All VAR Charts

```r
x <- fread(here::here("./data/vfciBC_data.csv")) |>
  filter(date <= as.Date("2017-01-01")) |>
  dplyr::select(
    date,
    vfci = vfci_fgr10gdpc1,
    interest,
    output,
    investment,
    consumption,
    hours_worked,
    unemployment,
    labor_share,
    inflation,
    productivity,
    TFP
  )


bc_freqs <- c(2 * pi / 32, 2 * pi / 6)
lags <- 2

v <- VAR(x[, -"date"], p = lags, type = "const")

grid <- tribble(
  ~model,  ~color,    ~method, ~freq, ~target, ~sign, ~chol_order,
  "v0632", "goldenrod", "fevdfd", bc_freqs, "vfci", "neg", NA,
  "u0632", "steelblue", "fevdfd", bc_freqs, "unemployment", "pos", NA,
  "vChol", "firebrick", "chol", NA, "vfci", "neg", c("vfci", "interest", "output", "investment", "consu
  "uChol", "mediumorchid", "chol", NA, "unemployment", "pos", c("unemployment", "vfci", "interest", "ou
  "infChol", "black", "chol", NA, "inflation", "neg", c("inflation", "unemployment", "vfci", "interest"
  "ivChol", "lightpink", "chol", NA, "vfci", "neg", c("interest", "vfci", "output", "investment", "consu
)

mv_list <- lapply(seq_len(nrow(grid)), function(i){
  if (grid[[i, "method"]] == "fevdfd") {
    mv <- id_fevdfd(v, grid[[i, "target"]], grid[[i, "freq"]][[1]], sign = grid[[i, "sign"]])
  } else if (grid[[i, "method"]] == "chol") {
    vchol <- VAR(relocate(x[, -"date"], grid[[i, "target"]]), p = lags, type = "const")
    mv <- id.chol(vchol, order_k = grid[[i, "chol_order"]][[1]])
    mv$B <- mv$B * ifelse(grid[[i, "sign"]] == "pos", 1, -1)
  }
  return(mv)
})


colors <- setNames(grid$color, grid$model)
```
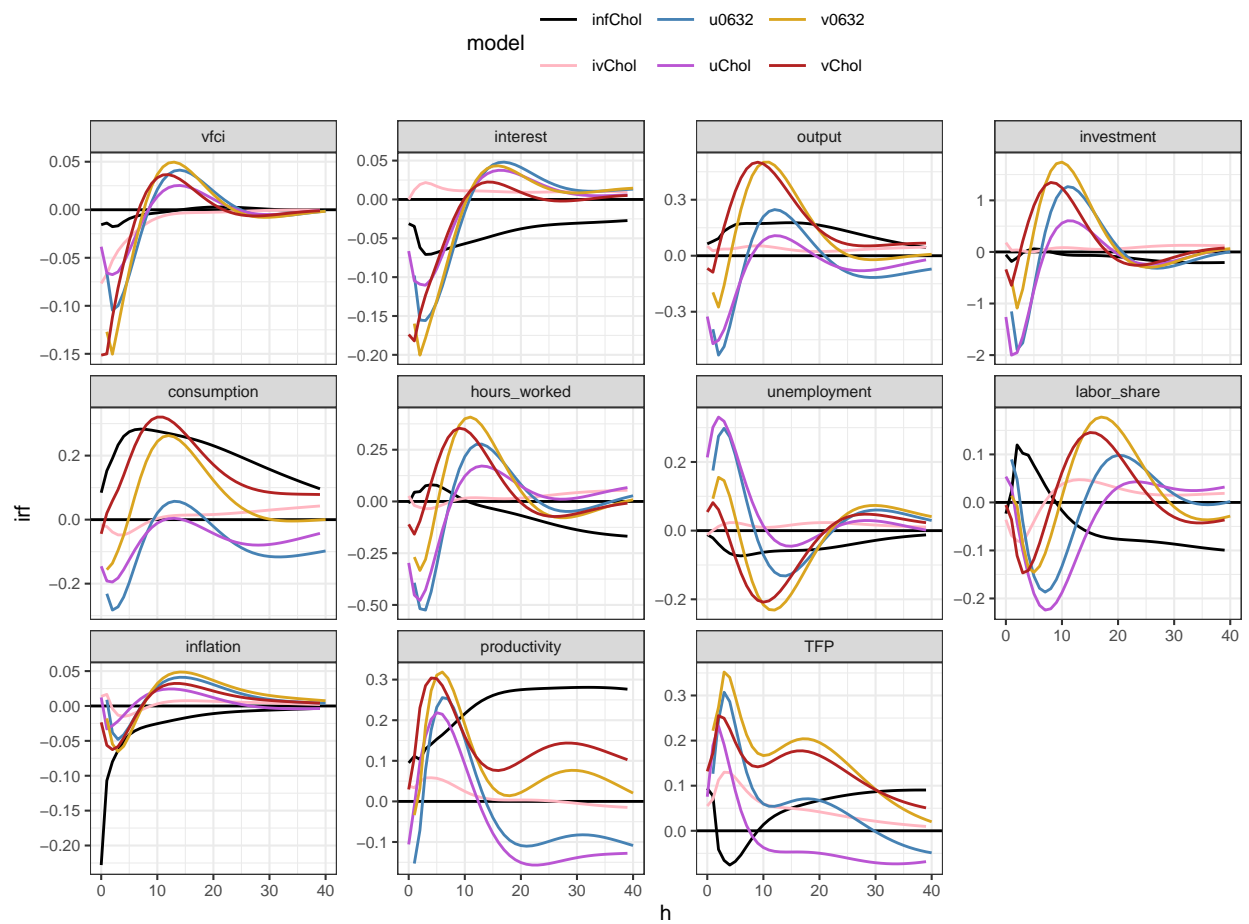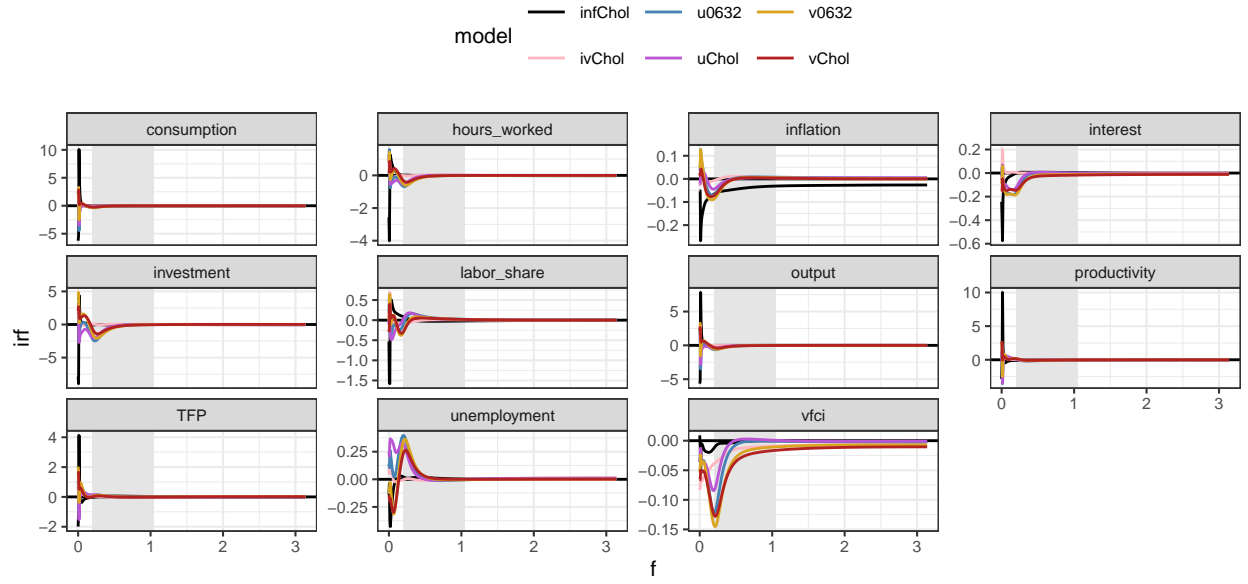
Figure 1: IRF

Figure 2: IRF Frequency Domain
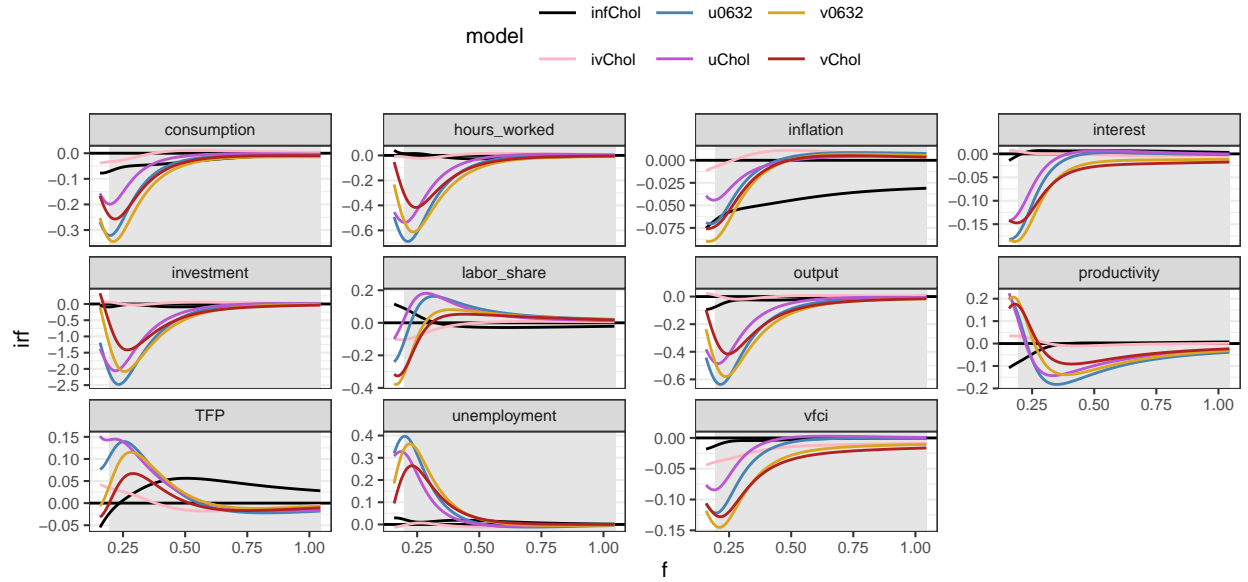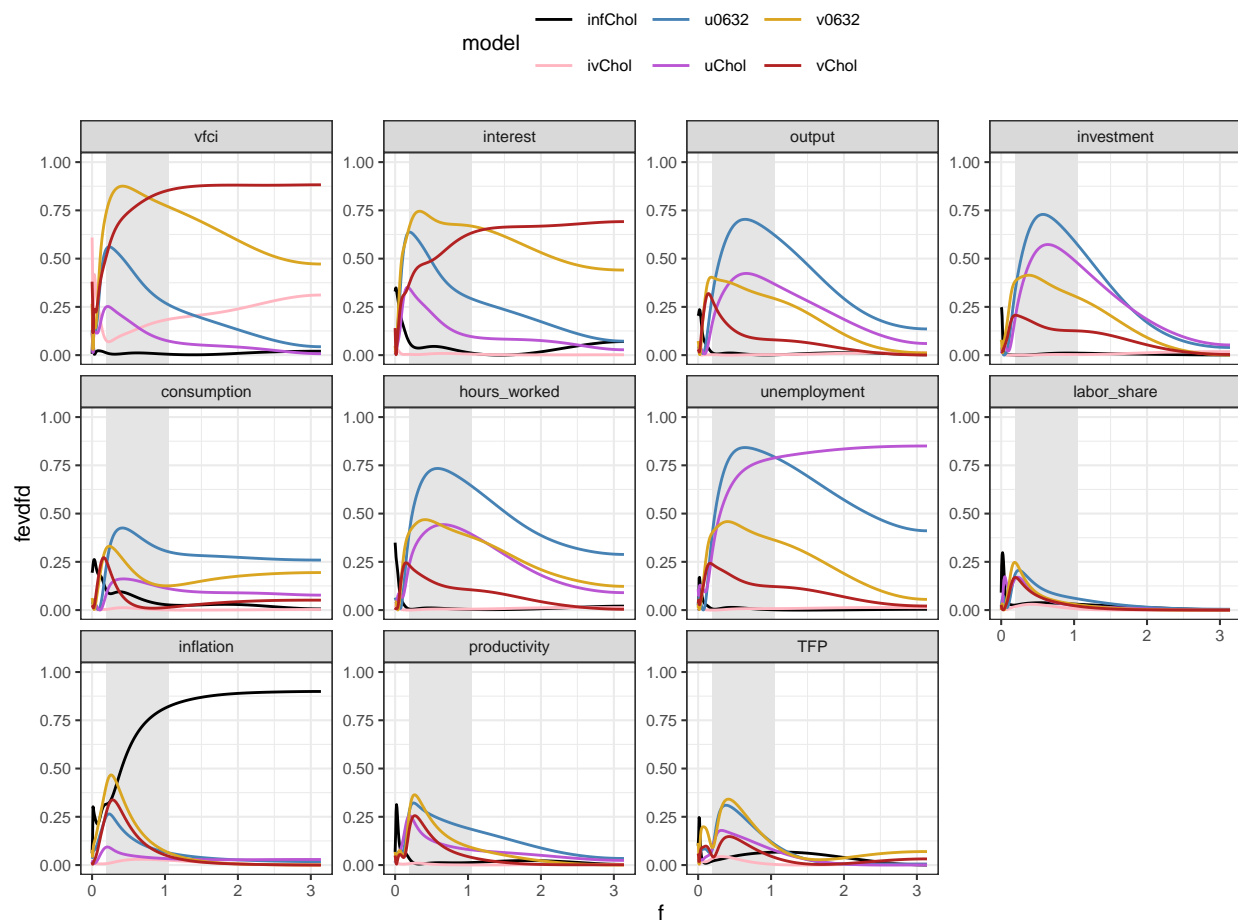

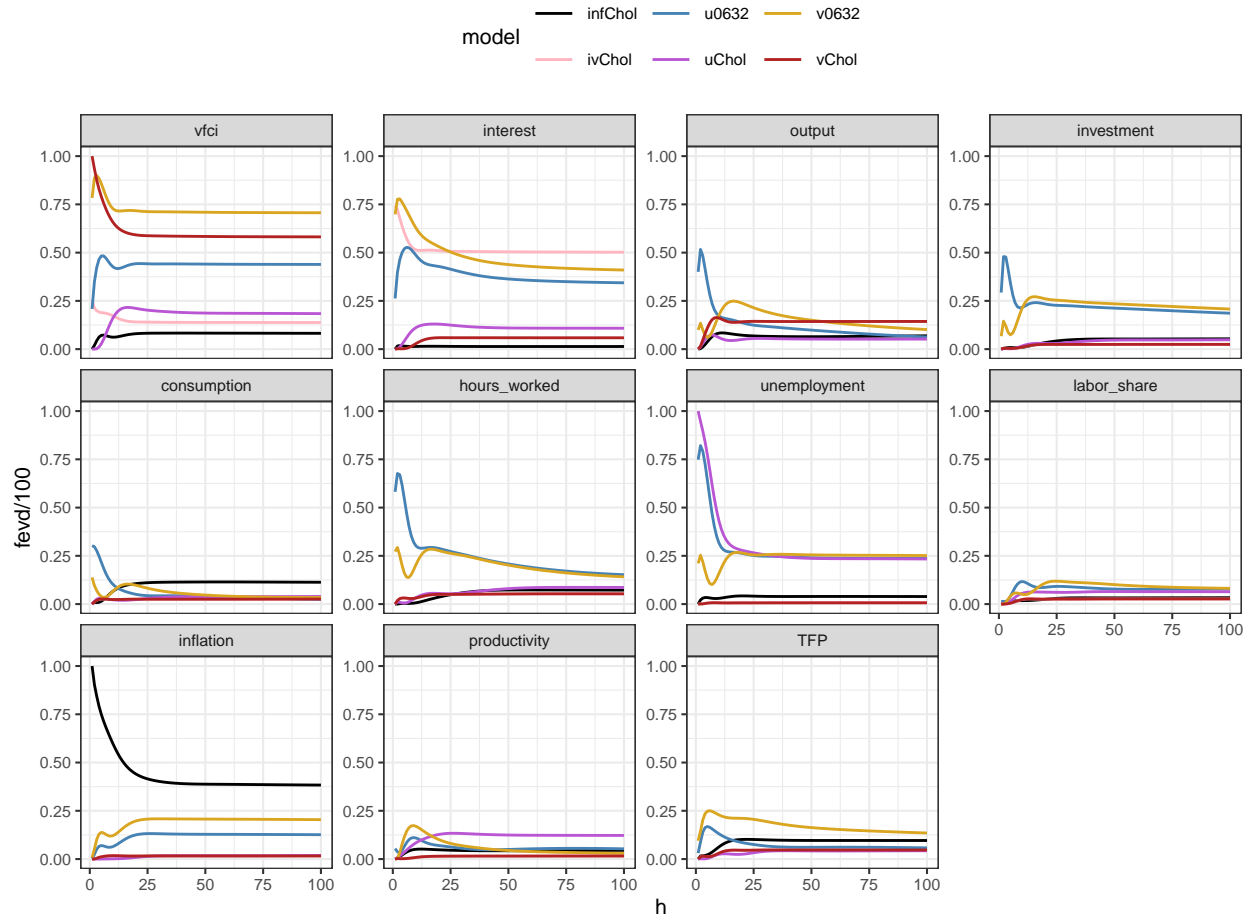Figure 3: IRF Frequency Domain ($<= 2$ pi $/6$)
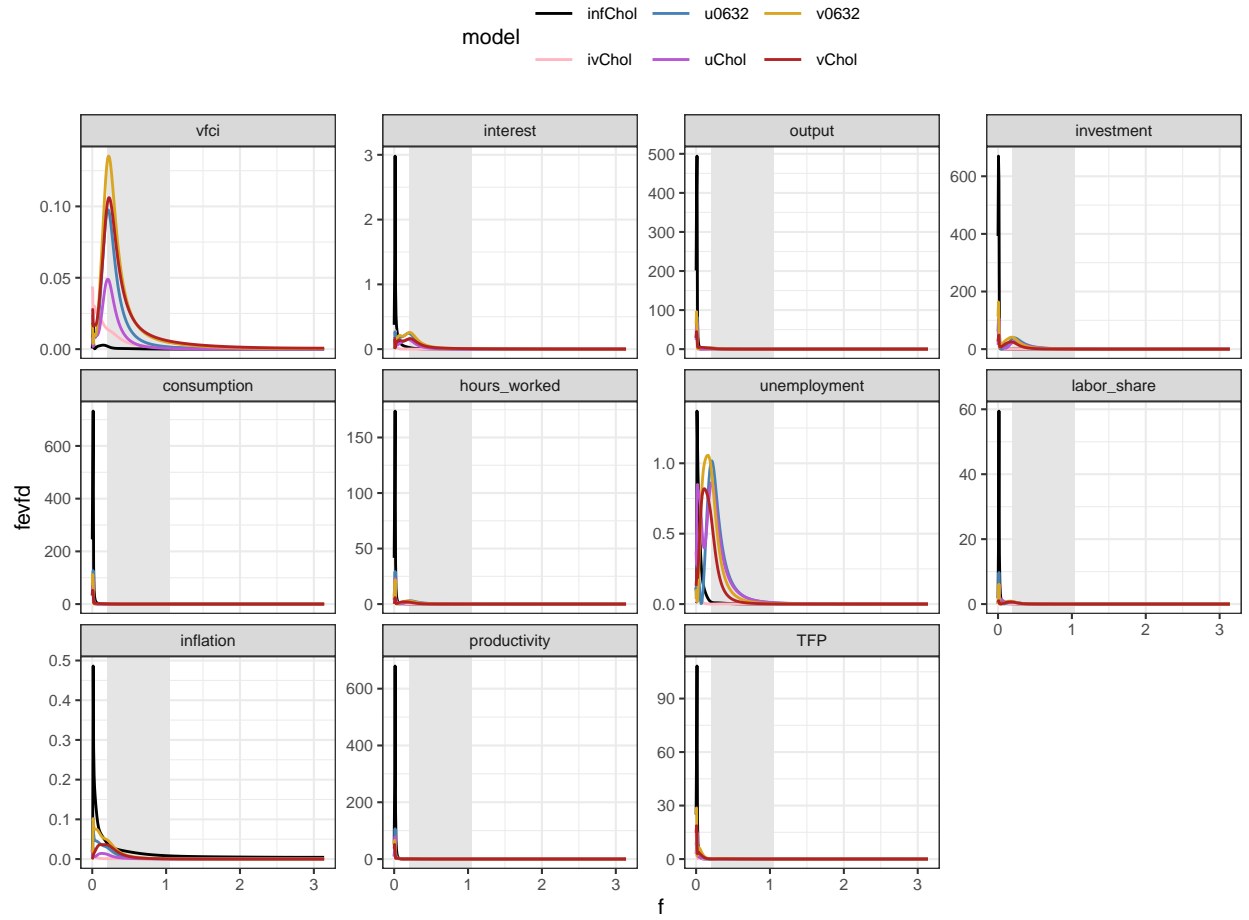
3

Figure 4: FEVDFD

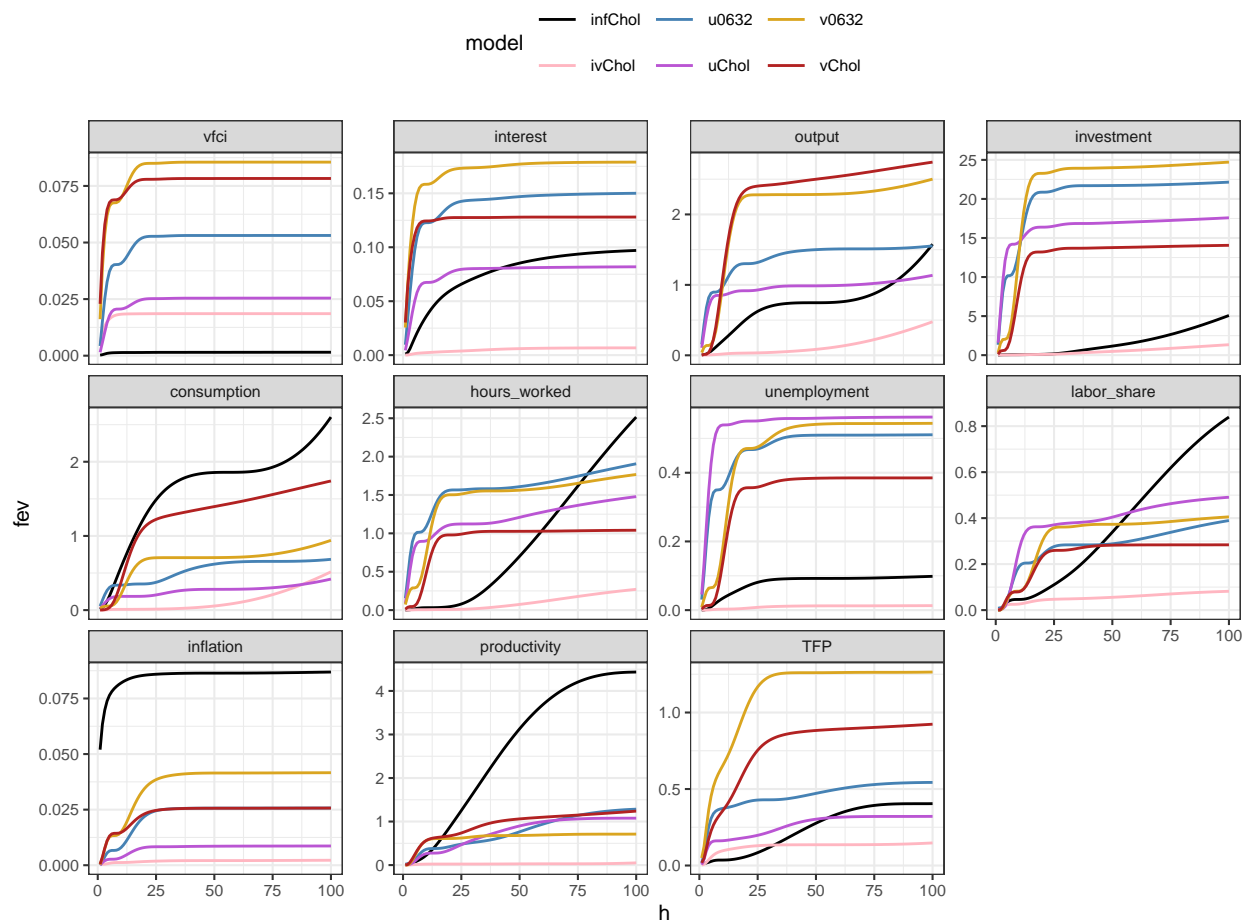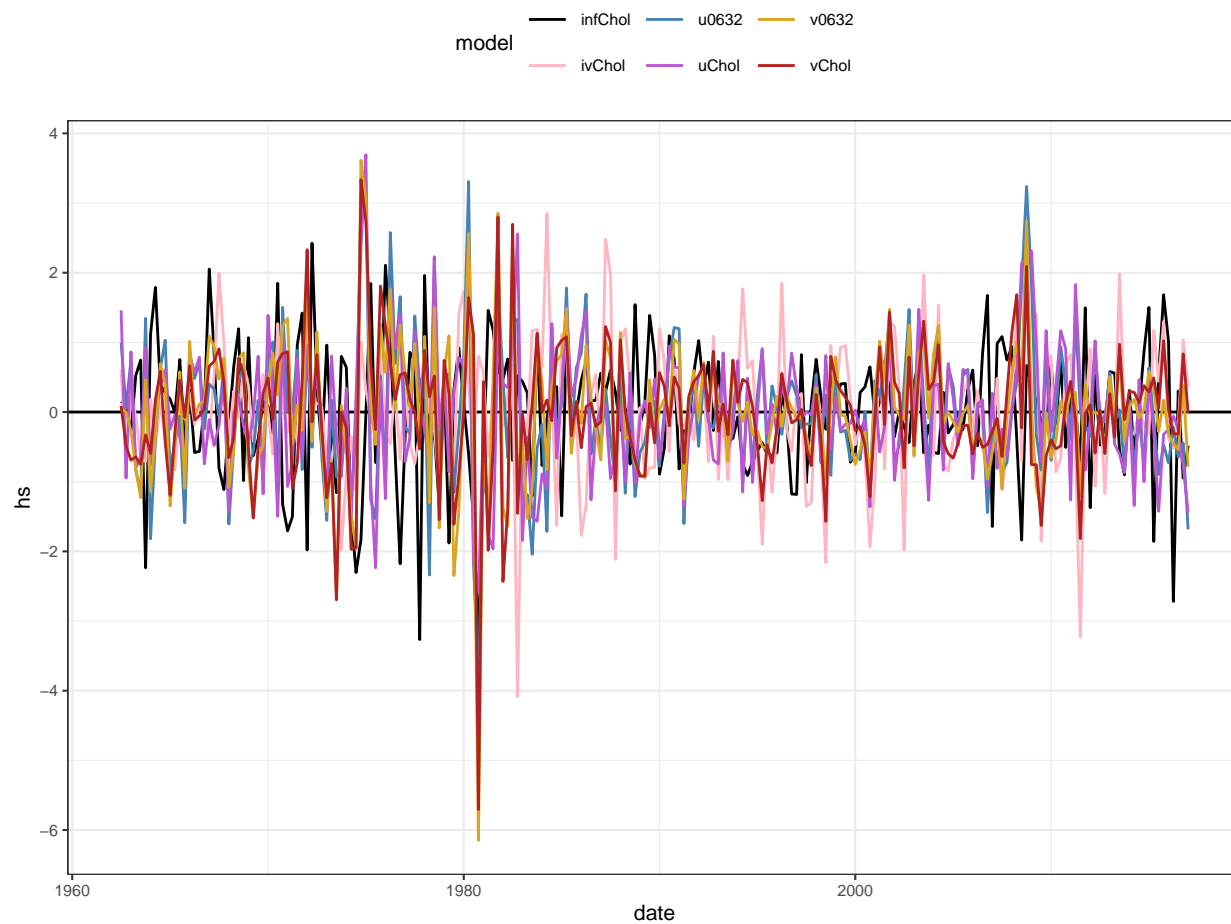Figure 5: FEVD

5

Figure 6: FEV FD

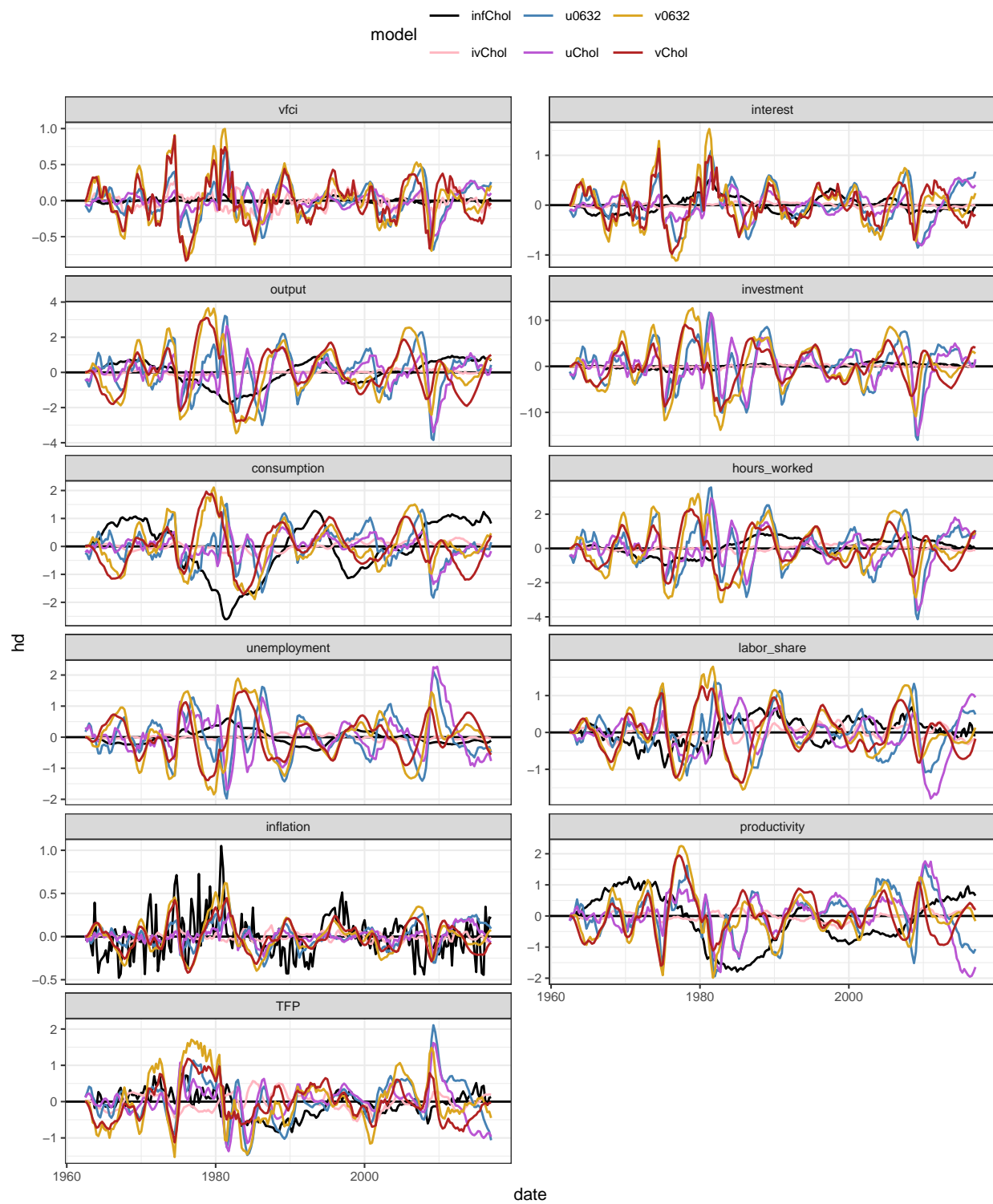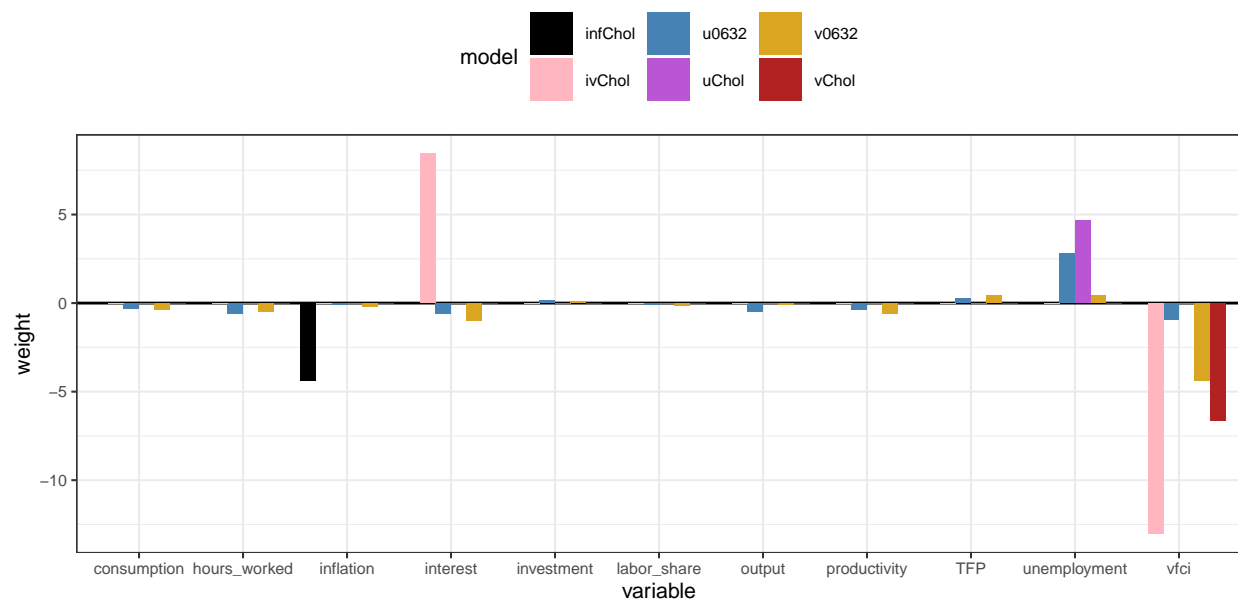Figure 7: FEV

Figure 8: Historical Shocks

Figure 9: Historical Shocks

Figure 10: B Weights (Empirical Shocks)