BOOK REVIEW

"Empirical Asset Pricing" by Wayne Ferson

Fabian Hollstein[1]

1 Introduction

"Empirical Asset Pricing" by Wayne Ferson covers asset pricing theory, tests, and reviews covering selected parts of the literature. The self-proclaimed target group of the book is advanced master and PhD students with an interest in empirical asset pricing. It is thus primarily a course book. In addition, the author suggests that his book can be used as a reference for researchers.

The introduction contains suggestions for schedules to implement the material for teaching, including how the book can be used for master-level classes as well as half-semester and full-semester PhD courses.

2 Summary of the content

The first part of the book (Sections I–III, Chapters 1–14) provides the theoretical underpinnings of empirical asset pricing. It starts by introducing the classical stochastic discount factor (SDF) framework, dubbed "m-talk" by the author. He briefly covers all the main concepts, while providing abundant references to the literature for readers interested to "dig deeper." In particular, chapter 5 ("So Many Models, So Little Time") provides a nice and intuitive overview of different asset pricing model types. But also the other chapters cover the main theory needed to understand empirical asset pricing in suitable depth and detail (mean-variance analysis, arbitrage pricing, intertemporal asset pricing, among others). Compared to other books, and based on the expertise of the author, the theory part (and the remainder of the book) particularly covers the topic of conditioning information in great depth.

The second part (Chapters 15–24) covers empirical asset pricing methods. The methodology part is mainly centered on the generalized method of moments (GMM), introducing other statistical concepts as special cases. The author provides an intensive discussion of the GMM. He dedicates in total 6 chapters to the GMM, covering topics

✉ Fabian Hollstein
  hollstein@fcm.uni-hannover.de

[1] School of Economics and Management, Leibniz University Hannover, Koenigsworther Platz 1, 30167 Hannover, Germany

ranging from optimal covariance matrices over statistical tests to specific examples of how the GMM can be applied for a variety of problems. In addition, there are Gauss and Matlab codes with simple example implementations in the Appendix. Apart from the GMM, the part covers multivariate regressions, cross-sectional regressions, panel regressions, and bootstrapping. Thereby, the author comprehensively discusses potential statistical biases and the nuances that need to be taken into account for robust statistical inference.

The third part (chapters 25–28) provides a detailed overview on (mainly mutual fund) investment performance evaluation. It covers the classical performance metrics, a chapter on conditional performance evaluation, one on bond funds, as well as a chapter on the most recent developments on the topic.

The fourth and final part (chapters 29–34) deals with a selection of asset pricing topics. It starts by introducing production-based asset pricing models, the Campbell–Shiller approximation, and long-run risk models, thus covering some of the most important theoretical advances in asset pricing in the recent decades. The final three chapters of the book include one longer overview of the predictability of moments and co-moments of returns, a shorter one on the discussion betas versus characteristics, and an introduction into the relation between volatility and the cross section of stock returns.

Supporting materials for instructors can be obtained from the MIT press webpage. These include (i) a zip-file of scans of the figures in the book and (ii) a set of problems and solutions. Both should be useful for setting up lectures. Unfortunately, the figures are just scans from the printed book. Hence, the quality could be better. The coursework is likely more suitable for PhD classes than on the master level, as it is quite technical. Most of the problems deal with the theoretical part of the book, while there are some on the GMM and few on other empirical models.

3 Assessment

The main contributions of the book, as claimed by the author (the author of this review agrees), are a more integrated coverage of the theory, which is directly aimed at the empirical implementation, a more comprehensive coverage of conditioning information, as well as a more detailed coverage of fund performance and predictability. The probably most important competitor book many scholars use for their classes is covered only briefly (Cochrane 2005). Of course the main focus of Cochrane (2005) is on the asset pricing theory, while this book is in particular on empirical asset pricing. Nevertheless, both books overlap to a substantial extent both in terms of theory and empirics. The authors' claimed main contribution is that he covers several modern methods and theories (e.g., panel regressions, bootstrapping with multiple comparisons, long-run risk model, production-based models, . . .). These additions are likely most important and useful for advanced level PhD students, less so for master-level classes. Another alternative book is Bali et al. (2016). The main distinction is that the current book claims to have more technical rigor, providing the "statistical and econometric theory behind the various tests and methods" (p. 5).

"Empirical Asset Pricing" by Wayne Ferson is a very accomplished and coherent book. In particular, scholars that share the author's enthusiasm for conditioning information and mutual fund performance analysis benefit from switching to the current book as their main class reference. Those interested in the technical details of the GMM and other empirical asset pricing approaches will find the book very rich and clear. In my opinion, the book is suitable mainly for PhD classes, less so for all but the most technically advanced master student cohorts.[1] The book can also serve as a refresher regarding methods for empirical researchers. In particular, the final chapters provide helpful summaries of the literature on mutual fund performance and the predictability of the moments of asset returns. For that purpose, it could end up on various (virtual) bookshelves, also of people interested in empirical asset pricing, but not actively engaged in teaching it.

References

Bali, T.G., Engle, R.F., Murray, S.: Empirical Asset Pricing: The Cross Section of Stock Returns. Wiley, Hoboken (2016)
Cochrane, J.H.: Asset Pricing. Princeton University Press, Princeton (2005)

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Fabian Hollstein is a postdoctoral researcher at the School of Economics and Management of the University of Hannover, Germany. His main research interests are in empirical asset pricing with special focus on beta estimation, risk premia in financial markets, and international finance. He has published in multiple academic journals, including Management Science, the Journal of Econometrics, and the Journal of Financial and Quantitative Analysis. More information is available on his personal website https://sites.google.com/view/fabianhollstein/.

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[1] To make it more appealing as a (below-PhD-level) student textbook, a future version of the book could benefit from more practical examples (although there are abundant examples in some parts of the book), summary sections, and possibly tasks for students (those provided as supplementary materials for instructors and potentially more) in the book.