

Book reviews

Triumph of the Optimists: 101 Years of Global Investment Returns by Elroy Dimson, Paul March, and Michael Staunton, Princeton University Press, 2002. DOI: 10.1017/S1474747203211264

This is a beautiful book by London Business School professors Elroy Dimson, Paul March, and Michael Staunton, Director of the London Share Price Database. This is true not only because of its 226 full color charts and tables, but also because of its rigorous yet readable account of the historical stock and bond returns from sixteen countries over the past century. The authors (henceforth DMS) do not blindly borrow return series compiled by others but are meticulous in their treatment and discussion of data sources. In particular they report that the returns from the de Zoete Index of stock market data for the UK, used as source data for many previous studies, are seriously biased upward. DMS use original stock price data to compute an unbiased index from 1900 to 1954, and it shows significantly lower returns. In fact, the authors claim that the downward revision of the UK stock returns was one of the factors that motivated them to determine whether other national indexes could match US returns.

Survivorship Bias

I first published my *Stocks for the Long Run* in 1994, in which I showed the clear superiority of stock over bond returns over two centuries of US data. At that time, many questioned whether my conclusions applied internationally. Bill Goetzmann and Philippe Jorion wrote several articles emphasizing *survivorship bias* in international returns, a bias caused by our ability to compute returns only in countries that continued to have successful equity markets, while ignoring those whose stock markets disappeared outright or faltered badly, such as Russia and Argentina. Their computations, which did not contain dividend returns, showed that US stock returns were an outlier in a world where other equity markets delivered much lower returns.

DMS test this hypothesis, but, in contrast to Goetzmann and Jorion, they include hard-to-obtain but extremely important dividend yields. When all this information is analyzed, *Triumph of the Optimists* concludes ‘that the US experience of equities outperforming bonds and bills has been mirrored in all sixteen countries. ... Every country achieved equity performance that was better than that of bonds. Over the 101 years as a whole, there were only two bond markets and just one bill market that provided a better return than our *worst* performing equity market.’ (pp. 52–53). Furthermore, ‘While the US and the UK have indeed performed well ... there is no indication that they are hugely out of line with other countries. ... Concerns about success and survivorship bias, while legitimate, may therefore have been somewhat overstated [and] investors may have not been materially misled by a focus on the US.’ (p. 175).

Indeed, the authors’ decision to analyze the past century of data may actually *understate* the returns on equity markets. While DMS correctly point out that studies which start at the end of the First World War, when equity prices were depressed, show higher returns, I contend that starting in 1900 actually eliminates a prior thirty year period where, in the US at least, stock returns were higher than average. Thus 1871 is often taken as the beginning of US market data analysis, since that year marks beginning of the high-quality Cowles data that computes capitalization-weighted total returns for all stocks traded on the NYSE.

Growth and Return

The DMS analysis of the growth of the stock markets in individual countries leads to some surprising results. For example, the authors emphasize the large drop in the importance of UK financial markets over the past century. In 1900, London was the world's leading financial center and its equity market capitalization exceeded that of the NYSE by 50 percent. In 2000, UK market capitalization was less than 7% of the US. Although real returns in the UK were not quite as high as those in the US, the average real return on UK equities of 5.6% ranked seventh of the 16 countries studied, and it was not much less than the 6.7% return realized in the US, which ranked fourth (Sweden, with a 7.6% real stock market return, ranked first).

How could a stock market whose importance has fallen so dramatically have achieved returns so close to those of the US? A clue to the paradox is that an increase in market value of *total* shares is not the same as delivering superior returns, which are calculated on *individual* shares. For example, a gold mine that will be exhausted in ten years could be priced low enough to deliver superb returns although its market value goes to zero at the end of the period. On the other hand, an industry that over-expands, such as telecommunications, can still deliver poor returns to investors. UK stocks were sufficiently discounted throughout this past century so that returns to investors were quite high, despite the dramatic decline in London's importance.

The disconnect between growth and returns appears again in Chapter 11, where DMS discuss dividend growth around the world. They show that there is no relation between the growth of real GDP per capita (or productivity) and real stock returns. In my second edition of *Stocks for the Long Run* I noted this same phenomenon for both developed and developing countries from 1970–97. I explained that economic growth was largely factored into stock prices, so that when growth was not as high as anticipated, subsequent returns disappointed. The explanation is similar to why value stocks tend to outperform growth stocks over long periods of time, even though the latter have faster dividend and earnings growth. The authors refer to my work but dismiss the explanation, saying 'it is hard to believe that investors in 1900 had factored into stock prices a fully accurate assessment of the 101 years of GDP growth.' Quite true, but because of the reinvestment of dividends, long-term stock returns will be lower if *at any time* the market is priced too high relative to realized growth. This is why Japan, despite having the highest per capita GDP growth, has one of the lowest realized real stock returns.

Future Equity Premium

Despite documenting superior equity returns over the past century, DMS are correct in expecting that *future* returns in equity are apt to be lower, since stock prices are now higher than they have been relative to fundamentals such as dividends or earnings. DMS maintain that the historical world equity premium, after changes in valuation and unanticipated cash flows are accounted for, should be about 3% over bills and or 2.4% on bonds, substantially lower than the 4.9% equity premium they found in the historical data.

I am in full agreement that the future equity premium has fallen substantially from that seen in historical data. But as I pointed out in my recent article that DMS cite, 'The Shrinking Equity Premium', much of the reduction in the future equity premium comes from an underestimate of real bond returns rather than from overestimating equity returns. A good part of the decline in dividends comes from a decrease in the dividend payout ratio, an increase in retained earnings, and share repurchases. This in and of itself (aside from tax considerations) should not impact future returns. DMS acknowledge these facts in Chapter 11, which deals with dividends, but the point is not acknowledged in their estimate of the prospective equity risk premium.

Summary

Despite the wealth of material covered in *Triumph of the Optimists*, there are a few important subjects omitted. One is the impact of taxes, which could have significantly effects on the size of the equity premium because of the differential effect on stocks and bonds returns. I would also have liked to see the authors address the issue of *mean reversion* of equity prices, the tendency

of long-term returns to be more stable than would have been predicted by the random walk and efficient market hypothesis. Work by Campbell and Viciera shows that standard risk-return analysis (as well as Sharpe ratios) is inappropriate in the presence of mean reversion.

But these are minor quibbles. Dimson, Marsh and Staunton have produced a most impressive work that should be valued by the profession for many years to come. *Triumph of the Optimists* is a book that should be on the shelves of all those with serious interest in world capital markets.

JEREMY J. SIEGEL
The Wharton School

Strategic Asset Allocation by John Y. Campbell & Luis M. Viceira, Oxford University Press, 2002. DOI: 10.1017/S1474747203221260

This book has the potential to change fundamentally the way researchers and practitioners think about the investment and portfolio aspects of pensions. It is clearly written, concise, and explains the implications of mathematical results with care and rigor.

In fact, this book is essential reading for anyone who works with pension funds in a research or practical capacity. It examines the problem of long-term asset allocation – a core problem in pension fund work – using modern theoretical models grounded in traditional economic theory, and, crucially, it estimates these models using historical data and assesses the results. For too long, naïve models of financial markets have been applied in pension fund research without (or even in spite of) empirical justification. This book will make that much harder.

Strategic Asset Allocation examines the optimality of myopic rules of portfolio allocation for long-term investors. Myopic rules of asset allocation are typically the rules that will result from classical (but empirically unfounded) models of stock and bond markets such as that underlying the Black-Scholes formula. The book shows that these myopic rules of portfolio allocation are optimal for long term investors such as pensioners and pension funds only if various conditions hold. These include constant real interest rates, independent and identically distributed investment returns in all future time periods and the absence of unhedgeable income risks. If any one of these conditions fails to hold – and this book presents convincing evidence that they do not hold in the United States – then optimal portfolios will be sensitive to changes in investors' time horizons.

The authors' results justify some common heuristics used by investment practitioners such as 'stocks for longer-term investors, bonds for shorter-term investors' and 'more bonds for more risk averse investors' – rules that Merton's classical papers failed to justify.

These results will have profound implications for research and practice in many areas of pension funds. I will cite what I believe are some of the most important. Firstly, both sides of the debate about fair value accounting for defined benefit pension funds use implicit assumptions about future asset returns, often without any empirical foundation. The evidence in this book seems to support the fact that the equity markets do have some element of mean reversion, posing a challenge for fair-value accounting gurus. Of course, whether the extent of mean reversion present justifies current practices is untested. The appropriate asset allocation (equities vs. bonds) for defined benefit pension funds is a related issue that is similarly affected.

Secondly, this book is crucial reading for those who wish to understand, and improve upon, the investment advice offered to members of defined contribution pension plans. Traditionally, advisors of members of defined contribution plans have used heuristics to justify so-called 'lifestyle' portfolios (increasing investment in bonds as individuals approach retirement). Now, researchers and advisers can use these models to calculate optimal lifestyle portfolios using a coherent analytical framework.

Finally, the results in this book bear on the current debate about the privatisation of government social security systems. Issues such as the cost of government guarantees, the investment

guidelines and options given to individuals and the benefits to individuals of privatisation are all cast in a different light by this work.

The one issue that I take up with this book is that it assumes a certain approach to investor behaviour, without offering empirical justification to support this assumption. If investor behaviour is the fundamental driver of asset prices, surely it is necessary to at least examine how investors actually make decisions in order to understand asset allocation? Recent work on hyperbolic discounting and loss aversion is at least relevant to the problem of portfolio allocation, if not critical.

That said, however, *Strategic Asset Allocation* represents the state of the art of normative asset allocation studies. For that reason alone, pensions researchers and practitioners would do well to read it and take its lessons to heart.

DAVID MCCARTHY
University of Oxford

Social Security Pension Reform in Europe edited by Martin Feldstein and Horst Siebert. Chicago: University of Chicago Press (2002); xiii & 500 pages including index. DOI: 10.1017/S1474747203231267

Sponsored in part by the National Bureau of Economic Research and the Kiel Institute, this book represents the latest instalment in the NBER's research project on social security systems around the world. As is true of many other volumes in this series, this particular volume is based on a conference held in Berlin (in March 2000). Feldstein and Siebert, as editors, bring together leading pension economists from the United States and Europe to consider the current circumstances facing European social security systems, to evaluate the economic and demographic imperatives driving debate about future prospects, and to offer commentaries upon 'reform' of various countries' social security pension systems.

This is a welcome addition to the literature, even if by necessity it is a record of research and policy initiatives taken over the 1990s. For this reason the book is better understood as a reference point for evaluating the ongoing debate in Europe about social security pensions, rather than being seen as a statement about reforms themselves and the deeply entrenched views that have proved so resilient in the face of profound economic, demographic, and social forces.

The volume opens with two introductory papers, one by Feldstein and the other by Siebert. Not surprisingly, Feldstein provides a distinctively American view about Europe's pension problems noting many of the structural problems facing Europe including reference to the question posed as follows (p. 4): 'what does national solidarity for employees mean in a single Europe-wide labour market?' Feldstein provides the analytical rudiments for the assessment of state-sponsored social security systems, focusing upon individual investment based retirement accounts and the prospects for notional defined contributions systems. Siebert, while recognising the scope of the problems faced by countries such as France and Italy, also recognises the connection between work and retirement at the national level and at the European-wide level. He also acknowledges that European social security systems are more than just pensions: these social systems bring with them various government policies such as income redistribution and social welfare guarantees. While much of the subsequent conversation among participants at the conference was concerned with economic variables and instruments, it is important not to lose sight of the complex role and status of social security systems in Europe's advanced economies.

The volume then presents three significant chapters devoted to European social security pension systems, reform processes, labour markets, along with a discussion of the policies of redistribution and the apparent limits to European economic integration. These three papers are very useful, in that each provides an overview of the relevant theoretical and empirical issues, serving as tutorials in the principles and practice of PAYGO social security pension

systems. Readers seeking entry to what is becoming a large and crowded field of analysis and argument will find each of these a valuable way to learn the terms and methods of the economics debate. Also, each of these papers recognises common analytical frameworks but at the same time recognises (albeit in oblique ways) European national institutions and sentiments.

The volume finishes with chapters on old-age systems in France, Germany, Sweden, Italy, Finland, the Netherlands, the UK, Holland, Hungary, and Romania; most are well conceived and usefully illustrated by tables and figures. These papers are relatively short, offering summary descriptions of the particular problems faced by each country, along with the respective institutions involved in administering and financing the PAYGO social security system. For this reader, the most useful work focused on countries about which I have little direct knowledge or experience; by comparison, the papers on western European economies seemed truncated and somewhat superficial, given the complex nature of these institutions and the nature of reform over the past five years. Given the limited space available for each contribution, any single country study might be criticised for what is left out, but readers seeking introductions to those countries' systems will benefit from the focus and clarity characterizing each contribution.

I found very revealing the comments made by chapter discussants along with discussion summaries provided. Three threads of argument emerged, though they unfortunately were not fully addressed in the volume. Some commentators emphasized economic principles and imperatives; others argued that economic principles and imperatives can be understood only through the prism of inherited national social-security institutions; and yet others contend that citizens differ regarding their expectations about the role of government and the role of markets in providing retirement incomes. Those seeking evidence about the significance of these issues will find close reading of this book will justify the effort.

GORDON L. CLARK
University of Oxford