

the reading room asset pricing

review rating



John Cochrane has written a high quality and scholarly work, that is rated 7 simply because it will probably be more advanced than most private investors need or can handle. It often seems that authors of investment books fall into one of two camps: mathematicians or non-mathematicians. Your reviewer is not a mathematician, and this book is definitely written by a mathematician. Some mathematicians find it easy to write in lay terms, and to a level that most non-mathematicians will follow and appreciate (eg, Bob Litterman – see this web site, B.S. Stanford, PhD Minnesota), whereas John Cochrane does not evidence this gift, if he does have it – or, perhaps more fairly, he assumes an advanced knowledge of matters that the reader might not see every day, eg: in the Appendix he addresses Continuous Time, and assumes the reader is familiar with “discrete-time ARMA models ...(and) analogies of continuous-time constructs to those models.”

Also, it should be said that Professor Cochrane (of Finance at the University of Chicago Graduate School of Business) makes it clear in his Preface, that his target audience is “economics and finance PhD students, advanced MBA students, or professionals with similar background”, and that he does presume some “exposure to undergraduate economics and statistics” – and examples of these are given that a purchaser would do well to check before buying the book. Your reviewer confesses to have less than a total grasp of the requisite linear algebra and calculus – but he still enjoyed reading much of this book. If nothing else, this work well illustrates just how technical higher investment analysis has become today. The book also provides comprehensive coverage of all the major analytical issues of today that are related – in virtually any way – to determination of financial asset value. As it is well put, the book is really about understanding the set of tools that have previously be learned in a “hodgepodge” manner – in this work, they are systematically investigated, tested, and drawn into an integrated valuation framework, and in the order that makes sense.

Cochrane's central thesis is that asset values are mostly concerned with “corrections for risk”, as the other parameters for calculating the expected discounted present value of payoff, which equates to value (time and interest rates) are pretty straightforward. He makes the point that for the past 50 years, US stocks have given a real return of around 9%, and of this, only about 1% is due to interest rates; the remaining 8% premium earned is for holding risk. Thus, “uncertainty, or corrections for risk make asset pricing interesting and challenging.”

For the assessment of this risk, he looks to the consumption model, starting with interest rates (IR), so that in times of high real IRs it makes sense to save, buy bonds, and then consume tomorrow. Therefore high real IRs should be associated with an expectation of growing consumption. He then applies this “risk correction” to asset prices, and contends that “asset prices should be driven by the covariance of asset

payoffs with marginal utility and hence by the covariance of asset payoffs with consumption.” Price is determined by the discount, and the discount is largely driven by “riskiness”, and this riskiness depends on co-variance, and not variance. From these initial postulations, the scene is set for consumption and marginal utility based valuation theorems that feed into a central formula, and which pervades and dominates all consequential reasoning in the book.

Importantly, and differently, he does not follow the conventional or classical presentation/analysis, by moving through each historical development in valuation and portfolio theory seriatim – eg, “portfolio theory, mean-variance frontiers, spanning theorems, CAPM, ICAPM, APT, option pricing, and finally a consumption based model. Contingent claims are an esoteric extension of option pricing theory. I go the other way around: contingent claims and the consumption based model are the basic and simplest models around; the others are specialisation. Just because they were discovered in the opposite order is no reason to present them that way.” Thus, the book starts from the basic model in Part One, and deals with each of the components of the consumption based model; contingent claims; discount factors; and then into mean-variance frontiers, beta models, CAPM and more familiar concepts.

In Part Two, Professor Cochrane dedicates a large portion of the text to “generalised methods of moments” (GMM), and the reader will find this difficult to understand without some grasp of regression analysis. This part is dense with formulae and conceptually quite challenging – and yet it is essential for testing of multi-factor models and the like, addressed in Chapter 15, and much later (p 434 et seq) where the Fama-French 3 factor model is addressed.

The book then moves to cover option pricing theory, bond basics (yield curve and term structure models), time series predictability, cross-sectional models and equity premium puzzles – and variations on them using the consumption based approach.

This is not a book to take to bed; it is for 0700 on Sunday morning! The non-mathematician will sometimes feel inadequate and perhaps frustrated – for not being a PhD student. This is a pity, and is the foundation of the only (and perhaps unfair, given target audience) criticism of this scholarly work: it is a shame that some time was not set aside for more non-algebraic explanations of concepts. For the non-PhD student, it needs a sort of Mark Kritzman (The Portable Financial Analyst) compendium or appendix. It is thought-provoking, and if any further evidence were needed, it confirms this reviewer's view, that the quest for total grasp of investment dynamics is a never ending quest.

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