fk_cycle - Fiorito & Kollintzas (1994) version 1.0

Syntax

Fiorito & Kollintzas Cycle Decomposition

 fk_cycle {variables} [\underline{if}] [\underline{in}], \underline{fil} ter(type of filter) \underline{out} come(outcome variable) \underline{lag} (lag)

options

Description

filter(Filter) beta specifies the type of filter for business cycles: Baxter-King (BK), Christiano-Fitzgerald (CF) and Hodrick-Prescott (HP). Hodrick-Prescott is the default. specifies the reference variable, e.g., the (detrended) GDP. specifies the number of lags. The default is to use min{floor(n/2) - 2, 20}.

Description

fk_cycle implements the Fiorito & Kollintzas Cycle Decomposition (1994) for time series.

This decomposition is applied through a cross-correlogram. In its current version all variables must be previously detrended. The beta version (available upon request) will include more options for panel data such as winsorsing.

Examples

Setup: Requires you to install bking, cfitzrw and hprescott from ssc ssc install bking ssc install cfitzrw ssc install hprescott

We use GVAR macroeconomic quarterly data from Argentina (1979-2019) to assess the timming, transimission channels and the relative importance of different shocks named: inflation, nominal interest rate, exchange rate, raw materials, oil an prices on output (Real GDP).

The direction and sign of variables that shape economic cycles may provide additional information for sound macroeconomic policies in developing countries with cronic inflation and output volatility.

The direction and sign of variables that shape economic eyeres may provide additional information for sound matricellar in developing countries with cronic influence volucinity.

Data must be tsset. Time can be monthly, quarterly, yearly.

- . use fk_example1.dta, clear
- . tsset t

Visual inspection

- . twoway (line y HP_y_sm_1 t), title("Real GDP vs trend: Hodrick-Prescott filter") subtitle("Argentina: 1979-2019") legend(col(2) region(lstyle(none))) legend(on order(1 "GDP" 2 "Trend"))
- . twoway (spike HP_y_1 t), title("Business cycle") subtitle("Argentina: 1979-2019") ytitle("") legend(col(1) region(lstyle(none)))

Hodrick-Prescott (default)

. fk_cycle HP_Dp_1 HP_ep_1 HP_r_1 HP_poil_1 HP_pmat_1 HP_pmetal_1, outcome(HP_y_1) lag(12)

Baxter-King

. fk_cycle F_Dp_1 F_ep_1 F_r_1 F_poil_1 F_pmat_1 F_pmetal_1, outcome(F_y_1) lag(12)

Christiano-Fitzgerald

. fk_cycle Dp_Dp_1 ep_ep_1 r_r_1 poil_poil_1 pmat_pmat_1 pmetal_pmetal_1, outcome(y_y_1) lag(12)

Acknowledgments

This command was written to asses the timming, transimission channels and the relative importance of different shocks during economic cycles using traditional filters.

Program has been tested to work under Stata 17.

<u>Author</u>

Santiago Caram santiagocaram@gmail.com

References

Baxter, M and King, R.G. (1999). Measuring Business Cycles: Approximate Band-Pass Filters for Economic Time Series. Review of Economics and Statistics, 81(4), 575-593. doi: https://doi.org/10.1162/003465399558454

Christiano, L.J and Fitzgerald, T.J. (2003). The Band Pass Filter. International Economic Review, 44(2), 435-465. doi: https://doi.org/10.1111/1468-2354.t01-1-00076

Fiorito, R., and Kollintzas, T. (1994). Stylized facts of business cycles in the G7 from a real business cycles perspective. European Economic Review, 38(2), 235-269. doi: https://doi.org/10.1016/0014-2921(94)90057-4

Hodrick, R. and Prescott, E. (1997). Post-war U.S. business cycles: An empirical investigation. Journal of Money, Credit and Banking, 29(1), 1-16. doi: https://doi.org/10.2307/2953682