Individual tasks of "Econometric Analysis" course - 2015

Task 1 (up to 30 points)

1. Create a database of parameters in EViews mentioned in your variant. The sample must contain quarterly data from 2000 till 2014 for three countries according to your variant. The list of independent variables should consist maximum 10 items. It's preferable to use EUROSTAT or National statistical agencies for collecting data. Truncate sample, if data are unavailable. Analyse the necessity of transforming data (e.g. standardization, differencing, normalisation on the cpi index, etc). Provide economic analysis of the data with graphs.
2. Calculate the dummy variable CRISIS that is equal to 1 from 3rd quarter 2008 till end 2014 and 0 otherwise (the exact measures can be shifted if necessary). This variable shows the consequences of the financial crisis.
3. Create nonlinear models for explaining dependent variables for each country. Estimate them and check for standard econometric tests. Compare the results among countries.
4. Consider PDL models, define their parameters. Check models for stability, adjusting the main sample. Compare the results among countries.
5. Try to estimate the best GARCH model for each country. Investigate the differences in models.
6. Try to estimate logit/probit model with dependent variable CRISIS. Compare the results among countries. Can the model predict the financial crisis?
7. Estimate quantile regressions for your data. Check the stability of the coefficients depending on quantiles. Compare the results among countries. Give reasons to use quantile regressions for your data.
8. Estimate panel model for your data, define, if it is necessary to use models with fixed or random effects.
9. Calculate forecasts for tasks 3-8 for 2014, using data until the end of 2013. Calculate forecast errors (RMPSE). Define the best methods for your data.

10. Write an essay (3-5 pages) that analyses the common and different consequences of the financial crises for investigated countries. The analysis must be based on researched models.
11. Combine all fulfilled tasks into one separate file (Word or Acrobat file is preferable), which consists estimation outputs of analysed (best) models, essay (task 10), conclusions of the work and references. The first tittle page must contain your name. Send your file via email a.stavytskyy@gmail.com **before taking the exam**.

Variants of task 1

#	**Student**	**Dependent variable**	**Countries**
1.	Bruckus Mindaugas	Construction index	Belgium, Latvia, Russia
2.	Ceesay Alieu S.	Consumer prices	Austria, Lithuania, Gambia
3.	Konakhbayev Yernur	Exports of goods	Kazahstan, Macedonia, Slovakia
4.	Krisciunaite Milita	Exports of services	Belgium, Germany, Slovenia
5.	Maslauskas Vilius	Final consumption	France, UK, Spain
6.	Sermokaite Inga	financial accounts for general government	Bulgaria, The Netherlands, Sweden
7.	Reserved	GDP	Croatia, Norway, Switzerland
8.	Reserved	General government gross debt	Cyprus, Poland, Turkey
9.	Reserved	Government expenditures	Czech Republic, Portugal, Ukraine
10.	Reserved	Government incomes	Denmark, Romania, United Kingdom
11.	Reserved	Gross disposable income	Estonia, Russia, Latvia
12.	Reserved	Gross fixed capital formation	Finland, Serbia, Lithuania
13.	Reserved	Gross national income	France, Slovakia, Macedonia
14.	Reserved	Gross value added	Georgia, Slovenia, Moldova
15.	Reserved	Imports of goods	Germany, Spain, Montenegro
16.	Reserved	Imports of services	Greece, Sweden, The Netherlands
17.	Reserved	Industry index	Hungary, Switzerland, Norway
18.	Reserved	Net saving	Iceland, Turkey, Poland
19.	Reserved	Private consumption	Ireland, Ukraine, Portugal
20.	Reserved	Retail trade index	Italy, United Kingdom, Romania

Task 2 (up to 10 points)

1. Prepare the presentation with at least two different examples of application models (according to your variant) in real scientific practice (any examples in scientific articles for the last 5 years can be covered). The file should contain the following information for each example:
   1.1. Goal of the model
   1.2. Description of the data (reference to the data is obligatory)
   1.3. The hypothesis to be tested
   1.4. Model description
   1.5. Selection of the method/model/variables
   1.6. Conclusions of the model
   1.7. References
2. The first slide must contain your name. Send your PowerPoint file via email a.stavytskyy@gmail.com **before taking the exam**.

Variants of task 2

#	**Student**	**Model**
1.	Bruckus Mindaugas	Probit
2.	Ceesay Alieu S.	Panel regression
3.	Konakhbayev Yernur	Quantile regression
4.	Krisciunaite Milita	GARCH models
5.	Maslauskas Vilius	ARDL models
6.	Sermokaite Inga	Logit
7.	Reserved	Non-linear regression
8.	Reserved	GARCH with asymmetric effects
9.	Reserved	Gombit
10.	Reserved	Survival models