

FM 431: Econometrics of Financial Markets

Fall 2009

PROBLEM SHEET # 9

Problem 1: This example shows that care must be taken when regressing a unit-root series on another. It picks up on the FCHI series in Problem Sheet # 5.

- a) Simulate a Gaussian random walk of the same length as the FCHI series.
- b) Compute a regression of the FCHI series on the random walk. Is the explanatory power high?
- c) Carry out an ADF test of the residuals of this regression. What is your conclusion concerning this regression?

Problem 2: File `data_brent_wti_daily.dat` contains, among others, the series of WTI and Brent crude oil prices in USD from January 2001 onwards.

- a) Carry out an ADF test on these two series. What is your conclusion?
- b) Compute a regression of the WTI price series w.r.t. the Brent price series. Is the explanatory power high?
- c) Carry out an ADF test of the residuals of this regression. What is your conclusion concerning this regression?