, R. (1964), *Accounting and Analytical Methods*, Richard D. Irwin, Inc., Homewood, Illinois.

May, G. O. (1943), *Financial Accounting, A Distillation of Experience*, Macmillan, New York.

Moonitz, M. (1961), *The Basic Postulates of Accounting*, American Institute of Certified Public Accountants, New York.

Nelson, C. L. (1973), 'A Priori Research in Accounting', in N. Dopuch and L. Revsine (Eds), *Accounting Research 1960–1970: A Critical Evaluation*, Center for International Education and Research in Accounting, University of Illinois at Urbana-Champaign, Urbana, Illinois, pp. 3–19.

Paton, W. A. (1922), *Accounting Theory, with Special Reference to the Corporate Enterprise*, Ronald Press, New York.

Paton, W. A. and A. C. Littleton (1940), *An Introduction to Corporate Accounting Standards*, American Accounting Association, Chicago.

Pierson, F. C. (1959), *The Education of American Businessmen*, McGraw-Hill, New York.

Sanders, T. H., H. R. Hatfield, and U. Moore (1938), *A Statement of Accounting Principles*, American Institute of Accountants, New York.

Sikes, S. A. and R. E. Verrecchia (2012), 'Capital Gains Taxes and Expected Rates of Return', *The Accounting Review*, Vol. 87, No. 3, pp. 1067–86.

Sprouse, R. T. and M. Moonitz (1962), *A Tentative Set of Broad Accounting Principles for Business Enterprises*, American Institute of Certified Public Accountants, New York.

Staubus, G. J. (1961), *A Theory of Accounting to Investors*, University of California Press, Berkeley.

—— (1965), 'The Association of Financial Accounting Variables with Common Stock Values', *The Accounting Review*, Vol. 40, No. 1, pp. 119–34.

Sterling, R. R. (1970), *Theory of the Measurement of Enterprise Income*, University Press of Kansas, Lawrence.

Sweeney, H. W. (1936), *Stabilized Accounting*, Harper & Brothers, New York.

Thomas. A. L. (1969), *The Allocation Problem in Financial Accounting Theory*, American Accounting Association, Evanston, Illinois.

Watts, R. L. and J. L. Zimmerman (1986), *Positive Accounting Theory*, Prentice Hall, Englewood Cliffs, NJ.

Zeff, S. A. (1983), 'A Retrospective', *The Accounting Review*, Vol. 58, No. 1, pp. 129–34.

—— (1996), 'A Study of Academic Research Journals in Accounting', *Accounting Horizons*, Vol. 10, No. 3, pp. 158–77.