Topic 1: More Guns, Less Crime?

- Description: Some U.S. states have enacted laws that allow citizens to carry concealed weapon. These laws are known as “shall-issue” laws because they instruct local authorities to issue a concealed weapons permit to all applicants who are citizens, are mentally competent, have not been convicted of a felony […]. Proponents argue that if more people carry concealed weapons, crime will decline because criminals are deterred from attacking other people. Opponents argue that crime will increase because of accidental or spontaneous use of the weapon. In this project you will analyze the effect of concealed weapons laws on violent crimes.” (Stock and Watson, 2011, Empirical Exercise E10.1).
- Use the following points as building blocks of your project:
  - Apply a panel data approach to analyze a potential effect of the shall-issue law on the various crime rates.
  - Why does it make sense to rely on a panel estimation setup?
  - Which panel model framework/estimator seems to be most appropriate?
  - Should one include time-fixed effects?
  - Can a random-effects model be justified?
  - What are the most important threats to the internal validity of your regression analysis?
- The data are contained in the files guns.dta or guns.xls. A balanced panel of data from 50 U.S. states and the District of Columbia for years 1977-1999 is provided in files guns.dta or guns.xls. A detailed description of the various variables is given in Guns_Description.pdf.
- Literature:
  Stock, J.H. and Watson, M.W. (2011), *Introduction to Econometrics*, 3rd edition, Chapter 10, Addison-Wesley Longman.
  Wooldridge, J.M. (2006), *Introductory Econometrics*, Chapters 13-14, 3rd edition, Thomson.

Topic 2: The Effect of the MEDICAID Health Insurance Program on the Health of Poor Children

- Description: Medicaid is the health program that serves poor children. The file medelig.*** contains a panel of 125 groups of Hispanic children in low-income families.
  - Regard the variable nacute as a dependent variable.
  - Model the data using appropriate linear or nonlinear models.
  - Why focus on children eligible for Medicaid help rather than on children receiving Medicaid? Explain the role of the variable medpins
  - Which panel model framework/estimator seems to be most appropriate?
  - What is the influence of demographic characteristics (such as education, Medicaid eligibility, etc.) on the health condition of the children?
  - Does the heterogeneity in the psu groups play an important role for the health condition?
  - Does Medicaid eligibility have an effect on the health condition of children already covered by a private insurance?
  - Discuss the external validity of your results without carrying out a meta-analysis.
- Data set: medelig.***
- Description of the data set variables:
  - Age: mean age of kids in the group
  - Educ1: % of group without high school diploma
  - Educ2: % of group with high school diploma
  - Educ3: % of group with some college
  - Educ4: % of group with bachelors degree
  - Educ5: % of group with bachelors degree plus
  - Faminc: mean family income in group
  - Male: % of boys in group
  - Medelig: % of group Medical eligible
  - Medpins: Interaction of pinsur and medelig
  - Nacute: Mean number of acute medical conditions in group
  - Pinsur: % of group covered by private health insurance
  - PSU: Primary sampling unit number (randomly recorded)
  - SPF: % of group who are single parents
  - Year91: =1 if year is 1991; =0 if year is 1988
- Literature:
  Wooldridge, J.M. (2006), *Introductory Econometrics*, Chapter 14, 3rd edition, Thomson.
- Weblinks: http://www.cms.hhs.gov/home/medicaid.asp

Topic 3: The Effects of Expenditures on Pupils' Test Score Performance

- Description: This project is about analyzing the effects of expenditures (per pupil) on pupil's test score performance. The file mathpnl.*** contains panel data on school districts in Michigan for the years 1992 through 19998. It is the district-level analogue of the school-level data used by Papke (2005). The response variable of interest is the *math4*, the percentage of fourth graders in a district receiving a passing grade score on a standardized math test. The key explanatory variable is *rexpp*, which is real expenditure per pupil in the district.
  - Estimate the effect real expenditure per pupil have on *math4* using an appropriate panel model framework.
  - Think about which additional regressors should be included and how the variables might be transformed.
  - Also test for AR(1) serial correlation in the error term and compute appropriate standard errors for the estimated coefficients.
  - Note that for some variables the file mathpnl.*** does not contain data for all years. Hence, you may run regressions for different time periods.
  - You may check the robustness of your results using *math7*, the percentage of seventh graders in a district receiving a passing grade score on a standardized math test, as a dependent variable.
- Data set: mathpnl.***
- For a description of the variables in the data set, please check mathpnl_description.txt and the paper Papke (2005).
- Literature:
  Wooldridge, J.M. (2006), *Introductory Econometrics*, Chapters 13 and 14, 3rd edition, Thomson
  Papke, L.E. (2005), The effects of spending on test pass rate: The case of Michigan, *Journal of Public Economics*, 89, 821-839.

Topic 4: The effect of campaign spending on election outcomes

- Description: This project is based on Levitt (1994) and Problem C8 of Wooldridge (2013, Chapter 13). You are supposed to analyze whether campaign spending has an effect on election outcomes. Initially, you can work with the data set vote2 from Wooldridge (2013) referring to the elections for US House of Representatives. This dataset is a subset of the data studied by Levitt (1994). I refer to description file for further details on the dataset.
  - To make yourself familiar with the setting, try to understand (i) the nature of the data contained in vote2 relative to the dataset studied in Levitt (1994) and (ii) how these differences relate to the different regressions/models considered in Problem C8 and Levitt (1994).
  - Provide a short overview on the empirical literature on the effect of campaign spending on election outcomes.
  - Propose a panel regression model to be estimated with the data in vote2.
    - Motivate and explain you model.
    - You may compare the FD/FE estimates with the RE and POLS estimates.
    - What do the estimation results suggest? Are the results in line with the finding in Levitt (1994)?
    - Discuss any potential mis-specification of your model.
  - Compile a data set for the 2016 and 2018 elections for the House of Representatives in line with the set-up of Problem C8. You can find data on campaign spending at https://classic.fec.gov/portal/house_senate.shtml. The election results on the districts are available at Wikipedia. Maybe, you are lucky and find a compiled data set. Otherwise, you have to manually go through the individual districts.
    - Document how you have compiled the data set.
    - Re-do your analysis to check the robustness of your previous results.

Literature:

- Wooldridge, J.M. (2006), Introductory Econometrics, Chapters 13-14, 3rd edition, Thomson.
- Levitt, S. D. (1994), Using repeat challengers to estimate the effect of campaign spending on election outcomes in the U.S. House.
- Stock, J.H. and Watson, M.W. (2011), Introduction to Econometrics, Chapter 10, 3rd edition, Pearson.

Data set: vote2 provided as text, Excel and STATA file with description file.

Topic 5: Is Trade Good or Bad for Environment?

- Description: Frankel and Rose (2005) have analyzed whether trade has a positive or negative impact on various pollution measures. The aim of this project is to perform a robustness analysis regarding their results on the model for SO_2 air concentrations. The robustness analysis will cover an analysis of the functional form, heteroscedasticity, and the IV estimation approach. The data for the model on SO_2 concentrations are available.
- Use the following points as building blocks of your project:
  - Explain and critically discuss the theories on how trade can affect the environment. Why is it likely that the regression setup of Frankel and Rose (2005) is affected by endogeneity? Critically discuss the number of observations.
  - Focussing first on the OLS setup, examine whether the linear model form is appropriate. What kind of variable transformation seems to be more reasonable? Also discuss the issue of outliers in this respect.
  - Perform an OLS regression for the new setup and contrast your result with those of Frankel and Rose (2005). Also test for heteroscedasticity.
  - Discuss the IV construction in Frankel and Rose (2005). How do you use the IVs in your setup? Perform an IV regression. Do the results depend on whether or not a country is a member of the OECD? Compare your outcomes with those of Frankel and Rose (2005).
  - Test whether the OLS and IV results are significantly different using the OV-Hausman test, compare e.g. Mc Fadden (2002).
  - Finally, discuss the robustness of the results of Frankel and Rose (2005).
- Description of data set variables (see also descriptions in Frankel and Rose, 2005):
  - sulfdm: mean 1990 SO_2 concentration, in micrograms per cubic meter
  - inc: logarithm of real per capita GDP from the Penn World Table 5.6, in 1990 PPP-adjusted US dollars
  - incsqr: squared value of log of real per capita GDP
  - pwtopen: 100(Imports+Exports)/GDP from the Penn World Table 5.6
  - polity: index of democratic (+10) vs. autocratic (-10) institutions
  - lareapc: logarithm of land area per capita
  - elhsfs: instrument for pwtopen as described in Frankel and Rose (2005)
  - incfs: instrument for inc as described in Frankel and Rose (2005)
  - incfsq: instrument for inc^2 as described in Frankel and Rose (2005)
  - oecd: dummy variable which is one for OECD countries
  - country
- Literature:

Frankel, J.A. and Rose, A.K. (2005), Is trade good or bad for the environment? Sorting out the causality. *The Review of Economics and Statistics*, 87: 85-91.

Mc Fadden, D.L. (2002), Exogenicity test – a simple case, Lecture Notes, University of Berkeley.

Topic 6: Return to Education: Personal Abilities and Measurement Errors

- Description: In most cases surveys on the causality of variability in wages neglect the personal abilities. This omission could generate an omitted variable bias if the personal abilities are correlated with factors such as education and job position. To unveil the influence of the personal abilities, analyze the „Twins“ panel data set. Use the following points as building blocks of your project:
  - Estimate a multiple regression model with regressors that plausibly explain the wage. Compare the results of the random effects and fixed effects estimators with those of pooled OLS estimator.
  - Assess the impact of a measurement error in the educational variable EDUC using a plausible panel IV estimator. Carefully think about reasonable assumptions on the type of measurement error and how those effect the choice of the specific instrumental variable.
  - Compare your IV-estimation estimation results (pooled OLS, FE, RE) with the non-IV estimation results. What can you learn from this comparison.
  - Which panel model/estimation approach seems to be most reasonable?
- Description of the data set variables:
  - PAIR The id number for the twin pair
  - IDIV The id number of the twin within the pair
  - AGE Age
  - AGE2 Age squared
  - EDUC This twin’s education as reported by self
  - EDUCT_T Other twin’s report of this twin’s education
  - FEMALE female
  - LWAGE Natural log of hourly wage
- Literature:
  Wooldridge, J.M. (2006), *Introductory Econometrics*, Chapter 14, 3rd edition, Thomson
- Data set: Twins.***

Topic 7: How Does Fertility Effect Labor Supply?[1]

- Description: How much does a woman's labor supply fall when she has an additional child? In this project you will estimate this effect using data for married women from the 1980 U.S. Census. The data set contains information on more than 250,000 married women aged 21-35 with two or more children. Use the following points as building blocks of your project:
  - Think about the questions in the empirical exercise 12.1 in Stock and Watson (2015).
  - Discuss endogeneity of the main explanatory variable 'morekids'. Why or why not may 'samesex' be a valid instrument?
  - Perform an IV analysis to estimate the effect of fertility on female labor supply. Are there important differences to the OLS estimation results?
  - Critically discuss your regression framework.
  - What is the effect of the large number of observations on the statistical analysis?
- Description of the data set variables:
  - weeksm1 mom's weeks worked in 1979
  - morekids = 1 if mom had more than 2 children
  - boy1st = 1 if 1st child was a boy
  - boy2nd = 1 if 2nd child was a boy
  - samesex = 1 if first two children have same sex
  - agem1 = age of mom at census
  - black = 1 if mom is black
  - hispan = 1 if mom is Hispanic
  - othrace =1 if mom is not black, Hispanic or white
- Literature:
  Stock, J.H. and Watson, M.W. (2011), *Introduction to Econometrics*, 3rd edition, Chapter 12, Addison-Wesley Longman.
- Data set: fertility.***

[1] This project is based on the empirical exercise 12.1 in Stock and Watson (2015). This is the updated version of the 3rd edition cited above. A pdf-copy of the exercise is contained in the zip-file for the project.

Topic 8: Does Viewing Violent Movies Lead to Violent Behavior?[2]

- Description: Does Viewing Violent Movies Lead to Violent Behavior? If so, the incidence of violent crimes, such as assaults, should rise the following the release of a violent movie that attracts many viewers. Alternatively, movie viewing may substitute for other activities (such as alcohol consumption) that lead to violent behavior, so that assaults should fall when more viewers are attracted to cinema. The data set contains data on the number of assaults and movie attendance for strongly violent movies (such as *Hannibal*), mildly violent movies (such as *Spider-Man*), and non-violent movies (such as *Finding Nemo*). The dataset also includes a count of the number of assaults for the same weekend in a subset of counties in the United States. Finally, it includes indicators for year, month, whether the weekend is a holiday, and various measures of the weather. Use the following points as building blocks of your project:
  - Think about the questions in the empirical exercise 12.2 in Stock and Watson (2015).
  - Check for seasonality in assaults and movie attendance.
  - Understand the idea of the two types of instrumental variables that are available. Discuss whether or not they should be appropriate. Does it make sense to consider as many IVs as possible?
  - Carefully think about an IV regression set-up to estimate the effect of viewing violent movies on the number of assaults. Perform an IV analysis. Are there important differences to the OLS estimation results?
  - Quantify and present the estimated effects in a meaningful way.
  - Critically discuss your regression framework.
- Description of the data set variables: see description taken from website accompanying Stock and Watson's textbook: www.pearsonglobaleditions.com/Stock_Watson
- Literature:
  Stock, J.H. and Watson, M.W. (2011), *Introduction to Econometrics*, 3rd edition, Chapter 12, Addison-Wesley Longman.
- Data set: Movies.***

[2] This project is based on the empirical exercise 12.2 in Stock and Watson (2015). This is the updated version of the 3rd edition cited above. A pdf-copy of the exercise is contained in the zip-file for the project. This IV project is slightly more involved than the other ones.

Topic 9: Who Smokes?

- Description: Smokers cost every year the tax payer in Germany about 28 billion Euro (costs for medical care, etc.). Some of these people stay dependent through the whole of their life. But who are they? Which individuals from our society are most exposed to the risk of getting addicted to smoking? Analyze this important social and political issue using data from the German socio-economic panel (GSOEP) run by the DIW Berlin. Use the following points as building blocks of your project:
  - Estimate the probability of becoming a smoker using plausible factors as regressors. Compare the results from the linear probability model, the probit and the logit models.
  - Analyze the statistical significance of your results. Discuss the implications and speculate on the reasons for the obtained estimators.
  - Are there possible sources of omitted variable bias?
  - Test the hypothesis that the age has a constant influence (is linear) on the smoking probability.
  - Consider the two factors age and education. Do you think they can be modeled separately? If not, make a suggestion for modeling their interaction.
  - Summarize and discuss your findings.
- The data contained in smoking.dta have been provided by Silke Anger[3] from the IAB Nuremberg. It contains information on 18854 individuals for which information on smoking and on other variables are available. A detailed description of the variables in the data set is given in smoking.xls. To make use of the information of some of the variables you have to generate dummy variables in STATA.
- Literature:
  Stock, J.H. and Watson, M.W. (2011), *Introduction to Econometrics*, 3rd edition, Chapter 11, Addison-Wesley Longman.

[3] The data will be directly provided to you and are not made available via Portal2. You also have to sign a data privacy statement.

Topic 10: Multinomial (Conditional) Logit: Pepsi, 7-Up or Coke?

- Description: This project extends the binary choice setup to situations where individuals face several options to choose from. You will learn how to make use of the (conditional) multinomial logit model to describe the choice between several alternatives. To illustrate the use of multinomial choice models you apply data on purchases of Pepsi, 7-Up and Coke Classic.
- Use the following points as building blocks of your project:
  - Explain the difference between the multinomial logit and conditional logit model. What model is appropriate for your data set?
  - Estimate the appropriate model and perform the usual post-estimation analysis.
  - What is the "Independence form irrelevant alternative assumptions" (IIA)? Test whether the IIA holds for your setup, compare e.g. Greene (2008, Sect. 23.11.7)
  - Briefly discuss alternative multinomial choice models.
- Description of data set variables: The data are taken from Hill, Griffiths, and Lim (2012, Ch. 16). They were provided with the data by R. Niedrich and D. Weathers from the Louisiana State University. You can download the data in various formats and a data description from

  http://principlesofeconometrics.com/poe4/poe4.htm

  Just choose your preferred data format and look out for "cola" and "cola2". You will have data on 1822 purchases with information on prices, whether the product was featured, and whether there was a store display.

- Literature:

  Hill, R.C., Griffiths, W.E., and Lim, A.K. (2012), *Principles of Econometrics*, 4th edition, Wiley & Sons.
  Greene, W. (2008), *Econometric Analysis*, 6th edition, Prentice Hall.

Topic 11: Are Emily and Greg More Employable than Lakisha and Jamal? A Field Experiment on Labor Market Discrimination.

- Description: Bertrand and Mullainthan (2004) have set up a field experiment to analyze labor market discrimination by race. They have sent resumes to help-wanted ads with randomly assigned African-American or White-sounding names and recorded the callback rates for interviews. The differences in the callback rates indicate that differential treatment by race is prominent in the U.S. labor market.
- The aim of the project is to analyze the determinants of callbacks for interviews using probit (and logit) regression tools. Use the following points as building blocks of your project:
  - The project is based on experimental data. Conceptually, this is different from using observational data which are most often used in econometrics. Make yourself familiar with the consequences of using experimental data by reading Stock and Watson (2011, Chapter 13).
  - Why does it make sense to perform a probit regression of the callback-dummy variable not only on the race dummy variable but also on other regressors?
  - If the data are really obtained from a randomized experiment, what would you expect (i) for the correlation of the race dummy and the other regressors and (ii) for the point estimates of the race dummy coefficients in a bivariate and multiple probit regression?
  - Set up a probit (logit) model in order to determine the determinants of the callbacks. Which regressors are significant, which not? How can you test for significant differences between white and African-American names with respect to the effects of certain regressors. How good is the model fit?
- The data are provided in the file names.dta (or names.xls). They contain information on all resumes considered in the paper of Bertrand and Mullainthan (2004). However, some variables, e.g. on the zip-code characteristics, are not contained. To check, whether you have done the data import correctly you can try to replicate the results in the first column of Table 5 in Bertrand and Mullainthan (2004).
- Literature:

Stock, J.H. and Watson, M.W. (2011), *Introduction to Econometrics*, 3rd edition, Pearson.

Bertrand, M. and Mullainthan, S. (2004), Are Emily and Greg more employable than Lakisha and Jamal? A field experiment on labor market discrimination. *American Economic Review*, 94: 991-1013.

Topic 12: Direct vs. Iterative Forecasts

- Description: In this project you are supposed to compare so-called direct vs. iterative forecasts in relation to ADL models. The series of interests are German industrial production and the ZEW business cycle indicator. (You may also choose other series if you like.) Use the following points as building blocks of your project:
  - Find monthly data on seasonally adjusted industrial production (IP) and the ZEW business cycle indicator the for longest possible time period.
  - Fit an AR(p) model to the first difference of IP[4]. Select p in a reasonable way.
  - Estimate the coefficients of your model and check their significance.
  - Fit an ADL(p,q) model using lags of the (first difference of the) business cycle indicator as additional regressors. Test for Granger-predictibility. Have your results implications on the expected relative forecast performance.
  - Perform 1-step to 6-step ahead direct and iterative forecasts for IP using the AR model.
  - Are the forecasts different if you apply the ADL model?
  - Discuss your results. How would you systematically compare the forecast methods and models?
- Literature:
  Stock, J.H. and Watson, M.W. (2011), *Introduction to Econometrics*, 3rd edition, Chapter 14, Addison-Wesley Longman.

[4] Working with the first difference of the time series makes sense, when the series has a stochastic trend as in this case (**no** discussion with regard of this issue is necessary in this project.)

Topic 13: Ridge Regression and Forecasting[5]

- Description: This project considers the usefulness of ridge regressions for forecasting. The ridge estimator belongs to the group of shrinkage estimators which shrink the OLS estimates towards a pre-specified value, typically to zero as in the case of the standard ridge estimator. The application of shrinkage estimators to time series data has just become popular. Traditionally, these methods have been applied to large-scale cross-section data set-ups. The use of shrinkage estimators in relation to time series data is motivated by the result that the in-sample (over)fit of an estimator is negatively correlated with its out-of sample fit, i.e., its forecast performance, see e.g. Hansen (2009). The use of shrinkage estimators is one way to avoid an in-sample overfit relative to OLS since the in-sample fit gets worse if the parameter estimates are shrunk. In this project you consider the ridge estimator as a simple example of a shrinkage estimator and compare its forecasting performance to the OLS estimator for autoregressive (AR) models.
- Use the following points as building blocks of your project:
  - Explain the ridge regression framework. An introduction to ridge regressions (as a response to multicollinearity) is given in Judge, Hill, Griffiths, Lütkepohl, and Lee (1988, Sec. 21.4.3). Discuss the bias-variance trade-off in this respect, see also Judge et al. (1988, Ch. 20). Some further information about the background of ridge regressions (in relation to other shrinkage estimators) is provided in Zou and Hastie (2005).
  - Obtain a macroeconomic time series, e.g., quarterly GDP growth rates for Germany.
  - Pre-specify a maximum lag order p_{max} for the AR model fitted to the time series. Estimate the AR(p_{max}) model by OLS. Use the AIC and BIC in order to determine lag order. Estimate the resulting models by OLS. How could you interpret the OLS estimator for the models chosen by AIC and BIC?
  - Before applying the ridge estimator it is recommend to standardize the data. Moreover, you have to determine a tuning parameter, e.g., by cross-validation or using information criteria. You find some information on these issues in Zou and Hastie (2005). But I can also provide some hints in these respects. Estimate AR(p_{max}), AR(p_{AIC}), and AR(p_{BIC}) using the Ridge estimator and compare the ridge estimates with the OLS estimates.
  - Setup a little pseudo-out of sample forecast study, see e.g. Stock and Watson (2011, Ch. 14), that compares the ridge and OLS estimator with respect to AR(p_{max}), AR(p_{AIC}), and AR(p_{BIC}). Discuss your findings.
- Literature:

Hansen, P.R. (2009), In-sample fit and out-of-sample fit: their joint distribution and its implications for model selection, *mimeo*, Stanford University.

Judge, G.C., Hill, R.C., Griffiths, W.E., Lütkepohl, H., and Lee, T-C. (1988), *Introduction to the Theory and Practice of Econometrics*, Wiley & Sons.

Stock, J.H. and Watson, M.W. (2011), *Introduction to Econometrics*, 3rd edition, Addison-Wesley Longman.

[5] This project is methodologically a bit more demanding.

Zou, H. and Hastie, T. (2005), Regularization and variable selection via the elastic net*, Journal of the Royal Statistical Society Series B*: 67, 301-320.

Topic 14: Volatility of Stock Returns - the (G)ARCH Model

- Description: It is usually more interesting to analyze the volatility rather than the level of stock returns. In this project you analyze the conditional standard deviation of returns of two stocks that belong to different industries. To this end, you apply the famous GARCH model. Use the following points as building blocks of your project:
  - Find daily data on stock prices for two different stocks that belong to two different industries facing different risk situations.
  - Fit AR models to the log-returns and test for ARCH effects. Estimate ARCH models (you choose the order) and describe the results you get for the variance. Derive an estimate for σ^2.
  - Are your ARCH models appropriate? Does a GARCH(1,1) model performs better?
  - Compare the (conditional) volatility development of the two stock return series
- Literature:
  Stock, J.H. and Watson, M.W. (2011), *Introduction to Econometrics*, 3rd edition, Chapters 14 & 16, Addison-Wesley Longman.
  Enders, W. (2004), *Applied Econometric Time Series*, Chapter 3, 2nd edition, Wiley.

Topic 15: Persistency in Forward-Spot Exchange Rate Difference[6]

- Description: The forward exchange rate unbiased hypothesis (FRUH) implies that the spot exchange rate in period t+1 should not persistently deviate from the corresponding forward rate in period t. Therefore, the forward and spot exchange rates should form a stable long-run relationship. In econometric terms, they have to be cointegrated. The concept of cointegration is beyond the scope of the seminar. However, if the forward and spot exchange rates are cointegrated, then their difference must be stationary, i.e., the persistency in the difference has to be limited. The latter issue is addressed in this project. Use the following points as building blocks of your project:
  - Find monthly data on forward and spot exchange rates for one pair of currencies. Take at least 15 years of data.
  - Try to understand why the FRUH implies that the autocorrelations in the spot-forward-rate-difference decrease with increasing lags. Link that to the concept of a stochastic trend and a unit autoregressive root.
  - Compute the autocorrelations and partial autocorrelations for the spot and forward rate and their difference. Interpret you findings.
  - Try to understand the idea of the ADF unit root test.
  - Test for a unit root in the difference of the spot and forward rate. Interpret you results.
- Literature:
  Stock, J.H. and Watson, M.W. (2011), *Introduction to Econometrics*, 3rd edition, Chapter 14, Addison-Wesley Longman.
  Zivot, E. (2000): Cointegration and forward and spot rate regressions, *Journal of International Money and Finance*: 19, 785-812.

[6] This project is somewhat more demanding from an econometric point of view.