Sources of Value

Sources of Value is a comprehensive guide to financial decision-making suitable for beginners as well as experienced practitioners. It treats financial decision-making as both an art and a science and proposes a comprehensive approach through which companies can maximise their value. Beginners will benefit from its initial financial foundation section which builds strong basic skills. Practitioners will enjoy the new insights which the eponymous *Sources of Value* technique offers – where value comes from and why some companies can expect to create it while others cannot. The book also introduces several other techniques which, together, spell out how to combine strategy with valuation and an understanding of accounts to make a fundamental improvement in the quality of corporate financial decision-taking. *Sources of Value* is written in a readable conversational style and will appeal to those already working in companies as well as those studying on a business course.

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A Practical Guide to the Art and Science of Valuation

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The content, style and potential readers of this book

Why should you read this book?

This book has some unique things to offer. It is about the subject of economic value and how this can be used to make better financial decisions within companies. Many other books do this but there are three things that make this one special:

1. It is a deeply practical book that delivers techniques and skills which will be of immediate use within a corporate environment. I claim this with all of the confidence which follows from my 36 year career with the oil major BP PLC. Although the fundamental reliance on discounted cash flow is the same, the approach recommended by this book adds up to something which is significantly different from that suggested by the current standard textbooks on the subject.
2. It introduces a technique which I call Sources of Value. This technique provides a new way of thinking about where value comes from and has the potential for very wide application in the formulation and implementation of successful strategies. The Sources of Value technique offers a way of adding a quantifiable edge to strategy concepts which are otherwise more often limited to qualitative consideration. In this way, Sources of Value creates a clear link between strategy and value.
3. It introduces a way of structuring accounting data that I call the abbreviated financial summary. This way of setting out accounting data makes a clear and obvious link between the economic value of individual projects and a company's overall accounting results. By adding this link between accounts and value to the previous link between strategy and value one can integrate what are usually treated as the separate business skills of accounting, finance and strategy.

Although the book draws heavily on my experiences, it is not just a book about the oil industry. I have written it for use in a wide range of industries – wherever significant investment decisions are made in the service of the goal of shareholder value. This book should even be of use beyond this sector because in the final section I look at decision-making when economic value is not the main objective. So those working in governments and charities, for example, should also benefit from reading this book.

Who should read this book?

I have written this book for two distinct audiences. These are what I term **'beginners'** and **'existing practitioners'**. Their needs at this stage are very different but I address this by including, as the first part of the book, a financial foundations section written specifically for beginners. I will consider the needs of these two groups next.

A good starting point for **beginners** is the saying that even the longest of journeys starts with just a single step. This, of course, is true, but if you only ever learn to walk you will probably never get anywhere really interesting. Learn to drive and then think where you can get to!

This book offers to beginners a 'quick start' to learning about how companies can make better financial decisions.[1] It offers to teach what I think of as 'the language of business'. By working through the first section of this book, beginners will speed along the initial stages of what, for me, has been a career-long journey towards understanding the financial side of business. Learn the language of business and then you too will have given yourself the possibility of joining in the running of a business with all the rewards that this can bring.

I anticipate there will be many people who will fall into my 'beginners' category. They will include new graduates who have just started on their career in industry. They will also include people who may be several years into their career but who have not yet learned how the financial side of business works. They will perhaps be on the point of switching from a technical to a financial/commercial role. They may even already have risen to management positions but will have limited financial understanding. What the beginners have in common is a weak understanding of the way financial records are prepared and how financial decisions are taken. I will assume that, at the outset, these readers have absolutely no financial knowledge. In most cases this will

[1] My analogy with driving prohibits me from calling the financial foundations section a 'crash course' although this is really what it is.

understate their skills but in my experience it is best for beginners to start from scratch rather than from some assumed position of basic awareness.

Beginners who are lucky enough to receive formal training would typically gain their financial skills by attending what is called a 'finance for non-financial managers' course. A more thorough approach would be to attend an MBA course or something like that. Many beginners, however, are simply expected to 'pick up' their skills on the job. This book cannot attempt to rival the in-depth teaching which the more thorough courses can offer. It can, however, offer a huge reduction in the time that is needed in order to get up to speed financially and, furthermore, individuals can achieve the learning on their own if they so wish. My experience tells me that time is a key constraint and many beginners remain exactly that simply because they can never find the time to give themselves the vital financial foundations. This book should remove that excuse for ignorance.

The financial foundations need to be quite broadly spread. They must cover accounting, strategy and finance. My aim for the first section of the book has been to offer a 'one-stop-shop' that covers what I consider to be all of the necessary skills that could transform, say, an intelligent but financially unaware chemical engineer into an individual who would function well in a planning or commercial project development role in any company. A great advantage of the one-stop-shop approach is that learning can be much more efficient with, for example, case studies being shared between chapters and developed as the book progresses. The alternative for beginners would be to study each foundation subject separately. This would take a lot more time and would miss the opportunity to share case studies.

The financial foundation section should get my beginners up to speed and upon completion of it, they can then consider themselves as though they were existing practitioners ready to start the main two sections of the book.

Existing practitioners could be doing a range of jobs right up to running a company. They will certainly know about things like profit and NPV. They will be well aware that in theory all positive NPV projects are beneficial for shareholders but they may well wonder why their company's investment policy is not simply to invest in all positive NPV projects. If they have attended a business school they may also be wondering what to do with all of the skills they have gained concerning setting the cost of capital. My expectation is that the links which I will demonstrate between accounts, value and strategy will leave this group of readers more satisfied that their learning was worthwhile and can be used to support 'real world' decision making.

Individuals who are already in this group will certainly not need to work through all of the financial foundation section. I could simply invite them to join the book at the start of the second section but there are some aspects of the way I look at finance that I believe need to be spelled out clearly. So I have provided a reading guide for practitioners at the end of this preface. This guide maps out a very quick path through the financial foundation chapters in order to highlight the points which I think existing practitioners need to review before they start on the main sections.

The focus in the book is on investments by companies. I would highlight two other distinctive areas which are briefly covered but which are not considered to be primary objectives. These concern how banks and other financial institutions make their lending and investment decisions and also how financial decisions are taken in 'not-for-profit' organisations such as state run medical and educational institutions or charities. Both of these topics will be covered but only in a relatively light-touch way.

What is in the book?

The book is in three main sections. The first has already been mentioned and is a financial foundation course for beginners comprising five so called building blocks as follows:

The five financial building blocks

1. **Economic value.** An introduction to the economic value model which provides the main theory on which this book is based. The model utilises the concept of the time value of money. Through this, sums of money that we anticipate will become available at different points in the future can be converted into the common currency of their equivalent value today. This in turn allows rational choices to be made between alternatives.
2. **Financial markets.** This section will summarise the two sources of finance that are used by companies, namely debt and equity. An understanding of these will provide one of the two key inputs to the economic value model, namely the time value of money. This section will also introduce the concept of treating the decision about how to finance an asset separately from the decision whether or not to invest in it in the first place.

3. **Understanding accounts.** The basic financial information within a company is captured in its accounts. This section will explain the key conventions that are adopted in preparing accounts. It will then show how accounting data can be restated in a format that I call the abbreviated financial summary. This provides an ideal way of computing the other key input to the economic value model, namely future cash flow.
4. **Planning and control.** Good financial decisions can only be taken within the context of a company with a sound planning and control system that can allow the vital feedback loops to be created between how companies plan and how they actually perform. This building block will explain the main planning and control processes and how such a feedback loop can be created. It will also stress the importance of setting appropriate targets and summarise a handful of key strategy tools and techniques which are needed later in the book.
5. **Risk.** The future prospects of a company are not certain. In this section, key statistical principles and techniques are explained including in particular the concept of expected value. The section will also introduce the concept of portfolio diversification. This provides one of the cornerstones of the theory of corporate finance. The section finishes with a summary of the different types of risk which should help provide a framework for risk analysis.

Each building block also contains a number of individual work assignments. These offer the chance to practise the techniques which have been explained and are a vital contribution towards transforming individuals from beginners into practitioners. Suggested answers are provided at the end of the book. These should be read by all beginners including those who decide, for whatever reason, not to attempt the exercises themselves. They form an important part of the overall learning offer.

The five building blocks are presented in what I consider to be their logical order. They do, however, interact a lot and so the foundation course is only completed when the final block is done. At this point, approximately one third of the way through this book, readers should feel able to join in the financial conversations that take place within companies and elsewhere and also to carry out some basic numerical analysis.

With a sound foundation in place, my analogy for the second main section of the book is that it provides three pillars which, between them, support the platform on which major financial decisions are made. A good decision is, in my view, a blend between judgement and rational analysis. The financial techniques described in this book will provide the rational analysis part of any good decision. These pillars are as follows:

The three pillars of financial analysis

1. **Modelling economic value.** This chapter provides an essential starting point for the consideration of value within a corporate environment. It should help individuals build the necessary spreadsheet models which will support value analysis. It also proposes a set of discounted cash flow conventions which could be adopted by any company as its standard evaluation methodology. A standard approach is essential if rational choices are to be made between competing projects because otherwise, decision-makers can easily be mislead by NPV differences which are purely a function of methodology and not the fundamental characteristics of competing projects.
2. **Sources of Value.** We are now ready to meet the eponymous Sources of Value technique. This starts by asking the question 'where does the NPV come from?'. The answer to the question allows one to build a bridge between the calculation of value and the strategic concepts which are used in the formulation of strategy. It gives an ability to calibrate the main assumptions which underpin our financial analysis and allows us to focus on the key reasons why our investments are expected to create value.
3. **What sets the share price?** The third pillar deals with the valuation of companies and with the implications of value being set by the present value of anticipated future cash flows. These implications range quite widely and go a long way towards explaining the performance of companies that is seen by their ultimate owners, their shareholders.

The new platform that we will have reached is not intended to cover everything that can be learned. It should, though, provide a sound working base that will allow significant financial analysis tasks to be undertaken. Readers who complete this second section should feel themselves well equipped to take a leading role in some important financial studies and, through the Sources of Value technique, to introduce some new and challenging thinking into their work place.

In the final section we will consider some more advanced skills. These chapters support the concept of judgement based on rational analysis. The philosophy is that it is only when one understands the limitations of our theories that one can really grasp how important executive judgement is in the making of good decisions. The theories are there to help make good decisions but they must be applied with the appropriate dose of real-life experience. What we can learn from the advanced sections is that this application of judgement does not negate the theories. Understand them properly and you realise that they require it. These three advanced skills areas that I will cover are:

Three views of deeper and broader skills

1. **Cost of capital.** This gives a deeper analysis of this topic and a consideration of alternative approaches to the setting of the appropriate time value of money. It also considers some of the implications of the theories for the way that risk is incorporated into decision making.
2. **Valuing flexibility.** Flexibility has a value which can be hard to capture in typical spreadsheet models as these tend to project the future as being simply a linear path from the present. In reality we can make choices which can allow us to enhance value. This chapter proposes a relatively simple discounted cash flow based approach to placing a value on flexibility.
3. **When value is not the objective.** We finish with a chapter which should broaden our skills. Governments and charities, for example, both work to different sets of rules. In this section we will consider how the techniques described can be adapted to such situations. This chapter is included as it should help us understand the actions of others and also because it allows us to understand better the strengths and weaknesses of the economic value model.

How should you approach reading this book?

As promised earlier in this preface, here is a guide for readers who are already well skilled in financial matters and who are reading this book to add some specific new skills. I hope that there will be many such readers because the book introduces what I think are several new techniques that I know from my experience are not a typical part of current practitioners' toolkits. Readers who do not consider themselves already skilled should skip ahead to the 'ready to learn' section now.

The simplest piece of guidance for skilled readers is to move quickly through the financial foundations section remembering it was written for beginners. I suggest that you give each of the five foundations a quick skim rather than simply skipping them altogether. The reason for this is that I do introduce some specific ways of doing things that I will apply later in the book. Also, several of the case studies are drawn on again later in the book.

My summary for you of these first five chapters and where you should focus your quick review is as follows:

- **Economic value.** There should be nothing new for you here. Just spend a couple of minutes glancing at the sections on project evaluation starting on page 14 with NPV and project evaluation through to the end of page 17.
- **Financial markets.** The initial summaries of debt and equity should be entirely familiar to you. The section on how these combine to give the cost of capital should be of more interest and I suggest you read the second half of it starting on page 53 with the Modigliani Miller proposition and ending with the conclusions on page 58.
- **Understanding accounts.** The first part on accounting basics can be skipped but I do suggest you read part 2 on the abbreviated financial summary (pages 74–79). This is because I use a particular way of structuring accounting data and it is important that you are aware of this.
- **Planning and control.** I think you can afford to skip the first three parts but I suggest you do read all of part 4 on words and music starting on page 125. You should be aware of most of what is covered but I do think some of my approaches are novel. I am assuming that you are already familiar with Michael Porter's work on value chain analysis, the five forces model and competitive strategy. If you are not, you should read pages 116–123.
- **Risk.** Most of this section will be familiar to you. I suggest you should read the section in part 1 on sensitivities starting on page 156 and the sections in part 3 on managing risk and the U-shaped valley starting on page 171. These are all important and may contain some new ideas. You may also want to look at my classification of risk as this may help by giving some checklists. This starts on page 172.

Since I cannot know exactly what a skilled practitioner already knows I do suggest that you read all of the second and third sections of the book. The chapters are set out in what I think is a logical order but I would excuse an impatient expert who leapt straight to page 258 to read first about Sources of Value!

Ready to learn!

I hope this outline has given all readers a fair overview of the book that follows. If it has intrigued you, then read on. If it does not sound like what you want then put the book down because from now onwards I will assume that all readers are keen students who commit to learn. Good luck, and enjoy the journey to financial skills!

Acknowledgements

My desire to write this book had been growing over many years. I must now give my thanks to all those who have helped me to transform a dream into reality. The most important acknowledgement must go to the institution that I call 'BP' for it was my career with this company which gave me the experiences on which the book is based. My colleagues may not realise it but their interesting questions and their appreciation of my teaching formed two great contributions to my deciding, eventually, to write this book. Hugely important also was the wide range of experiences which working for BP gave me.

With these general words of thanks in place I do now want specifically to recognise a few people who were especially influential in the journey which has resulted in my writing this book.

I benefited greatly from the teachings given to me by many people and in particular I would like to single out Eric Edwards and Ken Holmes who gave me my initial grounding in, respectively, finance and accounts. Special thanks also go to Brad Meyer who taught me a lot about how to be a teacher when my career reached the point where teaching rather than being a technical expert became my primary role.

Next I must acknowledge two people who planted two key ideas and two expressions in my mind. The most important idea and expression was that of Sources of Value itself. This came from Ray McGrath who was a colleague in corporate planning in the 1980s. A few years earlier it was Richard Preston who introduced me to what he called the abbreviated financial summary way of structuring accounting data. In both instances it has been my role to take an original idea and show how useful it can be, to codify its potential use and, now, to publicise it widely.

Several senior BP managers have supported me during my career but I must single out Dr John Buchanan who, ultimately, rose to be BP's CFO. We seemed to have our career paths joined together from the middle of my career onwards as I worked for him in supply, corporate planning, chemicals and finally in finance. He always gave me trust and support. Most importantly, it was he who invited me to 'do something about financial skills across all of BP'. It was this challenge which led, ultimately, to this book.

My final colleague to thank is Professor Don Lessard of MIT. He is associated with BP through what we call the Projects Academy. This is a high-quality executive education joint venture designed to enhance the ability of BP's senior project managers. Don invited me to lecture on Sources of Value to the BP classes and I found my conversations with him, and the seven lectures which I gave, inspirational. They, and the enthusiastic support from several of his MIT professorial colleagues whom he invited to my lectures, were the final step in giving me the confidence to write this book. I must finish with a big 'Thank you' to my wife Margaret who has been a huge help during the final proof-reading stage and who has had to put up with my obsession with this book over the previous two years.