The impact of national fiscal rules on the stabilization function of fiscal policy

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Rationale

- **Large deficits** in industrialized economies and the **sovereign debt crisis** in the euro area → **attempts to increase fiscal discipline** (Spilimbergo et al. 2008; Hauptmeier et al. 2011).


- **But...** Running balanced-budgets is not valuable *per se* but it matters for what it implies for other macroeconomic targets, *i.e.* macroeconomic stabilization.

- **Adverse** welfare and economic growth effects of macroeconomic volatility (*i.e.* output and inflation).
This paper...

- **aims** at understanding if **national fiscal rules** affects the **effectiveness** of the governments’ **macroeconomic stabilization function**.

- **analyzes** the relationship between **discretionary fiscal policy** (it would be pointless to study automatic stabilizers, their role is clear) and macroeconomic stability, i.e. **output volatility and inflation volatility**, employing **annual panel** data for **21 OECD countries** over the **1985-2012** period.

- **finds** that:
  - **discretionary fiscal policy** $\rightarrow$ **higher volatility** of **output and inflation**.
  - when **strict fiscal rules** are introduced $\rightarrow$ discretionary policy becomes **output-stabilizing** rather than destabilizing.
  - however, **fiscal rules** are **unable** to affect the **inflation-destabilizing** nature of discretionary fiscal policy, if any.
Studies on macroeconomic stabilization

- Fiscal policy is better suited for the role of macroeconomic stabilizer (Blinder 2004): automatic stabilizers!

- The effects of fiscal policy on macroeconomic volatility (Gali 1994; Fatás & Mihov 2001, 2003; Rother 2004; Badinger 2009) → aggressive use of fiscal policy reduces macroeconomic stability (of output; unclear on inflation volatility).

- The government’s discretionary corrections of expenditure and/or taxation not taken in response to cyclical developments → destabilizing impact on the economy (Furceri 2007; Afonso & Furceri 2008; Loayza et al. 2007).
Studies on fiscal rules

- Most studies focus on their disciplinary effect...


Fiscal rules and macroeconomic stability?

- **Hard to understand *a priori*** the way in which such rules will influence the role played by governments for macroeconomic stability.

  - *On the one hand*, national fiscal rules can increase the transparency of the public budget, governments’ effectiveness and accountability → avoid unsustainable fiscal policies and improve fiscal management → *macroeconomic stability* (Lavigne 2011; Blume & Voigt 2013).

  - *On the other hand*, fiscal rules normally constrain budgetary variables → smaller public sectors; against the tax-smoothing theory of budget deficits; lower governments’ flexibility to react → *macroeconomic instability* (Barro 1979; Galì 1994; Alesina & Perotti 1999).
Our contribution

- Estimate discretionary fiscal policy using several alternative measures of government intervention (narrowly and broadly defined).

- Analyze the relationship between discretionary fiscal policy and macroeconomic volatility with panel data (i.e. three-year periods) rather than cross-sectional data as done in most of the existing literature.

- Then, and most importantly, we study how this relationship is affected by the existence of national fiscal rules.

- In all cases we control for potential endogeneity issues that are widely recognized to affect this type of analysis.
Results – presentation plan

1. How we estimate discretionary fiscal policy.

2. **Output volatility** – discretionary fiscal policy model (as in the existing literature).


4. **Inflation volatility** – discretionary fiscal policy model (as in the existing literature).

5. **Inflation volatility** – discretionary fiscal policy model (*enriched with fiscal rules*, and their interaction with fiscal policy).
1. Estimating discretionary fiscal policy

- The stabilizing role of automatic stabilizers is well-known. That is why we need to study discretionary policy, and it has to be estimated (standard approach in the literature: Fatas and Mihov 2001, 2003, 2005).

\[
\Delta \ln spending_{t} = \alpha_0 + \alpha_1 \Delta \ln spending_{t-1} + \alpha_2 \Delta \ln gdp_t + \beta_1 \pi + \beta_2 \pi^2 + \text{trend} + \varepsilon_{t}^{\text{discr_fp}}
\]

- **2SLS estimations** for each country of our sample over the period 1961-2012.

- Robustness: three alternative spending_ series: consumption; consumption plus investment; primary expenditure (basically: from narrowly-defined to broadly-defined discretionary policy).

- Our measure of discretionary fiscal policy: standard deviation over three-year periods of the fiscal shocks just estimated.
2. Discretionary fiscal policy and output volatility

- **The standard model**

\[
\ln \sigma_{\text{gdp}}^{\text{discr}} = \phi_1 \cdot \text{discr} + \phi_1 \cdot \text{W} + \mu_i + \eta_t + \nu_{i,t}
\]

- **Dep. var.** ⇒ *standard deviation of the growth rate of real GDP per capita over the three year periods*, standing for **output volatility** (robustness: *private output volatility*).

- **Main explanatory variable** ⇒ *discretionary fiscal policy*

- **W** ⇒ vector of controls including government size, trade openness, log real GDP per capita.

- **Sign of** \( \phi_1 \) **indicates whether discretionary fiscal policy contributes to the output stability** of the countries under observation (i.e. \( \phi_1 < 0 \)).

- **Methodology:** FE with DK standard errors; Sys-GMM estimator.
2. Discretionary fiscal policy and output volatility

### Positive relationship as in previous studies

<table>
<thead>
<tr>
<th></th>
<th>FE-DK</th>
<th>sys-GMM</th>
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<tr>
<td></td>
<td>Macro volatility: GDP</td>
<td>Macro volatility: GDP</td>
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<tr>
<td></td>
<td>discr_gpe</td>
<td>discr_gci</td>
</tr>
<tr>
<td><strong>discr_fp</strong></td>
<td>5.50*** (3.40)</td>
<td>6.66 (1.03)</td>
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<td><strong>gov_size</strong></td>
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<td>0.001 (0.07)</td>
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<tr>
<td><strong>open</strong></td>
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<td>-0.008 (-0.71)</td>
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<tr>
<td><strong>gdp_level</strong></td>
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<td>0.18 (0.65)</td>
</tr>
<tr>
<td>No. of obs.</td>
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<tr>
<td>R^2</td>
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<td>0.64</td>
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<tr>
<td>AR(2)</td>
<td>0.92</td>
<td>0.96</td>
</tr>
<tr>
<td>Hansen</td>
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</tr>
</tbody>
</table>

- **政府支出波动**与**产出稳定性**负相关（1%产出波动的增加将导致GDP波动增加在0.10和0.19个百分点之间。）
3. Discretionary fiscal policy, output volatility, and fiscal rules

- **The effect of fiscal rules** (1985-2012)

\[
\ln \sigma_{i,t,t+2}^{gdp} = \gamma_1 \text{discr}_{fp,i,t,t+2} + \gamma_2 \text{rule}_{i,t,t+2} + \gamma_3 \text{discr}_{fp*rule}_{i,t,t+2} + \mu_i W_{i,t,t+2} + \mu + \eta_i + \nu_{i,t}
\]

- **rule** → index from 0 to 5 measuring the extent of fiscal rules; **5 stricter** rules (source IMF: Kinda et al. 2013).

- **Coverage**: *national*, covering at least the central government.

- **Type**:
  - **Budget balance** (*rule_bb*)
  - **Debt** (*rule_d*)
  - **Expenditure** (*rule_e*)
  - **Revenue** (*rule_r*)
  - **Overall index** (*rule_overall*)

- **FE-DK and Sys-GMM** → to deal with the potential endogeneity of the interaction term between discretionary policy and fiscal rules (*discr_fp*rules).
3. Discretionary fiscal policy, output volatility, and fiscal rules

Results \((\text{discr}_\text{fp} = \text{primary expenditure})\)

<table>
<thead>
<tr>
<th>Rules:</th>
<th>FE estimates</th>
<th>GMM estimates</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>rule_e</td>
<td>rule_r</td>
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<tr>
<td>discr_gpe</td>
<td>6.88***</td>
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<td>interaction</td>
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<td>-3.41***</td>
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<td>discr_gpe</td>
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<tr>
<td>rule_e</td>
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<td>(3.93)</td>
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<td>rule_r</td>
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<td>rule_bb</td>
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<tr>
<td>rule_d</td>
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<tr>
<td>rule_overall</td>
<td>0.37</td>
<td>0.40</td>
</tr>
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- Discretionary fiscal policy is **output-destabilizing** when rules are **not stringent enough** (index < 3); the opposite when rules (particularly those on balanced budgets) are **stringent**!
3. Discretionary fiscal policy, output volatility, and fiscal rules

- Results \((\text{discr}\_fp = \text{primary expenditure}; \text{expenditure rule})\)
3. Discretionary fiscal policy, output volatility, and fiscal rules

- Results \((\text{discr}\_fp = \text{primary expenditure}; \text{budget balance rule})\)
3. Discretionary fiscal policy, output volatility, and fiscal rules

- Results ($discr_fp = primary expenditure; overall rule$)
4. & 5. Discretionary fiscal policy, inflation volatility, and fiscal rules

- **4. Results** from the standard model of the literature estimated with panel data:
  - Only weak evidence that narrowly-defined discretionary fiscal policy (*i.e.* government consumption + investment) is inflation-destabilizing; no effects of broadly-defined policy (*i.e.* government primary expenditure).

- **5. Results** from model enriched with fiscal rules:
  - No role of fiscal rules.
  - Possible explanation: *inflation management has more to do with central banks than governments, the lack of influence of fiscal rules had to be expected!*

Robustness checks

- Estimate alternative specifications of model (1) using the following: primary receipts, net lending, and cyclically-adjusted net lending \( \rightarrow \) positive relationship between GDP volatility and discretionary policy.

- Estimate the standard model through 2SLS instead of sys-GMM \( \rightarrow \) results reassuringly confirm the above findings (i.e. the positive relationship between discretionary fiscal policy and GDP volatility).

- Estimate the standard model over 4-year and 2-year periods; changing the specific 3-year periods \( \rightarrow \) the findings effectively confirm the benchmark results.
Discussion and summary

- **Output-destabilizing effects** of discretionary expenditure, particular of public investment and government consumption
  - Recently, governments in the EU have focused on cutting the latter in order to implement austerity measures to improve public finances.

- When **strict rules** are implemented, discretionary primary expenditure becomes output-stabilizing.
  - Rules on balanced budgets are more effective in mitigating the output-destabilizing effects of discretionary policy than rules focusing on only expenditure or revenue → **not all types of rules are equally effective**.

- **Discretionary fiscal policy** increases (to a lesser extent) inflation instability.

- **Fiscal rules** do not affect the latter relationship.
  - This seems legitimate, given that the task of maintaining a stable inflation rate is in the hands of central banks, rather than governments.
**Policy implications**

- **Fiscal rules** always debated for their role in ensuring fiscal discipline.

- Our results suggest that certain types of strict fiscal rules, particularly if targeting balanced budgets, can affect the stabilization function of fiscal policy.

- Since there is evidence of adverse welfare and growth effects of output volatility, our results may imply a beneficial role of fiscal rules unrelated to the disciplinary one, if any.

- This welfare-enhancing effect of fiscal rules seems to be particularly relevant given austerity policies negatively affecting economic growth (IMF 2012). Our results suggest that the existence of rules guiding the policy-makers behavior may mitigate those adverse effects.
Thank you for your attention!

If you have any further doubts/comments/questions...

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