Preface

The title of this book is taken from a delightful book called *A Random Walk in Science* by Robert Weber. It’s a collection of stories about how science fits into society and manages to combine rigour, humanity and humour. When we were asked if there was any way that our somewhat eclectic set of papers would combine into a single book, it immediately came to mind as a unifying theme.

It will probably not raise as many laughs as its namesake, but what links the different elements in this book is the spirit of pure curiosity which led to their creation. It has been the greatest pleasure to be able to investigate the interactions between the areas of fixed income and FX and find that there is much to learn and discover.

The first section examines the rise of the cross-currency basis in the post-crisis world, digs into its origins and applications, and investigates the implication of the new credit-sensitive world for issuance, investment and hedging. In Chapter 1, we define and dig into the origins of the basis, which before 2008 would have represented a juicy arbitrage opportunity. Understanding why this is not so today leads us to the discussion in Chapter 2 about the drivers and sustainers of the basis, and in Chapter 3 we show that it is possible to derive and create many cross-currency bases which are not usually quoted in the market but which can represent very real opportunities for issuers and investors. Chapter 4 derives a new way of looking at FX hedging of fixed income assets, followed by Chapter 5, which shows how to analyse these hedged assets and understand the linked effects of the basis and the two yield curves which underly their valuation.

The second section examines the impact of the new world on the yield curve, and vice versa. Term premium, duration and convexity all take on new importance in this new state of ultra-low rates and flat term structures. The search for yield in this brave new world has driven issuers to issue, and investors to buy, century-long bonds, in a world where only a scant handful of currencies have ever survived that long. Convexity has been a driver of this process – whether for good or bad, time will tell. We show how to derive a closed-form solution for both duration and convexity, and show how implied convexity at the start of the life of a bond can be compared to its realised value through its lifetime.

We have updated all graphs and charts, where possible, to the current day, and have adjusted the text appropriately. This was not possible for Chapter 6 on Term Premium, which is reprinted with kind permission from Taylor & Francis in the form it originally appeared, but it is followed by an update in Chapter 7 which incorporates additional models and compares their recent evolution.

We hope you enjoy reading this book as much as we enjoyed the research.