PPNR Validation – ToDo

January 28, 2015

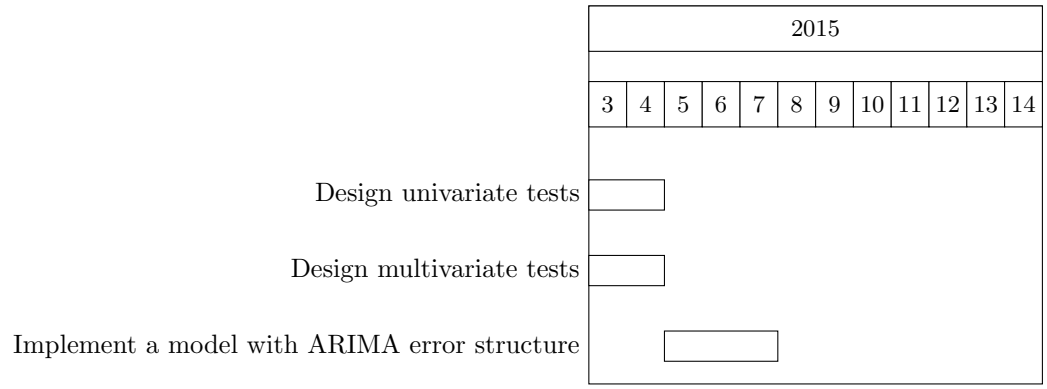
Abstract

This document explains the current status and what needs to be completed for the PPNRValidation package.

1 Overall overview

2 Project Overview

2.1 Gantt Chart



2.2 Assigned to

See for an overview who is assigned to each task tabel 1.

Table 1: An overview to who the tasks are assigned

Task Description	Assigned to	Complexity
Design univariate tests	Anton	Low
Design multivariate tests	tbd	Low
Implement a model with ARIMA error structure	tbd	High

3 Description Per Task

3.1 Design univariate tests

3.1.1 Outline

Univariate tests have to be performed on a time series to assess whether it can be used in PPNR modeling. It depends on the purpose of the time series which tests should be passed.

3.1.2 Completed

Currently a test exists that performs three statistical tests on a time series as well as a PACF and ACF plot. The three tests can be printed directly into R or as a table using knitr.

3.1.3 ToDo

Additional tests must be added such as heteroskedasticity and possibly more advanced stationarity tests. (for questions contact Anton Bossenbroek)

3.2 Design multivariate tests

3.2.1 Outline

Multivariate tests must be performed on time series to assess whether they can be used in conjunction as explanatory variables in a model.

3.2.2 Completed

3.2.3 ToDo

Implement correlation, PCA and collinearity tests. (for questions contact Anton Bossenbroek)

3.3 Implement a model with ARIMA error structure

3.3.1 Outline

SAS includes a model where the error of the time series can follow a certain time series. R has a similar model. See for more information `https://onlinecourses.science.psu.edu/stat510/node/72`. The package `nlme` e.g.,

```
gls(Y ~ X, correlation=corARMA(p=1,q=1)).
```

It would be nice if we could be more selective which lags we wish to include. (for questions contact Anton Bossenbroek)

3.3.2 Completed

3.3.3 ToDo