Fiscal Rules and Fiscal Performance: World Evidence

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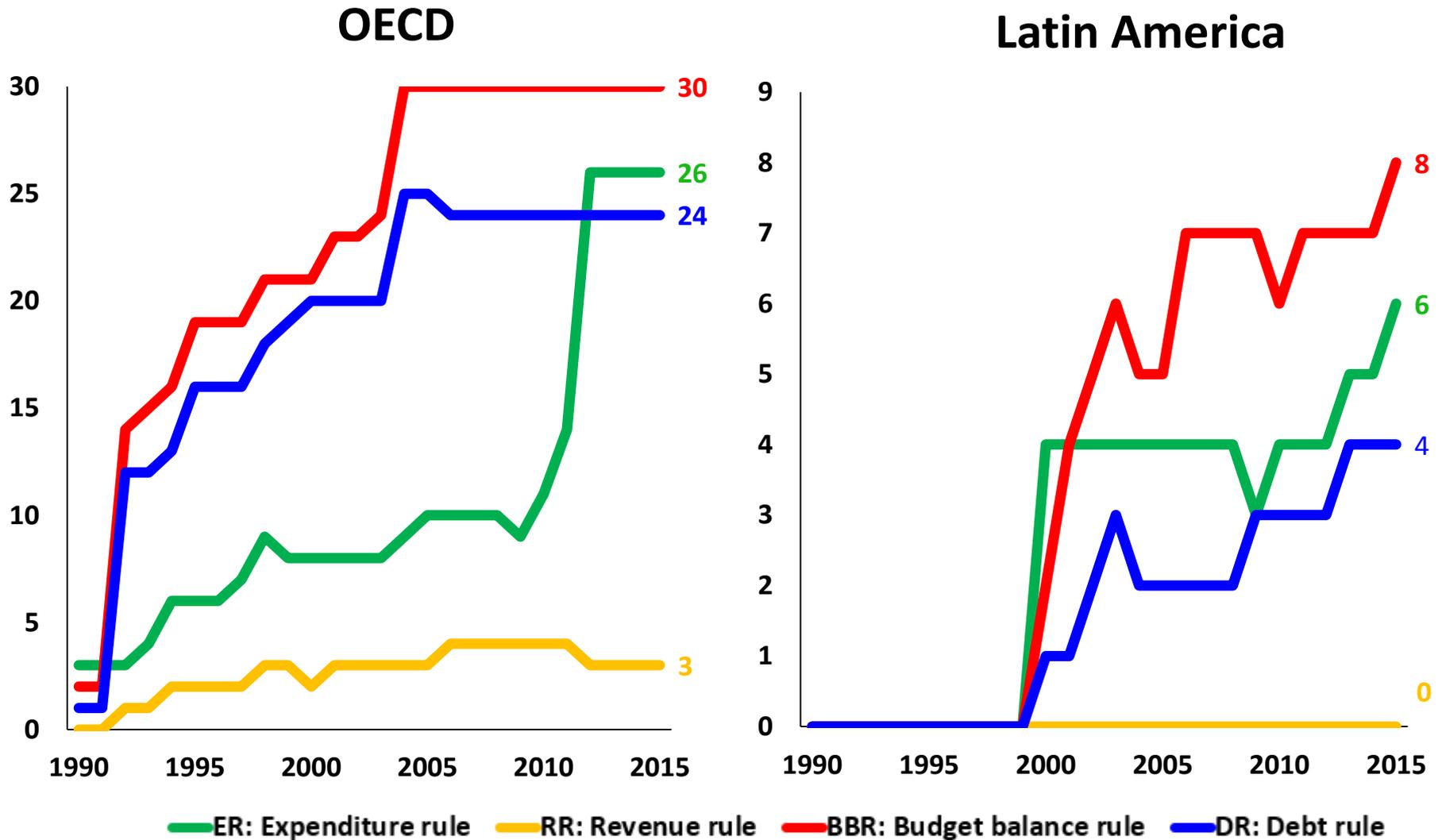3. World Evidence: Fiscal Rules and Fiscal Performance
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1. World Distribution of Fiscal Rules

Number of Countries with Fiscal Rules in Place, 1985-2015
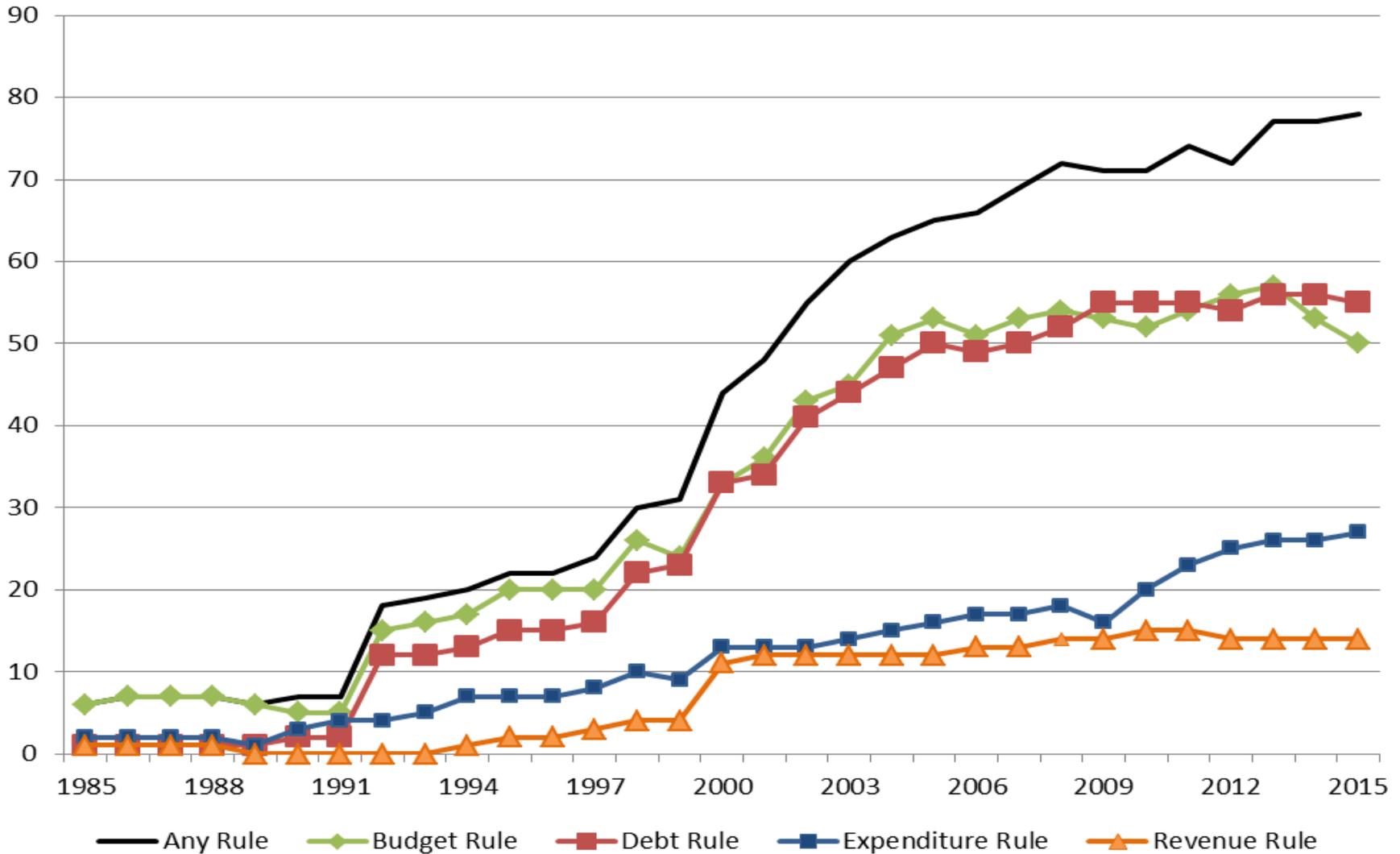
Source: IMF Fiscal Rules Dataset, 2016.

Number of countries with fiscal rules, by regions and types of rules, 1990-2015

OECD

Latin America

ER: Expenditure rule   RR: Revenue rule   BBR: Budget balance rule   DR: Debt rule

Source: IMF, Fiscal Rules Dataset 1985-2015.

2. Literature Review:
Macro Effects of Fiscal Rules

From fiscal policy framework to development
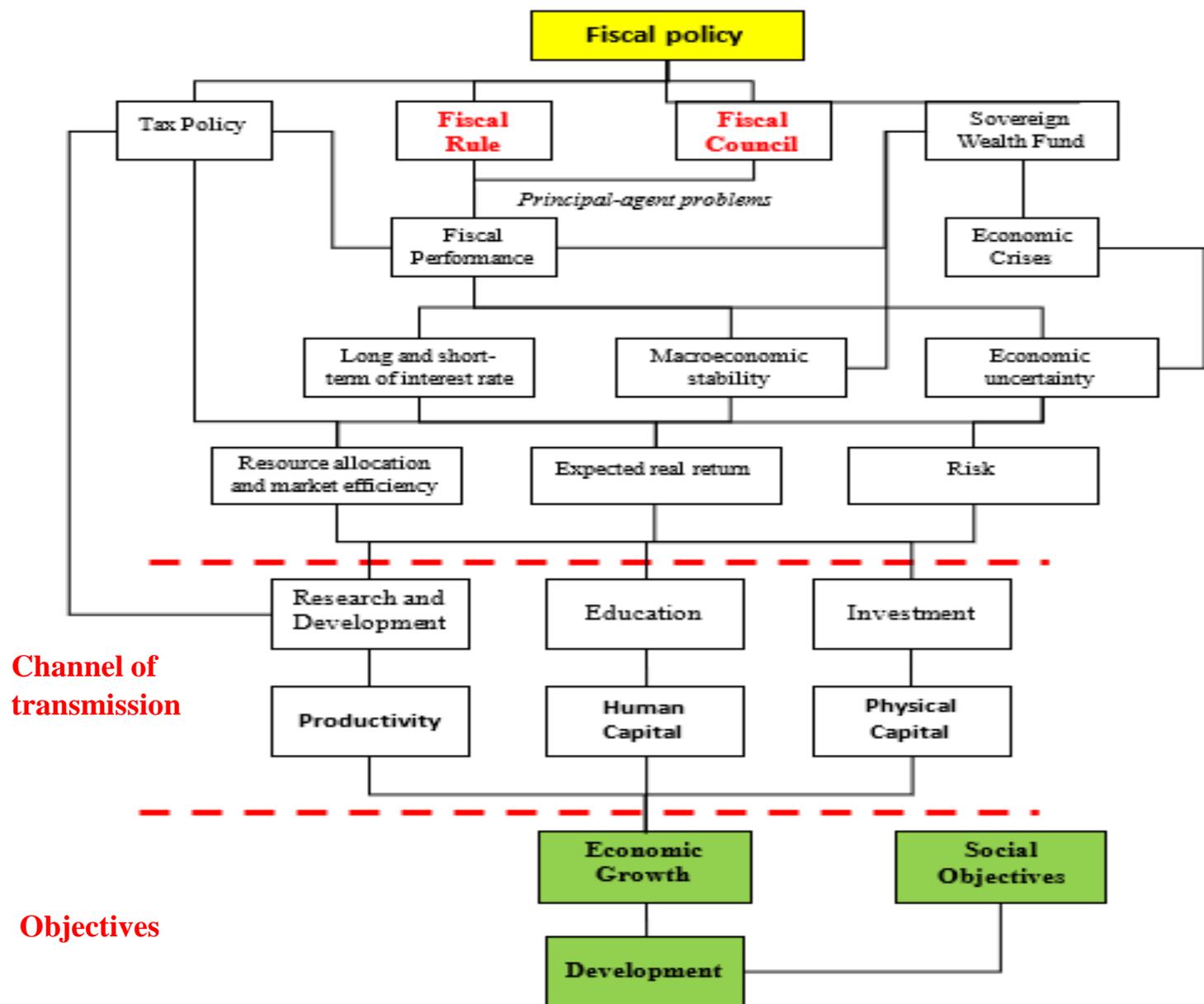
Effects of fiscal rules on macro variables (1)

Dependent variable	Independent variable	Empirical findings
Income and growth		
Growth of GDP per capita	Overall rule index	0 or + (6)
	Expenditure rule index	0 or + (6)
	Budget balance and debt rule index	0 or + (6)
	Supranational fiscal rules in Eastern Caribbean Currency Union	0 or + (3)
	Supranational fiscal rules in Central African Economic and Monetary Community	0 or + (3)
	National fiscal rule	0 or + (3)
	Budget balance rules in Low and Middle-Income Countries	0 or - (5)
	Maastricht Treaty (1997-2005)	+ (7)
Log GDP per capita	Index of fiscal discipline	+ (2)
Growth rate of GDP	Index of fiscal discipline	+ (2)
Fiscal performance		
Fiscal policy volatility	Budget balance rule	- (1)
Government budget balance (% of GDP)	Budget balance rule index	+ (4)
	Budget balance rule	+ (16)
	Debt rule	+ (16)
	Expenditure rule	0 (16)
Government deficit (% of GDP)	Budget balance rule	- (11); + (14)
	Legal enforcement* Budget balance rule	- (14)
	Expenditure rule	0 (11); 0 or + (14)
	Debt rule	- (14)
Real budget balance per capita	Fiscal rule	+ (13)
Cyclically-adjusted primary balance (% of GDP)	Fiscal rule overall index	0 or + (8)
	Fiscal rule coverage index	0 or + (8)
	Output gap * Fiscal rule dummy	+ (9)
Cyclical correlation between government expenditure and GDP	Budget balance rule	0 (16)
	Debt rule	0 (16)
	Expenditure rule	- (16)
Cyclical correlation between government budget balance and GDP	Budget balance rule	0 (16)
	Debt rule	0 (16)
	Expenditure rule	0 (16)
Government debt (% of GDP)	Budget balance rule	0 (16)
	Debt rule	0 (16)
	Expenditure rule	0 (16)
Other		
Government bond spread (10-year)	Balanced budget rule	0 or - (1)
	Fiscal rule index * Cyclical dummy	0 or - (10)
Government bond spread against the German Bund	Fiscal rules index	0 or - (12)
Standard deviation of the growth rate of real GDP per capita	Discretionary fiscal policy* Expenditure rule	0 or - (15)
	Discretionary fiscal policy* Revenue rule	0 or - (15)
	Discretionary fiscal policy* Budget balance rule	0 or - (15)
	Discretionary fiscal policy* Debt rule	0 or - (15)
	Discretionary fiscal policy* Fiscal rule	- (15)

Source: Schmidt-Hebbel, 2018a.

Effects of fiscal rules on macro variables (2)

- Fiscal rules tend to improve fiscal performance
- Several studies report positive and significant effects of different measures and types of fiscal rules on different measures of fiscal policy cyclicality and solvency
- One study reports positive effects of fiscal rules on government deficits, but effects turn negative when the fiscal rule interacts with its legal enforcement
- Government debt levels are not affected by fiscal rules
- Results on effects of fiscal rules on fiscal policy cyclicality are mixed
- Rules reduce government bond spreads
- Fiscal rules raise the standard deviation of per capita GDP growth (not reported in the table) but reduce it when rules are interacted with a measure of discretionary fiscal policy

3. World Evidence:
Fiscal Rules and Fiscal Performance

Theory: Relations between different types of Fiscal Rules and Policy Objectives

	Macroeconomic Stabilization: Cyclicality of government spending (correlations with GDP)	Fiscal sustainability and solvency: Government deficit and debt levels (ratios to GDP)	Size of Government: Government expenditure and revenue levels (ratios to GDP)
1. Budget Balance Rules		(–)	
Current BBR (annual)	(+)	(–)	
Current BBR (average over the cycle)	(+), (0) or (–)		
Structural BBR (annual)	0		
Structural BBR (average over the cycle)	(–)		
2. Debt Rules		(–)	
Current DR (annual)	(+)		
Current DR (average over the cycle)	(+), (0) or (–)		
3. Expenditure Rules		(–)	(–)
Current ER (annual)	(0)		
Current ER (average over the cycle)	(–)		
4. Revenue Rules		(–)	(–)
Current RR (annual)			
Current RR (average over the cycle)			

Source: Schmidt-Hebbel and Soto, 2017b.

Methodology

- World evidence on the contribution of fiscal rules to fiscal performance

- Effects of three types of rules – expenditure, budget balance, and debt rules, using *de facto* and *de jure* measures – on four indicators of fiscal performance – cyclicality of government expenditure and fiscal balance, and levels of fiscal balance and government debt – controlling for 13 other determinants

- First stage: panel probit regression models for fiscal rules

- Second stage: dynamic panel data models for four fiscal performance measures (addressing potential endogeneity, dynamic responses, and unobserved heterogeneity

- World sample: annual observations for 115 countries, 1985-2015

- Robustness testing

Determinants of the Procyclicality of Government Expenditure

	Base Model (1)	Clean Model (2)	BBR Model (3)	DR Model (4)	ER Model (5)
1st Lag Expenditure Procyclicality	0.639*** (0.000)	0.665*** (0.000)	0.659*** (0.000)	0.664*** (0.000)	0.652*** (0.000)
2nd lag Expenditure Procyclicality	-0.203*** (0.003)	-0.195*** (0.002)	-0.190*** (0.003)	-0.188*** (0.003)	-0.194*** (0.004)
Development Level	-0.335** (0.028)	-0.210* (0.078)	-0.208* (0.070)	-0.205* (0.067)	-0.128 (0.273)
Government Stability	-0.0284 (0.110)	-0.0303* (0.089)	-0.0296 (0.117)	-0.0298* (0.096)	-0.0285 (0.142)
Business Cycles	6.000** (0.010)	6.800*** (0.005)	6.860*** (0.005)	6.910*** (0.004)	6.593*** (0.006)
Financial Openness	0.533*** (0.002)	0.401** (0.011)	0.406** (0.048)	0.406** (0.022)	0.522*** (0.005)
Price Instability	0.812 (0.108)	0.710 (0.102)	0.711 (0.100)	0.730* (0.091)	0.710 (0.111)
Revenue Instability	0.912** (0.017)	0.826** (0.046)	0.810* (0.054)	0.808* (0.058)	0.550 (0.188)
Exports Concentration	-0.241 (0.134)	-0.330** (0.031)	-0.325** (0.038)	-0.326** (0.039)	-0.332** (0.035)
Workers Remittances	0.0470 (0.151)				
Fixed Exchange Regime	-0.120 (0.225)				
Resource Rents Cycles	0.257 (0.298)				
Dependency Ratio	1.124 (0.174)				
Budget Bal. Rule			-0.0537 (0.905)		
Debt Rule				-0.0562 (0.944)	
Expenditure Rule					-1.434** (0.034)

Source: Schmidt-Hebbel and Soto, 2017b.

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Source: Schmidt-Hebbel and Soto, 2017b.

Determinants of Fiscal Balance

	Base Model (1)	Clean Model (2)	BBR Model (3)	DR Model (4)	ER Model (5)
1st Lag Fiscal Balance	0.376*** (0.006)	0.508*** (0.000)	0.526*** (0.000)	0.515*** (0.000)	0.513*** (0.000)
2nd lag Fiscal Balance	-0.109* (0.062)	-0.143** (0.013)	-0.131** (0.016)	-0.139*** (0.009)	-0.132** (0.019)
Development Level	0.374 (0.719)	-0.0334 (0.961)	-0.524 (0.419)	-0.396 (0.537)	-0.504 (0.478)
Government Stability	0.277** (0.026)	0.363*** (0.003)	0.370*** (0.003)	0.360*** (0.003)	0.356*** (0.004)
Fixed Exchange Regime	1.874** (0.018)	2.591*** (0.000)	3.088*** (0.000)	2.723*** (0.000)	2.611*** (0.000)
Business Cycles	48.65*** (0.001)	67.70*** (0.000)	69.09*** (0.000)	67.15*** (0.000)	68.05*** (0.000)
Cycles in Resource Rents	4.772*** (0.002)	4.531*** (0.005)	5.214*** (0.002)	4.831*** (0.003)	4.971*** (0.002)
Price Instability	6.523* (0.064)	7.588** (0.039)	8.859** (0.021)	8.949** (0.013)	8.490** (0.026)
Workers Remittances	-0.316 (0.104)	-0.477** (0.036)	-0.410** (0.048)	-0.503** (0.019)	-0.421* (0.051)
Dependency Ratio	0.364 (0.961)				
Exports Concentration	0.249 (0.788)				
Revenue Instability	-3.020 (0.269)				
Financial Openness	0.490 (0.709)				
Budget Bal. Rule			5.595** (0.031)		
Budget Bal. Rule* Small State			-21.05 (0.103)		
Debt Rule				7.985** (0.022)	
Debt Rule* Small State				-39.83** (0.044)	
Expenditure Rule					6.774* (0.095)
Expenditure Rule* Small State					-20.64 (0.524)

Source: Schmidt-Hebbel and Soto, 2017b.

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Summary of Results

Fiscal Outcomes	Budget Balance Rule		Debt Rule		Expenditures Rule	
	de jure	*de facto*	*de jure*	*de facto*	*de jure*	*de facto*
Procyclicality of government expenditures						
Is there any effect on procyclicality?	No	No	No	No	Reduced	Reduced
Small states are more/less procyclical?	No	No	No	No	No	No
LAC countries are more/less procyclical?	No	No	No	No	No	No
Procyclicality of fiscal balances						
Is there any effect on procyclicality?	No	No	No	No	No	No
Small states are more/less procyclical?	More	No	No	No	No	No
LAC countries are more/less procyclical?	No	No	No	No	Less	No
Fiscal Balance						
Do fiscal balances improve?	Yes	Yes	Yes	Yes	Yes	No
Small states have higher/lower balances?	No	No	Lower	No	No	No
LAC countries have higher/lower balances?	No	No	No	No	No	No
Government debt						
Is debt reduced?	No	No	No	No	No	No
Small states have higher/lower debt?	Lower	No	No	No	No	No
LAC countries have higher/lower?	No	No	No	No	No	Higher

Source: Schmidt-Hebbel and Soto, 2017b.

4. Conclusions

Conclusions

(1) Best-practice fiscal frameworks comprise complex institutional arrangements that include fiscal rules

(2) Theory: different types of rules have different (often contradictory) effects on the cyclicality of spending, fiscal balance, and debt. But different rules contribute to fiscal sustainability (lower deficit and debt levels)

(3) Fiscal rules are adopted massively since the 1990s

(4) World empirical evidence: some rules affect fiscal performance significantly:

- ERs lower expenditure pro-cyclicality

- BBRs, DRs, and ERs raise the fiscal balance

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