FEM11181 Seminar Advanced Investments (2023–2024, block 4)

Research project / Dr Philippe Versijp

1 INTRODUCTION

From a fund manager's perspective, we'd like to know if an investment strategy has been "worth-while". It is well known that merely picking stocks ignores the benefits of diversification and carries a lot of idiosyncratic risk. Yet the theoretical result of Modern Portfolio Theory (crudely put: invest in everything, all the time) does not hold either – there are possibly exploitable anomalies in the risk-return relationship. You will be asked to construct a number of given strategies and you can add your own innovative strategies.

2 SPECIFICS

This project involves three major steps:

1. Data

Any empirical analysis of investment will require data. You will have to collect and describe return data on the assets you would want to include in your analysis of a portfolio. Relevant issues are: which assets to include, which frequency to use for the returns, characteristics of their distribution, etcetera. Choose the number of assets that you can manage. You can use CRSP, Datastream and other sources for this – the university library has a list of databases at https://libguides.eur.nl/az.php Once you have collected the data, describe them and above all, motivate your choices in collecting them.

2. Constructing trading strategies

Use the data you collect to test a number of pre-set strategies, and you can add your own.

You should test at least the following strategies: _ Momentum. Short sell the losers of the past year and buy the winners (no net invest-ment). Refer to Jegadeesh & Titman (1993) and Novy-Marx, Robert, (2012). _ The volatility effect as described in Blitz & van Vliet (2007). Also refer to the pricing of idiosyncratic volatility in Ang, Hodrick, Xing & Zhang (2006) Issues you want to consider/include: _ Portfolio formation period _ Entry/exit decisions (when to sell or rebalance your portfolio) _ Significance of the excess return (a t-test will do) _ Return before and after transaction costs

3. Alpha or Smart (or maybe dumb?) Betas?

Are the returns from your trading strategies explained by CAPM or a multifactor model?

Test for excess returns ('alpha') resulting from your strategies w.r.t. the CAPM, the FF3 factor, and FF 5 factor models. You can use the time series of factors from Ken French'

website (see http://mba.tuck.dartmouth.edu/pages/faculty/ken.french/data_library.html)

Keep in mind to use your time efficiently. Do not replicate all the five factors yourself.

Maybe try one (e.g., size factor) in order to 'test' whether your code produces the expected results. If yes, then you can use it to produce/replicate the other strategies. I also recommend to use the cross section of US equities (i.e., WRDS databases).

Issues you want to consider/include: _ What is the underlying idea behind this model of the risk-return relation? Why is it relevant in an empirical setting?

Be sure to offer some (perhaps critical) reflections on each aspect, and give some comment on the question whether one can expect to obtain similar results in the future. The motivation of your choices is also very important: tell me not just what you did, but *why* you did it this way.

3 IN-CLASS ASSIGNMENTS

In weeks 2, 3, 4, and 5, we will provide you with empirical assignments, which will help you to get familiar with the WRDS database as well as working with financial data. The Data Team of the Erasmus Data Service Centre is also very helpful if you look for specific information about companies. In block 4, these assignments do not need to be handed in, they're practice for the research paper.

4 HANDING IN

This assignment can be seen as a (small) scientific paper. Please refer to the Guideline MSc Thesis in Financial Economics for detail guidelines on writing a scientific paper. The length of the paper (excluding tables, graphs and references) should be no more than 20 pages (1.5 line-spaced, 12pt, 1-inch margins). NB: concise writing is encouraged, your should be able to do it in 16 pages.

Submission deadline: 15th of April 13:59. Upload an electronic version of your work to Assignments in Canvas (also for the plagiarism check) and email a copy to versijp@ese.eur.nl.

Lastly, one member of your team will prepare a 15-minutes presentation of your research project. A member of another team will discuss your research paper.

Good luck!