Remarks on Fiscal Spending and cyclicality
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The New Normal in the Global Economy: challenges and Prospects for MENA
Fiscal Policy Session

Summary results from two multi-country studies

- **Fiscal spending and growth from an 'event' analysis**
  Growth episodes mostly follow fiscal episodes
  Correlates of growth events following fiscal events in dev. countries
      Higher the expenditure shift towards infrastructure and lower the initial fiscal imbalance
      Fewer resources devoted to non-interest public services

- **Fiscal cyclicality of growth episodes**
  Fiscal spending is mostly pro-cyclical
  Resource-rich/SSA are mostly pro-cyclical and remain so in a 'trap'
  Corruption is associated with pro-cyclicality
  Quality of fiscal institutions correlated with pro-cyclicality

"Fiscal Spending and Economic Growth: Some stylized Facts"
(Carrère - Melo)

Approach: Look at 'what is in the data' for as large a data set using GFS data

Methodology
Event-analysis inspired by Hausman, Pritchett, Rodrik (HPR, JEG 2005).

Event-analysis reorganizes the data around the event (definition of 'event' below).

For selected definitions of events, the sample produces 58 growth events and 95 fiscal events.

Definition of Events (1)

Definition of growth event:

Follows closely HPR. Event for *z* is calculated over windows of 4 years: n=4.

$$\Delta z_{t,n} = z_{t+n} - z_{t-n-1,t-1}$$

Growth event for *z*, in period t if following conditions are met:
(i)   An increase in the average per-capita growth of 2 ppa or more (percentage points per annum, ppa),
(ii)   Growth acceleration sustained for at least 5 years[t;t +4],
(iii) An average annual growth rate of at least 3.5ppa during the acceleration period [t;t +4],
(iv) A post-acceleration output exceeding the pre-episode peak level of GDP

To handle several overlapping events, a spline regression was fitted with selection of the year for which the change in indicator value is statistically the most significant. Two events must be separated by at least 5 years. Method used for both growth and fiscal events.

Definition of Events (2)

Definition of fiscal event:

Change in primary fiscal expenditures taking into account government budget constraint.

Paper discusses difficulty in defining Discretionary Fiscal expenditures (DFE) from GFS and growth-oriented expenditures from stabilizing expenditures (that can also have growth effects….!).

Growth event in period t if following conditions are met during following 5 year window:
(i)   An increase in DFE average growth of 1 ppa
(ii) If in deficit (i.e., def <−2% of GDP), deficit does not increase,
(iii) If in surplus (or in def >−2% ofGDP), the increase in DFE does not lead to a deficit exceeding 2% of GDP

Fiscal Spending: Stylized patterns (1)

Probability of fiscal event higher among the bottom two quartiles of the income distribution of countries

....but definition of fiscal event does not distinguish between fiscal policy shock and systematic fiscal policy
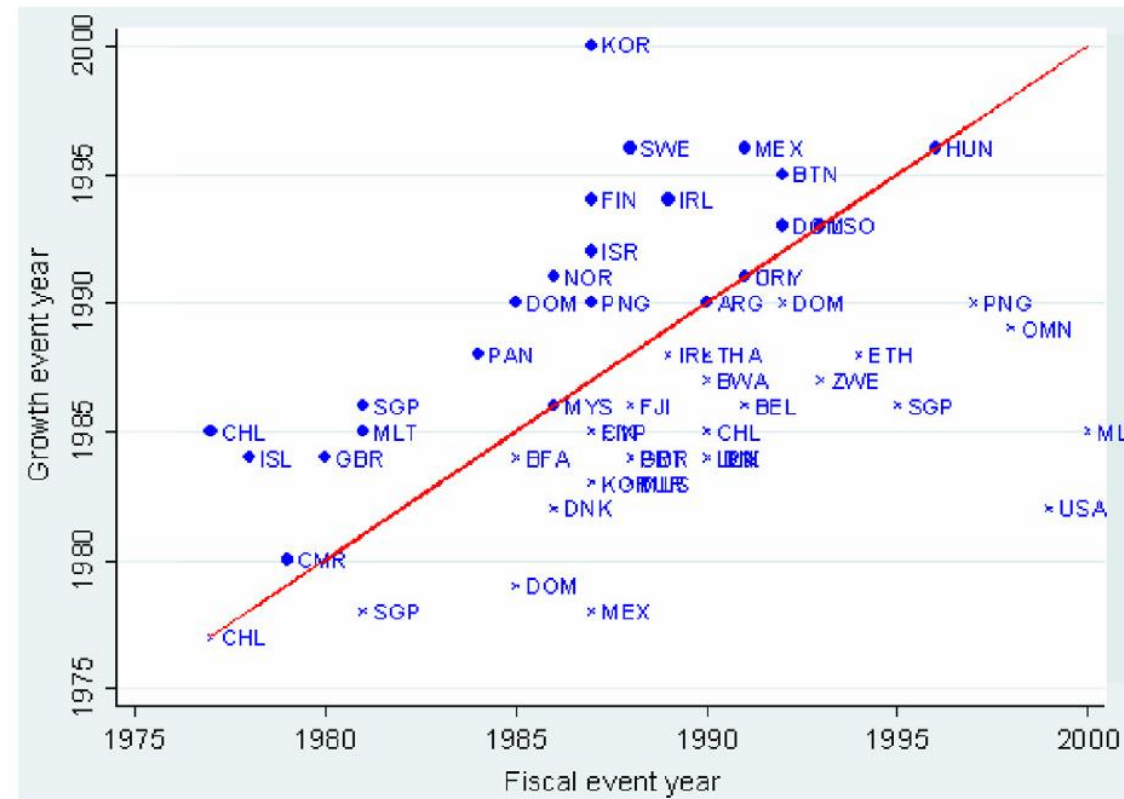

Figure 1. *Growth events vs. fiscal events. Notes: (a) 19 points strictly above the red line (growth event strictly preceded by fiscal event); (b) 23 points strictly below the red line (growth event strictly followed by fiscal event); (c) six points on the red line (growth event simultaneous to fiscal event, of which four in Latin America).* 95−48 = 47 *fiscal events with no associated growth events not shown in the figure.* ARG, Argentina; BTN, Bhutan; CHL, Chile; CMR, Cameroon; CRI, Costa Rica; DOM, Dominican Republic; FIN, Finland; GBR, United Kingdom; HUN, Hungary; IRL, Ireland; ISL, Iceland; ISR, Israel; KOR, Korea, Rep.; LSO, Lesotho; MEX, Mexico; MLT, Malta; MYS, Malaysia; NOR, Norway; PAN, Panama; PNG, Papua New Guinea; SGP, Singapore; SWE, Sweden; URY, Uruguay.

Fiscal Spending: Stylized patterns (2)

- Probability of a fiscal event: 10%
- Probability of a growth event given fiscal event: 26%.

- In developing countries prob is higher under the following :
    (i) Significantly lesser deficit
    (ii) Fewer resources devoted to non-interest general public services
    (iii) Shift in primary expenditures towards transport & communications

Conclusions

Very coarse approach to the debate on fiscal space which is linked to the cyclicality of fiscal expenditures which the paper tried to purge from the analysis

• Success of a growth-oriented fiscal-expenditure package is associated with a stabilized macroeconomic environment (through limited fiscal deficit).

• After controlling for growth-inducing effects (TOT, trade liberalization), growth event more likely when surrounded by a fiscal event

Why some countries can escape the pro-cyclicality trap and others can't
(Herrera, Kouame, Mandon, Walz)
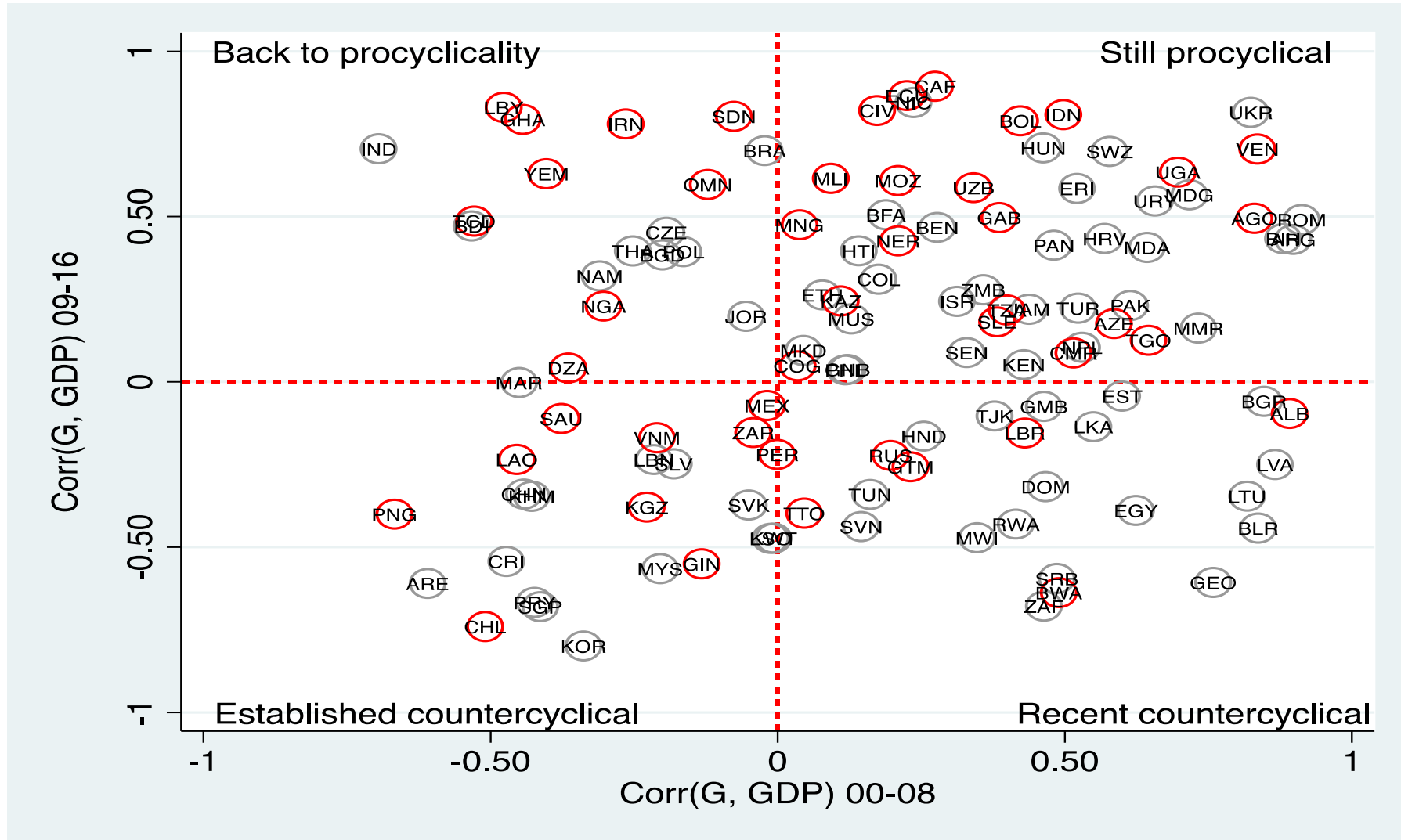
- Data and methodology
    2 periods:2000-08 vs. 2009-16; 141 (114 developing) countries.

$$Cycl.\,rggpx_{it} = \alpha + \beta Cycl.\,rgdp_{it} + \gamma_i + \delta_t + \varepsilon_{it} \qquad (1)$$

β captures variation of cyclical spending due to GDP by *x* units of local currency

For each period examine correlation of fiscal spending and growth

Resource Rich Countries tend to be procyclical in both periods

Procyclicality at the regional level

#	Code	Region	Corr(G, GDP) 2000-2008	Corr(G, GDP) 2009-2016
1	ECA	Europe & Central Asia	0.48	0.05
2	LAC	Latin America & Caribbean	0.20	0.09
3	**MENA**	**Middle East & North Africa**	**-0.23**	**0.12**
4	**SEAP**	**South, East Asia & Pacific**	**-0.07**	**-0.02**
5	**SSA**	**Sub-Saharan Africa**	**0.23**	**0.22**

Notes: In bold, region which are performing worse, or stagnate over time.

ECA and LAC become less   pro-cyclical
MENA switches from anti-cyclical to pro-cyclical
SEAP mildly anti-cyclical
SSA stays strongly pro-cyclical

Methodology

- $Cycl. rggpx_{it} = \alpha + \beta Cycl. rgdp_{it} + \varphi Cycl. rgdp_{it} \times W_{it} + \mu W_{it} + \boldsymbol{\rho_x} \boldsymbol{X}_{it} + \gamma_i + \delta_t + \varepsilon_{it}$ (2)

Wit= Conditional effects of pro-cyclicality (variables on next slide)

Xit = Other controls

Potential problems: a) omitted variables bias; model uncertainty.

                         b) endogeneity.

Solution: panel with instruments and previous findings (Alesina, Ilzetzky and Vegh, Konuki- Villafuerte)
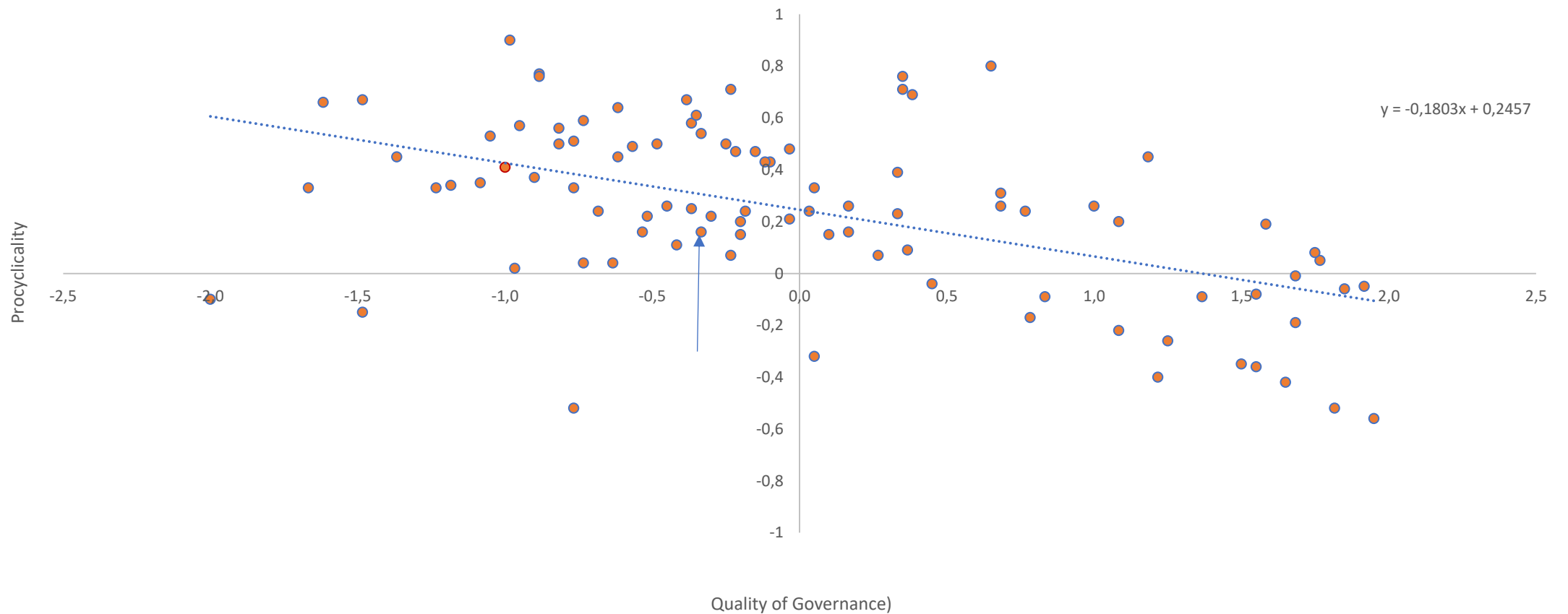
Results from estimating equation 2

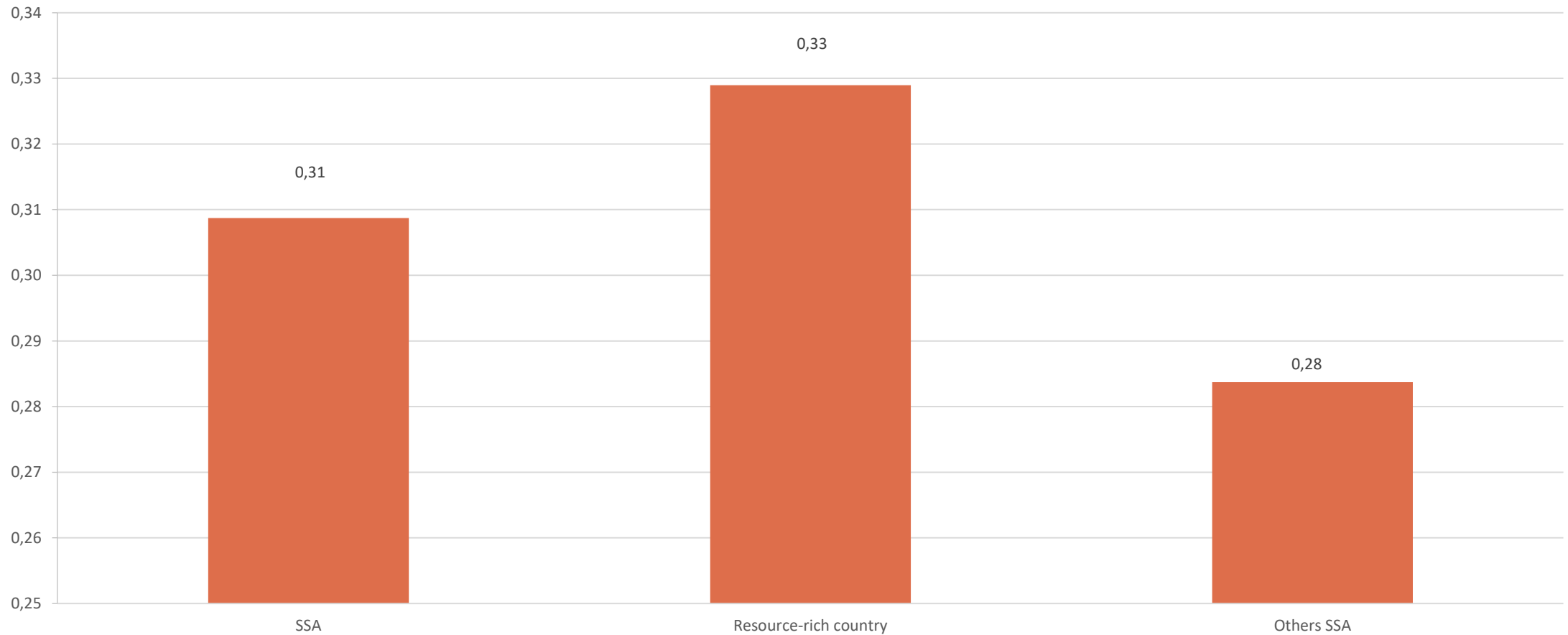Effects of W correlates on procyclicality

- Tax base variability (+)
- Credit availability (-)
- Perception of Corruption (+),
- Law and Order (-),
- ethnic-relig. tension (+)
- Political cycle (+)
- Business cycle asymmetry (+)

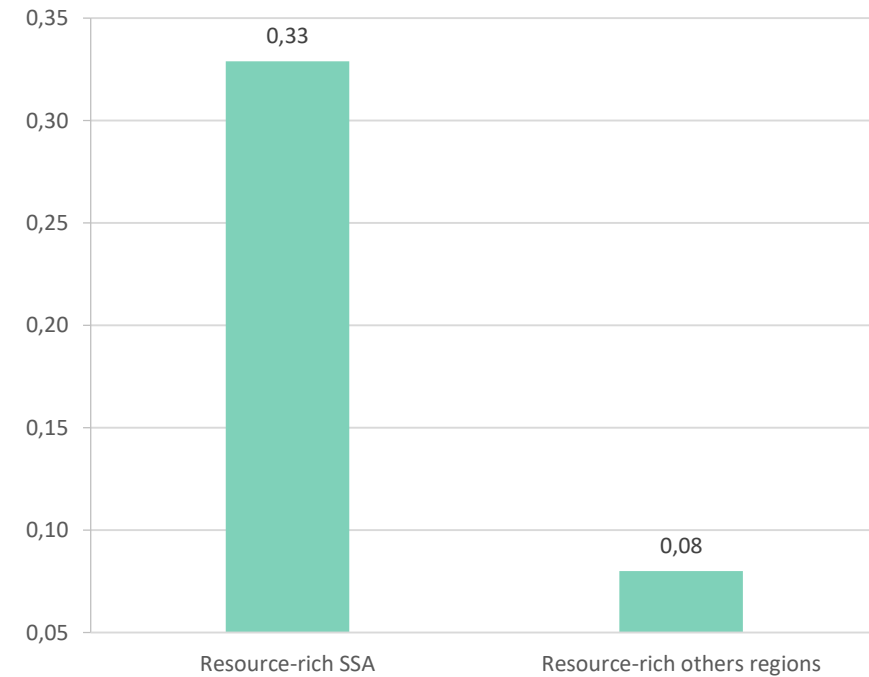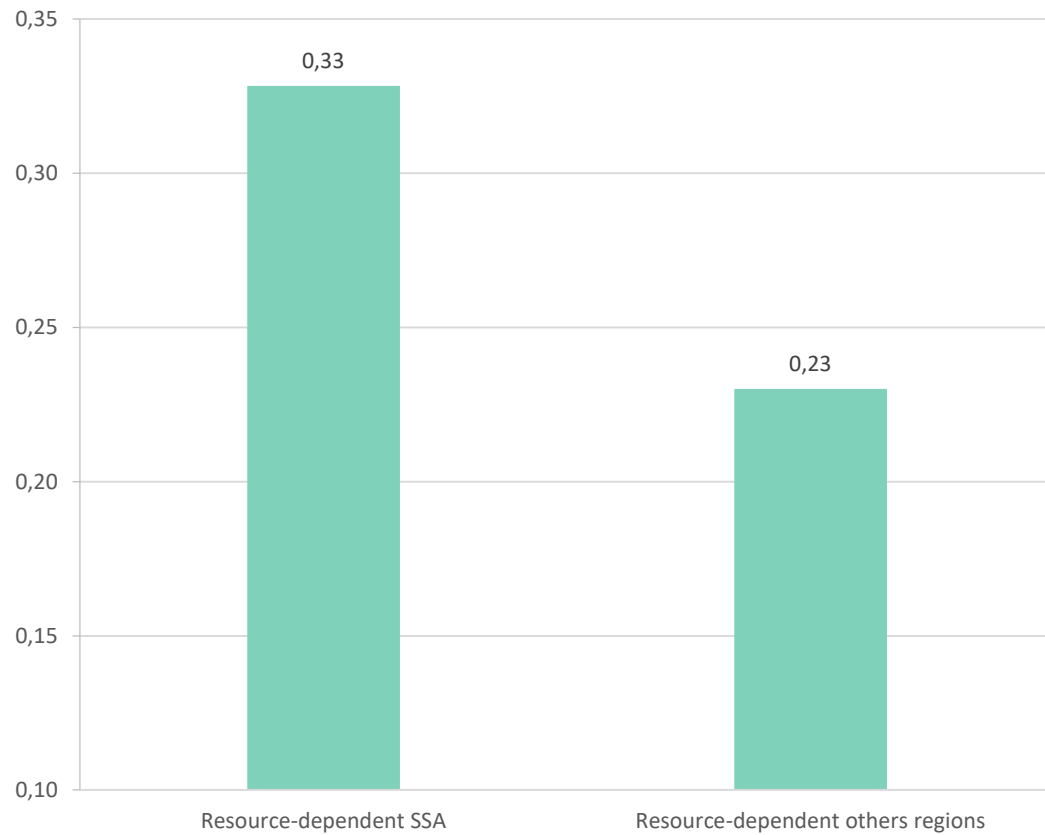# Governance is a key explanatory factor: aggregate level.

(better governance indicator value more anti-cyclical)

Procyclical fiscal policy is part of the resource curse.

Resource dependent vs. Resource Rich

Likelihood of escaping the trap depends on:

- Fiscal revenue stabilization (diversification).
- Developing domestic credit markets (quasi fiscal activities, central bank balance sheet).
- Fiscal rules that are enforced, flexible, transparent.
- Limiting the role of the political business cycle, acknowledging the role that both technocrats and politicians play in the budget cycle.
- More accountability of politicians (democratization process).
- Impact of decentralization is not clear: more decentralization is associated with procyclicality, but probably associated with other factors such as revenue earmarking.

References

Carrère, Melo (2012) "Fiscal Policy Space and Economic Performance: Some Stylized Facts", *World Development*, 40(9), 1750-61

Hausmann, R., Pritchett, L., & Rodrik, D. (2005) "Growth accelerations", *Journal of Economic Growth*, 10, 303–329.

Herrera, S., W. Kouame, P. Mandon, and J. Walz (2018) "Why some countries can escape the fiscal pro-cyclicality trap and others can't "