Diploma Thesis Abstract
Global Vector Autoregressive Models with Bayesian Priors and their Macroeconomical Applications

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The topic of my diploma thesis is about a widely used econometrical forecasting model: Global Vector Autoregression. The biggest innovation of these GVARs is that while other macroeconomical tools treat countries as separate objects, GVAR models take a global picture, thus capturing important foreign shocks and financial linkages.

The work is built up in the following way: Chapter 2 defines unit root processes and cointegration, which are the main ingredients of every econometrical model.

Chapter 3 shows the motivation for GVAR models and then presents the step by step formulation of the model.

Chapter 4 discusses how the Bayesian framework can help us with the modelling. We present two important Bayesian priors (and a trivial one) and then compare their forecasting efficiency on the US economy.

Chapter 5 summarises the filtering methodology, starting with the well-known Kalman filter and then introducing the particle filter, which is more general, than the Kalman filter.

Chapter 6 demonstrates some simple results on a basic model.

Finally Chapter 7 summarises the thesis and shows future plans.