Fama-Macbeth:

1a) Simple CAPM verification:

Create time series regression: excess stock return = intercept + beta(excess market return)

To estimate betas.

Using these betas, we use cross sectional regression to calculate “gammas”:

Excess stock return = intercept + (estimated betas)(excess market return)

Now to verify if CAPM holds:

Conduct hypothesis test: H0 : intercept = 0 , H1 : intercept =/= 0

We want to hopefully find intercept = 0 (for capm to hold)

Evaluation – if not why not! What assumptions did we make? How did we group data – does that make a difference? Does it make a difference if we use value weighted opposed to equal weights??

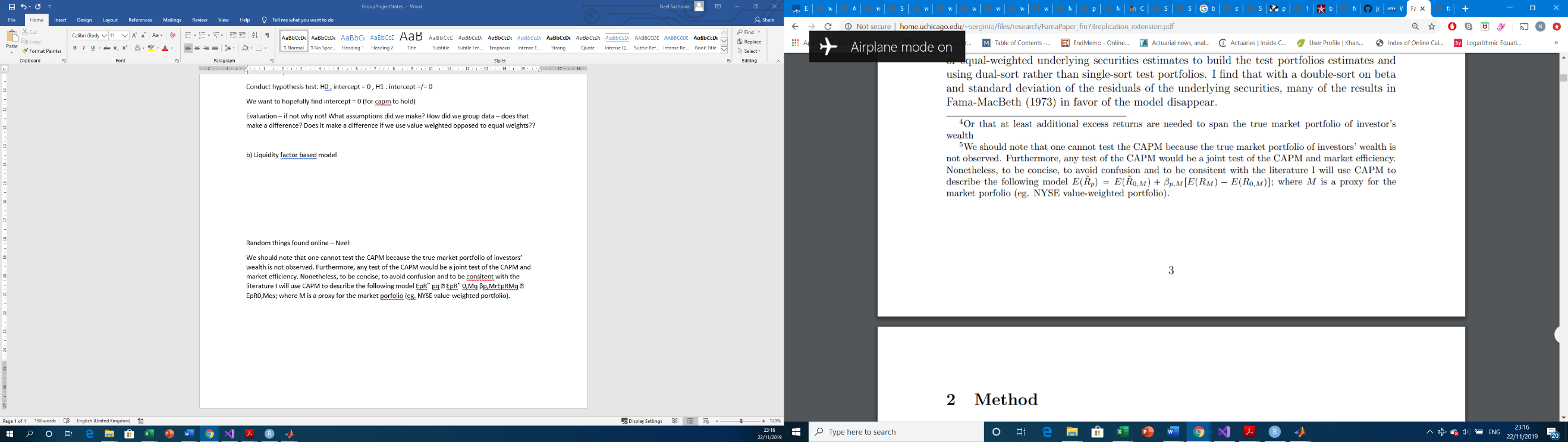
b) Liquidity factor based model

<https://faculty.chicagobooth.edu/lubos.pastor/research/>

Null values from 1962 – 1967 for liquidity (hence removed from our research)

3 factors: aggregate Liquidity. Innovations in liquidity, Traded Liquidity Factor

Random things found online – Neel:

We should note that one cannot test the CAPM because the true market portfolio of investors’ wealth is not observed. Furthermore, any test of the CAPM would be a joint test of the CAPM and market efficiency.

<http://home.uchicago.edu/~serginio/files/research/FamaPaper_fm73replication_extension.pdf>

Interesting article on Pastor Stambaugh and liquidity factors

<https://reader.elsevier.com/reader/sd/pii/S0165176517305268?token=58305A5975A2F4CCEEA33631EAB3C08AF77636C89340771AACE60C6B272AD37B26587D34D06376542D90DCAAEAE250C5>

Apparently this guy says Pastor’s liquidity measure is trash:

<https://www.researchgate.net/publication/222579336_Do_Liquidity_Measures_Measure_Liquidity>

<https://quant.stackexchange.com/questions/44367/question-about-fama-macbeth-regression-confusion-about-paper?rq=1>

<https://quant.stackexchange.com/questions/43782/calculating-the-pricing-error-in-fama-macbeth-regression-for-fama-french-5-facto/43815#43815>

<https://quant.stackexchange.com/questions/42610/fama-macbeth-cross-sectional-regression/42616#42616>

<https://quant.stackexchange.com/questions/47422/using-the-fama-macbeth-process-to-test-capm?rq=1>

To ask Roman:

Liquidity factors or factor???

Rebalancing betas

T-statistic (HAC – newey west)

Intro (500 max)

* Abstract
* What are we trying to do – the theory behind the problem
* Literature review – what are alternative things
* What is the data (where we sourced it, “pre-processing – null values for liquidity so start in 1968, mismatching dates”
* Split data to pre-crisis – some explanation
* What our factors are (relevant theory)

Methods: (500 max)

* Using matlab
* Fama-Macbeth process
* How we run our regressions (include some talk about statistics behind it)
* Acknowledgement of t-statistic issues (Newey West/HAC)

Data and Empirical Results: (2500)

Full details of all the data used – descriptive statistics where appropriate

Test CAPM:

* Part (a)
* Analyse output
* What does the value of beta/gamma represent – is it what is expected?
* How spread are the betas (variance(betas))?
* Hypothesis test: (H0: intercept = 0 )
* Does our regression verify CAPM?
* graphs

Fit Models:

* Part (b)
* Analyse different models
* Compare different models (all factors, individual factors, other combinations)
* What does the value of beta/gamma represent – is it what is expected?
* How spread are the betas (variance(betas))?
* Explain model – economic justification
* Is it different to CAPM??

In-Sample Data:

* Part (a) and part (b) with different dates
* Plot part a predicted using data from part b – compare to expected returns
* Is this what is expected – if not why not

Any caveats or limitations to our study (500 max)

Final conclusions (500 max)