Cambridge University Press 978-0-521-19097-8 — Value and Profit Geoffrey Whittington Excerpt <u>More Information</u>

Ι

An Introduction to the Measurement Problem in Financial Accounting

I.I INTRODUCTION

The objectives of this chapter are to explain why measurement in accounting matters and to give a broad survey of the problems that will be analysed in more detail in subsequent chapters. First, we discuss accounts, particularly financial accounts, and their uses, and then we shall consider the impact of measurement on accounting numbers. The variety of methods of measurement that have been proposed are then illustrated by means of simple numerical examples, and the quantitative importance of the various adjustments is illustrated by using data from UK companies. Finally, the course of the argument of the rest of the book is outlined.

I.2 FINANCIAL ACCOUNTING

Accounting can be defined broadly as the provision of information relating to the economic activities of any *accounting entity*, that is, an individual, organisation or group which is accountable to others. For present purposes, we shall narrow this to exclude the special problems of national income accounting and of non-business organisations. We shall be concerned primarily with the accounts of business entities, which are usually corporate bodies, and the field will be further narrowed by being concerned only with the financial accounts and not with the management accounts of these organisations. Financial accounts are the financial statements which have traditionally been drawn up on a periodic basis, usually at least annually, mainly for the benefit of the owners and providers of finance of the firm, i.e. the shareholders and the creditors in the typical case of a company. As we shall see, the range of users and uses has widened in recent years.

2 AN INTRODUCTION TO THE MEASUREMENT PROBLEM

We shall not be concerned specifically with management accounts that are prepared for the internal use of the management of the firm, to help them with their decision-making and control activities. The range of management accounting information is very broad, and its form is not specified by statute, so that management accounting practice is more heterogeneous than that of financial accounting. The correct selection of measurement basis for management accounts is obviously important because misleading information could lead to bad management, and the financial accounts complement the management accounts in giving an aggregate view of the outcome of management decisions.¹ The reason for avoiding special analysis of management accounting problems here is merely one of simplicity:² financial accounting has quite enough problems to suffice for present purposes.

Financial accounts play an important part in the working of market economies by providing financial information to those outside the accounting entity that helps them to make decisions in relation to it. The most obvious of these decisions is the decision to invest, and investors are usually regarded as primary users of accounts in legal requirements (such as company legislation), accounting regulations (such as the standards of the International Accounting Standards Board, IASB) and other regulatory requirements (such as the listing requirements of stock exchanges). Amongst investors in corporate enterprises, equity shareholders have a particularly important role, enshrined in companies legislation, which typically gives them the right to vote at company meetings that elect directors, accept the accounts, approve dividends, appoint auditors and conduct other important business. They usually share the profits of the entity through dividend payments and bear the residual risk when there are losses, subject to the constraint of limited liability. For these reasons, shareholders are often regarded as the proprietors of the company and a group whose information needs are essential, although the accounts also need to inform other users. Apart from non-equity investors, such as bond holders and banks, these other users include suppliers,

Cambridge University Press 978-0-521-19097-8 — Value and Profit Geoffrey Whittington Excerpt <u>More Information</u>

FINANCIAL ACCOUNTING 3

customers, employees and others with an economic relationship with the reporting entity, and intermediaries such as credit rating agencies and financial analysts, who provide advice and information to others. They also include a wider range of stakeholders whose interests may be broader and who may not have a direct economic relationship with the entity.³

Governments also rely on accounts for taxation purposes, for national income statistics which form the basis of macro-economic management and for regulatory purposes. The regulatory use of accounts has increased in recent years, particularly in competition policy and the regulation of prices in privatised public utilities.⁴ Measurement has been a particularly contentious issue in the latter use: the method used to measure the asset base can make a substantial difference to the prices to consumers and the profits to the shareholders of the regulated entity. Another regulatory use, by bank regulators, has become very important during the recent international credit crisis that started in 2007. Here again, measurement has been a critical issue. In particular, some commentators have claimed that the use of 'fair value' (estimates of current market selling price) to measure financial instruments has amplified the apparent volatility of the profits and balance sheet solvency of banks, causing an inappropriate breach of regulatory targets, and has thus magnified the crisis.⁵

Nevertheless, the main focus of financial reporting⁶ is on investors, particularly equity shareholders, reflecting their role as proprietors and ultimate risk-bearers. The conceptual frameworks of the leading accounting standard-setters, such as the International Accounting Standards Board (IASB), identify investors (both current and potential) as the principal users of financial reports and express the view that other users will also benefit from the same information, although it is not designed specifically for them.

In serving the needs of investors, the conceptual frameworks usually distinguish between two primary purposes: *decisionusefulness* and *stewardship* (sometimes more broadly described as *accountability*). Decision-usefulness relates to the investor's

4 AN INTRODUCTION TO THE MEASUREMENT PROBLEM

decision to invest or to disinvest and is therefore served best by forward-looking ex ante information directed towards valuing the entity and its share capital. Stewardship is concerned with the accountability of directors or other senior internal managers to external stakeholders, particularly equity shareholders and other long-term investors, for the performance of the entity. Stewardship is therefore more concerned with the *ex post* evaluation of the past performance of the reporting entity. It may lead to decisions about rewarding or disciplining directors (who, under UK law, present the financial accounts to the annual shareholders' meeting of a company as part of their duty of accountability), and it may have implications for investment decisions (e.g. by signalling the quality of management), but it is less directly concerned with the future than is decision-usefulness. A recent proposal by the IASB to exclude stewardship as an objective distinct from decision-usefulness in its conceptual framework was controversial and has been withdrawn,⁷ thus reaffirming the importance of the stewardship function of financial reports.

These examples of the range of users and uses of financial accounts should serve to demonstrate that financial accounting is important because of the economic consequences that follow from its use. Matters such as the level of share prices, taxation, dividends, directors' remuneration and product prices have direct consequences for the economic welfare of individuals, and it is therefore not surprising that the debate on different methods of accounting has often been very spirited, even passionate, despite the superficial appearance of the subject as being somewhat dry and technical. The various parties affected have a strong and direct incentive to advocate the accounting technique that seems to favour them most. This has certainly been true of the debate on measurement in accounting.⁸

Before discussing measurement and its effects on accounts, it is important to consider another implication of the widening range of users and uses of financial accounting. It is unlikely that one particular type of information, such as a single profit figure, will meet

Cambridge University Press 978-0-521-19097-8 — Value and Profit Geoffrey Whittington Excerpt <u>More Information</u>

MEASUREMENT IN FINANCIAL ACCOUNTING 5

the needs of all potential users. For example, it is not necessarily the case that the measure of profit used for assessing profits tax should be the same as that used for setting an upper limit on the dividends that can be distributed to shareholders: the fact that the definitions of taxable profit and distributable profit differ under current British legislation is evidence of this. Moreover, even within the narrower confines of serving the specific needs of investors, as preferred by accounting standard-setters, there is a variety of information requirements, depending upon the preferences of different investors, who may have different degrees of risk aversion and different models of how to evaluate the reporting entity. Despite this, the debate on accounting, and particularly on measurement, has been bedevilled by the implicit belief on the part of many participants that a single number or method can be found that will provide 'all the answers'. This problem is compounded by the fact that most of the separate questions potentially have a number of answers: for example, it is by no means clear that corporation tax should be based on profits rather than net payments to shareholders,⁹ and it can be argued that the dividend decision should be constrained by consideration of liquidity as well as profit.

I.3 MEASUREMENT IN FINANCIAL ACCOUNTING

Measurement in financial accounting is the process of attaching numerical amounts to items in the accounts. In order to achieve this, two separate choices have to be made: first, selection of the *unit of measurement*, and second, selection of a method of *valuation*. The choice of valuation method will involve the selection of the *attribute* to be measured, such as historical cost (what was actually paid to acquire the item), or a current market value, such as replacement cost or sale value. It will also require a choice of levels of *aggregation* at which measurement is determined: for example, do we value individual items of plant separately or as part of a total value of the factory, or do we attempt a single valuation of the whole business?

6 AN INTRODUCTION TO THE MEASUREMENT PROBLEM

The *unit of measurement* for the core financial accounts is *monetary units.* This may seem to be an obvious and uncomplicated decision, but in reality, it raises two difficult problems.

First, a currency has to be chosen. In some cases, this is straightforward, but it is not so in the case of those entities that operate in more than one currency area. In the case of international groups of companies, the choice of a *functional currency* for accounting purposes and the problems of *foreign currency translation*, converting items to the functional currency from other currencies, are sufficiently complex to require extensive guidance in accounting standards.¹⁰

Second, having selected a currency, there is the problem of inflation; nominal currency units, such as pounds sterling or dollars, rarely maintain a constant real value, in terms of purchasing power, over time. Thus, the accountant will find that the nominal currency measurement unit, unlike physical units such as weight or length, does not have identical values at different times, reducing the comparability of accounting numbers across periods. This can also lead to inconsistency within the accounts of a single period, when, as is typical, they measure items by reference to past values or costs or at different times within the reporting period, as in the case of historic cost accounting. In such cases, the accounts will aggregate items measured at different times when the currency unit had different purchasing power, a process sometimes described as 'adding apples to pears'. This problem becomes particularly important in periods of high inflation. A possible solution, which has been used in economies with high inflation rates, is to find a constant, or relatively constant, unit of value and translate variable nominal currency units into this new unit. This process is the same as for foreign currency translation: sometimes the constant unit of value is actually another, more stable currency, such as US dollars or, in Germany in the 1920s, the gold mark. More commonly, the constant measurement unit is created by applying price indices to an existing currency to create, for example, a new 'constant dollar' measure.¹¹ This is discussed later, in Chapter 5.

Cambridge University Press 978-0-521-19097-8 — Value and Profit Geoffrey Whittington Excerpt <u>More Information</u>

A NUMERICAL ILLUSTRATION 7

The *valuation* problem is the problem of measuring individual items in the accounts in terms of the chosen currency unit. Here also there are difficult choices between different economic attributes of an item in the accounts. The traditional method preferred by accountants was *historical cost*, the amount originally paid for an asset or received for a liability. More recently, *current values* have been adopted in some circumstances: in particular, *fair value*, which is used by the IASB for certain financial instruments,¹² has attracted much attention in the debate on the Financial Crisis. There are three categories of current value: *entry values* (current cost of acquisition), *exit values* (current receipts expected from disposal, of which fair value is a specific variant) and *value in use* (the present value of the future benefits expected from continuing use in the business).

The measurement question is not confined to measuring assets and liabilities at a point in time, as in a balance sheet (illustrated in Section 1.4). It is also concerned with measuring changes over time, as captured by the income statement, which provides measures of profit. The proprietor's capital that has to be maintained before recognising a profit will be affected by inflation (the unit of measurement problem) and by specific price changes (the valuation problem). This is demonstrated by the following simple numerical illustration, which also illustrates the wider problems of measurement.

I.4 A NUMERICAL ILLUSTRATION

This example originated in an address by a leading member of the accounting profession to a group of industrial accountants, in an attempt to persuade them to adopt a system of current cost accounting (CCA) which had recently been adopted by the Accounting Standards Committee (SSAP 16, 1980). Current cost accounting replaced¹³ the traditional historical cost with current replacement cost¹⁴ and therefore represented a significant change in the measurement basis of financial accounting. The example is extremely simple in terms of transactions, but it demonstrates some quite subtle problems.

8 AN INTRODUCTION TO THE MEASUREMENT PROBLEM

The example is as follows:

Fred is a street trader. One morning, he goes to the wholesale market and buys a hundred pineapples for $\pounds 1$ each. He sells 80 for $\pounds 1.50$ each, so he works out his profit for the day by the traditional historical cost method, as follows:

Income Statement ¹⁵ (for the period)	
	£
Sales	120
Less Cost of goods sold	80
Profit	40

Note that he has recorded the cost of goods sold as $\pounds 80$, the cost of 80 pineapples. This implies that the 20 remaining pineapples are worth $\pounds 20$, which is what he paid for them. This is historical cost.

Corresponding to his income statement is a *statement of financial position*, traditionally known as the *balance sheet*.¹⁶ This shows his asset and liability positions at a point in time. At the beginning of the day, he had cash of £100, which was equal to his own capital, so that his opening balance sheet only had two items:

Balance Sheet (beginning of period)	
	£
Assets:	
Cash	100
Total	£100
Financed by:	
Proprietor's Capital:	
Opening Capital contributed	100
Total	£100

Cambridge University Press 978-0-521-19097-8 — Value and Profit Geoffrey Whittington Excerpt <u>More Information</u>

A NUMERICAL ILLUSTRATION 9

At the end of the day, his capital had grown by $\pounds 40$ (the profit) to $\pounds 140$, and this was represented by cash, plus the stock of pineapples, as follows:

Balance Sheet (end of period)	
	£
Assets:	
Cash	120
Stock of Pineapples	20
Total	£140
Financed by:	
Proprietor's Capital:	
Opening Capital	100
Plus Profit	40
Total	£140

This result is based on two measurement assumptions:

- 1. *Historical cost accounting* is used to measure the assets whose value is not fixed in money terms ('non-monetary assets': in the present case, the stock of pineapples).
- 2. *Money capital* (sometimes called 'nominal capital') is the capital maintenance concept, i.e. the amount of opening proprietor's capital to be deducted from closing capital before a profit is recognised.

The best way to understand these assumptions is to look at the consequences of varying them.

First, we shall vary the historical cost assumption. Let us assume that the pineapples that remained unsold could not be sold the next day so that they are effectively worthless. This would increase costs of stock consumed by £20 and reduce closing assets by £20, so that profit would now be £20 and total assets £120. This is an application of the conservative valuation rule, 'cost or market value, whichever is the lower', which is often used to modify historical cost in practice.

IO AN INTRODUCTION TO THE MEASUREMENT PROBLEM

An alternative measurement rule would be to abandon conservatism and record current market value, irrespective of whether that was higher or lower. If we look to the *exit* (sale) value in this case, and make the revised assumption that the unsold pineapples can be sold on the next day at the same price, we might consider recording them at the current selling price of £1.50. This would be a case of *marking to market*, and the valuation would be consistent with *fair value* as currently defined by the IASB.¹⁷ This would give a total profit of £50 and closing assets (equal to the proprietor's capital) of £150, including stock of £30. Where there were significant costs of realising this profit, accountants and standard-setters might be reluctant to recognise the full profit implied by the change in the selling price alone, so that valuation would be at 'fair value less cost to sell' and the recorded profit would be therefore be reduced by expected selling costs.

The income statement on the 'marking to market' basis, with no adjustment for selling costs, would include the unrealised gain in value of stock, as follows:

¢

Income Statement

	~
Sales	120
Less Cost of sales	_80
Profit on sales	40
Add Gain on unsold stocks	_10
Total Income	_50

The bottom line of the statement is now called 'income' rather than 'profit' because it includes the unrealised gain on unsold stocks in addition to the profit realised by sale. The recognition of unrealised gains arising from revaluation is a controversial issue in financial accounting, as is the method of reporting such gains. There is an ongoing debate about the merits, and methods, of distinguishing between operating profit and other gains which would be included in a total measure of 'comprehensive income'. This issue is explored further in later chapters.