Preface

Over a period of 16 months, essentially half of the wealth invested in North American equity markets was wiped out.

- From the end of October 2007 to the end of February 2009 the S&P500 Total Return index fell 50.95% in US dollars.
- The Canadian market held up until May 2008, but from then until the end of February 2009 the Canadian S&P/TSX Total Return Index fell 43.35% in Canadian dollars.

The devastation wasn't limited to North America, as developed markets in the rest of the world fell by 56.4%,[1] and emerging markets fell by 61.4%.[2]

It wasn't the market downturn itself that motivated me to write this book. It wasn't even the anger and, in some cases, fear for the future that I saw in friends and acquaintances, although that certainly fueled my passion. Three other, related points struck me.

First, for many individuals there was a real sense of bewilderment, and a lack of understanding of how such a thing could happen — not just to the world in general, but more importantly to themselves, their savings and potentially their lives. How could so many people, in many cases with a long history of working, sometimes in management and often with financial matters, find themselves so at sea? Second, given that most of these people had gone to the

1 As measured by the MSCI EAFE (Europe, Asia and Far East) developed markets index, in US dollars, from October 2007 to February 2009.

2 As measured by the MSCI EM (Emerging Markets) index, in US dollars, from October 2007 to February 2009.

financial system for advice, why were people in pre-retirement or well into their retirement, positioned to lose as much as 25%, 35%, or even more of their retirement savings? That is, how could financial advisors be so at sea? And third, the consequences of the crisis clearly hit professional investors as well. For example, the OECD reported 2008 real returns (that is, return after inflation) to private pension funds of -26.2% in the United States, -21.4% in Canada, and -23% across 23 countries.[3] If professionally managed funds did so badly, how could anyone else expect to do better?

There is another point that has become important as I have worked on this book over the past two years. The "crash" was already far in the past as I began to write, and since then newspapers and analysts have been focused on soaring equity market returns. Clearly both the financial services industry and the markets themselves were well on their way to recovery. But what about investors: have they recovered, have they learned from this experience, and are they better prepared for the future?

Sadly, I think the answer is "largely not", at least for individual investors. Anecdotal evidence suggests that many investors were over-committed to equities prior to the crash, and lowered equity weights far too late in the game. Then fear kept many out of equities as markets rebounded. Four years later in early 2013, the Toronto Globe & Mail featured a two-page spread entitled "The End of Fear", with the sub-heading:

> Since the crash of 2008, scared investors have been stashing their cash. But now, they're getting over their painful memories and betting that the rebounding market still has room to grow.[4]

This is appalling. By the end of 2012 US equities had regained their pre-crash highs, while Canadian equities were just a few points below them.[5] Yet the Globe reports that many smaller investors are now

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3 Whitehouse, Edward, "Pensions and the Crisis", OECD media briefing, OECD 2009, pp.1-2

4 Report on Business Weekend, Feb 2, 2013, p.8.

5 Specifically, as of the end of December 2012, the S&P Total Return index had gained 110.66% from its February 2009 low, ending 3.33% above its October

thinking about getting "back in" at new market highs, at a time when some rational investors might be contemplating a reduction of equity exposures. It's enough to make one think that Mark Twain's cynical view of mankind might be right:

> It is not worthwhile to try to keep history from repeating itself, for man's character will always make the preventing of the repetitions impossible.[6]

Now I'm not saying that I skated through all of the turmoil unscathed. Looking at my own situation, while I could say that my personal investments and retirement savings fell less than the average, this good fortune wasn't necessarily due to a well-thought-out and systematic approach to investing. As a professional investor I have focused on specific strategies, often with shorter-term investment horizons, that were used as just one part of large multiple-strategy portfolios. I seldom thought about "the big picture". But as I will discuss, and as many others have pointed out, the big picture — in this case the allocation of investments between asset classes — is where almost all of the return of most portfolios comes from. And yet I know I spent little or no time on that issue.

So when I began to consider what any investor needs to know and understand in order to manage investments for the long term, I started by thinking about asset allocation, and how such decisions should be made. Deciding on an asset allocation implies that you have formed expectations of return and risk for the assets in which you are potentially investing, and from my point of view these are expectations that should evolve as market conditions evolve. To give two extreme examples, one's long-term market expectations should have been very different in December of 1999 versus March of 2009, and I will develop tools to help you understand why this is so. In 1999 the prospects for equities should have been viewed as poor while those of bonds were strong. By contrast, in early 2009,

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2007 monthly high. Over the same period the Canadian S&P/TSX Total Return index had gained 70.95% from its February 2009 low, remaining just 3.15% below its May 2008 high.

6 *Mark Twain in Eruption: Hitherto Unpublished Pages About Men and Events*, ed. Bernard DeVoto, Harper, New York, 1940.

after equities fell dramatically, the prospects for equities should have been viewed as good, close to historical average levels of return, while the prospects for bonds were below average. The implication is that even with a long-term view of markets, your allocation should have changed over this time frame.

However, when I started to talk to non-professionals, and even to many professionals, I began to realize how little awareness there was about past levels of return and risk from stock and bond markets, let alone what you should expect at any particular time as you look ahead.

From these observations the outline of my project took shape. First, I wanted to explore and analyze the history of global equity and fixed income markets. Knowing what has happened in the past is not in itself a guide to what will take place in the future, but in many cases what does occur will lie within the bounds of past experience, at least if that experience is broad and extensive. Second, I wanted to take the analysis further and develop a fairly systematic and straightforward approach to generating plausible expectations about broad investment opportunities. Finally, I wanted to show how these return expectations, along with an understanding of their risks, could be turned into a workable investment portfolio strategy.

This analysis and investment program is aimed at anyone who has to oversee long-term investments, whether for themselves or for others. It can provide both a background primer and a first-level decision-making framework for those who have fiduciary responsibilities as members of investment committees for pension funds and foundations. I also think that many professionals, who, like me, have seldom focused on the long term and the big picture, can benefit as well. I hope that individual "do it yourself" investors will also find value, though this approach is far from the main stream of thought that they will encounter. But in talking with the "friends and neighbours" who were part of my original motivation to write this, I've come to believe that in almost all cases they find the prospect of seriously managing their investment future too daunting to take on, and they want to hire advice and management. Perhaps this book will give them a little information, background and structure

that will help them to better understand, monitor and evaluate such advisory services.

While I like to think that the basic principles I propose are quite straightforward, the process of showing that this is so can be rather complex. I don't want to pull any punches and condescend to a serious reader, so I don't want to downplay the complexities. Yet I also don't want the exposition to bog down in so much detail that any reasonable reader would get discouraged. Many of the technical details can be skipped or skimmed, at a first reading at least.[7]

I would like to acknowledge some of the intellectual sources for this book. The roots of my thinking about the equity version of the simple analytical framework I outline here really stem from the Gordon Growth Model, first discussed in finance classes many years ago. At various times I've returned to think about that model and its implications. In 1992 or 1993, Gerry Rocchi showed me a paper he'd written in which, as I recall, he laid out the algebra of dividend yields, dividend growth and returns that form the basis of the analytical framework for equities that I use. While the paper was mislaid years ago in one of many office moves, it was the first time I had seen a systematic treatment of this material, so I knew that it could be worked out again if I set my mind to it.

Keith Ambachtsheer also used elements of this framework to generate an analysis of expected returns in his newsletter for pension clients in the late 1990s,[8] trying to wean them from continued use

7 One simplification that I have made has caused me some discomfort at several points in the book: this is my decision to couch all discussions of returns and risks in terms of percentage returns and their distributions. Using percentage returns is the standard practice of investment industry reporting, and is used for most "investment research". But any serious quantitative research, analysis and forecasting must in the end use logarithmic returns, since the distribution of the natural logarithm of investment returns is approximately normal, while the distribution of percentage returns is clearly not. At several points (Chapters 4 and 28) I hint that analysis using logarithmic returns would lead to clearer or sounder analysis, and I hope that quantitative investors will understand the need to remain within the chosen (but sometimes awkward) framework.

8 *The Ambachtsheer Letter,* a private newsletter for his pension and investment management clients.

of historical average returns as expected returns in asset allocation decisions. I'm not sure what success he had then, but the power of that simple approach resonated with me, as I remained embroiled in the short-term concerns of active management. These themes were revisited in a very important article to which I make numerous references in the text, and which I've reread many times over the years: "What Risk Premium is 'Normal'?" by Rob Arnott and Peter Bernstein.[9] They present a version of the analytical framework and use it in a similar fashion to Ambachtsheer, but they also raise and discuss many of the important questions that are often glossed over by others, and extend the framework to fixed income assets.

And of course Dimson, Marsh and Staunton, whose international database is an important resource for this book, have written numerous articles in this area. After writing out the algebra of the equity relations in the Appendix to Chapter 7, I found that they had published the algebra in DMS 2006, not surprising given their important use of these concepts.

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9 A&B 2002. For full citation information please refer to the Bibliography.