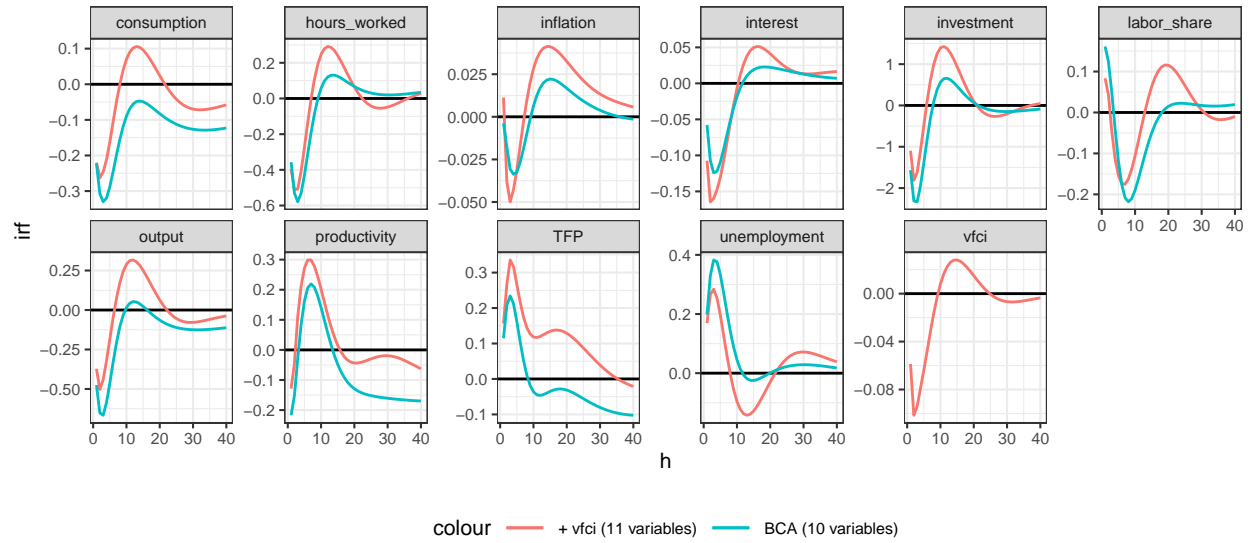
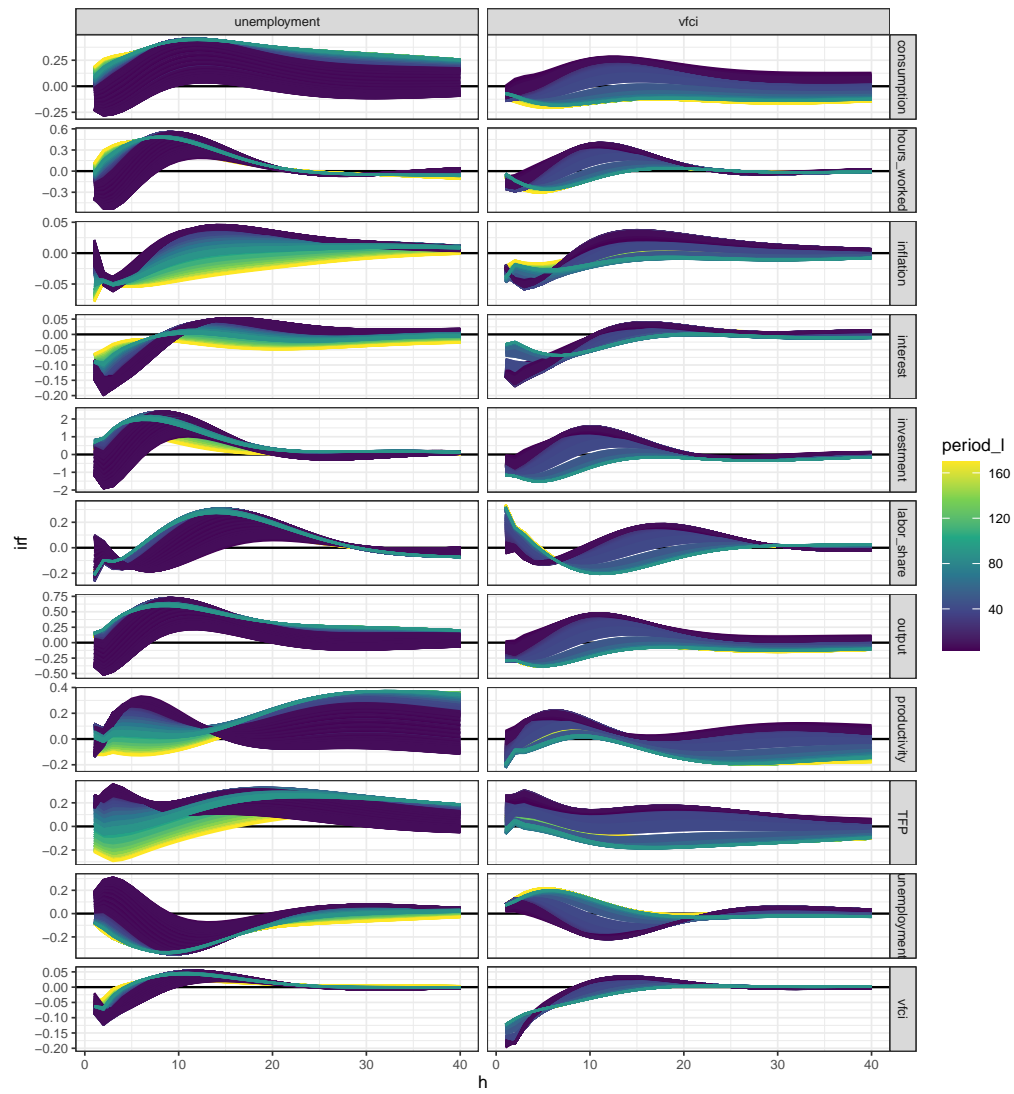


VFCI Business Cycle VAR IRFs



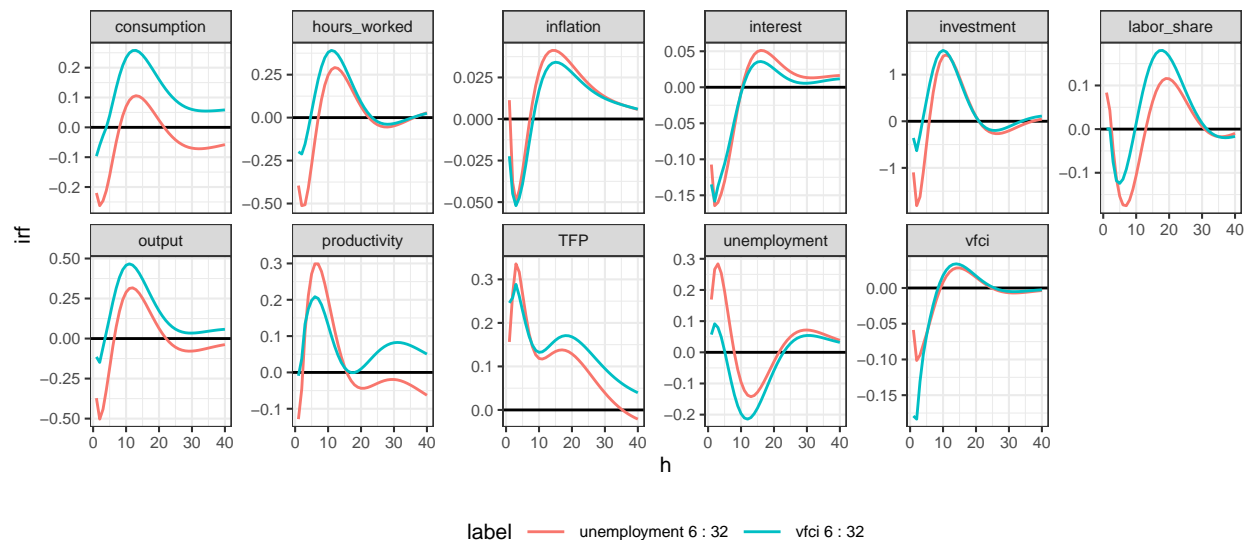
All iterations



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

```
rmse[u_sign == "pos" & u_period_l == 6 & u_period_h == 32][vfc_i_sign == "neg" & vfc_i_period_l == 6 & vfc_i_period_h == 32]
```

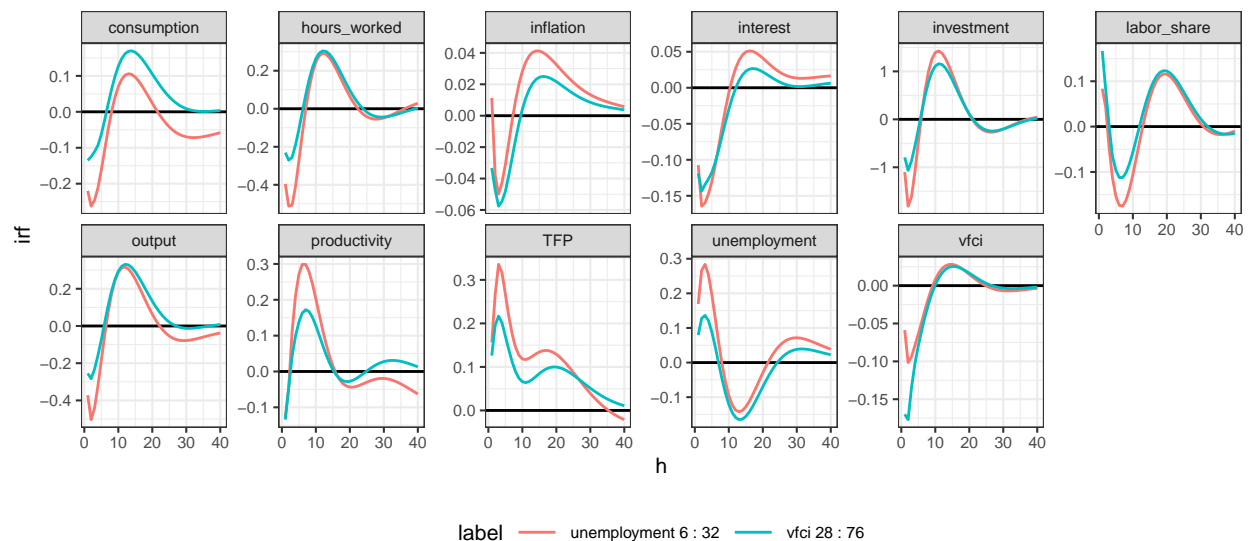
```
##      u_sign vfc_i_sign u_period_h u_period_l vfc_i_period_l vfc_i_period_h      rmse      u_rmse
## 1:      pos      neg      32         6         6         32 0.1558033 0.08589171
```



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)]
```

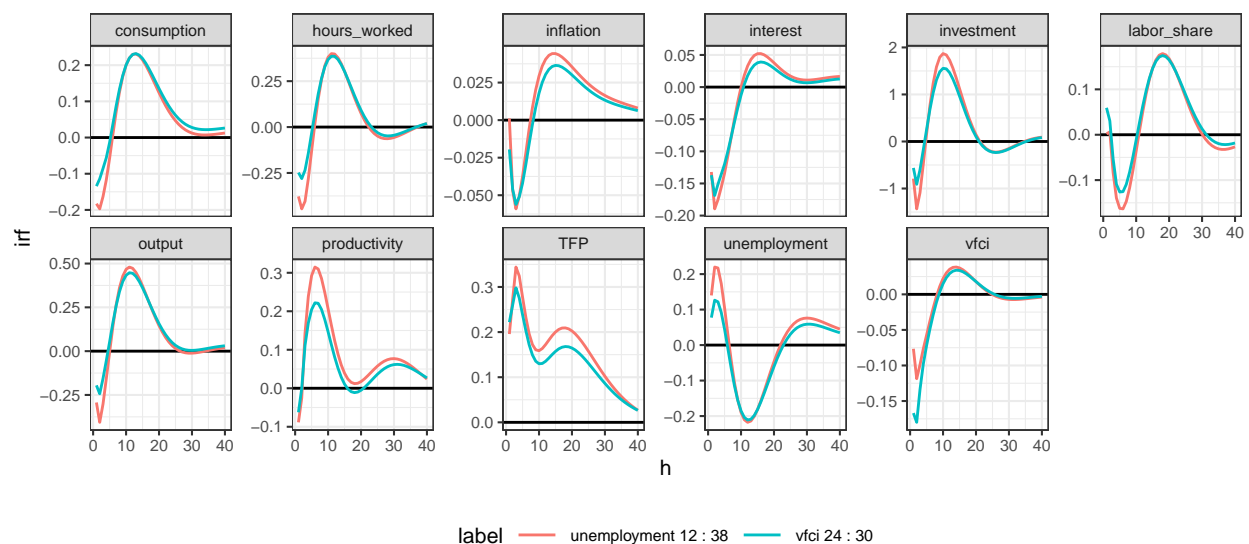
```
##      u_sign vfc_i_sign u_period_h u_period_l vfc_i_period_l vfc_i_period_h      rmse      u_rmse
## 1:      pos      neg      32         6         28         76 0.08583377 0.05545583
```



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

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

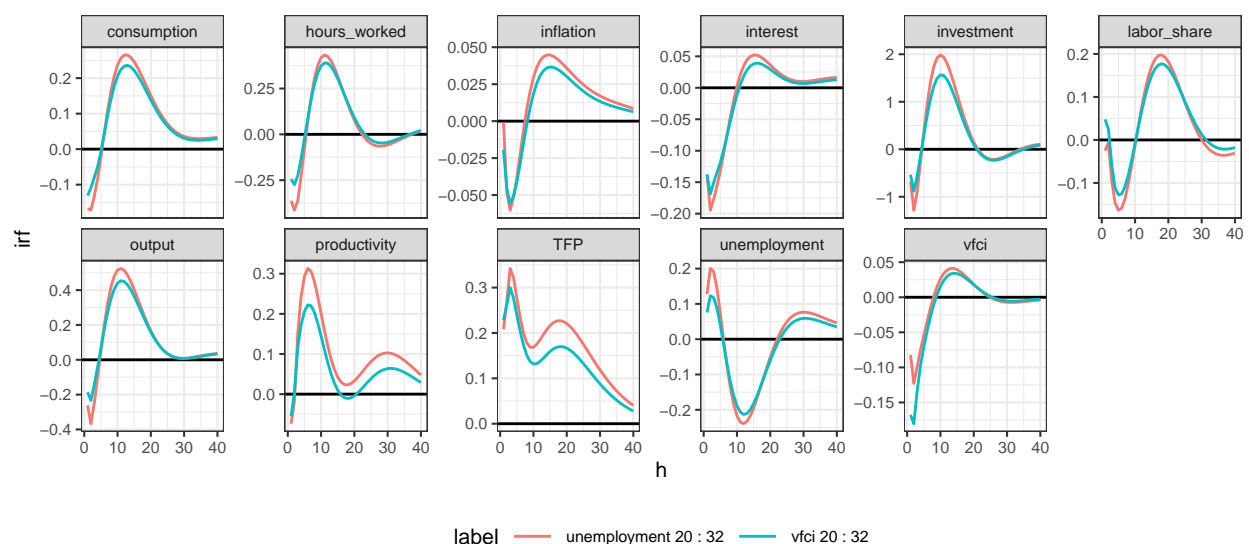
##	u_sign	vfc_i_sign	u_period_h	u_period_l	vfc_i_period_l	vfc_i_period_h	rmse	u_rmse
## 1:	neg	pos	38	12	24	30	0.06190465	0.031498
## 2:	pos	neg	38	12	24	30	0.06190465	0.031498



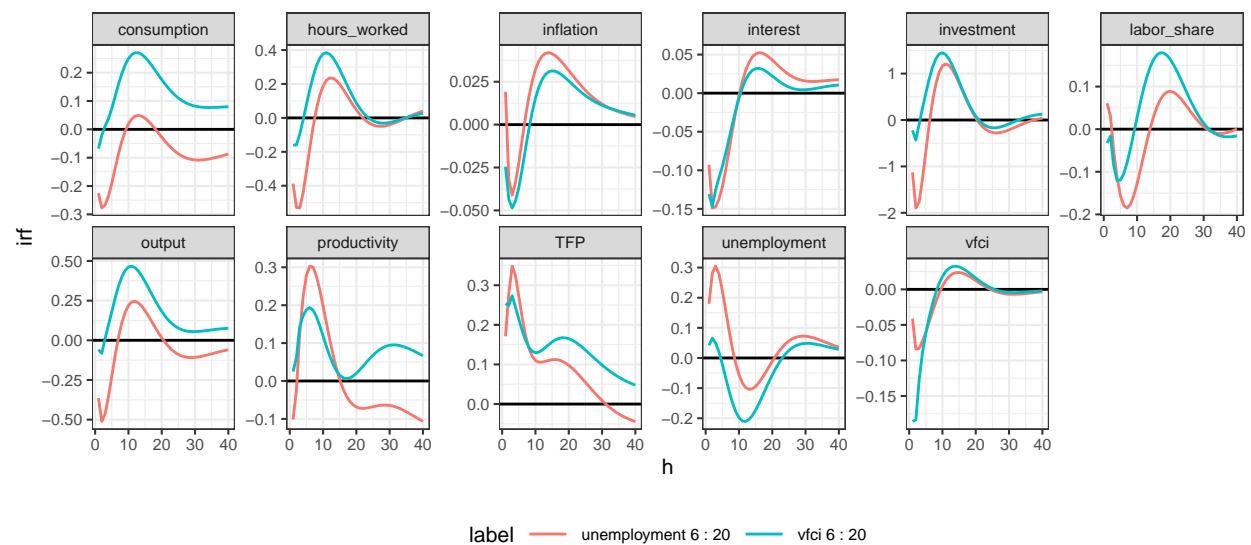
Picking the two iterations of VFCI and unemployment that are the most closely similar across all responses and have the same target period.

```
rmse[u_period_l == vfc_i_period_l & u_period_h == vfc_i_period_h][rmse == min(rmse)]
```

##	u_sign	vfc_i_sign	u_period_h	u_period_l	vfc_i_period_l	vfc_i_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 frequency look like?

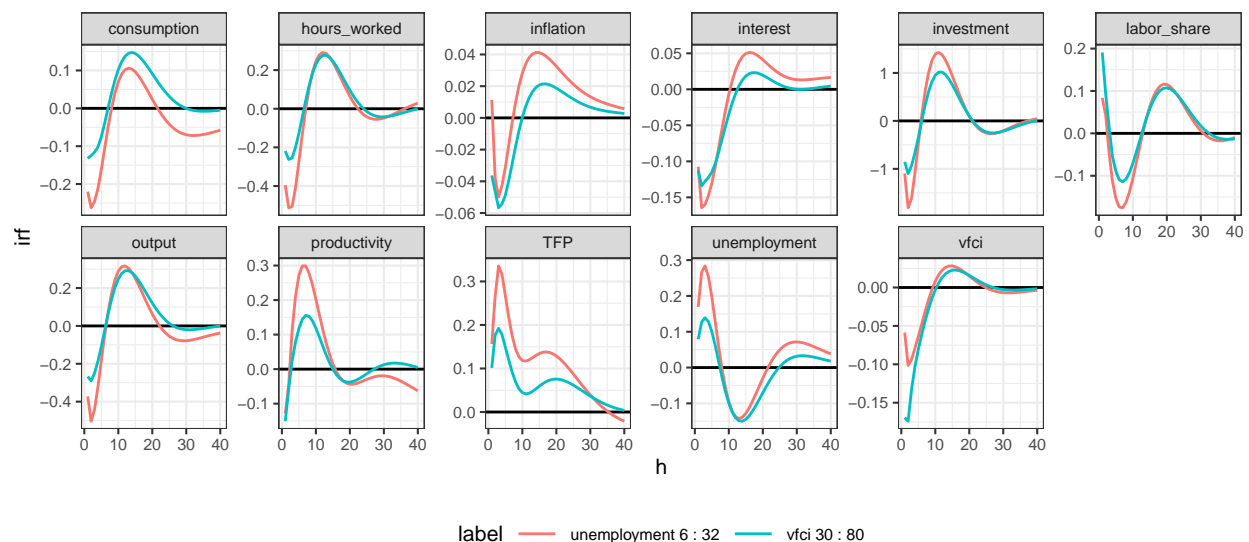


Targetting Unemployment IRF

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)]
```

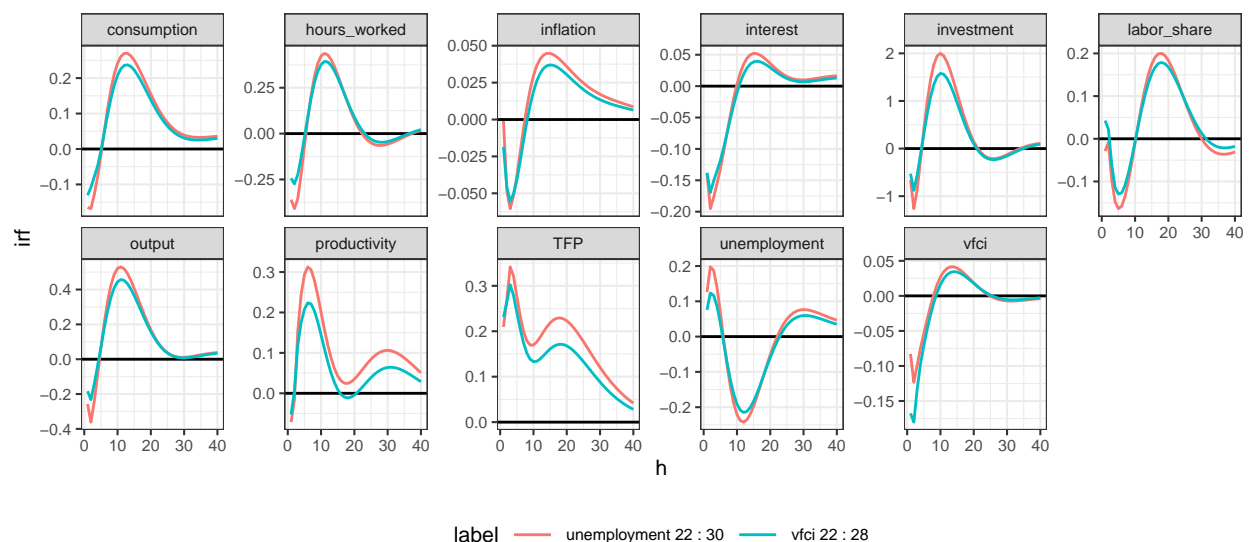
##	u_sign	vfci_sign	u_period_h	u_period_l	vfci_period_l	vfci_period_h	rmse	u_rmse
## 1:	pos	neg	32	6	30	80	0.09003276	0.05364601



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

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

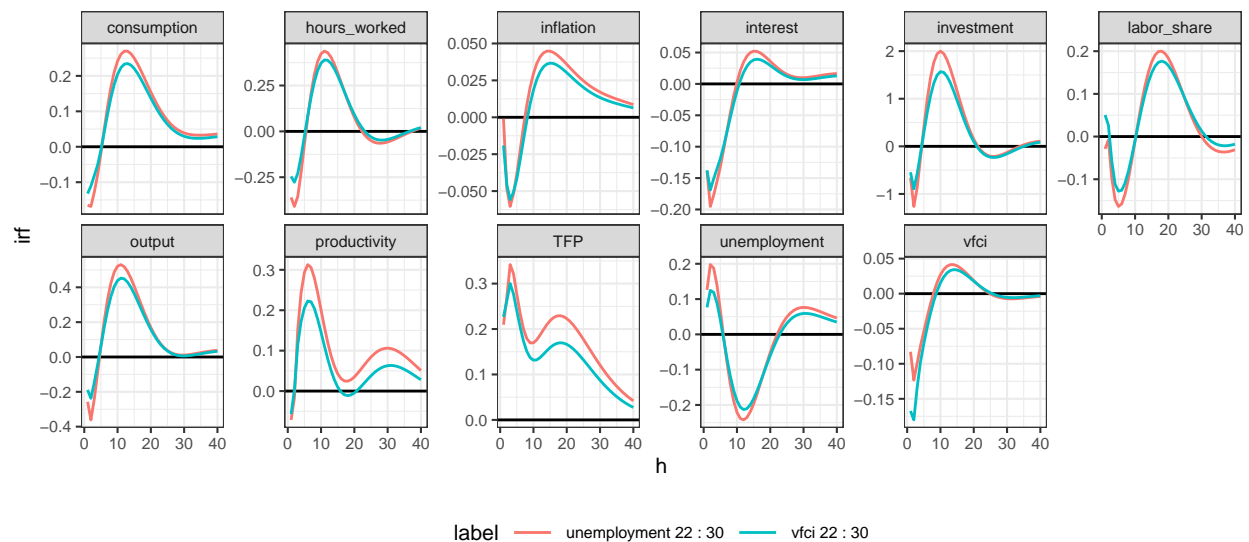
##	u_sign	vfci_sign	u_period_h	u_period_l	vfci_period_l	vfci_period_h	rmse	u_rmse
## 1:	neg	pos	30	22	22	28	0.06608444	0.02566808
## 2:	pos	neg	30	22	22	28	0.06608444	0.02566808



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.

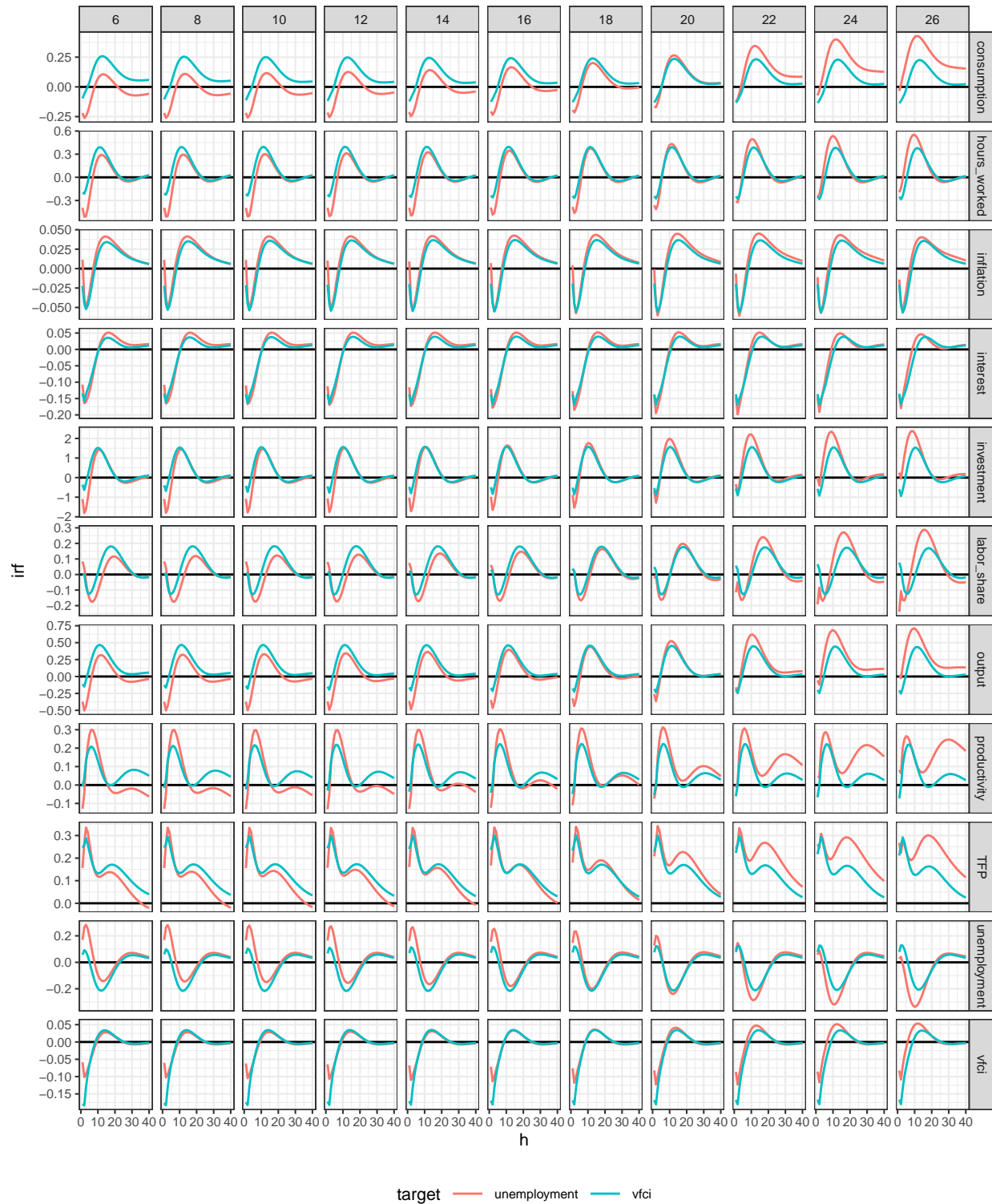
```
rmse[u_period_l == vfci_period_l & u_period_h == vfci_period_h][u_rmse == min(u_rmse)]
```

##	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.

