



FINANCIAL
REPORTING
FACULTY

BUSINESS MODELS IN ACCOUNTING:

THE THEORY OF THE FIRM AND FINANCIAL REPORTING

INFORMATION FOR BETTER MARKETS INITIATIVE



Business Models in Accounting: The Theory of the Firm and Financial Reporting forms part of the *Information for Better Markets* thought leadership programme of the ICAEW Financial Reporting Faculty.

The theory of the firm is an important field of study in economics. It helps us to answer questions such as why firms exist, why market prices exist for some items and not for others, and why there is a demand for accounting information.

The theory of the firm provides a perspective that is unusual in debates on accounting problems. This report explores what insights might be learnt from the theory specifically in relation to measurement issues in financial reporting. It argues that an approach that reflects firms' business models is both consistent with what the theory of the firm teaches us and desirable in its own right.

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The ICAEW Financial Reporting Faculty provides its members with practical assistance and support with IFRS, UK GAAP and other aspects of business reporting. It also comments on business reporting issues on behalf of ICAEW to standard-setters and regulators. Its *Information for Better Markets* thought leadership programme subjects key questions in business reporting to careful and impartial analysis so as to help achieve practical solutions to complex problems. The programme focuses on three key themes: disclosure, measurement and regulation.

We welcome comments and enquiries on this report on the theme of measurement and on our work on the other themes in the *Information for Better Markets* programme. To contact us, please email bettermarkets@icaew.com.

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EXECUTIVE SUMMARY

Economics and accounting sometimes seem to be two incompatible ways of looking at the world. Yet economic theory is a valuable quarry for insights and ideas in discussing accounting issues, and those involved in debates on financial reporting have often drawn on thinking from different branches of economics either to defend existing practices or to justify new ones. The extent to which the insights of economics can be translated into practically useful accounting techniques, however, is an empirical matter.

In this report, we look at the economic theory of the firm and ask what insights we might gain from it in thinking about accounting issues. There is more than one aspect of accounting to which the theory of the firm may be relevant. It has potential applications to questions about measurement, the objectives of financial reporting, the corporate governance role of financial reporting, and transfer pricing – and possibly to other questions as well. Each of these areas of potential application is a significant topic in its own right. In this report, we focus on the theory of the firm's potential relevance to questions of measurement in financial reporting.

It is difficult to make a direct connection between the theory of the firm and accounting measurement, but we argue that one way of relating the two to each other is via firms' business models. Assumptions about business models have always been implicit in financial reporting standards, as it has always been the case that different businesses will account for the same asset in different ways depending on what its role is within the firm's business model. Questions of cost allocation and revenue recognition for different firms and different sectors are also closely tied to the interpretation of their business models.

Historical cost accounting is one way of reflecting firms' business models. But there are other approaches to measurement that also do so, including fair value in certain circumstances. Indeed, it seems to be impossible to devise a sensible approach to financial reporting measurement that does not reflect firms' business models.

The role of business models is therefore pervasive in financial reporting as we know it. None the less, there seems to be a view in some quarters that business models' importance for financial reporting has perhaps been overlooked and needs to be debated and recognised. The context for this is the dispute over the proper limits of market prices – or fair value – in financial reporting. It is hoped that thinking about business models will help provide an answer to this problem.

There are a number of competing theories of the firm in economics. We look at only some of the more important contributions and we focus on what might ultimately be relevant to measurement in financial reporting.

The theories of the firm that we consider provide a stark contrast with much of economic theory, which assumes a world of perfect competition where:

- There are markets for all items, with an unlimited number of buyers and sellers willing to transact at the market price.
- All transactions are market transactions.
- There is perfect information and no uncertainties as to the future.
- There is no fraud or deceit.
- There are no transaction costs.

Other features of this world follow from these assumptions:

- There are no profits, other than the market rate of return on capital, and no losses.
- Firms have no 'insides' – that is to say, there are no activities that take place within firms.
- There is no need for financial reporting.

The assumptions necessary for a world of perfect competition are useful abstractions in economics, but they do not help us to understand important features of the real world in which uncertainty is everywhere, a great deal of economic activity takes place within firms, a large part of the economy is devoted to transaction costs, markets and information are both far from perfect, and financial reporting does indeed exist. The theory of the firm helps us to understand this world.

In addition to these contrasts with the assumptions of perfect competition, other key points made by writers on the theory of the firm include:

- Firms' expectations of the value to be derived from their inputs are more optimistic than the expectations of the markets that determine these inputs' prices.
- In an important respect the organisation of economic activity within firms provides an alternative to its organisation by markets (though firms and markets are also complementary).
- There are many forms of business relationship that provide intermediate forms of organisation between the extremes of organisation within firms and organisation through markets.
- The choice of the most appropriate form of organisation in any instance ultimately depends on a comparison of the relevant transaction costs.
- Accounting can be seen as a way of reducing transaction costs. It does this principally by reducing the costs of obtaining information and of constraining and motivating behaviour.

The two key measurement issues for financial reporting that arise from the theory of the firm are:

- If assets are being used or created within firms, rather than exchanged in market transactions, market prices for the assets are less likely to be available.
- Even if market prices are available, why would they provide the most useful measurements for assets that are not in fact being exchanged, but form part of an in-firm process?

What a firm does internally and what it does through market transactions are described by its business model. The business model therefore provides a link between the issues raised by the theory of the firm and the financial reporting of individual firms.

There are various possible approaches to financial reporting that may be regarded as drawing support from the theory of the firm and each of the measurement options that we consider could be described as a business-model approach to financial reporting. To some extent each embodies a different view of how businesses work and so of how their performance is to be judged. The options are:

- historical cost;
- replacement cost;
- fair value;
- historical cost for some items and market price for others – an 'alternative-bases' approach; and
- firms choose their own bases of measurement.

The alternative-bases approach is perhaps of particular interest, partly because it resembles the International Accounting Standards Board's current approach to the measurement of financial instruments, a highly controversial issue.

Significant practical difficulties that flow from business-model approaches reflect their reliance on management intentions and the diversity and changeability of business models. None of these difficulties provides a decisive argument against a business-model approach. It would be theoretically possible to avoid them, though, by comprehensive use of market price measurements (as in 'full fair value accounting'). This seems to be the one conceivable approach to accounting that would pay no attention to business models. However, its disadvantages include problems that the theory of the firm would lead us to expect regarding its relevance and reliability for many items in accounts. Indeed, it would only be feasible in a world of perfect markets, in which there would be no firms as we know them and no need for financial reporting in the first place.

Each of the various measurement approaches that reflect firms' business models has something to be said for it. However, to advance the debate, we put forward for consideration three elements of a business-model approach to financial reporting intended to reflect some of the key points in the theory of the firm:

1. Financial reporting should provide a reality check on a firm's business model and its execution.
2. Where the firm's business model is to transform inputs so as to create new assets or services as outputs, we would expect that historical cost would generally be the most useful basis of measurement.
3. Where the firm's business model is not to transform inputs, but to buy and sell assets in the same market with the intention of profiting from changes in market prices, we would expect that fair value would generally be the most useful basis of measurement.

Whichever measurement basis is used in the accounts, disclosures on an alternative measurement basis may be relevant to users, and consideration should be given to whether the benefits of providing this additional information would exceed the costs. Also, where more than one basis of measurement is used in the accounts, performance statements should be structured to make clear the recognised gains and losses that arise from each basis.

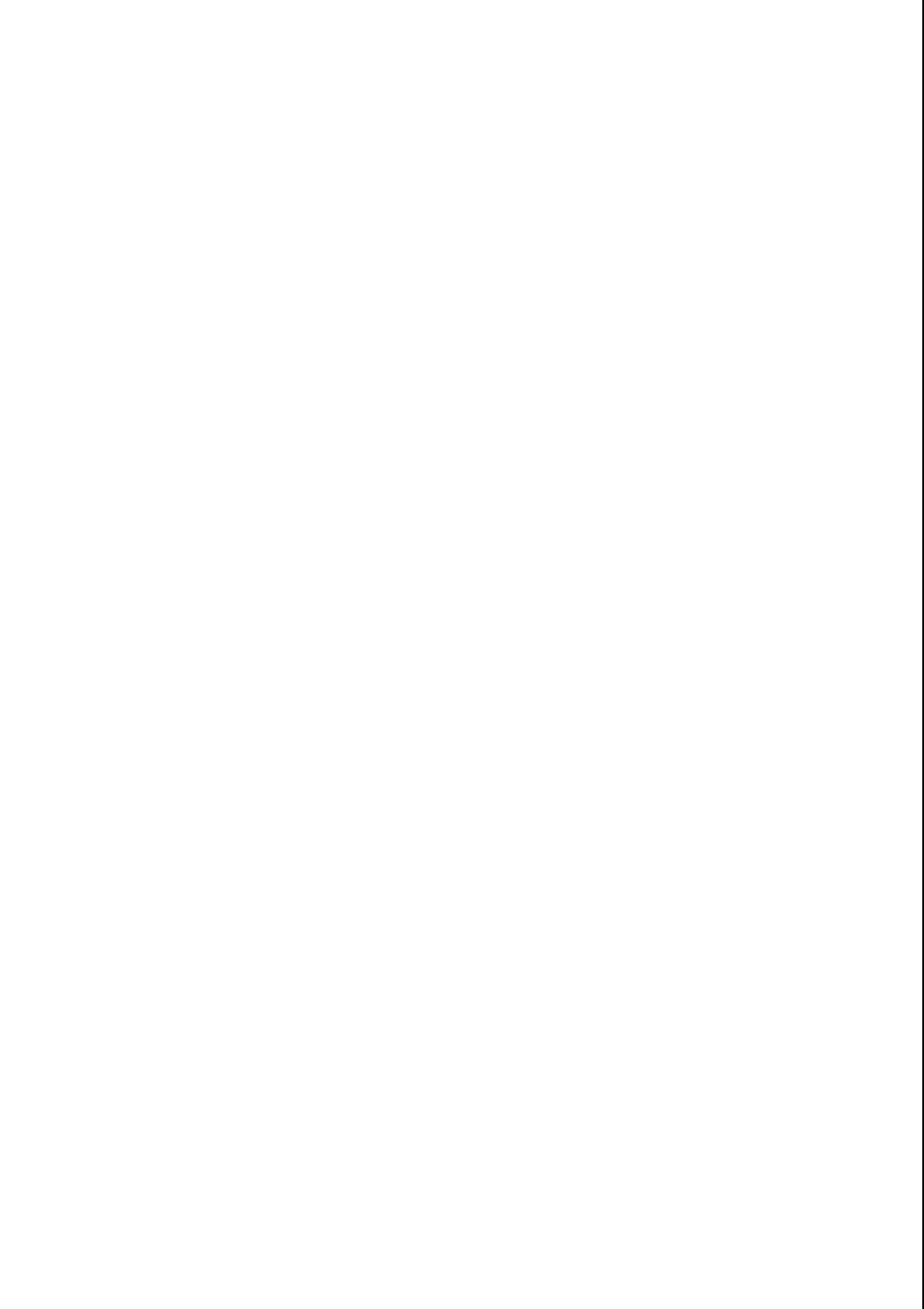
Finally, it would be useful to look at the evidence on the different ways that financial reporting measurements can reflect firms' business models, to help establish:

- how far one approach is more useful than another; and
- whether this can be explained in terms of how well the basis of measurement reflects the firm's business model.

We also suggest further work to explore possible implications of the theory of the firm for questions other than financial reporting measurement, specifically:

- the objectives of financial reporting; and
- the corporate governance role of financial reporting.

Accounting is a means of addressing the imperfections of markets. It does this by reducing the transaction costs involved in obtaining information and in constraining and motivating behaviour. As such, for those economists who are interested in how people and firms cope with imperfect markets, accounting should provide a rich field for investigation. And in understanding the practical implications of the economic theory of the firm, there may be much that can be learnt from accounting.





1. THE PROBLEM

People who discuss accounting issues often invoke economic theories to support what they say. But different people invoke different aspects of economics, depending on what it is they want to argue.

One field of economics whose implications for accounting have been little explored is the economic theory of the firm. What can we learn from it? And how can we connect the theory of the firm with measurement issues in accounting?

1.1 Summary

Economics and accounting sometimes seem to be two incompatible ways of looking at the world. Yet economic theory is a valuable quarry for insights and ideas in discussing accounting issues, and those involved in debates on financial reporting have often drawn on thinking from different branches of economics either to defend existing practices or to justify new ones. The extent to which the insights of economics can be translated into practically useful accounting techniques, however, is an empirical matter.

In this report, we look at the economic theory of the firm and ask what insights we might gain from it in thinking about accounting issues. There is more than one aspect of accounting to which the theory of the firm may be relevant. It has potential applications to questions about measurement, the objectives of financial reporting, the corporate governance role of financial reporting, and transfer pricing – and possibly to other questions as well. Each of these areas of potential application is a significant topic in its own right. In this report, we focus on the theory of the firm's potential relevance to questions of measurement in financial reporting.

It is difficult to make a direct connection between the theory of the firm and accounting measurement, but we argue that one way of relating the two to each other is via firms' business models. Assumptions about business models have always been implicit in financial reporting standards, as it has always been the case that different businesses will account for the same asset in different ways depending on what its role is within the firm's business model. Questions of cost allocation and revenue recognition for different firms and different sectors are also closely tied to the interpretation of their business models.

Historical cost accounting is one way of reflecting firms' business models. But there are other approaches to measurement that also do so, including fair value in certain circumstances. Indeed, it seems to be impossible to devise a sensible approach to financial reporting measurement that does not reflect firms' business models.

The role of business models is therefore pervasive in financial reporting as we know it. None the less, there seems to be a view in some quarters that business models' importance for financial reporting has perhaps been overlooked and needs to be debated and recognised. The context for this is the dispute over the proper limits of market prices – or fair value – in financial reporting. It is hoped that thinking about business models will help provide an answer to this problem.

1.2 Economics and financial reporting

Economists and accountants sometimes appear to see things in completely different ways. For example, accountants devote great effort to the calculation of amounts such as the depreciated historical cost of a fixed asset, and economists look at the result and comment dismissively, 'This is meaningless'.

Yet those involved in debates on financial reporting have often drawn on thinking from different branches of economics either to defend existing practices or to justify new ones. Economists' theories of income and capital have influenced debates on income measurement. Financial economics has buttressed arguments for fair value. Agency theory has been invoked to defend accounting conservatism.¹ Other aspects of economics that have been called on to support or oppose accounting practices and proposals include information economics and the economic theory of regulation, and no doubt there are others that are also relevant. It would be interesting, for example, to ask what accounting could learn from behavioural economics.

In thinking about accounting problems there are always dangers in trying to draw lessons from an economic theory. Those who invoke it may not have understood the theory as fully as they ought to have done or they may not have appreciated its underlying assumptions or limitations. It may be the subject of controversy among economists, and there is a risk that accountants will pick up an idea just as mainstream economics has abandoned it, so that – in Keynes's unflattering words – they inadvertently find themselves 'the slaves of some defunct economist'. In any case, there seems to be no clear and indisputable line of deductive logic that leads from economic theory to normative accounting principles. And even where an economic theory appears to lend support to a particular approach to accounting issues, a different theory may lead us in a different direction. Does agency theory, for example, trump financial economics or vice versa?

¹ On the use and abuse of Hicksian economics in the debate on accounting income measurement, see Michael Bromwich, Richard Macve and Shyam Sunder, 'Hicksian income in the conceptual framework'. On financial economics and fair value, see Michael Power, 'Fair value accounting, financial economics and the transformation of reliability'. On conservatism and agency theory, see Ross L. Watts, 'Conservatism in accounting. Part I: explanations and implications'. Details of works cited are given in the Bibliography.

Economic theory is a valuable quarry for insights and ideas in discussing accounting issues and a potential source of enlightenment. But the extent to which the insights of economics can be translated into practically useful accounting techniques is an empirical matter. What ultimately matters is: which approach to financial reporting will produce the most useful information?

In this spirit, we look at the economic theory of the firm and ask what insights we can gain from it in thinking about accounting issues. There is more than one aspect of accounting to which the theory of the firm may be relevant. It has potential applications to questions about measurement, the objectives of financial reporting, the corporate governance role of financial reporting, and transfer pricing – and possibly to other questions as well. Each of these areas of potential application is a significant topic in its own right. In this report, we focus on external accounting (financial reporting) rather than internal accounting (management accounting) and specifically on the theory of the firm's potential relevance to questions of measurement in financial reporting. But we also refer briefly to some other possible applications of the theory. And in future reports we may wish to return to the application to accounting issues of the theory of the firm or other aspects of economic theory.

1.3 Firms and financial reporting

Most economic activity in developed economies in the modern world is undertaken through firms. This is so much the case that people take it for granted. But in certain respects the existence of firms is problematic for financial reporting.

One problem is: what is a firm for financial reporting purposes? This is the reporting entity question, which mainly concerns how a 'group' is defined for the purposes of preparing consolidated accounts. The International Accounting Standards Board (IASB) and the US Financial Accounting Standards Board (FASB) are currently considering this question as part of their joint conceptual framework project and the two boards issued an exposure draft, *Conceptual Framework for Financial Reporting: The Reporting Entity*, in 2010. As we shall see (Sections 2.3.6 and 2.4.3), it is unclear what the theory of the firm might have to contribute on this problem.

A second issue concerns the implications for accountability of the ownership structure of firms. This issue arises most importantly where there is a division between ownership and management, and especially for public companies. One aspect of this question has also been considered in the conceptual framework project, in the standard-setters' work on the objective of financial reporting. In 2010, the IASB and FASB incorporated revised statements on this subject into their respective conceptual frameworks. Some people have drawn inferences on this issue from the theory of the firm (see Sections 2.3.4 and 2.4.4).

A third problem arises from what is both the starting-point and the key insight of the theory of the firm – that economic activity within the firm is an alternative to activity between firms in the market. We need to keep this point in perspective as, however much of a firm's activities are internal, its ultimate objective is to sell goods or services externally in market transactions. But the observation may none the less have implications for measurement in financial reporting, and in particular for the use of market prices for measurement purposes.

We do not propose to tackle the first two of these problems in any detail in this report. We focus instead on the third issue – what, if anything, we can learn from the theory of the firm when thinking about measurement issues in financial reporting. It is difficult to make a direct connection between the theory of the firm and accounting measurement, but we argue that one way of relating them to each other is via firms' business models. We explore how this might be done in Chapter 3.

1.4 The rise of the business model in corporate reporting?

1.4.1 The business model in non-financial reporting

The potential importance of business models in both financial and non-financial reporting is a topic of emerging interest. The language of 'business models' is relatively new and perhaps derives from the longer-established idea of economic models. But it has now been widely accepted and in recent years has attracted increasing attention in relation to corporate reporting.²

² We use 'corporate reporting' to refer to both financial and non-financial reporting.

One aspect of this is a demand for disclosure by firms of their business models, which is intended to improve users' understanding of the firm and how it makes money. In the UK, for example, in 2009 the House of Commons Treasury Committee called for listed companies to be required to disclose their business models.³ This recommendation was taken up by the UK Financial Reporting Council in its review of *The Combined Code on Corporate Governance*, now reissued and amended as *The UK Corporate Governance Code*. The new code includes a statement that 'The directors should include in the annual report an explanation of the basis on which the company generates or preserves value over the longer term (the business model)'.⁴

There are a number of difficulties inherent in a requirement for disclosure of a firm's business model and it will be interesting to see how useful the disclosures required by the new code prove to be.⁵ If a disclosure is very brief, it is unlikely to be informative. If it is very detailed, it risks giving away the secret of the firm's success. Those who support disclosure of a firm's business model sometimes think of it as an articulation of the firm's economics, showing how key changes in the business itself or in its environment would affect its results. This sort of model is an abstraction from reality, like other economic models. A model in this sense may be either:

- wrong – managers do not necessarily understand how all potential changes relevant to their business will affect its results; or
- quickly out of date – as economic relationships are constantly changing.

A model of this sort should perhaps be best viewed as a working hypothesis.

In this report, we view a firm's business model as a description of how it plans to make money, rather than as an economic model of the business. At a minimum, a firm's model would indicate:

- what activities it undertakes within the firm and how these are organised;
- what it buys and sells in market transactions, which markets it operates in (ie, who it buys from and who it sells to), and the nature of its relationships with these parties.

Where the firm engages in more than one activity or more than one market, the model would show the relative scales of the different activities and markets as far as the firm is concerned. For a large firm, with many activities, trading in many markets, full disclosure of the model might imply an extremely long and complex report. A recent pro forma recommendation for a bank discloses 54 different types of income from banking activities – and that's without any geographical breakdown and without allowing for any non-banking activities that the firm might undertake.⁶ For disclosure purposes, therefore, we would assume that for most public companies, the model would be reported in a simplified form, showing only what is material.

In the absence of a disclosure requirement, a firm's business model will often be implicit – an unarticulated set of ideas in the minds of the individuals who lead the business. And it is quite possible that each of these individuals, if asked to write the model down, would write down something slightly different. There is therefore a risk that the disclosed business model will be – without any dishonesty – 'what we agree to tell people when they ask us what our business model is' rather than the possibly changeable and uncertain set of ideas that actually drives the business.

One aspect of a firm's business model may be particularly difficult to disclose publicly. Many firms' models depend to a greater or lesser degree on the formation of long-term relationships of trust with customers and suppliers. Indeed, the study of such relationships forms a significant feature of recent work on the theory of the firm. The nature of these relationships too will often be more implicit than explicit and the other party to the relationship may in any case not want its nature to be fully exposed (perhaps because a similar relationship does not exist with other customers or suppliers). A disclosure that, eg, 'our business model depends on long-term relationships of trust with key customers and suppliers' may be all that it is practically possible to say in such circumstances, but would not be very informative.

³ *Banking Crisis: Reforming Corporate Governance and Pay in the City*.

⁴ Paragraph C.1.2. A footnote adds that 'Guidance as to the matters that should be considered in an explanation of a business model is provided in paragraphs 30 to 32 of the Accounting Standards Board's *Reporting Statement: Operating and Financial Review*.' These paragraphs do not mention business models, but give guidance on providing 'a description of the business and the external environment in which it operates'. The 'description of the business' element of this guidance (paragraph 31) includes a statement that it should provide shareholders with an understanding of the business's 'economic model'.

⁵ This idea is considered in the *Information for Better Markets* report *Developments in New Reporting Models*, at Chapter 5.

⁶ The Institute of Chartered Accountants of Scotland, *Making Corporate Reports Readable*.

Another way of looking at a business model, as we have defined it, is that it will have different levels. At the strategic level it will specify what sector the business operates in: eg, is it an insurer or a retailer? does it sell mainly to markets in the US or Japan? At the tactical or operational level, the business model will describe how the firm plans to maximise its profitability from particular assets or in particular circumstances. In terms of disclosure of the business model in a firm's non-financial reporting, we would expect the focus to be at the strategic level. But in terms of the application of the business model to financial reporting, we would expect both levels to be relevant. It would, for example, be relevant to some financial reporting decisions whether the firm is a bank or a manufacturer, and relevant to other financial reporting decisions how it plans to use a particular asset or portfolio of assets.

A business model of the sort we have defined would not usually show why the business is successful. Many – perhaps most – businesses are not differentiated by their broad business model, but by their ability to execute better than their competitors. Execution ability is not something that will be shown by disclosure of the business model. It is something that can only be demonstrated by performance – that is, by financial reporting.

Even the merits and demerits of the business model itself will often not be apparent simply from its disclosure. If a firm were to set up in a novel line of business and say, 'Our business model is to borrow short at low rates of interest and lend long at higher rates' an impartial observer would probably consider this a bad, and indeed highly dangerous, way of making money. Yet it is the basis of the banking system and every investor in banks knows that this is their business model (or one part of it). We know that in practice such business models can be made to work because experience has shown that banks can be highly profitable. But it is not disclosure of the model that will tell us whether it will work or whether the firm in question can make it work. It is financial reporting, looking back on past experience, that tells us these things.

1.4.2 The business model in financial reporting

If financial reporting is to tell us how successful a firm's business model has been, we would expect it to reflect the model on which it is reporting. Yet explicit references to firms' business models in relation to financial reporting are quite recent, and have emerged mainly in relation to accounting for financial instruments. Under IFRS 9, *Financial Instruments*, the firm's business model is one of the factors that determines whether financial assets are measured at amortised cost or fair value.⁷

But assumptions about business models have always been implicit in financial reporting standards, as it has always been the case that different businesses will account for the same asset in different ways depending on what its role is within the firm. IFRS 9 makes explicit references to the role of the business model because it allows two alternative treatments of the same item within the same standard, depending on the business model. Hitherto, alternative treatments of the same item have usually arisen under different standards and the role of the business model has been implicit in the choice of which standard is applicable.

For example, the same asset may be a fixed asset in one firm, an investment property in another, and an item of inventory in a third, depending on the business model. And, depending on the business model, reference will be made either to a standard on property, plant and equipment, a standard on investment properties or a standard on inventories. If instead there were a standard on physical goods, it might be necessary for it to refer explicitly to the firm's business model so as to determine whether the item should be accounted for under the requirements for fixed assets, for investment properties or for inventories. In other cases, the need to refer to business models has been avoided by scoping out specific industries – eg, insurance, and oil and gas. But it is a firm's business model that determines which industry it belongs to.

IAS 39, *Financial Instruments: Recognition and Measurement*, which IFRS 9 is gradually replacing, also relies to a material extent on firms' business models in determining how items should be accounted for, but without using the term 'business model'. Under IAS 39, the same asset might be accounted for differently depending on whether it is available-for-sale/not available-for-sale, hedged/not hedged, held-to-maturity/not held-to-maturity or part/not part of a group of assets managed and evaluated on a fair value basis. All of these choices depend on the firm's business model. Also, some of the exclusions from the standard seem to be designed to reflect differences in business models: eg, the scoping out of rights and obligations arising under insurance contracts.

⁷ In addition, disclosure of the fair value of financial instruments measured at amortised cost is required by IFRS 7, *Financial Instruments: Disclosures*.

As we shall explain in Chapter 3, historical cost accounting is one way of reflecting firms' business models. But other approaches to measurement, including fair value in certain circumstances, also do so. Questions of cost allocation and revenue recognition for different firms and different sectors are also closely tied to the interpretation of their business models.

The role of business models in financial reporting is therefore pervasive. None the less, there seems to be a view in some quarters that business models' importance for financial reporting has perhaps been overlooked and needs to be debated and recognised. As with IFRS 9, the context for this is the dispute over the proper limits of market prices – or fair value – in financial reporting. It is hoped that thinking about business models will help provide an answer to this problem.

ICAEW first explicitly addressed the question of business models in accounting in its thought leadership work in the Financial Services Faculty's 2008 publication *Measurement in Financial Services*. This argued that business models are relevant to measurement. It seems to be impossible in fact to devise a sensible approach to financial reporting measurement that does not reflect firms' business models. This conclusion may be a surprising one, as contemporary debates on measurement – except in relation to financial instruments – make little reference to business models. Indeed, it is often argued that financial reporting should as far as possible be independent of 'management intent', which is – allegedly – changeable, subjective and unverifiable, and makes financial reporting information less reliable and less comparable. Yet a business-model approach to financial reporting necessarily reflects management's intentions, as it is these that determine what the business model is.

So the theme of this report is highly topical, and it should cast light on what seems to be an emerging issue in debates on financial reporting.

1.5 'Firms' and 'businesses'

In this report we generally use the terms 'firm' and 'business' interchangeably. In practice, a firm as a single legal entity might operate a number of different business activities. Equally, a firm organised as a group of companies might use many different legal entities to operate what is in substance a single business activity. Our focus in this report, though, is usually on the substance of the arrangements rather than on the legal form. This is not intended to suggest that legal form is irrelevant to financial reporting issues – it is usually highly relevant. But in trying to understand the potential relevance of the economic theory of the firm, it is the substance of the arrangements that matters most.

1.6 Structure of the report

In the remainder of the report we:

- summarise some of the key ideas in the economic theory of the firm (Chapter 2, 'The economic theory of the firm');
- consider various approaches to financial reporting measurement based on business models that can claim to draw support from the theory of the firm (Chapter 3, 'Measurement questions');
- draw some conclusions (Chapter 4, 'Conclusions'); and
- identify issues where further investigation is needed (Chapter 5, 'Next steps').

In appendices to the report, we:

- provide a more extended summary of the theory of the firm (Appendix 1);
- examine what market prices are (Appendix 2);
- consider, from a business-model perspective, the application of different measurement bases to liabilities (Appendix 3);
- look at evidence on the relative extent of measurements at different levels of reliability in relation to fair value for financial instruments (Appendix 4);
- review practical difficulties in deciding how to reflect firms' business models in financial reporting (Appendix 5); and
- look at the effects of different measurement bases on the income statement and balance sheet (Appendix 6).



2. THE ECONOMIC THEORY OF THE FIRM

Why do firms exist? How can we explain the scope of their activities?

At one time these questions appeared to be of little interest to economists. But they are now seen as important issues if we are to understand how the real economy works. The answers, according to one school of thought, lie in the analysis of transaction costs. As accounting is itself a transaction cost, but intended to reduce other transaction costs, this line of analysis has potentially significant implications for understanding accounting's role.

2.1 Summary

There are a number of competing theories of the firm in economics. We look at only some of the more important contributions and we focus on what might ultimately be relevant to measurement in financial reporting.

The theories of the firm that we consider provide a stark contrast with much of economic theory, which assumes a world of perfect competition where:

- There are markets for all items, with an unlimited number of buyers and sellers willing to transact at the market price.
- All transactions are market transactions.
- There is perfect information and no uncertainties as to the future.
- There is no fraud or deceit.
- There are no transaction costs.

Other features of this world follow from these assumptions:

- There are no profits, other than the market rate of return on capital, and no losses.
- Firms have no 'insides' – that is to say, there are no activities that take place within firms.
- There is no need for financial reporting.

The assumptions necessary for a world of perfect competition are useful abstractions in economics, but they do not help us to understand important features of the real world in which uncertainty is everywhere, a great deal of economic activity takes place within firms, a large part of the economy is devoted to transaction costs, markets and information are both far from perfect, and financial reporting does indeed exist. The theory of the firm helps us to understand this world.

In addition to these contrasts with the assumptions of perfect competition, other key points made by writers on the theory of the firm include:

- Firms' expectations of the value to be derived from their inputs are more optimistic than the expectations of the markets that determine these inputs' prices.
- In an important respect the organisation of economic activity within firms provides an alternative to its organisation by markets (though firms and markets are also complementary).
- There are many forms of business relationship that provide intermediate forms of organisation between the extremes of organisation within firms and organisation through markets.
- The choice of the most appropriate form of organisation in any instance ultimately depends on a comparison of the relevant transaction costs.
- Accounting can be seen as a way of reducing transaction costs. It does this principally by reducing the costs of obtaining information and of constraining and motivating behaviour.

2.2 Firms and markets

It is somewhat misleading to talk of 'the' theory of the firm. As in other branches of economics, there are a number of competing theories. In this chapter we draw attention to some of the more important contributions to the debate, with a particular focus on those aspects that might ultimately be relevant to measurement in financial reporting.

Economists refer to all businesses as 'firms' and for some purposes regard any provider of goods or services as a firm. From this point of view, an individual can be a firm. However, this definition of the firm is so broad that it is of little use. The theory of the firm in economics focuses on firms in a narrower sense. It primarily attempts to explain the scope of the firm – that is, the extent of its vertical integration of successive stages of the production and distribution of goods and services.

In explaining the scope of firms, economists start from the proposition that firms and markets are, in one sense, alternatives. For example, a motor manufacturer typically buys in from outside suppliers most of the car's components and then assembles them. However, it could manufacture the components itself. To the extent that the manufacturer buys in components, it is engaging in market activities and transacting with other market participants – ie, other firms.

To the extent that it manufactures its own components, it is choosing not to engage in market activities. Instead, what would otherwise have been a market transaction becomes an internal transaction. It is in this sense that firms and markets are alternatives.

Economists' theories of the firm try to explain why a firm chooses to extend or restrict the scope of its activities in either direction along the supply chain. One approach emphasises the costs of using markets. These include the costs of identifying suppliers, ascertaining the quality of their products (whether goods or services), agreeing prices, and drawing up and enforcing contracts. Such costs may mean that it is more expensive to transact with another supplier in the market than to have the relevant production activity within the firm.

Other factors are also clearly relevant to the scope of firms' activities. For example:

- tax considerations;
- limitation of liability; and
- regulatory restrictions.

However, while economists recognise the importance of these factors in practice – particularly in determining the number and scope of legal entities – they do not regard them as significant for the theory of the firm.

Economists writing on the theory of the firm sometimes refer both to considerations relevant to the **scale** of firms' activities (eg, economies of scale, the advantages of market dominance) and to considerations relevant to what we refer to here as the **scope** of their activities. In summarising economists' arguments, we focus on explanations of the scope of firms' activities – that is, on vertical integration rather than horizontal integration. Also, we refer here only briefly (in Appendix 1) to the question of diversification by firms – eg, in conglomerates – although writers on the theory of the firm sometimes look at this question too.

Early work on the theory of the firm in economics appeared in the 1920s and 1930s – a time when economists who wrote about firms tended to divide into two schools:

- 'an empirical school which had little concern with, or even specifically rejected the use of, general and abstract principles of economic behaviour'; and
- 'a theoretical and deductive school of great elegance and rigour which was little concerned with empirical data and frequently argued that a science should not be tarnished or compromised by the desire to look at purely practical matters'.⁸

Although economists of the latter school had (and still have) a 'theory of the firm', it is, for those who are interested in empirical matters, a somewhat curious one. For it is a theory of the firm in circumstances of perfect competition. Where there is perfect competition:

- There are markets for all items, with an unlimited number of buyers and sellers willing to transact at the market price.
- All transactions are market transactions.
- All products are standardised – ie, all firms selling an item sell identical versions of it.
- There is perfect information – ie, everybody is fully informed on the prices and qualities of available products and there are no uncertainties as to the future.
- There is no fraud or deceit.
- There are no transaction costs.

Other features of this world follow from these assumptions:

- Its markets are purely notional and do not resemble markets as we know them – ie, they have no physical or even 'virtual' (electronic) existence and there are no market-makers.
- There are no profits, other than the market rate of return on capital, and no losses.
- There is no need for financial reporting.

And in such a world, firms have no 'insides' – there are no activities that take place within the firm. All economic activity takes place through market transactions between firms. The theory of the firm aims to explain both why firms that have internal activities exist and how the nature of these activities is determined. In the following sections of this chapter we summarise key points in the theory of the firm as they relate to the subject of this report and discuss some

⁸ Donald A. Hay and Derek J. Morris, *Industrial Economics*, p7.

of their implications. The sections on 'Owners and managers' and 'Financial reporting and transaction costs' (2.3.4 and 2.3.5), though not directly relevant to measurement issues, have been included because of their importance for understanding the role of financial reporting. Appendix 1 provides more information on the theory of the firm.

2.3 Key points in the theory of the firm

2.3.1 Uncertainty and different perspectives on value

Frank Knight, in *Risk, Uncertainty, and Profit* (1921), provides an explanation for the firm in terms of an entrepreneur directing employees' labour and taking risks in the face of uncertainty. He points out that in one important respect the entrepreneur always thinks he is wiser than the market. He is someone who believes 'that he can make productive services yield more than the price fixed upon them by what other persons think they can make them yield' and who puts that belief into action.⁹ If the market shared the entrepreneur's expectations, factor prices would be bid up to the point at which his prospective profit would fall to the market rate of return on capital. It follows that the firm's perspective on the value that can be derived from its assets is always different from that of factor markets. Such differences of view exist because of the presence of uncertainty.

2.3.2 Firms and markets as alternatives

Ronald Coase, in 'The nature of the firm' (1937), draws attention to the distinction between firms and markets as alternative forms of economic organisation. He defines a firm as 'the system of relationships which comes into existence when the direction of resources is dependent on an entrepreneur' and explains that:

'Outside the firm, price movements direct production, which is co-ordinated through a series of exchange transactions on the market. Within a firm, these market transactions are eliminated and in place of the complicated market structure with exchange transactions is substituted the entrepreneur co-ordinator, who directs production.'

So the 'distinguishing mark of the firm is the supersession of the price mechanism'.¹⁰

2.3.3 The role of transaction costs

The core of Coase's explanation of why firms choose not to engage in market transactions is that using the price mechanism has costs. Such costs are referred to as 'transaction costs'. What are these costs? Coase identifies:

- the costs of 'discovering what the relevant prices are';
- the costs of 'concluding a separate contract for each exchange transaction'; and
- the problems of identifying within a long-term contract – eg, for labour – exactly what will be required.

Firms exist, therefore, because they avoid the costs of transacting on markets. But firms also incur costs in undertaking transactions internally. And the greater the scope of an entrepreneur's activities the more mistakes he is likely to make. The scope of a firm's activities – ie, the extent of its vertical integration – therefore tends to be determined by:

- the costs of market transactions on the one hand, and
- the costs of internal transactions and entrepreneurial mistakes on the other, and
- taking the effects of competition into account, rival firms' costs of internal transactions and entrepreneurial mistakes.

The problem of the firm is therefore 'essentially a choice of contractual arrangements'¹¹ and the key question is which form of organisation can transact more cheaply. Coase's approach makes transaction cost economics of central importance to the theory of the firm. It is worth noting at this point that 'transaction cost' in economics is a broad category that includes the costs of organisation.

⁹ *Risk, Uncertainty, and Profit*, p281.

¹⁰ A later economist observes that this is in fact the distinguishing feature of all organisations. '[A]n organization is ... a means of handling social functions when the price system fails': Kenneth Arrow, *The Limits of Organization*, p71.

¹¹ Ronald H. Coase, 'The nature of the firm: meaning'.

Oliver Williamson – in *Markets and Hierarchies* (1975), *The Economic Institutions of Capitalism* (1985) and other works spanning more than 40 years – develops Coase's analysis. He describes the firm as a form of 'hierarchy' and his basic contrast is between hierarchies and markets as alternative forms of 'governance', rather than between firms and markets. It will be convenient for our purposes, however, to continue to refer to firms. Williamson identifies three characteristics of transactions that determine their form of 'governance':

1. **The degree to which investments (assets) are transaction-specific.** A transaction-specific investment is one tied to a particular transaction or type of transaction. For example, if a supplier buys moulds to make a particular plastic part for a particular customer, and these moulds have no use for any other purpose, this is a transaction-specific investment. Where a firm makes investments that are transaction-specific, it is to some extent vulnerable because, once having made such an investment, the resources deployed cannot be transferred to other uses (not with the same value, at any rate). The firm is therefore at the mercy of the other party to the transaction who may subsequently try to exploit its vulnerability in price negotiations.¹² Integrating the activities of the investing firm and the other contracting party within a single, integrated firm – and, in this respect, superseding the market – is one possible solution to the problem.

2. **Frequency of exchange.** Organisation within firms is costly, so frequency of exchange – which allows the cost to be spread over many transactions – makes it more likely that, where there is a transaction-specific investment, the solution of organisation within a single firm will be adopted.

3. **Uncertainty.** If there were no uncertainties as to the future, the firm making the transaction-specific investment would be able to specify at the outset what the terms of its contract with the other party should be. But often there are uncertainties that make it impossible to specify all contractual terms in advance, in which case it is again more likely that the solution of organisation within a single firm will be adopted.

Williamson also provides additional reasons why firms do not entirely supplant markets. Where firms supply goods or services internally rather than relying on the market:

- Managers tend to overestimate their ability to deal with complexity.
- Firms tend to be more forgiving of (internal) failures than markets are and to reward (internal) successes less than markets do.
- Internal decisions tend to be politicised.

Where markets can be made to work, they are usually preferable to vertical integration within firms: 'When ... competitive supply becomes feasible, internal supply ... is not apt to be the least cost mode.'¹³ The firm is a superior form of governance 'only' for those situations where there is a problem with the standard forms of market exchange, but such situations are pervasive.

Some more recent studies highlight interesting differences between countries in how economic activity tends to be organised. For example, Bengt Holmström and John Roberts, in 'The boundaries of the firm revisited' (1998), analyse differences in business practices between Japan and the US. These appear to reflect cultural and institutional differences. Transaction costs therefore vary from one place to another and lead to different answers to how particular economic activities are organised.

A key issue in this respect is trust, which is both more necessary and more likely where there are long-term relationships between market participants.¹⁴ Where two parties trust one another:

- the problem of transaction-specific investment is more likely to be solved satisfactorily by an arrangement between firms. Each side will trust the other not to take advantage of the weakness in its negotiating position created by the specificity of its investment; and
- the problem of uncertainty is also more likely to be solved satisfactorily by an arrangement between firms. Each side will trust the other to respond flexibly to unpredictable changes in circumstances and each will expect to be appropriately rewarded/not exploited for doing so.

¹²In fact there are vulnerabilities in both directions, as the customer – if it wished to switch to a new supplier – would have to persuade it to make a similar transaction-specific investment, which it might well be unwilling to do. So in such cases it is not unusual for there to be a mutual dependence between customer and supplier.

¹³ *Markets and Hierarchies*, p259.

¹⁴ See, eg, Mark Granovetter, 'Economic action and social structure: the problem of embeddedness'.

Other recent studies also highlight how changes over time affect the organisation of economic activity. For example, in *The Modern Firm* (2004), John Roberts argues that, in the modern manufacturing firm, vertical integration has become less attractive than formerly because, among other things:

- manufacturing equipment has become more flexible, so investment in it has become less transaction-specific;
- firms are forming long-term, trust-based relationships with each other;
- falling communication costs make it easier to communicate with external customers and suppliers; and
- greater variety and changeability in consumer tastes put a premium on flexibility, which is best achieved without vertical integration.

2.3.4 Owners and managers

Armen Alchian and Harold Demsetz, in 'Production, information costs, and economic organization' (1972), stress that in public companies shareholders' power tends to be exercised by selling their shares to new owners who believe that they can make better use of the company's assets than the existing managers can. Eugene Fama, in 'Agency problems and the theory of the firm' (1980), reinforces such arguments. Viewing the firm as simply 'a set of contracts among factors of production', he proposes that we should 'set aside the ... presumption that a corporation has owners in any meaningful sense'. Providers of capital are just one set of contracting parties with the firm. They own the capital, but they do not own the firm: 'ownership of the firm is an irrelevant concept'.

According to Fama, the owners of the firm's capital should not waste their time looking into its activities in any depth:

'portfolio theory tells us that the optimal portfolio for any investor is likely to be diversified across the securities of many firms. Since he holds the securities of many firms precisely to avoid having his wealth depend too much on any one firm, an individual security holder generally has no special interest in personally overseeing the detailed activities of any firm.'

The individual security holder is therefore 'not ... interested in directly controlling the management of any individual firm'. Instead, his 'strong interest' is 'in the existence of a capital market which efficiently prices the firm's securities'.

2.3.5 Financial reporting and transaction costs

Michael Jensen and William Meckling, in 'Theory of the firm: management behavior, agency costs and ownership structure' (1976), note that 'agency costs arise in any situation involving cooperative effort' and that, as the firm is essentially 'a nexus for a set of contracting relationships among individuals', agency problems are endemic to it. Their analysis focuses on how agency problems can help to explain such questions as:

- the degree to which a firm is financed by debt or equity;
- why firms in some industries are usually owner-operated; and
- why firms would voluntarily supply shareholders and lenders with accounting reports and have them independently audited.

The last point is of most interest for our purposes. Essentially, firms will voluntarily provide shareholders and lenders with independently audited accounting reports because this reduces the monitoring costs associated with contractual relationships with these parties. This is not merely a question of providing reliable information. Accounting measurements may also be used to restrain or trigger specified actions: to limit dividends, for example, or to set in motion debenture holders' rights. In these ways, accounting and auditing are aids to efficient contracting, and efficient contracting reduces transaction costs.

2.3.6 Problems of definition

Coase wrote that 'Of course, it is not possible to draw a hard and fast line which determines whether there is a firm or not' and subsequent writers on the theory of the firm have echoed this view.

George Richardson, in 'The organisation of industry' (1972), draws attention to the difficulties of saying where one firm ends and another begins. Nominally separate firms enter into relationships with one another that mean they are to some degree, perhaps very heavily, mutually dependent. For example, a supplier may depend heavily on a particular customer and/or vice versa. The supplier may have the same sort of long-term expectations of the relationship and the same willingness to respond to the customer's demands as an employee has in his relationship with the employer.

According to Jensen and Meckling, 'it makes little or no sense to try to distinguish those things that are "inside" the firm ... from those things that are "outside" of it. There is in a very real sense only a multitude of complex relationships'.

Benjamin Klein, Robert Crawford and Armen Alchian, in 'Vertical integration, appropriable rents, and the competitive contracting process' (1978), state that 'the conventional sharp distinction between markets and firms may have little general analytical importance. The pertinent economic question we are faced with is, "what kinds of contracts are used for what kinds of activities, and why?"'

Williamson's analysis also recognises that the distinction between firms and markets is not always a clear one. Indeed, he devotes a good deal of attention to the numerous intermediate forms of relationship where the 'governance' is neither that of a single firm nor a straightforward contractual arm's length relationship on standard terms. 'Firms' and 'markets' are therefore ends of a spectrum of possibilities rather than always clearly distinct, mutually exclusive options.

Steven Cheung, in 'The contractual nature of the firm' (1983), also stresses the limitations of Coase's distinction between the firm and the market. He points out that when an activity is brought inside a firm, and the market is to that extent 'superseded', in an important sense the market is not really superseded at all. What is happening is that one set of market transactions is being replaced by another. For example, if a manufacturer decides to bring manufacture of a component in-house, although it is 'superseding' the market for that component, it will have to enter into transactions in a range of other markets instead – ie, the markets for the inputs needed to manufacture the component, including the labour market (the market for employees). The choice between the firm and the market is really a choice of contracts between the firm and alternative sets of markets.

2.4 Implications of the theory

2.4.1 The central point

Coase's central point that firms and markets are in a sense alternatives seems to be generally accepted, but various authors rightly emphasise the very limited extent to which Coase is actually claiming that they are alternatives. In fact, firms and markets co-exist and are mutually dependent. Where firms 'supersede' the market, they do so by entering into an alternative range of market relationships or contracts. Jensen and Meckling's description of the firm as 'a nexus for a set of contracting relationships among individuals' seems to be apt.

2.4.2 The entrepreneur's expectations

Knight's observation that the entrepreneur always believes that he can beat the market is potentially important for financial reporting. It implies that, for a successful business, the firm's own expectations of the value to be derived from its inputs will always tend to exceed the market's valuation of its separate inputs (even after allowance is made for the standard rate of return on capital). This may be relevant to discussion of fair value accounting, which is sometimes seen as a way of reflecting the value of the business and sometimes as a way of reflecting market prices in the accounts. It follows from Knight's point that it is unlikely to be able to do both at the same time.

2.4.3 The reporting entity

As Cheung and others have emphasised, it is impossible to be exact about what is and is not a firm and, surprisingly, it seems that this is unimportant for the theory of the firm. For this reason, it is not clear what insights the theory of the firm might have to offer accounting on questions such as: what should be included or excluded in preparing consolidated accounts? Both economics and accounting are confronted with the same awkward phenomena – entities pursue economic activities through diverse relationships and the boundaries between them can be unclear. Accounting, as a practical activity, is forced to decide what is 'inside' a reporting entity and what is 'outside' it. Economics can simply take the view that here are a range of phenomena, which may or may not pose interesting explanatory challenges for the economist.

2.4.4 Owners, managers and other stakeholders

We referred earlier (in Section 2.3.4) to some economists' arguments on the limitations of shareholder control. Their ideas could be taken to support a particular approach to issues of accountability where there is a divorce between ownership and management and a company's shares are publicly traded. Essentially, the argument would be that shareholders in these circumstances cannot expect to exercise control directly. They can only exercise control indirectly through the threat to incumbent managers that they may sell their shares to a third party who will take over the company. In these circumstances, the shareholders' decisions are all investment decisions. All they have to decide is whether to sell their shares and at what price. There is no place, on this basis, for a distinction between accounting information that has a stewardship objective and information that has an investment objective, because in practice owners exercise no rights except the power to sell their shares.

We do not propose to discuss the merits of this view here. But even if we accept its validity, it applies only where:

- there is a clear divide between ownership and management;
- a company's shares are publicly traded; and
- it is not practicable for dissatisfied owners to replace incumbent management with new managers.

Any accounting conclusions supported by this particular aspect of economic theory would not necessarily be applicable where these conditions do not hold.

Another possible implication of the theory of the firm as a nexus for a set of contractual relationships is that each of these relationships is important for the firm's success and that the firm's external reporting should serve all of them rather than just one of them (eg, the relationship between managers and investors). This would lead to a stakeholder perspective on reporting. Again, we do not explore this issue here.

2.4.5 Firms, markets and market prices

The theory of the firm is important in explaining the circumstances in which firms are preferable to markets. If we follow Williamson's analysis, the firm is more likely to be a superior form of governance, the more investments are transaction-specific. But where transactions can be standardised, the market is likely to be superior to the firm. So, where components are standardised – ie, different products all tend to use similar or even identical components – the market is likely to be a superior form of organisation. Indeed, the point has been made that:

'Globalisation has progressed especially fast in electronics because there are so many well-defined standards. This has made it easier to outsource production of standard components to low cost companies that specialise in particular parts of the vertical chain.'¹⁵

Standardisation is therefore a significant factor in helping to make markets work. And the contrast between idiosyncratic and standardised assets is potentially significant for financial reporting, as it implies a difference in the availability of market prices. Markets and market prices are more likely where items are standardised and interchangeable, and less likely where they are specialised and idiosyncratic.¹⁶

To return to the example of a manufacturer, if it makes its own components and these are essentially identical to those bought in the market by other manufacturers, the market price of the components might well be illuminating if the firm sets internal transfer prices.¹⁷ If the manufacturer makes its own idiosyncratic components, market prices are unlikely to be available and in any case are less likely to be relevant. This is not to overlook the point made earlier (Section 1.3) that the firm's ultimate objective is to sell goods or services externally in market transactions and it therefore needs to keep the market prices of these ultimate transactions in view. However, the situation where one manufacturer makes its own components, but other manufacturers buy in theirs is unlikely to be a stable one where the components are essentially identical. Either a market solution or an in-firm solution will prove to be the most effective for firms generally. But as markets evolve, there will always be temporary differences between one firm and another as they discover what works best in changing circumstances.

¹⁵ Geoff Meeks and G. M. Peter Swann, 'Accounting standards and the economics of standards'.

¹⁶ Market prices' 'usefulness varies as an inverse function of factor specificity': Ray Ball, *The Firm as a Specialist Contracting Intermediary*, p20.

¹⁷ Tax authorities are also interested in market prices as a comparator for firms' internal transfer prices, especially in international transfers.

Long-term relationships between firms may also affect the prices of market transactions. Prices may be reduced to reflect expectations of future benefits to be derived from the relationship with the other party to the transaction. Or they may be increased in recognition of past favours given. Either way, such prices of market transactions would not match the prices that would obtain in transactions between fully independent firms with no history or expectation of a continuing relationship.

2.4.6 Accounting and transaction costs

The cost of accounting is itself a transaction cost, but it is incurred with the intention of reducing other transaction costs – both the costs of transacting in markets and the costs of contracting among the parties within a firm. External accounting – financial reporting – reduces transaction costs principally in three ways:

- It reduces the costs of obtaining information. In the absence of financial reporting, managers would have to find some other way of communicating information about the business to interested parties, and users would have to find some other way of obtaining it. These alternatives are presumably less useful or more costly than financial reporting; otherwise financial reporting would not have evolved in market economies. In practice financial reporting and other sources of information about a business co-exist, to some extent in competition and to some extent complementing each other.
- It reduces the costs of constraining behaviour. For example, in some jurisdictions, distributions are limited to realised profits.¹⁸
- It reduces the costs of motivating behaviour. For example, managers' incentives sometimes include performance-based pay based on reported profits.

These three propositions are not eternal verities. They are merely observations of how financial reporting is in fact used. But if financial reporting produces irrelevant or unreliable information or becomes too costly, people will rely on other sources instead. And they may find alternative ways of constraining and motivating behaviour. For example, if 'realised profits' are regarded as uninformative or cease to be information provided by the financial reporting system, people will rely on other constraints on distributions. If reported profit becomes too easily manipulable by managers, it will not be used as a measure for performance-based remuneration.

Certain characteristics are therefore likely to make financial reporting more or less useful for these various purposes. For example:

- The verifiability of the information may be important, as this will increase the degree of reliance that can be placed upon it.
- The motivations of those doing the reporting (ie, managers) may need to be taken into account. They may be expected to have a bias towards reporting good news and against reporting bad news. This may increase the value of a conservative approach to financial reporting.
- Although financial reporting information can provide a useful tool for motivating managers, this also increases the incentives for its manipulation.
- Reliable financial reporting information may improve the confidence of market participants generally and so reduce the costs of transacting in markets (eg, if suppliers can rely on customers' financial statements and customers can rely on suppliers').

This list is not intended to be comprehensive. Financial reporting standard-setters' lists of the qualitative characteristics of financial reporting information are clearly relevant, but they are more limited than the issues that we have just raised as they do not appear to take into account either managers' motivations or the needs of those other than investors in individual firms. Whether they should do is a separate question.

2.4.7 Financial reporting measurement issues

The focus of this report is on financial reporting measurement issues. For this purpose, a number of implications from the theory of the firm seem to be pertinent:

- Firms exist as an alternative form of economic organisation to markets.
- Where transactions are conducted within firms rather than between them, market prices are less likely to be available.

¹⁸In some jurisdictions, such as the UK, 'realised profit' is a complex legal concept. We use the term more loosely in this report to refer to profits that arise once a sale has been made.

- The firm's perception of the value to be derived from its assets differs from that of factor markets.
- Where market transactions take place within more or less long-term and idiosyncratic relationships, their prices may reflect this.
- Financial reporting measurements may be used to motivate or constrain the behaviour of contracting parties within the nexus of relationships that constitutes a firm.

In the next chapter, bearing these points in mind, we look at how far different approaches to measurement in financial reporting can be said to be consistent with what we can learn from the economic theory of the firm. In doing so we will make use of the point from Chapter 1 that a firm's business model describes both its internal activities and its relationships with markets.



3. MEASUREMENT QUESTIONS

If we wish to apply the theory of the firm to financial reporting, firms' business models seem to provide a link with accounting practice that will allow us to do so.

But which basis of measurement best reflects firms' business models? Historical cost? Replacement cost? Fair value? A mixed approach? Or none of these?

3.1 Summary

The two key measurement issues for financial reporting that arise from the theory of the firm are:

- If assets are being used or created within firms, rather than exchanged in market transactions, market prices for the assets are less likely to be available.
- Even if market prices are available, why would they provide the most useful measurements for assets that are not in fact being exchanged, but form part of an in-firm process?

What a firm does internally and what it does through market transactions are described by its business model. The business model therefore provides a link between the issues raised by the theory of the firm and the financial reporting of individual firms.

There are various possible approaches to financial reporting that may be regarded as drawing support from the theory of the firm and each of the measurement options that we consider could be described as a business-model approach to financial reporting. To some extent each embodies a different view of how businesses work and so of how their performance is to be judged. The options are:

- historical cost;
- replacement cost;
- fair value;
- historical cost for some items and market price for others – an ‘alternative-bases’ approach;
- firms choose their own bases of measurement.

The alternative-bases approach is perhaps of particular interest, partly because it resembles the IASB’s current approach to the measurement of financial instruments, a highly controversial issue.

3.2 Possible approaches to measurement

A good deal of economic activity takes place within firms rather than through market transactions between firms. Some people consider that this – the central point of the theory of the firm – raises questions about the practicability and relevance of financial reporting measurements based on market prices. The two key issues are:

- If assets are being used or created within firms, rather than exchanged in market transactions, market prices are less likely to be available for them. As economic activity within firms is pervasive, this means that market prices will often – perhaps usually – be unavailable.
- Even if market prices are available, why would they provide the most useful measurements for assets that are not in fact being exchanged, but form part of an in-firm process?

Financial reporting should be judged by its usefulness, and this is an empirical matter. But it may be that whether activity takes place within firms or between them provides an explanation of:

- why one basis of measurement is more useful than another; or
- the circumstances in which one basis of measurement is more useful than another.

These things would be helpful to know, as they could then assist decisions on accounting policy choices – by accounting standard-setters and by firms.

There are various possible approaches to financial reporting that may be regarded as drawing support from the theory of the firm. What a firm does internally, rather than through market transactions, is determined by its business model. The business model therefore provides a link between the issues raised by the theory of the firm and its potential application to financial reporting by individual firms. Each of the approaches that we discuss below could be described as a business-model approach to financial reporting. And to some extent each embodies a different view of how businesses work and so of how their performance is to be judged.

The options are:

- historical cost (Section 3.3);
- replacement cost (Section 3.4);
- fair value (Section 3.5);
- historical cost for some items and market price for others – an ‘alternative-bases’ approach (Section 3.6);
- within limits, firms choose their own bases of measurement (Section 3.7).

Each of these approaches has its merits. To simplify the discussion, we focus in this chapter on the measurement of net income and assets, with more of a focus on the latter. It is an important question whether it is appropriate to focus on the measurement of balance sheet items rather than on net income, and arguably a business-model approach should focus on income. We consider this question in Section 3.8 below. Some measurement bases seem to produce information that is directed more to the income statement than the balance sheet, or vice versa, and we give a brief summary of the position in this respect in Appendix 6. The application of business-model approaches to the measurement of liabilities is discussed in Appendix 3.

It should be stressed that this chapter is not intended to be a review of the pros and cons of different measurement bases¹⁹ and that there is a large literature on measurement in financial reporting that we do not mention here. This chapter has the more limited objective of considering how far different approaches to measurement can be considered to be business-model based or can claim to be consistent with the economic theory of the firm.

3.3 Historical cost

3.3.1 Historical cost as a business-model approach

Historical cost accounting long precedes both the theory of the firm and conscious efforts to reflect business models in financial reporting. Yet arguably it is the most obvious way in which the theory of the firm could be reflected in financial reporting, as it restricts the use of market prices to those points at which the firm interacts with the market: when it buys inputs and when it sells outputs. We may therefore say that financial reporting has traditionally reflected firms' business models and that accounting practice has been in unconscious accord with what the theory of the firm might have led us to expect.

Historical cost information serves a number of purposes, and we shall briefly refer to some of them as they are relevant to considering whether historical cost provides the most useful way of reflecting a firm's business model in its financial reporting.

3.3.2 The role of the balance sheet

In historical cost accounting, the asset side of the balance sheet is a listing of unexpired costs – that is, of costs that have yet to be set against future income to which they are expected to contribute. In a successful business, preparing a balance sheet on this basis tends to give a very conservative measure of net assets. Individual assets' current values may well be higher than their balance sheet amounts and some valuable assets – such as certain intangibles – may not be recognised at all. However, the measurement is a 'hard' one in the sense that it reflects costs actually incurred for assets that can be reasonably expected to generate income. It avoids 'soft' information such as subjective current values and values for assets – again such as certain intangibles – where it is a matter of guesswork whether they will generate future income.

Although a balance sheet on this basis could be regarded as unduly conservative as it does not reflect increases in asset values, it may be useful for those, such as lenders, who are keen to avoid overvaluation and to reduce subjectivity in asset measurements by firms they lend to. Another aspect of conservatism – writing assets down to recoverable amount – is discussed below.

3.3.3 Testing the business model

Every business is a challenge to the market. As Frank Knight observed, the entrepreneur believes that he can combine inputs at the prices attached to them by the market and create outputs at prices that, even after allowing for a standard return on capital, exceed the expectations of factor markets. It is only in this way that the firm can create 'true profits'. The entrepreneur's plan, which describes how he is going to do this, is his business model.

The ultimate aim of every business plan is to realise profits. This is how the firm knows – and outsiders know – whether its business model works. 'Realized positive profits ... are the mark of success and viability.'²⁰ Historical cost matches actual costs (at market prices) against realised income (at market prices) to measure the success of the firm's business model.

¹⁹ For this, see the *Information for Better Markets* report *Measurement in Financial Reporting*.

²⁰ Armen A. Alchian, 'Uncertainty, evolution and economic theory', p20.

3.3.4 Forecasting future income

Other than in exceptional circumstances, a historical cost balance sheet plainly fails to provide a measure of the value of the business. But if the circumstances under which a business operates do not change, then the historical cost income of one year will provide a basis for forecasting the income of future years. In this way, an estimate of the value of the business can also be obtained, as future years' income can be discounted back to a present value.

In practice, of course, circumstances always do change, so anyone seeking to value a business on the basis of its historical cost income will factor in a variety of adjustments to try to estimate the effects of likely changes. But historical cost income still provides a starting-point for extrapolating future income.

3.3.5 The matching concept

A central concept in historical cost accounting is matching. Costs are matched against the income they help to earn. In the short term – and, in the long term, for long-lived items – this is a subjective process, which can be achieved in many different ways as, for example, in the diverse ways of attributing costs to inventories or allocating depreciation to accounting periods. But errors in allocation in one period tend to be cancelled out by compensating errors in the next. The correct application of matching ensures both that the balance sheet shows costs that will contribute to future income and that one year's income provides a useful starting-point for forecasting future years'.

3.3.6 Recoverable historical cost

It is usual nowadays for historical cost accounting to mean recoverable historical cost. That is to say, assets in the balance sheet are written down to their recoverable amount where this is lower than what would otherwise be reported as their unexpired cost. This is so much taken for granted that it may seem fanciful to consider whether this version of historical cost is appropriate or not. However, there are two reasons why writing assets down to recoverable amount when this is lower than what would otherwise be reported as their historical cost may be regarded as anomalous within a business-model approach:

- As the recoverable amount may be measured as a current market price, this could be seen as contrary to the theory of the firm. Is it an illegitimate intrusion of market prices into the measurement of assets that are still being used within the firm?
- Writing assets down provides a poor basis in the year of write-down for forecasting future income, which is argued to be part of the rationale for a historical cost approach.

However, if we look at the various useful features of historical cost that we have just listed, we will see that the principle of writing down to recoverable amount is a reinforcement of the advantages of historical cost. And it is fully compatible with a business-model approach.

The role of the balance sheet. A historical cost balance sheet shows unexpired costs that will contribute to future income. But if the unexpired cost of assets exceeds their earning power, it seems illogical to state that they will contribute to future income when they will in fact contribute to future losses. If they are written down to recoverable amount this anomaly is removed. Writing the assets down also maintains the usefulness of the balance sheet to those such as lenders who prefer it to err on the side of conservatism.²¹ If it were to show past costs that could not be recovered from future income, it would – from this point of view – err on the side of imprudence.

Testing the business model. If an asset's unexpired cost exceeds its recoverable amount, then the business model has to that extent failed. Recognising the loss provides useful information on the viability of the business model.

Forecasting future income. Writing assets down can indeed lead to a measurement of income in the year of write-down that provides a poor basis for forecasting future income. For this reason, such write-downs should be fully disclosed. But if the business model is viable, income in the years after the write-down should revert to greater consistency than would have been the case if the assets had not been written down.

The matching concept. The argument here is the same as for the role of the balance sheet. It does not make sense to hold unexpired costs in the balance sheet to match against future income that will fail to cover them. This can be seen most clearly in an extreme case: an asset that is worthless. If it remains in the balance sheet, the cost will be written off in due course against income to which it makes no contribution whatever. For such a cost, the concept of

²¹ On conservatism in accounting, see Ross L. Watts, 'Conservatism in accounting. Part I: explanations and implications'.

matching no longer makes sense: the answer is to get rid of the cost as quickly as possible (ie, write it off) so that it stops getting in the way of a proper matching process.

We should point out that these arguments are not universally accepted and that some advocates of historical cost (eg, the American Accounting Association Financial Accounting Standards Committee – see Appendix 5, Section A5.2) would limit the use of write-downs.

3.3.7 Better reflecting the business model

It could also be said that recoverable historical cost provides a better insight into the firm's business model than does 'pure' historical cost. As noted above, by requiring that historical cost should be written down to recoverable amount where applicable, this approach ensures that failures in the business model are immediately recognised in the accounts. However, the way in which the recoverable amount is calculated ties this process even more closely to the firm's business model.

In principle – though the requirements in accounting standards often vary – an asset's recoverable amount is the higher of what can be realised by selling it (realisable value) and what can be realised by using it within the business (value in use). Under recoverable historical cost, the recoverable amount therefore not only sets an upper limit to the amount at which the asset should be measured, but it does so in a way that reflects the firm's business model. Where an asset is held for sale, its recoverable amount will presumably be its realisable value. Where an asset is held for use within the business, its recoverable amount will presumably be its value in use. So the business model is reflected in the measurement of the recoverable amount.

3.3.8 The subjectivity of recoverable amounts

Recoverable amounts are often very difficult to determine and may depend heavily on subjective judgements by management. The principle of writing down to recoverable amount can therefore reduce the reliability of historical cost measurements, but – provided they remain reasonably reliable – should increase their usefulness.

As Frank Knight pointed out, any firm tends to be more optimistic than factor markets about the value ultimately to be derived from its inputs. This optimism does not automatically disappear when circumstances change for the worse. A degree of scepticism therefore needs to be applied in assessing managers' expectations of recoverable amounts. However, as there will sometimes be only limited evidence either to support or to contradict managers' expectations, measurements are to this extent inherently subjective.

3.3.9 Market prices as a benchmark

Earlier, we posed the question, 'Even if market prices are available, why would they provide the most useful measurements for assets that are not in fact being exchanged, but form part of an in-firm process?' We have already identified one situation where the use of market prices would be appropriate, which is where they provide the most useful measurements of recoverable amount. But more generally it could be said that every firm needs to bear in mind that its outputs ultimately have to be sold in market transactions. So market prices – where they are available – may provide a useful benchmark in assessing the future recoverability of costs incurred to date, even where they will not be used as a financial reporting measurement of recoverable amount.

3.4 Replacement cost

3.4.1 Replacement cost as a non-market price

Some of those who see the theory of the firm as relevant to business reporting argue that it supports a replacement cost²² approach. In doing so, they see it as a refinement of and improvement on historical cost.

As explained above, historical cost accounting reflects firms' business models – and the theory of the firm – primarily in the sense that it uses market prices only at the points where the firm interacts with the market. But an alternative interpretation would stress that the firm only uses exit prices at the point where it exits from assets – ie, when it sells them. In current thinking, market prices are often equated with exit prices. This is the approach adopted in the FASB's definition of 'fair value' and copied in the IASB's proposed redefinition.²³ If market prices are seen as exit prices, then entry prices may be seen as not market prices.

²²For a further explanation of replacement cost, see the discussion in *Measurement in Financial Reporting*. It is discussed there as a component of the 'value to the business' basis of measurement.

²³See SFAS 157, *Fair Value Measurements*, and the IASB exposure draft, *Fair Value Measurement*.

This opens the door to revising historical cost figures in accounting for changes in entry prices while arguing that the process does not involve using market prices. In this way, replacement cost accounting – or accounting methods based on it, such as current cost, deprival value or value to the business – could be seen as compatible both with firms' business models and with the theory of the firm.

It is unclear, though, why replacement costs should not be seen as market prices. They are simply prices taken from the markets in which firms buy assets as opposed to the markets in which they sell assets. The fact that standard-setters define 'fair value' in a way that focuses on exit prices does not mean that exit prices are the only market prices. However, it remains true that replacement cost reflects business models in the sense that it only uses exit prices at the point of exit, ie, when an item is sold at its market price.

An alternative, and perhaps more convincing, argument is that market prices are simply not available to provide replacement costs for many assets. So in practice 'replacement costs' are calculated by applying indices of price changes to historical cost amounts. Replacement costs measured in this way are indeed not market prices. However, as we shall see, the same could be said for many fair value measurements.

3.4.2 Holding gains, forecasting income and the business model

Another business-model argument in favour of replacement cost is that it could be a better way than historical cost of providing a measure of income that can be used as a starting-point for forecasting future income.

Suppose, for example, that assets which are inputs to a manufacturing process are purchased for €1m. The outputs that they produce will be sold immediately after the balance sheet date for €1.8m. However, at the balance sheet date the assets' replacement cost is €1.6m. Of the €0.8m profit about to be realised in the next accounting period, €0.6m is therefore arguably not attributable to the firm's business model, but to a change in input market prices – ie, it is a holding gain. This element of profit makes it more difficult to forecast future income as future periods may not see a similar rise in input prices. To aid forecasting, therefore, profits attributable to changes in market prices (holding gains) should be stripped out and separately disclosed. Including holding gains in profit also arguably gives a misleading view of managers' performance.

In our illustration we have assumed that the gain attributable to changes in market prices all arises by the balance sheet date, but is not realised until after the balance sheet date. But in principle the argument that holding gains should be split out from profits applies to processes that take place wholly within a single accounting period. The holding gain still represents a profit attributable to changing market prices and not to the firm's business model, and is therefore misleading as a basis for predicting future profits and for judging managers' performance (though on judging managers' performance, see the counter-argument below).

The argument is not that holding gains are not profits. It is that they are a different type of profits from those attributable to the firm's business model and that they do not provide a useful figure of income either for judging past performance or for predicting future performance.

Arguably, stripping out holding gains will also give a better measure of whether the firm's business model is succeeding or not. Treating holding gains as an undifferentiated component of income can give a misleading impression of the business's viability.

These arguments for replacement cost seem to provide a valid though not necessarily conclusive line of reasoning. Possible counter-arguments are that:

- Because of changes in markets and technologies, current replacement costs can be highly subjective, in which case information about them is likely to be less useful.
- It may also be a mistake to draw a sharp distinction between operating profits and holding gains. For example, manufacturers may aim to time purchases opportunistically – ie, buying when prices are low, rather than when they are high. Where this is the case, using replacement cost accounting would mean that their buying skills (or conversely, their incompetence) are liable to disappear into a figure of 'holding gains' (or losses) that carries an implication that it's outside managers' control. The historical cost approach, by contrast, recognises that the ability to generate holding gains may in fact be an element in managers' operating skills and part of the firm's business model.

3.4.3 Replacement cost and the business model

There are two respects in which replacement cost information could be said to be particularly relevant to a firm's business model.

First, it could be of interest to investors and other users of accounts to know how much it would cost to replace the assets in a firm's balance sheet. This might be regarded as a measure of the cost of replicating the firm's business model. It would not be a very good measure in total as a successful firm's business model incorporates intangibles that are not reflected in the balance sheet and which typically cannot be replicated simply by spending money. For example, you cannot replicate a firm's relationship with its customers simply by incurring the same marketing costs. Such a relationship certainly has value, and building it no doubt involves incurring costs, but it is not replicable in the way that a manufactured product is replicable.²⁴ However, even recognising these limitations, a replacement cost balance sheet might still be useful as a measure of at least important elements of a firm's business model.

Second, replacement cost accounting has been advocated as a method of maintaining a firm's physical capital (or operating capability). Replacement cost accounting distinguishes between operating profits and holding gains. It charges against operating profit the cost of replacing a firm's physical assets and the difference between historical cost and replacement cost is treated as a non-distributable holding gain. In this way, at a time of rising prices it ensures that receipts needed to replace the firm's physical capital are not treated as income to be distributed. This could be seen as highly relevant to a business-model approach, as – again at a time of rising prices – historical cost accounting could allow 'income' to be distributed²⁵ to an extent that would reduce the firm's physical capital. In such circumstances, the firm's business model might also be imperilled.

Against this, it can be argued that 'capital' is a financial rather than a physical concept and that finding the money to maintain physical capital is a financing issue rather than a question of profit measurement. However, even recognising these points, it is still arguable that replacement cost accounting provides useful information on the maintenance of a firm's physical capital (or operating capability) and that this is relevant to an assessment of its business model.

3.4.4 Recoverable replacement cost and the business model

Just as recoverable historical cost incorporates more information about a firm's business model than 'pure' historical cost, so recoverable replacement cost (or 'deprival value' or 'value to the business' or 'current cost') reflects more information about a firm's business model than 'pure' replacement cost. As explained earlier, an asset's recoverable amount is the higher of what can be realised by selling it (realisable value) and what can be realised by using it within the business (value in use). Under recoverable historical cost accounting, the recoverable amount sets an upper limit to the amount at which the asset should be measured. It does the same under recoverable replacement cost. Recoverable replacement cost is therefore the lower of replacement cost and the recoverable amount (which is the higher of realisable value and value in use). Where the recoverable amount is lower than the replacement cost, this implies that the asset is not worth replacing, ie, at least for this particular asset, the firm's business model is not viable.²⁶

Recoverable replacement cost therefore reflects two important pieces of information about the firm's business model:

- It takes account of whether the asset is worth replacing – ie, whether the business model continues to be viable.
- By using realisable value or value in use in the calculation of recoverable amount, it reflects the firm's presumed business model – ie, whether it makes sense for the firm to sell the asset or to use it in the business.

It could be argued that recoverability should not be an important issue with replacement cost accounting as it would be surprising to find situations in which current entry prices are higher than current exit prices. This is correct, but the implication of recoverable amount being lower than replacement cost is – as noted above – that the firm's business model is, in this respect, no longer viable. This may be due to changing technologies or changing markets.

²⁴As manufacturing requires intangible skills, it could be said that even physical assets – in the sense of items that have an income-generating capacity – are not replicable merely by the purchase of identical items.

²⁵This point assumes that distributions are limited by reported profits, which are by definition stated after maintaining capital. There is a move in some jurisdictions to have distributability determined by a solvency test, rather than an accumulated profits test.

²⁶This assumes that a viable business model is one that carries on using and selling the same sort of assets that the business uses and sells currently. To the extent that – because of changes in markets and technologies – this is not the case, replacement cost becomes less informative.

Either way, the phenomenon should be a temporary one as, unless the firm expects further market changes that will make its model viable again, it will have to change it before very long. It would therefore be going too far to say that recoverability should not be an important issue with replacement cost accounting, but it would be correct to say that, where it is an issue, the situation is anomalous and should be temporary.

3.5 Fair value

The meaning of 'fair value' has changed over the years and its current usage by standard-setters is a quite recent development. At one time it seems to have meant whatever value the parties to a transaction agreed to be fair. This might be the market price or it might not. Oliver Williamson cites an instance where fair value is deemed to be depreciated historical cost.²⁷ At one time it seemed to be regarded as equivalent to value in use.²⁸ In accounting standards, it seems initially to have signified any of several different approaches to current value, but is now moving towards a current market exit price as arrived at by market participants independent of the entity whose accounts are being prepared.

Fair value as value in use seems to correspond to the value that Frank Knight's entrepreneur would expect to derive from the inputs held by the business. If so, it is likely to be an inherently optimistic assessment of future prospects. Fair value as a market selling price will be more of a disciplined, less optimistic assessment where it is indeed a market price. The problem is that market prices – in the sense intended by the standard-setters – do not exist for many assets. Where they are absent, fair value measurements will tend to drift back towards the management's own optimistic assessment of value.

The demand for fair value information – however understood – has grown in recent decades with the rising use of financial instruments for which historical cost measurements are regarded as uninformative. The case for fair value in this context has been generalised by some into a call for its use more extensively in financial reporting. Arguments about this can be seen as a revival of a longstanding debate on the relative merits of historical cost and current value, and fair value has taken the place in this debate of earlier current value concepts such as current cost, realisable value and value in use.

Economists view the value of a firm as the discounted present value of its expected future cash flows.²⁹ In some circumstances, fair value measurements – even in the sense now used by standard-setters – can provide this information. This would be the case where the accounts record **all** of a firm's assets, including intangibles that are currently unrecognised, and the individual asset valuations reflect the assets' value in use to the firm. In theory, market prices will do this where they are taken from active and liquid markets.

But fair value is, on the face of it, an implausible candidate for a list of business-model-based approaches to financial reporting. The key lesson from the economic theory of the firm is that, for good reasons, a great deal of economic activity takes place within firms and that market prices are therefore unlikely to be available for items that represent stages within firms' internal processes. The only points at which we would expect firms' prices to be market prices are where the firm buys inputs from the market and sells outputs to the market. So how can a basis of measurement that purports to reflect market prices be seen as compatible with the theory of the firm?

For some items in accounts market prices are available – for example, investments that are traded in an active and liquid market. For such items there is a good case for saying that fair value is compatible with a business-model approach, and we look at these instances in the next section (3.6).

But for most items in accounts, market prices are indeed unavailable. It stands to reason that fair value for such items, whatever it purports to be, will not be a market price. This opens up the possibility that it may in fact have some link with a firm's business model, and this possibility is made more plausible by what standard-setters have written on how fair value should be measured in the absence of market prices.

²⁷ *The Economic Institutions of Capitalism*, p342.

²⁸ This is the meaning attached to it in Mary Barth and Wayne Landsman, 'Fundamental issues related to using fair value accounting for financial reporting'. See also Stephen Penman's approach referred to in Section 3.6 below.

²⁹ This corresponds to the value in use approach. The valuation should be risk-adjusted, which can be done either through the choice of discount rate or the measurement of the expected cash flows. The question is: whose expectations determine expected cash flows?

The link with business models is implicit in both FASB's SFAS 157, *Fair Value Measurements*, and the IASB's 2009 exposure draft (ED), *Fair Value Measurement*. The link is clearer in the latter and so we consider that. The ED defines fair value for an asset as 'the price that would be received to sell [it] in the most advantageous market at the measurement date'. The ED explains that:

'A fair value measurement considers a market participant's ability to generate economic benefit by using the asset or by selling it to another market participant who will use the asset in its highest and best use. Highest and best use refers to the use of an asset by market participants that would maximise the value of the asset...' (para 17).

The highest and best use of the asset is 'in use' if it would provide maximum value by being used with other assets. It is 'in exchange' if it would provide maximum value by being sold. The ED also states that:

'The current replacement cost ... is generally appropriate for measuring the fair value of tangible assets using an in-use valuation premise because a market participant would not pay more for an asset than the amount for which it could replace the service capacity of that asset' (para 38(c)).

All this adds up to something very close to a recoverable replacement cost basis of measurement,³⁰ and in practice it might be the same thing. In effect, the ED is almost saying that fair value is:

- the higher of what the business can realise by selling the asset or by using it in the business;
- unless the replacement cost is lower than the higher of these amounts, in which case, the fair value is the replacement cost.

How does this differ from recoverable replacement cost?

- The ED requires all amounts to be measured from the point of view of 'market participants' rather than that of the business.
- Priority has to be given to market price information where it is available.
- In principle, the measurement is a selling price, not a buying price.

Whether these are significant differences will vary in practice from case to case. But we are now considering assets for which market prices will usually be unavailable. In these circumstances, firms will not know how other (hypothetical) market participants would value the assets. And firms will in practice frequently be compelled to impute their own knowledge and assumptions to other (hypothetical) market participants. So we may guess that fair value as described in the ED would frequently be the same as recoverable replacement cost. However, in that case it will arguably be a business-model-based measurement.

Against this, it may be argued that there will always be differences between entry and exit prices and that, as long as this is the case, there will always be a difference between fair value (an exit price) and recoverable replacement cost (an entry price). This is true for items for which entry and exit market prices exist, but the argument in the preceding paragraphs applies to those cases – of which there will be many – in which market prices are unavailable and firms therefore need to find another way of measuring fair value. In these circumstances, the approach in the IASB's ED seems designed to lead to something resembling recoverable replacement cost.

3.6 Alternative bases

3.6.1 Rationale

It is possible to have an 'alternative-bases' approach to financial reporting measurement, ie, to choose one basis of measurement in some cases and a different one in others. The particular approach that we consider employs current market prices for some items in accounts, but historical cost (or recoverable historical cost) for most. This approach is perhaps of particular interest, partly because it resembles the IASB's current approach to the measurement of financial instruments, a highly controversial issue.

³⁰Tony van Zijl and Geoffrey Whittington, in 'Deprival value and fair value: a reinterpretation and a reconciliation', show the similarities between deprival value (or recoverable replacement cost) and fair value.

The alternative-bases approach can be summarised as follows: the use of market prices to measure assets and liabilities in financial reporting should be restricted to those cases in which the firm's business model adds no value to assets. It is based on the two key points for financial reporting that seem to arise from the theory of the firm: market prices are unlikely to be either available or relevant for assets that are being used or developed within the business, and to which the firm is, therefore, adding value. Where the firm is not adding value, market prices are likely to be both available and highly relevant.

In a paper prepared for ICAEW's 2006 Information for Better Markets Conference, Stephen Penman sets out the case for an alternative-bases approach.³¹ Penman specifies that the objective of financial reporting is to provide information to shareholders for valuation and stewardship purposes:

1. *'Valuation.* Shareholders use accounting information to inform them about the (fair) value of equity: What is the equity worth?'
2. *'Stewardship.* Shareholders use accounting information to assess the stewardship of management, the owners' employees: How efficient have managers been in making investments and conducting operations to add value for shareholders?'

A key concept in Penman's approach is 'value to shareholders'. He describes the idea of this as 'close to that of "value in use" but with a focus on the shareholder rather than the entity'. Market value is the same as shareholder value only in certain cases.

For some assets and liabilities 'value to the shareholders is determined solely by market price; that is, shareholder value is one-to-one with market prices.' In other cases, 'the firm arbitrages market prices. That is, ... the firm adds value (for shareholders) by buying at (input) market prices and selling at (output) market prices.' In these cases, the input assets' market value will not show their value to shareholders, which arises from their transformation into different assets, sold in different markets. Although the argument is expressed in terms of assets, the principle is the same when the firm buys and sells services, though in this case some transformation seems to be inevitable. One cannot hold a service for resale at market prices unless it has been converted into an asset.

Where the financial statements record all of a business's assets and liabilities – including any intangibles not recognised under current accounting conventions – and measures them at their value to shareholders, the balance sheet is the primary source of information for valuation purposes, as it shows the actual value of the business. The income statement, in these circumstances, reports on management's stewardship 'in adding value for shareholders'. However, income based on value to shareholders is no guide to future earnings; Penman points out that this follows from the economic principle that 'current changes in value do not predict future changes in value'. Income based on value to shareholders is, therefore, always a surprise – it is no doubt good to know what it is, but it is not an indicator of next year's income. It does give an indication, however, of how far shareholders' wealth is subject to volatility, ie, it is an indicator of risk, though one year's volatility is not a reliable indicator of future years' volatility.

Where accounts record items at their historical cost, the income statement is the primary source of information for valuation purposes. Current income forecasts future income, which can be multiplied by an appropriate price/earnings (P/E) ratio to arrive at a valuation. The income statement also measures the stewardship of management.

The key question, therefore, is whether 'the business model adds value to market prices'. Where the business model does not add value to market prices, and shareholder value and market prices are one-to-one, market value is the appropriate basis of measurement. Where the business model does add value, historical cost is appropriate. For such a firm, the market value of the business's assets does not show their value to shareholders: the one-to-one condition does not hold and a balance sheet showing assets at their market values would not provide a basis for valuation. Instead, using historical cost, the income statement provides a basis both for valuation and assessing managers' stewardship.

3.6.2 Examples

Under this approach, the business model determines when market values or historical costs should be used. Penman provides a number of examples of how this would work in practice (see Panel 3.1).

³¹ Stephen H. Penman, 'Financial reporting quality: is fair value a plus or a minus?' The ideas in this paper are developed more fully in Doron Nissim and Stephen Penman, *Principles for the Application of Fair Value Accounting*.

Panel 3.1: Applying the one-to-one condition

In the following instances the one-to-one condition does apply and so market values would be appropriate:

- 'Investments in securities in a trading portfolio and derivative instruments on such securities.'
- 'Investments by an insurance company.'
- 'Real estate held for speculation with no plan for developing or utilising the real estate.'

In the following instances the one-to-one condition does not apply and so historical cost would be appropriate:

- 'Inventory: the firm adds value by finding a customer.'
- 'Performance obligations.'
- 'Real estate held as input to business enterprise (for example, real estate development, real estate rentals).'

3.6.3 Availability of market prices

The analysis so far assumes that market values are available in those cases where the one-to-one condition applies. Penman goes on to consider the situation where market values are not available and points out a number of disadvantages of using estimates of market value in such cases. Perhaps the most important point he raises is that if market prices are not available, this casts doubt on whether the one-to-one condition can truly be said to apply:

'If a firm has to execute by finding a customer in an illiquid market, value is usually determined by that ability to execute, not solely by market prices. So situations where estimation is required may be limited (if the one-to-one condition is honoured).'

So while Penman does not quite say that estimated market values³² should always be avoided, the implication of his analysis is that they would usually be inappropriate. If this argument is accepted, it would have important practical implications, as current financial reporting practice often requires the use of estimated market values – for many financial instruments, for example. We consider this point further below.

The concept of 'market price' is less simple than it appears. We examine some of the difficulties in Appendix 2, but for the moment we concentrate on the key issues for the purpose of clarifying how the alternative-bases approach should be applied.

The alternative-bases approach suggests circumstances in which market prices provide an appropriate basis of measurement. However, market prices are not available in many of these cases. For example, it might be expected that investments held for resale would, on the alternative-bases approach, be valued at market price. But there are many investments and similar assets for which, if we wish to measure them at 'market price', it is necessary to use:

- prices from inactive markets;
- prices estimated from similar items; or
- prices estimated using any available information.

To what extent should market prices – or estimated market prices – be used in these cases? In answering this question it will be useful to bear in mind the 'fair value hierarchy' used by financial reporting standard-setters, as this recognises the different inputs used in measuring – or estimating – market prices for items in accounts. The hierarchy is explained in Panel 3.2.

Prices from inactive markets. What is envisaged here is a market where there is a quoted price for the asset in question, but trading is relatively inactive. However, as long as there continue to be some buyers and some sellers and someone willing to quote prices at which they are prepared to buy or sell, then the market price is still a real one and there seems to be a reasonable case for using it. The key considerations are that the firm does not have to find a buyer or to negotiate a price.

³²We use the term 'estimated' as it is conventional to do so, though an estimate applies to something that does exist but cannot be measured accurately. Strictly speaking, market prices do not exist in the circumstances that we are now considering.

Prices estimated from similar items. What we have in mind here are circumstances such as those that commonly prevail in the property market. For much of the time and in many places, there are sufficient property transactions to give those with the relevant information a good idea of what a property is likely to sell for. It is still necessary to find a buyer and to negotiate a price, but within a range the price is predictable. So, while finding a buyer and negotiating a price could be said to be part of the business model, the reality is that most of any gain or loss on the asset is likely to come from movements in market prices. On balance, therefore, it seems to be appropriate to use market prices in valuing such assets. However, the case is not clear-cut and we return to this point below.

Prices estimated using any available information. Where there is no market price either for the asset in question or a similar one, 'market prices' have to be estimated using any available information, including managers' forecasts, that might be relevant. However, under the alternative-bases approach the use of 'market prices' is on the face of it inappropriate in such cases. Using market prices implies that the holder of an investment for resale (for example) does not need to find a buyer or to negotiate a price. Where these assumptions apply, the use of market prices is argued to be appropriate. Otherwise the firm's business model involves finding a buyer and negotiating a price, and its profitability will depend on the exercise of these skills – not merely on movements in market prices. Examples might be an investment in an unquoted biotech company or in an idiosyncratic property for which, although valuers will always be able to come up with a valuation if asked to do so, the likelihood that this will be an accurate forecast of the actual selling price is much reduced. In these cases, finding a buyer and negotiating a price might be the key determinants of the outcome.

Panel 3.2: The fair value hierarchy

The fair value hierarchy in financial reporting standards reflects the significance of the different types of inputs used in making fair value measurements. The hierarchy has three levels, defined as follows in IFRS 7, *Financial Instruments: Disclosures* (paragraph 27A):

- Level 1 inputs are 'quoted prices (unadjusted) in active markets for identical assets or liabilities'.
- Level 2 inputs are 'inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly (ie as prices) or indirectly (ie derived from prices)'.
- Level 3 inputs are 'inputs for the asset or liability that are not based on observable market data (unobservable inputs)'.

Measurements are classified as Level 1, 2 or 3, in accordance with the inputs used in making them, 'determined on the basis of the lowest level input that is significant to the fair value measurement in its entirety'.

The dividing line – and it is not a sharp one – between when the use of market prices is appropriate and when it is not perhaps corresponds with the distinction between Level 2 and Level 3 measurements of fair value. So, to take our earlier example, there will usually be observable property transaction prices on which to base a property valuation, which would therefore be a Level 2 measurement. But although there are some sales of unquoted biotech companies, the prices are not always observable and, more importantly, each company in this sector is unique and requires individual assessment. A valuation of shares in such a company would be a Level 3 measurement.

It would therefore be a reasonable application of the alternative-bases approach to say that it requires market price measurements where:

- the firm's business model is not adding value to the assets, but depends purely (or perhaps very largely) on changes in market prices; and
- market prices can be ascertained or estimated reasonably reliably.³³ This would roughly correspond with situations where Level 1 or Level 2 fair value measurements can be made.

It is possible that there are situations where a firm purports to hold assets purely for resale, but they fall into the Level 3 category. In that case, the alternative-bases approach suggests that it would provide more useful information if these items were measured on a historical cost basis, as finding a buyer and agreeing a price will in these cases be an important part of the

³³We discuss what we mean by 'reliable' estimates of market value in Appendix 2.

business model. This would be a significant change from current practice, in that many financial instruments are currently measured at fair value on the basis of Level 3 inputs. We give some data in Appendix 2 on the extent of Level 2 and Level 3 measurements of financial instruments. The question is: is this information more useful than historical cost measurements for the Level 3 items? The rationale underlying the alternative-bases approach would suggest that the answer is: No.

There may none the less be good reasons for preferring a consistent 'market-price' valuation approach for all assets that are held in the expectation of favourable movements in market prices, even if active markets do not exist for all of them. But in that case, the users of the information, and indeed firms themselves, may wish to treat the information with due caution or may require that special safeguards are put in place. Penman gives examples of market behaviour in this respect:

'Hedge funds (largely unregulated) apply fair value accounting and estimate fair value for illiquid assets. They do so under the rigour of formal valuation committees with oversight of their boards and auditors. But there is a danger in shareholders trading in and out of the fund at values based on estimates. So funds typically limit the percentage of illiquid assets held or require lock-ups or transfers to side pockets until realisation. Private equity funds typically require realisation before distribution. In short, the tolerance for estimated fair value (by shareholders) is limited.'

Other types of firms' business models also require the use of market values: 'The business model of investment funds and investment banks is based on market values and hence fair-value accounting is not an option, it is a necessity.'³⁴ It would be useful to know how far such firms also have special safeguards in place in terms of:

- the estimation of market values; and
- the determination of distributions and performance-related pay where these are affected by unrealised gains.

3.6.4 The one-to-one condition and the theory of the firm

The existence of firms that do nothing other than hold assets that change in market value may seem to be an anomaly if one takes a Coasian view of the nature of the firm. It sounds like a firm that has no 'insides'. This is because our explanation of how it works has been simplified.

The business model of most firms of this type is to provide services. These services are typically investment selection, purchase, holding, and sale. For investment selection, the firm – to be successful – must show greater skill than its competitors. For buying, holding and selling investments – to be successful – it must primarily offer lower transaction costs than its competitors. No doubt other factors are also relevant to the success of the business model – such as securing the investors' money against fraud.

In the case of a mutual fund, for example, while it is correct to see the shareholders' wealth as dependent on changes in the market value of the investments (and the one-to-one condition therefore applies), to understand the firm's business model we need to look at it from the fund manager's point of view. Once we do this, the firm makes sense on a Coasian analysis: from this angle, it is a service provider. It is an interesting variety of business model as the customer is also the shareholder and the entrepreneur is, in effect, the fund manager rather than the shareholder.

3.6.5 A reliability-based approach

The alternative-bases approach is attractive because, among other things, it seems to provide a good explanation of why different bases of measurement provide useful information for different types of business. In doing so, it also provides a match with what the theory of the firm would lead us to expect. Market prices exist where economic activity takes place between firms; they do not exist where economic activity takes place within firms.

It may also, therefore, be seen as a reliability-based approach. Very broadly, where market prices exist – and therefore provide reliable information – the alternative-bases approach would suggest that they should be used. Where they do not exist, and attempts to estimate them therefore result in more or less unreliable information, the alternative-bases approach would suggest that historical cost should be used.³⁵

³⁴Christian Laux and Christian Leuz, 'Did fair-value accounting contribute to the financial crisis?'

³⁵There are difficulties where the disappearance of active and liquid markets means that previously reliable measurements become unreliable. See Appendix 5 below, Section A5.10.

3.6.6 A portfolio approach to asset valuation

The alternative-bases approach also explains why the use of market prices is appropriate where a firm is essentially a portfolio of assets that generate value independently of one another. It is perhaps not fanciful to suggest that such a view of firms comes most naturally to those who themselves think about firms primarily as investments within a portfolio. This might explain why the CFA Institute has been one of the most prominent advocates of full fair value accounting for all types of business,³⁶ as if all firms were simply portfolios of assets, whose value is independent of one another. However, it could also be argued that this approach merely takes to its logical conclusion the current tendency to look at measurement issues as questions about the best way of valuing assets and liabilities – as though synergies through the operation of the firm's business model were irrelevant, and as though income were merely a residual.

3.7 Firms' choice

3.7.1 Contracting and accounting

We saw earlier (Section 2.3.5) that Jensen and Meckling's work explicitly addresses the role of accounting in reducing agency costs and, therefore, firms' contracting costs. This is a line of thought that could lead to more than one approach to financial reporting issues, and there is a large literature on the contracting role of accounting.³⁷ Ray Ball's 1989 paper³⁸, *The Firm as a Specialist Contracting Intermediary: Application to Accounting and Auditing*, belongs to this literature, and is probably the most important explicit application of the Coasian theory of the firm to accounting issues.

Ball notes that 'the firm's economic function is to minimize contracting costs'. There are scale economies in repetitive contracting and firms learn from experience how to contract most effectively. They are intermediaries between their suppliers and their customers, and in a competitive market firms that specialise are most likely to succeed – by economising on contracting costs through scale and the development of relevant contracting skills. Firms are therefore 'specialist contracting intermediaries'.

In various aspects of its decision-making the firm uses what Ball terms 'quasi-prices'. These are relevant both to its internal contracting (as in transfer pricing) and to its contracting with outsiders – eg, in deciding what prices to charge. The basis on which a firm determines its quasi-prices is therefore integral to its success as a specialist contracting intermediary. Using quasi-prices that lead to poor decisions will reduce its effectiveness both in its internal contracting and in its contracting with outsiders (eg, by leading it to mistaken decisions about what prices it should charge to customers or what external contracts it can afford to take on).

There is no one way of determining quasi-prices that will be appropriate for all firms. Different firms occupy different specialist positions in the market and different contracting techniques will be appropriate for them. Also, competition and changing circumstances mean that there will be constant experiment and evolution in contracting techniques. What works for a firm now may not work for it next year.

An important point in Ball's argument is that quasi-prices are unlikely to be market prices. As we have already seen, where contracting within firms is cheaper than contracting in markets, market prices are unlikely to exist. Ball does not specify on what basis firms will determine quasi-prices – indeed, on his argument this is not something that can be specified in advance or in general terms. It is something that firms must determine from their own and others' experience. Market prices may well be 'informative' for this purpose, but they are likely to be less informative the more specific an asset is to a firm's internal processes.

Ball points out that – as noted in Chapter 2 – there is likely to be a correlation between the availability of market prices and firms' decisions to use/not use markets. Where firms do not use markets, it will be because the market does not provide the best contracting solution. And where this is the case, a genuine market price for the specific asset in question is unlikely to be available: 'Provided the firm's strategy is viable ..., there simply do not exist market-prices for the numbers in firms' income statements and balance sheets.'

³⁶CFA Institute, *A Comprehensive Business Reporting Model: Financial Reporting for Investors*.

³⁷Discussed in Ross L. Watts and Jerold L. Zimmerman, *Positive Accounting Theory*, Chapter 8. They point out that, as far as the relationship between owners and managers is concerned, the contracting role of accounting has been long recognised in the 'stewardship' concept.

³⁸Unpublished but available on his website. Martin Walker, 'Accounting for varieties of capitalism: the case against a single set of global accounting standards', draws attention to the paper's importance.

Ball goes on to discuss how a demand arises for accounting information from firms based on allocations of costs, eg, through standard costing, overhead cost allocation, accruals, and depreciation. In this process, reliability plays an important role, as it is helpful for outsiders – such as shareholders and creditors – to know that the information managers provide them can be checked, usually by independent auditors who can confirm that the accounts comply with accepted conventions of measurement (GAAP). This ‘does not mean that the reported numbers correspond to some external reality, such as “economic income” or other transformations of non-existent market prices.’ Truth in this context needs to be seen as closer to verifiability.³⁹

Ball does not in this paper advocate in a normative way any specific approach to financial reporting. But it would be possible to draw some plausible conclusions from his paper and other literature on the contracting role of accounting as to what kind of measurements are most likely to be useful for contracting purposes. Very broadly, such measurements would probably be:

- objective;
- verifiable; and
- conservative (or prudent).

This might lead to a purely historical cost approach or – more specifically, recognising the need for conservatism – to recoverable historical cost. Or it might lead to the use of market prices at least where they are objective and verifiable. This would correspond pretty well with the alternative-bases approach.

However, the contracting role of accounting could also support a more radical approach, which we consider next.

3.7.2 Application to financial reporting

Contracting theory provides some support for allowing each firm to account externally in the way that best suits its particular situation in the market. Arguably, this would give more complete recognition to firms’ business models than would the other approaches that we have described. It recognises that a firm’s accounting is also a significant part of its business model. And as firms’ accounting forms part of their contracting technique, it can be expected that different firms will adopt different techniques.

It would not be a free for all. External parties contracting with firms (including investors) are likely to want accounting information that follows generally accepted conventions and both the firm and relevant external parties are likely to want this information to be independently verified (audited). Efficiency in contracting with external parties is one of the determinants of the firm’s success, and providing outsiders with information that meets – and can be verified as meeting – generally accepted norms may be one source of efficiency.

So how would this differ from what firms do now? The key difference is that firms’ external reporting is currently heavily regulated. This is a matter of compulsion, not of agreement among contracting parties. It is impossible to identify in advance what specific differences would arise in financial reporting if firms ceased to be heavily regulated in this respect. There is plenty of historical evidence on how firms accounted before financial reporting became heavily regulated.⁴⁰ And we may note that this did allow for the use of market prices in some sectors, for some items, or in some circumstances.⁴¹ But we can only speculate as to how financial reporting would have evolved in the absence of regulation.

As nowadays debate on financial reporting issues usually means debate about what firms should be compelled to do, an approach that would essentially allow firms to decide for themselves how they account externally may seem remote from any possibility of implementation. But this approach certainly seems to be among those that can reasonably claim to draw support from the economic theory of the firm. And, as explained above, firms would be pushed by market forces into meeting users’ demands to abide by agreed conventions.

³⁹The economist Kenneth Boulding perhaps makes a similar point when he says that ‘accounting may be untrue but it is not lies; it does not deceive because we know that it does not tell the truth...’: ‘Economics and accounting: the uncongenial twins’.

⁴⁰See, for example, Stephen Zeff (ed.), *Principles Before Standards*, on accounting recommendations in the UK between the 1940s and the 1960s.

⁴¹Though B. S. Yamey notes that in England upward valuations of assets generally tended to disappear from the middle of the nineteenth century as ‘conservatism’ in accounting came to predominate: ‘Some topics in the history of financial accounting in England, 1500-1900’.

3.8 Balance sheet vs income statement

There is an argument that a business-model approach to financial reporting should focus on the income statement rather than the balance sheet.⁴² This is because business models typically focus on how the firm will generate profits, not on the balance sheet. The assets in the balance sheet are means by which profits will be generated, and the liabilities show how profit-orientated activities are financed. But as objectives both assets and liabilities are subordinate to profit. Arguably, therefore, the determination of income should have priority over the measurement of assets and liabilities. Where necessary, measurements of balance sheet items should be residuals of the measurement of profit, rather than vice versa.

This seems to be a valid argument for most business models, though it does not fit those cases where the business generates value simply by holding assets. For these firms, it seems sensible to give priority to the measurement of the assets and to treat income as a residual.

Some would go further and say that the priority of the income statement means that standard-setters' approach of giving priority in their conceptual frameworks – and to some extent in their standards – to the measurement of assets and liabilities is fundamentally misconceived. We do not enter into this question here, but the business-model approach does, for most types of firm, seem to support income-based measurements rather than balance-sheet-based measurements. These issues are discussed further in Appendix 6.

⁴²Eg, Iliia D. Dichev, 'On the balance-sheet based model of financial reporting'. Sudipta Basu and Gregory B. Waymire draw a parallel with Adam Smith's analysis of the wealth of nations. 'Smith', they say, 'argued for an income-statement approach whose focus was on wealth-creation in place of a balance-sheet approach focused on wealth storage... Smith's purpose in writing *The Wealth of Nations* was to discredit the contemporary economic orthodoxy of mercantilism... [which] can be viewed as a distant precursor of the balance-sheet approach': 'Sprouse's what-you-may-call-its: fundamental insight or monumental mistake?'



4. CONCLUSIONS

There are no ideal solutions to accounting problems. Every possible solution has its drawbacks. Business-model approaches to accounting are no exception to this rule.

But can we at least suggest the elements of an approach that would help to decide when to use fair value and when to use historical cost?

4.1 Summary

Significant practical difficulties that flow from business-model approaches reflect their reliance on management intentions and the diversity and changeability of business models. None of these difficulties provides a decisive argument against a business-model approach. It would be theoretically possible to avoid them, though, by comprehensive use of market price measurements (as in 'full fair value accounting'). This seems to be the one conceivable approach to accounting that would pay no attention to business models. However, its disadvantages include problems that the theory of the firm would lead us to expect regarding its relevance and reliability for many items in accounts. Indeed, it would only be feasible in a world of perfect markets, in which there would be no firms as we know them and no need for financial reporting in the first place.

Each of the various measurement approaches that reflect firms' business models has something to be said for it. However, to advance the debate, we put forward for consideration three elements of a business-model approach to financial reporting intended to reflect some of the key points in the theory of the firm:

1. Financial reporting should provide a reality check on a firm's business model and its execution.
2. Where the firm's business model is to transform inputs so as to create new assets or services as outputs, we would expect that historical cost would generally be the most useful basis of measurement.
3. Where the firm's business model is not to transform inputs, but to buy and sell assets in the same market with the intention of profiting from changes in market prices, we would expect that fair value would generally be the most useful basis of measurement.

Whichever measurement basis is used in the accounts, disclosures on an alternative measurement basis may be relevant to users, and consideration should be given to whether the benefits of providing this additional information would exceed the costs. Also, where more than one basis of measurement is used in the accounts, performance statements should be structured so as to make clear the recognised gains and losses that arise from each basis.

4.2 Management intentions and model diversity and changeability

In Appendix 5, we consider a number of practical difficulties that arise from business-model approaches to financial reporting. Some of these are simply matters of interpretation, particularly as to how the alternative-bases approach should be applied.

A key issue is that of management intentions. Business models are determined by management intentions, so a business-model approach to accounting will reflect these intentions. But intentions are changeable and, in some cases, it may be difficult to establish exactly what they are. We do not see these as major problems, and many people would regard it as a virtue of a business-model approach that it recognises managers' intentions rather than ignores them. But some will see it as a disadvantage, and it does raise practical problems.

There are of course many difficult practical issues in financial reporting in any case – otherwise existing accounting standards and guidance would hardly fill the thousands of pages that they do now. We see no purpose in going into these in this report, but it is worth registering the point that they are overwhelmingly problems of historical cost accounting, which is a business-model approach. So it should not be imagined that a business-model approach would avoid existing problems. Indeed, many practical difficulties in financial reporting arise from trying to reflect the diversity of business models.

4.3 The challenge of fair value

None of these practical difficulties (management intentions and the diversity and changeability of business models) provides a decisive argument against a business-model approach. It would be theoretically possible to avoid them, though, by replacing historical cost accounting by market price measurements. This seems to be the one conceivable approach to accounting that would pay no attention to business models.

This approach – full fair value accounting at market prices – is theoretically attractive. All of a business's assets and liabilities would be recognised in the balance sheet and all of them would be shown at current market values. As the figures in the accounts would be straightforward readings of market prices, there would be no need to think about a firm's business model in preparing its accounts or in using them. Considered in isolation, this is an ideal form of accounting.

It is clearly more useful in principle to know what assets are worth now than what they cost some time ago. And a balance sheet prepared on such a basis would show the value of the business. Stock market capitalisations and balance sheets would simply mirror one another. No additional information would be required.

Such an approach assumes that market prices are available for all assets and liabilities, including currently unrecognised ones. As, in recent decades, markets have spread around the world and new markets have arisen even in developed economies (eg, using the internet), it has perhaps become imaginable to at least some people that at a point in the not-too-distant future there would indeed be markets, and market prices, for everything. Full fair value at market prices may therefore be seen by some not merely as an ideal, but as an increasingly realistic prospect, and so it is important to understand why it is an ideal that can never be realised. The theory of the firm helps to explain why this is the case and why there are not, and never will be, market prices for everything.

In practice, as we saw in Chapter 3, the unavailability of market prices for all items in accounts means that even fair value accounting has to turn into a business-model approach to be workable. However, the limited availability of market prices and the unreliability of many market price estimates also pose practical problems for replacement cost accounting, for the standard-setters' version of fair value, and even for the alternative-bases approach.

4.4 Inevitable imperfections

It seems to be a reasonable conclusion that it is impossible to devise a sensible approach to financial reporting measurement that does not reflect firms' business models. This is probably what we should expect in the light of what the economic theory of the firm tells us. The demand for accounting information arises because we live in the real world, not in the ideal world of perfect competition. Accounting itself will always be imperfect. Practical problems in:

- cost allocation;
- revenue recognition; and
- asset and liability measurement

seem to be unavoidable. The only realistic approach to all these issues will be one that reflects the diversity of business models, but there is no one way of doing this that is obviously superior to the rest.

This report has not set out to provide a comprehensive discussion of the pros and cons of the various approaches to financial reporting that in one way or another reflect firms' business models. Our intention has simply been to show that different approaches are available, that each of them has something to be said for it, and that each approach can plausibly claim a degree of support from the theory of the firm – if only in the sense that it reflects firms' business models.

Although in the next section we suggest three elements for a business-model approach to financial reporting, the ultimate test must be which basis of measurement provides the most useful information. This can be settled only by experience, not by theoretical arguments. It is worth bearing in mind, though, that – subject to constraints of cost and reliability – the provision of information on more than one basis⁴³ may be useful.

- Historical cost measurements may be usefully supplemented by information on market values.
- Market values may be usefully supplemented by information on historical costs.
- Replacement cost information can be useful.
- Where a firm believes that its own particular approach to accounting is preferable, it would be useful to have information on that basis.

There is also a tension between which basis of measurement provides the most useful balance sheet and which provides the most useful income statement (see Appendix 6). So there is scope for forms of presentation, or supplementary disclosures, that seek to reconcile conflicting objectives. We do not address here how best to present a firm's balance sheet and income statement.

⁴³Eg, where the accounts use fair value measurements, historical cost amounts could be given in the notes, and vice versa.

4.5 Elements of a business-model approach

To help move the debate forward, we put forward for consideration three elements of a business-model approach to measurement in financial reporting. The approach adopted here is essentially the alternative-bases one discussed earlier, in Chapter 3. Other approaches based on the theory of the firm may also be valid. As we have emphasised, what matters is what works. However, the alternative-bases approach seems to provide a promising first approximation of how accounting choices might be made between fair value and historical cost in a way that reflects firms' business models and is grounded in the theory of the firm. No doubt it needs to be refined and developed to cope with the numerous practical difficulties that any broadly-stated approach to measurement encounters once it is implemented. And many of these difficulties are likely to arise from features of firms' business models.

The three elements are:

1. Financial reporting should provide a reality check on a firm's business model and its execution. The firm's expectations of the value that it can achieve from the inputs that it combines (factors of production) exceed those of the markets for these inputs (factor markets). This difference is a reflection of uncertainty. Because of uncertainty the firm's performance needs to be measured to see how far its expectations have been realised. This task is performed by financial reporting.
2. Where the firm's business model is to transform inputs so as to create new assets or services as outputs, we would expect that historical cost would generally be the most useful basis of measurement.
3. Where the firm's business model is not to transform its inputs, but to buy and sell assets in the same market with the intention of profiting from changes in market prices, we would expect that fair value would generally be the most useful basis of measurement.

The next chapter suggests some questions that need to be investigated in order to assess how well such an approach works in practice and how it might be refined and improved.



5. NEXT STEPS

In judging different approaches to measurement in financial reporting, we have to find out what people find useful in practice and to assess the costs and benefits of different approaches.

What sort of questions would help us in thinking about business-model approaches to financial reporting measurement?

5.1 Summary

It would be useful to look at the evidence on the different ways that financial reporting measurements can reflect firms' business models, to help establish:

- how far one approach is more useful than another; and
- whether this can be explained in terms of how well the basis of measurement reflects the firm's business model.

We also suggest further work to explore possible implications of the theory of the firm for questions other than financial reporting measurement, specifically:

- the objectives of financial reporting; and
- the corporate governance role of financial reporting.

Accounting is a means of addressing the imperfections of markets. It does this by reducing the transaction costs involved in obtaining information and in constraining and motivating behaviour. As such, for those economists who are interested in how people and firms cope with imperfect markets, accounting should provide a rich field for investigation. And in understanding the practical implications of the economic theory of the firm, there may be much that can be learnt from accounting.

5.2 Opportunities for further investigation

We have identified a variety of approaches to measurement in financial reporting, each of which – we argue – could be said to reflect firms' business models. But we have also stated that ultimately financial reporting has to be judged on its usefulness. The following proposals for further investigation therefore focus on the usefulness of different approaches to measurement, and on how far this can be explained by their relationship to firms' business models.

5.2.1 Historical cost

We have suggested that historical cost accounting provides one way of reflecting firms' business models in financial reporting, but users seem to prefer other bases of measurement for some activities. We have also suggested that the variety of revenue recognition practices may be a valid reflection of the variety of firms' business models. Two questions for further investigation would therefore be:

1. Where users prefer historical cost information, can this be explained in terms of the firms' business models?
2. How far do differences in revenue recognition practices reflect real differences in firms' business models? It would be useful to explore this question by looking not just at current requirements and guidance, but at practices that existed before mandatory accounting standards.

5.2.2 Replacement cost

We have suggested that replacement cost information might sometimes provide more useful information and information that better reflects firms' business models than historical cost. Questions for further investigation would therefore be:

3. What evidence is there on the usefulness (or lack of it) of replacement cost information, and where replacement cost information is found to be useful, is this what would be expected in the light of the firms' business models?

5.2.3 Fair value and market prices

In some circumstances, users seem to find fair value information more useful than historical cost. It would be useful to investigate this and to see how far the answers can be aligned with a business-model approach. At the same time we have drawn attention to problems with the reliability of fair value measurements – particularly at Level 3 – and it would be useful to have more information on this.

4. Where a firm's business model is trading (ie, buying and selling the same assets in the same or similar markets), do users prefer assets to be measured at fair value and do they find the income statement useful?

5. What is the extent of fair value measurements at Levels 1, 2 and 3, what are the effects on income of changes in fair value at each level, and how useful do accounts users find fair value information at each level?
6. How can the 'reliability' of Level 2 and Level 3 fair value measurements be assessed after the event?
7. Fair value has been criticised because it introduces greater volatility into accounts, and is therefore less useful than alternative measurement bases as a predictor of future results. It has also been criticised as less reliable than alternative measurement bases. How far are these criticisms supported by the evidence?

5.2.4 Alternative bases

The case for the alternative-bases approach is that different bases of measurement are appropriate for different business models. It is also argued that different measurement bases produce accounting statements with different strengths – specifically, the historical cost basis produces a more useful income statement than balance sheet, and vice versa for fair value. It would be helpful to know how far such assertions match users' views. The alternative-bases approach also poses problems for the presentation of accounting information; these would also be worth investigating.

8. For which industries and which items in accounts do users prefer historical cost and for which do they prefer fair value, and how far are users' preferences in this respect reflected in giving priority to the income statement for historical cost information and the balance sheet for fair value information?
9. How can a performance statement that incorporates measurements made on more than one basis be best structured so as to inform users of the effects of different bases and how should this statement articulate with the balance sheet?

5.2.5 Different purposes of financial reporting for investors

Financial reporting for investors serves both stewardship and valuation purposes. It would be useful to know how far different information serves one of these purposes rather than the other. This may tie in with different priorities given to the income statement or the balance sheet.

10. How far do users view different bases of measurement in financial reporting as serving stewardship rather than valuation purposes or vice versa and how far do users' views in this respect reflect differences in firms' business models?

5.3 Economic theory and accounting

We believe that the economic theory of the firm raises interesting questions for financial reporting, which we hope to pursue further in the future. We identified several issues in Chapter 1, which we have not pursued in this report, but which it may nevertheless be useful to pursue through further work. We noted (Section 2.4.4) that certain aspects of the theory of the firm can be used to question the usefulness of the distinction between the stewardship and investment objectives of financial reporting information. The theory of the firm has also been applied to various aspects of the corporate governance role of accounting.

Relevant questions would therefore be:

11. What support can different views on the objectives of financial reporting draw from the theory of the firm?
12. What light can the theory of the firm cast on the corporate governance role of financial reporting?

Accounting is a way of helping individuals and firms cope with the imperfections of markets. It does this by reducing the transaction costs involved in obtaining information and in constraining and motivating behaviour. Study of accounting and its role in firms may therefore contribute to the theory of the firm itself and to our understanding of its practical implications.⁴⁴ Relevant questions might be:

13. For economists who are interested in how people cope with imperfect markets, what light can accounting shed on these issues?

⁴⁴A perspective adopted in Yuri Biondi, 'Accounting and the economic nature of the firm as an entity', which 'deals with the accounting system as a "clue" for understanding the economic nature of the firm as a whole'.

14. What can be learnt from accounting in understanding the practical implications of the economic theory of the firm?

We would welcome views on the issues raised in this chapter and any suggestions for additional matters that merit investigation. We hope that both practitioners and researchers will find questions and ideas here that they consider worth answering or taking up in their own work.

APPENDIX 1: THE ECONOMIC THEORY OF THE FIRM – A SUMMARY

A1.1 Background

In this appendix, we summarise some of the more important contributions to the economic theory of the firm so far as they appear to be relevant to the subject of this report. For convenience, we start by repeating some of the background to the early writings on this subject, which appears above at Section 2.2.

Ronald Coase's 1937 paper 'The nature of the firm' is often seen as the seminal work for the modern theory of the firm in economics. It appeared at a time when economists who wrote about firms tended to divide into two schools:

- 'an empirical school which had little concern with, or even specifically rejected the use of, general and abstract principles of economic behaviour'; and
- 'a theoretical and deductive school of great elegance and rigour which was little concerned with empirical data and frequently argued that a science should not be tarnished or compromised by the desire to look at purely practical matters'.⁴⁵

Although economists of the latter school had (and still have) a 'theory of the firm', it is, for those who are interested in empirical matters, a somewhat curious one. For it is a theory of the firm in circumstances of perfect competition or perfect markets. Where there are perfect markets:

- There are markets for all items, with an unlimited number of buyers and sellers willing to transact at the market price.
- All transactions are market transactions.
- All products are standardised – ie, all firms selling an item sell identical versions of it.
- There is perfect information – ie, everybody is fully informed on the prices and qualities of available products, and there are no uncertainties as to the future.
- There are no transaction costs.
- There is no fraud or deceit.

Other features of this world follow from these assumptions:

- Its markets are purely notional and do not resemble markets as we know them – ie, they have no physical or even 'virtual' (electronic) existence and there are no market-makers.
- There are no profits other than the market rate of return on capital and no losses.
- There is no need for financial reporting.

And in such a world, because all economic activity takes place through market transactions between firms, firms have no 'insides' – there are no activities that take place within the firm.

Although, against this background, Coase's paper is a seminal work, it can in some ways be seen as a development of and response to ideas in Frank Knight's 1921 book *Risk, Uncertainty, and Profit*.⁴⁶ Knight's work is also relevant to alternative lines of thought that have developed since Coase, and it is a convenient starting-point for our review. And it is no coincidence that it was Knight who first articulated the assumptions that underlie the economics of perfect competition.

⁴⁵Donald A. Hay and Derek J. Morris, *Industrial Economics*, p7.

⁴⁶Though Coase emphasises that 'Knight played no part in the development of my ideas on the firm': 'The nature of the firm: meaning', p49.

A1.2 Frank Knight

Risk, Uncertainty, and Profit is primarily a contribution to the theory of profit. As its title suggests, its distinctive feature is its analysis of the relevance of risk and uncertainty to profit. Knight distinguishes between risk and uncertainty by saying that risk is measurable while uncertainty is unmeasurable. The probability that you will throw a six when you throw dice is measurable and so, therefore, is the risk that you will not throw a six. But the probability that one of the players will stop the game by walking off with the dice is unknowable; it is therefore an uncertainty rather than a risk. In practice, the line between risk and uncertainty is blurred, and it is common to use the terms indiscriminately for many purposes.

Knight does not set out to define or explain the firm as such, but he explains the existence of a certain sort of firm – the entrepreneurial business. The essential elements of the entrepreneurial business are an entrepreneur and employees. The entrepreneur is entitled to the residual income (profit) of the firm and directs the efforts of its employees. The employees act as directed by the entrepreneur and, in return, receive a guaranteed income.

Knight explains this relationship as an outcome of uncertainty. Because businesses operate in an environment of pervasive uncertainty, two sorts of person emerge: those who are willing and able to take risks in the face of uncertainty, and those who are not. Knight explains that willingness and ability in this context coincide in practice; incompetent risk-takers tend to be eliminated. Those who are willing to take risks in the face of uncertainty become entrepreneurs; those who prefer a guaranteed income become employees.

There are two points to note about this.

- Insofar as it is an explanation of the firm, it defines the firm as something that has employees who wish to be employed on a more or less long-term basis.
- Knight states that firms would exist even in the absence of uncertainty, but they would be a different type of firm. He notes that ‘the economy of division of labour ... compels men to work in groups and to delegate the function of control as other functions are specialised’. Even where there is no uncertainty, firms would exist in order to provide control for people working in groups. It could therefore be said that Knight’s fundamental explanation of the firm is the need for coordination where there is a division of labour.

Knight points out that the entrepreneur always believes that he is wiser than the market. This is a situation that can only arise in conditions of uncertainty. Where there is no uncertainty the only profit is the market rate of return on capital. The opportunity for ‘true profit’ – and for losses – arises where there is uncertainty. In these circumstances, the entrepreneur is someone who believes ‘that he can make productive services yield more than the price fixed upon them by what other persons think they can make them yield’ and who puts that belief into action.⁴⁷ If the market shared the entrepreneur’s expectations, factor prices would be bid up to the point at which his prospective profit would fall to the market rate of return on capital. This point is important for financial reporting as it implies that the firm’s perspective on the value that can be derived from its assets is always different from that of factor markets.

A1.3 Ronald Coase

Part of the originality of Ronald Coase’s ‘The nature of the firm’ was that it treated the existence of firms as something that required explanation. However, it could be argued that their existence required explanation because of the way in which he implicitly redefined what constitutes a firm.

According to Coase, a firm ‘consists of the system of relationships which comes into existence when the direction of resources is dependent on an entrepreneur’. This approach is similar to Knight’s. But Coase goes on to explain that:

‘Outside the firm, price movements direct production, which is co-ordinated through a series of exchange transactions on the market. Within a firm, these market transactions are eliminated and in place of the complicated market structure with exchange transactions is substituted the entrepreneur co-ordinator, who directs production.’

So the ‘distinguishing mark of the firm is the supersession of the price mechanism’. But planning within firms takes place in the context of a market economy, and firms can therefore be seen as ‘islands of conscious power in [an] ocean of unconscious co-operation’.⁴⁸

⁴⁷ *Risk, Uncertainty, and Profit*, p281.

⁴⁸ Sir Dennis Robertson’s phrase, quoted by Coase. It is also possible, conversely, for firms to use internal markets as part of their organisation.

This analysis provides something new and distinctive to be explained: the supersession of the price mechanism. However, in adopting this definition of the firm, Coase is in effect explaining the scope rather than the existence of 'firms' (in the sense of any supplier of goods and services). To put it another way, he is explaining the vertical integration of economic activity. A Coasian firm is any supplier of goods and services the scope of whose activities involves the supersession of the price mechanism or any degree, therefore, of vertical integration.

The core of Coase's explanation of why firms choose not to engage in market transactions is that using the price mechanism has costs. Coase refers to these costs as 'marketing costs', as they are a cost of using the market; such costs are nowadays usually referred to as 'transaction costs'.

What are these costs? Coase identifies:

- the costs of 'discovering what the relevant prices are';
- the costs of 'concluding a separate contract for each exchange transaction'; and
- the problems of identifying within a long-term contract – eg, for labour – exactly what will be required.

Firms exist, therefore, because they avoid the costs of transacting on markets. But firms also incur costs in undertaking transactions internally. Coase refers to these as 'the costs of organising'.

Also, the greater the scope of an entrepreneur's activities, the more mistakes he is likely to make.

The scope of a firm's activities therefore tends to be determined by:

- the costs of market transactions on the one hand, and
- the costs of internal transactions and entrepreneurial mistakes on the other, and
- taking the effects of competition into account, rival firms' costs of internal transactions and entrepreneurial mistakes.

The problem of the firm is therefore 'essentially a choice of contractual arrangements'⁴⁹ and the key question is which form of organisation can transact more cheaply. Coase's approach makes transaction cost economics of central importance to the theory of the firm. It is worth emphasising that 'transaction cost' in economics is a broad category that, as noted by Coase, includes the costs of organisation.

In his discussion of organisation within firms, Coase – again resembling Knight – emphasises the entrepreneur's ability to direct labour. This reflects, as noted above, the difficulties of writing into a contract exactly what services will be required – a problem that results in what later writers have termed 'contractual incompleteness'. It is easier to take someone on as an employee and then tell them what they should do as the need arises, than to prepare and agree a contract that completely specifies everything they should do throughout their future period of employment. Indeed, a key practical difference between firms and markets as far as Coase is concerned is that firms have employees, while market transactions are between independent contractors. These are points taken up by subsequent writers.

Coase has also written on accounting questions, but has not explored the implications of his own theory of the firm in this respect. His promisingly entitled 1990 paper 'Accounting and the theory of the firm' is primarily a historical reminiscence.⁵⁰ And his interest in accounting issues has been mainly:

- to encourage economists to use accounting data; and
- to encourage firms to use opportunity costs in their decision making.⁵¹

Coase's analysis – and indeed that of all contributors to the 'theory of the firm' in the sense that we use the term – assumes that markets are not perfect. This assumption, which is necessary for any attempt to describe the real world, is significant in various ways. In a world of perfect markets, although firms – in the sense of entities that undertake transactions – still exist, there are no Coasian firms. Where there are markets for everything and no transaction costs, there is no need for vertical integration. Every stage of the production process takes place through market transactions between independent non-Coasian firms.

In 'The nature of the firm', Coase draws attention to some of the oddities involved in these assumptions. And in a later work he points out that under such assumptions not only are there no transaction costs and no firms (in the Coasian sense), but also no markets as they are

⁴⁹Ronald H. Coase, 'The nature of the firm: meaning', p56.

⁵⁰It also contains the promising statement that 'The theory of the accounting system is part of the theory of the firm', but what Coase has in mind here is management accounting rather than external reporting.

⁵¹See Ronald H. Coase, 'Business organization and the accountant'.

conventionally understood. This is because markets in the real world are institutions devised to reduce transaction costs among market participants who do not have perfect information. He comments that in this rather strange world, 'We have consumers without humanity, firms without organization, and even exchange without markets... It would not seem worthwhile to spend much time investigating the properties of such a world.'⁵²

A1.4 Problems of measurement

Armen Alchian and Harold Demsetz, in 'Production, information costs, and economic organization' (1972), focus on 'the metering problem' as the key to understanding the scope of the firm.

They object to Coase's description of the entrepreneur as 'directing' production. They point out that even employees have to agree to do what they are told. If employees don't want to do what the employer demands, they are free to go and work somewhere else. The relationship between employer and employee is not, therefore, one of direction but of coordination.

For Alchian and Demsetz, the key feature of the firm is team production. But 'with team production it is difficult, solely by observing total output, to either define or determine each individual's contribution to this output of the cooperating inputs.' This is the metering problem. In such a situation, where inputs cannot be metered by measuring outputs, there is an incentive for shirking. As his contribution cannot be measured in terms of output, each team member will try to claim credit for more than he has actually contributed. The remedy for this is to monitor effort rather than output. But this requires physical oversight, eg:

'When lifting cargo into the truck, how rapidly does a man move to the next piece to be loaded, how many cigarette breaks does he take, does the item being lifted tilt downward toward his side?'

In teamwork, there is therefore a role for a monitor who ensures that no one is shirking. 'But who', the authors ask, 'will monitor the monitor?' Monitors also need monitors to ensure that they in turn do not shirk, so there is a possibly infinite regress. Alchian and Demsetz's solution is to give the monitor the right to the team's residual output after all the other team members have been paid. They find that it is also convenient to give the monitor the power to:

- apportion rewards;
- give assignments or instructions on what to do and how to do it;
- terminate or revise contracts; and
- sell his rights to the residual output.

What all this adds up to is a firm, and what Alchian and Demsetz do is explain the firm as a way of overcoming the metering problem, with the entrepreneur as a monitor of inputs with a residual claim on outputs (ie, profits, which are outputs less inputs).

This is to some extent a critique of Coase, and in particular:

- his claim that the firm 'directs' as an alternative to using the market; and
- his argument that the problems of identifying within a long-term contract – eg, for labour – exactly what will be required are important in explaining the scope of the firm.

Alchian and Demsetz argue that firms do not in fact want long-term contracts with labour. But they do not dispute Coase's central point that the scope of the firm depends on the relative costs of using the market and of organising activities within the firm. And like Coase, in explaining the firm, Alchian and Demsetz are implicitly redefining it – as a 'team productive process' with a 'centralized contractual agent'.

Lloyd R. Cohen, in 'The firm: a revised definition' (1979), also focuses on measurement difficulties. Cohen argues that:

"'firm" is a word which we use to distinguish those organizations which sell goods or services in exchange for what we judge to be an accurate approximation of their actual worth to the purchaser... This is in contrast to other exchanges which take place within the firm between the owner(s) and the suppliers of other productive resources, which we judge to involve a payment on the basis of a less accurate measure of the worth of the service being rendered'.

⁵²Ronald H. Coase, *The Firm, the Market, and the Law*, pp3, 15. In 'The nature of the firm', Coase quotes Joan Robinson, who says that 'the two questions to be asked of a set of assumptions in economics are: Are they tractable? and: Do they correspond with the real world?'

In his view, therefore, imperfect measurement of inputs/outputs within the firm is its characteristic feature and one reason why it exists. The other reason is that the providers of these imperfectly measured services prefer to be paid a steady wage, rather than an amount that will vary unpredictably with inaccurate attempts to measure the worth of their inputs (even though this might mean that they receive a lower total remuneration in the long run). The employment relation therefore also seems to be an essential feature of Cohen's idea of the firm. As in Knight's theory of the firm, it involves a transfer of risk from employee to employer.

Yoram Barzel, in 'Measurement cost and the organization of markets' (1982), similarly points out that measurement difficulties potentially arise at each stage of the production process. They are not restricted to labour inputs and the problem is not simply one of shirking; the quality of physical items may also be difficult to assess. If the production process is conducted at each stage by a series of separate firms, costs have to be incurred at each stage to measure outputs. If measurement is difficult, these costs may be significant. Vertical integration is therefore more likely wherever outputs are difficult to measure (or to attribute).

A1.5 Agency and contract

Michael Jensen and William Meckling, in 'Theory of the firm: management behavior, agency costs and ownership structure' (1976), build on Alchian and Demsetz's idea that the firm is a 'team productive process' with a 'centralized contractual agent'. They note that 'agency costs arise in any situation involving cooperative effort' and that, as the firm is essentially 'a nexus for a set of contracting relationships among individuals', agency problems are endemic to it. Their analysis focuses on how agency problems can help to explain such questions as:

- the degree to which a firm is financed by debt or equity;
- why firms in some industries are usually owner-operated; and
- why firms would voluntarily supply shareholders and lenders with accounting reports and have them independently audited.

The last point is of most interest for our purposes. Essentially, firms will voluntarily provide shareholders and lenders with independently audited accounting reports because this reduces the monitoring costs associated with contractual relationships with these parties.⁵³ This is not merely a question of providing reliable information. Accounting measurements may also be used to restrain or trigger specified actions: to limit dividends, for example, or to set in motion debenture holders' rights. In these ways, accounting and auditing are aids to efficient contracting, and efficient contracting reduces transaction costs.

A1.6 Owners and managers

Alchian and Demsetz extend their analysis to the ownership of publicly traded companies and 'the shirking problem that arises with profit sharing among large numbers of corporate shareholders'. A large number of owners cannot monitor managers effectively – partly because if they tried to do so it would be very costly, but also because each owner has an incentive to shirk and leave the monitoring to other owners. In practice, therefore, it is best to leave monitoring to 'a smaller group' (presumably the board of directors):

'The corporate stockholders retain the authority to revise the membership of the management group and over major decisions that affect the structure of the corporation or its dissolution.'

Alchian and Demsetz stress that shareholders' power tends to be exercised by selling their shares to new owners who believe that they can make better use of the company's assets than the existing managers can.⁵⁴ In this way, 'the policing of managerial shirking relies on across-market competition from new groups of would-be managers'. We may note that, in this context, the meaning of 'shirking' has been considerably extended. Owners are not really interested in how many cigarette breaks managers take, but in whether they are doing a good job in running the business.

⁵³On the historical evidence that audits arise as a way of reducing agency costs, rather than as a regulatory imposition, see Ross L. Watts and Jerold L. Zimmerman, 'Agency problems, auditing, and the theory of the firm: some evidence'.

⁵⁴It might be asked why shareholders cannot appoint replacements for the managers without selling the business. They can, of course; but Alchian and Demsetz would presumably argue that, where share ownership is widely spread, the costs of co-ordinating a shareholder decision on the appointment of new managers are prohibitive.

Alchian and Demsetz's basic argument on this point is derived from Henry Manne's 'Mergers and the market for corporate control' (1965). Manne's thesis is that 'the market for corporate control gives to ... shareholders both power and protection commensurate with their interest in corporate affairs', in particular to deal with managerial inefficiency.

Manne also points out that the outsiders who are in the best position to spot managerial inefficiency are managers of similar businesses. This is likely to lead to takeovers that produce horizontal integration. But the groups who are in the next best position to spot management inefficiency are suppliers and customers. This would tend to produce vertical integration. The role of the market for corporate control as a way of dealing with management inefficiency is therefore an explanation for some instances of vertical integration.

Eugene Fama, in 'Agency problems and the theory of the firm' (1980), reinforces such arguments. Viewing the firm as simply 'a set of contracts among factors of production', he proposes that we should 'set aside the ... presumption that a corporation has owners in any meaningful sense'. Providers of capital are just one set of contracting parties with the firm. They own the capital, but they do not own the firm: 'ownership of the firm is an irrelevant concept'.

The owners of the firm's capital should not waste their time looking into its activities in any depth:

'portfolio theory tells us that the optimal portfolio for any investor is likely to be diversified across the securities of many firms. Since he holds the securities of many firms precisely to avoid having his wealth depend too much on any one firm, an individual security holder generally has no special interest in personally overseeing the detailed activities of any firm.'

The individual security holder is therefore 'not ... interested in directly controlling the management of any individual firm'. Instead, his 'strong interest' is 'in the existence of a capital market which efficiently prices the firm's securities'.

This line of thought may help explain why some standard-setters see no distinctive 'stewardship' role for financial reporting – at least for listed companies (see Section 2.4.4 above).

A1.7 Problems of definition

While Jensen and Meckling's paper is clearly an extension of the work of Coase and his successors, in their hands 'the firm' as an entity dissolves into a set of contractual relations. 'Viewed this way,' they comment, 'it makes little or no sense to try to distinguish those things that are "inside" the firm ... from those things that are "outside" of it. There is in a very real sense only a multitude of complex relationships'. Other writers have also focused on the question of what defines a firm – and whether it matters.

Steven Cheung, in 'The contractual nature of the firm' (1983), draws attention to a footnote comment by Coase that, 'Of course, it is not possible to draw a hard and fast line which determines whether there is a firm or not.' George Richardson, in 'The organisation of industry' (1972), also draws attention to the difficulties of saying where one firm ends and another begins. Nominally separate firms enter into relationships with one another that mean they are to some degree, perhaps very heavily, mutually dependent. For example, a supplier may depend heavily on a particular customer and/or vice versa. The supplier may have the same sort of long-term expectations of the relationship and the same willingness to respond to the customer's demands as an employee has in his relationship with the employer.

Cheung extends this line of thought to argue that 'it is futile to press the issue of what is or is not a firm'. He illustrates the difficulty of knowing whether or not a firm exists by looking at various types of contractual arrangement that might be interpreted in different ways as either constituting or not constituting a firm. For example, if an employer contracts to buy a worker's output on a piece-rate basis, but that worker is not in law an employee, are there two firms or one? Cheung's answer is: it doesn't matter. Our understanding of the relationship will not be enhanced by determining whether there is one firm or two. The tax authorities may need to know the answer, but what is of interest to the economist, Cheung argues, is understanding the nature of the different types of contractual relationship and why they are adopted. This point echoes the conclusion of an earlier paper by Benjamin Klein, Robert Crawford and Armen Alchian, 'Vertical integration, appropriable rents, and the competitive contracting process' (1978). This states that: 'the conventional sharp distinction between markets and firms may have little general analytical importance. The pertinent economic question we are faced with is, "what kinds of contracts are used for what kinds of activities, and why?"'

Cheung also stresses the limitations of Coase's distinction between the firm and the market. He points out that when an activity is brought inside a firm, and the market is to that extent 'superseded', in an important sense the market is not really superseded at all. What is happening is that one set of market transactions is being replaced by another. For example, if a manufacturer decides to bring manufacture of a component in-house, although it is 'superseding' the market for that component, it will have to enter into transactions in a range of other markets instead – ie, the markets for the inputs needed to manufacture the component, including the labour market (the market for employees). On Cheung's analysis, therefore, the choice between the firm and the market is really a choice of contracts between the firm and alternative sets of markets.

A1.8 Oliver Williamson

Several of the writers that we have mentioned so far start from what could be seen as a rather odd notion of the firm – they focus on employees as a distinguishing characteristic.⁵⁵ Many people might start from a different point: the possession of assets. Indeed, vertical integration is in practice achieved through the acquisition of assets at higher or lower stages of the production process as much as through the addition of employees.

Oliver Williamson has written a substantial number of works on the theory of the firm over a period of more than 40 years. Perhaps the most important are *Markets and Hierarchies: Analysis and Antitrust Implications* (1975) and *The Economic Institutions of Capitalism: Firms, Markets, Relational Contracting* (1985). He has developed a theory of the firm that is as much asset-based as employee-based. He describes the firm as a form of 'hierarchy' and his basic contrast is between hierarchies and markets, rather than between firms and markets. However, it will be convenient for our purposes to continue to refer to firms.

Williamson locates his analysis firmly within transaction cost economics. He identifies three characteristics of transactions that determine their form of 'governance':

- the degree to which investments (assets) are transaction-specific;⁵⁶
- frequency of exchange; and
- uncertainty.

The value of specialised assets is often dependent on other complementary assets. For example, the value of a coal mine's output may depend heavily on the ability to transport the coal by train to the nearest dock. If there is only one feasible train line to the dock, the mine-owner risks being at the mercy of the railway-owner, who in price-bargaining will try to appropriate the profits that the mine-owner might otherwise expect. The railway-owner faces precisely the same problem, but the other way round. It faces the risk that its line will be worthless unless the mine-owner continues to use it to transport coal. The problem for both investors is that their investment is transaction-specific. The mine-owner cannot move the mine somewhere else. The railway-owner may be able to rip up the tracks and take them somewhere else, but in doing so it will almost certainly lose most of its investment (eg, the cost of levelling the ground, making embankments, building bridges, etc). One solution is vertical integration: common ownership of the mine and the railway line. In this way, the 'price' charged for transporting the coal by train is relatively unimportant as it becomes a purely internal charge. What matters is the joint operation of the two assets.

Frequency of exchange is also relevant. Non-market solutions – 'specialised governance structures' as Williamson calls them – are inherently expensive, but their costs are more likely to be justifiable if they can be spread over a large number of transactions.⁵⁷ So, in our example, we may imagine that it would be expensive for:

- the mine-owner to acquire railway-building skills and equipment; or
- the railway-owner to acquire mining skills and equipment; or
- either enterprise to acquire the other.

But the relevant costs would become more affordable if frequent exchanges are envisaged.

⁵⁵Half a century later, in 'The nature of the firm: influence', Coase described this as 'one of the main weaknesses' of his 1937 paper.

⁵⁶This issue is also discussed in Klein, Crawford and Alchian, 'Vertical integration, appropriable rents, and the competitive contracting process'.

⁵⁷Though in some circumstances frequency of exchange may encourage a market solution, as market solutions are easier where there is standardisation of products, and standardisation is unlikely where exchange is infrequent.

Uncertainty is also relevant. If the mine-owner knew exactly how much coal it would need transported and when, it would be less problematic to deal with the matter by a contract between the two parties. But in practice there are too many uncertainties over the life of a mine (or a railway line) to be able to do this with any precision.

The problem of uncertainty was raised by Knight and Coase, but Williamson develops a more extensive analysis of how vertical integration and employment contracts help to address it. He also argues that uncertainty is pervasive in contracting. It is impossible to lay down in a contract exactly what is required (and even if it were possible, the cost of preparing an exhaustive contract would be prohibitive). The distinction between firms and markets in dealing with this uncertainty is one of 'governance'. Where there are doubts as to whether a contract has been fulfilled, the market form of governance relies on external courts and arbitrators to settle disputes. The firm as a form of governance relies on internal procedures.

As noted earlier, Williamson's analysis is applicable to both assets and employees. In the case of employees, this is because there are transaction-specific investments by both employers and workers in individual workers' human capital. For example, an employee may be trained to operate a particular process in a firm's plant. This is a transaction-specific investment. Where such an investment exists, the employer risks losing its investment in the worker's human capital if the worker leaves; and the worker risks losing his investment in his own human capital if he is not kept on by the employer. Each party is in a position to hold the other party to ransom in price-bargaining. In such a situation, there are advantages to both parties in agreeing to an employment contract. The alternative would be: the worker finding out each day whether there is any work for him and the employer finding out each day whether there is anyone available who knows how to operate its equipment.⁵⁸

As with physical assets, the frequency of transactions and uncertainty are also relevant to whether an employment relationship is worthwhile. Where:

- the employer only needs the worker's services for a single transaction; or
- the employer can draw up a contract that specifies what services are required, when and at what price

an employment relationship (as opposed to a contract for services) is likely to be less advantageous.⁵⁹

Williamson's analysis recognises that the distinction between firms and markets is not always a clear one. Indeed, he devotes a good deal of attention to the numerous intermediate forms of relationship where the 'governance' is neither that of a single firm nor a straightforward contractual arm's length relationship on standard terms. 'Firms' and 'markets' are ends of a spectrum of possibilities rather than always clearly distinct, mutually exclusive options.

Williamson also explains why vertical integration is not always the best solution. Where firms supply goods or services internally rather than relying on the market:

- Managers tend to overestimate their ability to deal with complexity.
- Firms tend to be more forgiving of (internal) failures than markets are and to reward (internal) successes less than markets do.
- Internal decisions tend to be politicised.

For all these reasons, where markets can be made to work, they are usually preferable to vertical integration within firms: 'When ... competitive supply becomes feasible, internal supply ... is not apt to be the least cost mode.'⁶⁰ The firm is a superior form of governance only for those situations where there is a problem with the standard forms of market exchange, but such situations are pervasive.

The primary focus of this report – and of the theory of the firm – is vertical integration rather than horizontal integration or diversification. Horizontal integration is usually easily explained. Economies of scale are typically the reason why it may make sense for one firm to take over another in the same industry. But diversification is more difficult to explain as it involves a firm that engages in one business activity branching out into another one.

⁵⁸The fact that employees have made transaction-specific investments also helps to explain why they are more likely to obey their employer's instructions. Disobeying puts their employment at risk and therefore their investment at risk because being fired denies them access to the firm's other assets, which give value to their own investment. See Oliver Hart, 'An economist's perspective on the theory of the firm' (1989) and Oliver Hart and John Moore, 'Property rights and the nature of the firm' (1990).

⁵⁹Sanford J. Grossman and Oliver D. Hart, in 'The costs and benefits of ownership: a theory of vertical and lateral integration' (1986), draw attention to the importance for vertical integration of the owner's residual rights over assets, but also suggest that a residual right to control the actions of employees may be important.

⁶⁰*Markets and Hierarchies*, p259.

Williamson observes that the central managements of some firms acquire skills in the internal allocation of resources and in monitoring the effectiveness of multiple operations. This can occur either through geographical expansion that requires operations in different locations and/or through expansion up or down the supply chain that results in diverse operations falling under the same management. A central management that has these skills may also be able to apply them to additional activities that do not form part of the supply chain for the firm's primary or initial business.

Some investors are suspicious of firms that diversify into other businesses. The investor may view the diversification as an attempt to reduce risk, which – as modern portfolio theory explains – he can do perfectly well on his own. Where this is indeed the motive for the firm's diversification, the criticism is a valid one. But Williamson shows that diversification may also be motivated by management synergies. This does not mean that conglomerates always make sense. But it explains why they may do. Which conglomerates in fact make sense is something that competition in the marketplace is constantly probing – just as which forms of vertical integration make sense is subject to constant reassessment.

A1.9 Recent work on the theory of the firm

The theory of the firm has attracted a large volume of work since the publications cited above, including by Williamson, who has continued to work in this area. The more recent literature does not seem to undermine the key insights of the earlier contributions, but we draw attention here to some points of interest.

The presence of the three factors that Williamson identifies as conducive to organising economic activity within firms – asset-specificity, frequency of exchange, and uncertainty – do not in themselves determine that an activity will in fact be conducted within a firm. This opens up opportunities for researchers to find instances in which these factors are present, but economic activity is not organised within firms, and to declare that, eg, their discovery 'is directly at odds with transaction cost theory'. What these studies usually show is, not a flaw in transaction cost theory or the theory of the firm, but that there is a wide range of solutions available to firms as to how they organise their relationships – a point that earlier writers on the subject had already noted (see A1.7 and A1.8 above).

These studies sometimes highlight interesting differences between countries in how economic activity tends to be organised. For example, Bengt Holmström and John Roberts, in 'The boundaries of the firm revisited' (1998), analyse differences in business practices between Japan and the US. These appear to reflect cultural and institutional differences. Transaction costs therefore vary from one place to another and lead to different answers to how particular economic activities are organised.

Attention has also been focused on the ways in which firms organise market transactions among themselves through more or less enduring relationships that involve expectations of reciprocity.⁶¹ Sometimes these relationships amount to alliances. Sometimes they involve a number of firms in a network. This literature⁶² helps us to understand the richness and variety of market transactions, many of which bear little resemblance to the transactions that occur in liquid, active markets. Again, this work emphasises the importance of local cultural and institutional factors in determining how economic activity is organised.⁶³

A key issue in this respect is trust, which is both more necessary and more likely where there are long-term relationships between market participants.⁶⁴ Where two parties trust one another:

- the problem of transaction-specific investment is more likely to be solved satisfactorily by an arrangement between firms. Each side will trust the other not to take advantage of the weakness in its negotiating position created by the specificity of its investment; and
- the problem of uncertainty is also more likely to be solved satisfactorily by an arrangement between firms. Each side will trust the other to respond flexibly to unpredictable changes in circumstances and each will expect to be appropriately rewarded/not exploited for doing so.

⁶¹ See, eg, Walter W. Powell, 'Neither market nor hierarchy: network forms of organization' (1990).

⁶² There is a useful summary in Peter Miller, Liisa Kurunmäki and Ted O'Leary, 'Accounting, hybrids and the management of risk' (2008).

⁶³ If differences in culture and institutional structure lead to different forms of business organisation, arguably they should also lead to different forms of accounting. See Martin Walker, 'Accounting for varieties of capitalism: the case against a single set of global accounting standards' (2010).

⁶⁴ See, eg, Mark Granovetter, 'Economic action and social structure: the problem of embeddedness' (1985).

Some recent work crosses the boundaries between economic theory and management writing. The publishers of John Roberts' *The Modern Firm* (2004), for example, quote on the front cover a book review stating that 'Nobody ... is fully fit to run a modern firm until they have read *The Modern Firm*' – not a claim made by the publishers of Williamson's works. Roberts argues that, in the modern manufacturing firm, vertical integration is less attractive than formerly, because (among other things):

- manufacturing equipment has become more flexible, so investment in it has become less transaction-specific;
- firms are forming long-term, trust-based relationships with each other;
- falling communication costs make it easier to communicate with external customers and suppliers;
- greater variety and changeability in consumer tastes put a premium on flexibility, which is best achieved without vertical integration.

So changing circumstances lead to changing solutions to the problems of business organisation and, in this sense, the practical application of the theory of the firm needs to be constantly updated.

The shift towards management writing in work on the theory of the firm is understandable. In explaining why firms exist, writers such as Coase and Williamson also explain why one firm is more successful than another – eg, by reducing transaction costs or organisation costs. This implies that any work that helps to explain why one firm is more successful than another can be seen as a contribution to the theory of the firm. One school of thought, which derives from Edith Penrose's *The Theory of the Growth of the Firm* (1959), emphasises the revenue-enhancing, as opposed to cost-reducing, abilities of firms. The resource-based theory of the firm may be seen as an example of this approach.⁶⁵ This theory attributes the existence and, where applicable, the success of firms to their ability to hold, manage, develop and exploit various forms of knowledge (though in principle other resources may also be relevant). We have not attempted to explore this literature, which may well make an important contribution to understanding why one firm succeeds and another fails.

⁶⁵ See, eg, Kathleen Conner and C. K. Prahalad, 'A resource-based theory of the firm: knowledge versus opportunism' (1996) and, emphasising firms' role in creating markets and making them work, Christos N. Pitelis and David J. Teece, 'The (new) nature and essence of the firm' (2009).

APPENDIX 2: WHAT ARE MARKET PRICES?

A2.1 Finding a market price

The argument about whether to use market prices in financial reporting sometimes glosses over the problem that 'market price' is in important respects a vague concept, capable of being interpreted in different ways.

For economists, market prices are – in general – any price of an actual market transaction. In financial reporting, this meaning is often turned upside down. In a set of accounts, if an item appears at what purports to be its market price, it may be at a price at which no transaction has taken place or ever will take place. On the other hand, historical cost amounts in accounts – which accountants tend not to think of as being at market value – are usually based on market prices at the time of the transaction. The explanation for this inversion is that accountants usually think about market prices only in the context of balance sheet measurements. They think of 'market value' as a way of measuring an item at its current value. And they think of historical cost as representing a past price – the opposite of current value.

For the sake of simplicity, we will restrict the discussion in this appendix to market value as a current value – ie, as an actual or potential balance sheet measurement.

A basic question is whether the relevant market price is an entry price (ie, a buying price) or an exit price (ie, a selling price) or neither (what is sometimes referred to as an 'exchange' price). We do not enter into the merits of these different options here, but merely note that there are in principle three different market prices for any given item in any given market.

Another key question is: which market? One answer in accounting standards is that prices should be taken from 'the principal market for the asset ... or, in the absence of a principal market, the most advantageous market for the asset ...'⁶⁶ Potentially difficult and subjective questions therefore arise in practice:

- Is there a principal market?
- If so, which is it?
- If not, which is the most advantageous market?

The answers to all these questions will often be clear and indisputable, but they may not be.

Even where the appropriate market has been identified, it will not always be obvious what 'the market price' is for any given asset. In preparing accounts, the preparer will want to use the market's closing price for the relevant asset at the balance sheet date. We may note that this is in itself a matter of convention; it could be argued that the average price on the day in question would be a more reliable indicator of value (because it avoids the risk of using a distorted price reflecting exceptional transactions at the close of trading).

In general, firms only buy or sell other than at market prices when there is either compulsion or corruption. For example, certain transactions may be required by government fiat or the transaction may be at an over- or under-price because of a bribe. In the absence of these unusual circumstances, all prices are market prices. It is useful to distinguish two different sorts of market:

- **Active and liquid markets.** These are generally financial markets or commodities markets. Most markets of this sort are firms: that is, most stock exchanges, commodities exchanges, and so on, are themselves privately owned businesses. They have traders who both buy and sell on the same market. They are regulated. 'Stock and produce exchanges', for example, '... regulate in great detail the activities of traders... What can be traded,

⁶⁶SFAS 157, *Fair Value Measurements*, paragraph 8. This definition also refers to markets for liabilities. For simplicity, we will only discuss assets.

when it can be traded, the terms of settlement and so on are all laid down by the authorities of the exchange.⁶⁷ Such markets deal in fungible assets – ie, one share in Microsoft is effectively identical to another, one barrel of Brent crude is effectively identical to another, and so on. Such assets may be designed specifically for trading on the market: ‘In an organized market the participants trade a standardized contract such that each unit of the contract is a perfect substitute for any other unit... The organized market itself or some other institution deliberately creates a homogeneous good that can be traded ...’⁶⁸ Prices are published – at least selectively.

- **The rest.** Every purchase or sale that is voluntarily entered into takes place in a market of some sort. In this sense ‘the market’ is simply a term for the whole universe of buying and selling or for the manifold institutional structures under which these activities take place.

It is the first sort of market that standard-setters have in mind when they describe Level 1 inputs to fair value measurements as ‘quoted prices ... in active markets’.⁶⁹ What exactly are the prices in such markets?

Where a market price can be simply obtained (eg, by reading the *Financial Times*), this may mask underlying complexity and variation in how the market price is arrived at and what it means. Different markets arrive at published closing prices in different ways for different assets. Let us take stock markets as an example. In some cases, the closing price is a mid-market price taken from a broker. There are various points to note about this:

- A mid-market price is the average of the price at which the broker is offering to buy (the bid price) and the price at which it is offering to sell (the offer or ask price). It could therefore be regarded as not a real price at all, as no transaction is actually being offered at the mid-market price. However, there is an opposite view that the mid-market price is the ‘true’ market price (the exchange price) as it excludes the broker’s margin – a transaction cost, which should be ignored.
- The price at which the broker is offering to buy or sell may not be one at which anyone else would be willing to sell or buy. It is not an actual transaction price.
- Other brokers might quote different prices. While different brokers’ prices can be expected to converge, competition on price between brokers is part of how the stock market works.

A different method of arriving at closing prices avoids some of these issues by taking the price of the last recorded trade or the price set during the last official trading session of the day.

There is also a problem common to all methods of determining closing prices, which is that there may be after-hours trading when the official market has closed. The preparer of accounts therefore has a choice between the official closing price and a later and arguably more relevant price, but which is taken from a less liquid market and so may be a less reliable indicator of value.⁷⁰

Another problem is that even prices taken from established markets – the sort of prices that can be found online or in the newspapers – are not necessarily prices from active markets. Only a minority of shares quoted in public markets are actively traded every day. Closing prices for less frequently traded shares may therefore be ‘stale’ (based on old transactions) or unrepresentative (based on an isolated transaction by an isolated buyer or seller).

So even where there are theoretically active markets, the market price can mean a number of different things. What it means in each case is a matter of convention, which may ignore certain transactions (eg, after-hours trades) and is often a stylised representation (eg, mid-market prices) of prices that selected market participants offer for hypothetical transactions.

Other markets, that are not active and liquid, cover a broad spectrum of degrees of activity. At one end of the spectrum, there are, eg, reasonably active second-hand car markets for many models and guide prices are published, so relatively reliable values can usually be obtained. However, every car is potentially different and care needs to be taken that the asset being valued matches what a dealer would expect to buy for the indicated price. At the other extreme, oil refineries are rarely sold, each one – unless the seller is fortunate enough to find a very careless buyer – would be valued on the basis of a meticulous inspection and assessment, and prices are likely to be highly variable from asset to asset. For most items in accounts, published market prices – in the sense that standard-setters use the term – are unlikely to be available.

⁶⁷Ronald H. Coase, ‘The institutional structure of production’, p233.

⁶⁸Lester G. Tesler and Harlow N. Higinbotham quoted in Oliver E. Williamson, *The Economic Institutions of Capitalism*, p69.

⁶⁹SFAS 157, paragraph 24.

⁷⁰This problem is discussed in the context of fair value measurements at SFAS 157, paragraph 26.

There are billions of published market prices available that standard-setters would not regard as market prices for the purposes of fair value measurements. These are the prices that firms publish (eg, on the internet) or make available privately to customers. They are not prices from active and liquid markets, but are instead entity-specific prices. They would not, therefore, be accepted as necessarily representing fair value, but would be regarded as evidence to be taken into account in determining fair value. They are, though, the prices that individuals and firms pay in the real world.

Many prices for market transactions are set within the context of more or less long-term business relationships. They may reflect expectations of future favours or rewards for past favours. If I pay over the odds to my supplier now in the expectation that it will give me preference in the future when, eg, there is a shortage of supply, this is not an irrational action on my part. In effect I am buying two things: the goods now and an insurance policy for the future. But the insurance policy will not be contractual. It will be part of my relationship with the supplier, which I hope will pay off in the long run. As these relationships may have been established to secure the provision of idiosyncratic goods or services, there may not be 'open market' prices available to compare them with. Indeed, as such relationships are more likely where there is an idiosyncratic product, an open market price is not to be expected. Where it is available it may be misleading.

Such relationships, though based on trust, are of course subject to constant reappraisal and expectations will often be disappointed. But it would be naïve to imagine that they do not affect the prices of a significant number of market transactions.

A2.2 Reliability of market price estimates

For assets in markets that are not active and liquid, the market price – in the standard-setters' sense – is to a greater or lesser extent a matter of estimation. Standard-setters, in the context of fair value measurements, prescribe a number of requirements that have to be followed in arriving at what the market price might reasonably be hypothesised to be in the absence of published market prices or where published market prices may be unreliable. The process of arriving at market prices to be used in accounts may sound to the outsider, used to seeing market prices in a newspaper or on the internet, as though it's a simple, almost automatic task. But where there are no active markets (ie, for most assets), it's a highly conventionalised process, which requires sometimes complex disclosures for an outsider to understand.

It is usual to refer to market prices that are calculated for accounting purposes in the absence of markets as estimates and even to talk of the relative reliability of such estimates. How can this make sense when, by definition, the market price does not exist and there is therefore on the face of it no way of checking the reliability of the estimate?

In practice, there are two ways of confirming the reliability of estimated market prices:

- If different people arrive at the same estimate of the market price, this would suggest that it is reliable. For example, if three valuers all value a property at the same amount, it would be reasonable to conclude that the estimate is likely to be reliable.
- If there is a market transaction shortly afterwards at the estimated price, this would suggest that it is reliable. For example, if a property is sold shortly after the balance sheet date at the estimated price, this would support the estimate's reliability.

Neither method is infallible. Market prices are unpredictable (one of the reasons we need markets) and even if valuers agree, they may still be wrong. Equally, market prices change, and the price at the date of realisation may be misleading as to what would have been obtained from a sale at the balance sheet date.

But the ability to use such methods to provide at least some sort of check means that it is not unreasonable to talk of the reliability of estimates of market prices even though the market prices do not in fact exist.

APPENDIX 3: LIABILITIES

A3.1 Introduction

The discussion of measurement questions in Chapter 3 focuses on assets and income. This is common in discussions of measurement in financial reporting. Liabilities usually come in a poor third. Perhaps this should not be surprising. Business activity typically focuses on generating net income and, to a lesser extent and where applicable, on the assets that generate it. Liabilities are usually a secondary consideration and somehow seem not quite to fit in – nor to provide a mirror image of assets. However, it may be useful to see how far it is possible to apply the sort of approach adopted in Chapter 3 to liabilities as well as to assets. What follows is not a thorough analysis of the questions raised by liability measurement; it is a preliminary outline, trying to use a business-model approach.

The difficulties in thinking about liabilities become clear as soon as we start to try to apply to them some of the key concepts in thinking about the measurement of assets – concepts such as cost, replacement cost and market value.

- Liabilities do not have a cost – not, at any rate, in the same sense that assets do.
- It is not clear what the ‘replacement cost’ of a liability means.
- In general, markets for liabilities do not exist.

Nor does the theory of the firm seem to have much to contribute on the question of liabilities. Economists writing in this field have focused on businesses whose primary objective is to make money by using assets. For such firms, liabilities are primarily a way of financing the business.⁷¹

However, if we ignore very small businesses that have nothing but cash transactions, liabilities are a feature of every business in practice. Management will have some intentions concerning the firm’s liabilities and these intentions will constitute the firm’s business model in this respect. Selling them in the market (or to be more precise, settling them in a transaction on an active and liquid market or paying other market participants to take them on) is unlikely to form a part of management’s intentions except in certain cases. A firm’s business model for its bank borrowings will probably be to repay them. Its business model for liabilities under warranties will probably be to rectify the defects covered by them. Its business model for liabilities representing advance payments for goods or services will probably be to provide the goods or services. Where the liability is an actively traded financial instrument, the business model may well be to settle it at the market price. And so on. So we would expect a business-model approach to be relevant to the measurement of liabilities.

There is also one sector where attracting liabilities is at the heart of the business model. This is the financial services sector. And within this sector, there is one class of firms whose business is to make money by their skill in managing liabilities. These are insurers. For such firms, even if those who have written on the theory of the firm have little to say about them, we would certainly expect a business-model approach to be relevant.

In this appendix we look at how different approaches to measurement in financial reporting might be applied to liabilities so as to reflect a firm’s business model. We consider four of the approaches discussed in Chapter 3:

- Historical cost.
- Replacement cost.
- Fair value.
- Historical cost for some items and market price for others – the ‘alternative-bases’ approach.

⁷¹Though the theory of the firm does contribute to understanding why firms choose one form of financing rather than another.

We also discuss another approach – relief value – which corresponds to deprival value in the measurement of assets. But whereas deprival value for assets has a strong logical connection with replacement cost, this is not the case for relief value for liabilities.

The discussion that follows is no more than a brief introduction to the subject. It shows some of the difficulties that exist and some of the key differences between approaches to the measurement of liabilities.

A3.2 Historical cost

The historical cost of a liability may be defined as ‘the amount received in respect of it or the amount expected to be paid to satisfy it’.⁷² There are two apparent problems with this definition:

- It seems odd to refer to an amount received as a cost.
- It seems equally odd to refer to an amount expected to be paid as a historical amount.

The first problem reflects the fact that measurement bases in financial reporting tend to be developed with assets, not liabilities, in mind. Perhaps a better term for historical cost would be historical amount or historical transactions accounting⁷³ – either of these would at least be as applicable to liabilities as to assets.

The second problem is more than a matter of words. Where a liability is based on expectations of the future rather than on amounts derived from historical transactions it is difficult to see how it can properly be described as on a ‘historical’ basis. However, it is conventional to treat provisions for liabilities measured in this way as being on a historical cost basis, and there is some logic to this as it complements the historical cost approach to asset measurement.

- We stated earlier (3.3.5) that a central concept in historical cost accounting is matching. Costs are matched against the income they help to generate. But many costs that a business incurs in generating current income may not have to be met until some point in the future. For example, profits on current sales would be overstated if they did not reflect the future costs of repairing or replacing faulty goods included in sales or paying the pensions due to employees for their contribution to current sales. Matching income against costs in this way means that liabilities will often have to be based on expectations of payments whose amounts will be determined in the future – possibly in the distant future – and not by historical receipts.
- Recognising expectations of future payments in the balance sheet also matches the historical cost approach to asset measurement by producing a conservative balance sheet, which for some users is an advantage of this approach (see 3.3.2).

Is historical cost for liabilities a business-model approach? It is in one key respect, which is that (with the exception of liabilities that represent deferred income) historical cost measures a firm’s liabilities in a way that reflects how the firm will in fact dispose of the liabilities, and it could be said this is part of the firm’s business model. For example, a firm may settle a liability by payment or by performance, and the historical cost measurement will reflect whichever mode of settlement it is the firm’s intention to adopt. Also, it reflects the firm’s own expected cash flows – as opposed to those of, eg, a hypothetical ‘market participant’ – so historical cost measures should in this respect provide better information on the success or otherwise of the firm’s business model. Overall, because of the central role of matching, historical cost for liabilities contributes to a business-model approach to the measurement of net income.

A3.3 Replacement cost

It is not clear that replacement cost is a valid concept for a liability⁷⁴, but if we are determined to define it, it could be described as ‘the amount that would be received, or that would be expected to be paid to satisfy it, if the liability were incurred at the balance sheet date’.

How would this differ, if at all, from historical cost? The answer is unclear, but we suggest the following:

- In the case of a loan, the answer would presumably be the same as under historical cost. The replacement cost of £100 is £100. However, there is another view, which is that the

⁷² *Measurement in Financial Reporting*, p22.

⁷³ The latter is Stephen Penman’s suggestion in ‘Financial reporting quality: is fair value a plus or a minus?’

⁷⁴ William Baxter suggests that replacement cost ‘cannot fit comfortably into the liability pattern, and attempts to squeeze it in must muddle our reasoning’: *The Case for Deprival Value*, p17.

replacement cost of £100 is not £100 if interest rates have changed since the date when the loan was originally incurred. So, if interest rates have risen since the original transaction date, the loan of £100 might be replaced with one for a lower amount at the same interest cost. This approach assumes that the liability being replaced is the liability to pay interest rather than the liability to repay the principal. But the 'reduced' liability recorded in the balance sheet would of course be for the principal, so there seems to be some confusion here as to what exactly the liability is that is being measured (and replaced).

- In the case of a trade creditor, the answer might vary with the replacement cost of the goods or services being provided. So, if prices are rising, on a replacement cost basis the liability for trade creditors would rise with them (by comparison with historical cost).
- In the case of a provision for the cost of a future service, any difference between historical cost and replacement cost would presumably reflect changes in the nature of the contracted-for service between the original contract date and the balance sheet date. As the provision is an estimate of future costs, changes in prices between the two dates should in any case be reflected even on a historical cost basis.
- What is the replacement cost of a pension liability? If we view a pension liability as a form of loan, then it would be measured at the same amount under historical cost and replacement cost. The logic of replacement cost for such a liability is perhaps especially opaque. For example, if trade creditors are remeasured on a replacement cost basis to reflect the changing prices of goods and services, why not remeasure pension liabilities to reflect the level of salaries at the balance sheet date (rather than the level at the dates that actually give rise to the pension obligation)?

It is difficult to see that any of this has any connection with a firm's business model except for the measurement of trade creditors at replacement cost, which would complement the measurement of the relevant assets at replacement cost on the other side of the balance sheet. As a general approach to the measurement of liabilities, replacement cost looks unpromising.

A3.4 Relief value

We noted in Chapter 3 that, in relation to assets, it may be more useful to think in terms of recoverable replacement cost (or 'deprival value' or 'value to the business' or 'current cost'). Recoverable replacement cost is on the face of it even less applicable to a liability than replacement cost would be. But the converse of deprival value for an asset is relief value for a liability; this would be 'how much better off the business would be if it were relieved of it'.⁷⁵

Relief value does have a logic to it as there are various ways in which a business can relieve itself of a liability, and it makes sense both that it would in general choose to do so at the least cost and that this would therefore be the appropriate amount at which to record the liability. The three options for disposing of a liability are payment, performance and transfer. Transfers of liabilities are rare – creditors don't like finding that their debtors have changed identity, and there are usually significant regulatory and legal hurdles to be overcome before a liability can be transferred. So the usual choice is between payment and performance. In principle, though, the relief value of a liability is the lowest of payment cost, performance cost and transfer cost. This measures the burden to the firm of holding the liability and therefore the value of being relieved of it.

How would this differ from historical cost?

- Relief value is intended to be a current value measurement and so it would be appropriate to discount the expected future cash flows to present value. While in some cases expected cash flows would also be discounted on a historical cost basis (eg, where material, for provisions under paragraph 46 of IAS 37, *Provisions, Contingent Liabilities and Contingent Assets*), this practice is not universal. So relief value might well differ from historical cost where discounting would be relevant but not applicable under historical cost. However, by and large, measurements of relief value might not be very different from measurements of historical cost.
- In some cases a liability may represent deferred income. For example, subscribers to magazines pay for issues in advance. On a historical cost basis, at the balance sheet date the proportion of the subscription attributable to future issues would appear in a magazine

⁷⁵ *Measurement in Financial Reporting*, p25. Andrew Lennard, *Liabilities and How to Account for Them*, discusses the application of the value to the business basis to the measurement of liabilities.

publisher's balance sheet as a liability. On a relief value basis, only the future performance cost element of the liability would appear in the balance sheet. The profit element would be taken either to profit or loss or to other comprehensive income.

Is relief value a business-model approach? As it reflects how the business would in fact dispose of the liability, it is, and in this respect perhaps even more so than historical cost. As it potentially accounts for income before it has been earned (as in the magazine subscription example), it could be regarded as providing an inferior measure to historical cost of how well the business model is succeeding. But this depends on how the unearned profit is accounted for. The fact that it is excluded from the measurement of the liability does not mean that it is necessarily credited to profit or loss at that point. It could be credited to another reserve and only taken to income as it is earned, ie, matching the historical cost measurement of income.

A3.5 Fair value

The fair value of a liability may be defined as 'the price that would be ... paid to transfer a liability in an orderly transaction between marketplace participants at the measurement date'.⁷⁶ Transfers of liabilities are rare and, with certain exceptions, active and liquid markets for liabilities are non-existent. The exceptions are markets for some financial instruments – eg, interest rate swaps – where the contract can have a positive or negative value depending on changes in the underlying markets. Liabilities arising in this way can be settled by a transaction at the market price on the relevant derivatives market. Certain liabilities – eg, corporate bonds – are also traded in asset markets. While these are markets for the sale of assets, not for the transfer of liabilities, they may be regarded as providing market values for the liabilities.

Otherwise, the concept of market value for liabilities – in the sense of a value taken from an active and liquid market – makes no sense. As with assets, therefore, the concept of fair value for liabilities has to be made operational in a way that converts it into something different from a market exit price.

According to the IASB's exposure draft, *Fair Value Measurement*, this is done by estimating 'the future cash outflows that market participants would incur in fulfilling the obligation' and discounting them to a present value or by using 'other valuation techniques'. 'Other valuation techniques' for liabilities are not very promising. As noted, market transactions for liabilities – ie, transfers – are unusual. Prices are determined for individual transactions and there are often legal and regulatory requirements that complicate matters and that help to make each transaction in some respects unique. While the rare market transactions that do take place – eg, transfers of pension fund liabilities – may help establish what 'fair values' might be, they will be of limited use for most liabilities.

It therefore seems likely that in measuring the fair values of liabilities firms will rely on expected future cash flows. This is of course what they would do anyway – though often implicitly – if they were measuring the liabilities at historical cost. What will the differences be between fair value and historical cost?

- Under fair value the expected cash flows are meant to be those of market participants rather than those of the firm itself. We may expect, though, that as firms have little idea what others' likely cash flows would be, they will tend to attribute to other market participants the cash flows that they would expect to incur themselves.
- Under fair value the expected cash flows would be discounted. While in some cases expected cash flows would also be discounted on a historical cost basis (eg, where material, for provisions under paragraph 46 of IAS 37, *Provisions, Contingent Liabilities and Contingent Assets*), this practice is not universal.
- Under fair value, a firm's own credit risk is taken into account in measuring its liabilities – so it might well report liabilities that are less than its actual obligations. Own credit risk would not be taken into account in a historical cost measurement.

One oddity perhaps worth mentioning is that, unlike relief value, fair value might not lead to the early recognition of profit on liabilities that represent deferred income. This is because, at least under the proposals in the IASB's *Fair Value Measurement* ED, the measurement of the liability would include the market participant's profit margin. A profit would only be recognised, therefore, if the preparer considered that other firms would discharge the performance obligation more cheaply (including profit margin) than it would.

⁷⁶SFAS 157, paragraph 5.

In general, the fair value measurement of liabilities does seem likely to match firms' business models. As with assets, this is not because it is intended to – quite the reverse – but because in the absence of markets for liabilities there is no other way of arriving at intelligible numbers.

A3.6 Alternative bases

Does the alternative-bases approach have any relevance to the measurement of liabilities?⁷⁷

For assets, the test is whether the firm's business model is intended to add value to them. For liabilities, a similar but converse rule applies. It is not a question of how the firm plans to use the liabilities, but of whether it is able through performance to minimise them. For example, a performance obligation would be measured at the cost to the company to perform it; this would reflect any comparative advantage the company might have in the performance of the obligation in question. If information on market prices for performing the obligation is available, it may be useful – both to preparers and auditors – in helping to determine whether the management estimate is reasonable. But market prices would not be determinative.

Insurance liabilities would come into the category of items whose value is affected by management's skill in conducting the firm's operations. On this basis, it would not be appropriate to measure them at a market price (nor are market prices available for them).⁷⁸

Banks' liabilities to depositors are fixed by the terms of the contract, not by market prices. Again, it would not be appropriate to measure them at a market price (nor are market prices available for them).

By contrast, a derivative financial instrument priced in a liquid and active market might be a liability. And for such a liability, where the firm's business model has no effect on its value, fair value would be appropriate.

How would the alternative-bases approach deal with the problem of a firm's publicly traded own debt? Let us assume that the firm's credit rating has deteriorated, so that its debt is trading at a discount. At first sight, it would be appropriate to recognise a gain, as this is purely a matter of recognising a change in a market price. However, the decline in creditworthiness implies a corresponding loss in an unrecognised intangible asset – which we may call goodwill, though this is not a very useful description. The point is that if a firm is no longer expected to be able to repay its debts, this implies a decline in its value not an increase. In the absence of a full market value balance sheet in which all assets and liabilities are recognised, it would therefore be misleading to record a decline in the value of a firm's own debt as a gain.⁷⁹

By definition, an alternative-bases approach to the measurement of liabilities would reflect firms' business models.

A3.7 Conclusions

The valuation bases intended for assets do not have obvious application to liabilities. The concepts of cost and market price seem inappropriate. The replacement cost of a liability seems especially dubious.

Some liabilities do have transaction amounts and this seems to match historical cost for assets (eg, loans, trade creditors). Some liabilities do reflect market prices (eg, traded derivatives). But where liabilities are measured at an amount based on future payments (eg, provisions), it is not clear for most business models that different bases will in practice produce very different answers except where discounting is relevant (and ignored under historical cost) or the liability represents deferred income.

But how a firm plans to discharge its liabilities is an aspect of its business model, and in general we would expect the firm's accounting for its liabilities to provide the most useful information where it reflects this model.

⁷⁷On this, see Stephen Penman, 'Financial reporting quality: is fair value a plus or a minus?', p39.

⁷⁸Yet in Europe 'fair value' in accounting for the life insurance industry seems to be regarded as providing useful information: see Joanne Horton, Richard Macve and George Serafeim, *An Experiment in Fair Value Accounting?* However, this sort of 'fair value' is based on the discounted value of expected future cash flows rather than on market prices for the relevant liabilities even if the emphasis has shifted to 'estimating market consistent values'.

⁷⁹However, Nissim and Penman, in *Principles for the Application of Fair Value Accounting*, p30, argue that, 'With a clear distinction between operating and financing activities in the income statement, marking financing debt to market may be more appropriate under historical cost accounting (for operating activities).'

APPENDIX 4: EXTENT OF LEVEL 1, 2 AND 3 FAIR VALUE MEASUREMENTS FOR FINANCIAL INSTRUMENTS

We do not have any figures for the banking sector as a whole, but the following table gives an illustration of the relative extent of fair value measurements of financial assets at Levels 1, 2 and 3. It shows figures from the most recent annual accounts of five of the world's largest banks (by total assets), each based in a different country:

Bank	Year-end	Percentage of fair valued assets at Level 1	Percentage of fair valued assets at Level 2	Percentage of fair valued assets at Level 3
Barclays	31.12.2009	16.0	79.5	4.5
Citigroup	31.12.2009	13.9	79.2	6.9
Crédit Agricole	31.12.2009	38.5	59.2	2.4
Deutsche Bank	31.12.2009	12.3	81.9	5.9
Mitsubishi UFJ Financial Group	31.03.2010	73.2	21.8	5.0
Unweighted average		30.8	64.3	4.9

A survey of US banks by Christian Laux and Christian Leuz⁸⁰ gives rather higher percentages at Level 3:

Category	Year-end (Q4)	Percentage of fair valued assets at Level 1	Percentage of fair valued assets at Level 2	Percentage of fair valued assets at Level 3
Major investment banks ⁸¹	2007	25.5	64.6	10.2
Major investment banks	2008	15.5	70.2	14.3
Major banking holding companies ⁸²	2007	29.3	59.6	11.1
Major banking holding companies	2008	18.7	68.2	13.2

If the figures in these tables are typical, they are reassuring in the sense that they suggest most financial instruments held at fair value are reasonably reliably measurable at market or estimated market prices. But the amounts for Level 3 fair value measurements are none the less significant in absolute terms.

Interestingly, except in the case of Mitsubishi, only a minority of fair valued financial instruments are measured at Level 1. So the common assumption that there are active markets for most financial instruments that are fair valued appears to be incorrect.

The second table also shows the decline in availability of market prices during the financial crisis as there is a significant shift from Level 1 to Level 2 measurements and a smaller shift from Level 2 to Level 3.

⁸⁰'Did fair-value accounting contribute to the financial crisis?' Figures taken from Table 3.

⁸¹ Sample firms: Goldman Sachs, Morgan Stanley and Merrill Lynch.

⁸² Sample firms: JP Morgan Chase, Bank of America, Citigroup and Wells Fargo.

APPENDIX 5: REFLECTING THE BUSINESS MODEL – PRACTICAL ISSUES

A5.1 The difficulties

There are a number of practical difficulties in reflecting firms' business models in financial reporting. We focus mainly on the alternative-bases approach as it is not always obvious what should be measured at market prices and what at historical cost:

- Should historical cost write-downs to recoverable amount be modified so as to avoid giving a misleading impression of the viability of a firm's business model? (A5.2)
- Under the alternative-bases approach, an asset that is simply bought and sold in the same market without being 'transformed' would be measured at its market price. But where a firm's business model is to add value by trading in this way, is there a case for using a historical cost approach? (A5.3)
- Should retailers carry their inventories at market value? Should manufacturers carry their finished inventories (where the process of transformation has been completed) at market value? (A5.4)
- Is a business-model approach compatible with recognising gains before the completion of long-term construction contracts? (A5.5)
- An asset that one firm holds to sell in the market may be held by another to use within the firm. The firm's motive for holding the asset will depend on its business model. Measurement questions then depend heavily on the firm's business model. This poses problems of subjectivity, changeability and opportunism in applying business-model approaches. Can these problems be overcome? (A5.6)
- The proliferation of revenue recognition standards and guidance in the US may show the dangers of a business-model approach. It opens up the door for every business sector to say, 'Our model is different. It needs different rules.' Is this a fair criticism of business-model approaches? (A5.7)
- There may be circumstances in which the business model should not be decisive: eg, where the firm is not a going concern; where the business model is being changed; or where assets could be better used under an alternative model. Do these circumstances require a different basis of measurement? (A5.8)
- It will often be difficult to distinguish between those cases where a market price can be estimated reasonably reliably and those where it cannot. This will create difficulties in deciding whether the business model does in fact involve adding value through the transformation of assets. Will this make it impossible to operate the alternative-bases approach in a credible and effective way? (A5.9)
- Sometimes active and liquid markets, which provide the most reliable fair value measurements, dry up. Should standard-setters abandon fair value when this happens? (A5.10)
- There are presentational problems for the income statement where the alternative-bases approach is adopted. These arise principally where some but not all of the firm's income is attributable to changes in market prices. Can these problems be resolved? (A5.11)

We consider these questions in turn below.

A5.2 Writing down to recoverable amount

Should historical cost write-downs to recoverable amount be modified so as to avoid giving a misleading impression of the viability of a firm's business model?

There is a double rationale for write-downs. If overvalued assets are not written down:

- the balance sheet will give an overoptimistic view; and
- profits in future years will be lower than is implied by current year results.

The information provided by the accounts will therefore be misleading for both stewardship and investment purposes. Managers may escape the consequences of their poor performance and the company may be overvalued.

But if a key goal of the business-model approach is to report a figure for current year income that provides a basis for forecasting future performance, then one-off write-downs are also potentially misleading. A similar point is made by the American Accounting Association Financial Accounting Standards Committee (FASC), which comments, in the context of write-downs from historical cost to fair value:

‘[I]f the fair market value assessment is less than carrying value then the resulting adjustment should not generally be implemented with a discrete, one-time write-down. Rather, the adjustment should take the form of an acceleration of expensing over many periods. Thus overvalued PPE should generally imply a modified depreciation schedule rather than a write-off charge. Overvalued inventory should not generally be reduced with a discrete charge unless it is essentially worthless. Conservatism applied in this fashion should prevent firms from converting a business with low margins to high ones in subsequent periods via use of one-time charges that reduce carrying values of operating assets.’⁸³

The Committee’s conclusion therefore seems to be that the overstatement in the balance sheet should be tolerated for the sake of a more useful earnings number.

This is logical, but contrary to longstanding principles of conservatism in accounting and might well have the undesirable consequences for stewardship and valuation referred to above. It is of course conceivable that the longstanding principles are unhelpful, but there are difficulties in the FASC approach:

- It seems to be accepted that where the assets are actually worthless, they should be written off immediately. This is explicit in the passage quoted in relation to inventories, but is also implicit in the recommendation that fixed asset write-downs should be spread over reduced remaining asset lives; where there is no remaining asset life (because the asset is worthless), clearly the full write-off would have to take place immediately. So the proposal would only be workable for assets that would otherwise require a partial, rather than a full, write-down. This is inconsistent between one potential write-down and another and, perversely, results in full retention of those write-downs that have the greatest impact on profit (ie, complete write-offs), but a reduction in those that have less impact.
- There will also be a problem where fixed assets have reduced earnings capacity, but not reduced expected lives. In such cases, accelerating the depreciation charge will presumably lead to the asset being fully written off before the end of its useful life, which would also be misleading.

A further argument in favour of recognising falls in asset values immediately is that the written-down amount presumably reflects the value that the firm attaches to the asset, and this value ‘should be reflected in the firm’s product and output decisions’. Non-recognition would therefore mean that the firm’s financial reporting is becoming detached from its business model rather than reflecting it.⁸⁴

Whether expected losses should be recognised when expected gains are not recognised – conservatism – is a separate question. It can be argued that managers tend to have incentives to report good news rather than bad news, so that requirements to report bad news (supported by independent audit by third parties) are important to reduce information asymmetries between managers and outsiders.

A5.3 Traders

The alternative-bases approach suggests that where a firm’s business model is to make a profit by buying and selling the same asset in the same market, it would be appropriate to measure assets at market prices. As the aim under this model is to time the transactions such that selling prices exceed buying prices, it could be called ‘time arbitrage’ or simply ‘trading’.

⁸³ *A Framework for Financial Reporting Standards: Issues and a Suggested Model.*

⁸⁴ The quotation is from Ray Ball, *The Firm as a Specialist Contracting Intermediary.*

But there is a case for saying that historical cost is appropriate here too. The essence of the business model is that the trader believes it is able to identify for particular assets the right time to buy and the right time to sell. That is the full extent of its skill and its performance can only be measured by comparing actual buying prices with achieved selling prices. But if assets are revalued at market prices at each balance sheet date, the trader's performance is not being judged purely by its ability to time buying and selling decisions correctly. Instead, other irrelevant measurements are being introduced, which reflect market prices at the balance sheet date – ie, at a date when the trader has chosen not to sell.

This seems to be a valid, though not necessarily conclusive, argument. The acid test is: which basis of measurement provides the most useful information?

There are certainly some elements of income based on movements in market prices that investment analysts separate out in making estimates of future income. Where a company (not a property company) revalues its property assets, for example, or makes gains from a disposal of properties, users do not regard such amounts – which, in any case, may not appear in the income statement – as a basis for extrapolating future income.

The position is different for firms that engage in trading as a business activity in its own right. For these firms, at least some users appear to regard the income statement as providing useful information to assist them in forecasting future income. They recognise that there are greater risks attached to extrapolating income for such firms, but they do not regard the exercise as wholly irrelevant.

How can we explain this? The answer appears to be that the market assumes that firms with trading skills, or with superior information, can make profits with at least some degree of consistency. In making a judgement on firms' skills in this respect, past performance is a useful – though far from reliable – guide to future performance. The income statement is therefore a relevant measure in the valuation of such firms – and not just as an indicator of risk.

In a world with less than perfectly competitive markets, there is scope for traders to make gains without transforming assets. While often these gains will be sheer luck, there seems to be sufficient consistency about who makes gains to make it worthwhile to invest in those with a track record of success. The more active and liquid a market is, however, the less this will be the case and the more likely it will be that gains are attributable to luck rather than judgement. In such cases, the income statement does indeed become less useful as a source of information for valuation purposes, other than as an indicator of risk. So we would expect to see some correlation between levels of categorisation for fair value measurement purposes and consistency of gains and losses. That is, successful trading in Level 1 assets should depend less on skill and superior information (and more on luck) than successful trading in Level 3 assets. We might therefore expect the market, in valuing a firm, both to attach a higher multiple to consistent Level 3 gains and to attach a higher importance to their realisation (reflecting the lower reliability of their measurement where this is at fair value).

However, although some users do indeed appear to find the income statement useful in helping to forecast future income from trading activities, it is not clear that this means they prefer a historical cost approach. If anything, their preference seems to be for such trading assets to be at market value or fair value.

At least some users' practices and preferences therefore appear to give ambiguous messages where trading is based on exploiting price changes in the same market. They do not appear to regard the income statement as totally irrelevant as a guide to future performance, but this does not mean that they prefer the assets in question to be measured at historical cost.

Nissim and Penman support fair value accounting for trading activities because:

- Historical cost allows managers to cherry pick assets for realisation so that the income statement shows misleading, consistently positive results.
- Fair value shows progress towards the higher value that the trader expects to realise in due course.⁸⁵

These arguments may explain users' preferences for fair value accounting for such activities.

A5.4 Inventories

Does it follow from the alternative-bases approach that all assets held for resale (eg, retailers' and manufacturers' inventories) should be measured at market prices? No – but to understand why not, we need to look at the relationship between the firm and the market.

⁸⁵*Principles for the Application of Fair Value Accounting*, p44.

A firm holding an asset that it wishes to sell in an active and liquid market does not need to find buyers or agree a price with them. The firm simply goes out and sells the asset at the market price. But most assets are not sold in this way. The firm has to persuade people to buy what it has to sell and may have to agree a price with the buyer. For such a firm 'finding a buyer' is part of its business model. The market exchange cannot be assumed until this stage of the business model has been completed. It is therefore appropriate not to recognise a gain on the asset until a buyer has been found and a price determined.

This analysis leaves questions where a business both adds value by transforming assets and holds inventories for which there are prices available either from an active and liquid market or that can be estimated with reasonable reliability. The assets in question may be either inputs or outputs.

- A manufacturer may hold commodities that will be transformed into other assets, and spot market prices on active and liquid markets may be available for these assets.
- A commodities producer may hold commodities that it plans to sell, and spot market prices on active and liquid markets may be available for these assets.
- A retailer may hold for resale fast-moving consumer goods whose value at the balance sheet date can be estimated with a high degree of reliability.

Commodities that will be transformed into other assets. Where the item for which a market price is available is an input, the most obvious interpretation of the alternative-bases approach is that the commodity should be recorded at cost rather than market value. Value will be added through the process of transformation, not through resale in the market, so it is the gain on this basis that is of interest.

Commodities held by a commodities producer. Where the item for which a market price is available is an output, the correct interpretation of the alternative-bases approach is less clear. Perhaps the most obvious interpretation is again that the production of a commodity should be regarded as a process of transformation and therefore no gain should be recognised until the end-product has actually been sold. However, once the commodity is in final form, even if it is unsold, the process of transformation is complete. The firm has nothing to add by finding a buyer or agreeing a price. There is an active and liquid market and the firm can, if it wishes, sell its assets at that price. So the issue is not clear-cut.

Assets held for resale by a retailer. Where a retailer holds items for resale, sale to the consumer is such an integral part of the firm's business model that the most obvious interpretation of the alternative-bases approach is to measure the inventories at historical cost and to recognise a gain only when the sale has been made. There may be retail inventories for which finding buyers is unlikely to be a problem, in which case their value can be measured reliably. But retailers do not always manage to sell all their inventories and even successful retailers have sales at a discount. So a historical cost approach will probably produce more reliable figures.

A5.5 Long-term construction contracts

Is a business-model approach compatible with recognising gains before the completion of long-term construction contracts?

Recognising a gain before it is realised – ie, before the sale has been completed – is contrary to the usual rule in historical cost accounting. However, one of the objectives for the income statement, where a firm is adding value through the transformation of assets, is to provide a figure of income that can be used for forecasting future income. Recognising income only at the end of a long-term contract will result in volatile income statements even where there is underlying stability. It is more useful, from this point of view, to recognise income in accordance with the progress of work on the project, rather than all at the end of it.

This income allocation fulfils the same sort of function as the depreciation charge on fixed assets. In one case, there is income that is earned over a number of years; in the other, a cost that contributes to income over a number of years. In each case, spreading the cost or income over a number of years arguably reflects the underlying reality better than writing the expenditure off as it is incurred or recognising income only when the project is completed.

A5.6 Subjectivity, changeability and opportunism

An asset that one firm holds to sell in the market may be held by another to use within the firm. The firm's motive for holding the asset will depend on its business model. Under historical cost accounting, this will determine which standards and guidance apply to the asset – eg, a standard for property, plant and equipment, or one for inventories. And under the alternative-bases approach, it will determine the choice of measurement basis.

There are various problems with this:

- It could be argued that defining a firm's business model is a subjective matter. Firms that are essentially similar could say that their models are different, with the result that they produce non-comparable information for comparable assets.
- Firms' business models change – so, if their financial reporting also changes to reflect this, it could be non-comparable from one year to another.
- Business models may be – and in principle should be – opportunistic. So whether a business holds an asset to use within the business or to sell in the market may depend on what is most profitable at the time.

Are there ways of dealing with these problems?

Understanding the business model. The different uses of commodities that we have just referred to (A5.4) are a possible example of this problem, though not one that should cause any practical difficulties. It will usually be perfectly clear whether a firm is producing a commodity for sale or using it in the production of other assets. Non-comparability in such cases is arguably justified by clear differences in the business model.

Property might be more problematic. The same property might be held by three different companies for:

- speculation;
- rental income; or
- use within the business (eg, as offices).

It should be obvious whether or not a firm is using a building for its own offices. But it may be less obvious whether a firm is using a particular building for speculative purposes or to generate rents, as even a firm that holds an office block for speculative purposes will collect rents while it holds it. In such a case, it will be necessary to look at the available evidence of management's intentions, perhaps bearing in mind how it has dealt with other properties. There may be uncertainty in applying a business-model approach in such cases, and comparable businesses might indeed produce non-comparable results.

Changing business models. Firms often make material changes to their business models – eg, selling off a significant activity or property assets used within the business. There may be practical difficulties in deciding how to apply a business-model approach in such cases.

These examples (selling off a significant activity or property assets used within the business) are both instances of firms deciding that their business model is not adding value in some way – or could add value better in another way – and in these particular cases historical cost arguably becomes less relevant. Instead the assets should perhaps be measured at market value. There may be practical difficulties in deciding at what point the firm's management has actually changed the business model. This is unlikely to be a more than temporary problem. Events will confirm whether the management's claimed intention was real or not – ie, the assets either will or will not have been sold.

Opportunistic business models. This is a special case of the problem of changing business models. In principle, every business should be opportunistic, in the sense that, when market circumstances change, it should change what it does (ie, update its business model). For example, a bank may be holding securitised loans for resale, but for some reason the market for the loans collapses. The bank therefore determines that it makes more sense to hold the securities to collect income and ultimately repayment of principal on them. However, at a later date, the market recovers and the bank decides that, when the time is right, it will sell the securities after all.⁸⁶

⁸⁶For a similar example, see Daniel Thomas and Ed Hammond, 'Barclays turns into a property developer to cut loss'.

These are rational changes of plan by the bank, but they pose practical problems for a business-model approach to financial reporting. These practical problems are partly those of establishing what the bank's business model really is, but also of deciding – even if it is clear what the model is – how best to account for it. Changing the accounting from year to year is unhelpful to users, but if the business model changes, it seems sensible for the accounting to change to reflect this.

A5.7 Model proliferation

The proliferation of revenue recognition standards and guidance in the US may show the dangers of a business-model approach. It opens up the door for every business sector to say, 'Our model is different. It needs different rules.' Is this a fair criticism of business-model approaches?

It is not clear that the variety of official guidance and standards available in the US reflects an undesirable variety of practices (whatever other problems it causes). To some extent, what has happened in the US is that divergent industry practices that might well have existed or emerged anyway have obtained recognition in official GAAP. In the absence of such official recognition, the different practices might well have been a part of unofficial GAAP – in textbooks and industry accounting guides. Proliferation of different practices may be justifiable if it reflects genuine differences in business models.⁸⁷

The two central issues for income measurement under historical cost accounting are cost allocation and revenue recognition. Neither issue would arise under a system of accounting that used current market prices for all items in the accounts. But the theory of the firm explains why such an approach is not feasible. Under a system of accounting that reflects firms' business models, it may well be appropriate to have a wide range of practices for cost allocation and revenue recognition that reflect the features of particular business models. This is not incompatible with widely-shared high-level principles on both cost allocation and revenue recognition. But the appropriate application of these principles to particular business models may not be obvious and may need to be spelt out.

A5.8 Arguable exceptions

There may be circumstances in which the business model should not be decisive and there may be practical difficulties in identifying when this is the case. Such circumstances might include where:

- the firm is not a going concern; or
- assets could be better used under an alternative model.

Not a going concern. Business-model approaches start from the assumption that a firm is a going concern, but are designed to show how well the business model is working. Once it is determined that a firm is no longer a going concern, clearly the business model has failed and a business-model approach ceases to be applicable. At present, GAAP assumes that a business is a going concern, but does not help where this assumption is invalid. The issue is probably of limited practical importance, as any firm that is not a going concern will presumably disappear or be restructured before too long.

Higher alternative use value. We may distinguish two forms of this problem:

- An asset would have a higher value in an alternative use, but it is still rational for the firm to maintain it in its current use in the context of the business as a whole.
- An asset would have a higher value in an alternative use, and it would be rational to apply it to that use.

In the first case, the firm's business model is sound, and so there seems to be no good reason to depart from whatever measurement basis had previously been adopted. In the second case, the business model is unsound – ie, suboptimal – and it should reallocate the asset to the alternative use. If this means selling the asset, a market value measurement might be appropriate. The practical problem is distinguishing the two instances. Managers are reluctant to accept that their business model is unsound – perhaps especially if the supposed conclusion:

⁸⁷The European Accounting Association's Financial Reporting Standards Committee concludes that 'it is not obvious ... [that] inconsistencies ... [between revenue recognition standards] are really undesirable. There may well exist a higher level principle the seemingly inconsistent revenue recognition rules obey or could obey... [E]mpirical research suggests that financial reporting is contingent on the situation, in that information based on a certain principle may be more or less useful in different situations. Together, this research suggests a need for diversity of approaches to revenue recognition': Jan Marton and Alfred Wagenhofer, 'Comment on the IASB Discussion Paper "Preliminary Views on Revenue Recognition in Contracts with Customers"'.

- emerges from a periodic accounting or auditing exercise; and
- will be followed by public disclosure.

The solution to such practical problems may be to tackle them in a pragmatic way. Instances of assets having higher alternative uses usually concern properties. Requirements could be introduced for disclosure of estimated current market values, where these are significantly different from what is in the balance sheet. In the UK requirements along these lines have existed for many years, though for the directors' report, not financial reporting.

An important question that arises where a market value would be the appropriate measurement is: what sort of market value? Arguably, it depends on the circumstances:

- Where there is an active and liquid market, the quoted market price would be appropriate, as there is no difficulty for the firm in finding a buyer and no opportunity to negotiate a price.
- Where there is not an active and liquid market, realisable value would be appropriate, as this would reflect the firm's likely success or otherwise in finding a buyer and negotiating a price.

In fact, it could be said that realisable value is always the most appropriate measurement where the intention is to show a current value for an asset about to be sold, but that where there is an active and liquid market, market price and realisable value will coincide.

A5.9 Dealing with unreliable market price estimates

It will often be difficult to distinguish between those cases where a market price can be estimated reasonably reliably and those where it cannot. Under the alternative-bases approach, this will create problems in deciding whether to use historical cost or market prices.

A practical example would be financial instruments that are currently measured at fair value. It appears that most financial instruments measured at fair value fall into Levels 1 and 2. But a significant minority are at Level 3. For these items, the theory underlying the alternative-bases approach predicts that – as the firm will have to find a buyer for these assets and negotiate a price for them – historical cost will provide more useful information than 'market prices' (ie, in this case, unreliably estimated market prices).

However, the distinction between Levels 2 and 3 in the fair value hierarchy is not a sharp one. Estimates of fair value may depend on a mix of observable and unobservable inputs of varying degrees of relevance to the item being measured. Both IFRS and US GAAP require an item to be classified as Level 3 when the measurement has involved 'significant' unobservable inputs. What is significant is a subjective judgement. No doubt there are arguments within firms and between firms and their auditors as to whether measurements fall into Level 2 or Level 3. However, these are arguments about a disclosure category rather than about the basis of measurement. The judgements would be much more difficult and the arguments more heated if they were in substance about whether the item should be measured at estimated market price or at historical cost.

In these circumstances, a pragmatic approach might again be justified. For example, the view could be taken that if, for a particular type of asset and across firms generally, 90% of market prices can be measured reasonably reliably, it is sensible to require all assets of that type to be measured at actual or estimated market prices. The justification for this would be that the distinction between what is reliably measurable and what is not is effectively unenforceable. As only a small proportion of the asset type appears not to be reliably measurable, it might make sense to treat the whole asset category as reliably measurable – but with appropriate disclosures, which are likely to be less problematic than distinctions leading to critical measurement choices. Existing requirements for certain financial instruments to be measured at fair value, even though a small but significant proportion of them will be at Level 3, may be seen as a pragmatic solution of this sort.⁸⁸

Such a decision would become less justifiable as the proportion of reliably measurable assets of any given type diminishes. At some point, the sensible pragmatic approach would be to treat the whole category as unreliably measurable, though perhaps with the exception of assets at Level 1. The distinction between Levels 1 and 2 is clearer than that between Levels 2 and 3, and it should generally be evident that for Level 1 items the questions of finding a buyer and negotiating a price will not arise.

⁸⁸Nissim and Penman note that investors in real estate investment trusts seem to prefer information on a fair value basis: *Principles for the Application of Fair Value Accounting*, p50.

A5.10 Dealing with disappearing markets

Preparers and standard-setters may face problems where there are sudden changes in markets. For example, requirements may be set for certain assets to be measured at fair value on the assumption that liquid and active markets will provide prices for a significant proportion of them. In a financial crisis, markets for many of the relevant assets may dry up, leaving preparers with a practical problem of how to measure fair value and standard-setters with a question mark over the basis of measurement.

For preparers, the only sensible advice – assuming a requirement to use fair values remains applicable – is to use whatever relevant information they can find. They may have to make adjustments to recent transaction prices in order to determine fair value.⁸⁹ There is no sensible way of avoiding the valuation difficulties that such a situation presents or of making fair value measurements in such circumstances reliable. This is the case even though commentators, and politicians, sometimes describe it as a problem that awaits a ‘solution’ from the standard-setter – as though it were a particularly difficult question in a crossword.

For standard-setters, the problem is primarily one of whether to retain existing requirements for fair value where markets that allow reliable measurements of fair value have dried up. But while such a development in markets weakens the case for fair value, what is the alternative for, eg, derivative financial instruments? The original historical cost for such items remains of little use and – as disappearing markets usually coincide with falling ones – the difficulties of determining recoverable historical cost tend to be much the same as those of determining fair value.

Again, for standard-setters, a pragmatic approach seems to be justifiable. While disappearing markets reduce the value of fair value information, they do not necessarily mean that information on other bases will be more useful. Requirements that produce the least misleading information may be the best that can be realistically hoped for.

A5.11 Income statement presentation

There are presentational problems for the income statement where the alternative-bases approach is adopted. These arise principally where some but not all of the firm’s income is attributable to changes in market prices. It will be recalled that the assumptions underlying the alternative-bases approach include that:

- income on a historical cost basis is a useful indicator of future income; but
- income on a market price basis is not.

In some businesses, this may not be problematic, as reported income may be either all on a historical cost basis or all on a market price basis. However, it is not unusual for firms’ business models to be a mixture of adding value to market prices and not adding value to them. In these cases, it would make sense to separate in the income statement income from changes in market prices and income from adding value. Income from changes in market prices would include both realised and unrealised gains and losses, but it would be useful to separate the two components⁹⁰

How far this would be a practical problem is unclear. The intense difficulty that standard-setters experience in settling presentational issues for the income statement suggests that it is likely to be a serious problem.

⁸⁹ See IASB Expert Advisory Panel, *Measuring and Disclosing the Fair Value of Financial Instruments in Markets that Are No Longer Active*.

⁹⁰ Current proposals on the presentation of financial statements include: Stephen Penman, *The Design of Financial Statements*, and the IASB (and FASB), *Preliminary Views on Financial Statement Presentation*. The IASB produced a discussion paper on the subject in 2009 and is expected to produce an exposure draft in 2011.

APPENDIX 6: MEASUREMENT BASES, THE INCOME STATEMENT AND THE BALANCE SHEET

A6.1 A summary analysis

The table below shows some of the features of different bases of measurement in terms of their effects on the income statement and the balance sheet.

Panel A6.1: Bases of measurement compared

Basis of measurement	General comments	Income statement	Balance sheet
Recoverable historical cost	<ul style="list-style-type: none"> • Transaction amounts are objective. • Cost allocations and write-downs are subjective. 	<ul style="list-style-type: none"> • Shows repeatable income (except where there are write-downs or holding gains). • Includes realised holding gains as income. • Excludes unrealised gains. 	<ul style="list-style-type: none"> • Balance sheet items tend to be residuals from measurement of net income. • Excludes unrealised gains.
Recoverable replacement cost	<ul style="list-style-type: none"> • Market prices are objective. • Cost allocations and write-downs are subjective. • Changing technologies and markets make replacement cost doubtful. 	<ul style="list-style-type: none"> • Shows repeatable income (except where there are write-downs). • Shows whether operating capability is being maintained. • Excludes holding gains from income. 	<ul style="list-style-type: none"> • Shows current value of balance sheet items (entry prices).
Fair value	<ul style="list-style-type: none"> • Market prices are objective. • Estimated fair values are subjective. 	<ul style="list-style-type: none"> • Shows changes in current values of net assets. 	<ul style="list-style-type: none"> • Shows current value of balance sheet items (exit prices).

A6.2 Pros and cons of different features

The 'general comments' in the table above probably require little explanation. Measurement features that promote objectivity are an advantage and those that promote subjectivity are a disadvantage. In this respect each of the three measurement bases considered has its pros and cons.

That replacement cost amounts can be based on either market prices or cost allocations may need an explanation. In practice, both approaches are used: sometimes replacement cost is current market price for an identical item (eg, a commodity held as inventory), sometimes it involves a cost allocation process (eg, depreciated replacement cost for an item of plant).

When it comes to the income statement and balance sheet features, a number of them can be seen as pluses or minuses depending on the user's point of view. For example:

- Excluding unrealised gains can be seen as an advantage in that the measurement of such gains may be subjective and therefore open to management manipulation, and it may be

unwise to count your chickens before they have hatched. It may be seen as a disadvantage in that it gives an unduly negative view of the firm's performance and financial position, and encourages cherry-picking in asset sales to generate reported profits.

- Excluding holding gains from income can be seen as an advantage to the extent that it produces a superior measurement of repeatable income. It may be considered as a disadvantage where the business sets out to make holding gains.

There seems to be no basis of measurement that maximises the utility of information in both the income statement and the balance sheet, and so choice among different bases may depend on which statement the user gives priority to. This is not a straightforward matter as user preferences are likely to some extent to reflect the inherent usefulness of the information in the two statements. So, if users show a growing preference for balance sheet information, this could be interpreted as:

- an independent change in user preferences;
- a reflection of changes in the subject matter of financial reporting (eg, changes in the volume and/or nature of financial instruments);
- a reflection of the growing usefulness of balance sheet information (eg, because of changes in accounting standards); or
- a reflection of the declining usefulness of income statement information (eg, because of changes in accounting standards).

Any change in user preferences needs to be investigated in order to understand it.

It is in any case possible to adopt forms of disclosure that show information on multiple bases. For example, the income statement could be on a historical cost basis while the balance sheet is on a fair value basis. Or, conceivably, both statements could show information on both bases in parallel. This would have disadvantages in terms of additional costs for preparers and potential confusion for some users (eg, uncertainty as to which are the 'real' figures), but for more sophisticated users, it might be positively helpful. It is certainly possible in principle to combine the advantages of different measurement bases within the same set of accounts, though there might be questions in practice as to the consistency of the quality of all the information reported.

A6.3 The conceptual debate

These questions connect with the debate on standard-setters' increasing emphasis on the balance sheet, such that in certain respects income becomes a residual of balance sheet changes. There is some evidence that in recent decades US companies' reported earnings have become more volatile, less effective in matching costs and income, and less useful as a predictor of future results.⁹¹ These changes have been attributed, at least in part, to standard-setters' focus on the balance sheet.

As stated earlier (Section 3.8 above), we do not in this report go into the question of whether the standard-setters' approach of giving priority in their conceptual frameworks – and to some extent in their standards – to the measurement of assets and liabilities is misconceived. The evidence referred to above may support such an argument. But, as noted by the authors of the research paper, it seems that some of the growing misalignment between revenues and costs in US companies' accounts is due to growing conservatism, while criticism of balance-sheet-based approaches to the measurement of income more often focuses on the recognition of unrealised gains, which is the opposite of conservatism. It might be argued that, in the past, reported profits were not volatile enough. Also, predictability of profits – though in some ways desirable – should not be an overriding objective.

The observed decrease in the matching element in US financial reporting has taken place within what remains a predominantly historical cost system. So the simple summaries of the effects of different measurement bases in Panel A6.1 need to be treated with some caution.

⁹¹ Iliia D. Dichev and Vicki Wei Tang, 'Matching and the changing properties of accounting earnings over the last 40 years'.

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