



NEWSLETTER 2020-21

CALENDAR:

PhD Seminar

Tobias Hartl (Uni Regensburg):

Fractional trends and cycles in macroeconomic time series

Wednesday, July 29

15:00-16:30

Zoom-meeting

ABSTRACTS AND FURTHER INFORMATION:

PhD Seminar

Tobias Hartl:

Fractional trends and cycles in macroeconomic time series

Abstract: We develop a generalization of correlated trend-cycle decompositions that avoids prior assumptions about the long-run dynamic characteristics by modelling the permanent component as a fractionally integrated process and incorporating a fractional lag operator into the autoregressive polynomial of the cyclical component. The model allows for an endogenous estimation of the integration order jointly with the other model parameters and, therefore, no prior specification tests with respect to persistence are required. We relate the model to the Beveridge-Nelson decomposition and derive a modified Kalman filter estimator for the fractional components. Identification, consistency, and asymptotic normality of the maximum likelihood estimator are shown. For US macroeconomic data we demonstrate that, unlike I(1) correlated unobserved components models, the new model estimates a smooth trend together with a cycle hitting all NBER recessions. While I(1) unobserved components models yield an upward-biased signal-to-noise ratio whenever the integration order of the data-generating mechanism is greater than one, the fractionally integrated model attributes less variation to the long-run shocks due to the fractional trend specification and a higher variation to the cycle shocks due to the fractional lag operator, leading to more persistent cycles and smooth trend estimates that reflect macroeconomic common sense.

Info:Link: <https://uniregensburg.zoom.us/j/95478705067?pwd=dmxUeWQ4RG9qRmxRY2FQa2dPZGFxdz09>

Meeting-ID: 954 7870 5067

Password: 497477

MISCELLANEOUS:

The next regular issue of RegensburgEconNews will be published at the beginning of the winter term; editorial deadline: **October 28, 2020**.

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**RegensburgEconNews**

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Wednesday, October 28 – 11 am

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