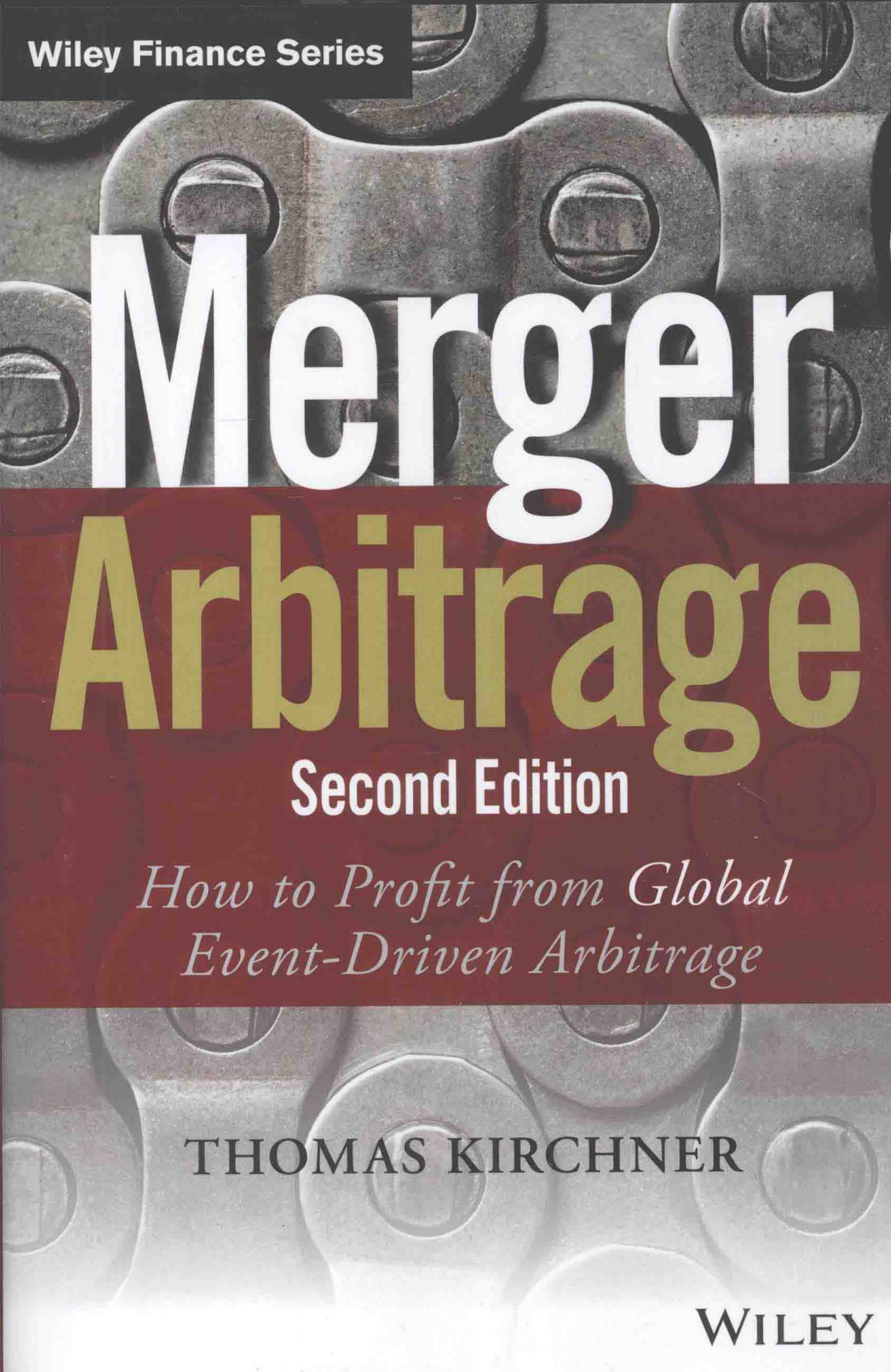

Wiley Finance Series

Merger Arbitrage

Second Edition

How to Profit from Global Event-Driven Arbitrage

THOMAS KIRCHNER

WILEY

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Preface

Since the first edition of this book interest rates have fallen to near zero and have dragged returns on merger arbitrage with them. With the foreseeable end of the Federal Reserve's zero interest rate policy it is likely that investors will allocate to merger arbitrage again in the near future. This book is written as a guide to potential investors who seek to understand the strategy better prior to committing an investment, investors who may have an allocation to merger arbitrage through model portfolios or maybe even their pension plan, as well as aspiring arbitrageurs.

Merger arbitrage, also known as risk arbitrage, has grown exponentially since the 1980s from small operations within Wall Street firms to standalone arbitrage funds directly accessible to the public. Yet, surprisingly little has been written on the topic. A number of academics have written studies about various aspects of the strategy. For the general public, I can count only six books on the topic. This small number pales in comparison to the information overload that other areas of finance experience. Since Guy Wyser-Pratte's two monographs in the 1970s, only three other books about merger arbitrage have been published. One of them is Ivan Boesky's *Merger Mania*. Maybe potential writers fear that authoring a merger arbitrage book stands under a bad omen because Boesky was arrested a few weeks after the publication of his book. As the author of a merger arbitrage book, I certainly hope that writing a book and getting arrested are linked only by correlation and not causality.

In this book I try to go beyond a mere description of the arbitrage process to incorporate some thoughts on the benefits of adding merger arbitrage to an investment portfolio, and the vehicles that investors can utilize to access the strategy. The expansion of the book's horizon will make it more relevant to a broader investment audience. Nevertheless, the focus of the book remains on mergers and merger arbitrage and not asset allocation or portfolio management.

The book is organized into three parts: the first three chapters introduce the basics of the arbitrage process and explain the benefits of the investment strategy in the context of a portfolio allocation. Chapters 4 to 8 discuss more details about the analysis involved in an arbitrage decision. Chapters 9 to 11 discuss special transactions that warrant particular diligence by arbitrageurs. Chapters 12 to 14 address additional regulatory aspects as well as practical considerations, including measures arbitrageurs can take to defend their interests, such as exercising appraisal rights.

The first two chapters explain the basic types of mergers and how to set up the arbitrage.

Chapter 3 is an interlude that explains the historical performance of merger arbitrage as an investment strategy, and how it can be added to a diversified portfolio. This chapter in particular will be relevant for investors who are looking to add merger arbitrage to their portfolio.

Chapter 4 expands the basic arbitrage by incorporating risk. Probabilities of failure and potential losses are incorporated into the return calculation to find an expected return of the arbitrage. Chapter 5 discusses different sources of risk and return in more detail, in particular the timing of mergers, leverage, and short sales.

The difference between mergers and tender offers is not well understood by many investment professionals. The terms are often used interchangeably. Chapter 6 goes into details and should be of interest to all investors, not just those seeking to read up on merger arbitrage.

Financing is often one of the most critical parts of an acquisition, and so Chapter 7 will look at different financing options.

Mergers are subject to a plethora of legal requirements, and I discuss them under different angles. Readers should keep in mind that this is a financial book and not a legal textbook, so that many aspects are touched on only in a cursory manner. Boards of directors have to follow a number of procedures to ensure that a merger is fair to shareholders. This will be discussed in Chapter 8.

Unfortunately, the law that is supposed to protect shareholders is often disregarded when managers buy the companies that they are managing as agents of their shareholders. Chapter 9 looks at management incentives for getting mergers done and how the interest of managers are often diametrically opposed to those of shareholders.

Similar conflicts of interest between managers, acquirers, and shareholders can be found in buyouts by private equity funds, discussed in Chapter 10.

Minority squeeze-outs present risks of their own to merger arbitrageurs, and therefore are discussed in a chapter of their own, Chapter 11.

The government gets involved in the merger process on several levels, federal and state. Despite the obvious importance of government regulations, I have decided to relegate its discussion further to the back of the book because I believe that the motivations of the market participants—management, financiers, board members—are more relevant by far to the success of a merger than government regulations, discussed in Chapter 12. As they say: where there is a will, there is a way.

Next, I step into a minefield by encouraging investors to seek to exercise their rights and get full value for their shares when a company is taken over.

Chapter 13 describes methods that shareholders can use to that end. Too often have I seen investors resign when their company gets taken over for a lowball price. Most investors view themselves as stock pickers and will throw in the towel too early. I hope that this chapter will convince investors, maybe even some institutional investors, to fight for full value. Chapter 14 gives some practical tips on investing in merger arbitrage. In particular, readers should retain that cash holdings of event-driven investment strategies are dependent on events and not a deliberate asset allocation decision. As a result, merger arbitrageurs can have highly variable cash positions that are not an indication of the arbitrageur's view of the market.

The last chapter contains some mathematical material. Stephen Hawking remarked in the introduction to his well-known *A Brief History of Time* that his publisher advised him that each formula would reduce the potential readership by half. I trust that readers of financial books can handle a few formulae.

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Ron Charnock has been very supportive and encouraged me with many helpful tips. Others who have given me ideas, sometimes unwittingly, that are incorporated in the text are Geoffrey Foisie, Randy Baron, Juan Monteverde, Randall Steinmeyer, Eric Andersen, and Marc Weinberg.

Adam Mersereau recognized the potential behind applying the newsvendor formula to the cash management problem and referred me to Warren Powell, who developed the algorithm in Chapter 14 with Juliana Nascimento.

Ashish Tripathy worked with me on analyzing probabilities for the closing or failure of mergers.

Finally, I thank all authors who have given me permission to reprint tables or figures from other studies.

Merger Arbitrage

Contents

PART One

The Arbitrage Process

CHAPTER 1

Introduction to Merger Arbitrage

Arbitrage is one of the oldest forms of commercial activity. One of the earliest published definitions of the term *arbitrage* can be found in Wyndham Beaves's seminal *Lex Mercatoria,*[1] first published in 1685, which trained several generations of European merchants until its last edition of 1803. One will be hard pressed to find a finance book today that has been in print for over a century. In the 1734 edition, Beaves writes about arbitrage:

> *ARBITRATION (a Construction of the French Word* Arbitrage*) in Exchanges has been variously defined by the several Authors who have treated of it.*
>
> *One says it is a Combination or Conjunction made of many Exchanges, to find Out what Place is the most advantageous to remit or draw on.*
>
> *Another describes it, by saying it is only the Foresight of a considerable Advantage which a Merchant shall receive from a Remis or Draught, made on one Place preferably to another.*
>
> *A third construes it to be a Truck which two Bankers mutually make of their Bills upon different Parts, at a conditional Price and Course of Exchange.*
>
> *According to a fourth, it is the Negociation of a Sum in Exchange, once or oftener repeated, on which a Person does not determine till after having examined by several Rules which Method will turn best to Account.*
>
> *Lex Mercatoria*, 1734, p. 387

Around that time also appeared in Basel the first book dedicated to arbitrage, J. Wiertz's 1725 oeuvre *Traite des Arbitrages de Change,*[2] which discusses various calculation methods to convert one currency into another. All of these early forms of arbitrage involved currency arbitrage. Patrick Kelly describes a typical nineteenth-century arbitrage in his 1811 book *The Universal Cambist, and Commercial Instructor: Being a General Treatise on Exchange, Including the Monies, Coins, Weights and Measures of All*

Trading Nations and Their Colonies: with an Account of Their Banks and Paper Currencies,[3] which took over from Beaves's *Lex Mercatoria* as the obligatory text book for merchants in the nineteenth century:

> *Arbitration of Exchange*
>
> *Arbitration of Exchange is a comparison between the course of exchange of several places, in order to ascertain the most advantageous method of drawing or remitting Bills. It is distinguished into simple and compound arbitration: the former comprehends the exchanges of three places only, and the latter of more than three places.*
>
> *Simple Arbitration*
>
> *Is a comparison between the exchanges of two places with respect to a third—that is to say, it is a method of finding such a rate of exchange between two places as shall be in proportion with the rates quoted between each of them and a third place. The exchange thus determined is called the Arbitrated Price, and also Proportional Exchange.*
>
> *If, for example, the course between London and Paris be 24 Francs for £1 sterling, and between Paris and Amsterdam 54d. Flemish for 3 Francs, (that is, 36s. Flemish for 24 Francs,) the arbitrated price between London and Amsterdam through Paris, is evidently 36s. Flemish for £1 sterling: for as 3 Fr. : 54d. Flem. :: 24 Fr. : 36s. Flem.*
>
> *Now, when the actual or direct price (as seen by a quotation of otherwise advised) is found to differ from the arbitrated price, advantage may be made by drawing or remitting indirectly; that is, by drawing on one place through another, as on Amsterdam through Paris; [...]*
>
> *To exemplify this by familiar illustrations, suppose the arbitrated price between London and Amsterdam to be, as before stated, 36s. Flemish for £1 sterling; and suppose the direct course, as given in Lloyd's list, to be 37s. Flemish, then London, by drawing directly on Amsterdam, must give 37s. Flemish for £1 sterling; whereas, by drawing through Paris he will give only 36s. Flemish for £1 sterling; it is, therefore, the interest of London to draw indirectly on Amsterdam through Paris.*

As securities markets began to develop and expand globally during the nineteenth century, arbitrage began to expand beyond simple currency exchanges. This is reflected in how Otto Swoboda expands the definition of arbitrage in his book *Börse und Actien*, first published in Cologne in the year 1869:[4]

> *Under arbitrage, that is decision, we understand the comparison of notations of any one place with those of another in order to use any arising difference, relative to exchange rates as well as security quotes, and thereby those who enter into such arbitrages (bring together) differences in prices between to places in their favor. [...] Early arbitrages occurred only in exchange rates, and only when a merchant owed another in a different location a certain amount or had a claim. He would then compare quotations in different places to see in which it would be most favorable to cover the debt or cover the claim. Only later a trade of its own developed from this, so that even without preceeding commerce a speculation in currencies or funds was effected.*

The analysis of *n*-grams of books digitized by Google in Figure 1.1 shows the occurrence of the term *arbitrage* in printed books over time. In the early days of book printing, *arbitrage* appears to have been used frequently. However, it is the comparatively small number of books in print then that inflates the relative use of this term.

It is not until another century later, the 1960s, that *merger arbitrage* first appears in print, followed by *risk arbitrage* a few years later. The analysis of *n*-grams in Figure 1.2 shows the explosive growth of the usage of these terms since then. It is no surprise that the late 1960s gave rise to growing interest in arbitraging mergers, as this coincided with a wave of aggressive merger activity in England and the United States, which led to the adoption of many laws still in place today, such as the City Code. This will be discussed in more detail later. While *risk arbitrage* dominated as a description of the strategy discussed in this book for many years, *merger arbitrage* became more popular as a term in the late 1990s, and has surpassed *risk arbitrage* as the dominant term since the year 2005.

Unfortunately, the early descriptions of arbitrage are echoed in many modern-day definitions. *Merriam-Webster's 11th Collegiate Dictionary* defines it as:

> 1. *The nearly simultaneous purchase and sale of securities or foreign exchange in different markets in order to profit from price discrepancies*
> 2. *The purchase of the stock of a takeover target especially with a view to selling it profitably to the raider*

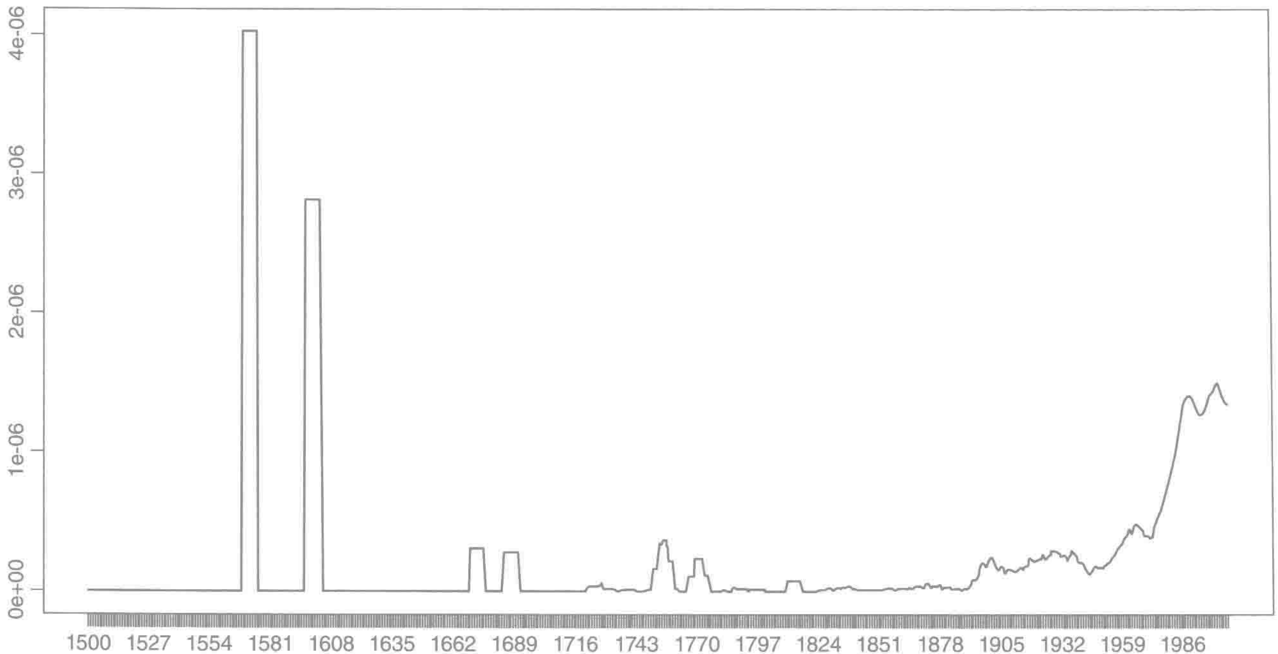

FIGURE 1.1 Frequency of the Occurrence of the Term *Arbitrage* in Printed Books

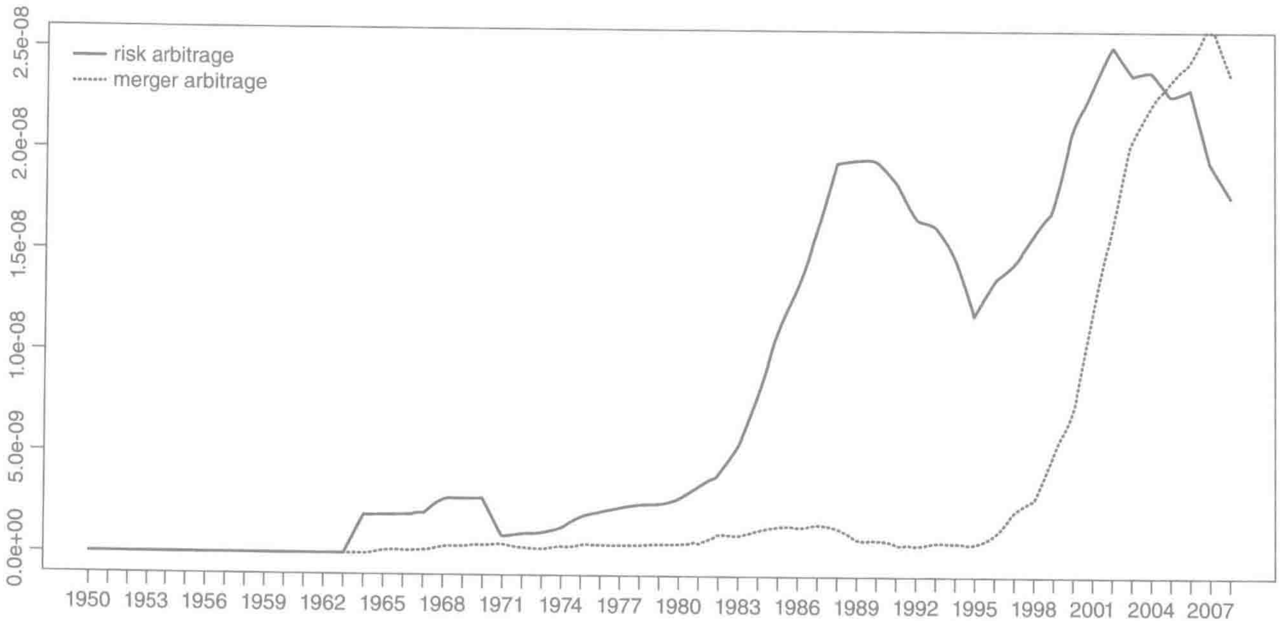

FIGURE 1.2 Frequency of the Occurrence of the Terms *Merger Arbitrage* and *Risk Arbitrage* in Books