Replication: Identifying Aggregate Supply and Demand Shocks in South Africa

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1. Introduction

The paper, *Identifying aggregate supply and demand shocks in South Africa*, is an application of a structural VAR method to identify supply and demand shocks for the South African economy since the 1960s.

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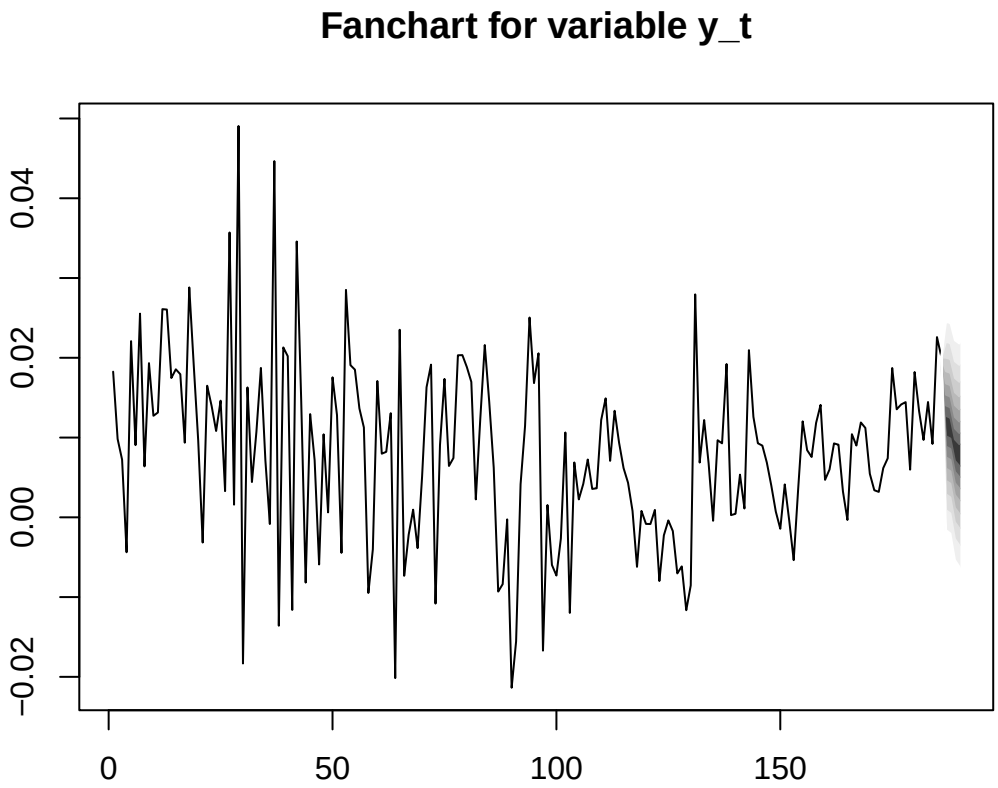
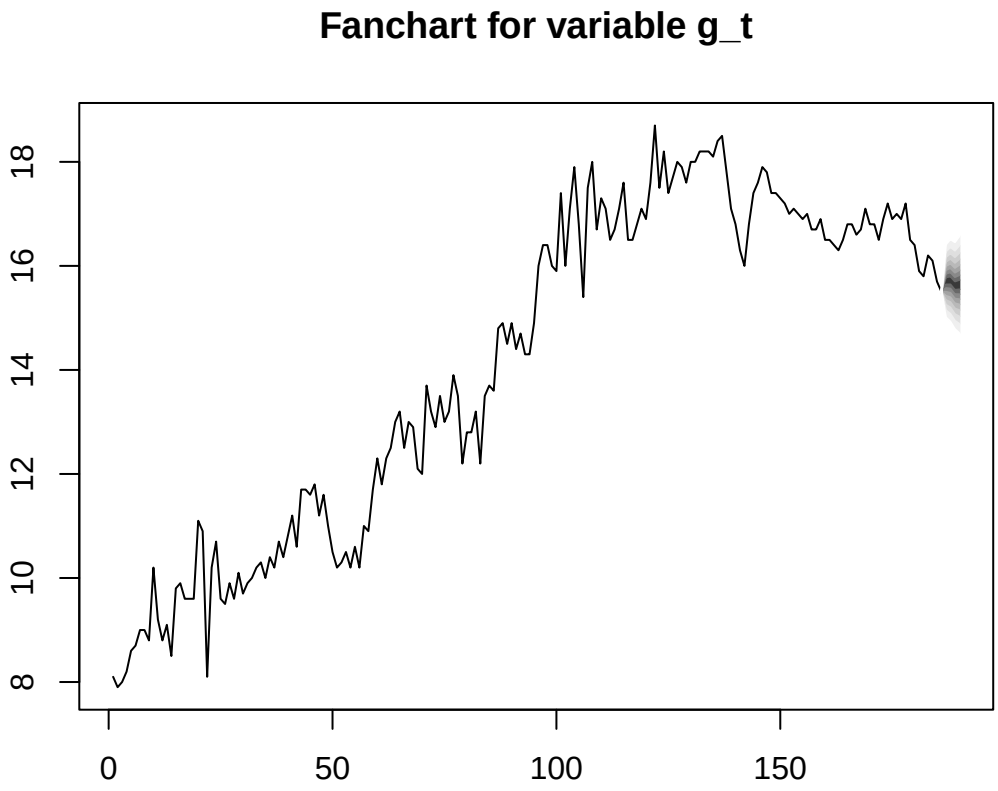
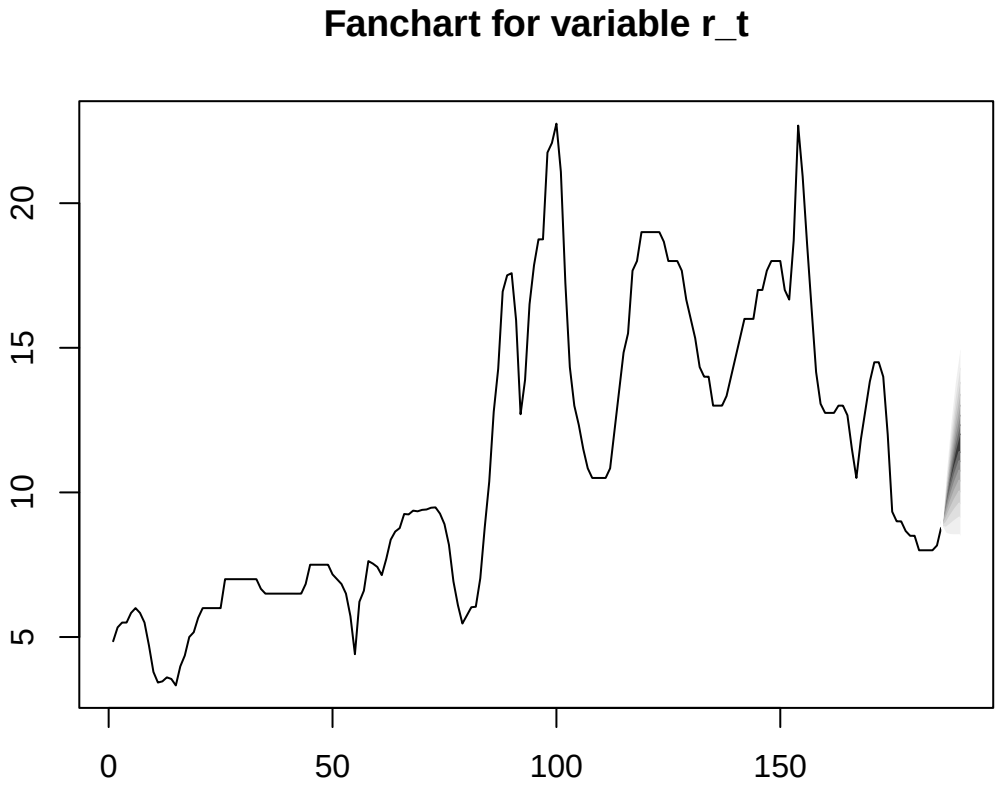
2. Data

2.1. Variables and VAR Forecasting

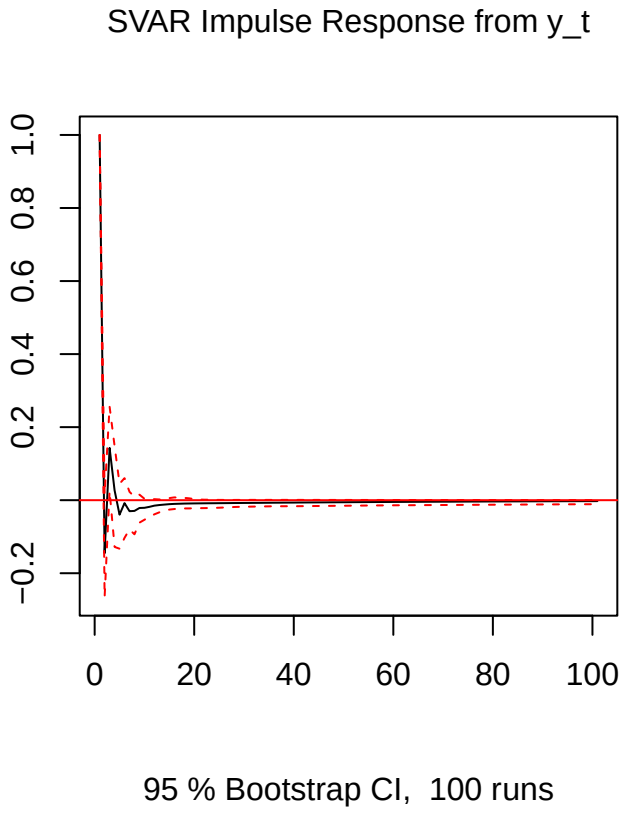



Fanchart for variable g_t
8
10
12
14
16
18
0
50
100
150

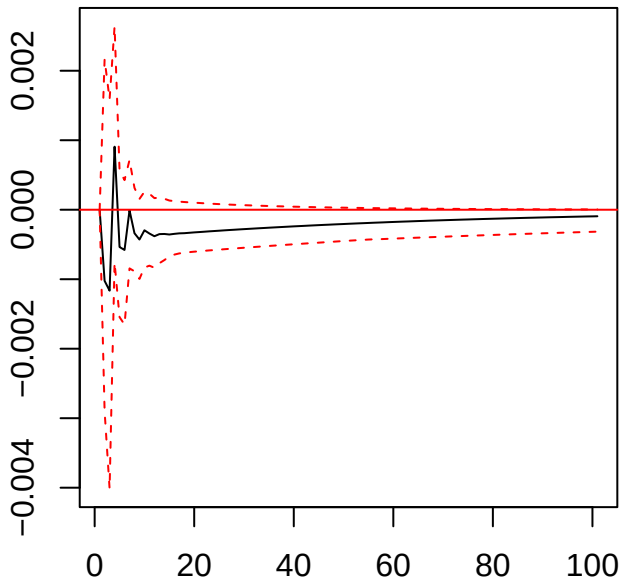

Fanchart for variable r_t
5
10
15
20
0
50
100
150

3. Impulse Response Functions

3.1. Impulse Response of real GDP for each of the identified shocks

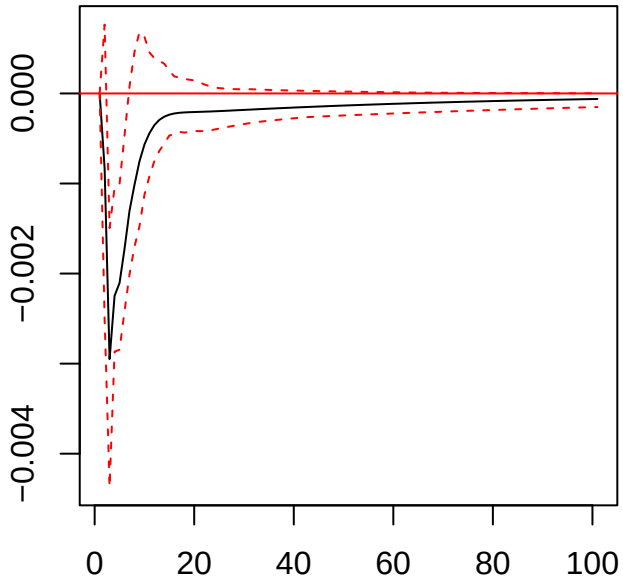


SVAR Impulse Response from g_t



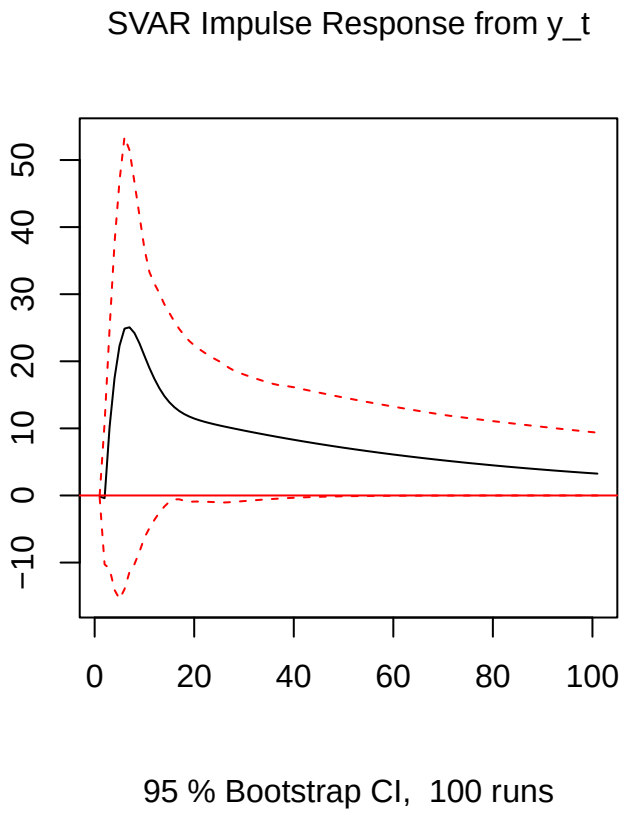
95 % Bootstrap CI, 100 runs

SVAR Impulse Response from r_t

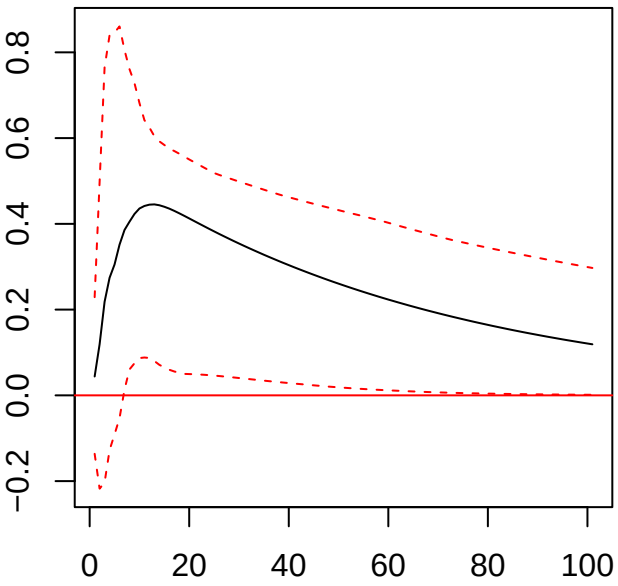


95 % Bootstrap CI, 100 runs

3.2. Impulse Response of the real interest rate for each of the identified shocks

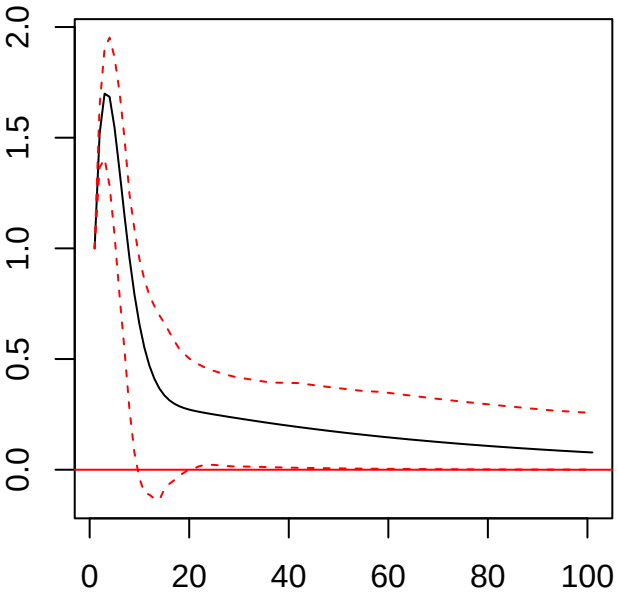


SVAR Impulse Response from g_t



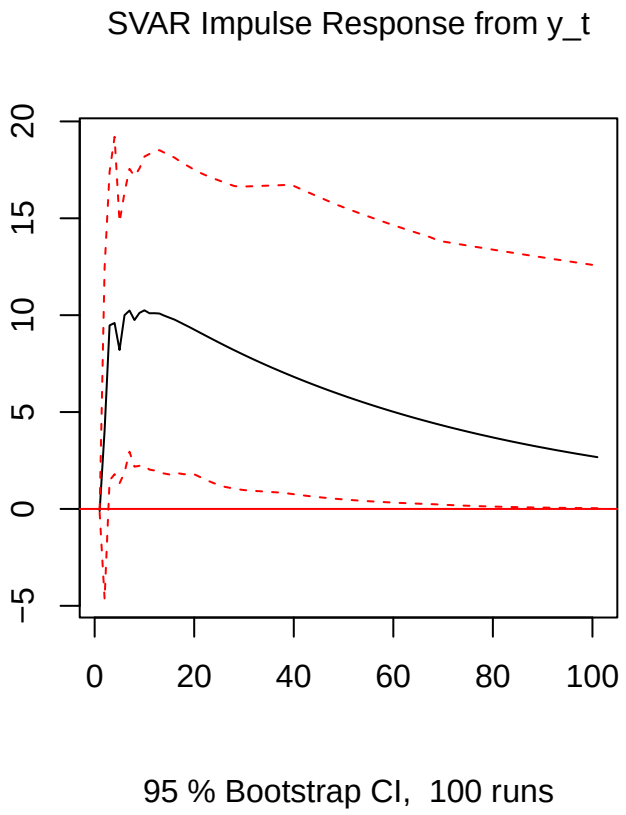
95 % Bootstrap CI, 100 runs

SVAR Impulse Response from r_t

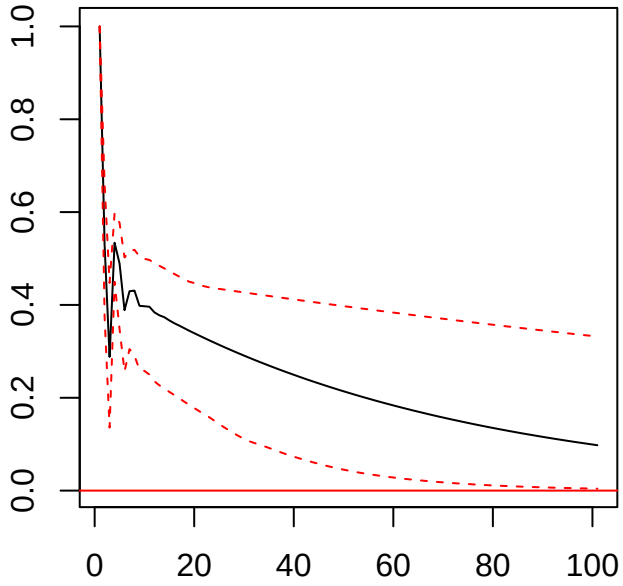


95 % Bootstrap CI, 100 runs

3.3. Impulse Response of the government consumption to real GDP for each of the identified shocks

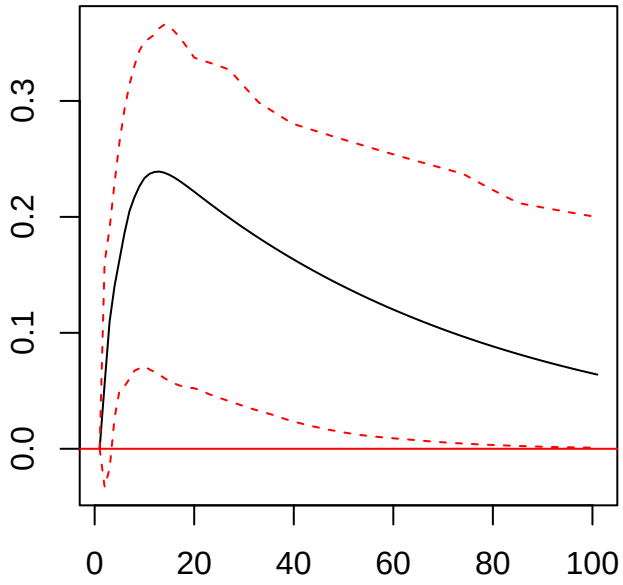


SVAR Impulse Response from g_t



95 % Bootstrap CI, 100 runs

SVAR Impulse Response from r_t



95 % Bootstrap CI, 100 runs

4. Variance Decomposition

"The variance decomposition indicates the amount of information each variable contributes to the other variables in the autoregression. It determines how much of the forecast error variance of each of the variables can be explained by exogenous shocks to the other variables."

5. Historical Decomposition

6. Robustness Checks

7. Conclusion

8. Reference List

Du Plessis, S., Smit, B. and Sturzenegger, F., 2008. Identifying aggregate supply and demand shocks in South Africa. Journal of African economies, 17(5), pp.765-793.

9. Appendix

9.1. Testing for Stationarity

```
##
##  Augmented Dickey-Fuller Test
##
## data:  real_gdp1
## Dickey-Fuller = -3.7922, Lag order = 5, p-value = 0.0208
## alternative hypothesis: stationary


##
##  Augmented Dickey-Fuller Test
##
## data:  Real_interest1$Real_interest_rate
## Dickey-Fuller = -2.6335, Lag order = 5, p-value = 0.3112
## alternative hypothesis: stationary


##
##  Augmented Dickey-Fuller Test
##
## data:  g_g_not_s$Value
## Dickey-Fuller = -0.66065, Lag order = 5, p-value = 0.9724
## alternative hypothesis: stationary
```

9.2. Variance Decomposition Results