Foreign exchange

option pricing

A Practitioner's Guide

IAIN J. CLARK

Foreign Exchange Option Pricing

A Practitioner's Guide

Iain J. Clark

⊛WILEY

A John Wiley and Sons, Ltd., Publication

Wiley also publishes its books in a variety of electronic formats. Some content that appears in print may not be
available in electronic books.

Designations used by companies to distinguish their products are often claimed as trademarks. All brand names and
product names used in this book are trade names, service marks, trademarks or registered trademarks of their
respective owners. The publisher is not associated with any product or vendor mentioned in this book. This
publication is designed to provide accurate and authoritative information in regard to the subject matter covered. It
is sold on the understanding that the publisher is not engaged in rendering professional services. If professional
advice or other expert assistance is required, the services of a competent professional should be sought.

Foreign Exchange Option Pricing

For other titles in the Wiley Finance series
please see www.wiley.com/finance

For Isabel

Acknowledgements

I would like to thank everyone at Standard Bank, particularly Peter Glancey and Marcelo Labre, for their patience during the execution of this work. This is an industry book and it would not have happened without the help and encouragement of everyone I've worked with, most recently at Standard Bank and in previous years at JP Morgan, BNP Paribas, Lehman Brothers, Dresdner Kleinwort and Commerzbank. As such, special thanks are due to David Kitson, Jérôme Lebuchoux, Marek Musiela, Nicolas Jackson, Robert Campbell, Dominic O'Kane, Ronan Dowling, Tim Sharp, Ian Robertson, Alex Langnau and John Juer.

A special debt of gratitude to Messaoud Chibane, outstanding quant and very good friend, who has encouraged me every step of the way over the years.

For parts of Chapter 11, I am indebted to the excellent work on longdated modelling of my former team members at Dresdner Kleinwort: Andrey Gal, Chia Tan, Olivier Taghi and Lars Schouw.

I must also thank Pete Baker, Aimee Dibbens, Karen Weller and Lori Boulton at Wiley Finance for their help and patience with me during the completion and production of this work, as well as all the rest of the Wiley team who have done such an excellent job to bring this book to publication. While I take sole responsibility for any errors that remain in this work, I am very grateful to Pat Bateson and Rachael Wilkie for their thoroughness in checking the manuscript. Thanks are due to my literary agent Isabel White for seeing the potential for me to write a book on this topic.

I would also like to thank my amazing wife, to whom I owe more than I can possibly say. I am as always grateful to my parents John and Joan for their love, support and tolerance of my difficult questions and interest in science and mathematics – I'm glad to say some things haven't changed so much! Also to my extended family, whom I don't get to see as often as I would like, thanks for keeping us in your thoughts and all your messages of encouragement. They mean a lot to an author.

Finally, to my young nieces and nephews in Canada – Andrew, Bradley, Isabel, Mackenzie and William – who asked me if my mathematics book for grown-ups was going to have 'very hard sums' like $1\,000\,010 - 1\,000\,000\,012$, I have a *very* hard sum just for you:

$$
\begin{array}{r}
101\,598\,490 \\
+ \quad \underline{21\,858\,299}
\end{array}
$$

This book is for you and for all students, young and old, of the mathematical arts. I wish you all the very best with your studies and your work.

Web page for this book

`www.fxoptionpricing.com`

Contents

List of Tables

List of Figures