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Accounting's representation of industrial expansion and decline: Some evidence from practice at Vickers Shipbuilding, 1910–24

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ABSTRACT

This paper puts forward an exploratory methodology for measuring the yearly representational effects of accounting, as the difference between the constructed profit measure and its underlying transactional base, in response to a call from the World Congress of Accounting Historians for research on differences in the way accounting represents organisational success across periods of industrial expansion and decline. The suggested approach has then been applied to data drawn from the archives of one of Britain's most important shipbuilders, Vickers at Barrow, across a period of unprecedented change in the industry, providing a basis for discussion of the observable representational effects.

1. Introduction

The operations of commercial companies lead to transactions with parties outside the organisation that can be readily summarised. These transactional flows are typically augmented with 'year-end' adjustments which have no external referents but are believed to provide investors and other users with a better statement of operational performance, the profit and loss account. This belief is questionable and has been widely questioned since the 1960s (see, for example Chambers, 1976; Edey, 1963; Lawson, 1979; Lee, 1972; Rayman, 1970; Thomas, 1969). In this paper, financial accounting profit signals are seen not as inventions of economic or financial reality but as temporally adjusted representations of an (incomplete) underlying economic or financial reality.[1]

In recent times, the reporting of cash flow statements *and* profit and loss accounts means that users can choose the signal which they find most useful.[2] Before the era of accounting standards, this was not possible, although those who were knowledgeable about accounting practices could produce a funds flow or cash flow statement from a pair of successive published balance sheets, together with the linking profit and loss account, using the 'statement of changes' approach, even if the result could be rather skeletal if the required disclosure levels were modest.

The basic methodology for converting accruals information to a funds or cash flow form is now well-established. The deficiencies of the profit and loss account and the related case for using cash or funds-flow statements were widely discussed

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[1] Any economic or financial 'reality' thus provided is a limited transactional one; it could not be complete unless non-transactional value changes in asset and liability holdings were also identified and included. For reservations about the extent to which even reformed accounting procedures can provide an unambiguous representation of reality, see McSweeney (1997).

[2] From 1975 to 91, UK Accounting Standards required that users be provided with a profit and loss account and a funds-flow statement.

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in the literature in the 1960s and 1970s, with the arguments often related to a range of financial accounting issues that included important profit and loss accruals effects such as depreciation (see, for example, ASC, 1975; Chambers, 1976; Edey, 1963; Heath, 1978; Henry, 1975; Lee, 1972). Relatively little attention was paid to management accounting issues, or trading account mechanisms such as full cost overhead allocation, that ensures some of the production overheads that essentially relate to the accounting year just ended will instead be carried forward and set against the revenues of the following year, a process of considerable importance to businesses with significant levels of work in progress or manufactured stock (Drury, 2006, pp. 111–130; McLean, 1995; Weetman, 2010, pp. 104–120).

Although the impact of many accounting procedures on a single balance sheet is fairly clear, the effect of their use on successive balance sheets over a period of time is less certain, particularly during periods in which the level of economic activity expands and declines to any considerable extent, when other influences, such as changes in trade credit flow conditions, will also be felt. Our limited understanding of these effects was recently recognised by the organisers of the World Congress of Accounting Historians, when they selected the ways in which accounting functions across periods of industrial expansion and decline as the special theme of the recent conference at Newcastle University.

In this paper a particular version of the funds-flow statement is taken as the starting point, as a statement that summarises the firm's transactions, i.e. its legally recognised dealings with the outside world, whether they take place in cash or credit form. The essential choice, or 'accounting problem', is then whether to view such a statement as sufficient, to supplement it with year-end accruals adjustments (relating to matters seen as relevant to the measurement of net assets but where no transactions have taken place) so as to provide a view of the firm's profit or loss or, alternatively, whether to strip out credit transactions over the year in order to identify the underlying cash flows, consistent with what is widely seen to be the primary objective of the firm (FASB, 1978; IASC, 1989).

The representational effects of accounting can then be expressed as the observable differences between comparable versions of these measures; this paper examines the various alternative versions of the cash, funds flow or accruals measures and discusses their comparability and utility. Different forms of performance measurement provide the basis for different explanations of business situation and the approaches suggested in this paper are applied to the unusually full information in the archival holdings of one of Britain's more important manufacturing businesses, Vickers shipyard at Barrow, across a period of unprecedented change, 1910–24, in order to demonstrate how they function and to provide some evidence on the relationship between accounting representation and conditions of business expansion and decline.

There are six further sections to the paper. The first discusses the connections and differences between profits, funds and cash flows and the representation of industrial performance, the next two provide background information on Vickers entry into shipbuilding and its subsequent expansion and decline at the shipyard and the fourth outlines the availability and nature of the main data source. The penultimate section identifies and discusses the outcomes from applying a number of alternative measures of financial performance to Vickers Shipbuilding and the last section draws some conclusions.

2. Profits, funds and cash flows and the representation of industrial performance

Although the earliest forms of accounting focused on reporting the cash outcomes of transactions, the inclusion of credit transactions then followed. Finally, the development of the accruals or matching concept came to provide a profit figure that, when compared with the capital employed in the business, could be seen to indicate the level of business performance (see Bryer, 2000; Edwards, Dean, & Clarke, 2009; Toms, 2010).

The 'creative' possibilities that came with the accruals approach became increasingly apparent during the 1920s and 1930s, although it was not until the 1960s and 1970s that the case for reporting cash (or funds) flows was made in any sustained way in the academic accounting literature (see, for example, Arnold, 1997; Arnold & Matthews, 2002; Edwards, 1979; Hastings, 1962; Napier, 1991). Thus Edey argued that the financial reports should focus on cash rather than profits since "in the end it is money that buys things and not figures of profit" and that investors were likely to find a cash forecast the 'most useful' type of accounting statement (1963, pp. 999–1001), Rayman criticised the accruals system for its failure to distinguish between the results of actual events and the effects of accounting procedures and advocated a segregated system of funds-flow accounting (1970) and Lee (1972, 1984, 1985) and Lawson (1979, 1985) produced papers that established a substantial case for publishing both forecast and actual cash flows. The case for some increased reporting of cash flows may well have been strengthened by the statement by the Financial Accounting Standards Board of America that the firm's essential objective was the generation of cash flows (1978, para. 37).[3]

Differences between the three alternative flow statement approaches, cash, funds and accrual-based, can best be considered by looking to the principle of articulation between flow and stock statements; thus any flow statement identifies the causes of the changes over a period of time in a defined set of balance sheet items.

From this analytical perspective, cash flow statements are the narrowest measure, but the most reliable, precisely because they identify the causes of the annual change in a small set of 'cash' (or near-cash) items. The balance sheet that the cash flow statement on its own can support consists only of the selected cash (or near-cash) items, and a capital employed section

[3] See also Egginton (1984). Although the connections between information provided on alternative bases on past company performance and the estimation of future corporate cash flows are complex, such that the relative utilities of the three main concepts are unclear, tests in both the UK and USA suggest that earnings results differ significantly as signals of performance from their cash flow equivalents and that funds-flow numbers may be the best predictors of future cash flows see Bowen, Burgstahler, and Daley (1986) and Arnold, Clubb, Manson, and Wearing (1991).