Financial Management in Construction Contracting

Andrew Ross & Peter Williams

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- PowerPoint slides for lectures on each chapter
- Excel worksheets to practice what you learn
- Sample valuations and cashflows

Financial Management in Construction Contracting

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Contents

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Preface

For the love of money is the root of all evil

1 Timothy 6:10
The Holy Bible: King James Version (1769)

It could be argued that the love of money (or greed) has become an endemic evil in modern society and that this cannot be better exemplified than by reference to the worst excesses of the 2008 banking crisis. Whilst there may well be ideological, religious, political and other evils in society, few would argue that those who seek to profit at the expense of others are not evil. However, it is not money itself but the love of money which is the problem and it is greed that has impacted on the standards of humanity seen in modern society.

So 'what's new?' you might ask – the world is full of scams, cons, fraud, identity theft, unfair and underhand practices and downright dishonesty, and these manifestations of the worst in human nature can be seen at all levels of society from governments to utility companies to commercial enterprises and even within families.

The construction industry is not insulated from the worst excesses of the 'money motive' either, whether in the name of profit, tax avoidance, business survival or sheer greed. Whilst it would be a sweeping generalisation to say that construction is 'evil', there is no doubt that sharp practice, deception and dishonesty are features of the industry.

The question arises as to 'when does sharp practice become dishonesty?' and 'when does dishonesty become fraudulent?' Sharp practice is not a crime – fraud is – but there is certainly a 'grey area' regarding dishonesty. Dishonesty may have some moral justification (e.g. stealing from the rich to give to the poor) and there may well be degrees of dishonesty that fall short of a criminal act, but behaviour that is knowingly dishonest may not pass the test of what is expected of a 'reasonable and honest person' in a court of law.

Deception? Well, that's another question! This is the act of deceiving someone with a view to mislead, distort or falsify and may involve equivocation, concealment of the truth, exaggeration of facts or figures, understatement of the true situation or plain telling lies and may or may not lead to a crime.

Sharp practice and deception short of the criminal might well be called 'questionable practice' and there is no doubt that the construction industry is no stranger to either. Examples of questionable practice are not difficult to find. Some clients (and their professional advisers) are familiar with the 'art' of deception and this can be seen in the way that their projects are tendered and documented. Main contractors are frequently accused of 'subbie-bashing' often, but not always, with justification. On the other hand, subcontractors are not averse to making 'a fast buck' when the

opportunity arises and there have been several well documented cases of corrupt practices in the materials supply side of the industry.

The worst examples of questionable practice in the industry might nevertheless attract the soubriquet of 'crime', not in a legal sense, but in terms of a crime against the industry. This might happen where the greed of a main contractor squeezes a subcontractor to the point of insolvency or where a small businessman loses his home when a bank calls in an overdraft at the precise time when financial support is most needed. As a consequence, the industry loses skills that will be gone forever and the rare gift of entrepreneurship is lost, never to be replaced.

It would be disappointing, however, if the reader went away with the idea that the construction industry was a 'den of iniquity' – it is merely a microcosm of society. Exciting, challenging, rewarding, risky, insular and reactionary are all adjectives that could be used to describe an industry that is capable of breathtaking triumphs of architectural and engineering genius delivered by resourceful and talented people. Latham (1993)[i], however, highlighted the 'fly in the ointment' – the mistrust that exists in the construction industry, especially when it comes to payment. It is this mistrust that conditions the relationships between all participants in the construction supply chain and influences peoples' behaviour.

Against this background, this book is concerned with financial aspects of contracting from the perspective of the authors' combined experience in the industry of some 70 years. The aim is to explain 'how things operate' in the 'real world' of contracting to those who wish to understand and if this means opening the 'black box' of financial practice both good and bad then so be it. The book is not intended to be an exposé of the 'evils' of the industry but is meant to illustrate good practice in financial control whilst at the same time being honest about some of the questionable practices that can and do happen.

The law of the land protects society from dishonesty and fraud and professional standards seek to ensure that members of the professions behave ethically. Cynics, however, would perhaps argue that 'there are no ethics when it comes to money' – and there may be some truth in this – but at some point the construction professional must take a stance on both personal and professional ethics.

This stance is affected by the professional codes of conduct or core values that are shared by members of a profession, it is affected by the community of practice that exists within the different strands of the professions and also by employing organisations. It was no surprise that Sir Michael Latham entitled his first report 'Trust and Money', as they both go to the heart of difficulties that exist in construction practice.

Euphemisms abound when describing some of the practices that can be found in the industry – commercial opportunity, muscling, loading, discounting, using information asymmetries to protect positions, overmeasuring, opportunism, protecting positions – are all phrases used within the book and are practices evidenced within financial management practice. There is no doubt that some of these practices are unethical and even bordering on fraudulent.

The authors thought long and hard about the ethical stance of the textbook and decided that they would describe good and bad practice, as it is only by learning about bad practice that students and practitioners can put in place safeguards for clients and supplying organisations.

[i] Latham, M. (1993) Trust and Money, Interim report of the joint government/industry review of procurement and contractual management in the UK construction industry. HMSO, London.

A lot of practice can be described as normative, that is it has always been done this way. These practices are often adopted by new employees without question, sometimes through an understandable desire to fit in, or it might be because of ignorance of best practice or through fear of doing something outside the norm.

Construction projects are always unique and the processes of design and construction are always subject to elements of uncertainty and change. The procurement routes and contract conditions used in the industry are structured in such a way to provide guidance to the parties about how to manage the financial and programme consequence of such change. The relationships between organisations designing and constructing these projects are also determined by procurement processes and contract conditions. The consequence of this is that the skill of the practitioner in securing the best return for the organisation's efforts is held in great value. Interpretation, communication and negotiation skills are at the heart of construction practice.

However, as in every walk of life, there are practitioners who are overly opportunistic in their interpretation of the 'rules' and they use their skills to maximise the financial returns and minimise risks for the organisations they work for. The authors had an interesting debate about what to include within this book, as some of the practices described in the text could be considered as 'sharp' or to use a euphemism 'commercial'. We have both observed practices which are unethical and have both had implicit and explicit pressures to act in a way that crosses a personal ethical line. This line is drawn from one's own moral principles and each reader will have their personal and subjective view about what is ethical.

Included within the book are descriptions of practices which may be considered unethical by some and these have been included, not to promote them as good practice, but to educate the reader as to their existence. The development of safeguards can only be undertaken by acknowledging commercial practices. The contractor's quantity surveyor plays a vitally important role in ensuring fairness to subcontractors and also to make sure that our industry's reputation is enhanced. Each reader will make their own contribution to these ends and it is up to them to draw their own ethical line.

Finally, the reader should be careful to disassociate the 'questionable practices' mentioned in this book from illegal practices, such as price fixing and cover pricing, which have been successfully prosecuted by the UK Office of Fair Trading.

Andrew Ross and Peter Williams
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1

Finance in the construction industry

1.1 Introduction

To anyone walking past a construction site the scene can perhaps be best described as 'organised chaos'. The site will be fenced off, or there may be a hoarding around the site, and there will invariably be a variety of plant, equipment and scaffolding in evidence as well as stacks of bricks, heaps of sand and gravel; there will be partially completed work and work under construction and there will be cabins and site offices too.

Financial Management in Construction Contracting, First Edition. Andrew Ross and Peter Williams.

Clearly, all of this activity has a monetary value but the means of arriving at this value may not be immediately obvious to the untrained eye. The mechanisms of valuation and financial reporting of completed and partially completed building projects under construction are explained in this book, as are the means of assessing the value of the work in progress, the valuation of materials on site and the determination as to whether a contract is making a profit or loss. The book is also concerned with why the work has to be valued and how such valuations are conveyed or 'reported' to interested parties outside the contracting organisation.

The scene painted above would be typical of many sites irrespective of whether the contractor is large or small or whether the contract is for building, civil engineering, maintenance or any other type of construction work. However, one thing that contractors large and small have in common, whether they are limited companies or unincorporated, is the need, at some point in time, to determine the value of such partially completed contracts. This is necessary so as to enable a set of annual accounts to be prepared for submission to HM Revenue and Customs (HMRC) and, for most companies of any substance, to file their accounts annually at Companies House.

Construction is a multifaceted industry and construction projects are invariably not straightforward. The processes of tendering, contract award, work on site, completion and handover are often complex and fraught with difficulties and sometimes disputes. There are many influences that bear on the presentation of true picture of the financial position of construction projects, not least the culture of the industry itself.

1.2 The purpose of this book

The purpose of this book is to explain how the financial position on construction contracts is reported, how work in progress is valued, how this information is reported to management and how this is reflected in the annual accounts of the business. The book also explains why things are done as they are and brings into question certain practices that might be considered less than desirable.

To achieve this, it is necessary to understand some basic accounting terminology and practice, how the construction industry and its system of contracts works, how tenders for construction projects are put together and how financial information flows in a construction business.

The book is written for undergraduate and postgraduate students and for practitioners working in the construction industry; it is written in a language that this audience will hopefully recognise and understand. It is not written for accountants or bankers, although some of the insights revealed in the book may help them to better understand how the industry operates and why. We have tried to avoid accountancy 'jargon' and where this has been unavoidable we have tried to explain, in layman's terms, what it all means.

Above all, the authors believe that the book is an honest representation of 'how things are' in the reporting of the financial position of construction contracts and make no apologies for being brutally frank about some of the 'questionable practices' that the industry suffers from. This is not to say that we endorse such practices – far from it – but good practice cannot flourish without awareness of the bad.

1.3 Construction contracting

The subject matter of this book concerns the financial management of construction projects. To be more specific, the focus is on the 'contracting' side of the construction industry – that is to say where projects are undertaken by contractors who are engaged by clients (employers) to carry out a building or civil engineering project for a stated price or for a price to be determined on completion. The principles and issues discussed apply equally to main contractors and specialist subcontractors but the financial management of speculative housing developments, carried out by contractor-developers, is handled somewhat differently and is not, therefore, covered by this text.

All contractors – whether small, medium or large – need to know and understand the financial situation of their projects in order to recognise when things are going wrong and be able to take remedial action before it is too late. However, many contractors and subcontractors in the construction industry, especially the smaller ones, are simply not 'in the loop' when it comes to the financial aspects of their business. They see a healthy order book, they see cash coming in, they see a healthy bank balance and they assume that all is well. This may be far from the case, however, and disaster may be waiting just around the corner. The reason is that what they 'see' is not the 'true' position and, hopefully, the reasons for this will become clearer as the chapters unfold.

One of the great problems in understanding what goes on financially in contracting is that construction contracts of any significant size are complex. The way that contracts are priced, the design changes and unexpected events that take place during construction, the natural human tendency to argue over money and the endemic financial instability of many of the firms that operate in the construction industry all contribute to the complex nature of the financial aspects of construction projects. Add to this the singular culture of the industry, the problems caused by the separation of design from construction, the complex contractual and procurement arrangements employed and the 'grey water' becomes very 'murky'!

A large part of the work of a contractor's quantity surveyor is to provide financial data in order to show the financial position of projects under his/her control. This is usual practice in most medium and large sized contractors but much less so in smaller firms and specialist 'trade' contractors. The whole idea of contracting is to win contracts and make money and the quantity surveyor acts in a quasi-accountancy role to provide information for line managers to run projects efficiently and within budget and to capitalise on opportunities to 'make money' when the occasion arises.

1.4 Work in progress

Ask any accountant what the main problem is in contracting and the answer will be 'the valuation of work in progress'. Work in progress is the *bête noir* of construction accounting and Barrett (1981) pointed out that *no area of accounting has produced wider differences in practice than the computation of the amount at which stocks and work in progress are stated in financial accounts*.

At any given point, a contracting company will have a number of projects running that are incomplete; this means that there will inevitably be a significant amount of work in progress. On one particular day in the year the annual accounts will be 'struck' and the work in progress will have to be reported. To know the true financial

position of the business at such a point, the work in progress has to be valued. This has to be done in a consistent fashion across all contracts and must be done in line with defined and accepted standards of accounting practice in order to ensure that the annual accounts state a true and fair view of the company.

Taken in its narrow meaning, 'work in progress' is the term used to describe work carried out on site that has not yet been invoiced. In other words, it is work done and materials delivered to site after a valuation has been carried out and before the next one is done. Consequently, work in progress represents an amount of money that has not been agreed or certified for payment and is, therefore, subject to question, disagreement or dispute. Accountants see work in progress as a problem because it is frequently the case that the amount received is less than that expected; this can have a serious impact on cash flow and the availability of working capital.

With respect, it is likely that many accountants and bankers are unaware that there may well also be a problem with work done that *has been* certified for payment. This may arise due to a lack of understanding about the way that construction tenders are priced and the influence this has on the valuation of work carried out on site. Consequently, albeit that the work may have been valued by the employer's quantity surveyor and certified for payment, it is quite possible that the valuation will not be a 'true value' because of the way that the contractor has priced his tender in order to reduce negative cash flows and maximise the commercial opportunities provided by the contract. These and other related issues are explained in later chapters.

Consequently, 'work in progress' could be viewed in a broad sense to mean all the work done on a contract to date, whether certified or not and whether paid for or not, because despite payments made on account during a contract, the valuations made are not 'true values', the payments on account are not binding (only the final account is) and the eventual settlement on the contract may be no more than a 'horse deal'.

Notwithstanding this, 'work in progress' has a particular meaning in the annual accounts more in line with the narrow meaning referred to earlier. 'Work in progress' is a truncated version of more long-winded terms that appear in a set of annual accounts including 'stocks and work in progress', 'stocks and long term contracts', 'amount recoverable on contracts' and so on. It all means the same. The 'stocks' aspect is not so important in construction as in other industries. Traditionally, contractors always carried stocks of materials in their 'builder's yard' – for emergencies, small jobs and as a store for over-ordered materials from contracts. Nowadays, holding stocks of materials represents vital working capital tied up and most contractors employ 'just-in-time' ordering methods for their sites.

The 'work in progress' aspect is the important bit!

1.5 Reporting

Whilst there is no denying the importance of the issue of 'work in progress', this book is concerned with much more than that. In the final analysis this book is about reporting. At one end of the scale the quantity surveyor is reporting the financial position on a construction project and at the other end the accountant is reporting the financial position of the company as a whole. In between is a flow of information that is influenced by many factors and it is the quality of this information that determines whether or not the financial position, either on the project or in the accounts, is true and correct.

The importance of reporting the true position on individual projects is vital from a business survival point of view but it is also important in terms of filing tax returns, filing annual returns to Companies House and informing shareholders about the business and how it is doing. Consequently, a clear picture is needed for management control and for giving all sorts of outsiders a true view of the affairs of the business. As will be discovered later in the book, this is far from easy to do and a distorted impression of what is going on financially may well be the outcome of any lack of understanding, questionable practices and frail reporting systems.

More than thirty years ago, Barrett (1981) observed that *inconsistent financial reporting and failure to identify the true financial position of contracts is unfortunately all too frequent*. Much has changed since then in that there are now higher standards of corporate governance and greater transparency in financial reporting. The fact remains, however, that the reporting of the financial position on contracts is at best problematic and at worst misleading and this stems from the nature of construction contracting, ignorance of best practice and the human tendency to 'gild the lily' in order to make things look better than they really are.

1.6 Structure of the book

The book is structured in three main parts:

Part 1 – External environment, which provides the context in which contracting firms operate including:

- How the contracting side of the industry works.
- The problems the industry faces and their impact on contracting.
- The risks and uncertainties that face firms working in contracting.
- How contractors are financed and what the problems are.
- The system of contracts and payments that operates in construction contracting.
- The corporate governance and accounting standards and practices that apply.

Part 2 – Internal environment, which explains:

- How contracting firms are governed financially.
- How contractors are organised so as to operate effectively.
- How contractors go about obtaining work.
- How contractors budget for and control their finances.

Part 3 – Project environment describes:

- The contractual and procurement mechanisms whereby contractors are paid for the work they do.
- How work in progress is valued and certified for payment.
- How money and resources are budgeted for at project level.
- The financial control systems needed to effectively manage project risks.
- How physical and financial progress is reported.
- How the profitability of contracts is reported and how losses on projects are recognised.

Above all, the book is structured in such a way as to provide an understanding of corporate reporting standards and practices so that a true and fair view of a company is presented in the context of the contracts that it carries out.

1.7 The construction industry

The construction industry is similar to other manufacturing industries in that a product is produced and sold to a client. An organisation has to procure resources from the market place, combine them with other resources, add value and then dispose of the final product to make a return on its investment. To understand financial management in construction it is important to understand the context within which construction organisations work.

The UK construction industry has been the subject of much interest over the years and numerous investigations and reports have been published describing the problems of the industry, the tensions that exist between those involved in the construction process and the outdated and unfair practices that characterise the way that the industry conducts its business.

1.7.1 Industry reports

The Latham and Egan reports are perhaps the best known in that long succession of investigations, many of which identified similar problems and made similar recommendations. There have been a total of 13 reports since 1944 that have investigated and produced recommendations about the industry. Langford and Murray (2003) provide an indepth critique of each of the reports. These reports are:

- The Simon committee report (1944)
- The Phillips report on Building (1948–1950)
- The Emmerson report (1962)
- The Banwell report (1964)
- The Tavistock studies (1965 and 1966)
- Large Industrial Site Report (1970)
- The Wood Report (1975)
- Faster Building for Industry: NEDO(1983)
- Faster Building for Commerce: NEDO (1988)
- Constructing the Team: The Latham Report (1994)
- Technology Foresight Report: Progress through Partnership (1995)
- Rethinking Construction: The Egan report (1998)
- Never waste a good crisis: Wolstenholme report (2009).

Sir Michael Latham and Sir John Egan set a series of challenges to the industry and gave us an 'official' view of what are now seen as some of its strengths and many of the weaknesses. The reports have been widely discussed, welcomed, criticised and – in some respects – ignored. At this point, a brief review of the critical issues they raised may provide a useful background to understanding the industry and its complexities discussed in later chapters of the book. A brief comparison of some of their recommendations with those found in earlier reports reveals how deep-seated the problems are.

1.7.2 Industry reform: origins and responses

In 1991, Sir Michael Latham was commissioned, in a joint venture by Government and the industry, to conduct a review of the 'Procurement and Contractual Arrangements in the UK Construction Industry'. An interim report, *Trust and Money*, was published for consultation in December 1993, and the final report, *Constructing the Team*, in July 1994 (Latham, 1993, 1994). These reports identified a wide range of weaknesses in current procedures. Most of these had already been separately recognised in the industry, and indeed discussed in some of the earlier official reports identified above, but Latham linked them together and set out an agenda for reform.

The Latham Report made over thirty specific recommendations, which can be summarised in a few categories:

- Government should take the lead in improving clients' knowledge and practice, particularly of how to brief designers and select procurement methods.
- The whole design process should be reviewed and the link between design and construction improved.
- Building contracts should be simpler, clearer, more standardised and less prone to lead to disputes.
- There should be simpler faster means to resolve disputes where they do occur.
- There should be a Construction Contracts Bill, outlawing some unfair practices, the introduction of adjudication as the normal method of dispute resolution and the establishment of trust funds for payment.
- Government should maintain lists of approved consultants and contractors for public sector work.
- The traditional methods of tendering should be revised and improved.
- Training and research programmes should be rationalised and improved.
- The industry should aim for a 30% reduction in costs by the year 2000.

Although many of the Latham recommendations were accepted and followed up, including the enactment of a Construction Act, only a few years later the Deputy Prime Minister, John Prescott, set up another committee – this time a 'task force' – under Sir John Egan of the British Airports Authority to advise:

> '*from the client's perspective on the opportunities to improve the efficiency and quality of delivery of UK construction, to reinforce the impetus for change and make the industry more responsive to customer needs*'. (Strategic Forum for Construction, 2002)

The Egan report, *Rethinking Construction* published in 1998 (Egan, 1998), was shorter and sharper but more radical than Latham. The language was different, the criticism harsher and it implied a total change in the industry's culture. Many of the recommendations of the two reports were in effect very similar, but whereas Latham seemed to look for reform within the old traditions, Egan was proposing a revolution, or so it seemed.

The Egan Report identified what it called '*five key drivers for change*':

- committed leadership;
- a focus on the consumer;
- integrated processes and teams;

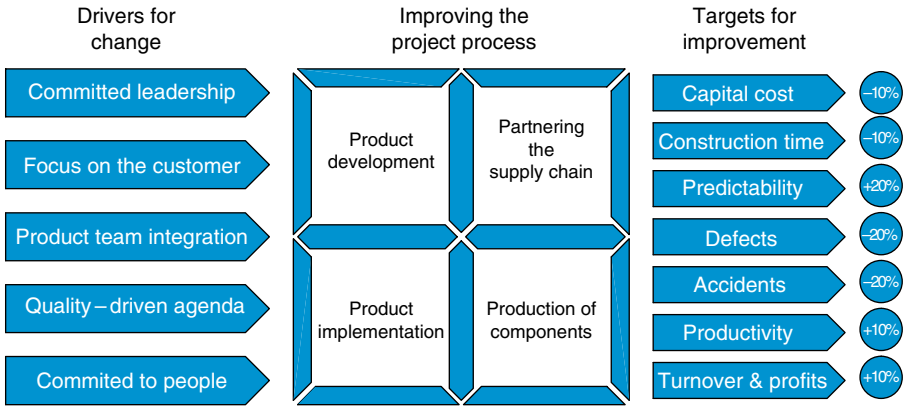

Figure 1.1 The Egan 'drivers' and 'targets' (Strategic Forum for Construction, 2002, p. 13).

- a quality-driven agenda;
- commitment to people.

Egan set specific targets:

- an annual reduction of 10% a year in construction costs and time;
- a reduction in defects by 20% a year;
- a radical change in industry methods in order to create an integrated project;
- dramatically improved working conditions;
- improved management and supervisory skills.

The Egan 'drivers' and 'targets' are illustrated in Figure 1.1.

The immediate impact of Egan was considerable. The report was widely discussed; new bodies were set up to push the ideas forward, such as the Movement for Innovation (known as M4I), which was linked to the already existing 'Best Practice Programme'. The Government moved towards forcing all public sector and publicly supported bodies, such as its own Departments, the health service and the housing associations to become 'Egan compliant'. The Auditor General's office produced its own report, *Modernising Construction* (NAO, 2001), showing how the Egan principles were to be applied throughout the public sector.

The Egan Task Force felt that for the industry to reach its full potential, it needed to change its culture and structure to support the improvement. It recommended that the industry should provide decent and safe working conditions and improve management and supervisory skills at all levels. Furthermore, it felt that better results could be achieved through long-term relationships based on clear performance measures and sustained improvements in quality and efficiency by continuing to learn and improve as a team, rather than competitively tendering and having to create a new team for every project.

There was no suggestion that construction companies should lead the change and, instead, the emphasis was placed on construction clients to show leadership and put forward 'demonstration projects' to show the recommendations of the report in practice. The Government in particular was invited to lead public sector bodies to become best practice clients. The report resulted in the development of