

MACROECONOMIC POLICY AND ECONOMETRICS RESEARCH GROUP

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THE STATE-DEPENDENT EFFECTS OF GOVERNMENT EXPENDITURE ON INFLATION: AN EMPIRICAL ANALYSIS FOR THE EURO AREA

What are the effects of government consumption and investment on inflation? And are they state dependent?

We find that in a linear estimation government consumption increases inflation while government investment leaves inflation unaffected (or it even falls) but the effects are state-dependent.

Government consumption increases inflation only at the ZLB.

Data

Quarterly euro area aggregate data from 2001q1-2019q4 for 11 euro area countries: AT, BE, DE, FI, FR, GR, IE, IT, NL, and PT

We differentiate between government consumption (GCN) and government investment (GIN) shocks

We concentrate on GDP multipliers and core inflations multipliers

836 country-time observations

Methodology and identification

We estimate the multipliers using local projections (Jorda, 2005):

$$\sum_{j=0}^h \tilde{v}_{i,t+h} = \beta_h \sum_{j=0}^h \frac{\tilde{g}_{i,t+j} - \tilde{g}_{i,t-1}}{y_{i,t-1}} + \gamma_{h} ctr_{t-1} + \alpha_i^h + trend_i^h + \varepsilon_{t+h}$$

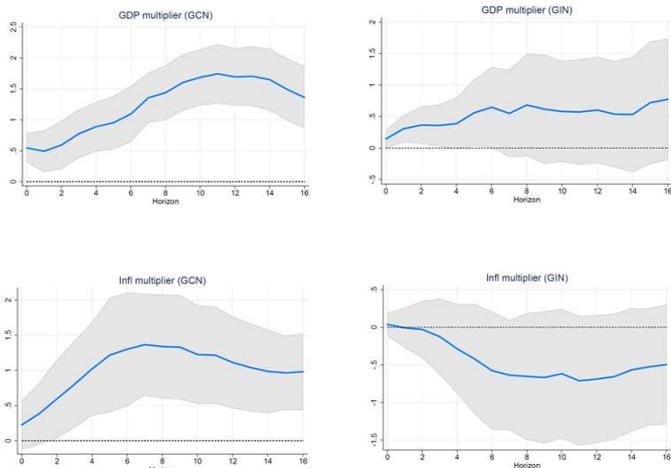
And state-dependent local projection:

$$\sum_{j=0}^h \tilde{v}_{i,t+h} = F(z_{i,t}) \left[\beta_{ZLB}^h \sum_{j=0}^h \tilde{g}_{i,t+h} + \gamma_{ZLB}^h ctr_{i,t-1} \right] + (1 - F(z_{i,t})) \left[\beta_{NT}^h \sum_{j=0}^h \tilde{g}_{i,t+h} + \gamma_{NT}^h ctr_{i,t-1} \right] + trend_i^h + \varepsilon_{t+h}$$

Where $\tilde{v}_{i,t+h}$ is the change in variable v between t+h and t-1 scaled by real GDP in case of GDP components or by itself in t-1 in case of core inflation

Government consumption/investment shock are the first-differences scaled by real GDP as in Boehm 2019 (JME)

Effects of gov. consumption/investment shocks

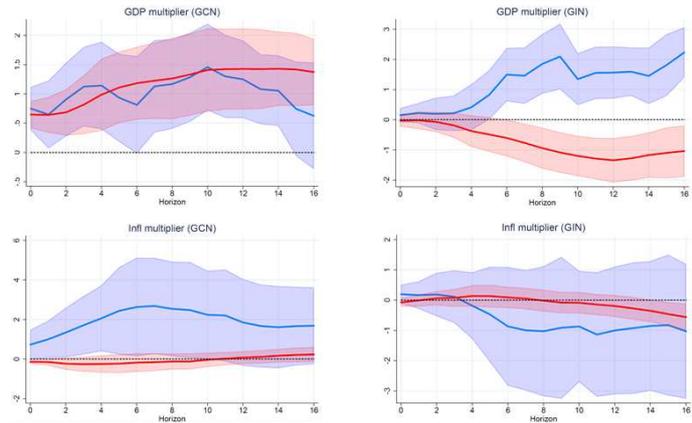


Note: The figure shows the multipliers estimated with the equation mentioned above. The shaded areas the 90% confidence bands and the dark blue line is the point estimate. The responses are shown over a horizon of 16 quarters.

Government consumption multipliers are higher than one at 15 after 12 quarters while the government investment multiplier is below 1 (0.5) and insignificant

Core inflation reacts strongly positive to a government consumption shock while falling - insignificantly though - after a government investment shock

State dependent reactions



Note: The figure shows the multipliers estimated with the equation mentioned above. The shaded areas are the 90% confidence bands and the solid lines are the point estimate in the respective states. The responses are shown over a horizon of 16 quarters. Blue: At the ZLB Red: Normal times

Blue: ZLB (Wu-Xia shadow rate < 50bps), Red: Normal times

The multiplier for government spending is the same at and away from the ZLB

While the multiplier for government investment is stronger and only operational at the ZLB while being negative in normal times

Inflation reacts significantly positive only for government consumption and only at the ZLB

Conclusion and additional findings

Government consumption increases core inflation while government investment does not seem to affect core inflation (and if then negatively)

The effects on core inflation do not seem to be entirely driven by the reaction of GDP

Moreover, we find a consumption crowding-in for both government consumption and government investment while net exports fall

Government investment however crowds out private investment while government consumption crowds-in private investment

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