

GUY FRASER-SAMPSON

THE PILLARS OF FINANCE

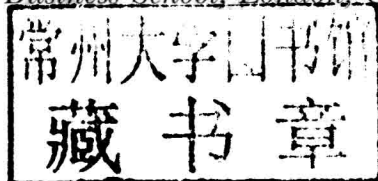
THE MISALIGNMENT OF FINANCE
THEORY AND INVESTMENT PRACTICE

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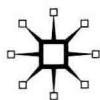
*The Misalignment of Finance
Theory and Investment Practice*

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The Pillars of Finance

Also by Guy Fraser-Sampson

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Contents

<i>Acknowledgements</i>	<i>vi</i>
1 Introduction	1
2 The ultimate question	9
3 A game of chance	21
4 And yet it moves	34
5 Finance and its supporting pillars	47
6 Periodic return	62
7 Further reflections of return	78
8 Thoughts on risk (pre-War) and the influence of logical positivism	96
9 Thoughts on risk (post-War): theory becomes dogma	114
10 Things fall apart	134
11 Risk and subjectivity	150
12 The shock of the new	165
13 Finance and science	178
14 It's all in the mind, you know	192
15 Personality, behaviour, and decision making	209
16 The angel of history	221
17 A new approach	234
18 What will New Finance look like?	247

Chapter 1

Introduction

Rather a long time ago I found myself sitting in a finance class as I studied for an MBA. For any reader who has studied finance themselves, we had just got to the stage where the lecturer was explaining that the risk premium of any investment was the same as its excess return. I struggled in vain to get my head around this. How could something good and desirable (excess return) constitute ‘risk’?

‘I’m sorry,’ I said, ‘but I don’t understand.’

The lecturer looked at me condescendingly.

‘The maths really isn’t that difficult,’ he said, ‘but I’ll happily take you through it again if you like.’

‘No, I understand the maths,’ I replied. ‘I just don’t understand what you mean by “risk”. How are you defining it?’

He stared at me blankly, as a murmur of agreement spread among the non-financial folk in the room. Then his face cleared.

‘Just learn it this way for the exam, OK?’

I suppose the problem was in large part that I had originally studied law and gone on to qualify as a lawyer. If your mind has been trained to approach any question by working out which rules might apply and then reviewing the facts to see where the best fit might lie, then the meaning of words is key. Legal rules are framed in language (they could hardly be anything else) so

it is important to understand what they say as precisely as possible. More cynically, it is also helpful to be able to suggest ways in which their meaning may be manipulated to serve the ends of one's own client, but again this is impossible without a good understanding of language and meaning generally.

When you study law at university you are required to study something called jurisprudence, which is essentially the philosophy of law. Thus, in addition to the dry stuff of statutes and cases you are forced to consider questions such as 'what makes a good law?', 'are we required to obey a bad law?', and even more fundamentally 'what is a law?' While many of my fellow undergraduates were unhappy about this, resenting the lost opportunity of being able to study an additional practical module such as Company Law or Succession, I found it immensely enjoyable. Perhaps this had something to do with the fact that I had already read quite a lot of philosophy myself, and had found it a worthwhile experience despite much of it being written in language so impenetrable that I vowed then and there that should I ever find myself faced with the task of writing a book, then I would endeavour to do so in as open and entertaining a way as possible.

My concern with the meaning of risk stayed with me over the years, at first as no more than a niggle in the background, but as I saw more and more examples of people reaching obviously bad decisions through what felt like a slavish adherence to an obviously artificial concept then it grew steadily stronger. The more I thought about it, the more I wondered not whether Finance had got it wrong (that was obvious to me), but how and why, and why on earth nobody else seemed to think that any of this was of any consequence.

Jurisprudence offered a clue to this last point. If the students of every subject were also forced to study philosophy then perhaps they too would be able to take a wider view, one of which the practical skills and technical knowledge that they were taught formed a part, but not the whole. One in which these wider considerations could be seen as giving context and meaning to the specialist theory. One where, should conflict arise between this overarching intellectual framework

and the narrow thinking of the discipline itself, then the latter would be thrown into question and forced to justify itself.

The Italian philosopher Benedetto Croce encapsulated what I had in mind far more eloquently. He said that a heart in the right place, rather than a mind in a high state of training, was the more likely source of truth.¹ It seemed to me that what I was already starting to term Finance World was evolving highly intelligent ways of seeking knowledge, but starting from the wrong place and taking aim at the wrong targets. Instead of seeking to impose order upon apparently random data, they should have been asking themselves basic questions such as 'what is finance?' and 'how does it operate?'

I was subsequently lucky enough to be allowed to study for a PhD on the nature of investment risk under the supervision of Professor Steve Thomas at Cass Business School, and the literature review which appears later in the book is taken directly from my PhD thesis. This was an interesting and comforting process, since as I pursued it I became aware that in fact others too had harboured doubts about the traditional view of risk. The works of others revealed that even the word 'traditional' is misleading here, since the truly traditional view had been that risk was too complex ever to be properly understood, and certainly incapable of mathematical calculation, whether in the way that Finance World proposed or otherwise.

On the contrary, the prevailing view was of fairly recent origin, having been advanced in a single article by Harry Markowitz in 1952. The choice of the word 'advanced' is deliberate since Markowitz never actually said that what he was calculating was the same thing as risk, though it is implicit (he actually used the phrase 'an undesirable thing'). Upon these rather shaky foundations Finance World then piled a mass of mathematical techniques, many of which form part of what has become known as Modern Portfolio Theory.

I was also lucky enough to be guided towards the works of various eminent research scientists, books which I would

¹ As interpreted by Clive James in *Cultural Amnesia*, Picador, London 2007.

not normally have tackled despite being a compulsive reader. Understanding how scientists pursued their quest for knowledge raised yet more questions about how and why Finance World operated as it did and, as will become apparent, I read the likes of Popper to get a clearer grasp of just what a 'science' might be in the first place.

Over the years I slowly moved towards a very different view of risk. I also started to try to sketch out a framework for gaining a better understanding of the whole broad sweep of finance in the same way that scientists had done in fields such as physics. To this end, it was not enough to look at risk in isolation, at least not until one could fix its own meaning and place in the overall scheme of things. It was this that gave me the idea for the pillars of finance which, with the appropriate addition of upper case letters, duly became the title of this book.

The purpose of the pillars of finance is to frame and advance our own quest for knowledge, in the same way that time, space, and causation do for physicists. This is particularly necessary in the case of finance, since nobody seems ever to have asked, let alone attempted to answer, the most fundamental question of all, namely 'what is finance?' A sneaky look at the closing paragraphs of the book will reveal that I advance the suggestion that finance is some sort of function of return, risk, and value operating in the presence of time and human behaviour. This may or may not be a proposal that will stand the test of time (indeed, I hope not, since only by a hypothesis being discarded and a new and potentially better one being adopted can progress be made), but it does at least offer a decent starting point.

What was required, then, was a study of all these pillars, not just risk, and that is what this book attempts to do. It is important to recognise from the outset that this is not an easy task, as may be guessed from the facts that this book has been ten years in gestation, and has taken me well over a year to write.

One problem is that nobody appears ever to have considered most of these questions before, and the works of those who have, such as Ludwig von Mises, appear to have been

ignored to an extent which in the hands of a conspiracy theorist might well produce accusations of them having been deliberately suppressed. Perhaps this has something to do with the Markowitz-type view having hardened into something approaching religious dogma. Whatever the case, there is little guidance to be found from anything written after the Second World War, at least not within the realm of finance.

Another problem is that it is impossible to look at any of the pillars in isolation. I have where possible sought to push and pull them into dedicated chapters of their own, but such an approach requires some repetition of both material and argument. After much consideration I took the view that this was an acceptable price to pay for the benefit of at least partial compartmentalisation of topics, and I would ask the reader's indulgence in this regard. For example, much of the discussion about return mirrors what we need to say about time, there are equally obvious cross-overs between return and risk, while issues such as subjectivity, perception, behaviour, emotion, and even the nature of knowledge itself are threads which run through everything we need to consider.

Mention of these matters raises another obvious requirement: it is not possible to seek any understanding of finance without considering other academic disciplines such as psychology and philosophy. In addition we will look at examples drawn from art, literature, and various other areas.

Bringing these two factors together, some chapters offer vignettes drawn from real life which invite the reader to adopt a different perspective on various aspects of finance, hopefully prompting some new insights in the process. I have learned over the years, in both teaching and speaking assignments, that people tend to respond to images and stories much more readily than they do to dry facts, so please accept these in the spirit in which they are intended (which is at least partly as fun).

Incidentally, I believe that it was in the application of disciplines such as philosophy to finance that I began to make real progress. As we will see, a school of philosophy called Logical Positivism undoubtedly played a key role, largely unrecognised today, in enticing finance down a wrong turning from

which it has yet to return. Similarly, it was when I considered the difference between a subjective, as opposed to an objective, perspective that my ideas on the nature of risk started to fall into place.

I soon realised that once you approach finance in a spirit of honest enquiry, rather than noting and accepting what Finance World would have you believe, it not only becomes quickly apparent that we hardly understand anything at all, but also that the existing framework has been sloppily constructed. Nobody has ever bothered properly to define the terms or set the parameters. Instead, finance has simply been assumed to be whatever makes it most convenient for academics to pursue their own particular fields of enquiry, and whatever causes the least friction with an investor's chosen methodology.

To make this rather naïve construction seem less silly, Finance World has set finance within the imposing field of science, thus legitimising the purely mathematical techniques which they have chosen to employ. Yet ironically as soon as one subjects finance to any rigorous analysis it can be seen that not only is it not a science, but also that even those who are most vociferous in their declarations of its scientific nature actually treat it in a most unscientific way. We will be considering this with the assistance of Karl Popper, who, as noted already, wrote extensively on what qualifies as a 'science' and what does not. We will see that, far from being a science, finance as it has been practised more closely resembles the development of religion as described by Frazer in *The Golden Bough*,² with belief elevated to the status of sacred dogma, and high priests initiating adepts into its mysteries. In such an atmosphere, honest enquiry tends to be seen as dissent, or even heresy, and treated accordingly, usually accompanied by accusations of lack of understanding.

It was this failure of finance to address the most fundamental questions such as 'what is finance?', let alone 'what is

² James Frazer *The Golden Bough*, Wordsworth Editions, London 1993 but originally published in 1890.

risk?', that got me thinking what a pity it was that, unlike law studies, finance did not include any comparable subject to jurisprudence, especially when I found out that scientists (real scientists, that is) were encouraged to study the philosophy of science.

While it lies beyond the scope of this book, this almost certainly explains why, until very recently, finance was seen as operating in a sterile vacuum of numbers and mathematical processes, entirely divorced from either behavioural factors or ethical considerations. In the current environment, of course, ethical issues have forced their way to the foreground and finance is struggling to adapt and evolve with this new development. In part this is because, since it has no equivalent of jurisprudence, it has no conceptual frame of reference with which to consider these soft, qualitative questions that require value judgement rather than mathematical calculation.

In part, though, it is because to accept the need to do so upsets the cosy existing view of risk. Once you accept that ethical considerations are relevant you must accept that investors and financiers will at least consider and seek to avoid being exposed to the opprobrium of the press and the public, to say nothing of their peers. Indeed, anybody who is today engaged in any way in the taking of investment decisions, whether as principal or adviser, will know that this 'headline risk' or 'reputational risk' can be the most important factor in deciding whether or not to adopt a particular course of action. Yet to admit that there is material risk attaching to an investment which is not capable of mathematical calculation flies in the face of the present approach.

It is this tendency of science to ignore anything that cannot be calculated which forced a narrow, mathematical approach on finance. In such an environment it is irrelevant to consider people's behavioural impulses, or what impact they may have upon others, society, or the financial system as a whole. In fact finance expressly abjures any such enquiry, requiring us to believe that all investors are rational.

The practical consequences of this failure by finance properly to enquire into the nature of its cogs and levers can be

seen all too clearly as part of the origins of the crisis which began in 2007. Because risk had been misunderstood, it was mis-described and mis-priced. At the same time, things which were undoubtedly 'risk' were ignored because they did not fit the accepted definition. Arguably, all these factors remain in place today.

Meanwhile the awkward squad has been growing larger and more vociferous. Just within the last two weeks of the writing of this book, I twice heard the validity of Modern Portfolio Theory being openly challenged: once at a family office investment conference, and once on a radio programme. The cracks between financial theory and investment reality have widened into a yawning gap and people are starting to notice, though as yet they have questions but no answers. This book is designed, if not to supply them, at least to suggest where to look.

As to that, I promised some vignettes and different perspectives so let us dive straight into the wonderful world of Douglas Adams.

Chapter 2

The ultimate question

In Douglas Adams's *Hitchhiker's Guide to the Galaxy* series of novels (described by its creator as a trilogy in five parts), a race of super-intelligent beings build a massively powerful computer called Deep Thought to find the answer to the Ultimate Question: Life the Universe, and Everything. After seven and a half million years of consideration, it gravely announces that the answer is 42.

There is a direct analogy here with the world of traditional finance, in that whenever you ask a broad, conceptual question you are guaranteed to receive a narrow, calculated answer which may or may not be correct. In fact, it is almost guaranteed *not* to be correct, but we will come back to that. What is much more important is to understand why this might be.

A closer examination of *Hitchhiker's Guide to the Galaxy* (a work to which we will return) reveals an important clue. When Deep Thought eventually spews out its solution to the Ultimate Question (chosen, said Adams, because 42 was by far the most amusing of all the two digit numbers), his baffled minders finally think to ask the great machine what the question was. Deep Thought confesses that it does not know. His creators realise to their horror and embarrassment that they have wasted seven and a half million years trying to find the answer to a question, without first defining which was the correct question to ask.

A further clue is that computers, no matter how powerful they may be, are of course incapable of conceptual thought, and must therefore always turn towards a calculated answer to any question, or, perhaps more precisely, one that is capable of calculation. It is a method of response which also seems to afflict many who labour in the field of finance.

Ask a question such as ‘what is the risk of this investment?’ and we will receive a ‘42’ type response – probably something like ‘14.3 per cent’, without even specifying 14.3 per cent of what. We are implicitly challenged to take issue with the answer, and the challenge usually goes unanswered. Even if we did challenge it, we would be curtly assured that the answer was correct, and indeed it would be – in the sense of having been correctly calculated.

The inventor of the world’s first programmable computer was of course the brilliant mathematician Alan Turing, who built it in conditions of great secrecy during the Second World War with self-educated post office electrical engineer Tommy Flowers. Sadly, because of the highly secret nature of their work (the British had it in mind to use the machine and its successors to crack Soviet codes in the same way as it had helped to crack the German codes originated by the Enigma machine) both were denied true recognition for their achievement for many years. Turing was awarded a relatively lowly civilian decoration (the OBE) where surely a Nobel Prize would have been more appropriate had people known the full story, while Flowers received the even more humble MBE and was sent back to work repairing telephone exchanges. Turing was to die of cyanide poisoning in mysterious circumstances in 1954, by which time he was seen as a security risk by British Intelligence following a conviction for homosexuality, which would not be de-criminalised in the UK until as late as 1967.

Turing wrote a classic paper on computers in 1950, although it was based on work which he did during the war, to which he could of course allude only obliquely, though it does contain confirmation that binary digital computers had already been developed and, by clear implication, that he had played a major part in the process. Its dry academic title was *Computing Machinery and Intelligence* but, as Turing made clear in the very first sentence, it set out to consider the question ‘can machines think?’

There then follows a very important little passage, the significance of which is usually overlooked. Turing says that in