

Historical Shock Contributions

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Fit Models

```
vfciBCdata <- fread(here("./data/vfciBC_data.csv")) |>
  filter(date <= as.Date("2017-01-01"))

vfciBCdata <- vfciBCdata[, .(date, output, investment, consumption, hours_worked,
  unemployment, labor_share, interest, inflation, productivity, TFP, vfci)]

## Target the BC frequency and unemployment variable
bc_freqs <- c(2 * pi / 32, 2 * pi / 6)
p = 2

## Fit the VAR
v <- VAR(vfciBCdata[, -"date"], p = p, type = "const")

mv_vfci <- id_fevdfd(v, "vfci", bc_freqs)
mv_u <- id_fevdfd(v, "unemployment", bc_freqs)
```

Run Historical decomposition

```
hd_vfci <- hd(mv_vfci)$hd |> setDT() |>
  mutate(date = rep(vfciBCdata$date[-c(1:p)], mv_vfci$K * mv_vfci$K)) |>
  mutate(model = "vfci")

hd_u <- hd(mv_u)$hd |> setDT() |>
  mutate(date = rep(vfciBCdata$date[-c(1:p)], mv_u$K * mv_u$K)) |>
  mutate(model = "u")
```

Run Historical Shocks

```
hs_vfci <- hs(mv_vfci, cumulative = TRUE)$hs |> setDT() |>
  mutate(date = rep(vfciBCdata$date[-c(1:p)], mv_vfci$K)) |>
  mutate(model = "vfci")

hs_u <- hs(mv_u, cumulative = TRUE)$hs |> setDT() |>
  mutate(date = rep(vfciBCdata$date[-c(1:p)], mv_u$K)) |>
  mutate(model = "u")
```

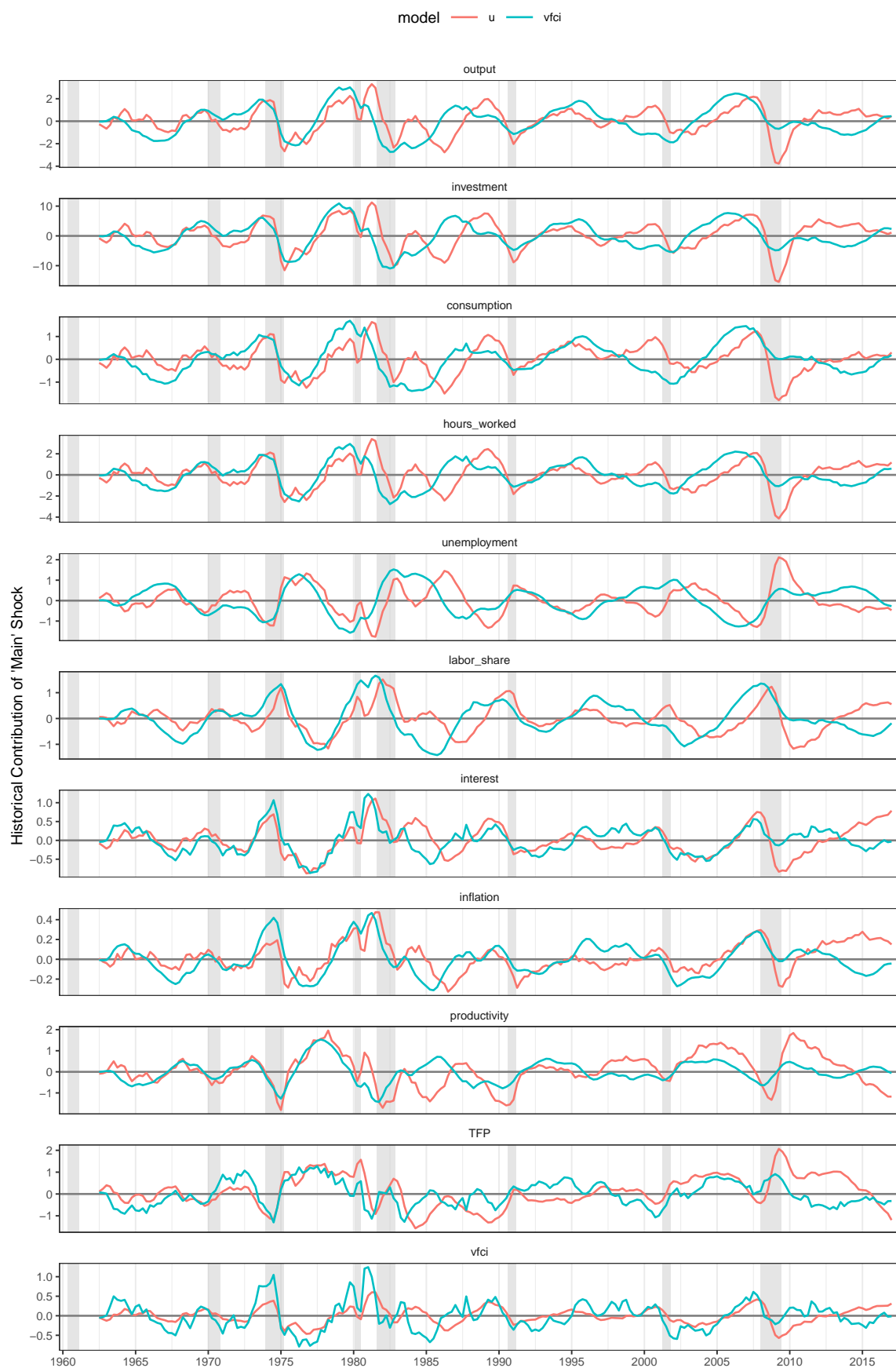


Figure 1: Historical Contribution of Main Shock

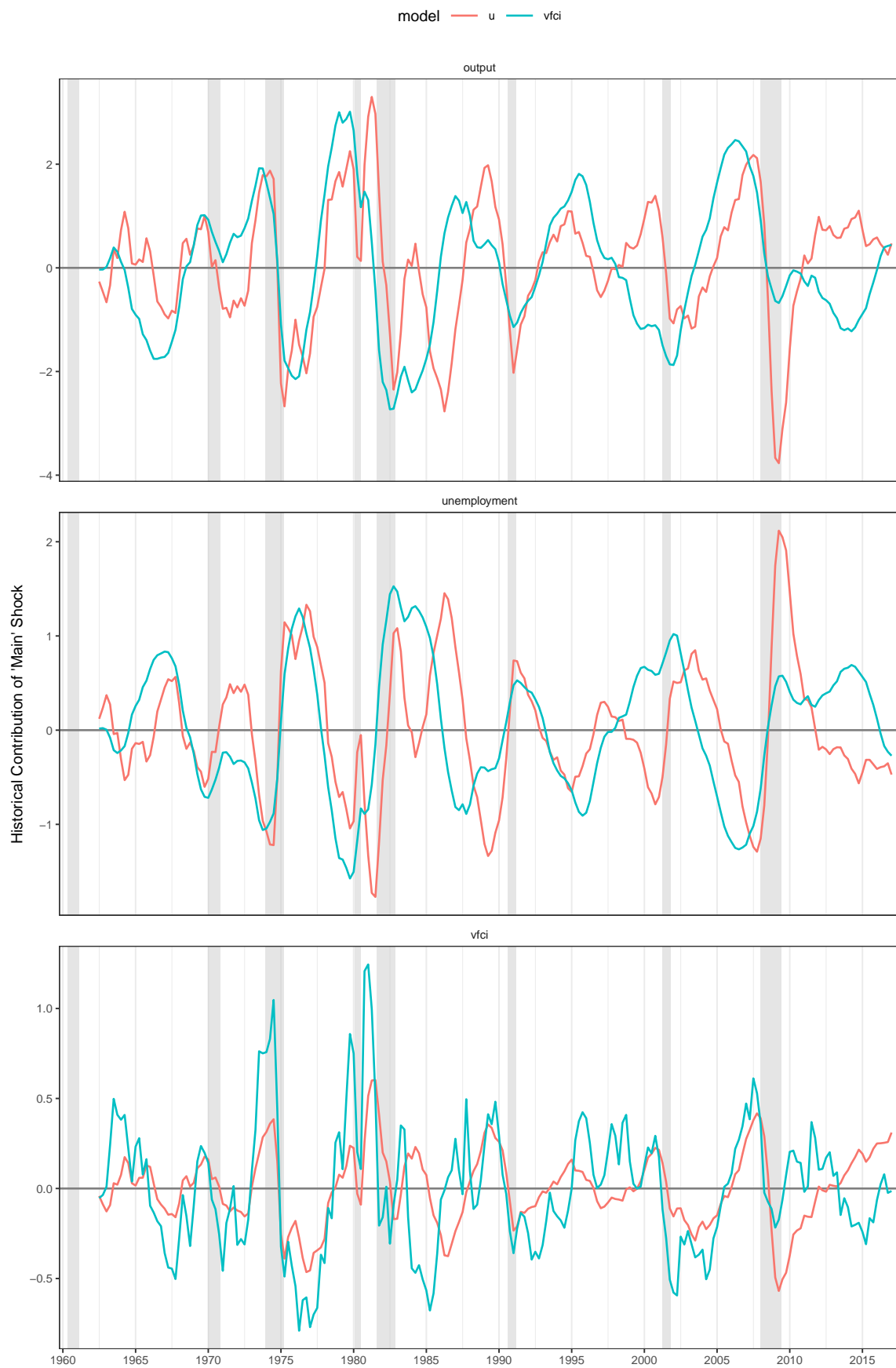


Figure 2: Historical Contribution of Main Shock, select responses

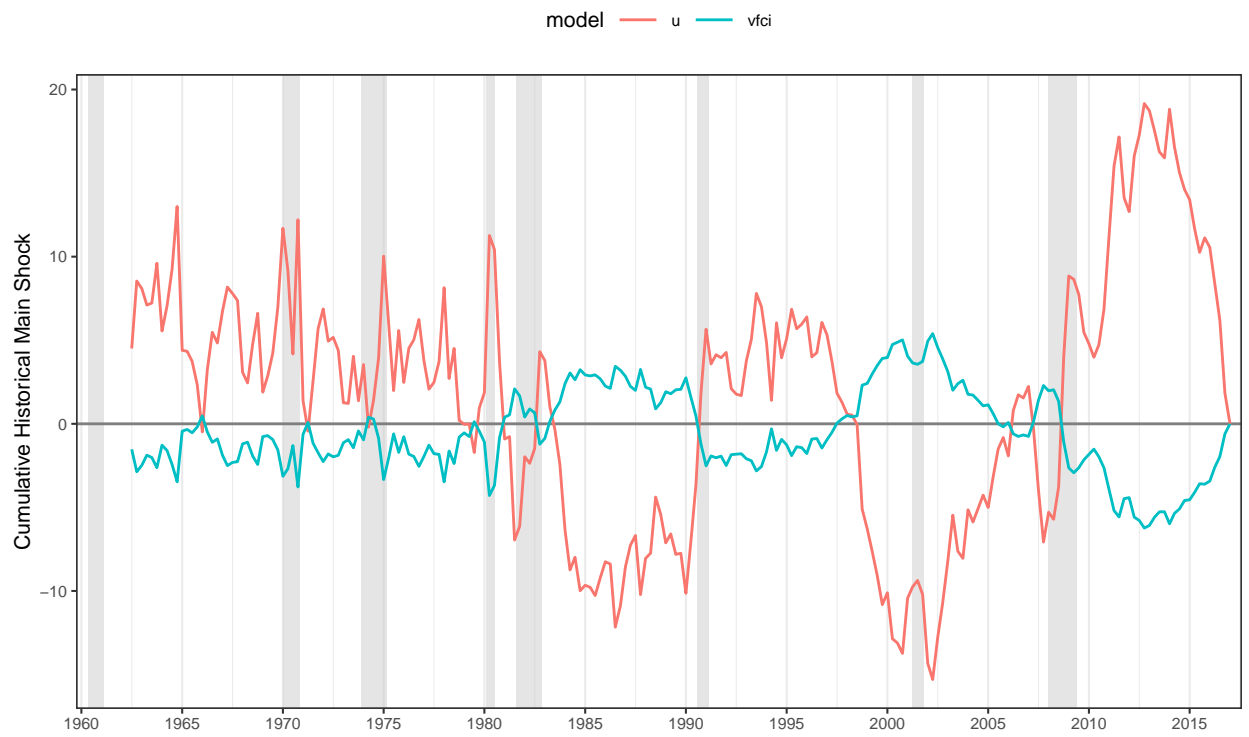


Figure 3: Cumulative Historical Main Shock