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 umemployment 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, sign = "neg")
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")
```

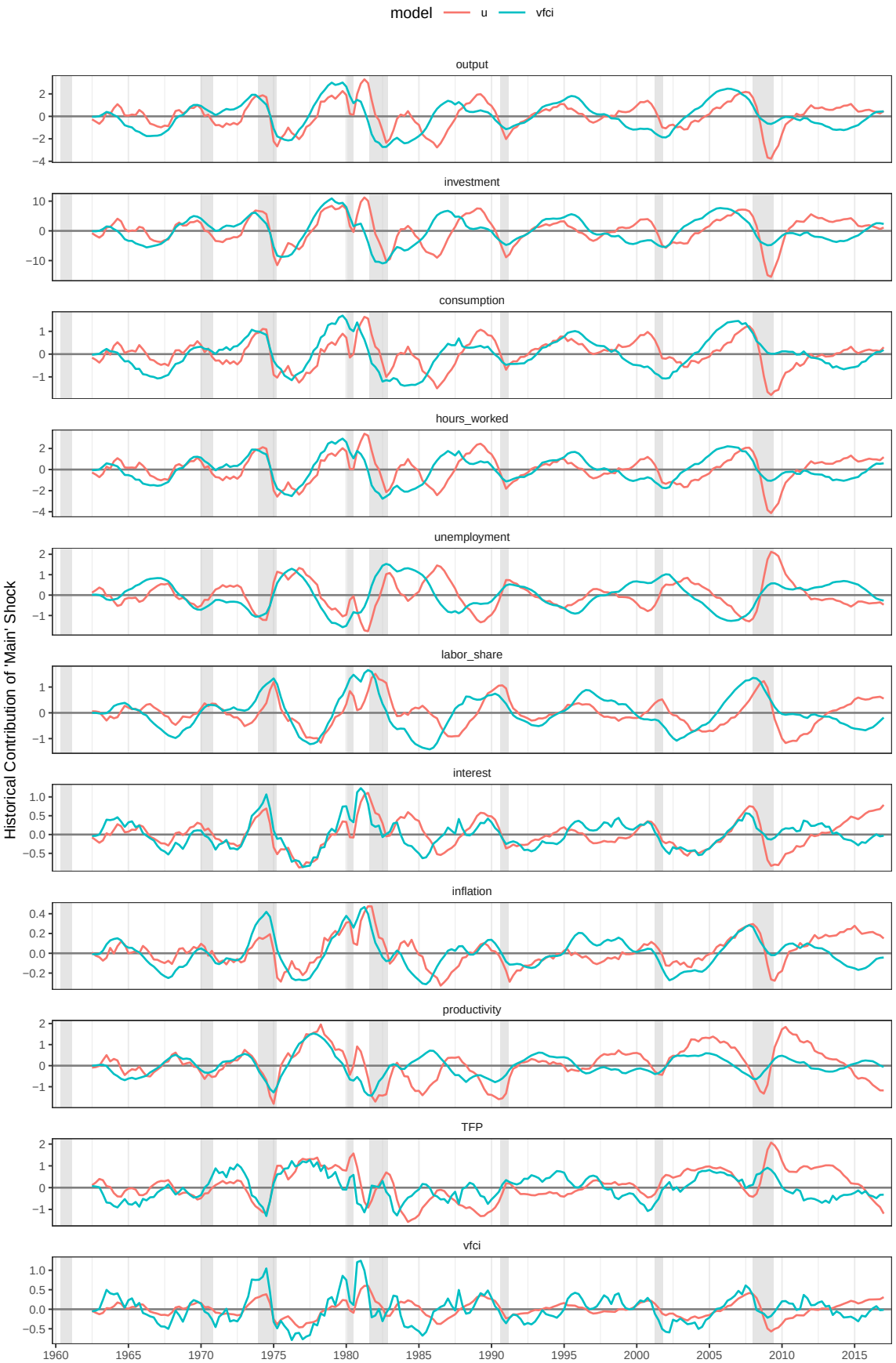

Figure 1: Historical Contribution of Main Shock

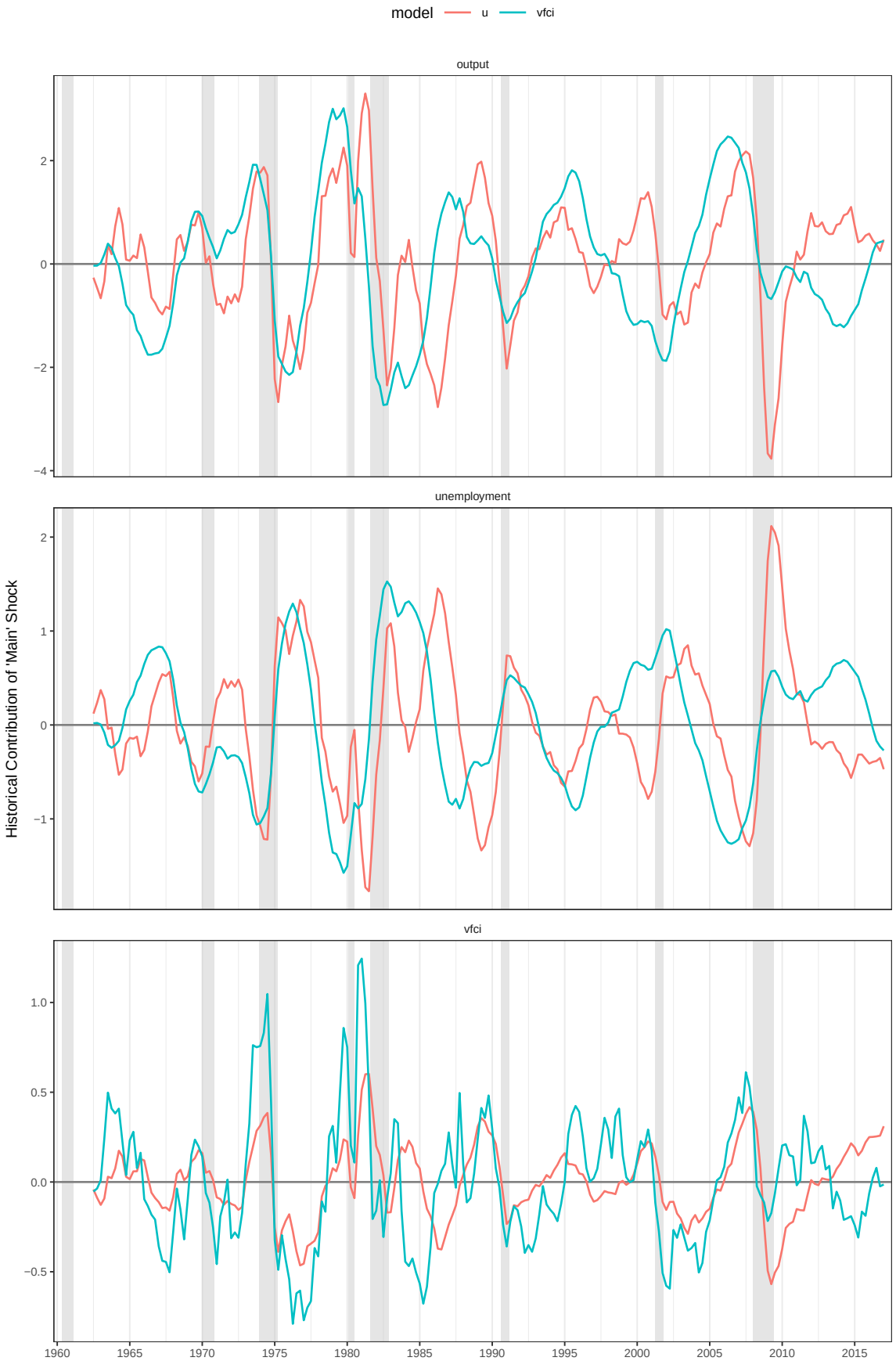

Figure 2: Historical Contribution of Main Shock, select responses

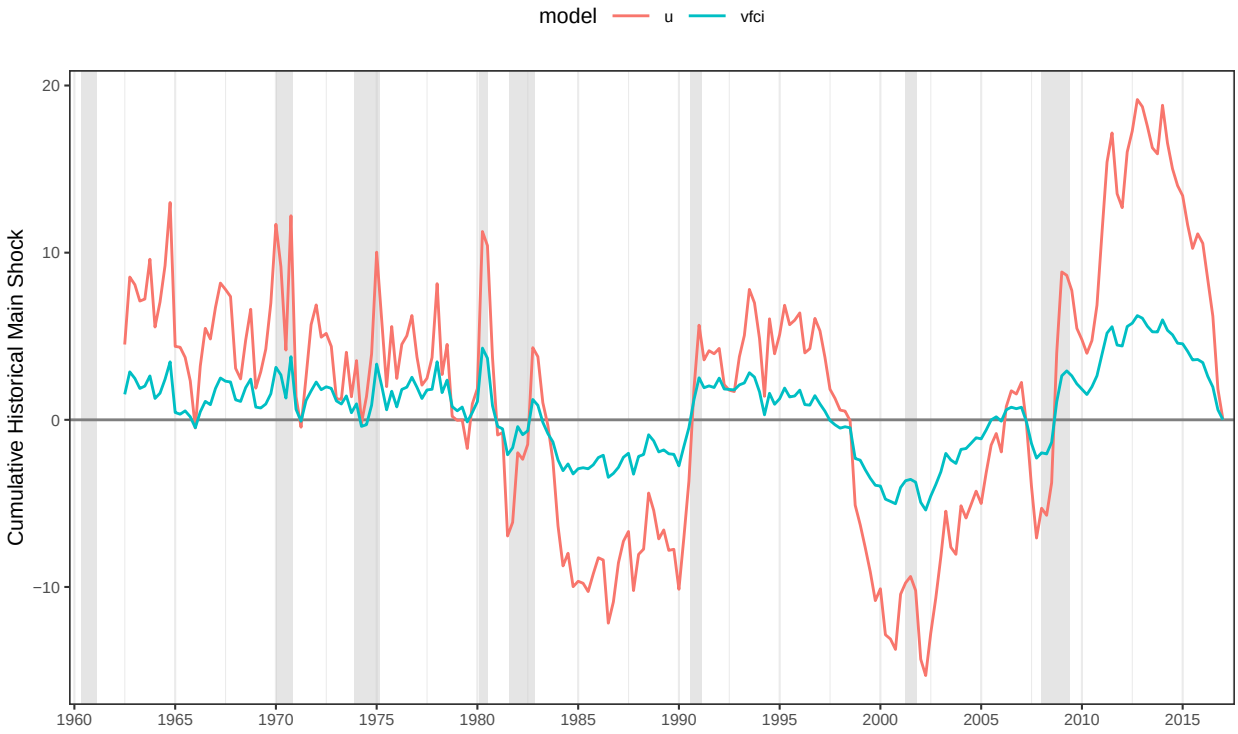

Figure 3: Cumulative Historical Main Shock