The Macroeconomic Effects of Fiscal Consolidation: New Narrative Evidence from Emerging Markets

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Motivation

- Many emerging markets will have to undertake fiscal consolidation over the near to medium-term.
- How painful will it be? Will it contribute to external adjustment? Intrinsically related to question of the size of fiscal multipliers.
- Defined in many different ways in the literature. We define as cumulative output effect/cumulative fiscal action over a certain horizon.

Motivation

- Theory provides an ambiguous guide on relative size of multipliers in emerging economies (it can depend on structural characteristics).
- Some factors suggest higher multipliers. Ex: larger share of financially constrained agents.
- Other factors point to lower multipliers. Ex: higher sovereign default risk perceptions.

Our Contribution

- Main strategies to identify fiscal shocks in the literature include: ΔCAPB; Restriction in SVARs (Blanchard and Perotti, 2002); and real-time forecast errors (Auerbach and Gorodnichenko, 2013; Furceri and Li, 2017).
- Traditional strategies frequently include shifts in fiscal variables unrelated to policy decisions (measurement error).
- May also reflect policy responses to current macroeconomic conditions. Riera-Crichton, Végh, and Vuletin (2016) show that with identification strategies based on SVARs, various tax series respond to output fluctuations.

Our Contribution

- Use narrative approach to identify the causal effects of fiscal policy. Analyze a new database constructed for 14 EMs in LAC over the period 1989-2016 (David and Leigh, 2018).
- Other papers using the narrative approach focus exclusively on advanced economies (Guajardo, Leigh and Pescatori, 2014; Jordà and Taylor, 2016; Alesina et al., 2018).
- Or on specific taxes (Gunter et al., 2017 for the VAT).

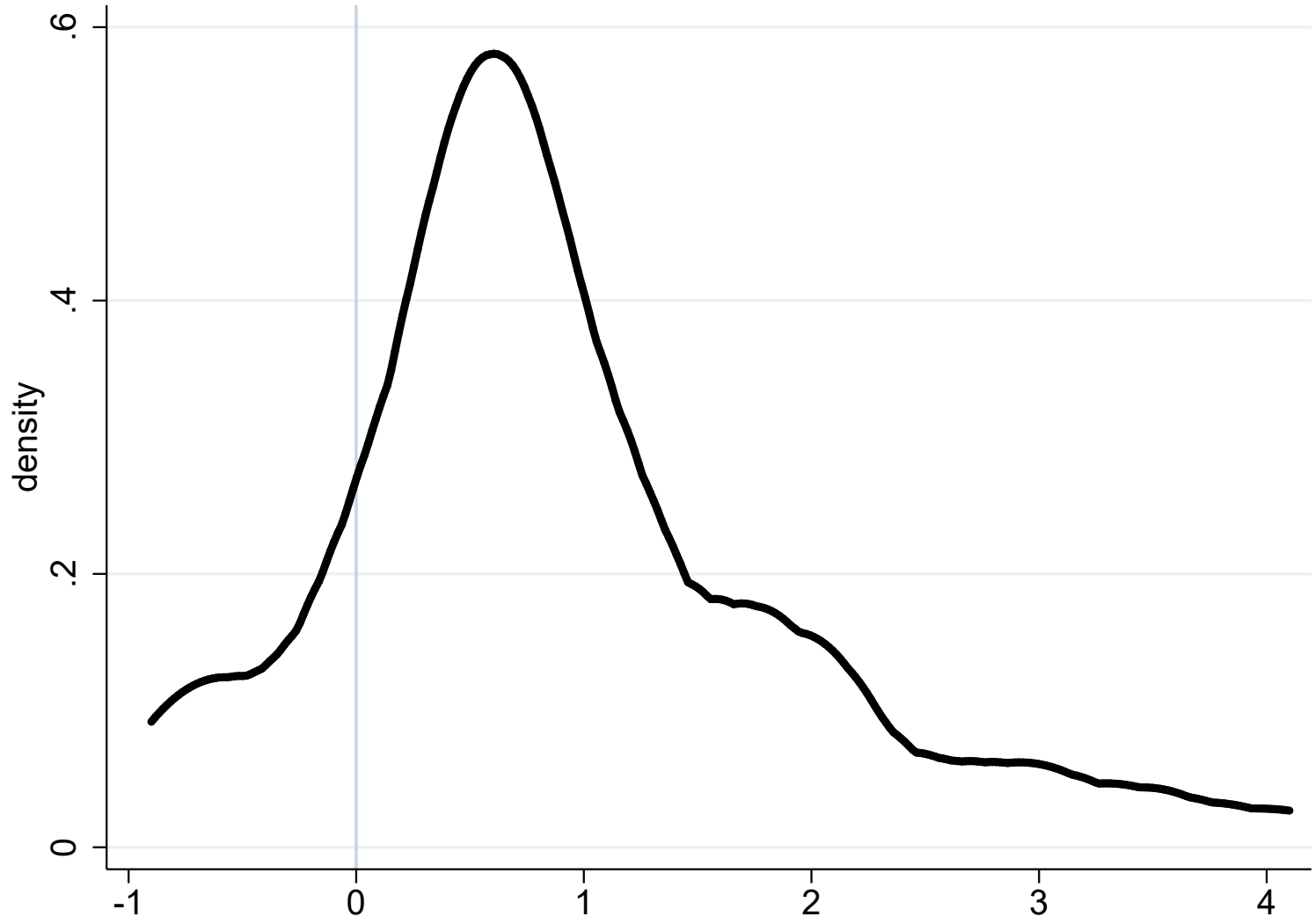
Constructing the Narrative Dataset

- Follow Romer and Romer (2010) and Devries and others (2011).
- Examine contemporaneous policy documents to assess the motivation, expected size, and timing of discretionary policy actions.
- Focus on policy actions that are not driven by a desire to respond to current or prospective economic conditions.

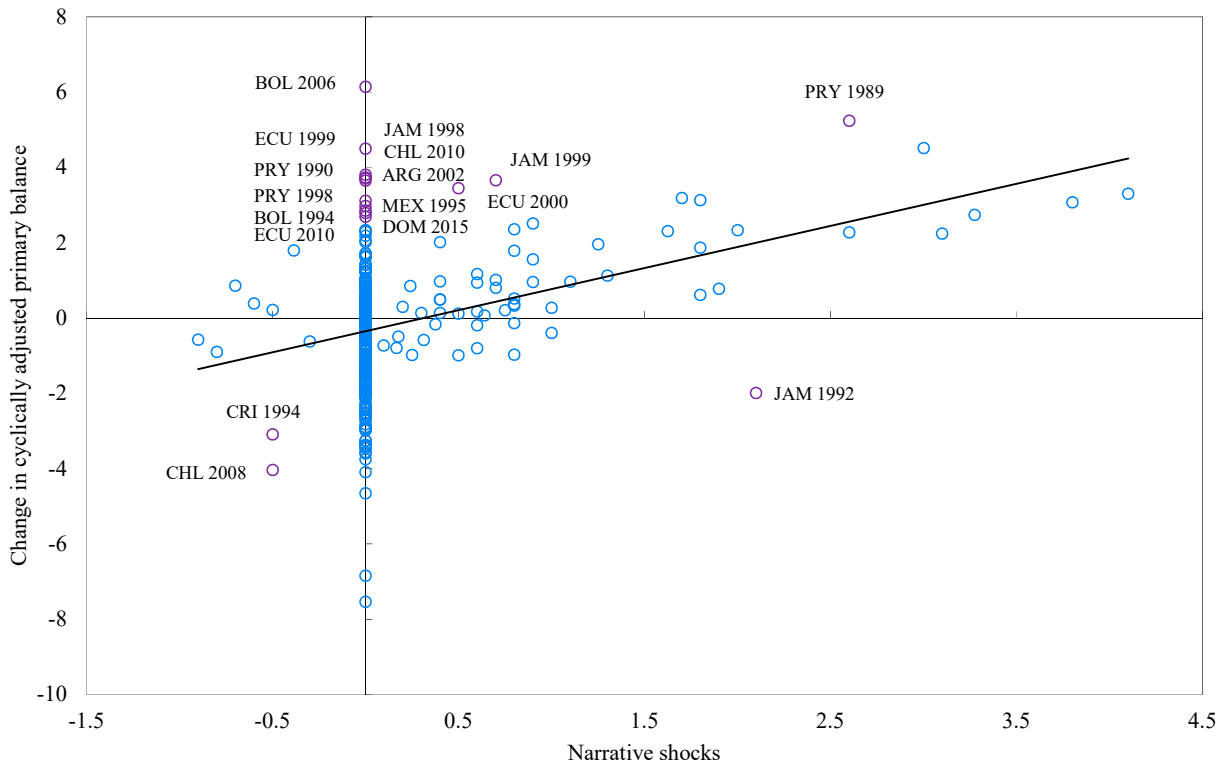
Constructing the Narrative Dataset

- Motivated by considerations such as reducing an inherited budget deficit, ensuring long-term public financial sustainability, or increasing economic efficiency.
- Fiscal actions that imply expansions in the budget deficit (motivated by such long-term objectives) are recorded with a negative sign.
- Only policies that are actually implemented are recorded.

Distribution of Budgetary Impact of Narrative Fiscal Shocks (Percent of GDP)



Measures of Fiscal Consolidation: Changes in CAPB versus Narrative Fiscal shocks (Percent of GDP)



Testing the Orthogonality of Fiscal Policy Changes to News Regarding the State of the Economy

Equation estimated: $\Delta F_{i,t} = \alpha_i + \gamma_t + \beta News_{i,t} + \varepsilon_{i,t}$

Sample	$\hat{\beta}$	Std. Err.	R^2	N
LAC	-0.04	(0.03)	0.16	364
AE	-0.08	(0.05)	0.34	403

Notes: Equations are estimated for 1989-2016. Table reports point estimates and heteroskedasticity-robust standard errors. See the text for description of the *News* variable. * Significant at 10%; ** significant at 5%; *** significant at 1%.

Empirical Strategy

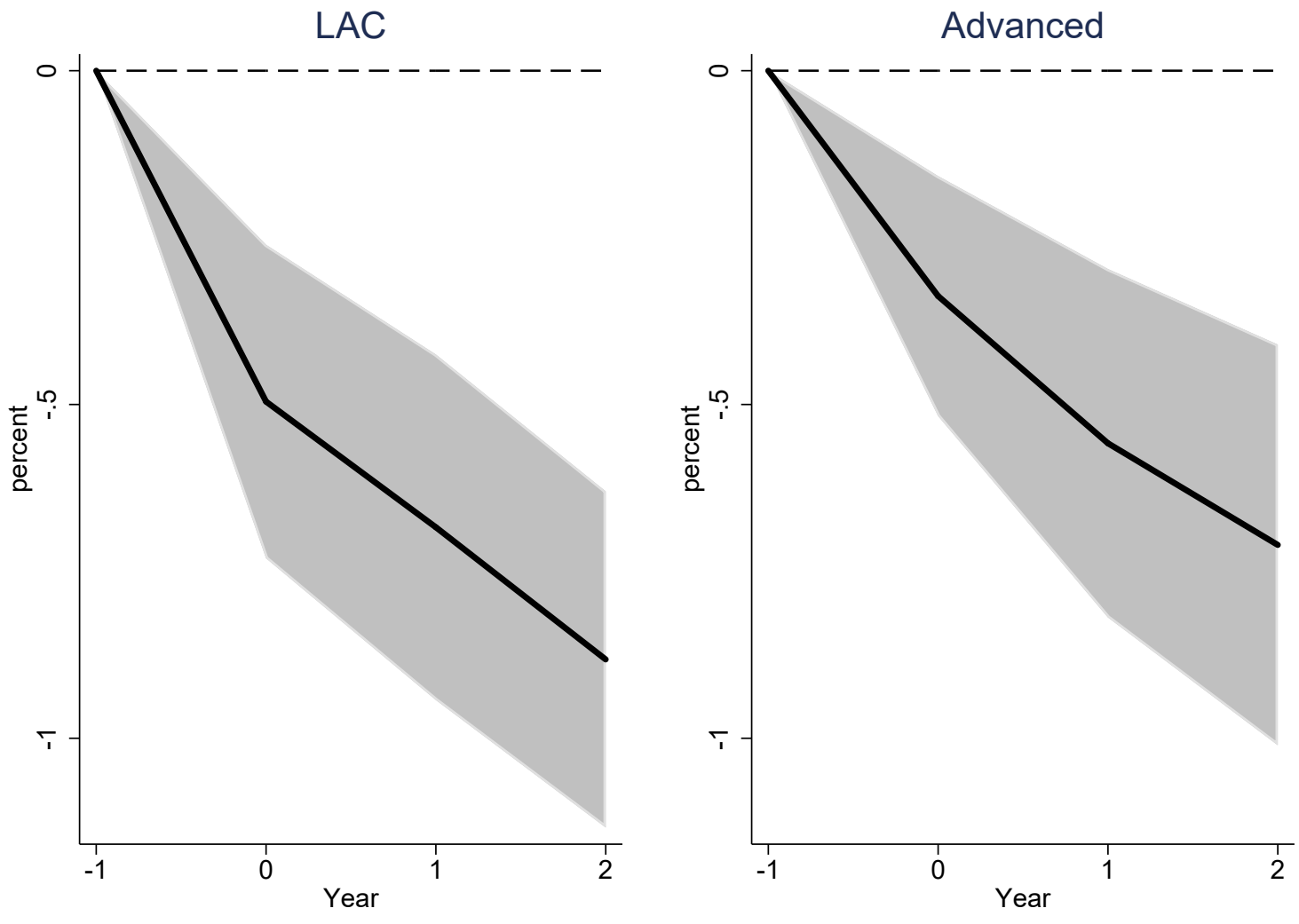
- Local projection method. The benchmark specification for different horizons (h=0, 1, 2) in years is as follows:

$$y_{i,t+h} - y_{i,t-1} = \alpha_i^h + \gamma_t^h + \beta^h \sum_{s=t}^{t+h} \Delta F_{i,s} + \delta X_{i,t} + \varepsilon_{i,t+h} \qquad (1)$$

- The vector of controls includes the contemporaneous growth rate of the commodity export value and its lags.Two lags of GDP growth and two lags of the fiscal shocks

Main Results

Real GDP: Estimated Effect of a 1 Percent of GDP Fiscal Consolidation

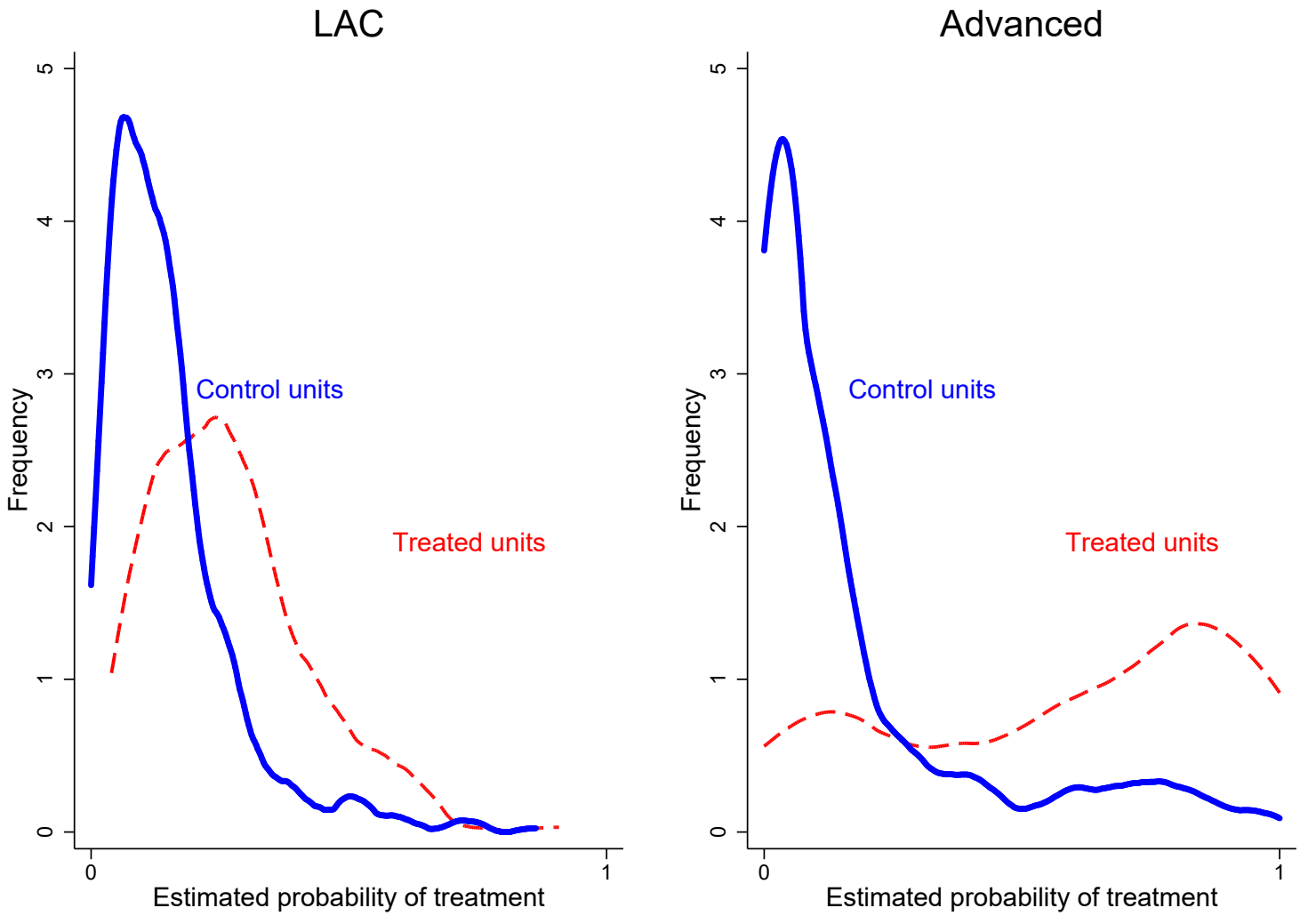


Robustness

- Results are robust to outliers (dropping the largest and smallest 5 percent of the fiscal policy changes and real GDP growth rates).
- Issue of predictability: fiscal consolidation episodes reflect past economic developments and could thus have a forecastable component.
- To further address endogeneity concerns, we use the approach proposed by Jordà and Taylor (2016). AIPW estimator.

Robustness

Overlap Check: Empirical Distributions of the Treatment Propensity Score



Robustness

The Effect of a 1 Percent of GDP Fiscal Consolidation in year t + h (Percent)

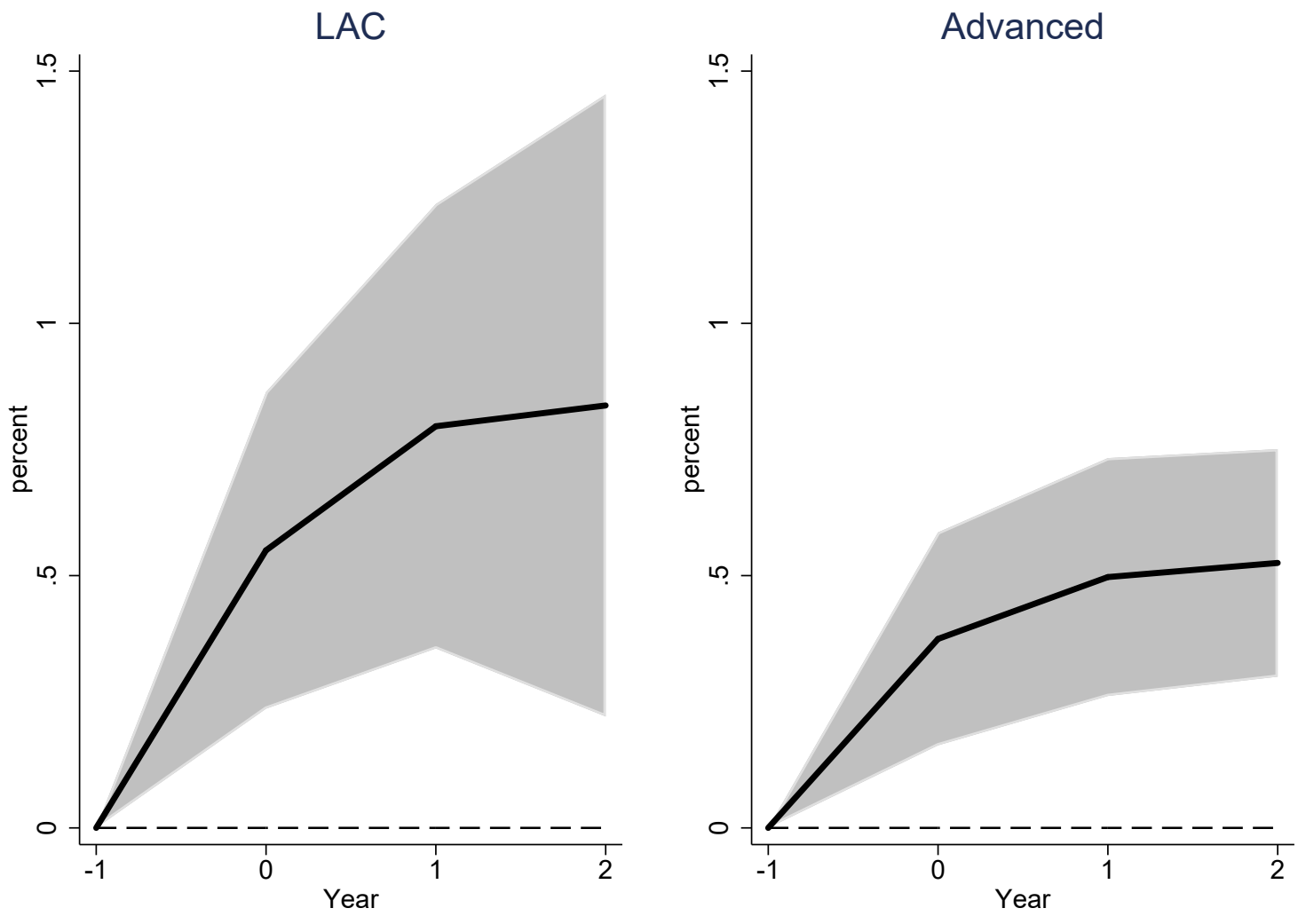
Specification	Sample			
	LAC	AE	LAC	AE
	h=0		*h*=2	
Baseline	-0.50***	-0.34***	-0.88***	-0.71***
	(0.14)	(0.11)	(0.15)	(0.18)
Trimmed sample	-0.50*	-0.47***	-0.84***	-0.89***
	(0.24)	(0.12)	(0.13)	(0.17)
AIPW estimator	-0.60***	-0.28***	-0.67*	-0.94**
	(0.24)	(0.09)	(0.44)	(0.28)

Notes: Country and time fixed effects included in all estimated equations. Driscoll-Kraay standard errors in parentheses except for AIPW results for which table reports empirical sandwich standard errors clustered by country. *Significant at 10%; **significant at 5%; ***significant at 1%.

Effects on the Current Account and RER

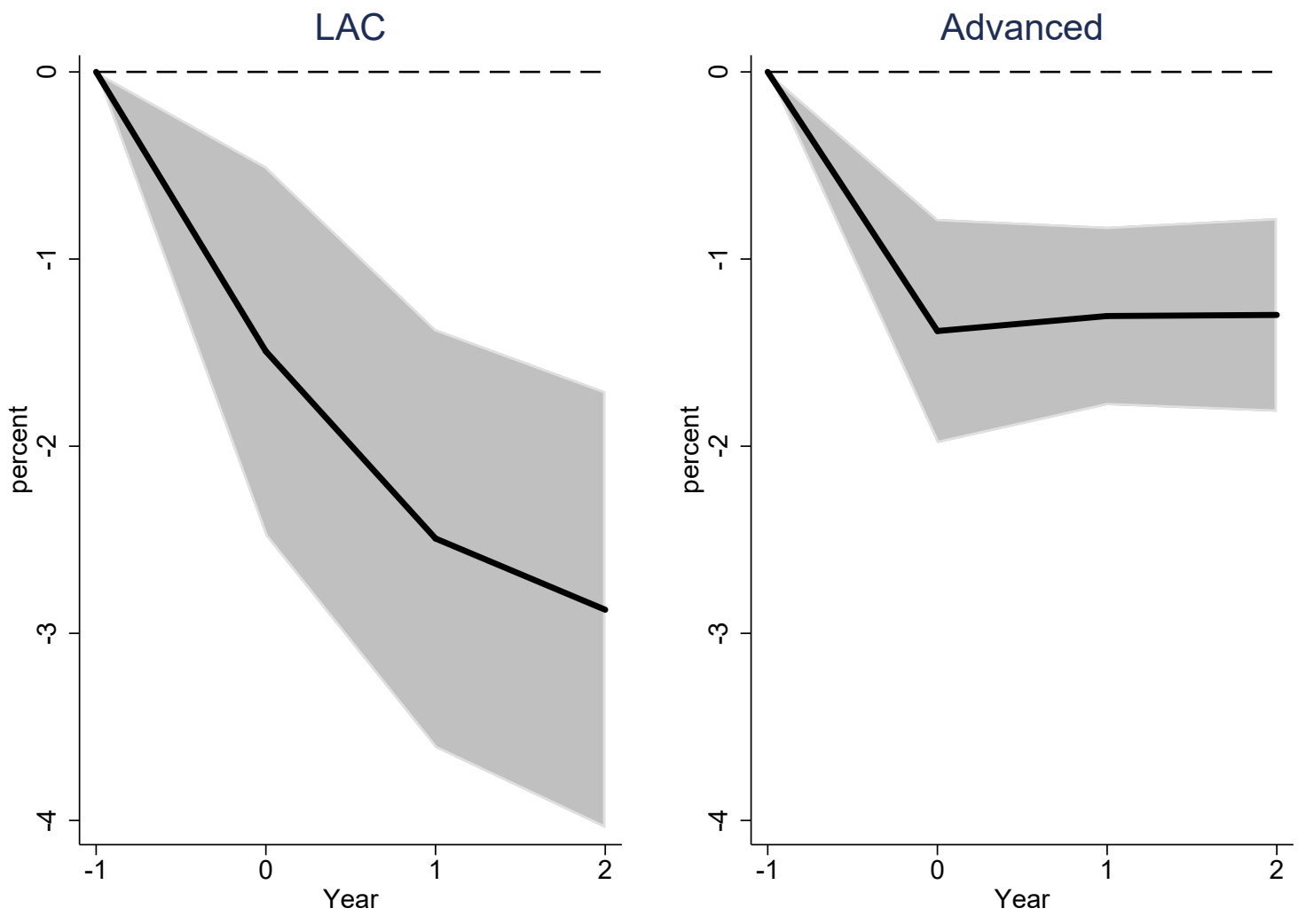
- Predictions of open economy macro models regarding the effects of fiscal policy actions on the exchange rate are ambiguous (IMF, 2017).
- While a strand of the literature implies that fiscal consolidations should lead to a depreciation of the RER (Mundell-Fleming), several models predict the opposite effect (Ravn, Schmitt-Grohé, and Uribe, 2012).
- Our evidence supports models with non-Ricardian features: fiscal consolidation leads to a real exchange rate depreciation and is accompanied by an improvement in the current account balance.

Effects on the Current Account



Note: Dark gray shading represents the 90 percent confidence interval.

Effects on the RER



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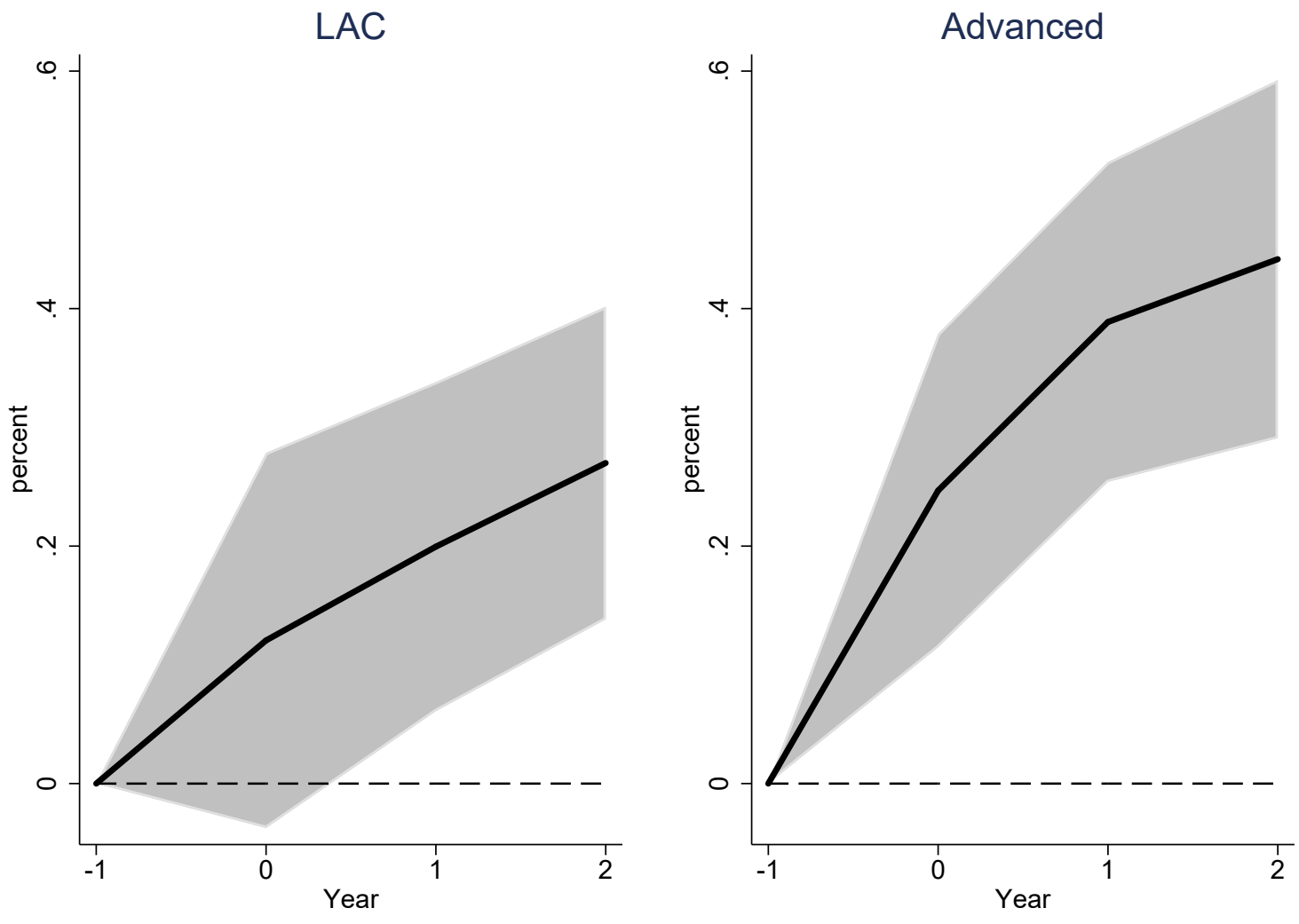
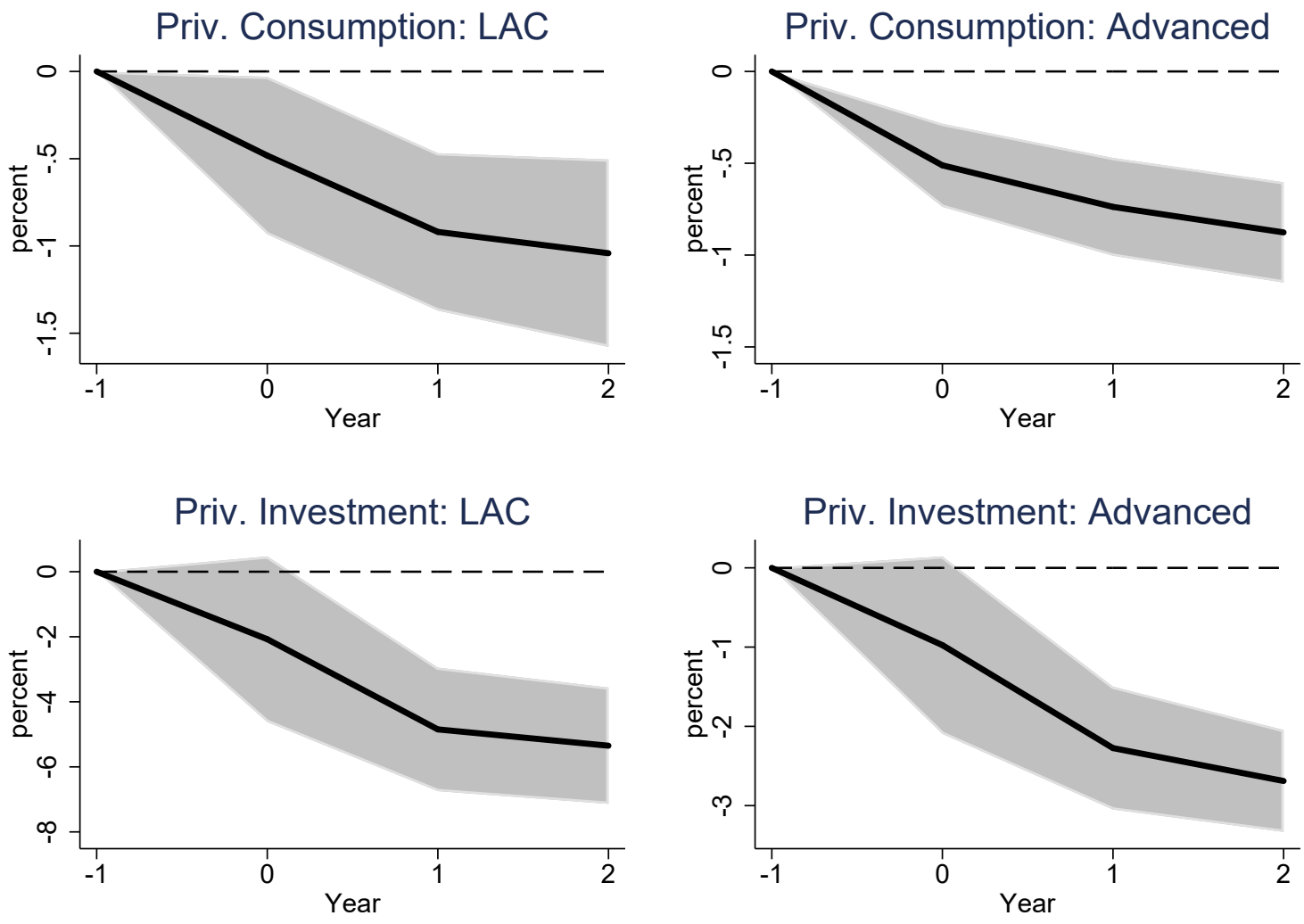
Effects on the Unemployment Rate



Note: Dark gray shading represents the 90 percent confidence interval.

Effects on Private Demand



Note: Dark gray shading represents the 90 percent confidence interval.

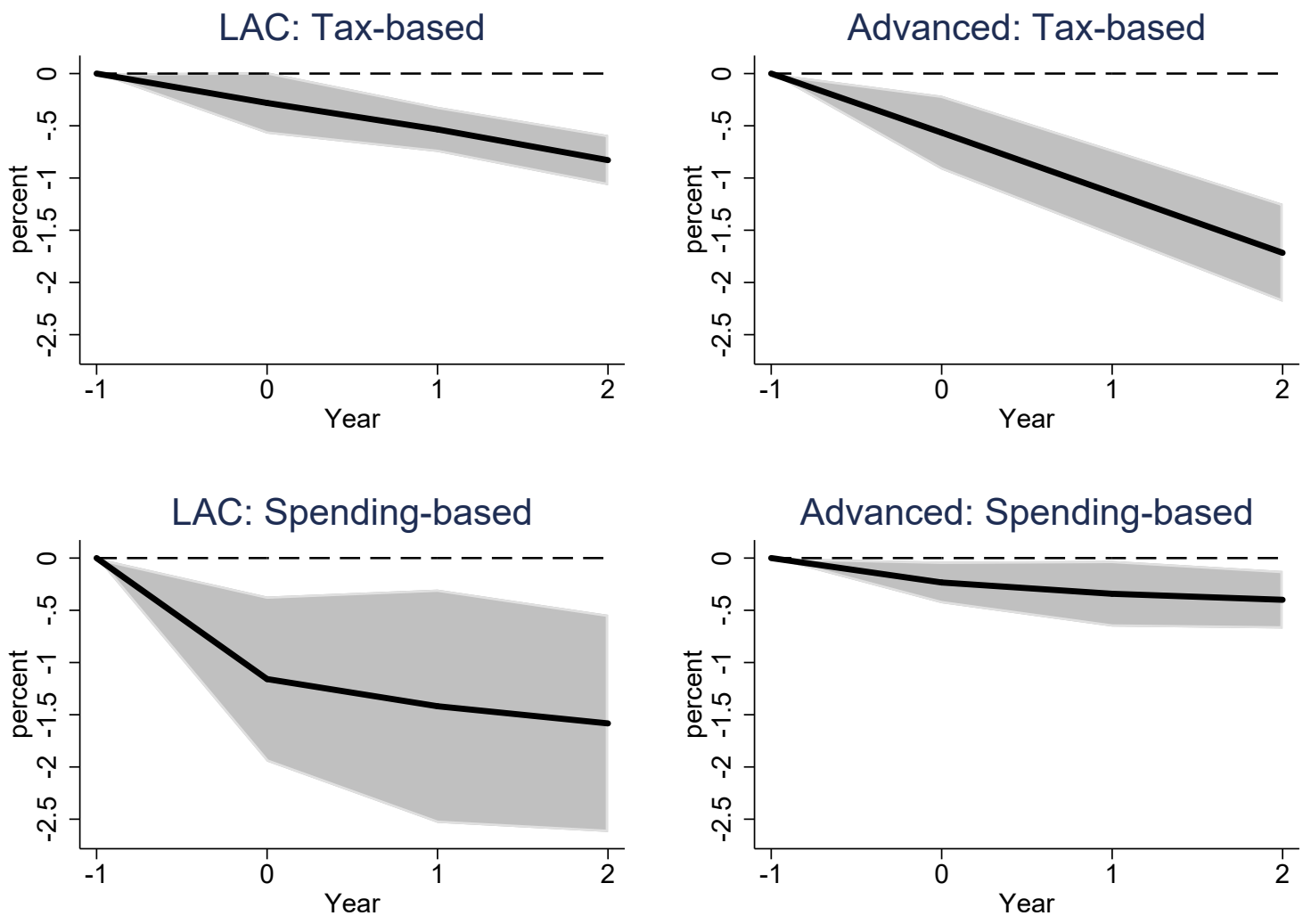
Tax and Spending

- A number of studies suggest smaller contractionary effects consolidations are implemented primarily through cutting government spending rather than by raising taxes (Alesina et al., 2018).
- We estimate the following specification:

$$y_{i,t+h} - y_{i,t-1} = \alpha_i^h + \gamma_t^h + \left(\beta_{EB}^h EB_{i,t} + \beta_{TB}^h TB_{i,t}\right) \left[\sum_{s=t}^{t+h} \Delta F_{i,s}\right] + \delta X_{i,t} + \varepsilon_{i,t+h} \quad (2)$$

- For LAC sample, spending-based shocks are not more persistent than tax-based ones.

Tax vs. Expenditure-Based Packages



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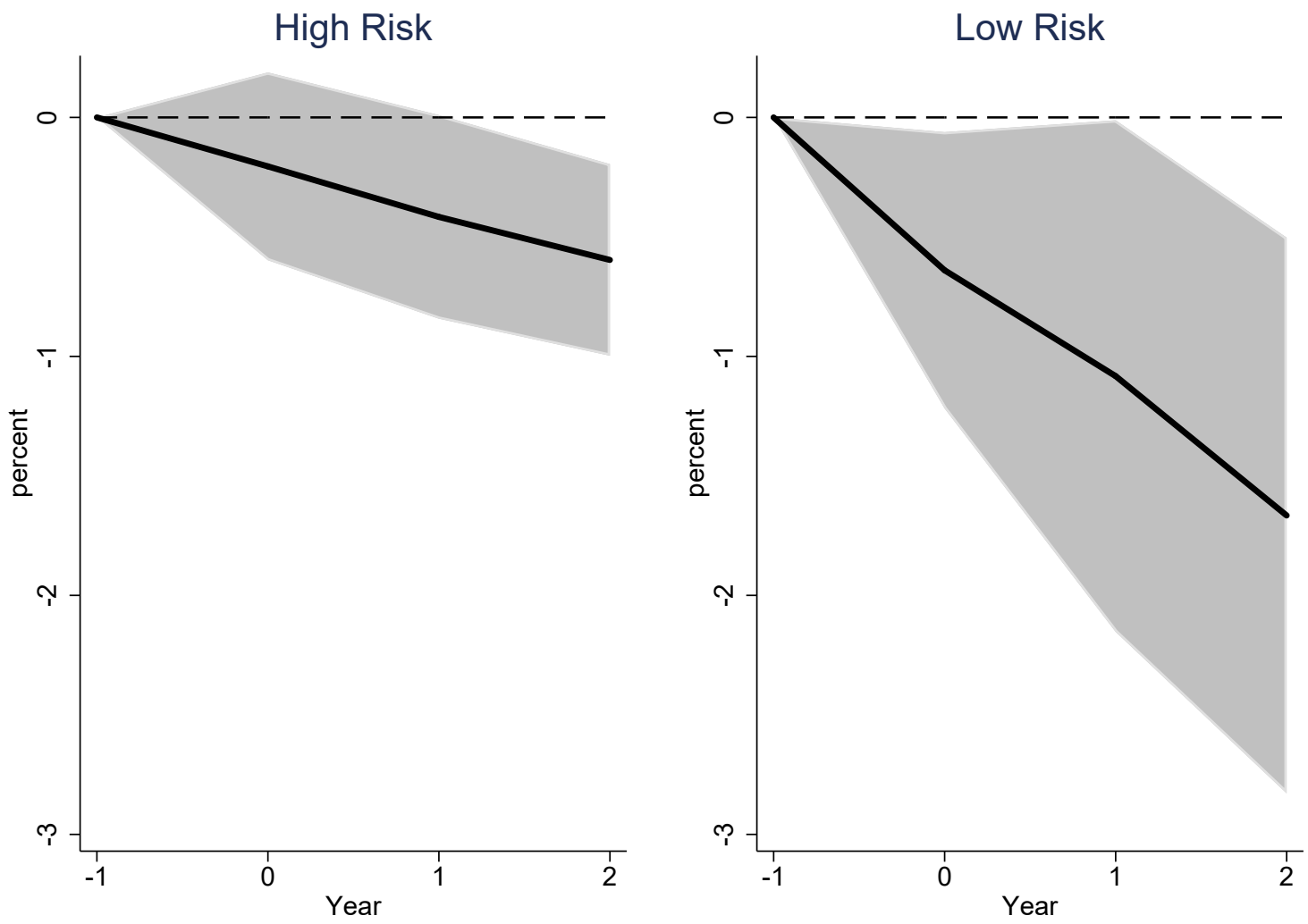
The Role of Initial Conditions: Perceived Sovereign Risk

- Consolidations could be expansionary if they help to reduce borrowing costs (Guajardo, Leigh and Pescatori, 2014). To test this, we allow our multiplier estimates to vary across two states of perceived sovereign default risk.

$$
\begin{aligned}
y_{i,t+h} - y_{i,t-1} = \\
S_{i,t-1}\left[\alpha^h_{high,i} + \gamma^h_{high,t} + \beta^h_{high}\sum_{s=t}^{t+h}\Delta F_{i,s} + \delta_{high}X_{i,t}\right] + \\
(1-S_{i,t-1})\left[\alpha^h_{low,i} + \gamma^h_{low,t} + \beta^h_{low}\sum_{s=t}^{t+h}\Delta F_{i,s} + \delta_{low}X_{i,t}\right] + \varepsilon_{i,t+h}
\end{aligned}
\tag{3}
$$

- We find that consolidations preceded by periods of high sovereign risk entail somewhat smaller estimated output losses.

High vs. Low Sovereign Risk



Note: Dark gray shading represents the 90 percent confidence interval.

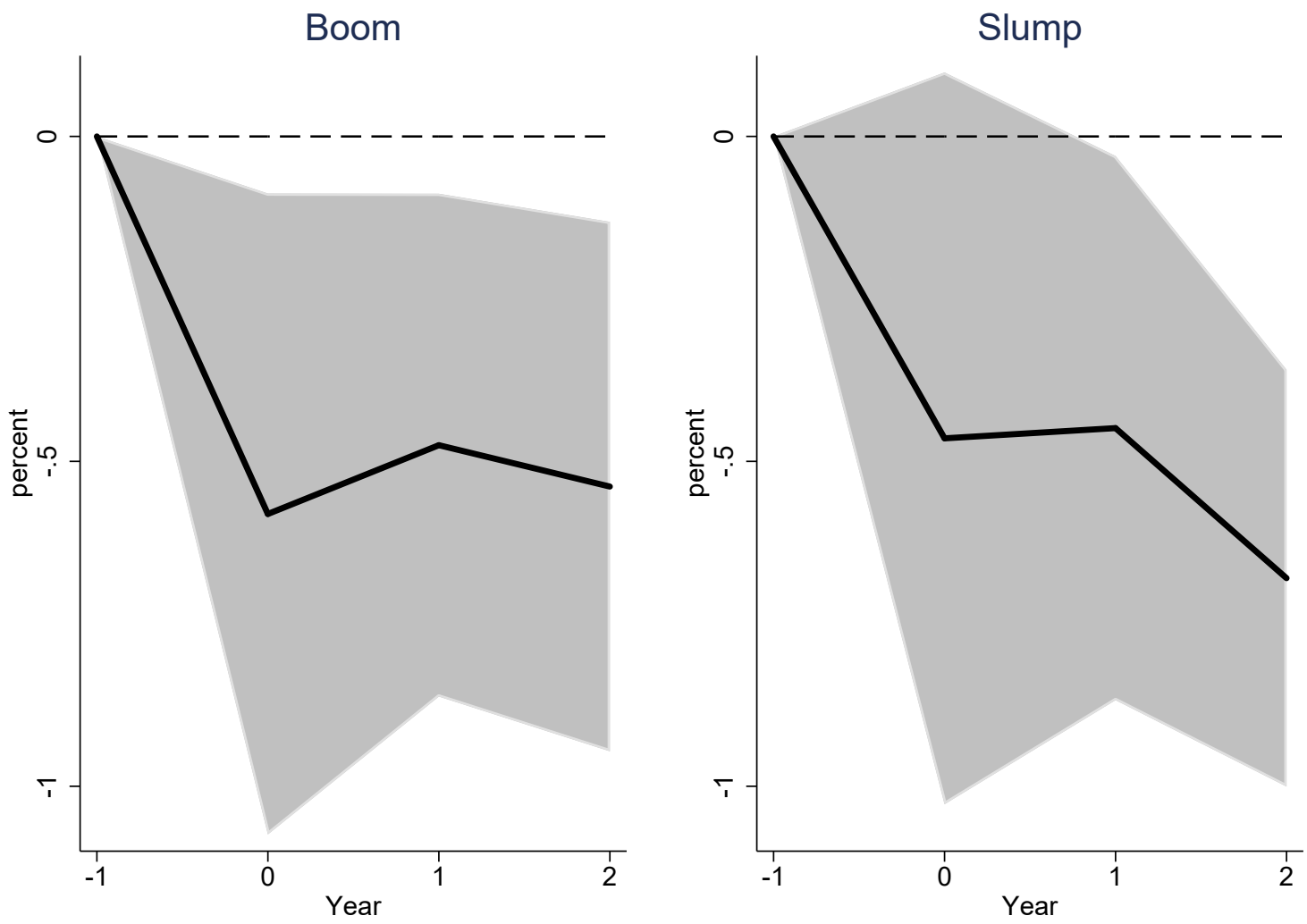
The Role of Initial Conditions: Booms vs. Slumps

- Several studies find higher multipliers if fiscal actions are preceded by recession periods (Baum, Poplawaski Ribeiro and Weber, 2012; Jordà and Taylor, 2016; Auerbach and Gorodnichenko, 2012).
- Others do not find such differential effects (Alesina and others, 2018; Ramey and Zubairy, 2018).
- We estimate the following specification:

$$y_{i,t+h} - y_{i,t-1} = S_{i,t-1}\left[\alpha^h_{b,i} + \gamma^h_{b,t} + \beta^h_b \sum_{s=t}^{t+h} \Delta F_{i,s} + \delta_b X_{i,t}\right] +$$

$$(1 - S_{i,t-1})\left[\alpha^h_{r,i} + \gamma^h_{r,t} + \beta^h_r \sum_{s=t}^{t+h} \Delta F_{i,s} + \delta_r X_{i,t}\right] + \varepsilon_{i,t+h} \quad (4)$$

Booms vs. Slumps



Note: Dark gray shading represents the 90 percent confidence interval.

Conclusions

- We find that fiscal consolidation is typically contractionary in the near term in LAC economies. Magnitude comparable to AEs.
- Our results are consistent with an average multiplier of 0.9 after two years (larger output effects than suggested by existing studies).
- Fiscal consolidation leads to a rise in the external current account balance, in line with a strong “twin deficits” link.

Conclusions

- We find little evidence of crowding-in effects. Private domestic demand typically declines following fiscal consolidation, and the unemployment rate rises.
- We do find some evidence of state-dependency: consolidations preceded by lower perceived sovereign default risk result in larger output costs.

Thank you.