

# What's Up with the Phillips Curve?

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*If unemployment is  $x\%$  higher than expected, what is going to happen to inflation?*

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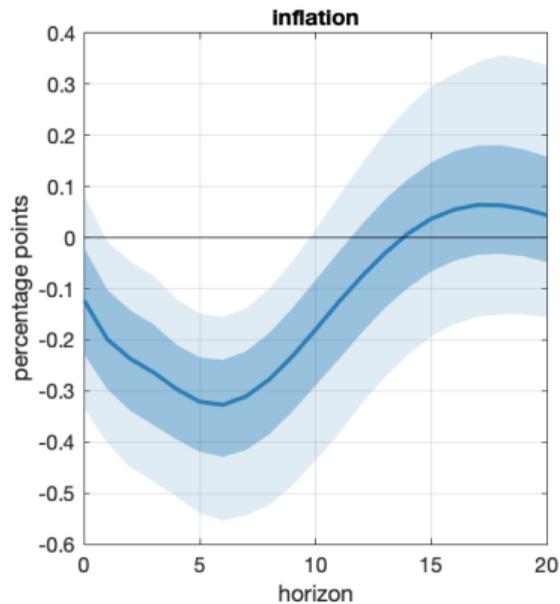
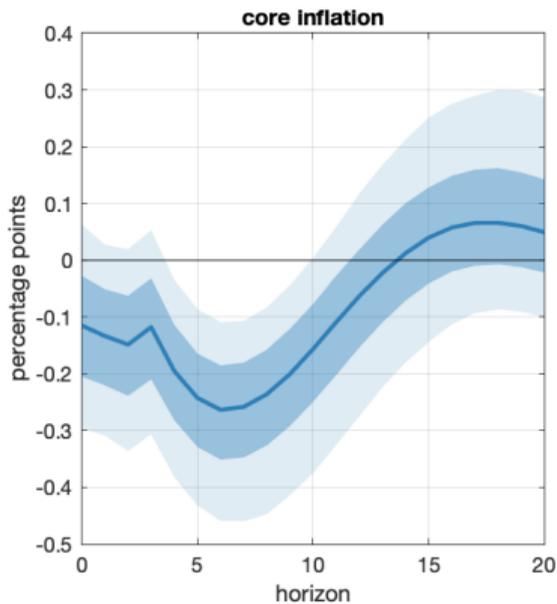
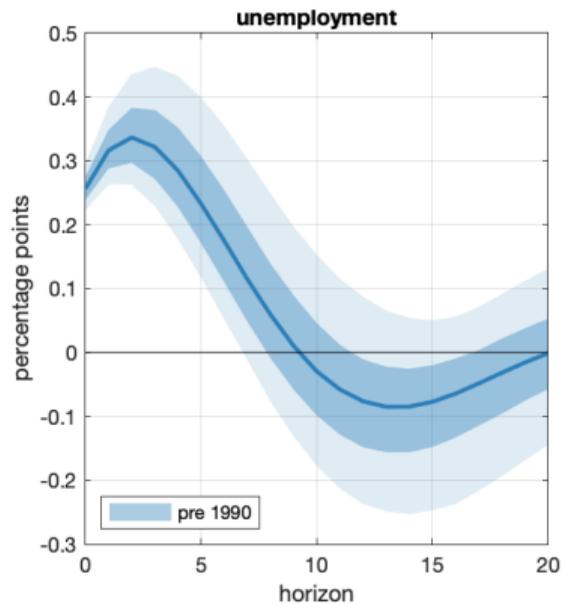
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- **Sample: pre and post 1990**

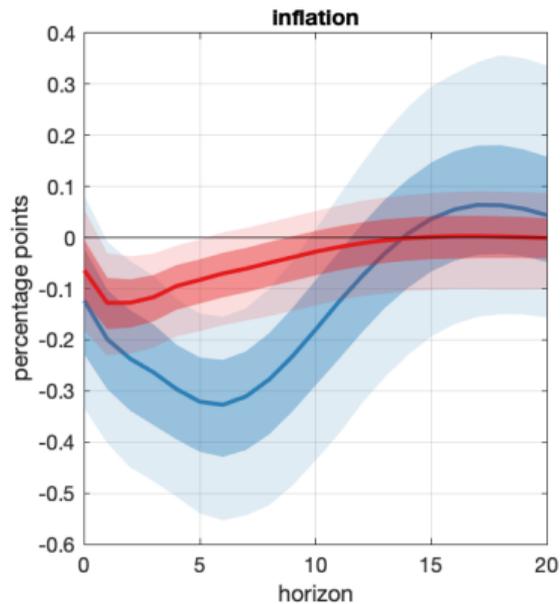
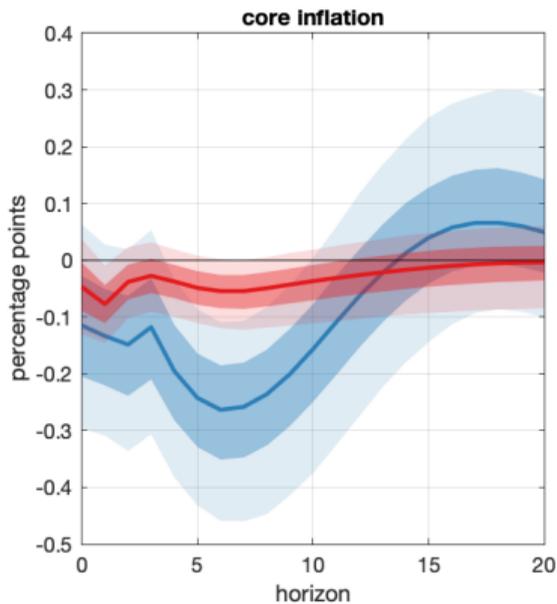
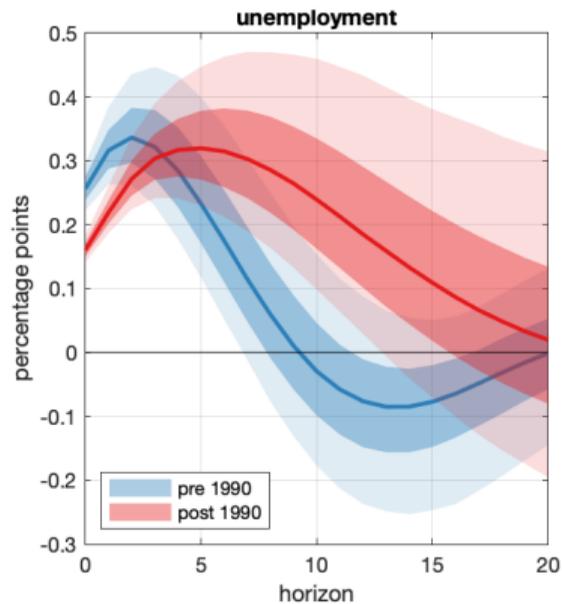
# Facts: Unemployment and inflation

## Impulse responses to an *unemployment* shock



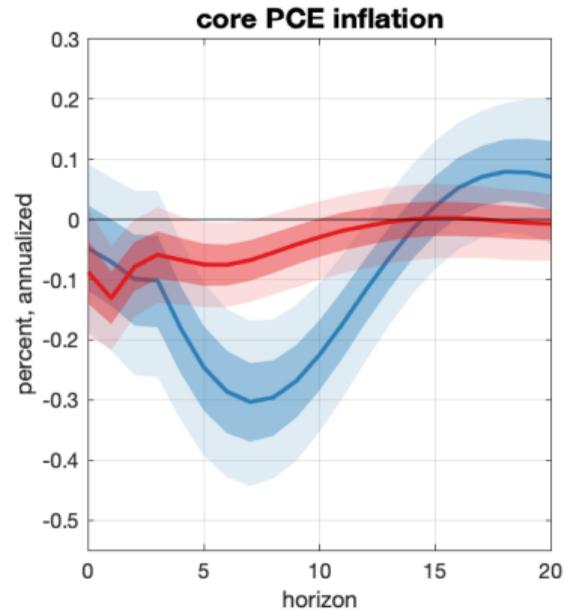
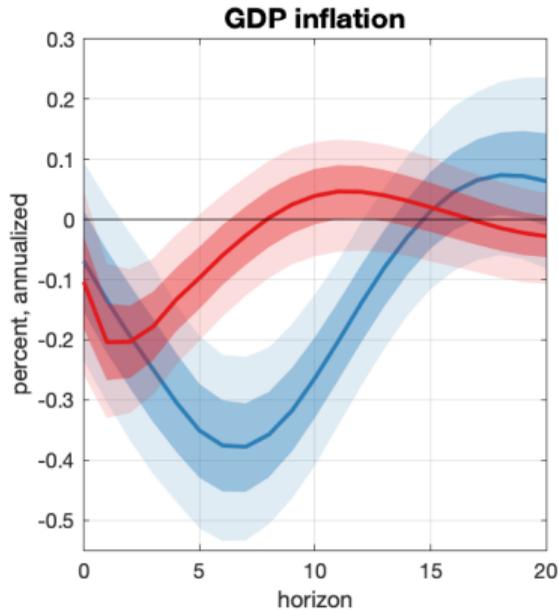
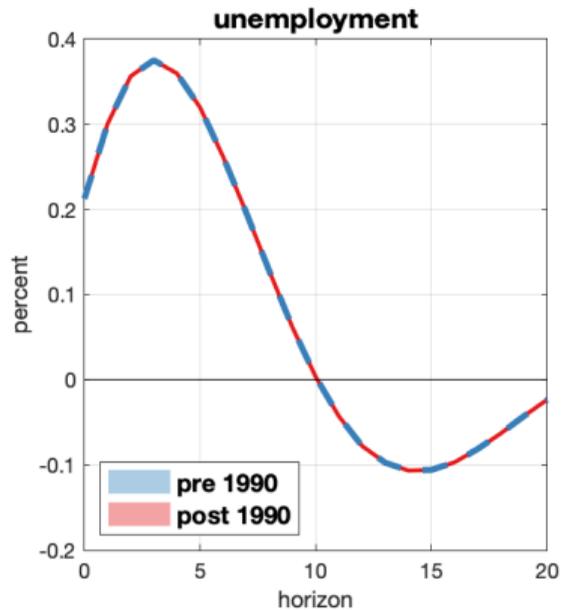
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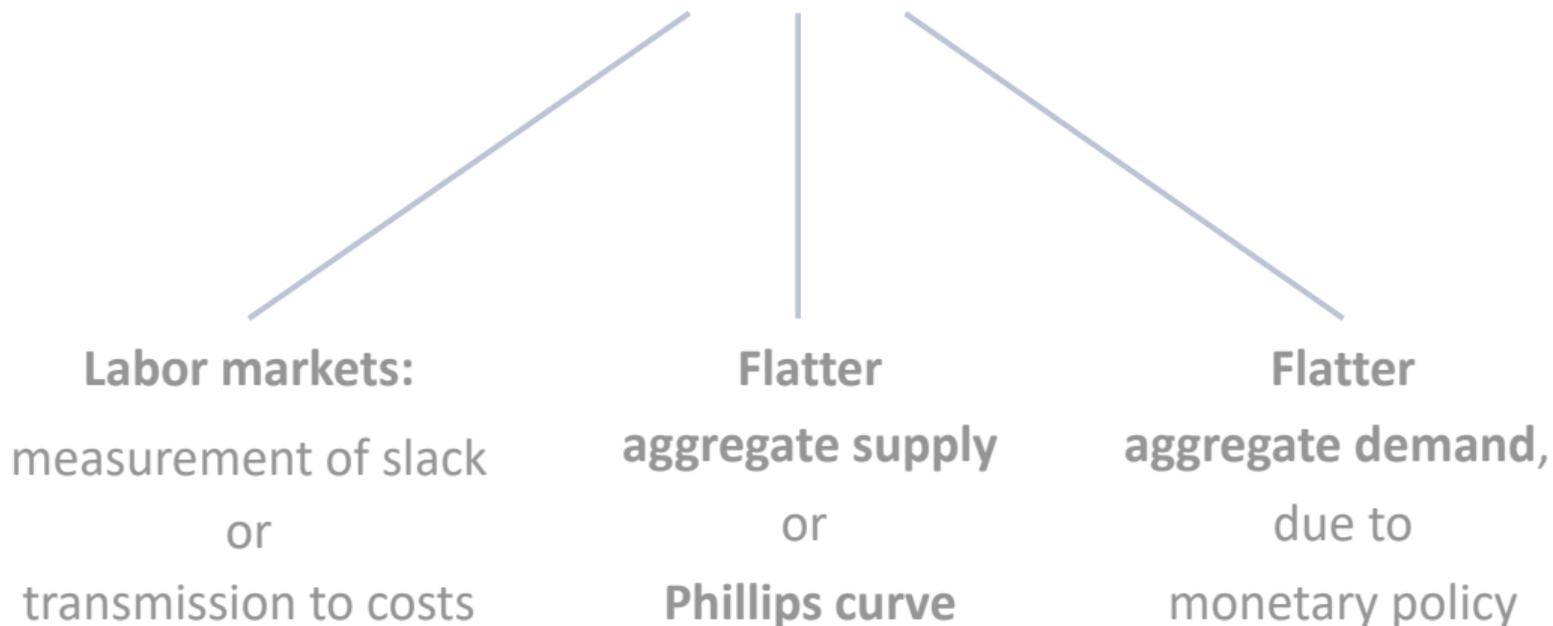
# Facts: Unemployment and inflation

Response of inflation, conditional on *same unemployment path*



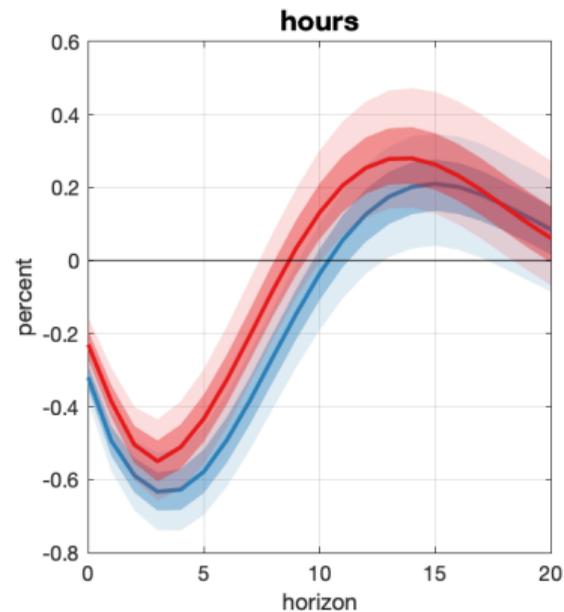
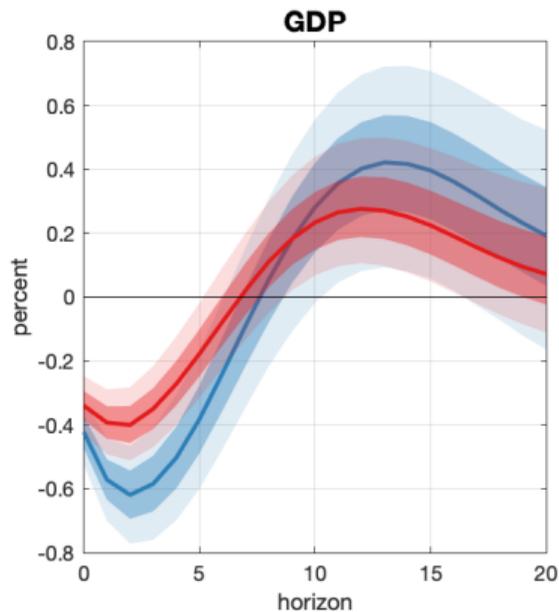
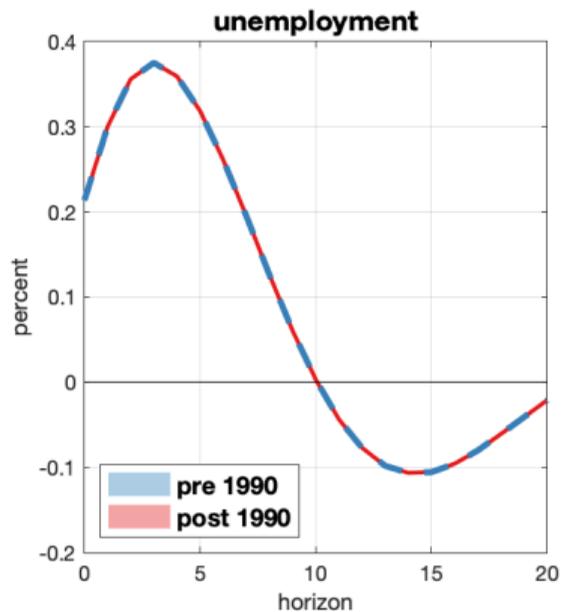
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# Facts: Unemployment and other indicators of real activity

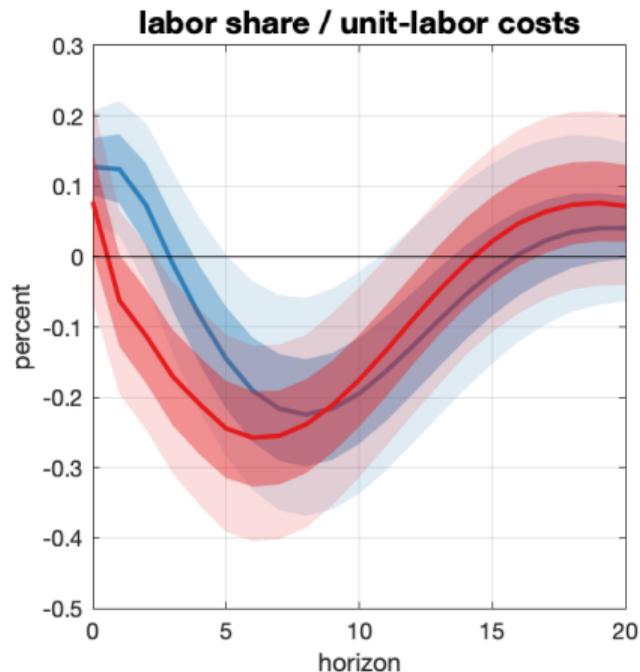
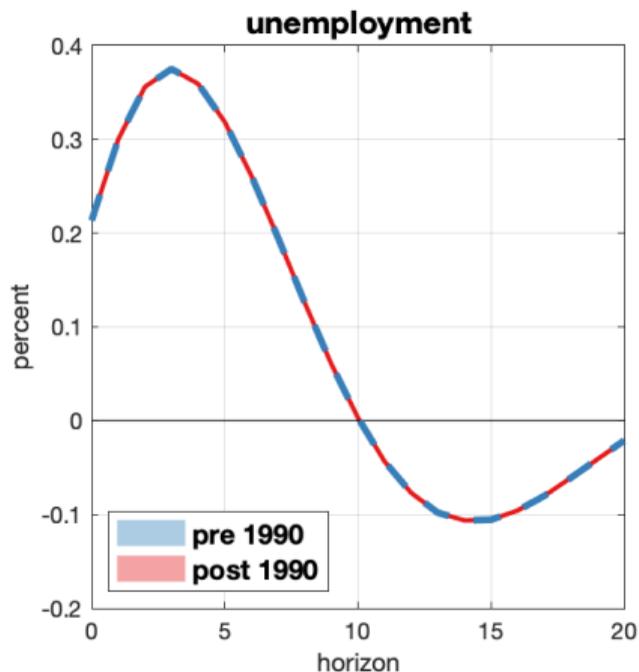
Response of GDP and hours, conditional on same unemployment path



⇒ No change in co-movement of measures of slack and real activity

## Facts: Unemployment and unit-labor costs

Response of unit-labor costs, conditional on same unemployment path



⇒ No change in co-movement between slack and cost pressures

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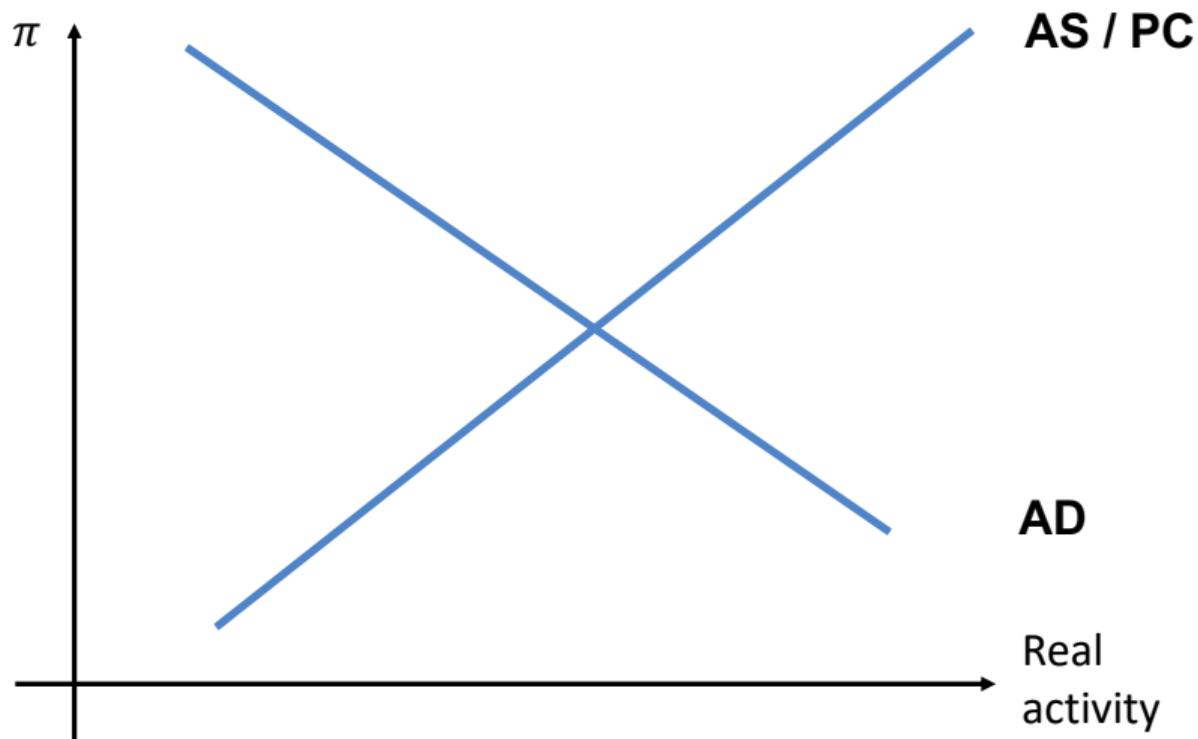
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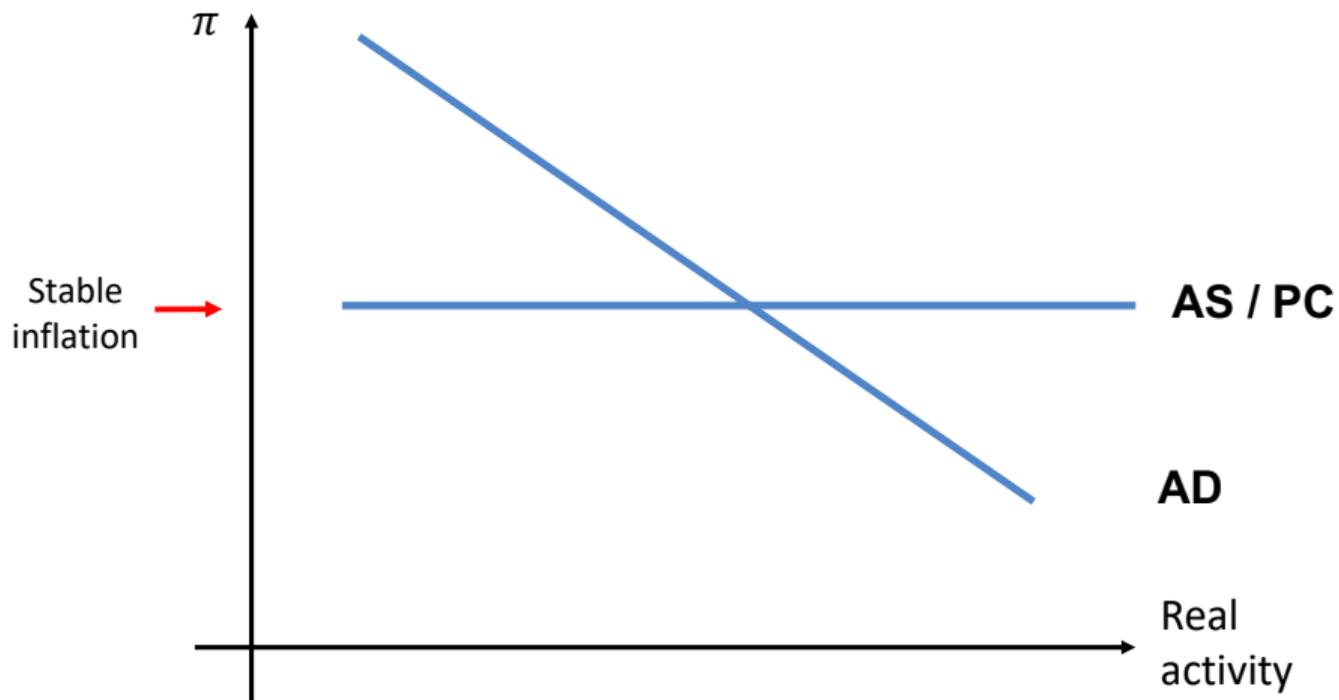
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## Aggregate demand and supply

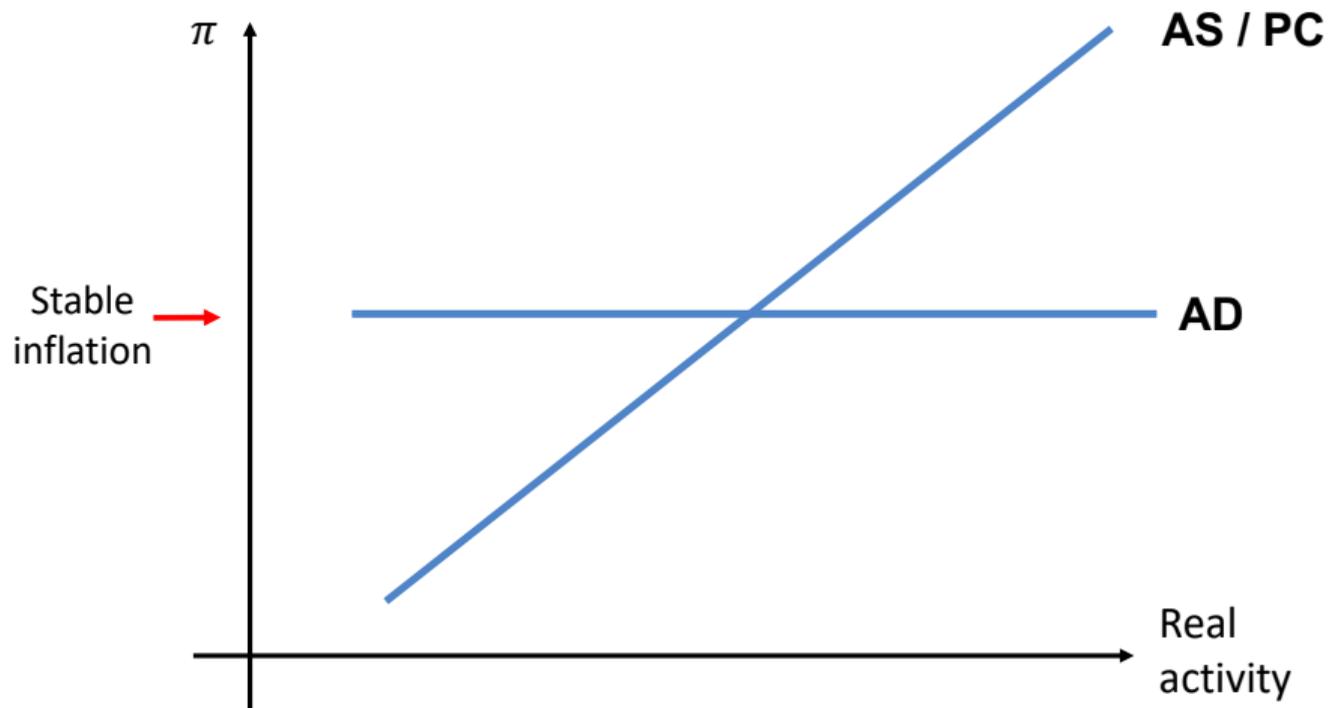


⇒ **identification problem**

## Flat Phillips curve

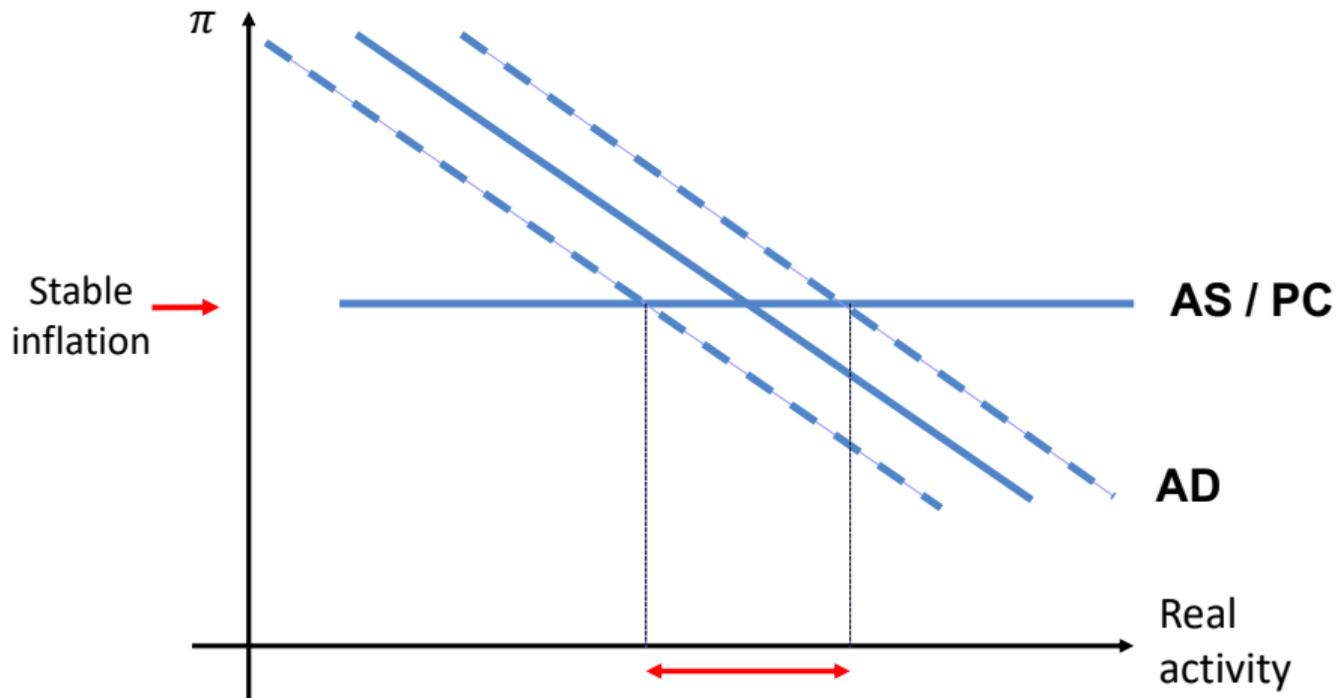


## Flat aggregate demand



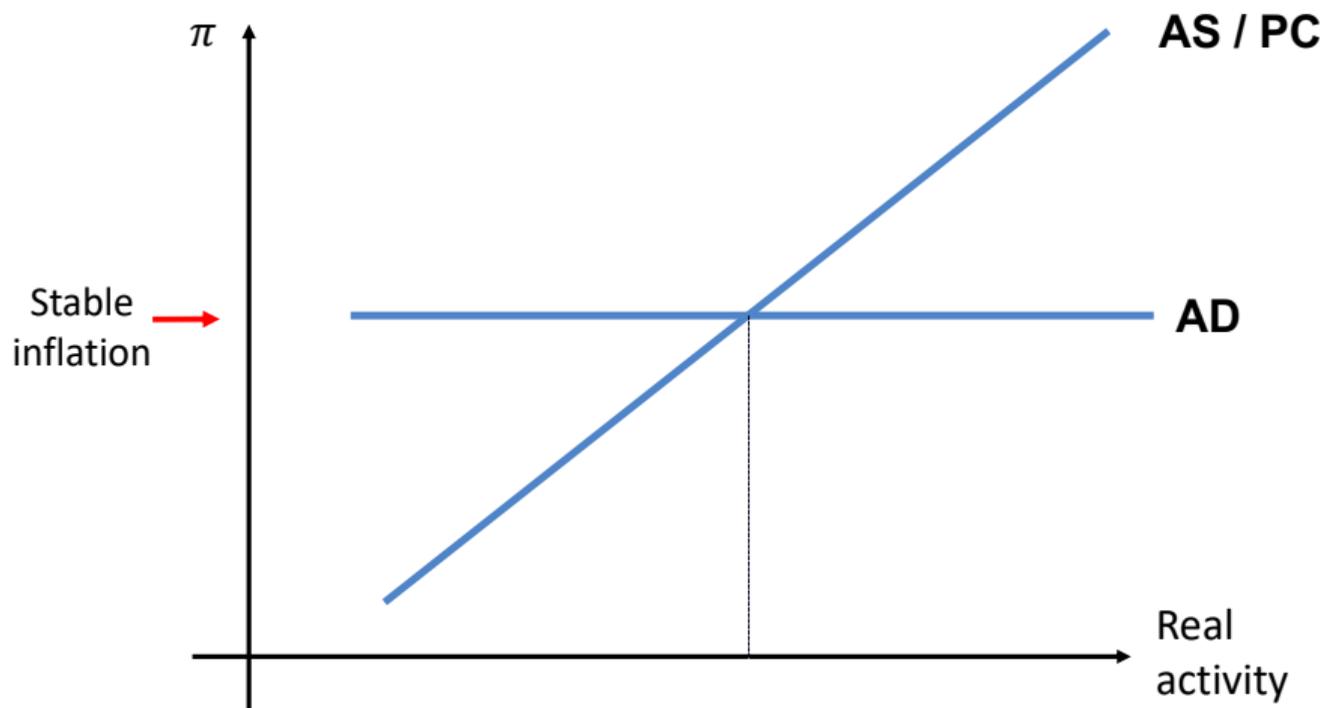
McLeay and Tenreyro (2019)

## Flat Phillips curve



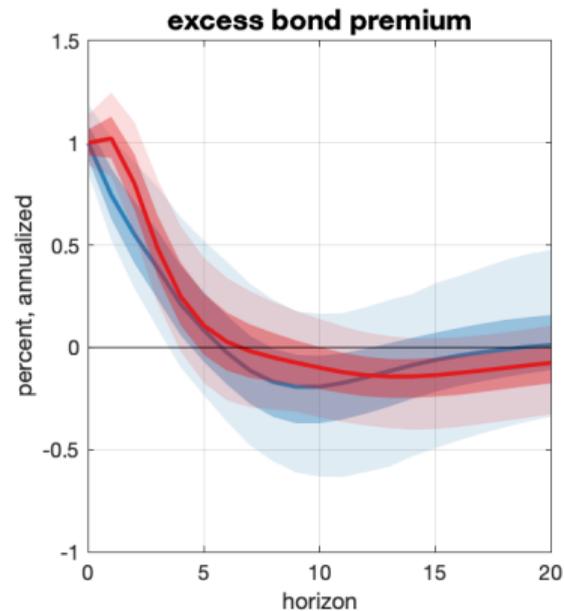
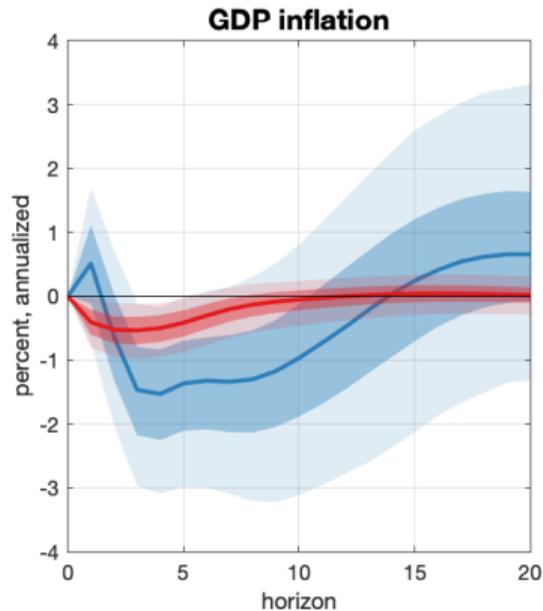
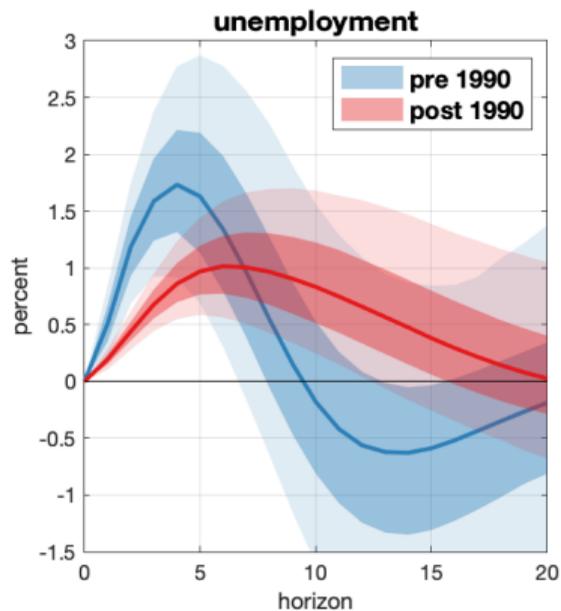
**Flat PC → shocks to AD affect real activity**

## Flat aggregate demand



**Flat AD** → shocks to AD do NOT affect real activity

## Impulse responses to a demand shock



⇒ **Unemployment still increases significantly; inflation barely reacts**

⇒ **The slope of the PC must have declined**

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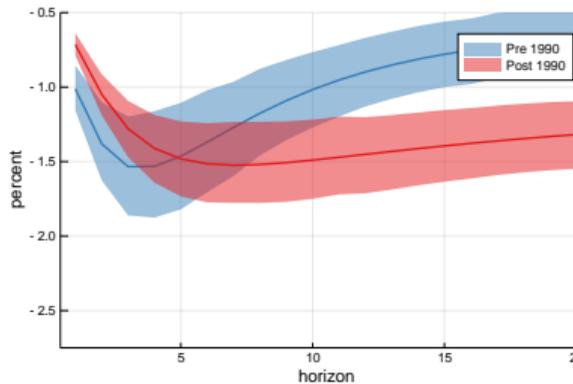
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- **NY Fed DSGE model**
  - Medium scale: Smets & Wouters + financial frictions
  - Estimated on pre- and post-1990 data, like the VAR

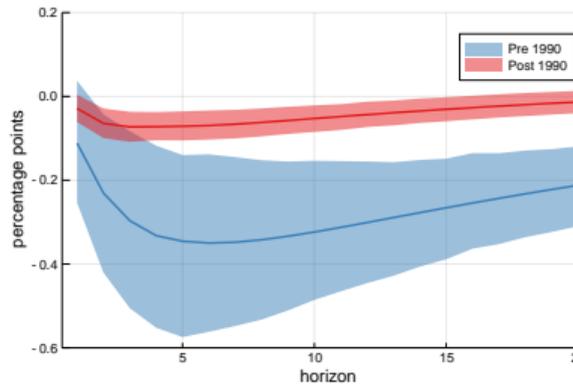
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  - Tighter restrictions than VAR
- Reproduces the VAR responses the unemployment shock

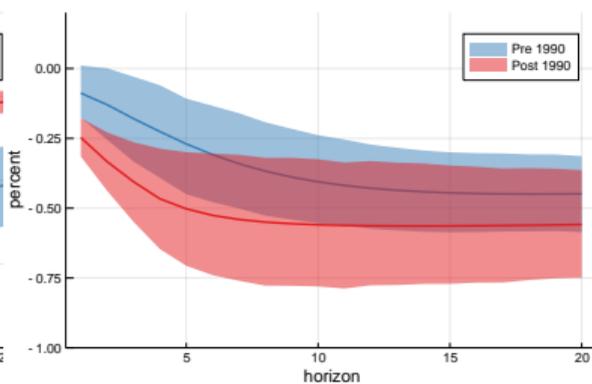
hours



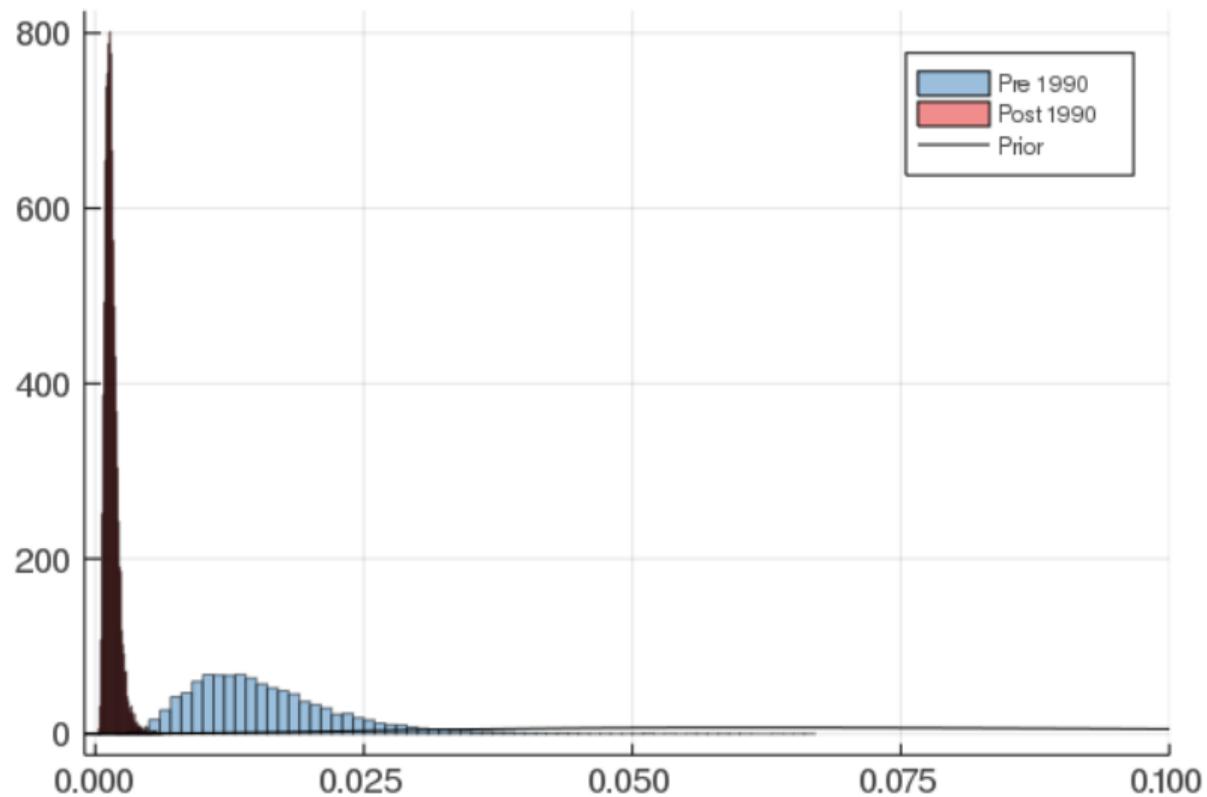
inflation



unit labor costs

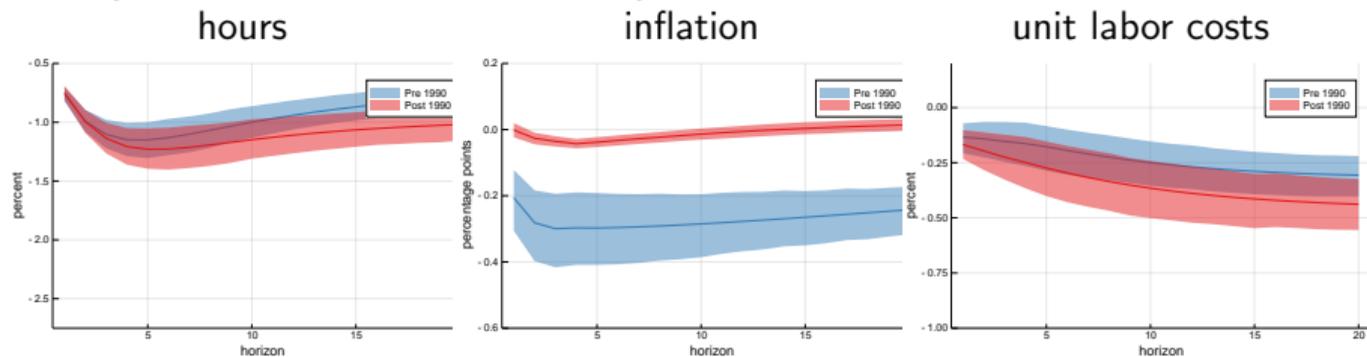


## Posterior distribution of the slope of the price PC



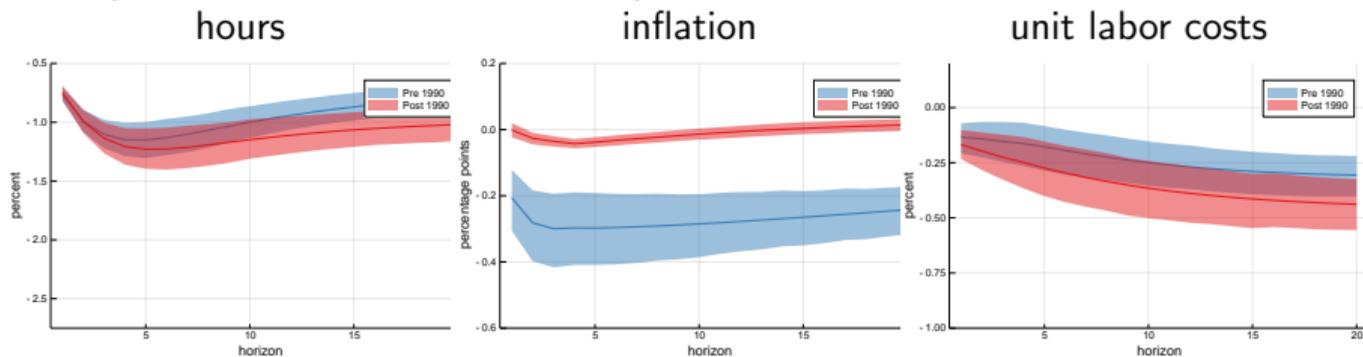
# Counterfactuals

- **“Slope counterfactual” matches post-1990 IRFs**

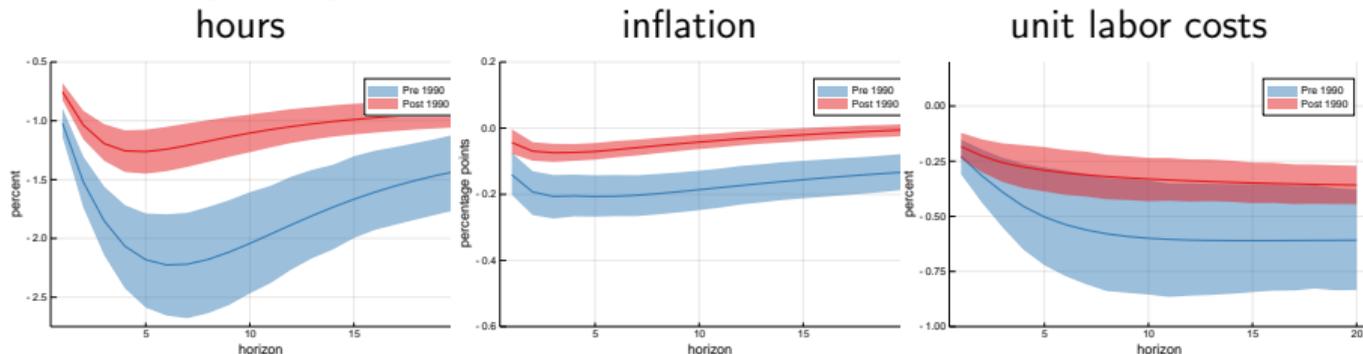


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- **“Monetary policy counterfactual” does not**

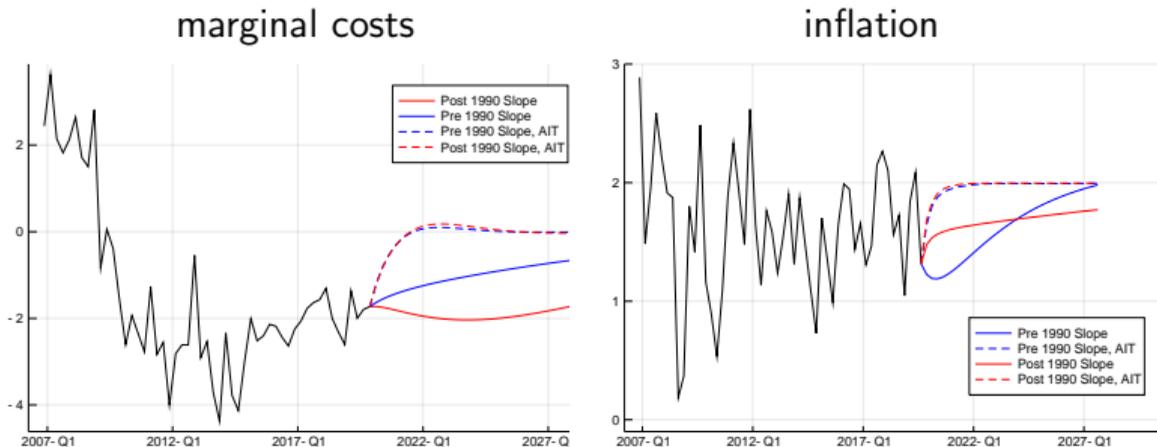


## Policy implications

- **The economy is more Keynesian**
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  - Demand shocks have larger effect on real activity and smaller on inflation
  - Higher sacrifice ratio for *surprise* policy measures
  - But worse trade-off can be improved by changing **policy strategy** (Del Negro, Giannoni, Schorfheide, 2015)



# Conclusions

- Muted response of inflation to BC primarily due to **flatter PC**
  - Open question: What structural forces reduced the PC slope?
- Implications for Covid-19 shock
  - To the extent that the shock is a *demand* shock, small (relative to the size of the unemployment shock!) response of inflation initially, but potentially persistent