The Distributional Effects of Government Spending Shocks on Inequality

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Inequality and Fiscal Policy

- Over the last three decades, inequality has risen in three quarters of advanced and about half of developing economies. It remains stubbornly high in many developing economies.

- While fiscal policy is the main tool for governments to affect income distribution (see, e.g., IMF, 2014), many emerging and developing economies face the challenge of fiscal consolidation.

   What is the effect of fiscal policy on income distribution?

Literature

- Ball et al. (2013) use episodes of fiscal consolidation for a sample of 17 OECD countries and find that fiscal consolidation has typically had significant distributional effects.

- Woo et al. (2017) find that spending-based adjustments tend to worsen inequality more significantly—relative to tax-based adjustments.

- Agnello and Sousa (2014) find that in industrialized economies, income inequality significantly rises during periods of expenditure-driven fiscal consolidations and that tax hikes have an equalizing effect.

Little known about the effects in developing economies

Contribution

- Identify fiscal shocks—that can be deemed exogenous to economic and distributional conditions—for a large set of developing economies.

- Examine the effect of government expenditure and its components on several measures of income distribution (data limitations do not allow to easily identify exogenous tax shocks).

- Identify some of the possible transmission channels—*work in progress*.

Key findings

• Contractionary (expansionary) government spending increases (reduces) inequality—proxied by the Gini coefficients as well as by bottom-top income share ratios.

• The effect is long-lasting and economically significant: a 2 percentage points of GDP increase in expenditure reduces medium-term inequality by ½ sd.

• The effect is larger for government consumption than public investment.

Government spending shocks

Methodology

• Government spending shocks (FE) are computed as the difference between the growth rate of actual government spending and the growth rate forecasted by IMF analysts as of October of the same year:

$$FE_{i,t} = \Delta lnG_{i,t} - \Delta lnG_{i,t}^E = \left(lnG_{i,t}^{apr,2017} - lnG_{i,t-1} \right) - \left(lnG_{i,t}^{oct,t} - lnG_{i,t-1} \right),$$
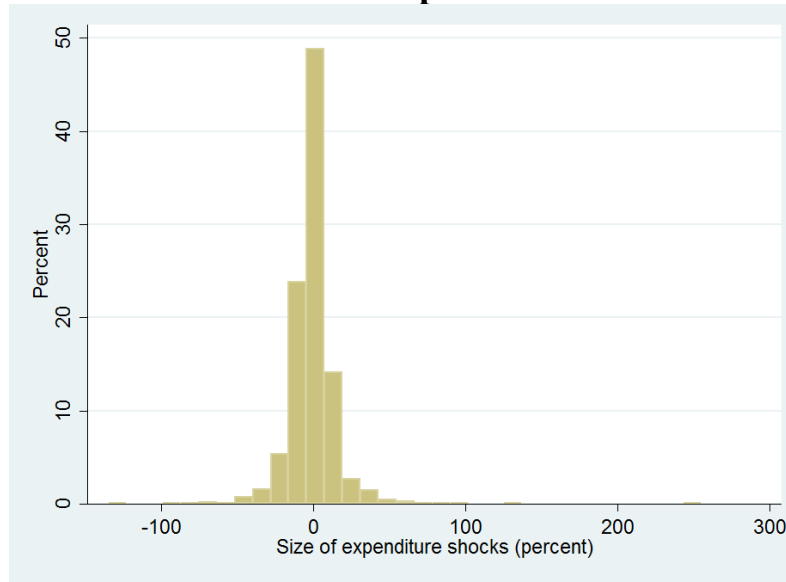
Advantage of this approach:

• eliminates the problem of "policy foresight" (Forni and Gambetti 2010; Leeper et al. 2012);

• reduces the likelihood of capturing the potentially endogenous response of fiscal policy to the state of the economy.
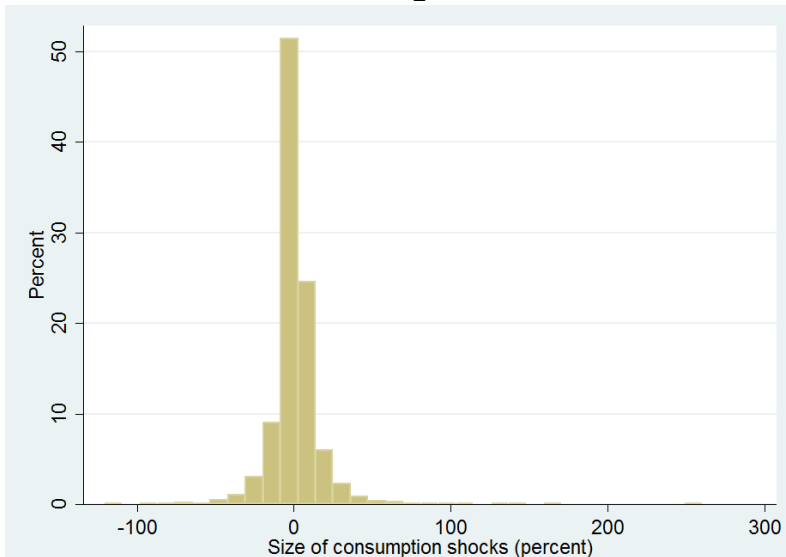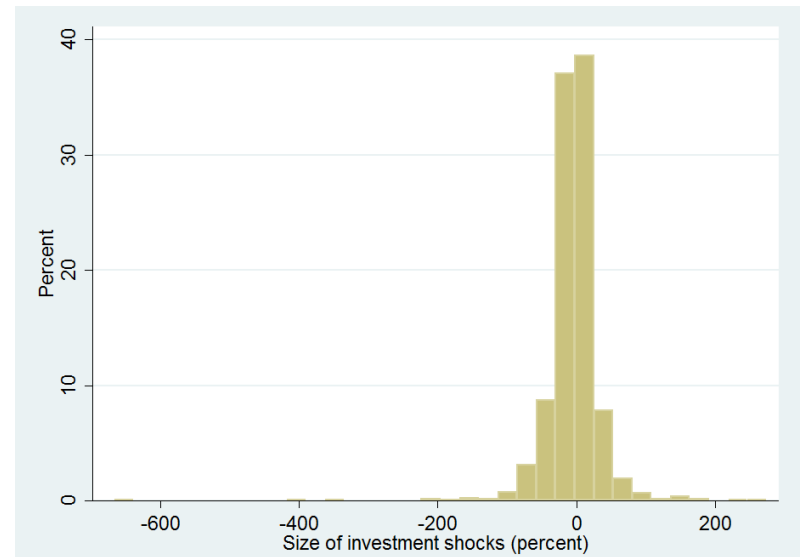
Fiscal Policy Shocks

Panel A. Expenditure

Panel B. Consumption

Panel C. Investment

Methodology

Empirical framework

- Local projection method (Jordà, 2005) to assess the response of inequality to fiscal policy shocks:

$$y_{i,t+k} - y_{i,t-1} = \alpha_i^k + \vartheta_t^k + \beta^k FE_{i,t} + \pi^k X_{i,t} + \varepsilon_{i,t}^k$$

- *y* is the log of inequality; *X* a set of control including lagged change in inequality and fiscal policy shocks; *k=0,1,…6.*

- Measures of inequality: net and market income inequality (SWIID 5.1); income shares (WDI).

- Sample: unbalanced panel of 103 emerging market economies and low –income countries from 1990 to 2016.
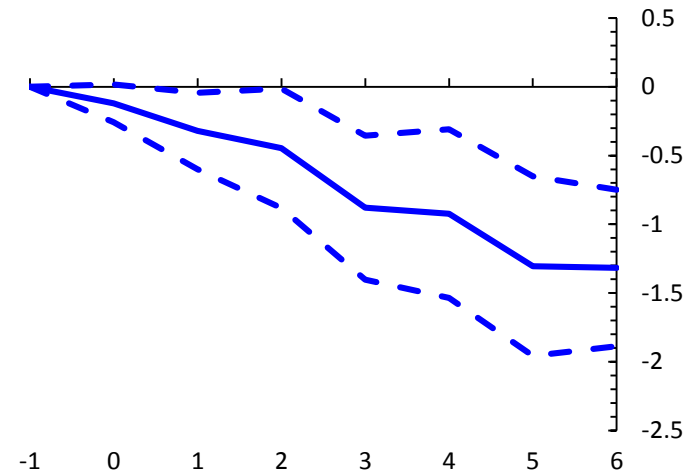
Expansionary FP reduces inequality

Effect of a 10 percent increase in government expenditure (percent)

Results

Panel A. Gross inequality
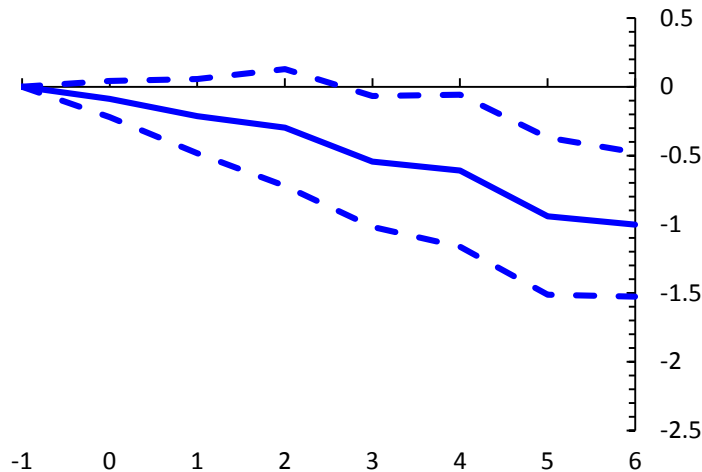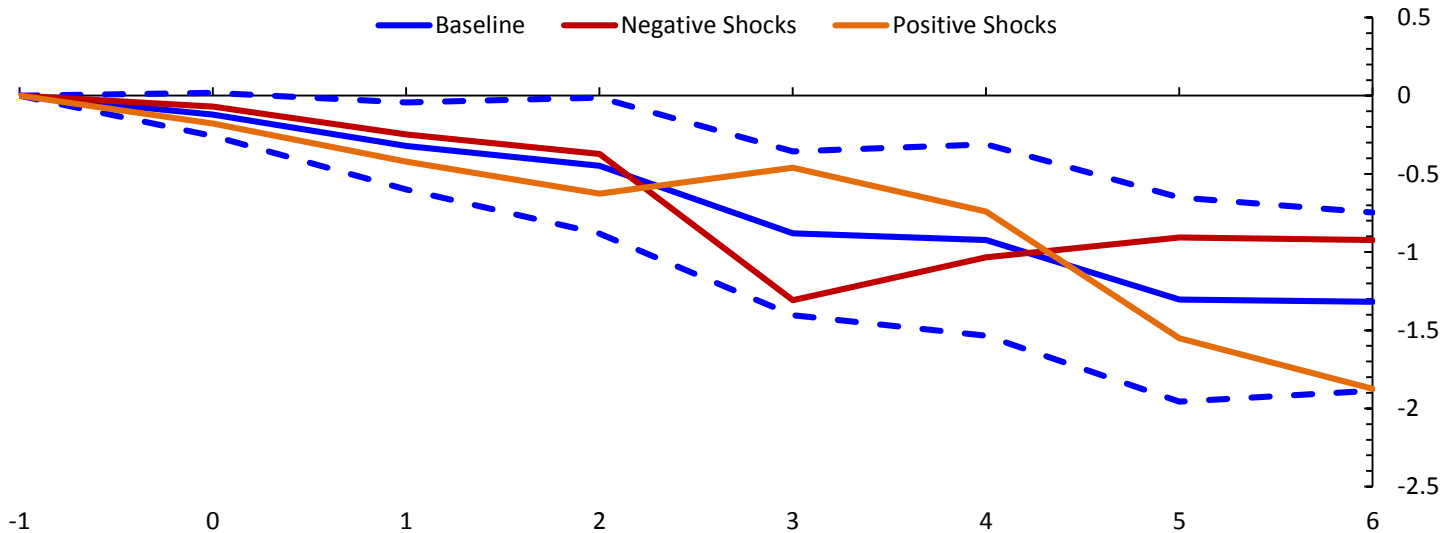
Panel B. Net inequality

Note: x-axes denote years; t=0 is the year of the shock; solid blue lines denote percent responses to an unanticipated 10 percent increase in government expenditure; dashed lines denote 90 percent confidence bands. Estimates based on equation (1).

Positive vs. negative shocks

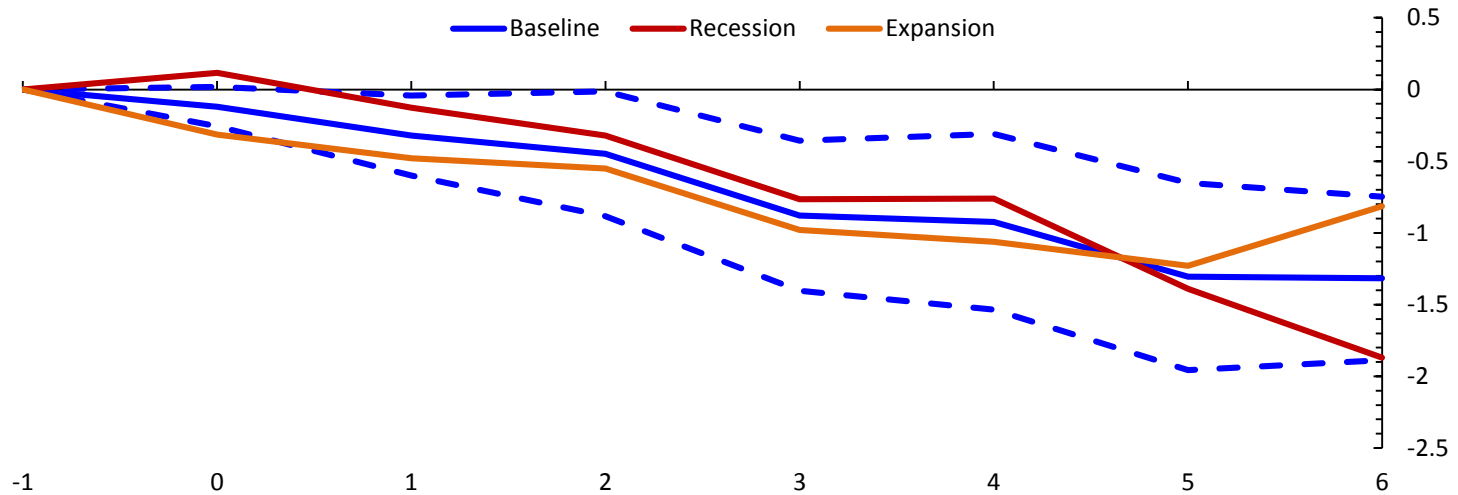## Effect of a 10 percent increase in government expenditure (percent)

Note: x-axes denote years; t=0 is the year of the shock; solid blue lines denote percent responses (minus percent responses) to an unanticipated 10 percent increase (decrease) in government expenditure in the baseline model; dashed lines denote 90 percent confidence bands in the baseline model; solid red and orange lines denote alternative models.

Expansions vs. recessions

Effect of a 10 percent increase in government expenditure (percent)

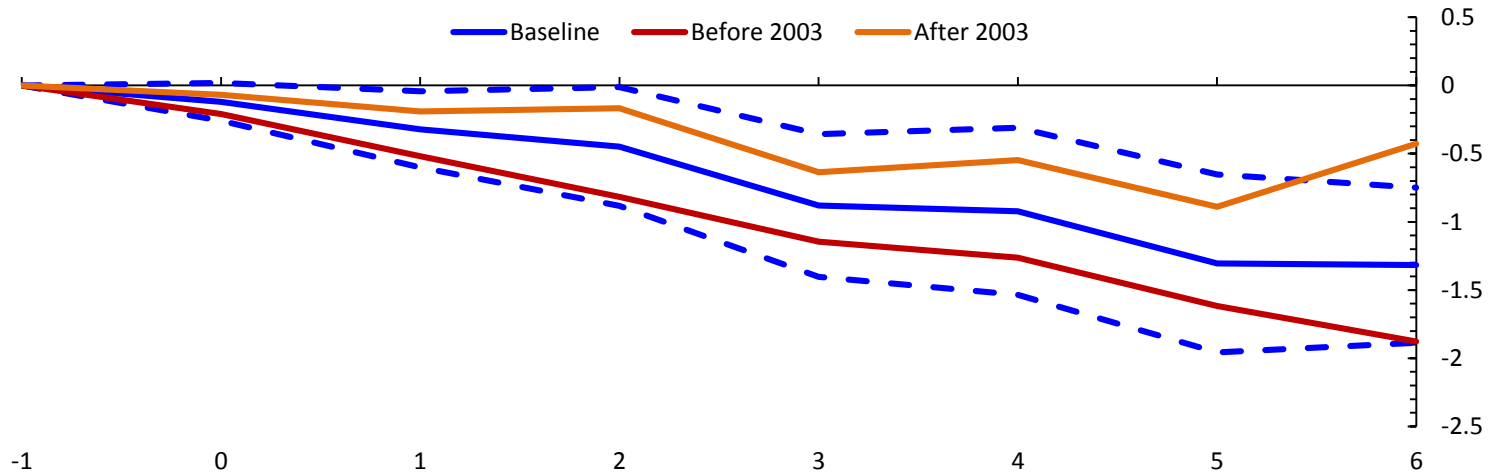Note: x-axes denotes years; t=0 is the year of the shock; solid blue lines denote percent responses to an unticipated 10 percent increase in government expenditure in the baseline model; dashed lines denote 90 percent confidence bands in the baseline model; solid red and orange lines denote alternative models.

Results

Different time samples

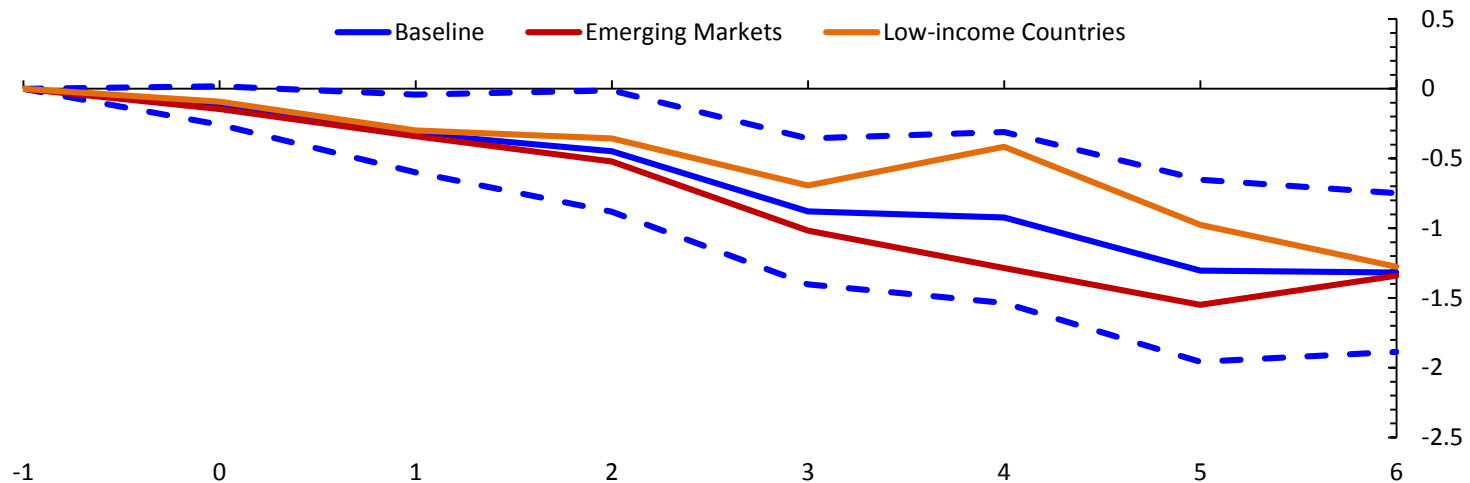## Effect of a 10 percent increase in government expenditure (percent)

Note: x-axes denote years; t=0 is the year of the shock; solid blue lines denote percent responses to an unanticipated 10 percent increase in government expenditure in the baseline sample; dashed lines denote 90 percent confidence bands in the baseline sample; solid red and orange lines denote alternative subsamples.

EMs vs. LICs

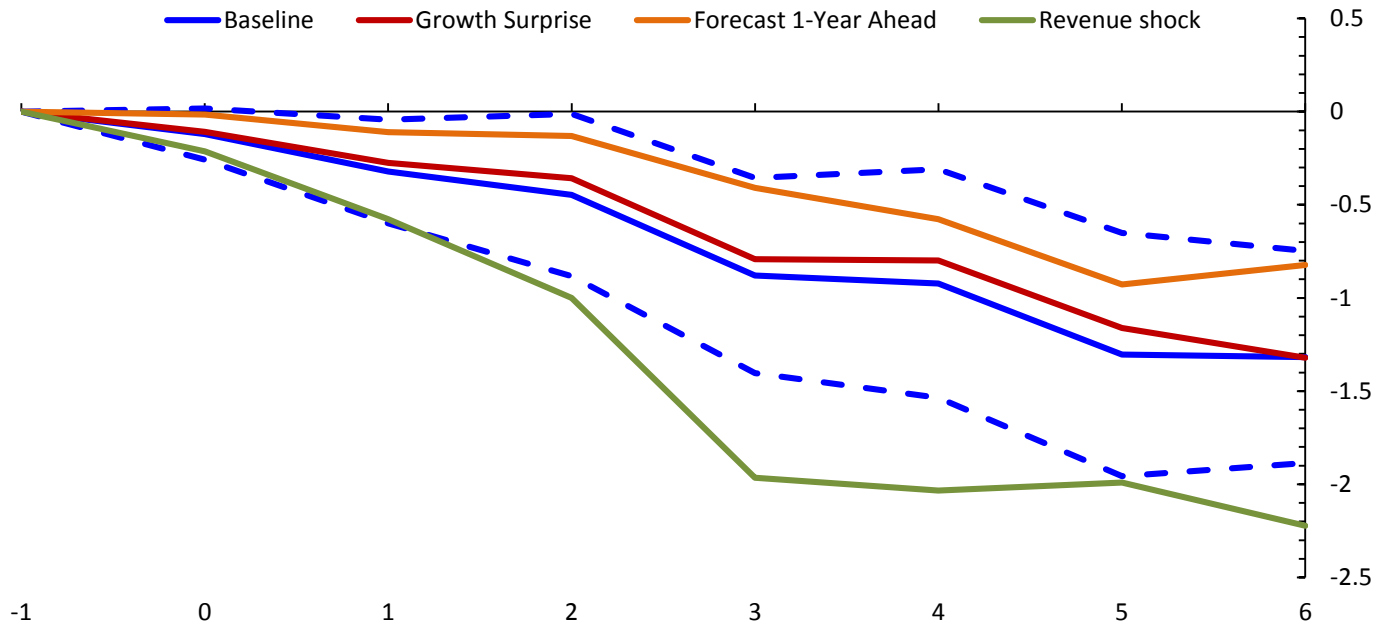## Effect of a 10 percent increase in government expenditure (percent)

Note: x-axes denote years; t=0 is the year of the shock; solid blue lines denote percent responses to an unanticipated 10 percent increase in government expenditure in the baseline sample; dashed lines denote 90 percent confidence bands in the baseline sample; solid red and orange lines denote alternative subsamples.

Control for Omitted Bias

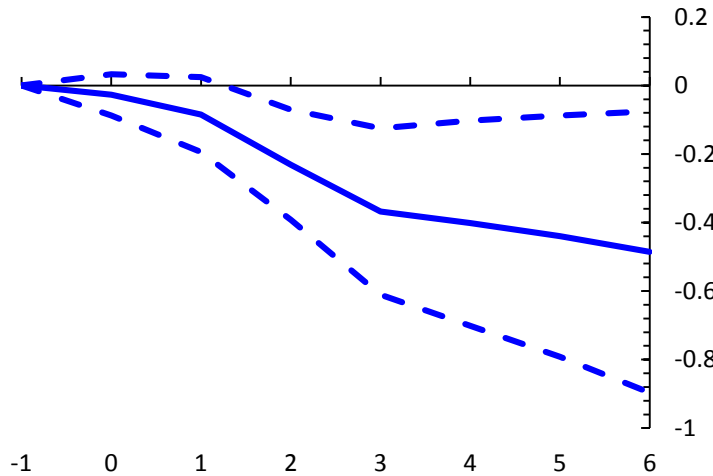## Effect of a 10 percent increase in government expenditure (percent)

Note: x-axes denote years; t=0 is the year of the shock; solid blue lines denote percent responses to an unanticipated 10 percent increase in government expenditure in the baseline sample; dashed lines denote 90 percent confidence bands in the baseline sample; solid red, orange and green lines denote alternative subsamples.
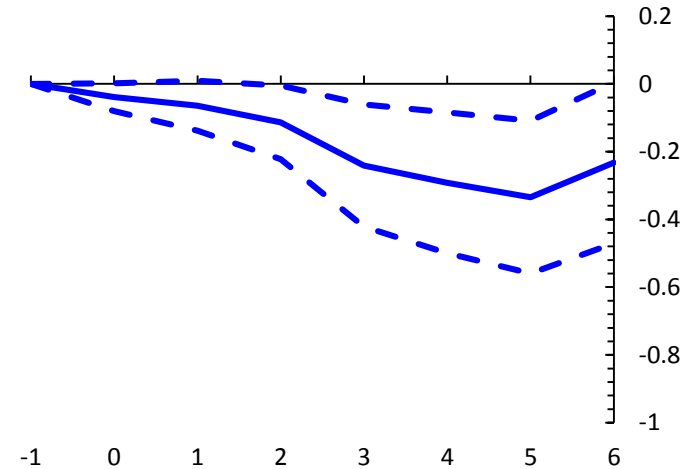
Results

Gov. consumption vs investment
Effect of a 10 percent increase in government expenditure (percent)

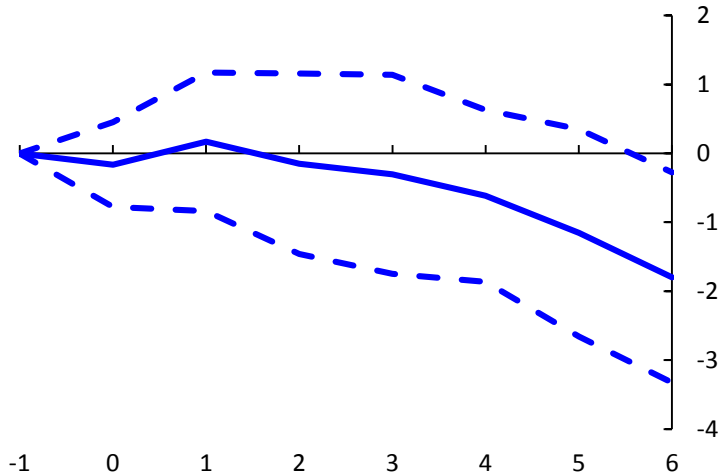**Panel A. Consumption**

Panel B. Investment

Note: x-axes denote years; t=0 is the year of the shock; solid blue lines denote percent responses to an unanticipated 10 percent increase in government expenditure; dashed lines denote 90 percent confidence bands.

Bottom-top 10 percent income share

Effect of a 10 percent increase in government expenditure (percent)

Panel A. Consumption

Panel B. Investment

Note: x-axes denote years; t=0 is the year of the shock; solid blue lines denote percent responses to an unanticipated 10 percent increase in government expenditure; dashed lines denote 90 percent confidence bands.
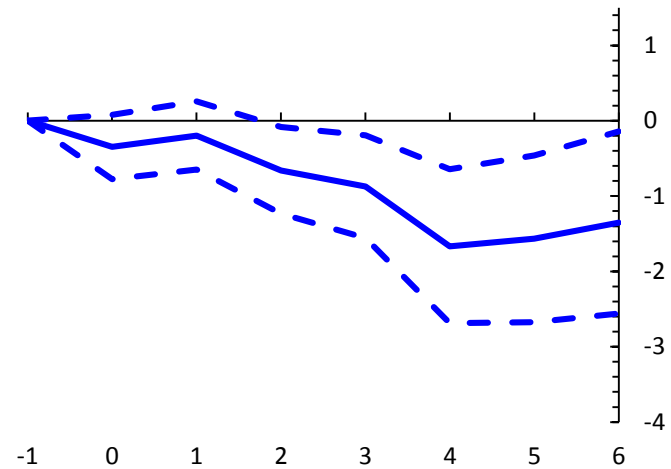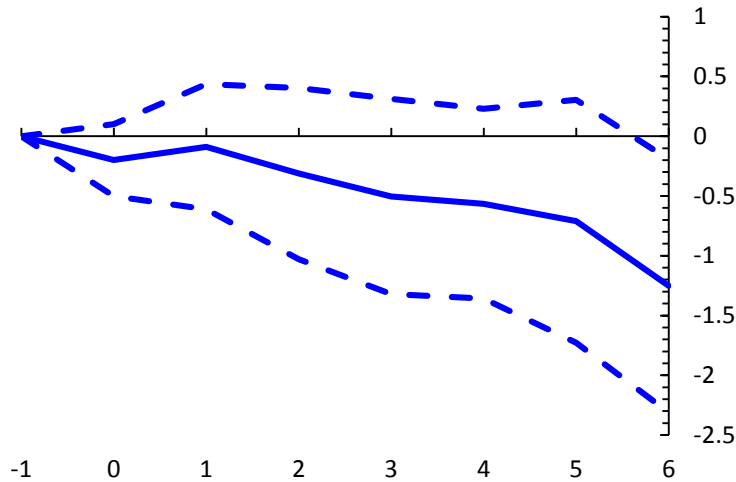
Bottom-top 20 percent income share

Effect of a 10 percent increase in government expenditure (percent)

Results

Panel A. Consumption

Panel B. Investment

Note: x-axes denote years; t=0 is the year of the shock; solid blue lines denote percent responses to an unanticipated 10 percent increase in government expenditure; dashed lines denote 90 percent confidence bands.
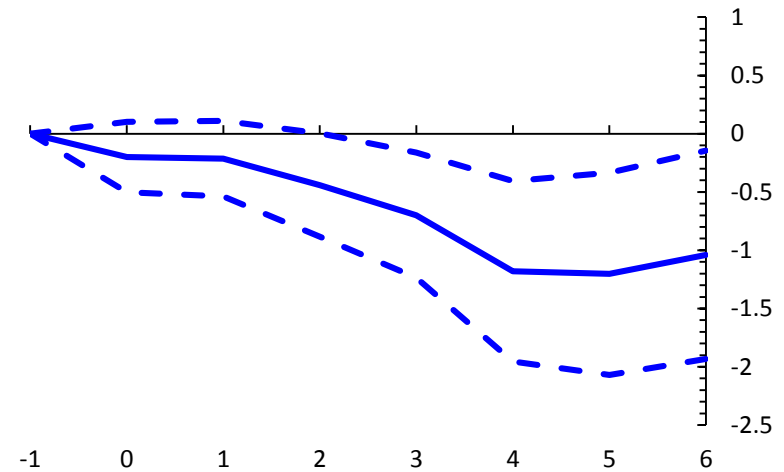
Conclusions

- Contractionary (expansionary) government spending increases (reduces) inequality—proxied by the Gini coefficients as well as by bottom-top income shares.

- The effect is long-lasting and economically significant: a 2 percentage points of GDP increase in expenditure reduces medium-term inequality by ½ sd.

- The effect is larger for government consumption than public investment.

Next steps

• Other distributional measures (gender participation gaps; urban-rural inequality, etc).

• Labor market outcomes (unemployment, self employment, vulnerable employment, salaried employment etc).

Thank you!

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