

Chapter 1

Introduction

In June 1994, I spent my last thousand dollars on two suits and a plane ticket to New York. I landed a job in Fixed Income Analytics at Bankers Trust; I had hoped for an offer from Enron, but that was slow to materialize. I quickly realized that I had been hired to produce not mathematics but algorithms.

After Bankers Trust was absorbed into Deutsche Bank, I left for First Union and then for UBS. As I moved into positions of broader responsibility in more successful businesses, the primacy of algorithms became still more pronounced, and I adopted the title of this book as a kind of slogan and began using it on my business cards.

Yet the books available to current and potential practitioners are almost exclusively about mathematics. Many of these books are excellent, but by their nature they can say little about the reality of most quant life. I will try to write about what I really do – about the issues that must fill the attention of a library-building quant.

The result will inevitably be shaped by my own preconceptions and areas of ignorance. I can give any deconstructionists a head start by disclosing my perspective. I have been the lead modeller and coder for groups whose main function is to provide a library of analytic functions (models, calibrations thereof, and trade pricing engines) for derivatives pricing. The “desk quants” who study individual trades, and the traders who take final responsibility for the pricing, are my clients. My group’s job is to extend the range of what is possible – to give a structurer in Hong Kong the power to price a complex hybrid trade, using tools he understands well enough, roughly the way he might understand his car. I am also accustomed to working within a group, and creating protocols that are effectively binding on other coders. The hobbyist pricing complex derivatives in his spare time

may find the resulting code too rigid.

Finally, much is omitted here. I do not intend to share insights into my employer's current operations, nor to display the models I consider best. Nor will I betray the reader by publishing castoffs, the failed experiments along the road to working models. Where I cannot write honestly, I will remain silent. Thus the current volume, as its subtitle suggests, demonstrates the creation only of a framework in which powerful models can be used to price very general trades.