Asset Pricing

Module Code: ECO00073M  Credits: 10  Term: 1

Contact Hours: 18  (12 lectures, 6 classes)

Module Organiser: Peter Smith

Module Lecturers: Laura Coroneo, Adam Golinski, Paulo Santos Monteiro, Peter Smith, Peter Spencer

Module Overview

To provide an advanced treatment of modern asset pricing theory for economists with a technical training, building on basic discrete time concepts they are already familiar with like the Stochastic Discount Factor used in modern macroeconomics. This will be based on J. Cochrane, (2005) *Asset Pricing*, Princeton University Press and J Campbell, A Lo and MacKinlay, (1996) *The Econometrics of Financial Markets*, Princeton University Press. J Hamilton, (1994) *Time Series Analysis*, Princeton University Press offers a very good introduction to stochastic processes, which should be familiar from time series econometrics. We will discuss the empirical performance of these different models.

Delivery

Each topic will be taught through 2 hours of lectures and 1 hour of student-led discussion of the key papers on that topic. The lectures and discussion will focus on theoretical and empirical modelling issues. Assessment will be by submission of a 1,500 word paper which can be based on the student discussion of key papers.

Should a reassessment be needed, a redraft of your original paper should be submitted by Monday of week 2 of Summer term.

Topics

1. Intertemporal Optimisation and SDF Asset Pricing (Paulo Santos Monteiro)

This aligns pricing models with macroeconomics, based on Cochrane Ch 2 and Sections 9.1 to 9.3. Discussion of consumption-based inter-temporal CAPM (CCAPM) pricing model, risk premia and asset allocation. Unfortunately the CCAPM is not very good empirically and the recent literature has focussed on variants that work better including employing alternative utility functions. We will look at models with habits and durability in consumption and long-run risk models.
2. Using the Stochastic Discount Factor and Risk Neutral Pricing models to value Discount Bonds (Adam Golinski)

This is basically the single-factor Vasicek (1979) arbitrage-free model in discrete time. The SDF algebra is taken from Campbell, Lo and MacKinnon Ch 11. We will show that the RN approach uses the same steps but is much simpler to use. To do use this we specify the interest dynamics under the risk neutral measure. We will look at basic extensions like CIR, multifactor variants etc.

3. Macro finance models of the term structure (Laura Coronoeo)

We will look at how to construct Macro-Finance models for the term structure of interest rates. Starting from the seminal paper of Ang and Piazzesi (2003) we will see how to make the macro-dynamics explicit. We will then review Moench (2008) that uses a large amount of macro information. Joslin, Priebsch and Singleton (2013) and Duffee (2011) introduce “unspanned” factors, meaning that they affect the risk premia but not yields. We will review the econometric techniques used to estimate these models including Joslin Singleton and Zhu (2013) and Hamilton and Wu (2013).

4. Predictability and Volatility (Adam Golinski)

Predictability of returns and evidence on time-varying risk premia based on several predictors including dividend yield and those based on aggregate wealth, see Cochrane Ch 20.1. We will study the Campbell and Shiller (1988) present value model of stock prices and its implications for returns and dividend growth predictability and discuss their limitations. We will discuss the complex approaches to the joint hypothesis testing of return and dividend growth predictability proposed by Cochrane (2008) and Binsbergen and Koijen (2010). We will follow with the extension of the present value model to the consumption-aggregate wealth and consumption-aggregate dividend ratios and their applications for the returns and dividend growth forecasts (Lettau and Ludvigson, 2001, 2005) and for the conditional CAPM model (Lettau and Ludvigson, 2001). We will review the critique (Goyal and Welch, 2008) and discuss the latest advances in stock return predictability (Kostakis, Magdalinos and Stamatogiannis, forthcoming).

5. Equity Market Pricing and Factor Models (Peter Smith)

We will examine the cross section of security returns: CAPM, value, size, momentum and anomalies. We will examine how to assess models which use returns or other quantities as pricing factors, giving direct measures of the price of risk. We will use the two-stage Fama-MacBeth regression approach or GMM to find the prices of risk. These methods will be used to scrutinise recent models and anomalies e.g. betting against beta. This material would be based on parts of Cochrane, Chapters 9, 12, 13 and 15 as well as a number of recent papers.

6. Credit Risk (Peter Spencer)

Earlier lectures have looked at prices and returns on equities and bonds. Assets like U.S. Treasuries are highly liquid and have very low credit risk since they are issued by governments that are unlikely to default. Treasury yields form the baseline for all other yields, which also reflect liquidity and default risk. Subtracting a Treasury yield from the yield on another bond gives the ‘spread’ or mark-up on the baseline. Spreads tend to increase as liquidity deteriorates and the credit rating (from agencies like S&P) declines. Apart from the
bond market, default risk is also reflected in the prices of equities and derivatives, like Credit Default Swaps, and must be priced consistently across all three markets. We analyse these effects in this lecture, using the forward and risk-neutral measures and other tools. We look at the structural model which analyses the default decision in terms of the net asset value of the firm and the reduced form model which assumes that the hazard rate follows a diffusion process similar to the spot rate in an affine term structure model.