

9,272 Economics of central banking
(Zentralbanktheorie und -politik)

Self studies
Empirical evidence for Switzerland

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The purpose of this self study is to analyze the empirical evidence for Switzerland according to chapter 1 of Walsh (2003, 2010).

This self study accounts for 20% of your final grade for this course and is a prerequisite to attend the final exam of the contact studies. Students are encouraged to work in groups (maximum 10 students in a group). **Deadline for pdf or word file: October 17, 2011.**

This self study can be done with Excel (quite labor intensive) or with an econometric software package as Eviews (much easier). An Excel file with the necessary time series is available on the website <http://cuche.net/classes.htm>. The focus is not primarily on the econometrics, but mainly on the empirical facts about monetary and real variables, as seen by a central banker.

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Question 1 – Long-run monetary relationships [25%]

Analyze international data of money growth, inflation, and real GDP growth. Does the data show some empirical evidence for the long-run neutrality of money? Present and interpret your results with two scatter plots (first plot: monetary variable, GDP; second plot: monetary variable, inflation). Does the choice about the money stock play a major role in your answer?

[Answer: 2 scatter plots, brief comment]

Question 2 – Dynamic short-run correlations [25%]**a) GDP and monetary aggregates**

Analyze the cross-correlations between GDP and the three monetary aggregates MB, M1, M2, and M3 in the short-run, as in figure 1.1 of Walsh (2003) and in figures 1.1-1.2 of Walsh (2010). Calculate cross-correlations for 8 lags and leads, respectively. Take the longest possible sample. Be sure to use stationary series (i.e. detrended log of the original series or growth rates (q-o-q annualized or y-o-y)). Interpret your results.

[Answer: 1 plot, brief comment]

b) GDP, prices, and interest rates

Analyze the cross-correlations between GDP and CPI, GDP and short-term interest rates, and GDP and long-term interest rates, as in figure 1.2 of Walsh (2003) and in figures 1.3-1.4 of Walsh (2010). Take the longest possible sample. Be sure to use stationary GDP series (i.e. detrended log of the original series or q-o-q growth rates) and growth rates for CPI (i.e. inflation rate, q-o-q annualized or y-o-y). Interest rates should be used in level. Interpret your results.

[Answer: 1 plot, brief comment]

Question 3 – Vector autoregression [50%]

Analyze the effect of monetary policy on real output and inflation within a SVAR model. To be able to use a single monetary policy instrument, use data beginning in Q1 1995. Your model may contain more than three variables. The number of lags has to be optimal.

- a) Show the effect of a monetary policy shock on output and inflation. Choose the monetary policy instrument (money stock vs. interest rate) and the ordering of the variables of interest appropriately (the SVAR is identified using a Cholesky decomposition). Motivate and present your regression output. Then, plot the impulse response functions of output, inflation, and interest rate after a monetary policy shock (20 quarters). What do you observe after a monetary policy shock?

[Answer: 1 regression output, 3 plots, brief comment]

- b) Add the variable HWWA-commodities index (either in CHF or USD) as an endogenous variable to your SVAR and reestimate your model. How do your results change?

[Answer: 1 regression output, 3 plots, brief comment]