

CHAPTER 1

INTRODUCTION

Financial statements are the window through which the outside world views the economic performance of companies. This book explains the craft of reading and interpreting financial statements.

The first part of the book, *Accounting*, studies the accounting language and practice that users of financial statements need to understand. We conduct a systematic review of Generally Accepted Accounting Principles (GAAP), which are the rules that determine what goes into financial statements. The focus is on the integrity of the financial statements – on the completeness of the balance sheet, on the valuation of assets and liabilities, and on the completeness of income – and this provides the organising principle for the book.

The people who need to understand the financial performance of companies include owners and lenders, employees, suppliers and customers, competitors, and government. They all have the same questions, which are about risk and return – about how the company will grow and how profitable it will be, and the risks they will face in dealing with it. They need to understand the economics of the business – how it works in economic terms – in order to develop expectations about its future. The second part of the book, *Return, Risk, Valuation*, shows how to use financial statement data to make these judgments.

Accounting

A company's financial statements consist of a balance sheet, an income statement and cash flow statement, plus any subsidiary statements and supporting data. Even in the digital age of continuous information flow, a company still publishes its main financial statements annually and updates them half-yearly or maybe quarterly. These financial statements provide the economic record of the business and our window into the company.

Until quite recently the accounting world was truly a 'Babel' where most countries required their firms to report using their own national rules. However, there has been some convergence so that two systems now dominate – US GAAP and International GAAP, that for short we call IFRS – and we discuss both systems. Though, viewed from close up, there are still differences of detail, from the high-level perspective of this book IFRS and US GAAP are similar in most important respects. We explain the differences as we encounter them, but otherwise talk generically about 'GAAP'.

Chapter 2, *The balance sheet and income statement*, is about vocabulary. It describes the content of a balance sheet and an income statement, and introduces some fundamental measures of return on capital and financial structure. We compare five companies – four industrial companies and a bank – that operate in very different businesses, in different parts of the world, and with different business models. We will be struck by how effective accounting is in representing them so that they can be directly compared to one another in financial terms.

Chapter 3, *Assets*, discusses the balance sheet recognition of assets and, in particular, the treatment of intangible assets. For GAAP, a necessary condition for recognising an asset in the balance sheet is that the future benefits can be measured reliably. This turns out to be tough on home-grown intangible assets such as brands, patents, organisational competencies and know-how, that may be the most valuable assets many firms have. But if an intangible asset was purchased rather than home-grown, as happens in a takeover, GAAP does require it to be recognised in the balance sheet. So we also examine the accounting treatment of takeovers at this point.

Chapter 4, *Liabilities*, discusses the recognition of liabilities. The balance sheet recognition tests for liabilities mirror those for assets. GAAP wants companies to recognise all of their liabilities in the balance sheet and that is usually uncontroversial because the amount the company owes is usually known and contractual. The chapter focuses on the more challenging cases such as tax and pensions where liabilities can be very large but are uncertain, so that the provision has to be estimated.

Chapter 5, *The entity*, examines arrangements like operating leasing, receivables securitisation, and the non-consolidation of subsidiaries, which have the effect of excluding assets and liabilities from the balance sheet. When liabilities are linked to assets, GAAP's approach has been to ask who owns the asset. But in a world of complex contracting this question may have no clear answer. GAAP will continue to be challenged as companies explore new ways to get debt off the balance sheet, and as they conduct significant activity through associates or using assets provided by third parties, with relatively little financial disclosure.

Chapter 6, *Income*, examines the measurement and presentation of income. We look in turn at the main components of income – revenue, operating costs and provisioning, financing costs, and, in particular, taxation, to see where companies have some discretion in timing earnings. How income is presented is as important as how it is measured. Companies will emphasise some components of income while classifying others as exceptional or transitory, to identify ‘core income’. The chapter ends by discussing volatility, and companies’ efforts to smooth their earnings year by year.

Chapter 7, *Balance sheet valuation*, discusses how assets and liabilities are valued in balance sheets. The valuation basis of balance sheets remains, fundamentally, historical cost – if assets become worth less than cost they are written down, but if they become worth more they are left at cost. IFRS permits fixed assets and intangibles to be revalued upwards, but US GAAP insists on historical cost. The result is that the financial statements of industrial companies give us a cocktail with a base of historical cost and some current value mixed in. But GAAP requires ‘fair valuation’ of some financial assets and liabilities, so the balance sheets of financial companies like banks come much closer to being at current value.

Chapter 8, *GAAP’s accounting model*, takes stock of GAAP. For financial statements to yield economically meaningful measures of profitability and capital structure, period by period, we need a balance sheet that is complete in assets and liabilities and measured at current values, and an income statement that measures income comprehensively. GAAP is fully signed up to balance sheet completeness, and to reporting income comprehensively. But balance sheets are still grounded in historical cost. The challenge GAAP faces is that while balance sheets are black and white, reality is shades of grey, so that what assets and liabilities are worth, and even whether they exist, may be quite uncertain. GAAP represents this reality by using a system of categories and thresholds – ‘bright lines’ – applied with a bias to conservatism.

The chapter assesses how GAAP is evolving and whether it is converging to one international set of rules. Going forward, the concern is not the accounting model but disclosure and accountability, that is, the question of which businesses must produce financial statements and who is entitled to read them. Whatever our dealings with companies, we all need to read their financial statements, but these rights are always under threat. With accountability, the forces of darkness are always around.

Return, Risk, Valuation

Chapter 9, *Operating performance*, shows how to measure the return on capital employed of the entity in order to see how profitably the company is using the finance it raised from shareholders and by borrowing. We then use financial ratios to analyse the return, in terms of margin and asset turn, then into the component costs, and assets and liabilities. If disclosure will let us, we also want to decompose the numbers vertically, by business segment. The aim is to get as rich an understanding as we can of the economics of a firm and the drivers of its profitability. This requires us to understand the impact on the numbers of how the accounting is done, and also of the business model it is using.

Chapter 10, Cash flow, explains how to analyse cash flow to get most insight into the way a firm is generating and using cash. Cash flow is a story, not a number, and we want the cash flow statement to present the story in a transparent and economically coherent way. We will see how the appearance of the cash flow statement is affected by the company's business model, by growing and shrinking, and by the company's accounting policies.

Chapter 11, Leverage and risk, examines how leverage affects risk and return. We calculate the company's weighted average cost of capital, which is a close relation to the financial leverage calculation. The proportion of a company's operating costs that is fixed in the short term is known as 'operating leverage'. Financial leverage adds more fixed cost in the form of commitments to pay interest. In most firms, fixed operating costs exceed financing costs so that operating leverage is usually the more influential of the two leverages.

Chapter 12, *Failure*, analyses companies that are in financial distress. When a company fails, everyone involved with it – employees, suppliers, lenders, and owners – loses. So it would be very useful if failure could be reliably predicted. We examine how and to what extent this can be done. As managers fight for the company's survival there is a natural temptation to talk up the company's prospects through aggressive accounting. In some extreme cases, managers resort to accounting fraud. We examine some of the most high-profile corporate frauds of recent years to see what can be learned from them.

Chapter 13, Value metrics, shows how accounting data can be used to signal whether the company is creating or destroying value. This is something that, explicitly or implicitly, investors do, when they rank and screen stocks; regulators do, to control the prices charged by regulated firms; companies do, when they measure divisional performance or set management remuneration. In all of these applications, using the accounting data to derive value metrics makes big demands on the data integrity of the financial statements. The chapter ends by comparing accounting returns and share price performance as measures of performance.

Chapter 14, Modelling and valuation, shows how we project the financial statements into the future. Whatever our relationship with the company, the end goal of financial statement analysis is to help us form expectations about the future. In fact, this is the only goal, because the future is the only thing we can do anything about. We will see how to structure a financial model, and what we can learn from research about reasonable expectations of the persistence of growth and profitability. This will provide the assumptions that drive the model.

Using this book

At first glance, getting reliable economic insights from accounting data looks like a tough task. The corporate jungle contains a rich variety of beasts, widely differing in what they do and the way they make money. Even within an industry, companies can use business models that look very different in financial terms. Then there is economic uncertainty, which means that even when accountants are describing something that might seem knowable, like last year's profit, they have to make estimates. Accounting itself poses a challenge with its technical vocabulary, and what looks like an arcane set of rules to describe companies. Finally, there is 'creative accounting' – the popular view that financial statements are whatever accountants

want them to be, and that companies are basically out to deceive. Economic theory, preoccupied with agency failure and income management, reinforces the view.

The message of this book is different. We will be struck early on by just how powerful the accounting model is at rendering very different businesses comparable. We will see how much economic insight we can get from a careful analysis of accounting data. The vocabulary soon becomes familiar, and the accounting rules turn out (mostly) to be sensible and pragmatic devices for fitting the variety and ambiguity of the economic world into the black and white accounting world of financial statements. We are always vulnerable to fraud, but fraud is a rare event, and we will learn how to spot aggressive accounting.

Building an understanding is not like building a wall; it is usually best to start at the top and work down to the foundations. In this book we begin with the idea of a balance sheet and of an income statement, and how they are used to measure profitability and capital structure. These are all very intuitive constructs – they make sense as ideas, without needing to know in great detail what accountants do. We fill in that detail as we go along.

We use a lot of cases and examples along the way. The cases are based on the publicly available data of real firms. The examples are simple stories that are made-up – they have no connection at all to real-world businesses that might happen to share the same name! Notes are short narratives describing pieces of history or literature that help put the ideas we are discussing into context, while Technical Notes at the end of some chapters go deeper into some technical issues for readers who want that.

Vocabulary is always a barrier to understanding financial statements. Accounting has a very powerful conceptual structure to describe firms in economic terms, but GAAP does not police the vocabulary and formats that firms use very closely. Accountants can use different words for the same thing, and can mean different things by the same word. The vocabulary that we use in this book is a mix of US GAAP and IFRS usage, and where there is a variety of vocabulary used in practice we explain the main alternatives as we go along. We italicise terms the first time they are introduced and defined and they are collected in the Glossary at the end of the book.

In the end, financial analysis is story telling. We are trying to tell the firm's economic story using financial statement data and using any non-financial information that the firm has provided. Even when the firm is not using the accounting model we might want, so long as we know how the numbers were measured we can adjust the data, or use our experience to form a judgement.

If financial statements do not give a clear window into a company this is mainly because of the aggregate nature of financial statements and the lack of disclosure and transparency, rather than the way the numbers are measured. These data limitations, and the immense uncertainties of the economic world, mean that the stories we tell are conjectures. We should constantly seek more data and look for alternative explanations, and keep asking ourselves just how much confidence we have in our judgments.