

ON THE DESIGN OF STABILISING FISCAL RULES?

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Views set out in this presentation are those of the authors and do not necessarily reflect the official opinion of Latvijas Banka or German Council of Economic Experts

MOTIVATION

- Rapid increase in incidence and stringency of numerical rules;
- Stabilizing effects of fiscal rules can be uncertain;
- Previous evidence indicate that fiscal constraints dampen the fluctuations in output through their stabilizing effect on fiscal policy;
- Little discussion on whether these benefits depend on **certain properties of fiscal rules** and **actual compliance with them**.

OUTLINE

- Can fiscal rules improve the stability of discretionary fiscal policy?
- Do the stabilizing benefits depend on certain properties of fiscal rules?
- Does the actual compliance to fiscal rules matter?

RELATED LITERATURE

Higher output volatility → lower long-term growth (Martin & Roger 2000; Ramey & Ramey, 1995);

Fiscal policy and the output volatility:

- **Discretionary fiscal policy** (Badinger, 2009; Fatas & Mihov, 2003; Fatas & Mihov, 2006; Sacchi & Salotti, 2015);
- Government size (Debrun et al., 2008; Gali, 1994; Fatas & Mihov, 2001);

Other determinants of the output volatility:

- Income level (Acemoglu & Zilibotti, 1997; Greenwood & Jovanovic, 1990);
- Openness to international trade (Easterly et al., 2001; Giovanni and Levchenko, 2009; Rodrik, 1998);
- Financial system development (Ferreira da Silva, 2002; Spiliopoulos, 2010);

What determines the aggressive use of fiscal policy:

- Existence of fiscal rules (Fatas & Mihov, 2006; Sacchi & Salotti, 2015);
- Stringency of fiscal rules (Badinger & Reuter, 2015);
- Stabilizing properties - ???
- Compliance with numerical rules - ???

DATA & METHODOLOGY

Sample: EU28 1996-2015

$$\sigma_{i,t}^{\varepsilon^{discr.fp}} = \beta_1 FR_{i,t} + \beta_2 Z_{i,t} + \delta_i + u_{i,t}$$

$\sigma_{i,t}^{\varepsilon^{discr.fp}}$ is the std. dev. of discretionary shocks over five-year period in one of four different fiscal variables: (primary expenditure, public consumption; public consumption + investment; primary balance)

$Z_{i,t}$ stands for a set of control variables, δ_i denotes fixed effects, $u_{i,t}$ is the idiosyncratic error term;

$FR_{it} = (BBR_{it}, ER_{it})$ denotes:

- (a) share of years when fiscal rules are present;
- (b) interactions with stabilization properties of fiscal rules;
- (c) share of years when fiscal rules are present and complied with.

MAIN FINDINGS

Estimation results for the effect of fiscal rules on fiscal volatility

Dependent variable: fiscal volatility								
	Primary expenditure		Public consumption		Consumption and Investments		Primary balance	
Budget balance rule	-0.517*		-0.647**		-0.560*		-0.471*	
Expenditure rule	-0.082		-0.180		-0.199		0.061	
R-sq within	0.271	0.230	0.200	0.147	0.203	0.152	0.209	0.174
Hansen J-stat	3.135	1.112	2.216	1.477	2.939	1.430	0.245	0.507
SW F stat	4.28***	3.84***	3.13**	2.29**	3.33**	3.05**	1.57	0.83

Note: *(**)[***] denotes significance at 0.1(0.05)[0.01] level. Hansen J-stat is a test of instrument validity (H_0 : instruments are valid), F-stat is a test of instrument relevance (H_0 : instruments are weakly identified)

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MAIN FINDINGS (PROPERTIES)

Estimation results for the effect of fiscal rules on fiscal volatility

Dependent variable: fiscal volatility								
	Primary expenditure		Public consumption		Consumption and Investments		Primary balance	
BBR	-0.307		-0.269		-0.282		-0.194	
BBR*CAB	-0.415*		-0.749***		-0.551**		-0.550**	
ER		-0.050		-0.102		-0.141		0.119
ER*Potential output		-0.345		-0.836**		-0.616*		-0.614**
R-sq within	0.289	0.237	0.255	0.183	0.239	0.180	0.240	0.198
Hansen J-stat	5.049	4.954	2.228	2.672	3.443	3.379	0.836	2.017
SW F-stat	4.67***	3.11**	3.36***	2.67**	3.33***	2.82**	1.92	2.31*

Note: *(**)[***] denotes significance at 0.1(0.05)[0.01] level. Hansen J-stat is a test of instrument validity (H_0 : instruments are valid), F-stat is a test of instrument relevance (H_0 : instruments are weakly identified)

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MAIN FINDINGS (COMPLIANCE)

Estimation results for the indirect effect of fiscal rules on fiscal volatility

Dependent variable: fiscal volatility								
	Primary expenditure		Public consumption		Consumption and Investments		Primary balance	
BBR	-0.459	-0.305	-0.633**	-0.253	-0.548*	-0.269	-0.478*	-0.151
BBR*CAB		-0.421		-0.794**		-0.586**		-0.662**
BBR*Compliance	-0.318		-0.081		-0.065		0.036	
BBR*CAB*Compliance		0.019		0.153		0.122		0.385
R-sq within	0.279	0.290	0.201	0.257	0.203	0.240	0.210	0.247
Hansen J-stat	3.310	5.495	2.493	2.229	3.071	3.477	1.576	2.234
SW F-stat	3.52***	3.85***	2.49**	2.79**	2.65**	2.78**	1.29	1.50

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MAIN FINDINGS (COMPLIANCE)

Estimation results for the indirect effect of fiscal rules on fiscal volatility

Dependent variable: fiscal volatility				
	Primary expenditure	Public consumption	Consumption and Investments	Primary balance
ER	-0.092	-0.142	-0.143	-0.088
ER*Compliance	-0.040	-0.159	-0.230	0.110
R-sq within	0.230	0.142	0.155	0.175
Hansen J-stat	1.615	1.647	1.493	0.675
SW F-stat	3.18***	1.80	2.41**	0.68

Note: *(**)[***] denotes significance at 0.1(0.05)[0.01] level. Hansen J-stat is a test of instrument validity (H_0 : instruments are valid), F-stat is a test of instrument relevance (H_0 : instruments are weakly identified)

ROBUSTNESS CHECKS (1)

Estimation results for the effect of fiscal rules on public consumption volatility

	Budget balance rules	Budget balance rules	Cyclically adjusted balance	Budget balance rules	Compliance	Budget balance rules	Distance	Expenditure rules	Expenditure rules	Potential output
	1	2	3	3	3	4	4	6	7	7
Baseline	-0.647***	-0.269	-0.749***	-0.633**	-0.081	-0.648**	-0.004	-0.180	-0.102	-0.836**
OECD	-0.404**	-0.153	-0.493***	-0.362**	-0.152	-0.405**	-0.004	-0.071	0.018	-0.688**
Four-year periods	-0.358**	-0.019	-0.639***	-0.346**	-0.053	-0.379**	-0.032	-0.012	0.135	-0.756***
Rule dummy	-0.549***	-0.300	-0.396**	-0.586***	0.126	-0.554***	0.049	-0.077	0.017	-0.782**
POSET	-1.317***	-0.467	-1.112**	-1.301***	-0.085	-1.315***	0.012	-0.608	-0.419	-1.387*
IMF	-0.250***	-0.100	-0.189**	-0.249***	-0.007	-0.173**	0.016	-0.138	-0.097	-0.221*

Note: *(**)[***] denotes significance at 0.1(0.05)[0.01] level.

ROBUSTNESS CHECKS (2)

Estimation results for the effect of fiscal rules on public consumption volatility

	Budget balance rules	Budget balance rules	Cyclically adjusted balance	Budget balance rules	Compliance	Budget balance rules	Distance	Expenditure rules	Expenditure rules	Potential output
	1	2	3	3	4	4	6	7	7	
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ROBUSTNESS CHECKS (3)

Estimation results for the effect of fiscal rules on public consumption volatility

	Budget balance rules	Budget balance rules	Cyclically adjusted balance	Budget balance rules	Compliance	Budget balance rules	Distance	Expenditure rules	Expenditure rules	Potential output
	1	2		3		4		6	7	
Baseline	-0.647***	-0.269	-0.749***	-0.633**	-0.081	-0.648**	-0.004	-0.180	-0.102	-0.836**
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ROBUSTNESS CHECKS (4)

Estimation results for the effect of fiscal rules on public consumption volatility

	Budget balance rules	Budget balance rules	Cyclically adjusted balance	Budget balance rules	Compliance	Budget balance rules	Distance	Expenditure rules	Expenditure rules	Potential output
	1	2	3	3	3	4	4	6	7	7
Baseline	-0.647***	-0.269	-0.749***	-0.633**	-0.081	-0.648**	-0.004	-0.180	-0.102	-0.836**
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MAIN FINDINGS

Estimation results for the indirect effect of fiscal rules on output volatility

Second stage		Dependent variable: output volatility							
	Primary expenditure		Public consumption		Consumption and Investments		Primary balance		
Fiscal Volatility	0.808***	0.604**	0.943***	0.745**	0.944***	0.692**	1.375***	1.267**	
R-sq within	0.581	0.514	0.427	0.571	0.568	0.515	0.668	0.688	

First stage		Dependent variable: fiscal volatility							
Budget Balance rule	-0.517*		-0.647**		-0.560*		-0.471*		
Expenditure rule	-0.082		-0.180		-0.199		0.061		
R-sq within	0.271	0.230	0.200	0.147	0.203	0.152	0.209	0.174	
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CONCLUSIONS

- Fiscal rules are found to limit fiscal volatility;
- Budget balance rules that set limits in cyclically adjusted terms and expenditure rules that tie expenditure growth to potential GDP are found to be more effective;
- In terms of stabilizing properties, actual compliance with rules is not found to be significant;
- **Rules, even if they are not always adhered to, can still be effective in lowering the fiscal volatility and hence contribute to macroeconomic stability**