

## JEM001/JEM169 Students studying abroad

To get credits for the seminar, you must fulfill the very same requirements the students at home/IES have, except that you are **free from the requirement of attendance. Instead you have to send us details on your progress** on the day you were assigned to attend the seminar at latest. Therefore, read all the information for students studying at the IES, since these apply to you as well.

During the course we expect you to send us at least 5 documents to pass the course:

- 1) **Three progress reports** before or on the assigned date at latest. Send us three reports on your progress as yoursurname\_seminar#.pdf; the subject of the e-mail must be: JEM001 Progress Report (Yoursurname). The report on your progress should be about one A4-page long for each of the three seminars; please be concrete. We welcome you sending us the current version of your first draft as well besides your progress report. If you have any questions, do not hesitate to ask – and ask specifically what is unclear to you (what kind of advice you need). Include all of the following addresses in all the conversations: mejstrik@fsv.cuni.cz, tomas.havranek@fsv.cuni.cz, zuzana.havrankova@fsv.cuni.cz.
  - Report #1 – defense of your updated proposal (what is new, how did you manage to implement comments)
  - Report #2 – discussion of your methods (what is new, focus on the methodological issues)
  - Report #3 – first part: current state and issues ahead
- 2) **The scanned thesis proposal signed by you and your supervisor** once it has been approved by the teachers of the seminar and your supervisor. You will hand-in the original proposal in hard-copy once you are back in Prague (box #2 of Tomas Havranek at the IES lobby).
- 3) **The first part of the thesis** – read the website of JEM001 in SIS.

**Read all the e-mails we sent you carefully.** Since we are overflown with emails during the semester, we do not respond to asks for information that has already been provided in the correspondence course or that is available on our website. Nevertheless, we are happy to provide you consultation or advice on any specific topic, and clear things out whenever in doubt.

One more thing should be very clear and applies for students studying home as well: **we do not prolong deadlines** and we do not accept any kind of apologies on the basis that you did not find the time to write during the semester (but you will have time to write after you finish your exams abroad or other excuse). Writing in general is hard. The one important message of this course is that **you do not find the time but allot the time to work on you thesis**. You must dedicate regular time to work on your thesis (if that means to dedicate time every week, Monday through Friday, from 8 AM to 10 AM – or any other REGULAR schedule meeting your personal criteria/options/limitations, than be it). In this allotted time, do only the work on your thesis, cut yourself from any distractions (email, phone, chat, sudden urges to clean, or even the internet if necessary). Do not indulge into fantasies of how much you will work on your thesis once you have a bigger chunk of time for it (like a spring or a summer break or even a post-exam period). If you plan to finish on time and deliver good results for a big project like your thesis, you need to establish a strict regularity in your work. Otherwise, you will suffer.

# **EXAMPLE**

(attach your thesis in progress, notes, data..)

**Progress Report #1**

*Institute of Economic Studies  
Faculty of Social Sciences  
Charles University in Prague*

October 10, 2016

Dear Professor Mejstrik,  
Dear Docent Havranek,  
Dear Doctor Havrankova,

The purpose of this progress report is to make comments on changes that I have made in my thesis proposal. Docent Havranek pointed out two problems in the first version of my proposal and this progress report summarizes my reaction to these problems.

The first problem is the following: "The title refers to the impact of low yield environment, but what you really plan to do is a regression that identifies the impact of changes in the yield. This is a different effect from the one that a long period of low interest rates may have on banks and other institutions."

I see Docent Havranek's point and that is why I have made changes in corresponding formulations. In the current version of the proposal, whenever I try to describe the regression analysis, I do not speak about the impact of the low yield environment on banks and insurers. Instead, I speak about the impact of negative changes in interest rates on banks and insurers.

Still, after consulting the problem with my supervisor, Docent Jakubik, I have decided to keep the notion of low yield environment in the title of the thesis. One reason for this is that in the theoretical part I am about to put emphasis on the situation of banks and insurers in the low yield environment as I want to reflect topical issues. Another reason is that if I found out that negative changes in interest rates do have a negative impact on banks and insurers, we could also conclude that the low yield environment is not preferable for these financial institutions. This is because low yield environment is created by a sequence of negative changes in interest rates and it is a period without positive changes in interest rates. Hence, even the regression analysis will be, from my point of view, tightly connected to the title as changes in interest rates are an important transition channel for the low yield environment.

The second problem mentioned by Docent Havranek is this: "I am not sure if equity price is a good measure for your analysis: the price reflects expectations about the sum of all future profits of the bank, therefore it is unlikely to be much influenced by innovations to the interest rate (which is what you can explore in GMM). Perhaps it would be better to focus on earnings instead."

Here I believe that a decrease in interest rates could have a negative impact not only on profitability but also on equity prices. When interest rates decrease, markets may start to believe that the interest rates in the future will be lower than previously expected. Hence the

future expected profits would be lower which could mean a decrease in the equity prices. In addition, the probability of bankruptcy might be higher with lowered interest rates, which may further decrease the equity prices.

On the other hand, the discount rates would be lower as well, which could have an opposite effect on the equity prices. However, I would like to try the regression analysis with equity prices rather than with profitability, as I would prefer insignificant results to doing something what has already been done many times before. Moreover, the theoretical discussion will also be more interesting.

In addition to reflecting the problems outlined by Docent Havranek, I have made some minor changes in formulations and have mentioned other databases I am about to use during my work.

Yours faithfully,

**Filip Jurena**

## Progress Report #2

*Institute of Economic Studies  
Faculty of Social Sciences  
Charles University in Prague*

November 8, 2016

Dear Professor Mejstrik,  
Dear Docent Havranek,  
Dear Doctor Havrankova,

The purpose of this progress report is to discuss the methodology I will be using in my master's thesis. The topic of the thesis is Impact of the low yield environment on banks and insurers: Evidence from equity prices.

### Model Description

I will take an econometric panel data approach. The dependent variable will be the equity price of banks and insurers in my sample. The most closely observed explanatory variable will be the yield to maturity of long-term government bonds. Hence, I will have to assign a country to each bank and insurer based on their headquarters. Other considered explanatory variables will include real GDP growth, inflation rate, debt-to-equity ratio, return on assets, dividend payout ratio, efficiency ratio or sustainable growth rate.

Ameur & Mhiri (2013) and Dorofti & Jakubik (2015) also wanted to explain the drivers of banks and insurers performance and in both cases they used a GMM estimation technique described by Blundell and Bond (2000). The technique is appropriate in case of panel data covering a large sample of companies observed for a small number of time periods, which will be also my case.

### Data Collection

First of all, I will decide which banks and insurers will be in my sample. I have to keep in mind that I must not take an *ex post* sample of successful companies but rather an *ex ante* sample of companies. Here I apply a similar reasoning to the reasoning of De Long (1988) who argued that Baumol (1986) had found convergence among industrial nations just because he had used an *ex post* sample. If I chose a sample consisting only of well-performing companies, I could get bad results because share prices of most of these companies would rise while yields have been generally decreasing recently. The results might be pre-determined by this pattern.

So I will base my decision on an older edition of the Forbes's list of world's largest companies, Global 2000. If I find I am able to collect data for last 10 years, then I will utilize the 10-year-old edition.

To gather the company data, I will use Bloomberg. There I can readily access data for last 10 years with a quarterly frequency. I have already collected some data from Morningstar for last 10 years with a yearly frequency but now I see Bloomberg can offer me more. Regarding the data for macroeconomic variables, I have downloaded them from the OECD website. I will re-consider how to deal with banks and insurers from non-OECD countries.

I will have to face the issue that my variables will have different frequencies. Equity price has daily frequency, while other variables may have a quarterly frequency. According to Wohlrabe (2008), in most empirical applications the higher frequency data is aggregated to the lower frequency by averaging, summing up, or by taking a representative corresponding value. More advanced techniques dealing with mixed-frequency data have been developed, such as VARMA and MIDAS but these are designated for forecasting. I will probably aggregate data to the quarterly frequency, using the simple averaging approach. The Blundell and Bond technique intended for short panels should compensate for this.

## **Conclusion**

I would not mind at all if you expressed some disagreement with my methodological strategy at this point. On the contrary, I would be very grateful, as it could save me a lot of a pointless effort. In particular, I am not sure about how to approach these questions:

- Is it a good idea to transform all the data so that it has the quarterly or even yearly frequency if some of the important explanatory variables can be collected only with the quarterly/yearly frequency?
- Is it a good idea to assign a country to each bank and insurer and then to take the government bonds' YTM as the dependent variable?

Yours faithfully,

Filip Jurena

## **References**

1. Ameer, I.G.B. and Mhiri, S.M. (2013). "Explanatory Factors of Bank Performance: Evidence from Tunisia", *International Journal of Economics*, Vol. 2, No. 1, March 2013, pp. 143-152.
2. Baumol, W.J. (1986). "Productivity Growth, Convergence, and Welfare: What the Long-Run Data Show", *The American Economic Review*, Vol. 76, No. 5, pp. 1072-1085.
3. Blundell, R. and Bond, S. (2000). "GMM Estimation with persistent panel data: an application to production functions", *Econometric Reviews*, Vol. 19, Issue 3, pp. 321-340.
4. De Long, J.B. (1988). "Productivity Growth, Convergence, and Welfare: Comment", *The American Economic Review*, Vol. 78, No. 5, pp. 1138-1154.

5. Dorofti, C. and Jakubik, P. (2015). "Insurance Sector Profitability and the Macroeconomic Environment", *Financial Stability Report* [online], May 2015, pp. 56-71, available: [https://eiopa.europa.eu/Publications/Reports/Financial\\_Stability\\_Report\\_May\\_2015.pdf](https://eiopa.europa.eu/Publications/Reports/Financial_Stability_Report_May_2015.pdf) [accessed 2 Nov 2016].
6. Wohlrabe, K. (2009). "Forecasting with mixed-frequency time series models", doctoral dissertation [online], Ludwig-Maximilians-Universitat, Munchen, available: <https://www.deutsche-digitale-bibliothek.de/binary/HJQ3CEJGYULNAZ7C2XQ3V40S4ISMLFCD/full/1.pdf> [accessed 2 Nov 2016].

## Progress Report #3

*Institute of Economic Studies  
Faculty of Social Sciences  
Charles University in Prague*

December 6, 2016

Dear Professor Mejstrik,  
Dear Docent Havranek,  
Dear Doctor Havrankova,

The purpose of this progress report is to discuss the current state of my master's thesis and the issues ahead. The topic of the thesis is *Impact of the low yield environment on banks and insurers: Evidence from equity prices.*

### Current State

Since the last progress report I have made these advances:

- I have extended my literature review. I have written more about each paper mentioned.
- I have reflected the comments that Doc. Havranek made after reading my last progress report. I have included some remarks concerning clustering standard errors, instrumental variables and even secular stagnation.
- I have collected data. At this moment, I have a data set of 86 financial institutions (banks or insurance companies) for last 10 years. I have collected data with a yearly frequency for the following variables:
  - Equity price,
  - long-term interest rate,
  - real GDP growth,
  - inflation rate,
  - free cash flow / net income ratio,
  - asset turnover,
  - financial leverage.

The macroeconomic data was taken from OECD while the institution-specific data was taken from Morningstar. The companies were selected based on The Forbes Global 2000 issued in 2007. So far I have collected data for European institutions only. The Forbes Global 2000 also assigns a country to each institution which was of great use to me.

- I have described how I proceeded during the data collection.

### Issues Ahead

During the process of data collection I bumped into these problems:

- For each company, the developments at each stock exchange are slightly different. If we take the example of the Skandinaviska Enskilda Banken, we find that their stock prices went down over the period 2005-2015 at the Frankfurt Stock Exchange, while they went up at the Stockholm Stock Exchange. How to approach this? And do I have to reflect the impact of dividends and



stock splits anyhow?

- Another problem to deal with is the problem of missing values. There are a lot of banks and insurance companies for which there is at least one empty entry. How to approach this? Should I take the average of the values from the previous and next year? Or should I drop such observations? First thing what I am about to do is to use other sources to find the missing information but I think there will still be many cases of missing values.
- Is a sample consisting of 86 institutions sufficient in my case?

Then I will start with the empirical analysis. First I will consider using the well-known models for treating panel data: the pooled OLS, fixed effects and random effects models.

Nevertheless, my expectation is that none of these models will be really suitable. Some previous studies similar to mine made use of the system GMM estimator.

### **Conclusion**

I would be really grateful if you could give me some advice on:

- how to tackle the problems with equity prices (different developments at each stock exchange, dividends, stock splits. . . );
- how to tackle the problems with missing values.

Thank you very much.

Yours faithfully,

Filip Jurena