

Patterns in Stock Returns: Theory and Empirics

Research Proposal for 2013-2014 Academic Year

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Description

Availability of high-quality, high-frequency data on stock returns enables researchers studying financial markets to take a detailed look into the patterns exhibited by asset prices. Not surprisingly, there is a huge empirical literature in this area which has uncovered, and keeps uncovering, a large number of interesting regularities. From the viewpoint of the theoretical work, such good data makes it possible to test even subtle predictions of asset pricing models.

In this seminar we will study topics and papers that provide a snapshot of current topics in theoretical and empirical asset pricing, and the statistical methodologies to appropriately test these theories. We study these topics in one seminar because: theory that is not tied to empirical reality is pointless; empirical testing without strong theory is meaningless.

Students studying with us will be exposed to both theoretical and empirical asset pricing areas in order to develop a broad perspective on the field of asset pricing. However, for the purpose of a thesis, students are expected to concentrate on one area. To help students with identifying a specific research idea, we will distribute several review papers that provide good summaries of research in a given area of theoretical or empirical asset pricing. After the idea is identified, students will go through several steps so as to convert the idea into a master thesis. Below we broadly outline the steps involved in developing the master thesis depending on the direction chosen.

Theoretical asset pricing

After reading several empirical papers, the student picks one or several findings describing the behavior of stock prices, and then builds a theoretical model to explain these findings. Alternatively, the student may extend an existing model. To focus on the main economic question, the baseline model may be rather stylized. After such model is solved, the student need to look at several plausible extensions. The next step is a detailed comparative statics analysis of how the model's predictions are affected as the model's parameters change. The student should also discuss the economic importance of the obtained results by looking at the economic magnitudes of the derived effects?

The final important step is describing the relation between the theory and relevant empirical evidence: How successful the model is in explaining the evidence? What are the novel implications of the model that hasn't been tested yet? What data is needed to test them? If some variable is not directly observable, what is a reasonable proxy?

Empirical asset pricing

After reading several theory and empirical papers, propose a hypothesis to test that is a previously untested implication of a model, an extension of existing empirical research, a test of an alternate explanation for an earlier finding, or a new untested hypothesis. You will need to devise several tests which will be used to test your hypothesis. This means: you need to figure out what is a good test of the hypothesis, what is the best econometric methodology to run the test, the strengths and weakness of that methodology, additional tests to address the weaknesses, and you need to figure out what are the best proxies for the measures you would like, what data you need and where you can get it. The student should also discuss the economic importance of the results and the relevance of these results for investors, portfolio managers, and policy makers. Finally, as with the theory, one must answer: What data is needed to test them? If some variable is not directly observable, what is a reasonable proxy?

Suggested topics

We now list several potential research topics that students can work on. The list is in no sense restrictive – if interested, students may choose topics other than those listed below, or even other than those that we cover during the seminar, as long as they fall within the broad area of asset pricing.

Asset pricing implications of delegated portfolio management

In traditional asset pricing models, it is assumed that investors directly invest in the stock market, while in the real world many people give their money to professional portfolio managers. There has not been much work on how this feature affects equilibrium asset prices. Examples of work in this area are (rather technically demanding) papers by Cuoco and Kaniel (2010) and Basak and Pavlova (2010).

Ambiguity aversion and asset prices

A growing literature looks at the situation where investors are ambiguity averse, and examine how this impacts asset prices. Roughly speaking, ambiguity aversion means that investors have multiple, rather than single, priors about some pertinent parameter (-s), and they act so as to maximize their well-being in the worst-case scenario. From existing models, we know that accounting for ambiguity aversion can explain findings that are hard to explain otherwise. Epstein and Schneider (2010) provide an overview of recent developments and models. Empirical research in this area is challenged by developing good measures of ambiguity. As such the literature is nascent and just starting to take off.

Wealth effect in CARA-normal frameworks

Many models rely on CARA utility for tractability, as is the case in most if not all models with asymmetric information (see Brunnermeier (2001) for a survey). However, it is well-known that such utility is not very realistic due to the absence of wealth effect – i.e., the fact that investors invest the same dollar amount into risky securities *regardless* of their level of

wealth. In reality, wealthier investors invest more dollars in risky securities. It is interesting to know how predictions of CARA models are affected once the wealth effect is incorporated. Makarov and Schornick (2010) show, for one particular model, that accounting for the wealth effect can strongly affect the model's predictions.

Market efficiency

Studies of market efficiency and anomalies have largely avoided looking at the Russian market because of limited data availability. A detailed study of the weak and semi-strong efficiency of the Russian stock market would be an important addition to our knowledge of the Russian markets. An example of research in this area is Griffin, Kelly and Nardari (2010). Projects in this area would involve examining the profits (or costs) involved in exploiting weak for in efficiencies. Requires someone who can program.

Sources of Risk in Asset pricing

Our understanding of the sources of risk in the Russian market is very limited. Various theories predict different sources of risk: market, macro economic, illiquidity, default, etc. Few of these theories have been tested in the Russian market and a thesis that has a well formed hypothesis about the sources of risk in the Russian market and well formed tests of these theories could make for an excellent topic.

Risk spillover

Financial firms worry not only about their own risks, but also about those of those who sit next to them. This is especially important during crisis. How to measure these "connectedness"? Correlations might be not sufficient in nonnormal/nonlinear world.

Mutual fund flows and MAX

A paper by Genc (2012) shows that fund flows may depend on extreme daily performance. However, in theory a rational agent is interested in the average performance and volatility over the holding period. Studying relation between extreme returns and flows may give some understanding of rationality of investors.

Delegated portfolio management and home bias in CARA-normal framework

Several recent papers look at delegated portfolio management (see e.g. Basak and Pavlova (2010) and Vayanos and Woolley (2011)). They try to explain market anomalies including momentum and value effect. However, there is no explanation for home bias in asset holdings in a delegated portfolio management framework.

References

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Makarov, D. and A. Schornick, 2010, A Note on Wealth Effect under CARA Utility, *Finance Research Letters*.

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