

## Add on material for: "Equilibrium Credit: The Reference Point for Macroprudential Supervisors"

The following plots provide extra add-on information related to the fit of the ARDL regressions as well as with regards to the evolution of the credit-to-GDP ratio and the trend or potential estimates of GDP and the GDP Deflator for the NMS11 countries that are used in the empirical equilibrium credit illustration. The plots for each NMS11 country are arranged in a 4 row by 3 column grid.

The first row shows respectively, the fit of the ARDL specification of  $\Delta cr_{it}$  as defined in equation (6) in the paper, followed by a time series plot of the fitted residuals and an estimate of the density of the residuals.

The second row shows estimates of the Basel III HP Filter based credit gaps, our proposed structural credit gap, as well as the 2% and 10% threshold values of Basel III in the first column. In the second and third column cumulative sums of the fitted residuals and of the square of the fitted residuals are shown with corresponding 95% error (CI) bounds.

The plots in the first column of the third row show the time series evolution of the actual level credit series,  $cr_t$ , together with fitted values from the full long-run equilibrium estimates, ie.,

$$\hat{cr}_t = \hat{\beta}^{gdp} gdp_t + \hat{\beta}^{def} def_t + \hat{\beta}^{rr} rr_t + \hat{\beta}^{sprd} sprd_t + \hat{\beta}^{acb} acb_t \quad (1)$$

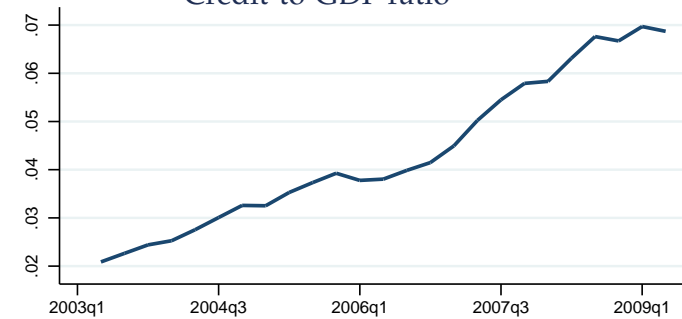
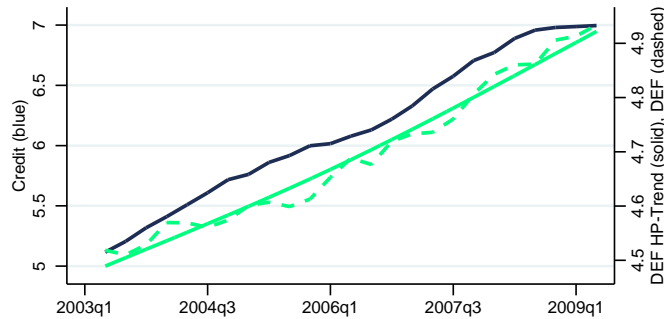
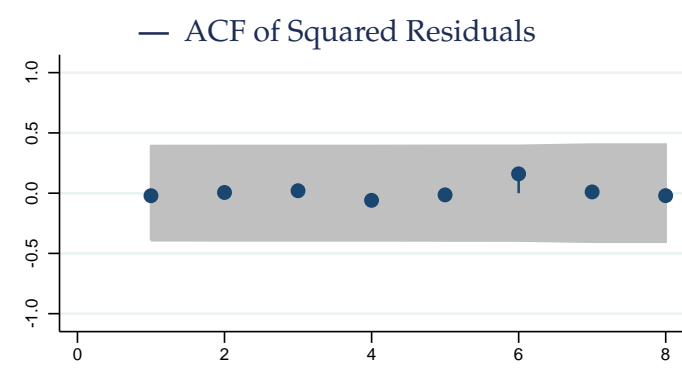
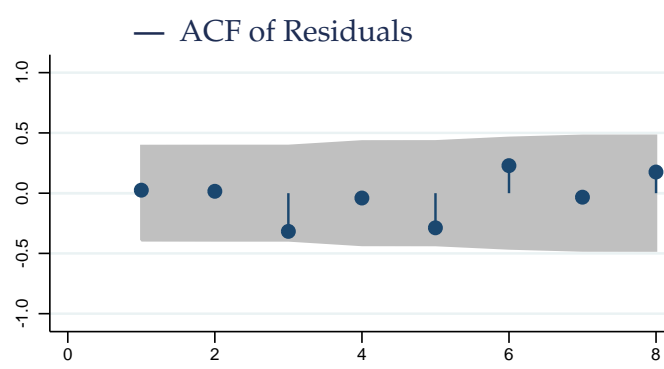
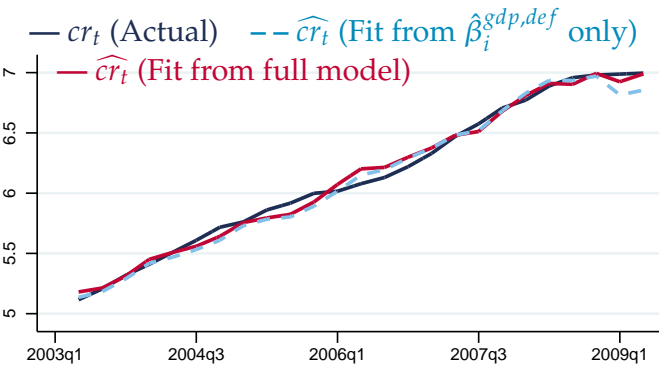
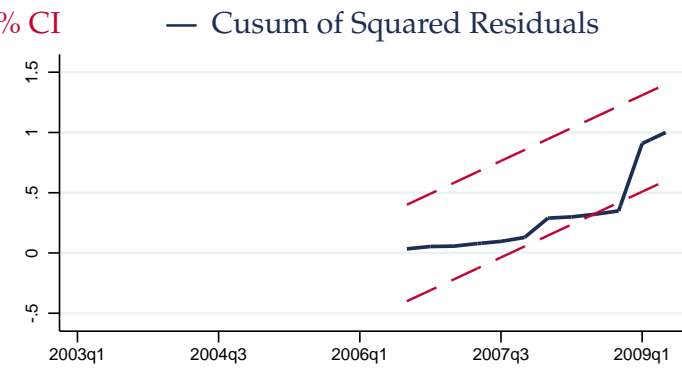
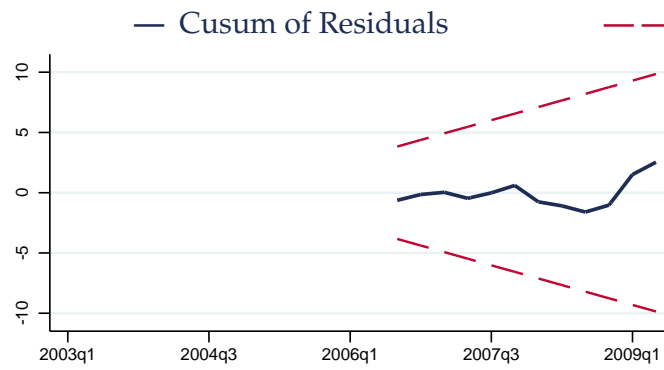
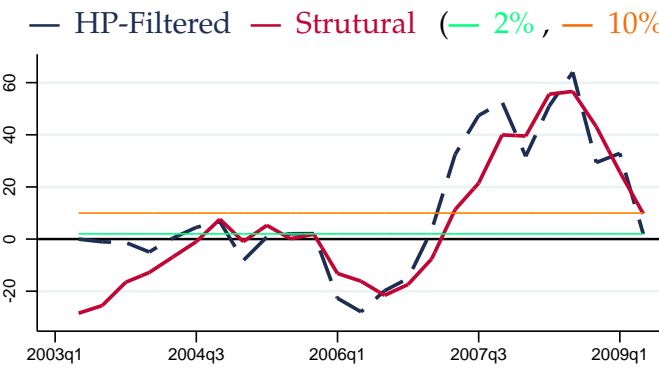
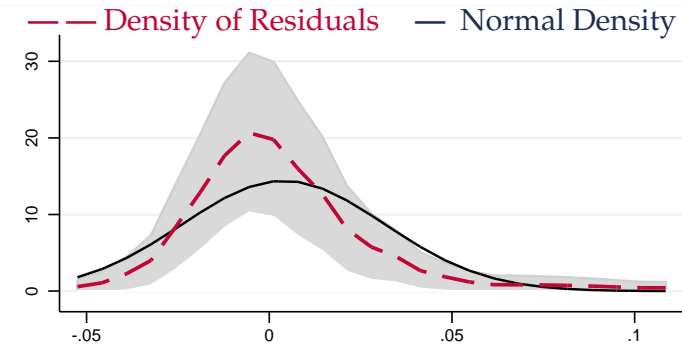
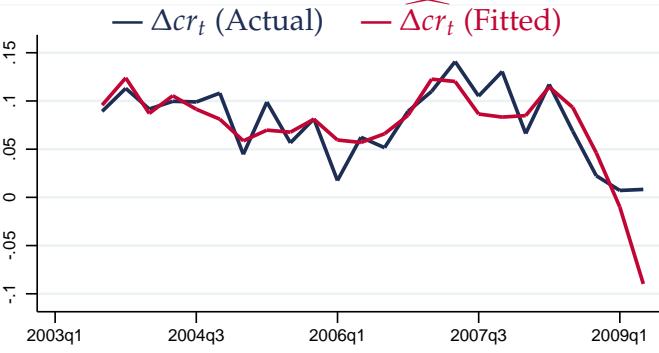
shown by the red line, as well as from the transaction demand relation only, that is:

$$\hat{c}r_t = \hat{\beta}^{gdp} gdp_t + \hat{\beta}^{def} def_t \quad (2)$$

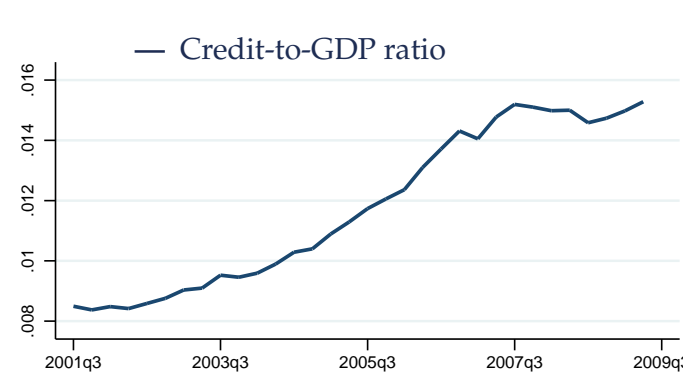
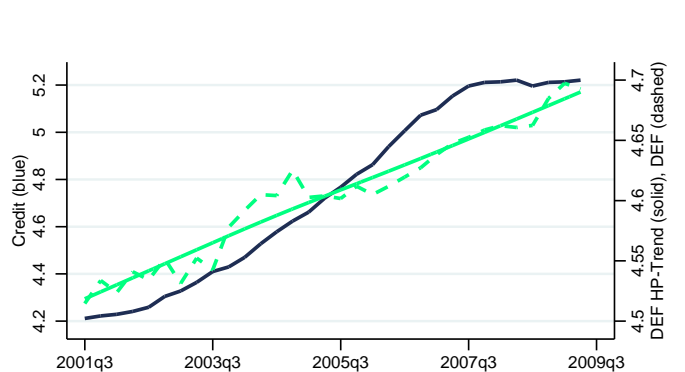
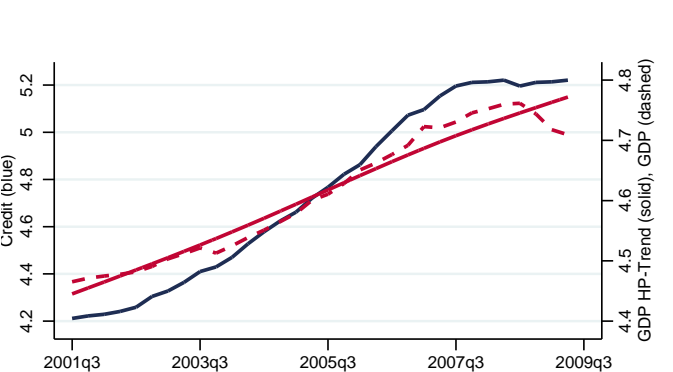
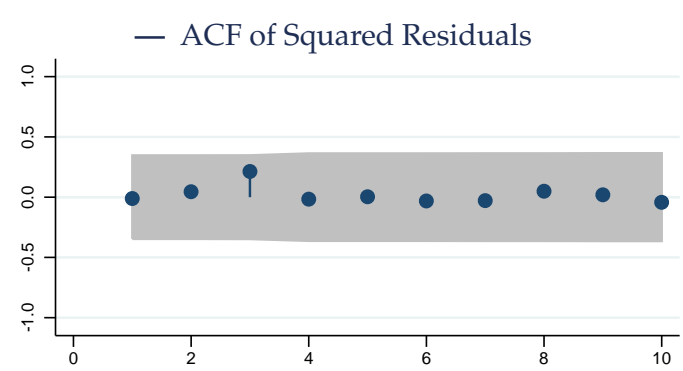
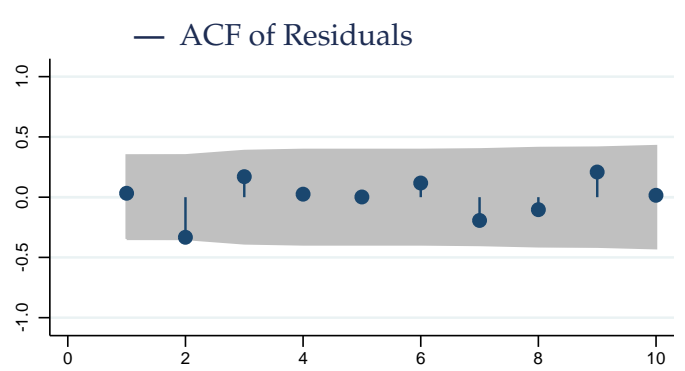
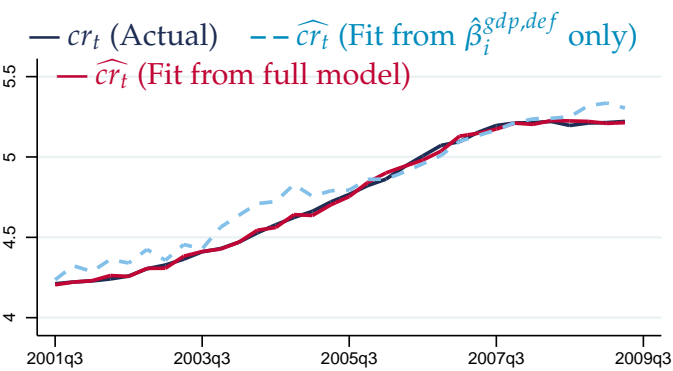
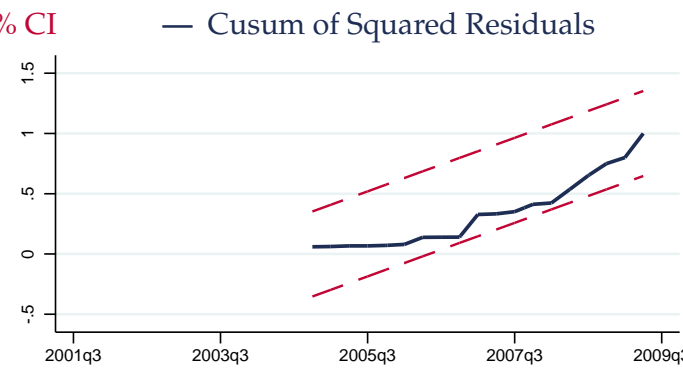
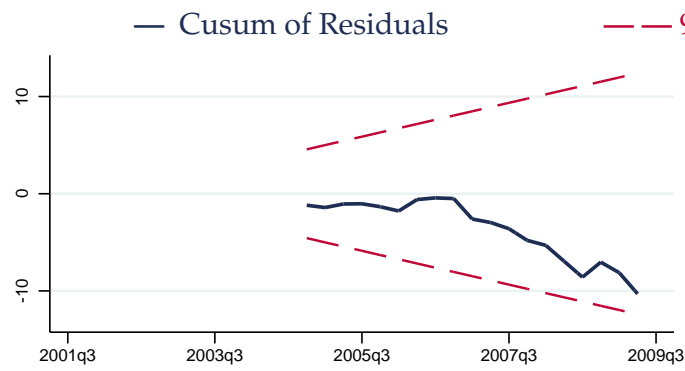
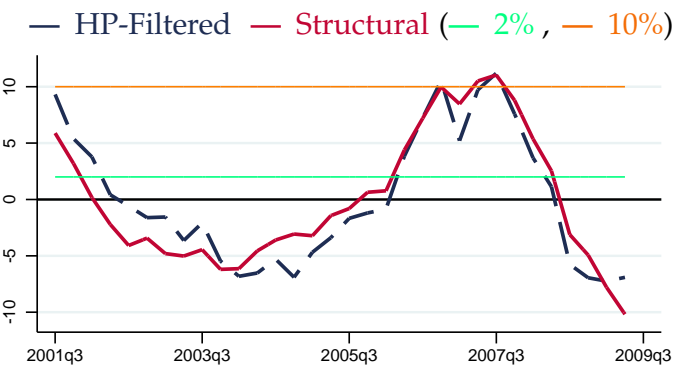
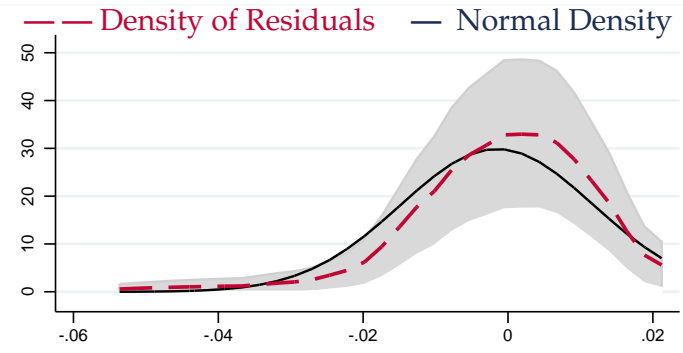
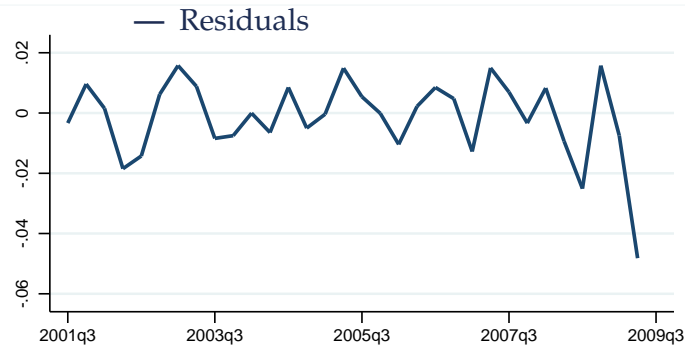
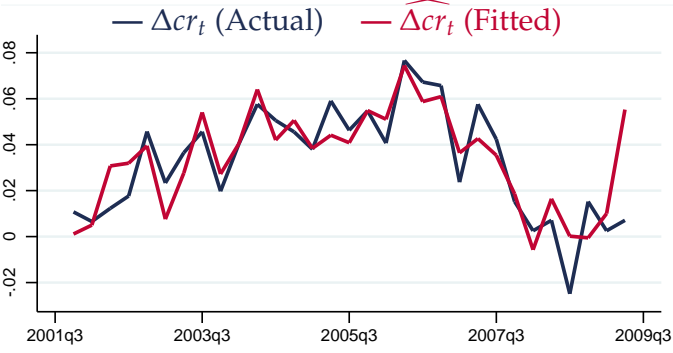
which is shown by the light blue line. The second and the third columns of row 3 show the autocorrelation function (ACF) of the fitted residuals and squared residuals, with 95% error bounds shown by the shaded area.

The last row shows the credit level series ( $cr_t$  left axis) with superimposed actual and HP filtered potential values of GDP ( $gdp_t$  and  $\overline{gdp}_t$  right axis) in the first column, the credit level series ( $cr_t$  left axis) with superimposed actual and HP filtered potential values of the GDP Deflator ( $def_t$  and  $\overline{def}_t$  right axis) in the second column and the credit-to-GDP ratio in the third column.

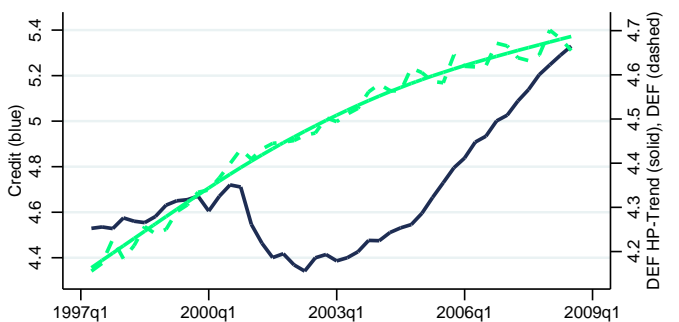
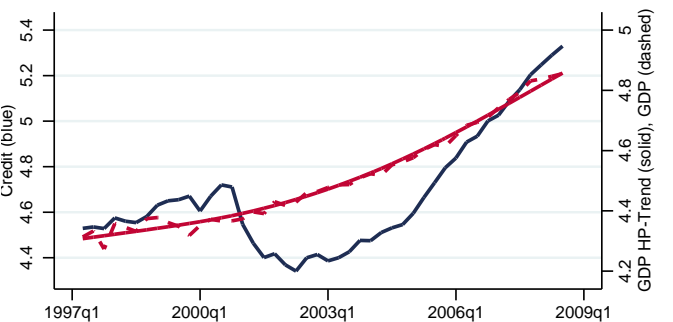
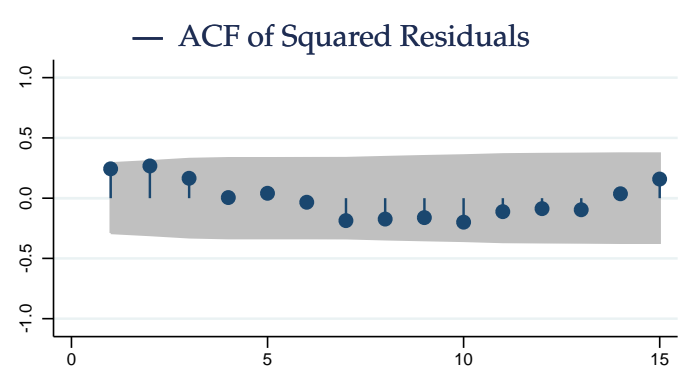
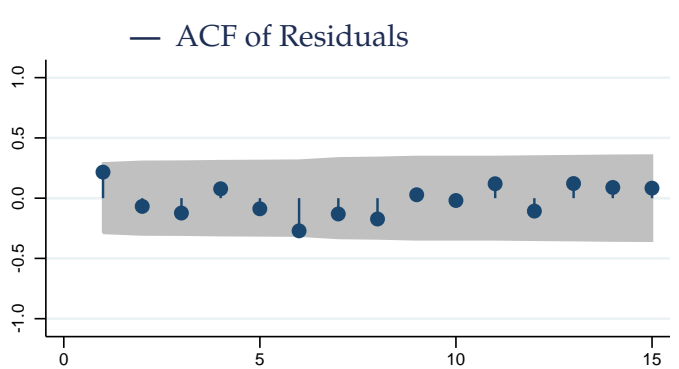
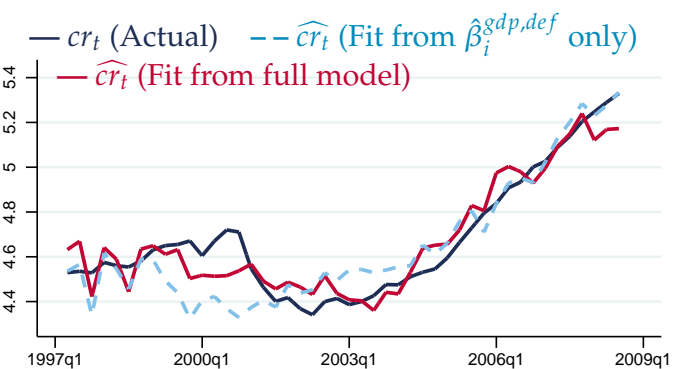
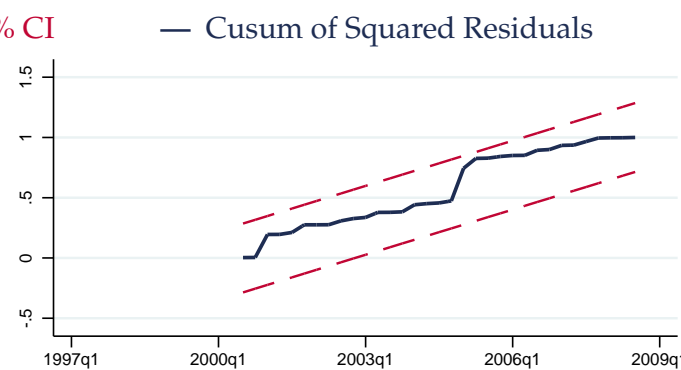
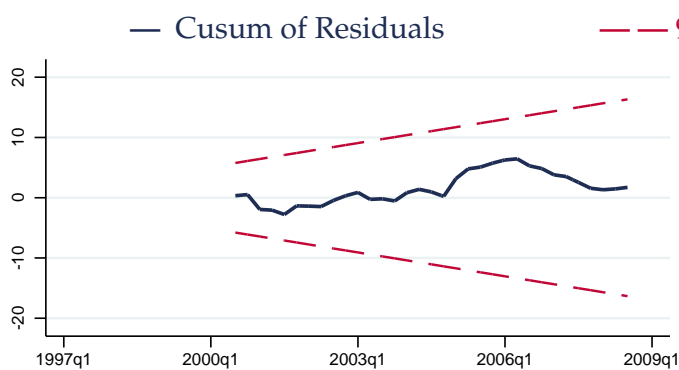
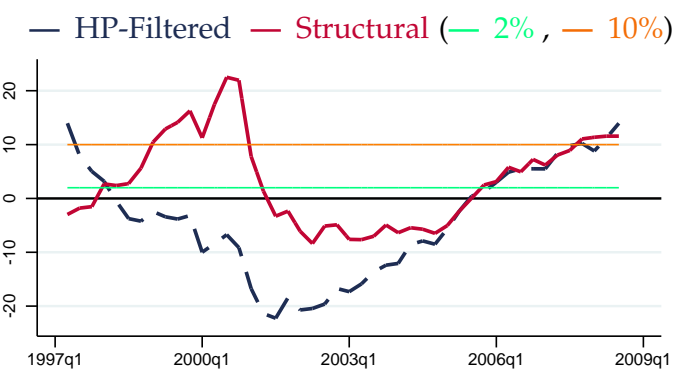
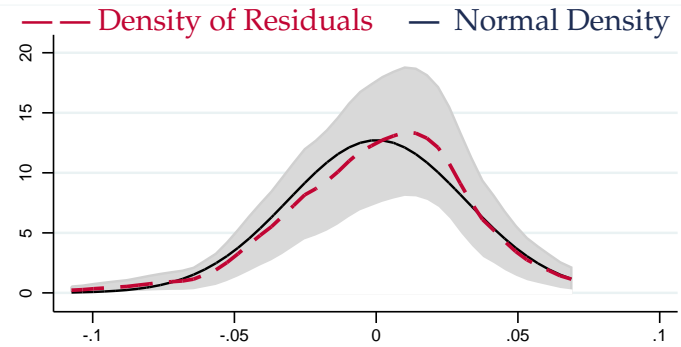
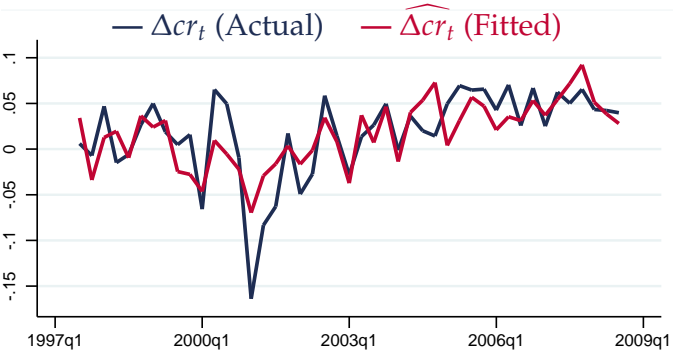
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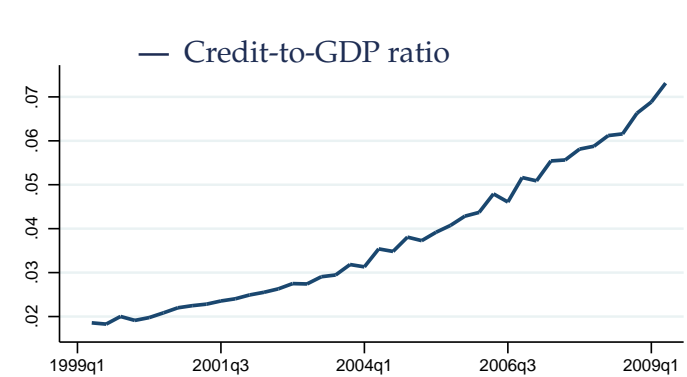
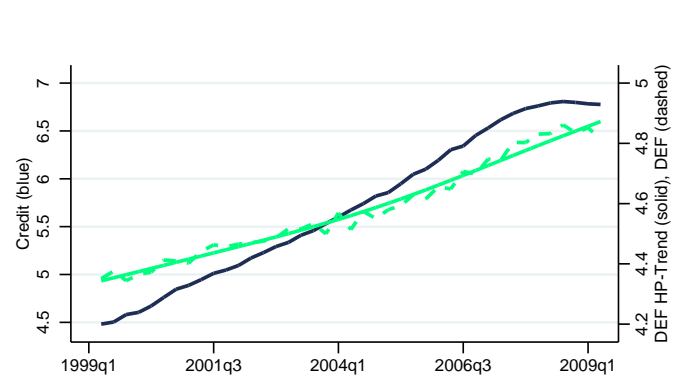
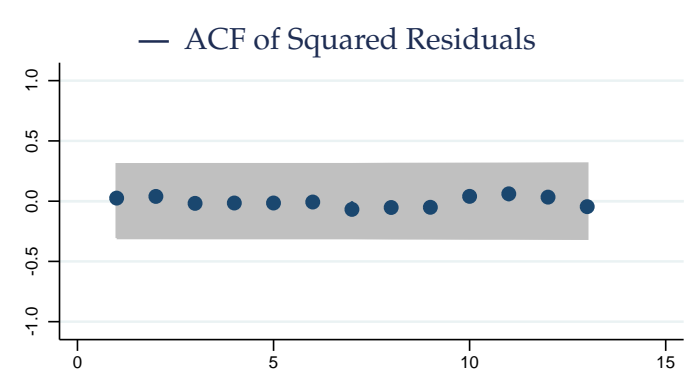
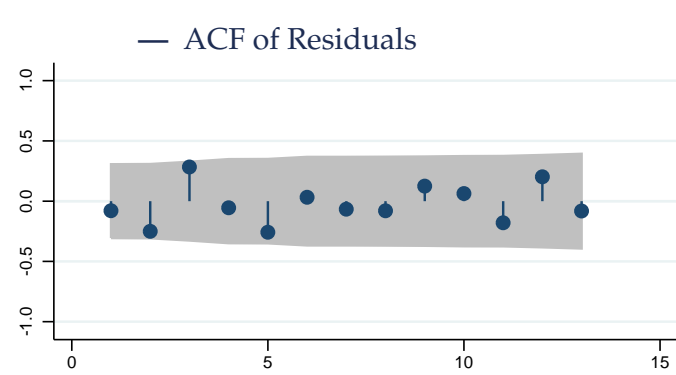
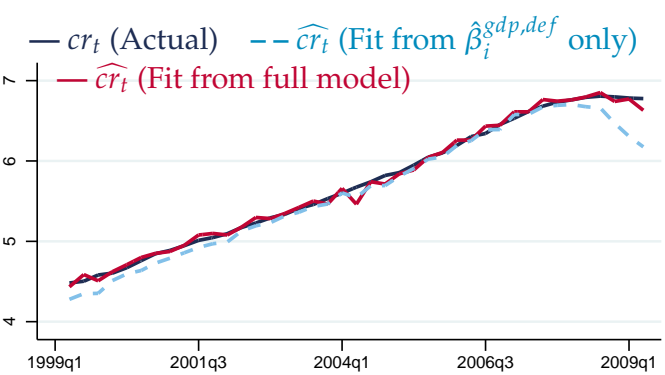
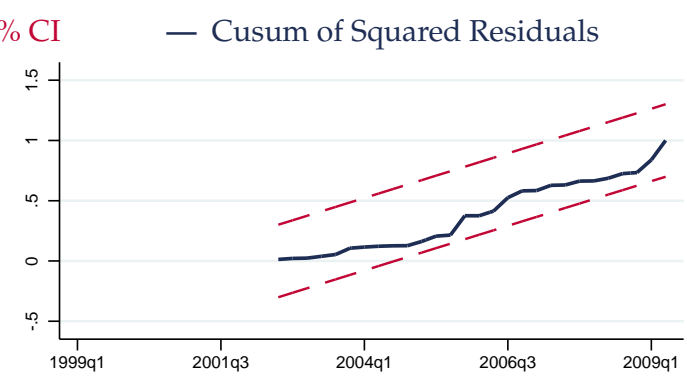
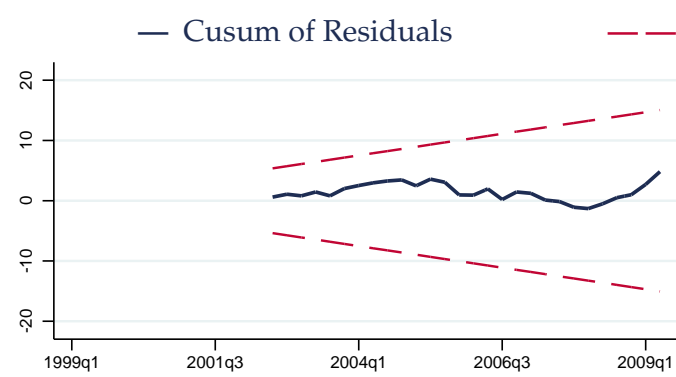
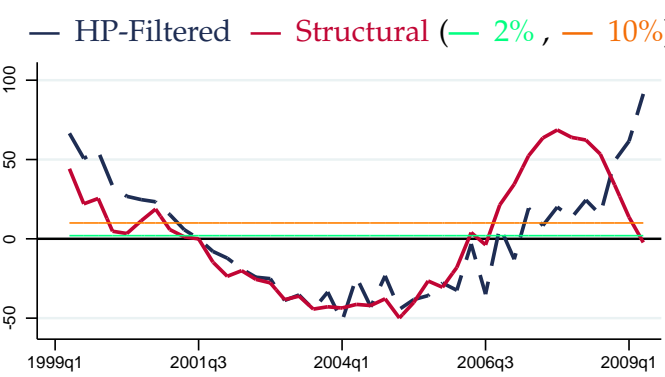
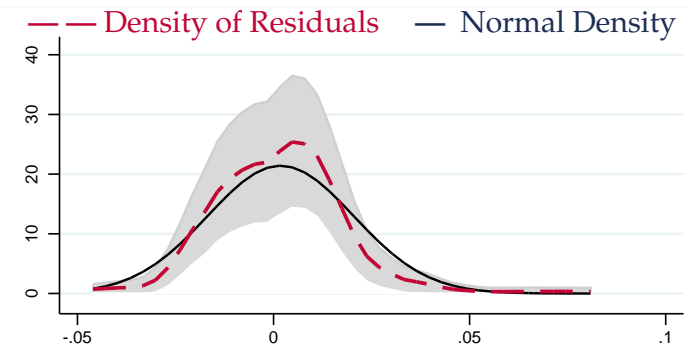
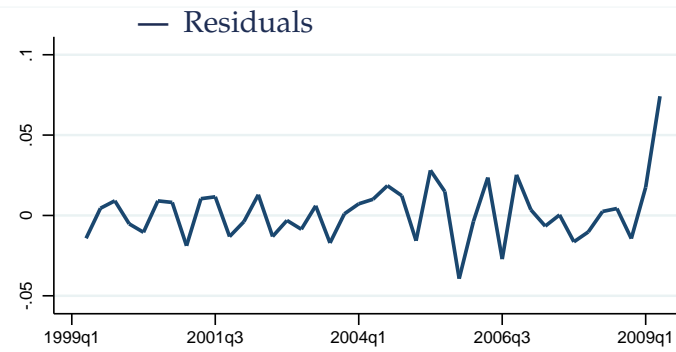
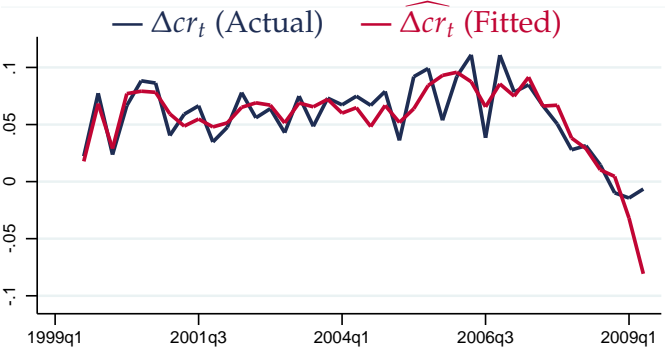
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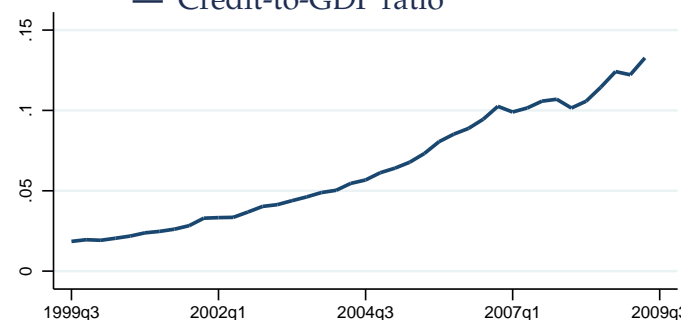
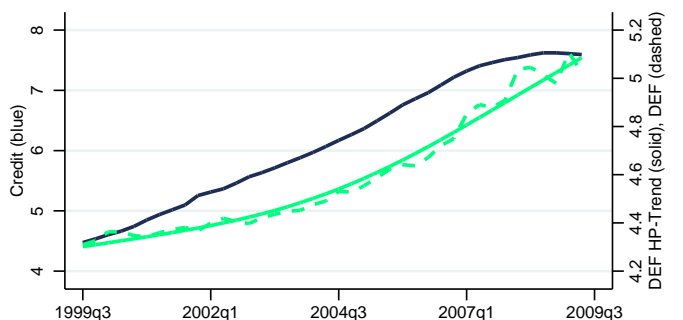
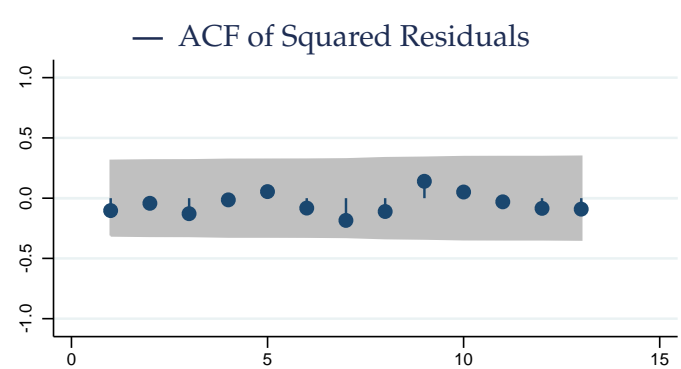
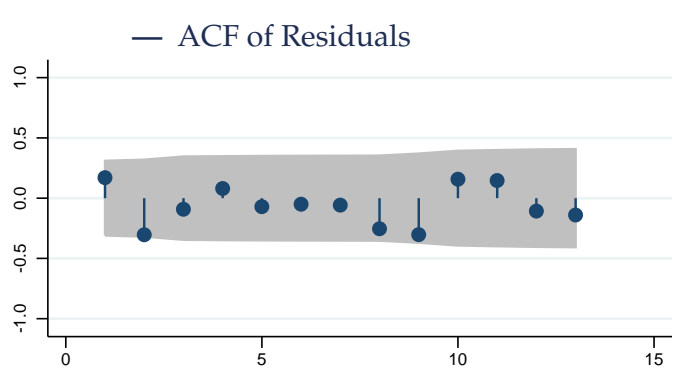
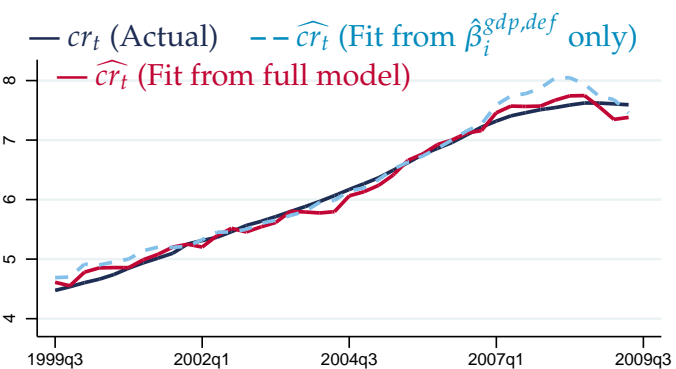
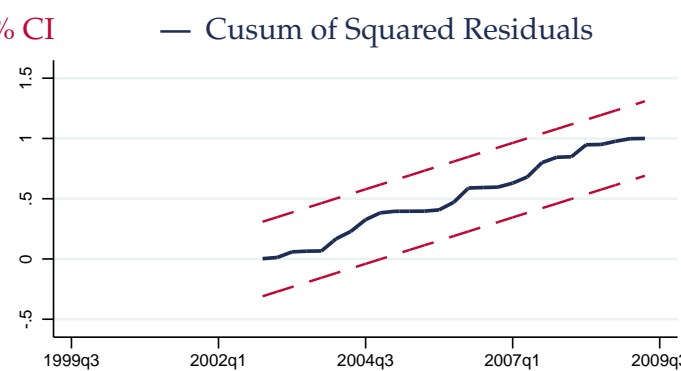
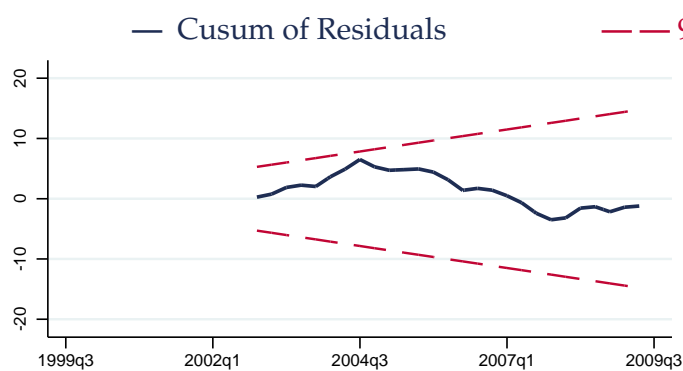
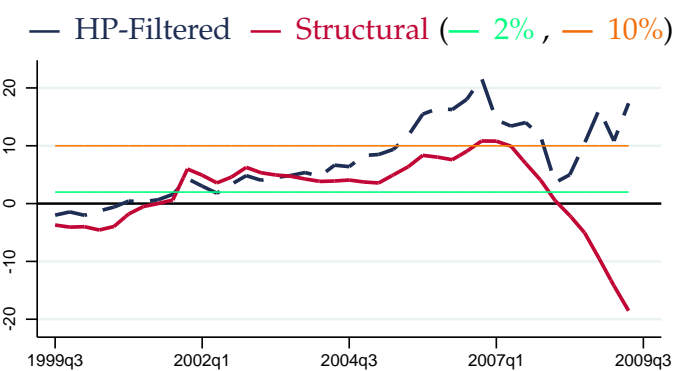
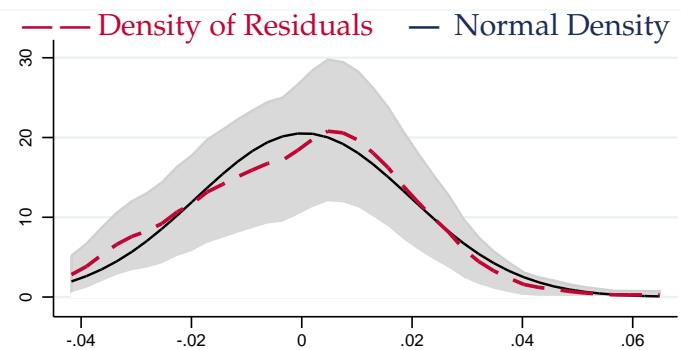
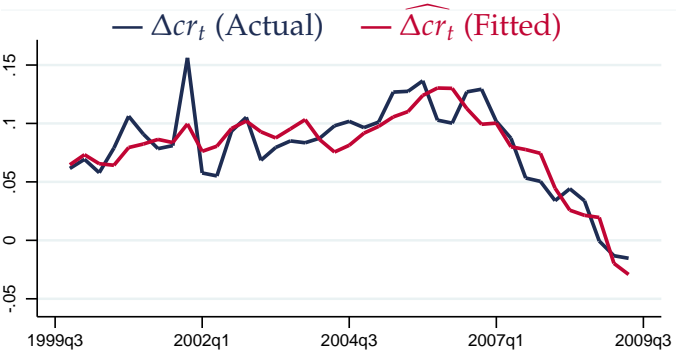
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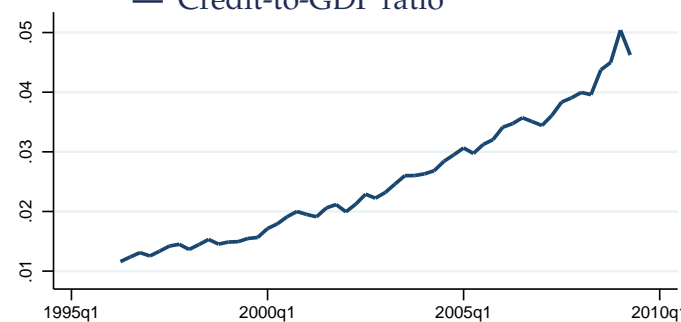
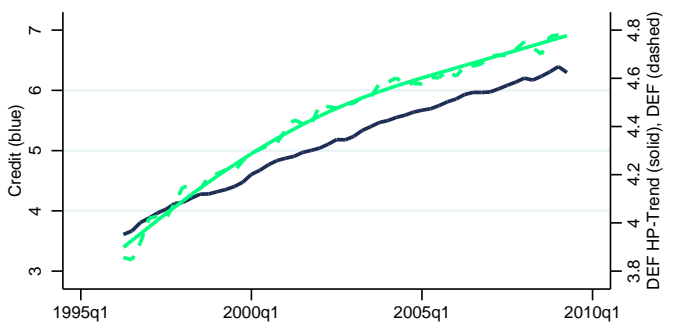
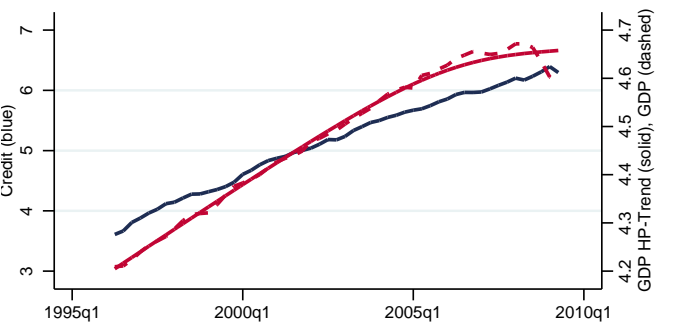
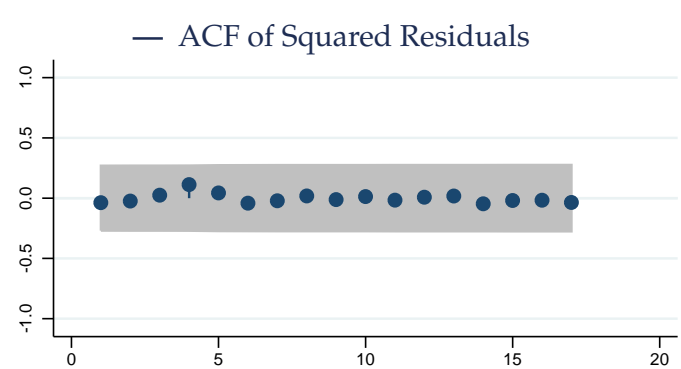
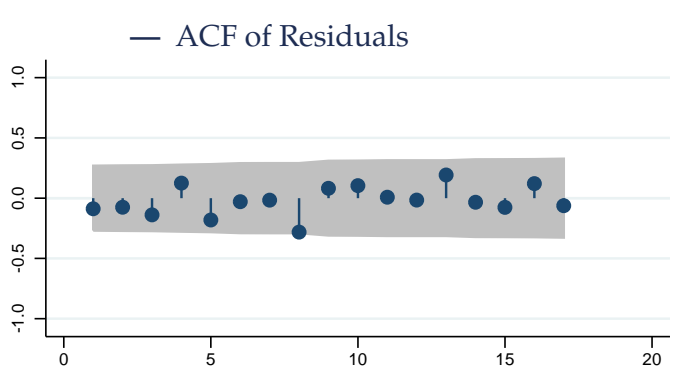
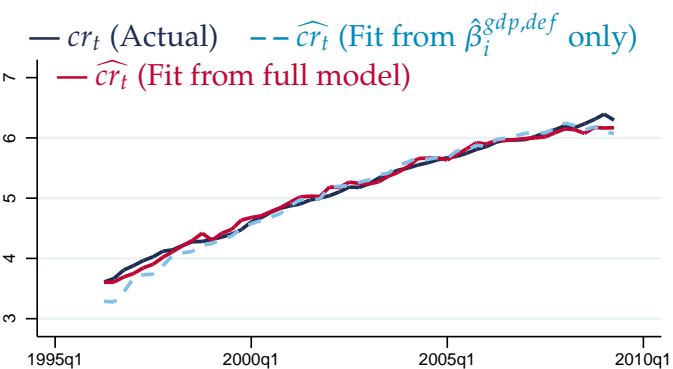
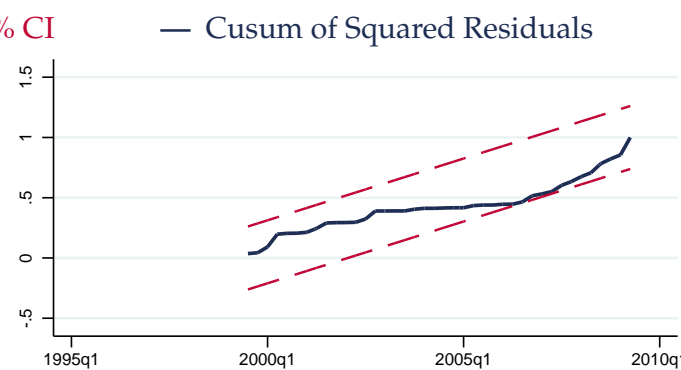
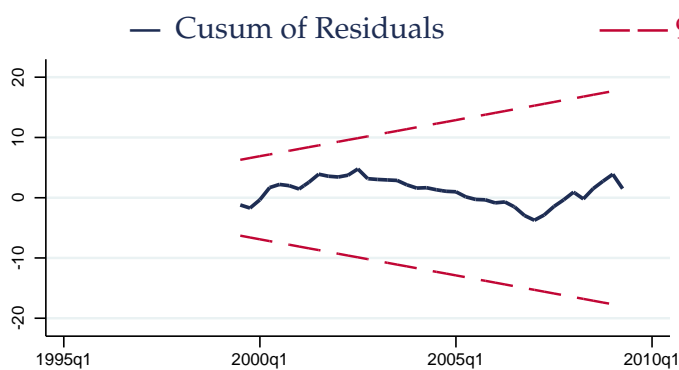
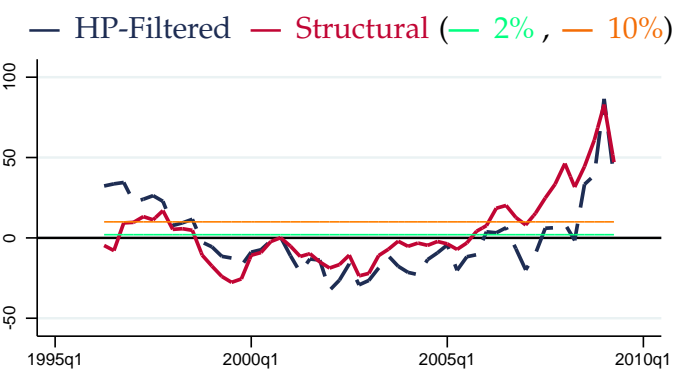
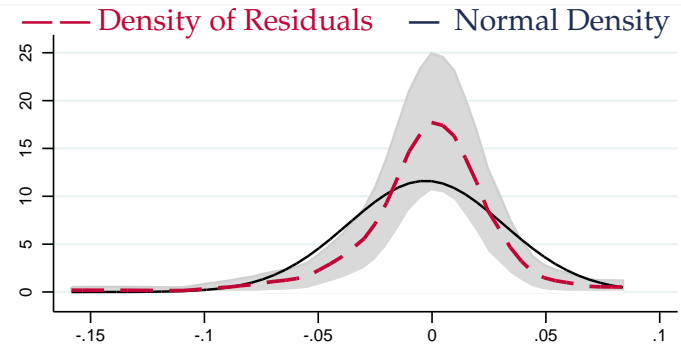
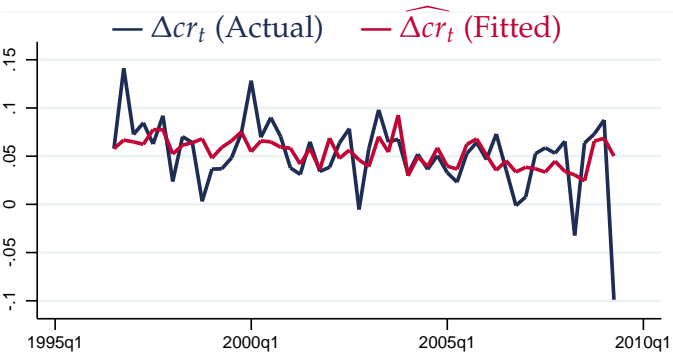
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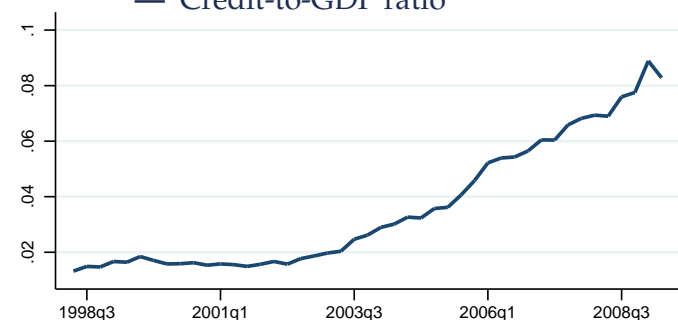
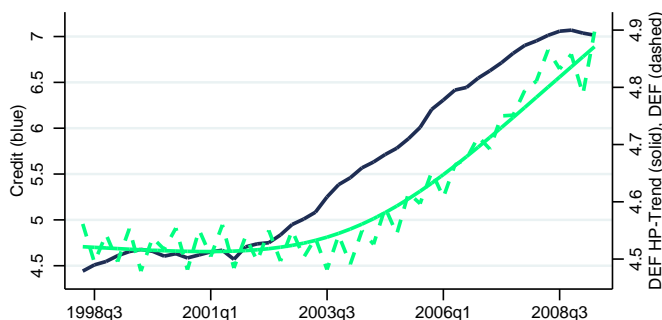
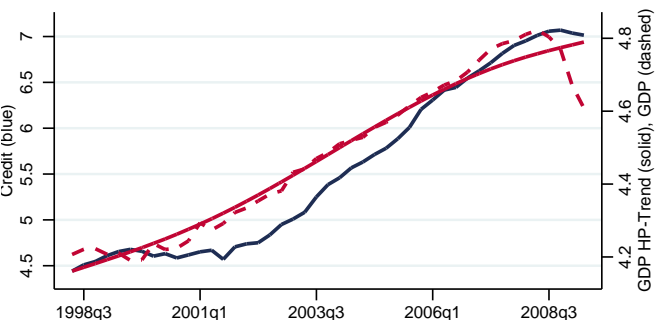
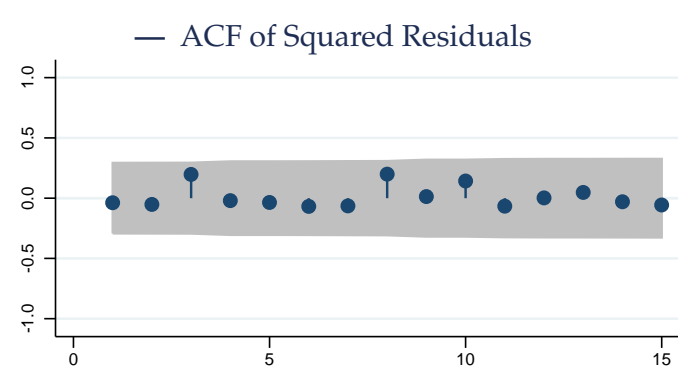
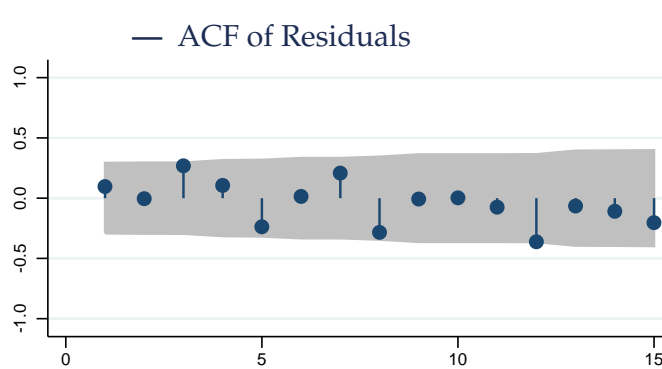
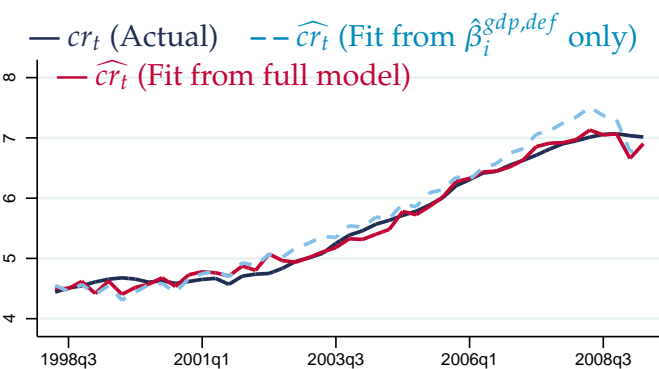
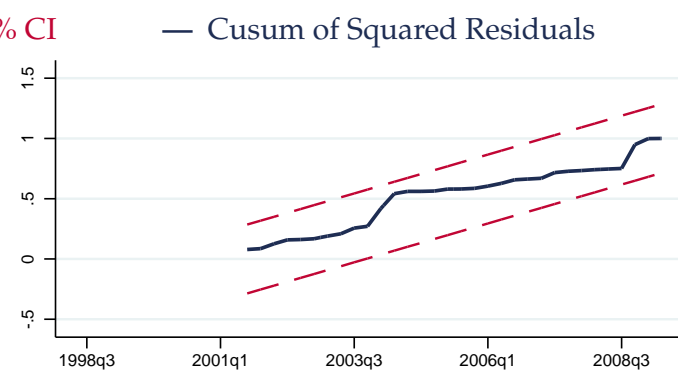
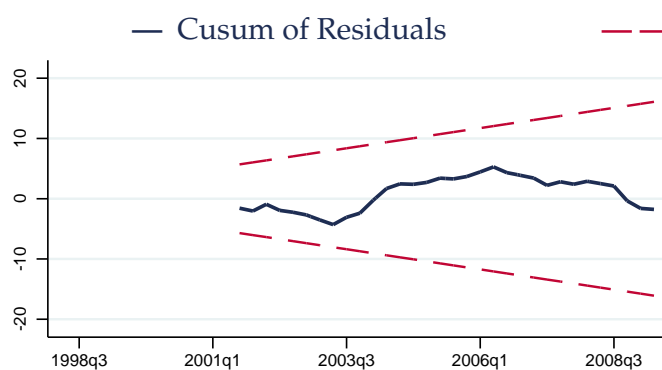
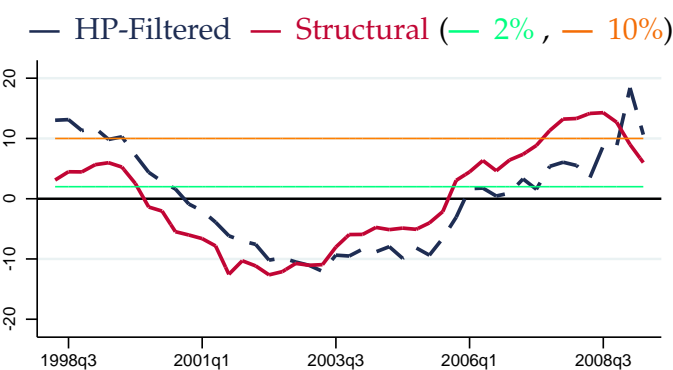
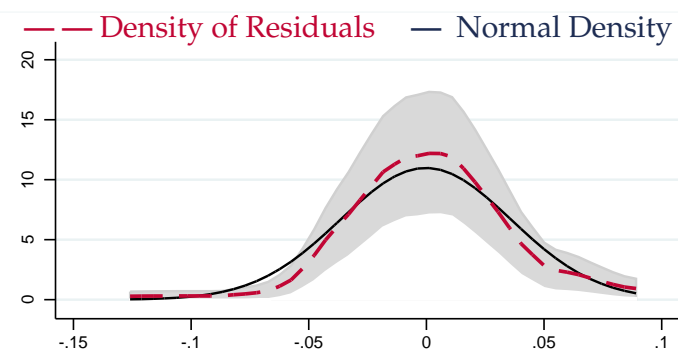
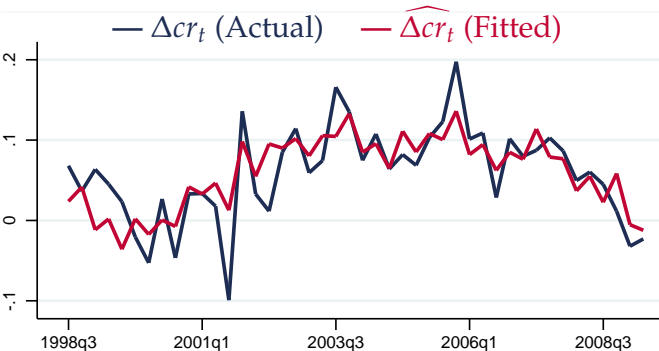
# Latvia (ID 941)



# Hungary (ID 944)

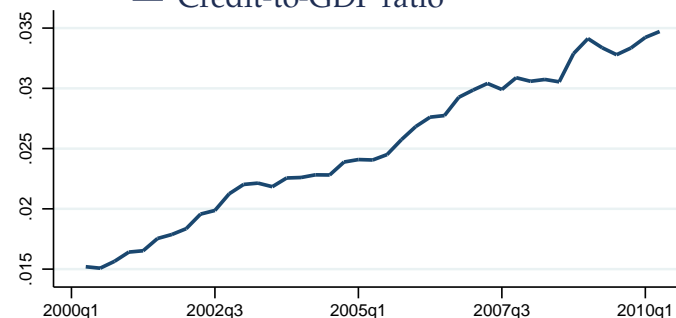
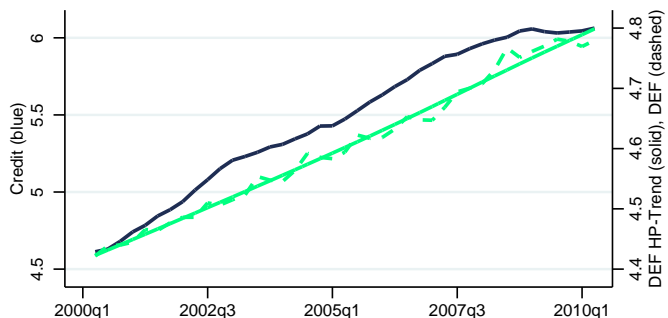
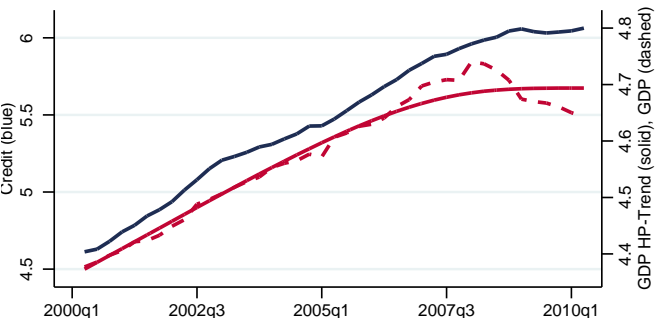
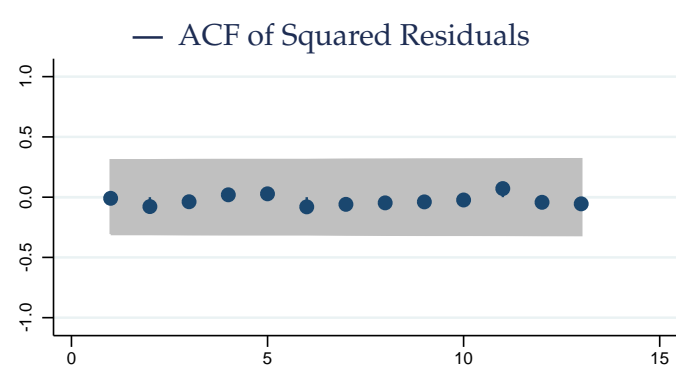
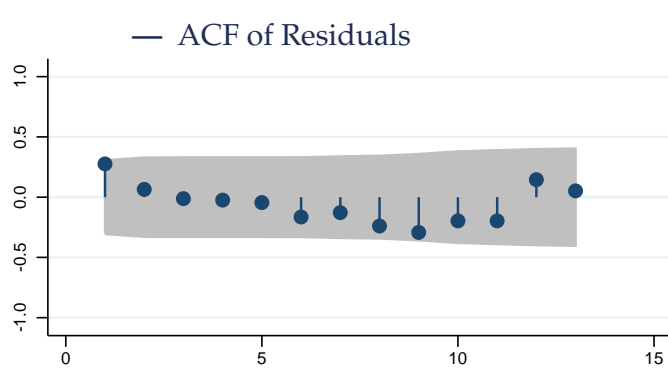
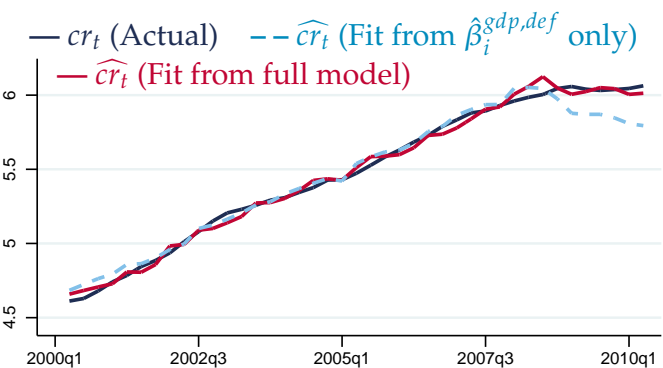
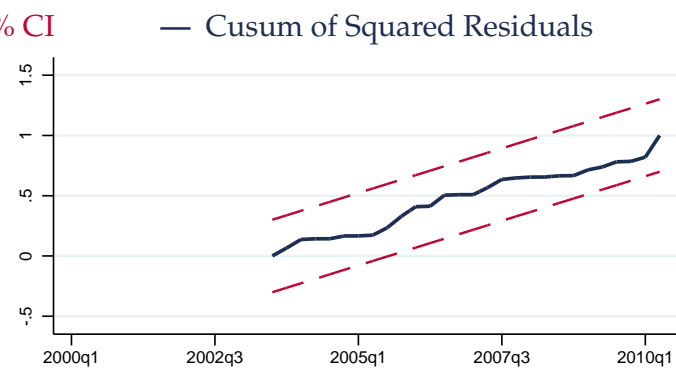
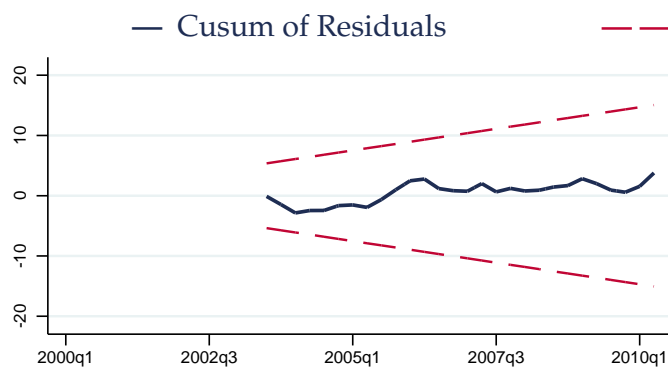
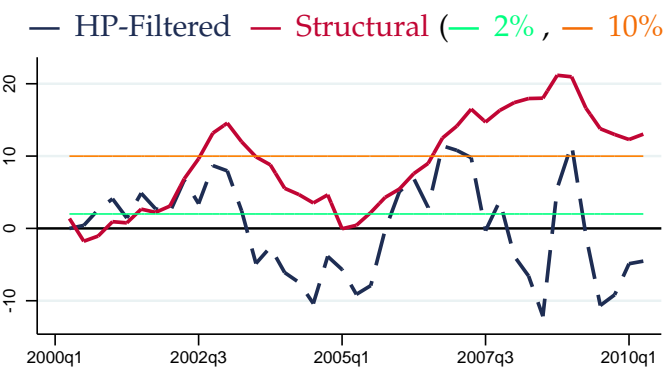
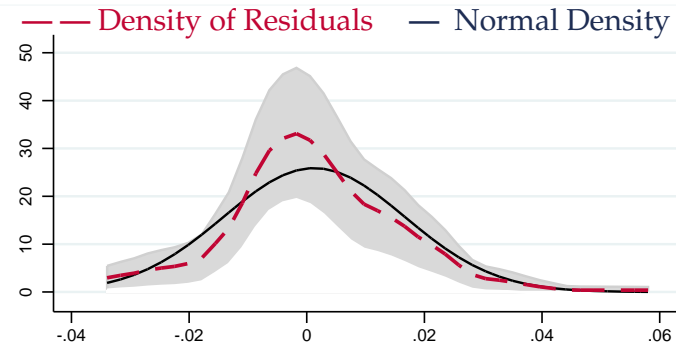
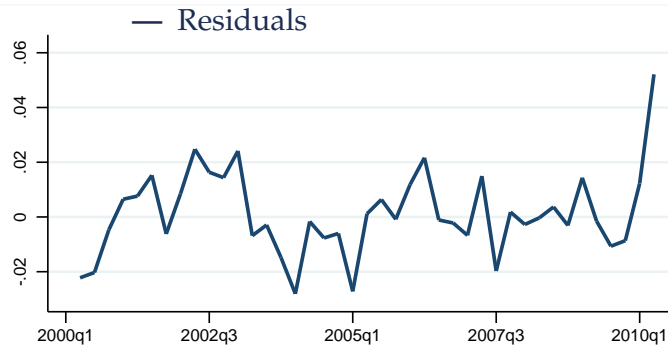
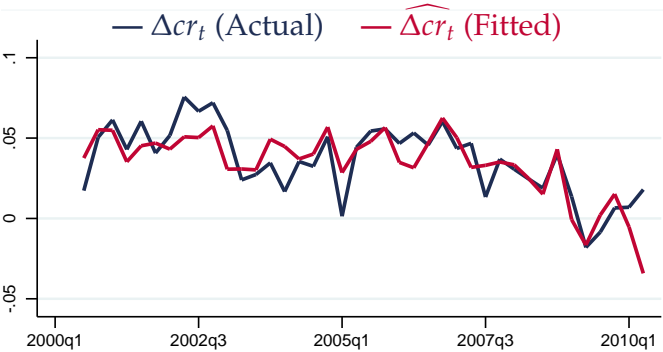


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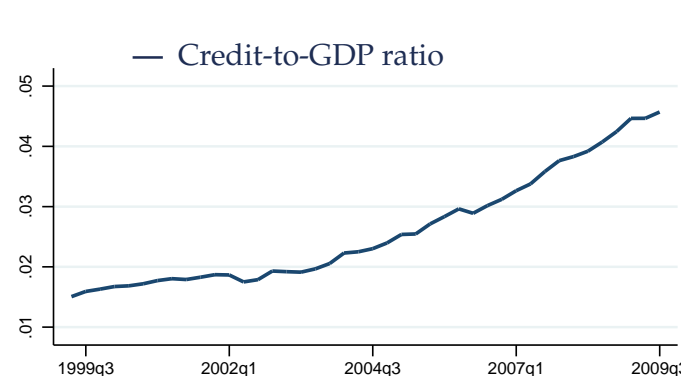
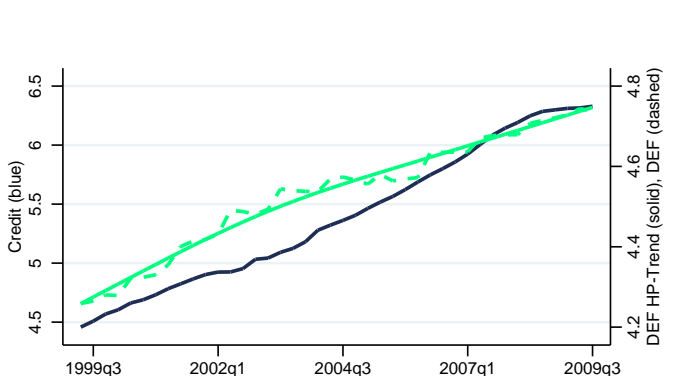
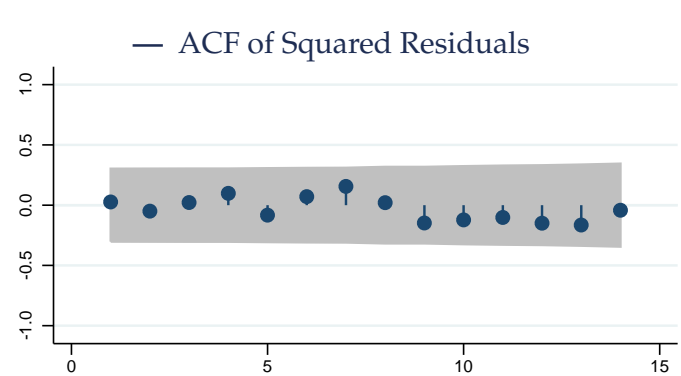
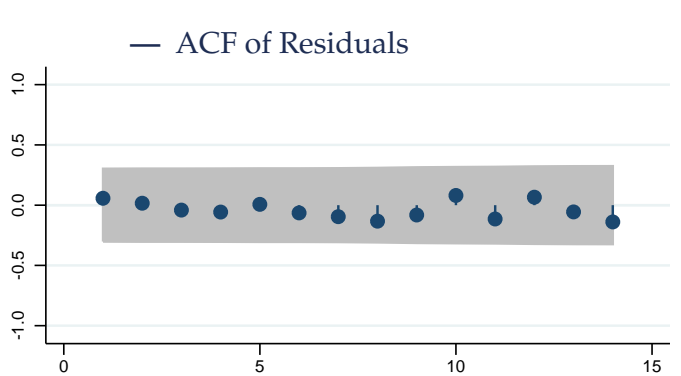
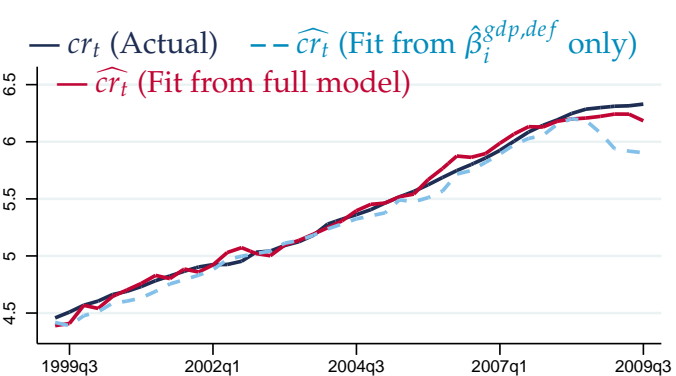
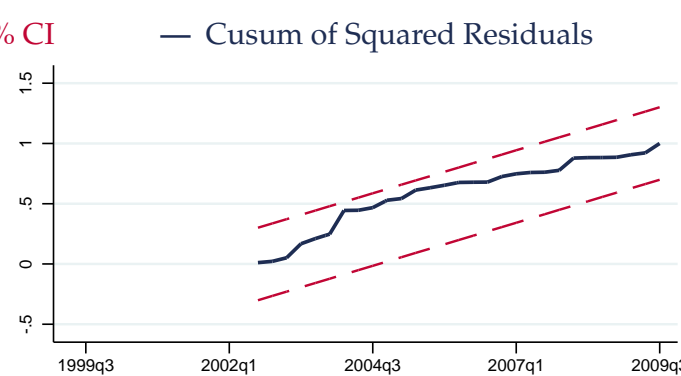
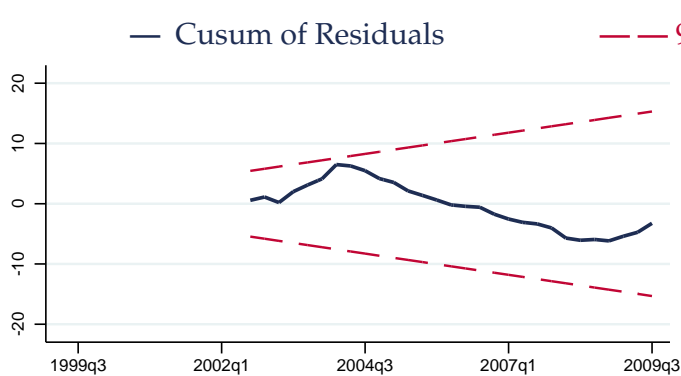
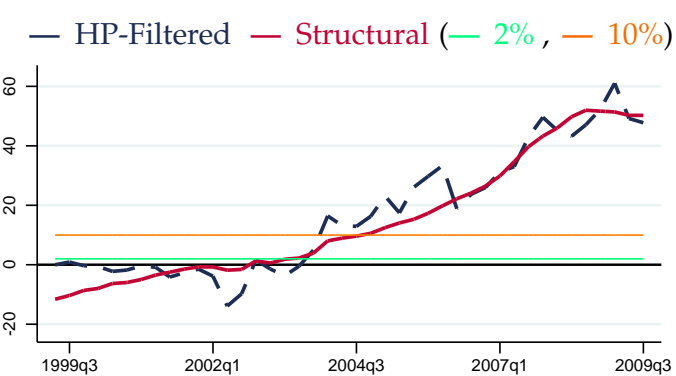
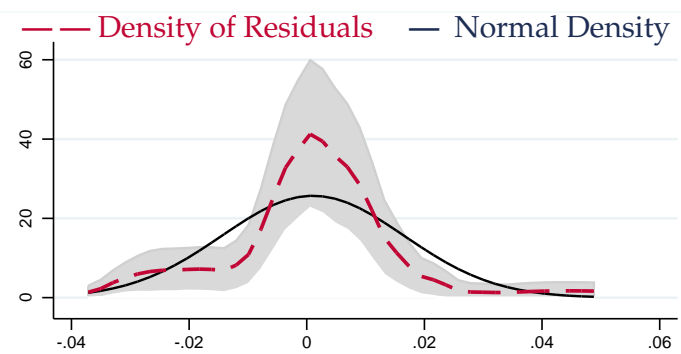
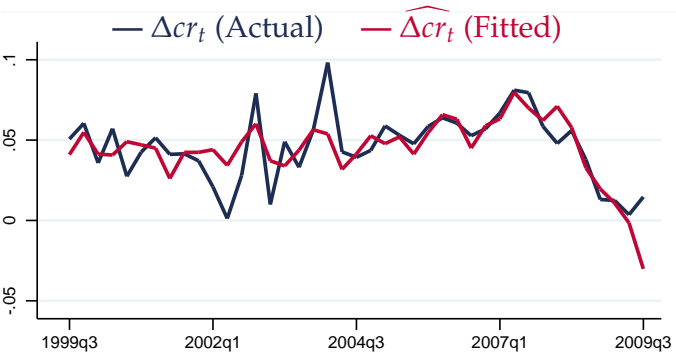




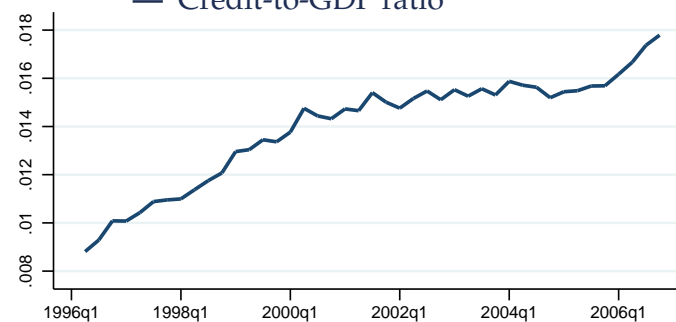
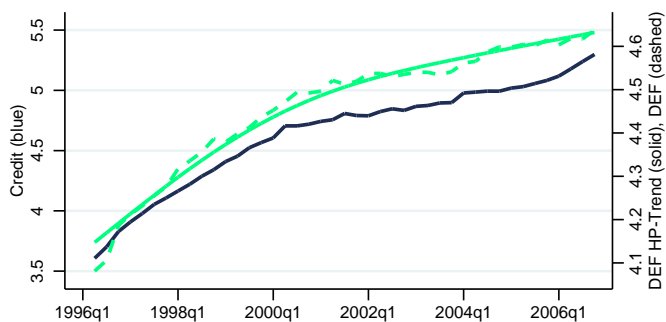
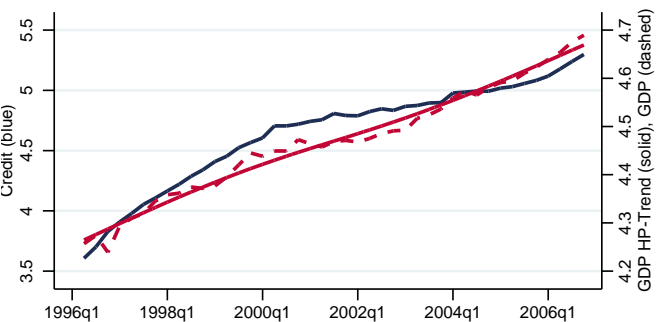
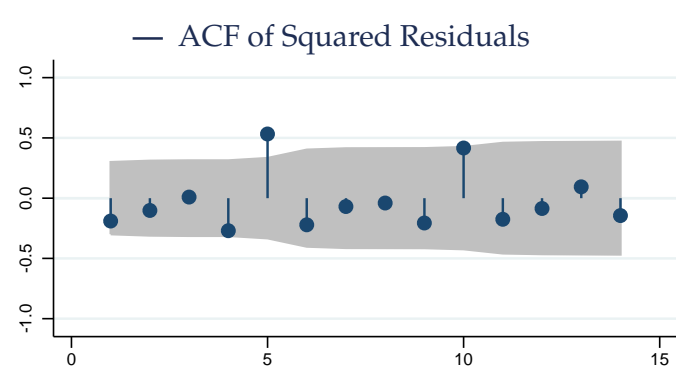
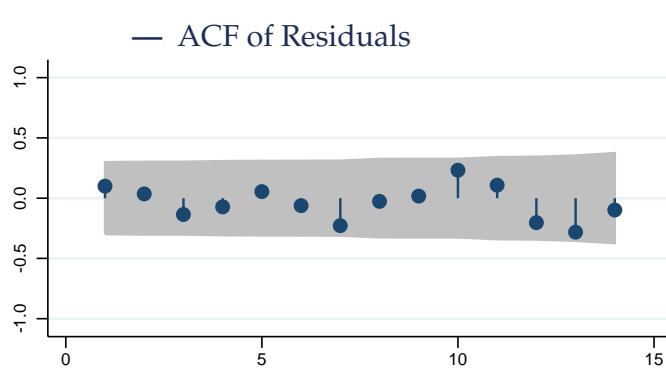
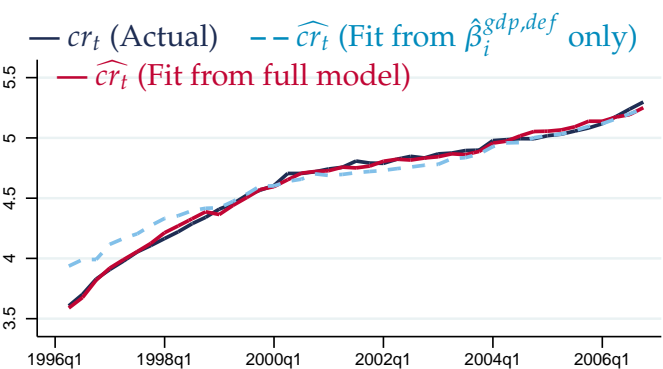
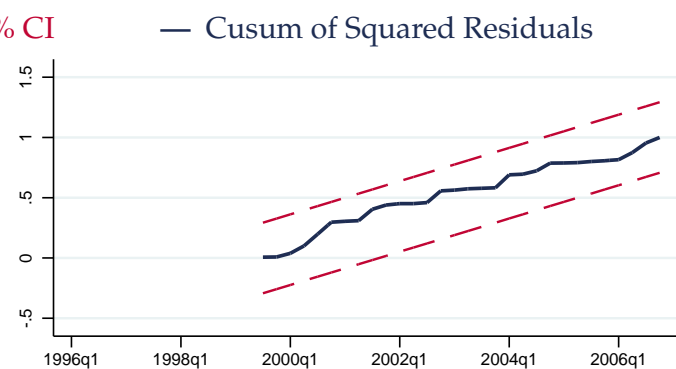
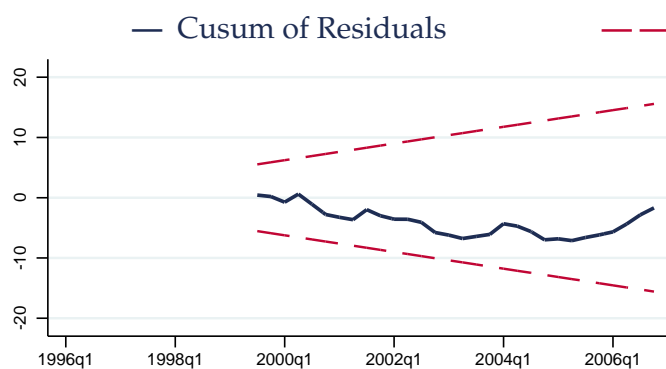
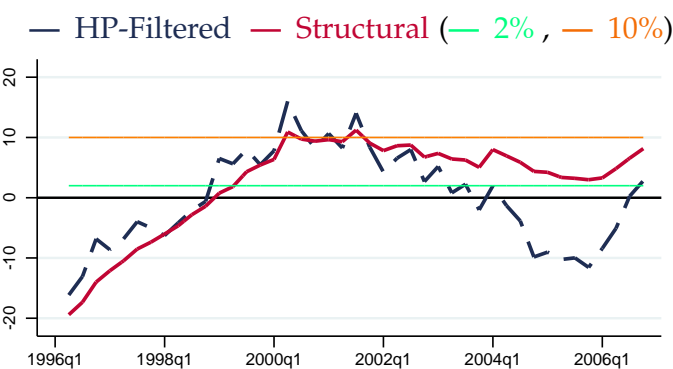
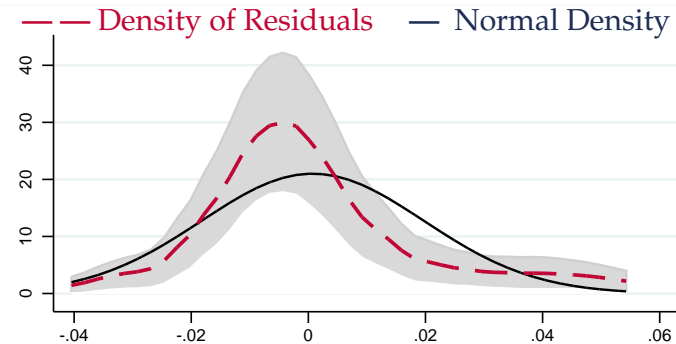
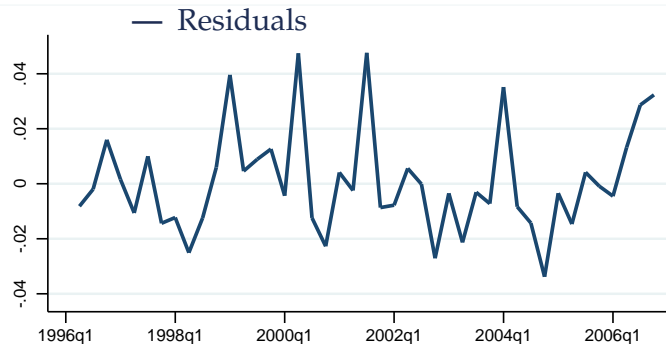
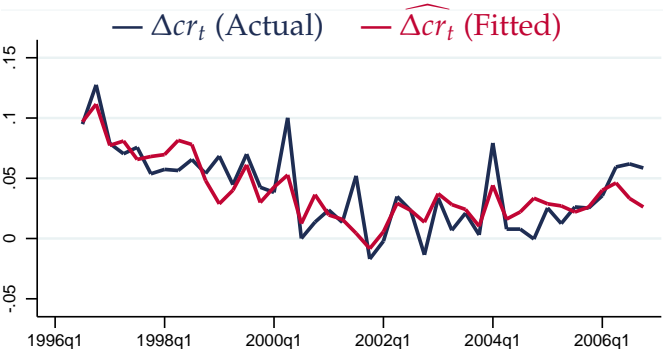
# Croatia (ID 960)



# Slovenia (ID 961)



# Poland (ID 964)



# Romania (ID 968)

