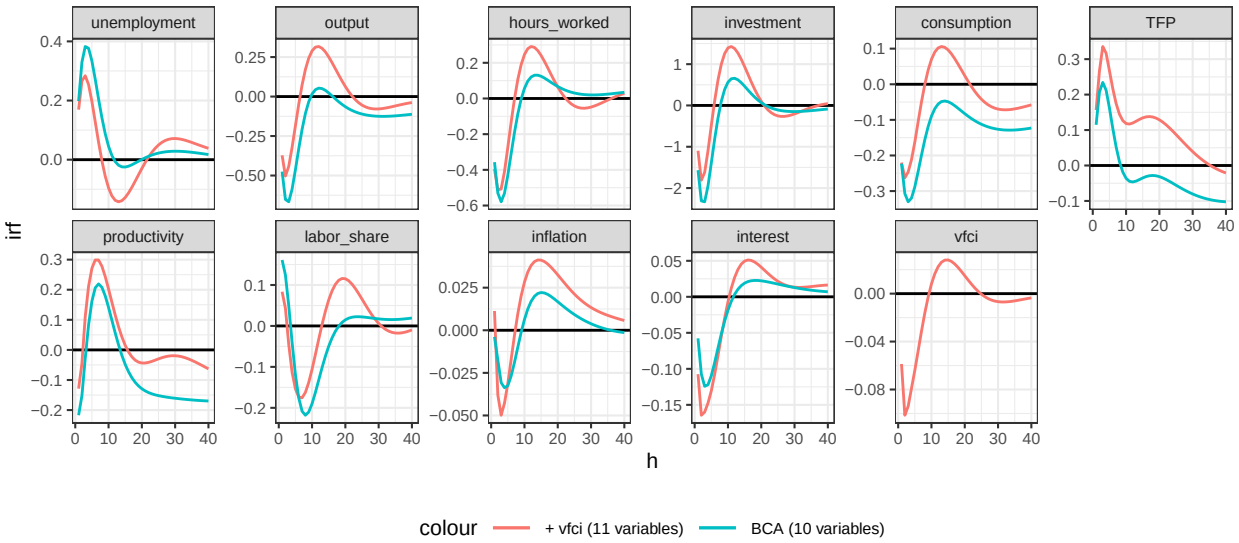
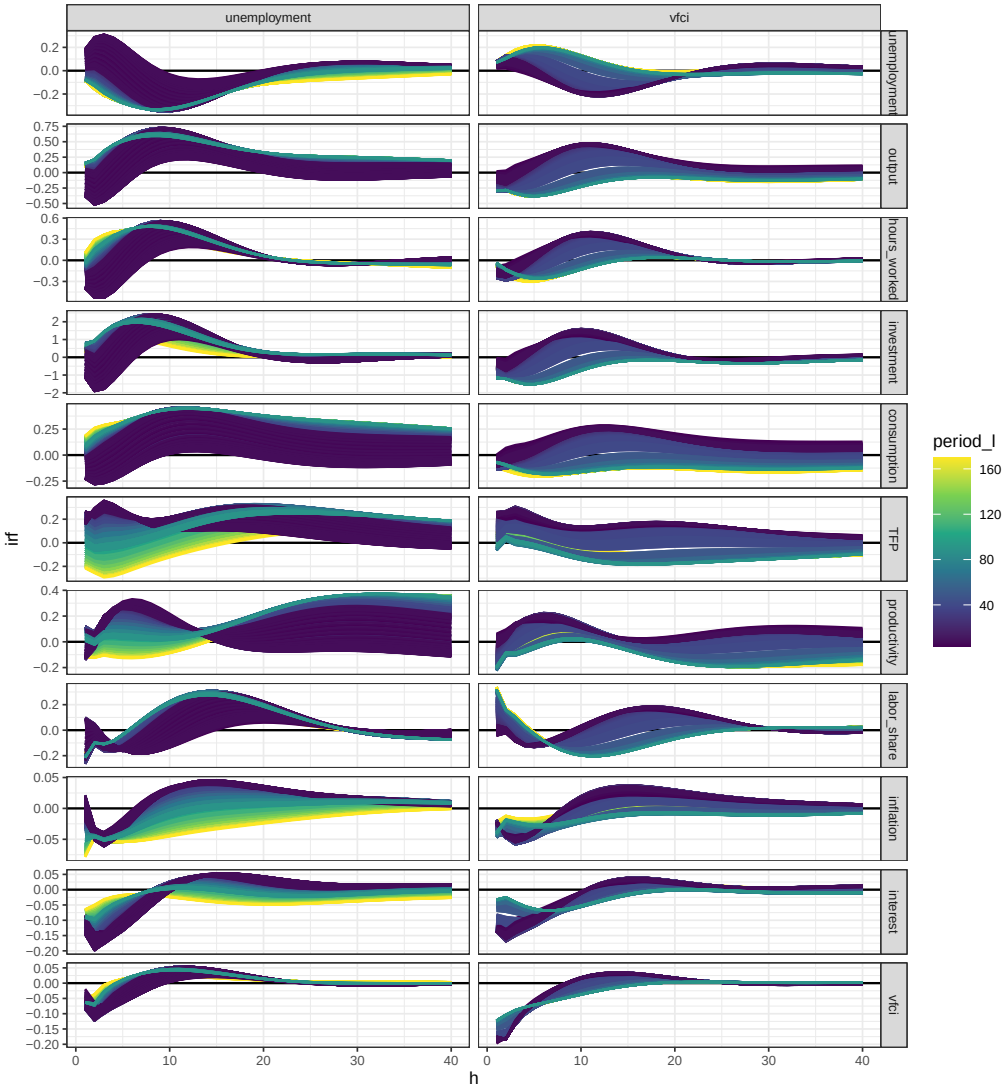
VFCI Business Cycle VAR IRFs



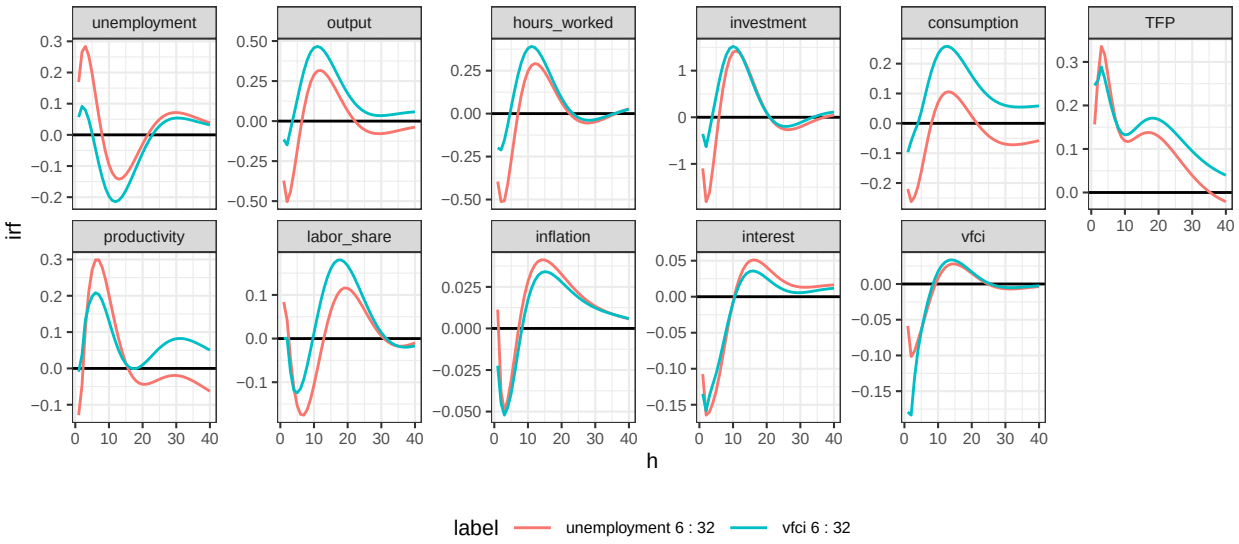
All iterations



Showing the IRFS of targetting unemployment and VFCI at the business cycle frequencies.

```
rmse[u_sign == "pos" & u_period_l == 6 & u_period_h == 32][vfci_sign == "neg" & vfci_period_l == 6 & vf
```

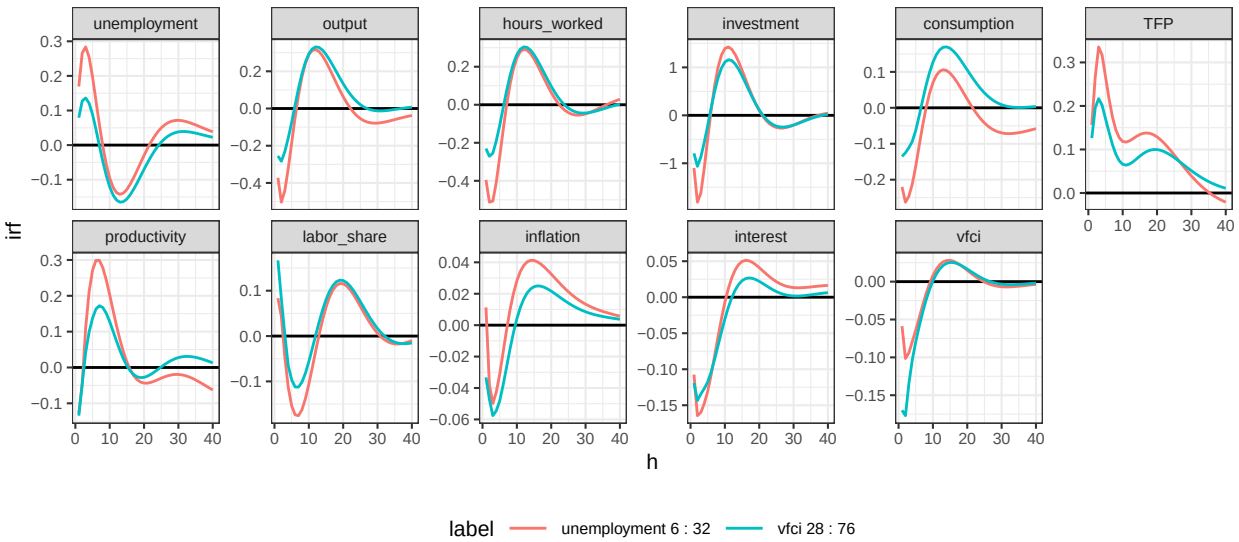
```
##    u_sign vfci_sign u_period_h u_period_l vfci_period_l vfci_period_h      rmse     u_rmse
## 1:    pos       neg         32          6             6            32 0.1558033 0.08589171
```



Picking the VFCI Iteration that most closely matches the Main Business Cycle shock across all impulse responses (target: unemployment, 6 - 32 q).

```
rmse[u_sign == "pos" & u_period_l == 6 & u_period_h == 32][rmse == min(rmse)]
```

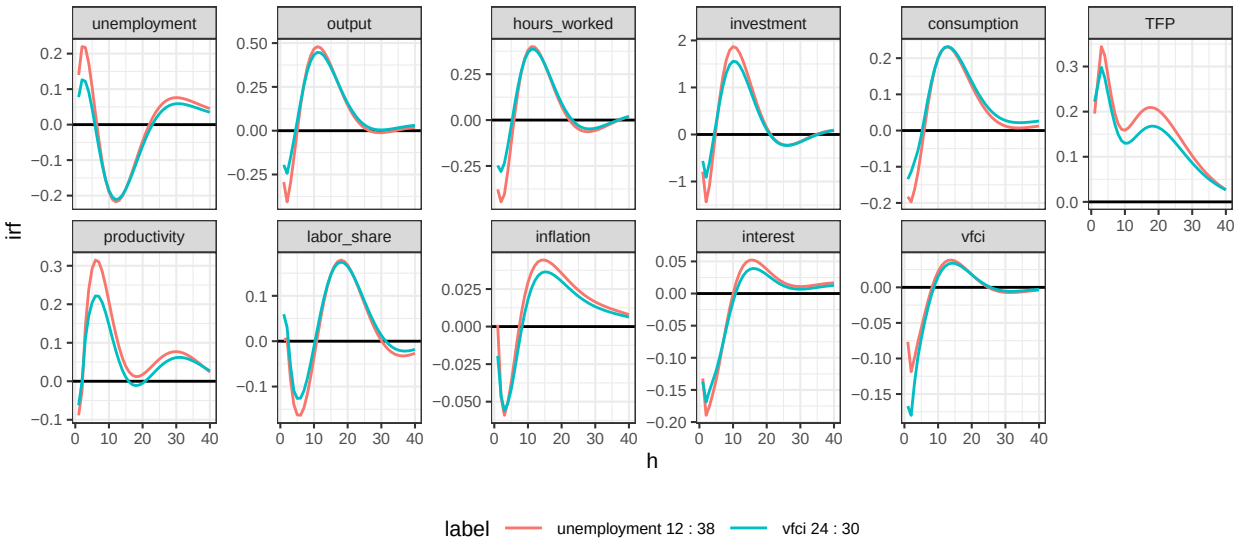
```
##    u_sign vfci_sign u_period_h u_period_l vfci_period_l vfci_period_h      rmse     u_rmse
## 1:    pos       neg         32          6            28            76 0.08583377 0.05545583
```



Picking the two iterations of VFCI and Unemployment that are most closely similar across all responses.

```
rmse[rmse == min(rmse)]
```

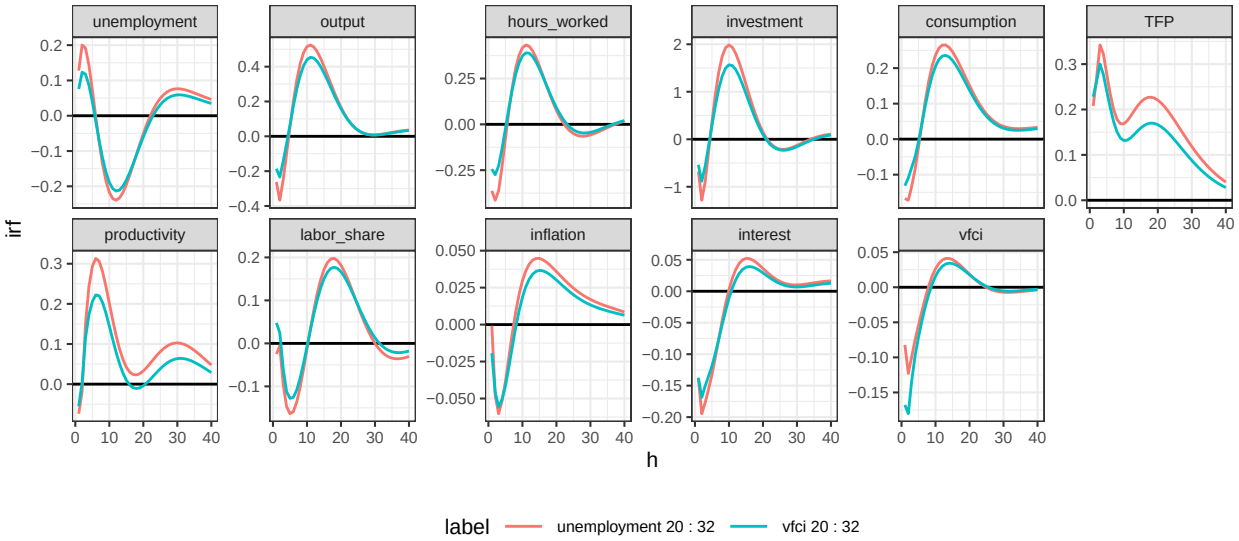
```
##    u_sign vfci_sign u_period_h u_period_l vfci_period_l vfci_period_h       rmse   u_rmse
## 1:    neg       pos         38         12           24           30 0.06190465 0.031498
## 2:    pos       neg         38         12           24           30 0.06190465 0.031498
```



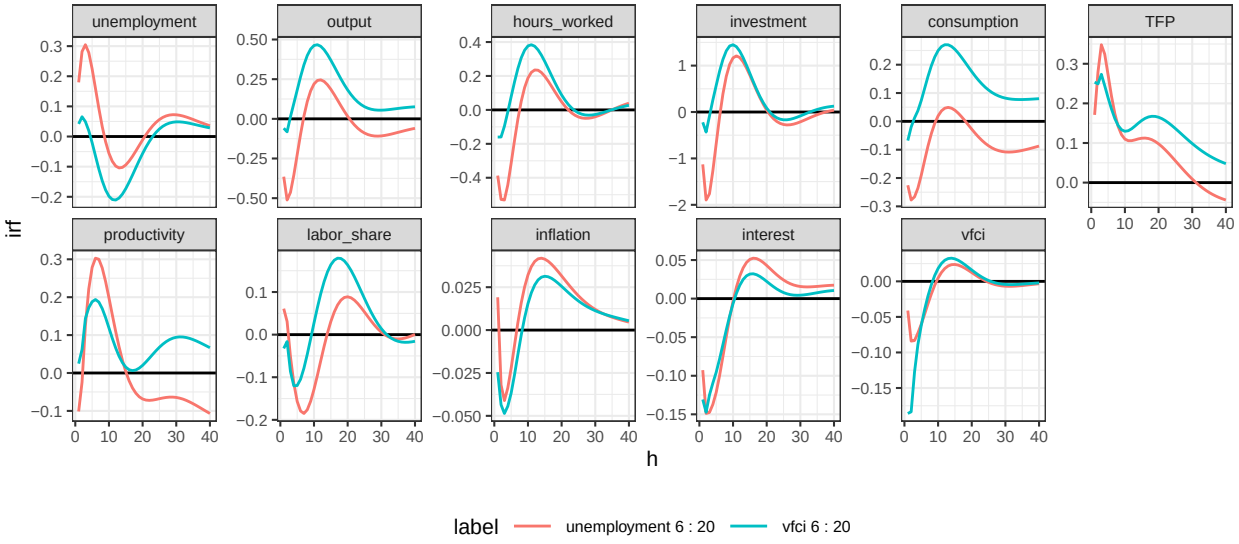
Picking the two iterations of VFCI and unemployment that are the most closely similar across all responses and have the same target period.

```
rmse[u_period_l == vfci_period_l & u_period_h == vfci_period_h][rmse == min(rmse)]
```

```
##    u_sign vfci_sign u_period_h u_period_l vfci_period_l vfci_period_h       rmse     u_rmse
## 1:    neg       pos         32         20           20           32 0.06606771 0.02635011
## 2:    pos       neg         32         20           20           32 0.06606771 0.02635011
```



What does targetting the other half of the business cycle requency look like?

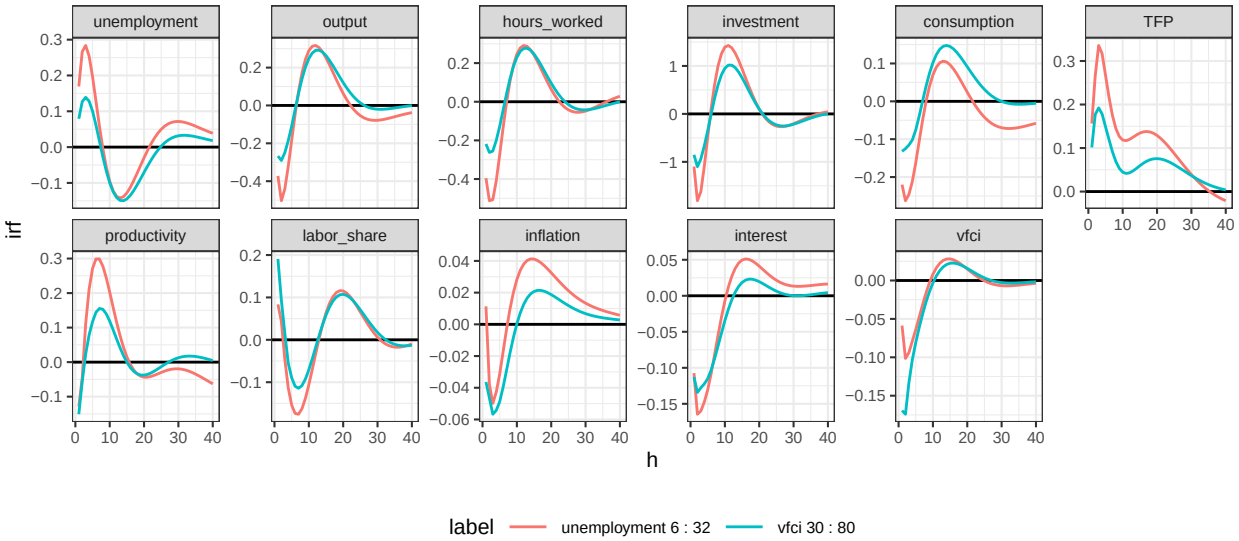


Targetting Unemployment IRF

Picking the VFCI Iteration that most closely matches the Main Business Cycle shock for just the unemployment impulse responses (target: unemployment, 6 - 32 q).

```
rmse[u_sign == "pos" & u_period_l == 6 & u_period_h == 32][u_rmse == min(u_rmse)]
```

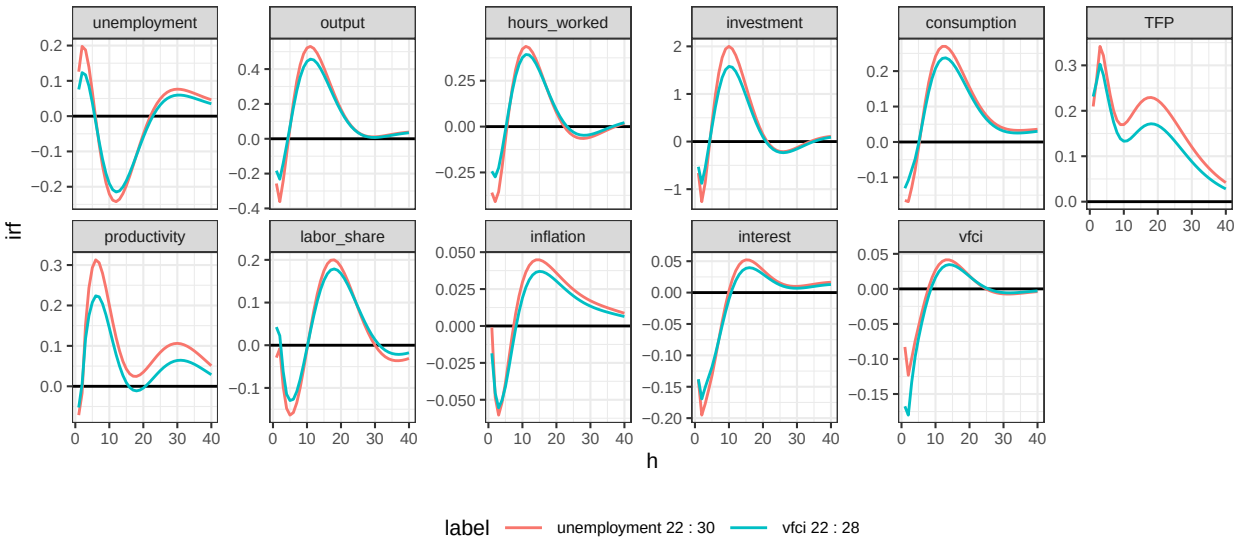
```
##    u_sign vfci_sign u_period_h u_period_l vfci_period_l vfci_period_h      rmse     u_rmse
## 1:    pos       neg         32          6            30            80 0.09003276 0.05364601
```



Picking the two iterations of VFCI and Unemployment that are most closely similar for the unemployment irf.

```
rmse[u_rmse == min(u_rmse)]
```

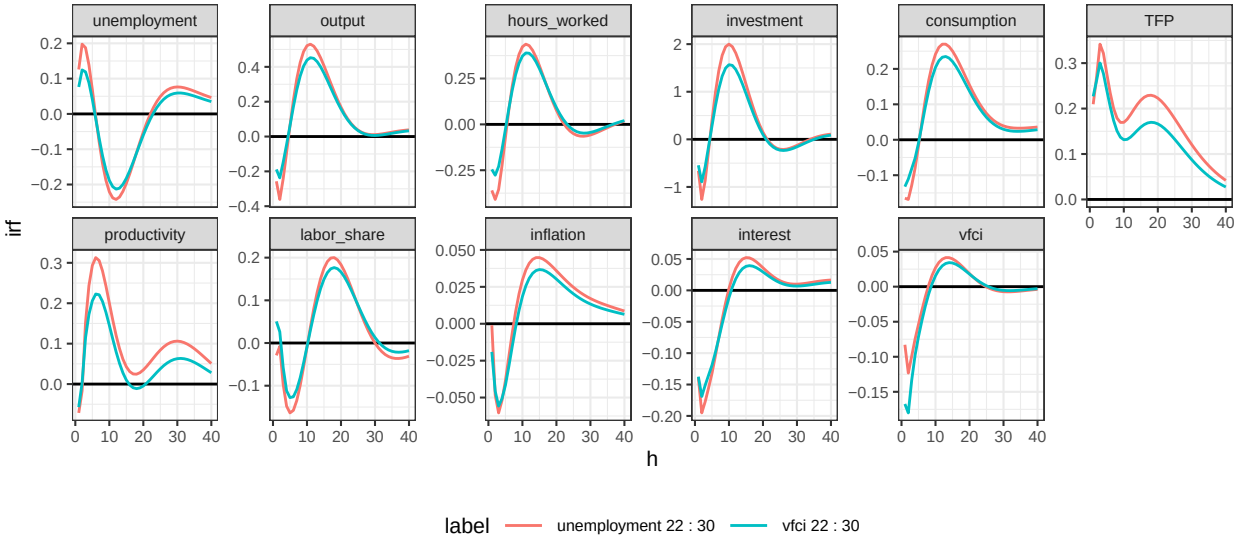
```
##    u_sign vfci_sign u_period_h u_period_l vfci_period_l vfci_period_h      rmse     u_rmse
## 1:    neg       pos         30         22            22            28 0.06608444 0.02566808
## 2:    pos       neg         30         22            22            28 0.06608444 0.02566808
```



Picking the two iterations of VFCI and unemployment that are the most closely similar for unemployment and have the same target period. Exact same frequency as before.

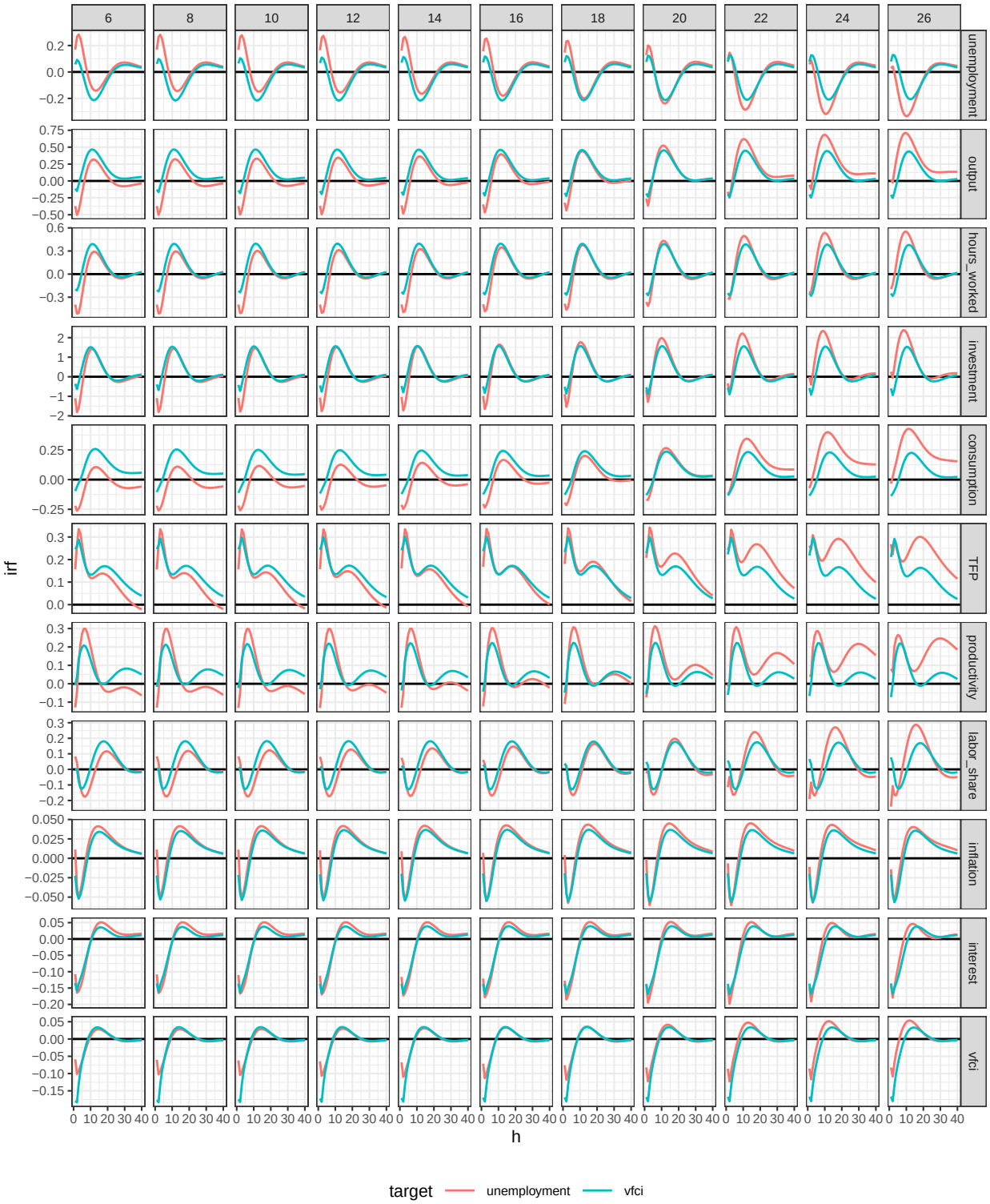
```
rmse[u_period_l == vfci_period_l & u_period_h == vfci_period_h][u_rmse == min(u_rmse)]
```

```
##    u_sign vfci_sign u_period_h u_period_l vfci_period_l vfci_period_h      rmse     u_rmse
## 1:    neg       pos         30         22            22            30 0.0670982 0.02570067
## 2:    pos       neg         30         22            22            30 0.0670982 0.02570067
```



Splitting the Business Cycle frequency

Hold the high period target constant at 32 quarters, let the low end vary, compare targetting VFCI or unemployment. The two IRFs noticeably converge at 22q for the low period. Note that the VFCI IRFs don't change much, but the unemployment targetting one does.



Hold the low period target constant at 6 quarters, let the high end vary, compare targetting VFCI or unemployment.