MEMORIAL

The Contribution of Philip W. Bell to Accounting Thought

Kenneth Peasnell and Geoffrey Whittington

SYNOPSIS: This paper reviews the contribution of the late Philip Bell to accounting thought. He is best known for his joint work with Edgar O. Edwards, *The Theory and Measurement of Business Income*. This seminal work is put in context by exploring Bell's earlier work as an economist and his later work, in which he developed applications and extensions of the Edwards and Bell model. Many of his concerns are relevant to the policy and research issues of today.

INTRODUCTION

Philip Wilkes Bell (1924–2007) was the co-author, with Edgar O. Edwards, of one of the most notable contributions to accounting thought in the 20th century, *The Theory and Measurement of Business Income* (Edwards and Bell 1961). Like his co-author, Bell’s academic training was as an economist, but he devoted the latter part of his career (from the mid-1970s) to expounding upon and extending the fundamental ideas first developed in his 1961 book. Unfortunately, this was a time in which mainstream academic research was turning away from theory, and his efforts did not receive the recognition that they deserved. This paper gives a brief account of his work (and that of Edwards, although the focus of this paper is on Bell), and it is hoped that this will help to stimulate further interest in it, because his work is still extremely relevant to current issues in research and policy. In research, for example, the Ohlson model has become a widely accepted paradigm (not without its own period of relative neglect), and underlying that model is the residual income model that supported Edwards and Bell’s core theory. In policy, Edwards and Bell’s analysis of the income statement discusses many of the issues that are being debated in the current IASB/FASB project on the presentation of financial statements.

*Kenneth Peasnell is a Professor at Lancaster University and Geoffrey Whittington is a Professor and Senior Research Fellow at the University of Cambridge.*

The authors are grateful to Stephen Zeff for providing bibliographical and biographical material and for helpful comments on an earlier draft. In this issue, the editors are reintroducing Memorials (also known as Intellectual Obituaries) into *Accounting Horizons*. A previous Memorial was published in the March 1987 issue, recognizing the intellectual contributions of Edward Stamp. The intent of these Memorials is to honor recently deceased academics who made significant and lasting intellectual contributions to the field of accounting and also to keep their contributions alive. Professor Stephen Zeff, of Rice University, raised and championed this idea through the Executive Committee and Publications Committee of the American Accounting Association. Professor Zeff, in conjunction with the co-editors of *Accounting Horizons*, identifies the individuals to be honored. He selects the authors to prepare the Memorials and edits the submitted manuscripts.

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Corresponding author: Kenneth Peasnell
Email: k.peasnell@lancaster.ac.uk
The paper proceeds as follows. First, we discuss Bell’s early background and subsequent career as an economist. The marrying of economic theory with accounting was an essential ingredient in the Edwards and Bell book. Their common intellectual equipment as economists must also have contributed to the apparently seamless nature of the collaboration. Second, we examine the origins and content of the Edwards and Bell book. Third, we give an account of the final stage of Bell’s research career, which he devoted substantially to the extension and application of the ideas in the earlier work. This was done mainly as an independent author, Edwards having continued his career as an economist, specializing in development economics, with occasional forays into accounting matters.

BELL THE ECONOMIST

After service as a pilot in the U.S. Air Force in World War II, Bell graduated with a B.A. in Economics from Princeton in 1947. In 1946–1947 he was also a correspondent for The New York Times. He went on to earn an M.A. in Economics from Berkeley in 1949, returning to Princeton as a Ph.D. student in international economics, and graduating in 1954. His Ph.D. supervisor was the distinguished economist, Jacob Viner, known not only for his work on international trade theory but also for identifying the long-run marginal cost curve as an envelope of short-run marginal cost curves. Bell’s thesis was revised and published in 1956 by Oxford University Press as a book, The Sterling Area in the Post-War World (Bell 1956). The book was widely reviewed in academic journals, with mostly favorable comments. One notable reviewer was Harry G. Johnson, who was to be one of the leading scholars in international economics over the next two decades, and who was sometimes a savage reviewer. Johnson summarized Bell’s book as follows: “the analysis of the system which underlies the conclusion is cogent and scholarly, a useful contribution to the literature of a very complex subject” (Johnson 1957).

In addition to the book, Bell produced a number of papers while at Princeton, notably an empirical paper on occupational wage differentials in American industry, which was published in the leading journal, The Review of Economics and Statistics (Bell 1951), and another entitled “Colonialism as a Problem in American Foreign Policy,” published in World Politics (Bell 1952). This work was united by a common interest in policy matters, which was no doubt encouraged by the eclectic and policy-oriented environment at Princeton. The style was that of an applied economist of the time, with theory expressed in words rather than mathematics and statistics used descriptively, rather than for formal probabilistic testing. The extensive use of statistics on capital flows and other economic data makes the transition from international economics to accounting less surprising than it might seem. Equally, the serious concern with application to policy and practice, rather than theory for its own sake, is also characteristic of his later work on accounting.

Bell’s early work at Princeton gave him an impressive start to his research career, and he was given his first faculty post, as an Assistant Professor at Haverford College, in 1952. He continued to hold academic posts solely in economics until he moved to Rice University in 1978 and became the William Alexander Kirkland Professor of Accounting and Economics. During this long period, his publications show a continued interest in international financial flows, but also a new interest in development economics, fostered by extensive visiting academic posts in Africa and Asia. This interest was a natural extension of the concern with policy and international capital flows. Apart from research publications, Bell was concerned with teaching economics in developing countries, and he published a notable textbook for this purpose with Michael Todaro (Bell and Todaro 1969). Edwards too became a specialist in economic development, acting as an economic consultant to governments, notably in Kenya, and he sustained this activity as his main academic interest until retirement. However, there were no joint Edwards and Bell publications in this field.
THE EDWARDS AND BELL COLLABORATION

In addition to his mainstream economics activities, Bell developed an early interest in accounting and particularly the relationship of accounting to economics. He had taken a course in accounting as an undergraduate at Princeton, and was asked to teach the same course in 1949–1950. In the following academic year, he continued to teach the course and shared an office with Edwards, another graduate instructor in economics who had just joined Princeton.¹ Edwards was the senior of the two (by almost five years) and had experience in practical management accounting (costing for price-setting) in an earlier employment. Moreover, Edwards’ research interests at that time were more directly related to accounting. His Ph.D. thesis at Johns Hopkins University in 1951 was on studies in the growth of the firm, and he was interested in such issues as the measurement of depreciation. Thus, there was a natural overlap of interests between the pair that led to their fruitful collaboration. Initially, Edwards, as the senior and the most engaged in accounting, took the lead in developing the theory: hence the ordering of the authors as Edwards and Bell. The first paper containing the germ of the Edwards-Bell theory appeared under Edwards’ sole authorship (Edwards 1954), but with a warm tribute to the contribution of Bell. As the project developed, they seem to have developed a remarkable synergy that made it irrelevant to distinguish their separate contributions.

The initial Edwards-Bell project that started in their shared office at Princeton was to write an introductory textbook to serve the course that they were teaching. They became absorbed in the problems of measurement and price changes, addressed in the later chapters of the proposed book, and, in due course, this became a separate project, culminating in The Theory and Measurement of Business Income (Edwards and Bell 1961). The manuscript of the introductory chapters lay fallow for more than two decades, after which it was revised and extended by L. Todd Johnson and Bell, starting in 1976 (a significant step toward Bell’s subsequent concentration on accounting rather than economics) and published as Edwards et al. (1979). Surprisingly perhaps, these two books were the only joint Edwards and Bell publications, although their subsequent published thoughts on accounting were very much in harmony. However, the achievement of the 1961 book alone was greater than that of most academic collaborations.

Edwards and Bell (1961) was the result of a long and thorough process. Having decided to focus on this rather than the elementary textbook, both authors devoted significant research time to the project. Edwards reports that he worked out the basic ideas of Part One of the book while on a Guggenheim Fellowship in Sweden in 1954–1955, and Bell worked on the manuscript in 1955–1956 while a Social Science Research Council Fellow at the London School of Economics, “where he had the good fortune to get to know, and share ideas with, William Baxter” (Edwards and Bell 1995, vi). Baxter’s recollections of the visit suggest that Bell’s change of main interest from international finance to accounting measurement may have started at this time (Baxter 2005, 28).

EDWARDS’ AND BELL’S THE THEORY AND MEASUREMENT OF BUSINESS INCOME

Edwards and Bell’s book is a work of great subtlety and originality. We can scarcely do it justice in a few pages. A recent, more detailed, review of the key accounting ideas and a discussion of their relevance to current issues facing standard setters can be found in Whittington (2008). These include the rigorous identification of the differences between income measures based on current prices and the traditional historical cost measure, including the distinction between holding

¹ The early development of the collaboration is described in the introduction to the 1995 reprint of the Edwards and Bell book.
gains and operating gains, the discussion of the relative merits of entry and exit values (terms that they appear to have coined\(^2\) but that now are standard terminology in current debates on accounting measurement). The book also develops a “real terms” accounting system that incorporates current values and price level adjustments yet preserves the historical cost base. Their schema yields aggregate “clean surplus” measures of income that are important in relation to their underlying residual income valuation theory. Here we focus particularly on the somewhat neglected foundational aspects of the work that might be expected to be of interest to future generations of scholars.

A notable but often overlooked feature of the book is its assumption that the primary demand for accounting data is in evaluating business decisions. Edwards and Bell draw no real distinction between management accounting and financial accounting. The starting point for their theory is that management draws up plans and makes decisions based on the present value of future cash flows. The task of accounting is to provide feedback on what subsequently happens in order to control events as they occur and to assist in formulating better decisions in the future, including, where appropriate, the modification of the decision-making process itself. Thus, their view of accounting is firmly rooted in the notion of accountability, with the primary aim being the objective recording of transactions and events of the period on the basis of current prices, rather than the prediction of future cash flows.

They take great care to distinguish their position from other economists who have over the years criticized the accountant’s concept of profit as providing a poor proxy for the Hicksian economic concept of income. They point out (Edwards and Bell 1961, 24–25) that Hicksian income:

is thoroughly subjective in nature whether viewed as an \textit{ex ante} or an \textit{ex post} concept … A concept of profit which measures truly and realistically the extent to which past decisions have been right or wrong and thus aids in the formulation of new ones is required. And since rightness or wrongness must, eventually, be checked in the market place, it is changes in market values of one kind or another which should dominate accounting objectives.

Edwards and Bell recognize that, for accounting to serve this evaluative function, it is necessary for the forecasts used in making decisions to be based on the same measures of net benefits, as will the subsequent measures of actual performance. They do this by developing in Edwards and Bell (1961, Chap. II) what would now be called a residual income valuation (RIV) model that uses forecast profits in place of forecast dividends.\(^3\)

The RIV model provides the foundation on which Ohlson (1995) and Feltham and Ohlson (1995) were able to build a more parsimonious model that has enabled researchers to understand more clearly the role of many features of accounting of importance in capital markets-based accounting research (Beaver 2002). The importance of the Edwards-Bell contribution to the development of RIV has been rightly and properly acknowledged by modern scholars (e.g., see Ohlson 1995). Nevertheless, sight should not be lost of the fact that a better understanding of equity valuation was not Edwards and Bell’s central concern in developing RIV. Their goal was to align business planning with the measurement of subsequent achievements in meeting or beating those plans. The problem was to find a way in which the subjective value on which a decision was based could be tested through the process of its being converted into objective market value. In that sense, their view of accounting is one that emphasizes accountability and stewardship, not the

\(^2\) This thought was suggested to us by Stephen Zeff. We are not aware of any earlier use of these terms in the accounting literature.

\(^3\) This aspect of their thinking was later elaborated by Edwards (1978).

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prediction of future cash flows, although their system is designed to meet a wide range of uses, and they do acknowledge the relevance of some of their measures (such as Operating Profit) to investors.

The core ideas in Edwards and Bell are set out in Edwards and Bell (1961, Chap. II). This is in many ways as interesting as the subsequent chapters, which detail how the ideas can be used to address key issues in accounting measurement (the distinction between holding and operating activities, the choice between different asset valuation bases, concepts of money profit, and how best to allow for inflation). These measurement issues are the ones that have received the most attention subsequently by other scholars. The core ideas are equally worthy of consideration, as is suggested in the introduction to the 1995 reprint (Edwards and Bell 1995, vii).

Edwards and Bell’s key objective indicator of performance is what they label “realizable profit,” which they define as the market value of the firm’s assets. “The measurement of changes in market value can be accomplished, at least theoretically, on an objective basis and is not dependent on the subjective estimates management or its subordinates might choose to report” (Edwards and Bell 1961, 44). Ideally, realizable profit would also include an objectively determined estimate of goodwill as well, but they acknowledge that “the market for goodwill is a slumbering one, awakening only occasionally when bona fide offers for the firm as a whole (or a major part of it) are made; at other times, for all intents and purposes, the market is nonexistent and there exists no other means for estimating this value” (Edwards and Bell 1961, 45n). They reject the idea of estimating objective goodwill by deducting the market value of the firm’s separable net assets from the market value of its equity. If this were, however, done, realizable profit would equal the cum-div change in the value of the firm’s stock, assuming that there were no other transactions with stockholders.

This brings us to another important feature of Edwards and Bell’s ideas: their recognition that “… no single [profit] concept serves all purposes best” (Edwards and Bell 1961, 121). A notable feature of the book is the way it demonstrates how realizable profit can be broken down in various ways to yield measures suitable for different purposes. A key feature of their schema is to separate different aspects of performance—in particular, to distinguish between holding gains and losses that accrue from the timing of asset acquisition decisions and operating gains derived from deploying those assets. Holding gains can be further divided into realizable and realized elements. A realizable holding gain is the increase in the market value of an asset during the period. A realized holding gain arises either from sale (i.e., the historical cost profit on the item) or from use (in the case of inventory, the difference when consumed between the current market value of the item and what it originally cost; in the case of depreciable assets, the excess of current value depreciation over historical cost depreciation expense during the period). Current operating profit is defined as the excess of operating revenues over operating expenses calculated using current market prices. The results can thus be portrayed in a variety of ways, and used for a variety of purposes. Realized (i.e., historical cost) profit can be computed by adding realized gains and losses to current operating profit. Realizable profit can be derived by adding realizable gains of the period to current operating profit. Edwards and Bell (1961, Chap. II) close with a brief discussion of how a system of a type that systematically collects current market data on its assets and

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4 The distinction between operating and holding gains is made difficult in practice by the fact that production necessarily takes time, so that operating and holding occur simultaneously (Prakash and Sunder 1979; Drake and Dopuch 1965).

5 They stress that realizable gains of the period are those that accrued during the period. They therefore exclude gains that accrued in earlier periods but are not yet realized.
liabilities and uses them to distinguish between holding and operating assets can be deployed for
decision purposes at different levels within an organization.⁶

The remainder of the book focuses on various important aspects of the measurement of
periodic profit. One issue is how to measure the current market values on which holding gains are
based. They explain how both current replacement cost (entry value) and current realizable value
(exit value, also referred to as opportunity cost) can provide useful information, but favor the
former for going concerns. Transaction costs of various kinds drive a wedge between entry and
exit values. Edwards and Bell have in mind actual prices in real markets, even if their measure-
ment for accounting purposes has to be approximated in various ways. This is in marked contrast
to the notion of “fair value” to which the FASB and the IASB subscribe, which involves the
idealized notion of equally well-informed market participants. A major reason why entry and exit
values often differ markedly in real markets is that participants are not (and know they are not)
equally well informed and either price-protect themselves through their bid-ask spreads or incur
transaction costs to become better informed. The main reason why Edwards and Bell advocate the
use of entry rather than exit values is because they assume that they are primarily concerned with
assessing the long run performance of a going concern. In this context, they assert that it is more
relevant to regard holding gains as future cost savings, to be realized as inputs to production,
rather than as realizable by direct sale at exit value, and more relevant to short-term performance
assessment.

An important contribution of the book is the demonstration of how price changes can be
separated into real and nominal elements.⁷ This is illustrated in great detail in Edwards and Bell
(1961, Chap. VIII). This type of adjustment is particularly informative in times of high and
variable inflation, and it is not surprising that their work was highly cited in the inflation account-
ing debates of the 1970s and early 1980s (Tweedie and Whittington 1984). Where those debates
would have profited greatly was if they had paid closer attention to the way Edwards and Bell
recommend debt instruments should be treated. Their recommendation was that debt should also
be shown at market value. Moreover, in their proposed measure of real profit, they suggest that the
charge to maintain the purchasing power of equity be split into its associated asset and liability
components, with the inflation adjustment for debt being deducted from interest expense to reveal
the real (i.e., inflation-adjusted) interest expense. The inflationary monetary policies being resorted
to by governments around the world to address the current economic crisis provide a timely
reminder that it is unwise to assume that inflation is something that accountants need no longer
consider. This reason alone may be sufficient to justify the importance of the book for future
generations of accountants.

**BELL’S LATER CONTRIBUTIONS**

Bell’s later career, from his appointment to the Chair of Accounting and Economics at Rice
University in 1978 onward, was devoted mainly to the dissemination, application, and extension of
the ideas in the Edwards and Bell book. The author’s own selection of these writings appeared in
Bell (1997a) under the title *Toward Greater Logic and Utility in Accounting*, which captures well
the focus of his work in this period.

The most obvious manifestation of dissemination was in the Edwards et al. (1979) textbook,
although a number of the other works were aimed at dissemination at a higher level, to fellow

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⁶ This aspect of Edwards and Bell’s work received considerable attention in the management accounting literature in the
1960s and 1970s; e.g., see Solomons (1965), Amey (1969), and Flower (1971).

⁷ Interestingly, the material on inflation owes nothing to the framework set out in Chapter II. This is hardly surprising as
it can readily be demonstrated that the RIV model works equally well whether expressed in nominal or real terms
(O’Hanlon and Peasnell 2004).
academics and practitioners. A notable example of application was the Bell and Johnson (1979) contribution to Sterling and Thomas’ book (Sterling and Thomas 1979), in which different authors addressed accounting for the taxi cab case, an example of a simple firm owning depreciable assets. Another was a monograph (Bell 1986) applying the Edwards and Bell approach to the evaluation of management decisions, which were always central to their thinking. A further example was a pair of papers (Bell 1977, 1980), which applied Edwards-Bell thinking to the evaluation of the performance of investment portfolios. These developed the familiar (but still not universally understood) theme that it is important to report gains of the period separately from gains of the previous period that are merely realized in the current period, and, less familiar, that it is necessary to have details of the volume as well as the price of transactions in individual securities, in order to assess properly the components of performance.

The main area of application that preoccupied Bell in this period was, however, the policy debate on price change accounting. He rightly saw the adoption of Statement of Financial Accounting Standards No. 33, issued by the Financial Accounting Standards Board (FASB) in 1979 (FASB 1979), as an endorsement of the Edwards and Bell system, and he was disappointed by its subsequent withdrawal in 1986. He contributed a number of papers to the worldwide policy debate, perhaps most notably his monograph (Bell 1982) based on lectures given in Australia, in which he explored the differences between the three main models of current value accounting, explaining the policy choices very clearly and urging that the similarities were more important than the differences: the important thing was to adopt some form of price change accounting to supplement or replace historical cost. The latter message went unheeded, and the fierce debates between protagonists of different forms of current value accounting helped to stall its adoption. The debate became an example of the potential futility of deductive accounting theory that Watts and Zimmerman (1979) parodied as “the market for excuses.” Bell himself entered the methodological debate and was an advocate of combining deductive theory with empirical evidence, and deplored the separation of the two in accounting research (Bell 1986a). He believed that the efficient market hypothesis, which underlay much contemporary empirical accounting research, was an unrealistic characterization of most real-world markets (something that has become more widely accepted, following the recent financial crisis) and narrowly focused (concentrating on the interests of shareholders rather than the wider constituency of users). He also wrote on the conceptual framework (Bell 1993), supporting the view of David Solomons (1989) that faithful representation of economic reality should be a central concern. Consistent with the Edwards-Bell model, he advocated that accountability, or “stewardship” (the provision of ex post data for comparison with plans or expectations) was as important as the provision of forward-looking decision-relevant data. These issues are still under debate in the IASB’s conceptual framework project, and Bell’s work is well worth revisiting in this regard.

The most notable extension of the original model that Bell adopted (and Edwards endorsed) in this period was the introduction of “deprival value” reasoning. This was initially intended to provide a stronger theoretical basis for Edwards and Bell’s preference for entry values (replace-

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8 SFAS No. 33 required supplementary reporting of price change data and did not require the full Edwards and Bell accounting format, but Bell saw this as a step toward their system. Unlike some of his contemporary accounting theorists, he was prepared to accept compromise in the cause of progress, as indicated by the reconciliatory tone of his 1982 monograph.

9 He felt that the evidence used to support the withdrawal was inadequate, because it focused only on stockholders’ market reactions and assumed market efficiency. He started an empirical investigation, which was never completed to final publication stage but was reproduced in his volume of collected papers (Bell 1997b). His objective was to show that the SFAS No. 33 disclosures did yield rates of return that had superior information content to historical cost. His view was that users of the information did not understand its true worth. Hence, he advocated a greater educational effort rather than withdrawal of SFAS No. 33.
ment costs) over exit values (as in the introduction to the 1995 reprint of Edwards and Bell), but it took on a greater significance in two late papers (Bell 1995; Bell and Peasnell 1997), which dealt with depreciation in a valuation context. In an entry value system, the change in asset value has to be broken down into two components: depreciation and holding gain or loss. A problem with which Bell wrestled was Arthur Thomas’ critique of allocation in accounting (Thomas 1969, 1974), which had called into serious question the credibility of depreciation allocations. Bell’s solution in these final papers was to adopt the deprival value depreciation model developed by Baxter (1971) and extend it in a number of ways, particularly by accommodating replacement cycles, by the identification of “implicit used-asset market values” arising from this method, and by relating the resulting income measure to residual income. The Baxter method, by focusing on cost savings rather than revenue generated, offers a potentially more objective means of allocating depreciation between years. Depreciation is a substantial expense to most commercial entities, and so it is possible that, as the sophistication of users of financial reports increases, there will be a future demand for a more satisfactory method of accounting for it than is offered by arbitrary conventions such as straight-line. When that happens, the work of Bell (and his precursors such as Baxter [1971], and Wright [1964]) in developing the deprival value approach should receive the attention that it deserves.

EPILOGUE

Despite the movement of fashion against deductive theory in general and price change accounting in particular, Bell continued to study and publish in these areas well into his eighth decade. As far as we are aware, his last substantial publications appeared in 1997, when he attained the age of 73. His work had been loyally supported by his second wife, Virginia, and after she died in 1998, he seems to have decided that it was time to leave accounting theory to the next generation. After a further ten years in retirement,10 he died in August 2007. He left behind a rich legacy of published work. Our hope is that our necessarily brief account will encourage others to visit it.

REFERENCES


10 A notable event during this period was the admission of both Edwards and Bell to the Accounting Hall of Fame in 2003, in recognition of the significance of their joint work.


