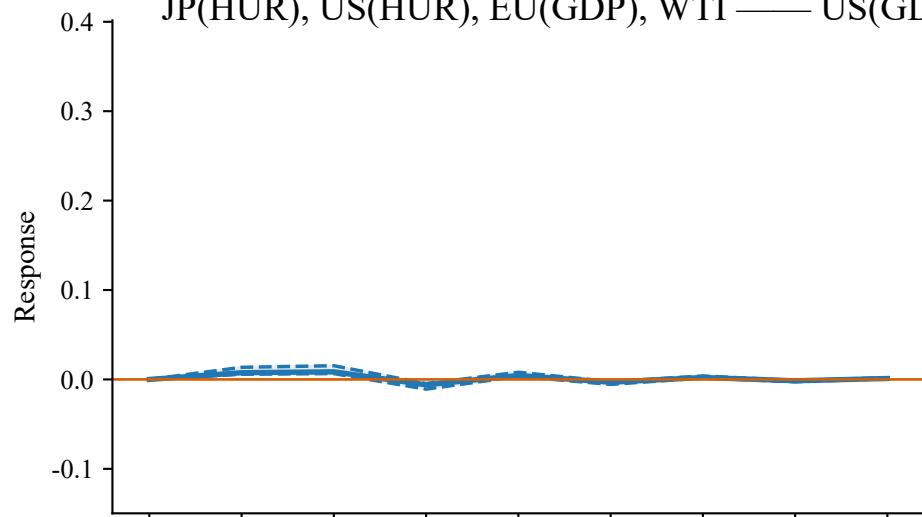


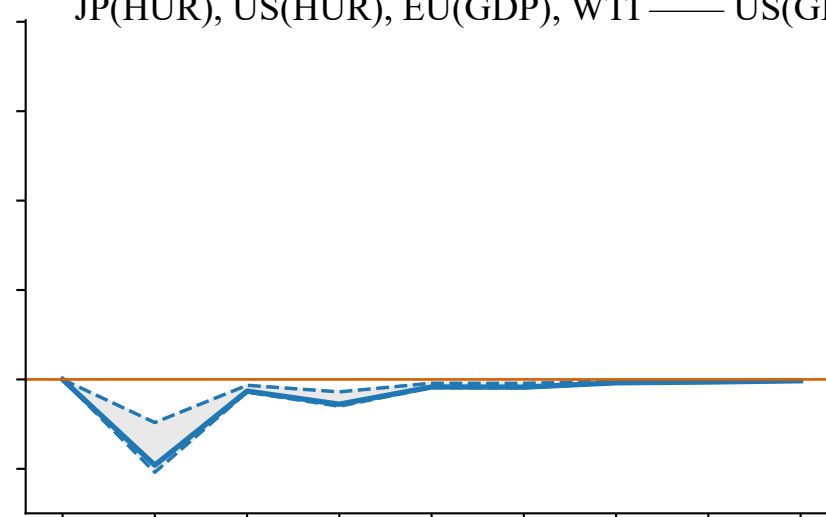
(a1) The time-invariant OIRF

JP(HUR), US(HUR), EU(GDP), WTI — US(GDP)



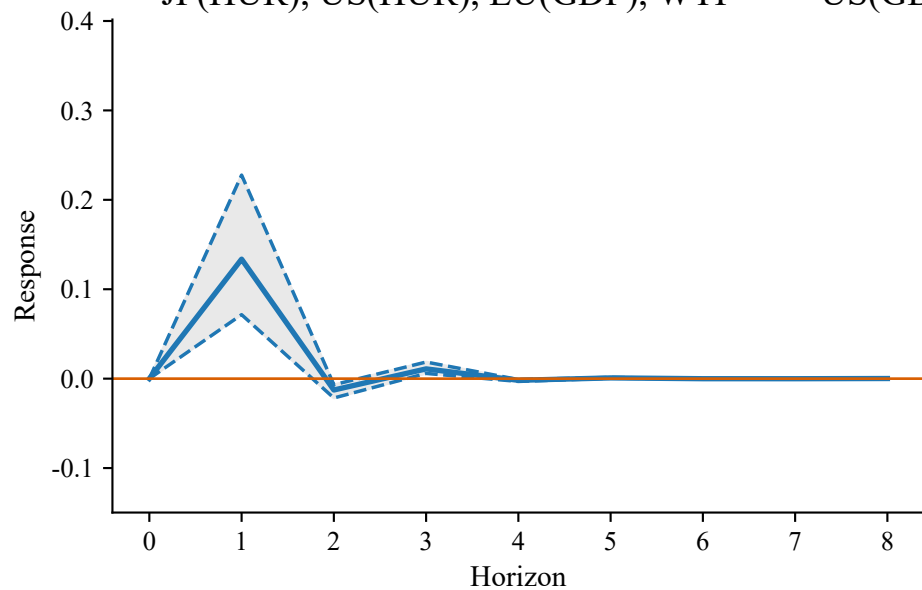
(b1) The time-varying OIRF of June 1st, 2020

JP(HUR), US(HUR), EU(GDP), WTI — US(GDP)



(c1) The time-varying OIRF of April 1st, 2013

JP(HUR), US(HUR), EU(GDP), WTI — US(GDP)



(d1) The time-varying OIRF of December 1st, 2007

JP(HUR), US(HUR), EU(GDP), WTI — US(GDP)

