

Why Do Governments Cut Their Deficits?

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This presentation

- Taken from a coauthored paper (in press) in the European Journal of Political Economy under the same title
- Most likely the paper will be in the next issue of the journal
- The paper has been circulated with the PowerPoint



Motivation

- What are the key macroeconomic and political/institutional factors inducing countries to implement fiscal consolidations (FCs)?
 - Do these differ by country income group?
 - How do the composition of (expenditure- vs. tax-based) and need for FCs influence results?
 - Currently, many countries have large fiscal adjustment needs for debt sustainability and elections in 2024 will add further pressure
 - What kind of political environment is conducive to FCs

Motivation

- Limited studies on “emerging market” and “low-income developing countries” (EMLIDCs)
 - Many low-income countries in debt distress and need to consolidate, especially if debt relief scarce
 - FCs to remain pertinent in foreseeable future (given scarring from COVID-19 pandemic from which they have not recovered)



Contribution to Relevant Literature

- Literature
 - Studies “advanced economies” (AEs) (e.g., Von Hagen et al. (2001))
 - Geared more towards economic factors (e.g., Barrios et al. (2010))
 - Considers role of FC composition (e.g., Alesina and Ardagna (2013))
 - Does not explicitly consider need to consolidate
- We address:
 - 1 w/ new panel: 450 FC episodes in 1979–2019 (185 countries), including EMLIDCs
 - 2, 3 also w/ consideration of political factors, fiscal rules
 - 4 w/ definition of “needed” FCs (e.g., using IMF (2016) data)

Empirical Strategy

- Logistic regressions to assess how likely country i is to experience FC in given year t
- Consider several political and institutional (Pol) “drivers”, while controlling for macro (X) vars based on literature

$$Prob(FC = 1|X) = \Phi(Pol' \alpha + X' \beta)$$

- where $FC_{it} = 1$ in a FC year (covers entire “episode”) and the structural model is

$$FC_{it} = \alpha Pol_{it-1} + \beta X_{it-1} + \varepsilon_{it}$$

- Each set of estimates $\hat{\alpha}$ and $\hat{\beta}$ interpreted as likelihood of FC occurring

Data 1: CAPB-Based FC Definition (Criteria)

- FC “episode” as $\Delta(\text{CAPB}/\text{GDP}) \geq 0.5$ pp (≥ 2 consecutive yrs.) from IMF (2022) data, per Alesina and Perotti (1996)
- “Expenditure-based”: cumulative fall in primary expenditure-to-GDP to cumulative CAPB-to-GDP $\geq 2/3$
- “Tax-based”: cumulative rise in primary expenditure-to-GDP in FC “Mixed”: neither “Expenditure-based” nor “Tax-based”
- “Needed” (“responsible”): $\text{DSPB} - \text{CAPB} \geq 0$ in $t - 1$ (vs. “Not Needed” (“frugal”))

Data 2: CAPB-Based FC Definition (Evaluation)

- More FC episodes from own estimation of CAPBs via use of HP/Hamilton filters
- Advantages: boost coverage (e.g., to more EMLIDCs), ensure clarity/objectivity/comparability
- Alternative: Narrative (or “action-based”) database of FCs (Pescatori et al., 2011), but subjective/ low-coverage/not completely “exogenous” (Jord`a and Taylor, 2016)

Data 3: Explanatory Variables

- Macro (IMF (2022) and WB WDI); Fiscal Rules (Davoodi et al., 2022)
- Political/Institutional (Scartascini et al. (2020) and World Bank Governance Indicators Database)
 - “political orientation” (1=executive party orientation left-wing) “electoral proximity” (more years in office, fewer years left in the current term, party w/ short tradition in office)
 - “cohesion” (margin of majority, control of all houses, voting share in parliament)
 - “accountability” (voice and accountability, regulatory quality, and
 - government effectiveness)

Data 4: Summary Statistics

Table 1. Summary statistics by fiscal consolidation episode definition and sample

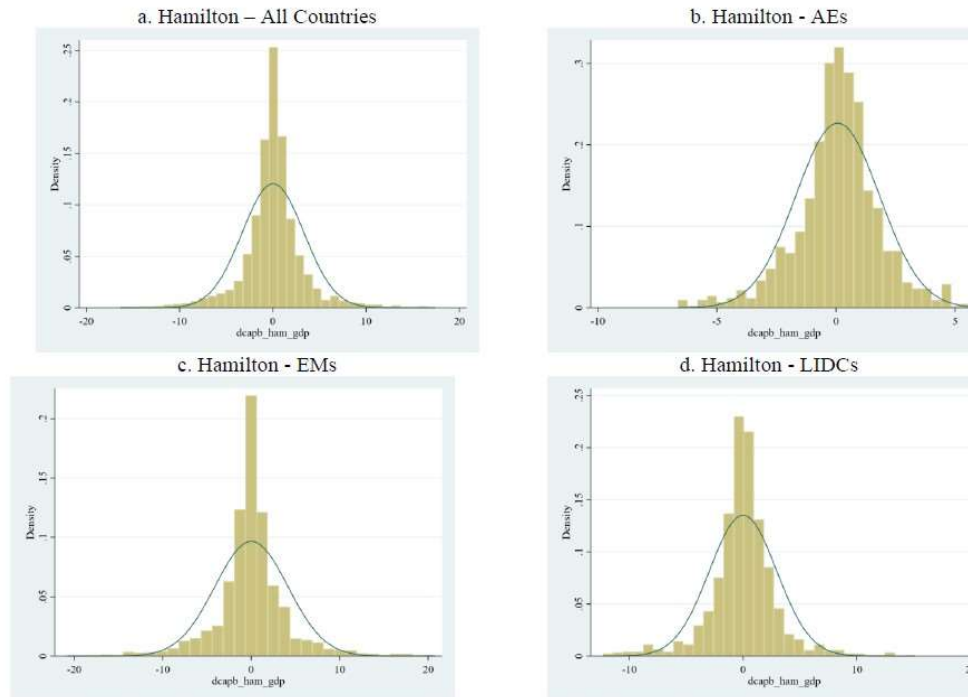
Advanced Economies (AEs)				
	Total # years of FC	Avg. # FC episodes	Avg. size of consolidation in episode (% GDP)	Avg. duration (years)
WEO-based	191	1.65	1.72	3.22
HP-based	269	2.24	1.94	3.14
Hamilton-based	278	2.35	1.87	3.05
Emerging Markets (EMs)				
	Total # years of FC	Avg. # FC episodes	Avg. size of consolidation in episode (% GDP)	Avg. duration (years)
WEO-based	178	1.60	2.12	2.63
HP-based	581	2.06	4.77	2.74
Hamilton-based	577	2.15	12.04	2.68
Low-Income Developing Countries (LIDCs)				
	Total # years of FC	Avg. # FC episodes	Avg. size of consolidation in episode (% GDP)	Avg. duration (years)
WEO-based	13	1.38	1.29	2.23
HP-based	272	2.04	2.83	2.55
Hamilton-based	270	2.02	3.26	2.51

Source: See text. Note: duration of fiscal consolidation episode: the sum of all years during which a country has tightened its fiscal balance within a given consolidation episode. (Average) size of consolidation in fiscal consolidation episode: the cumulative consolidation (defined as the sum of all annual changes in the CAPB-to-GDP ratio) within a given episode, divided by the duration (total number of years) of the episode. Country income group classifications are based on the International Monetary Fund's World Economic Outlook (WEO) database.

- FCs happen less than 20% of the time
- FCs fewer (and smaller!) using IMF (2022) (especially in LIDCs); avg. duration longer in AEs
- Opt for Hamilton criterion

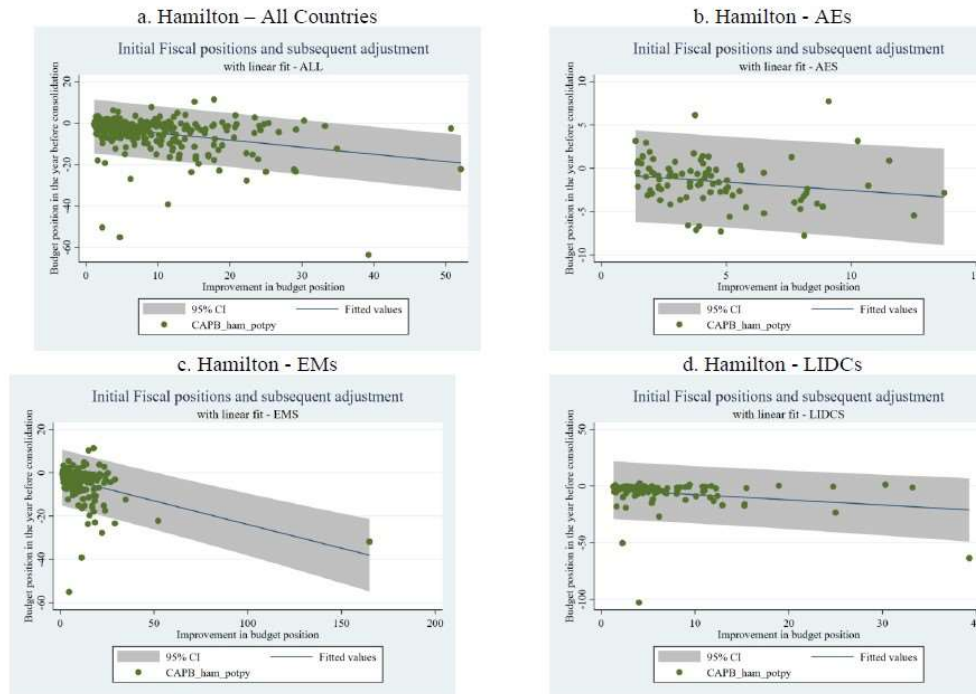
LIDCs doing worse overall...

Figure 1. Distribution of Hamilton-based changes in CAPB by sample
(In percent of GDP)



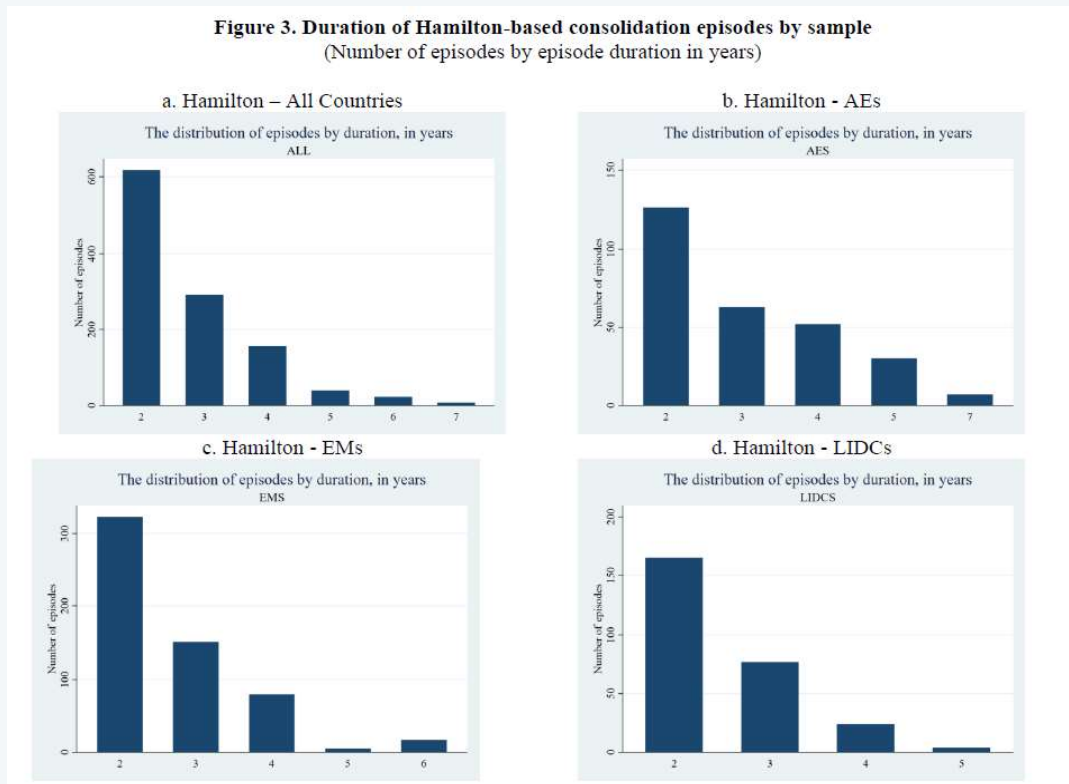
Lower initial CAPB = larger ensuing FC

Figure 2. Initial fiscal imbalance and subsequent Hamilton-based consolidation by sample
(In percent of GDP)



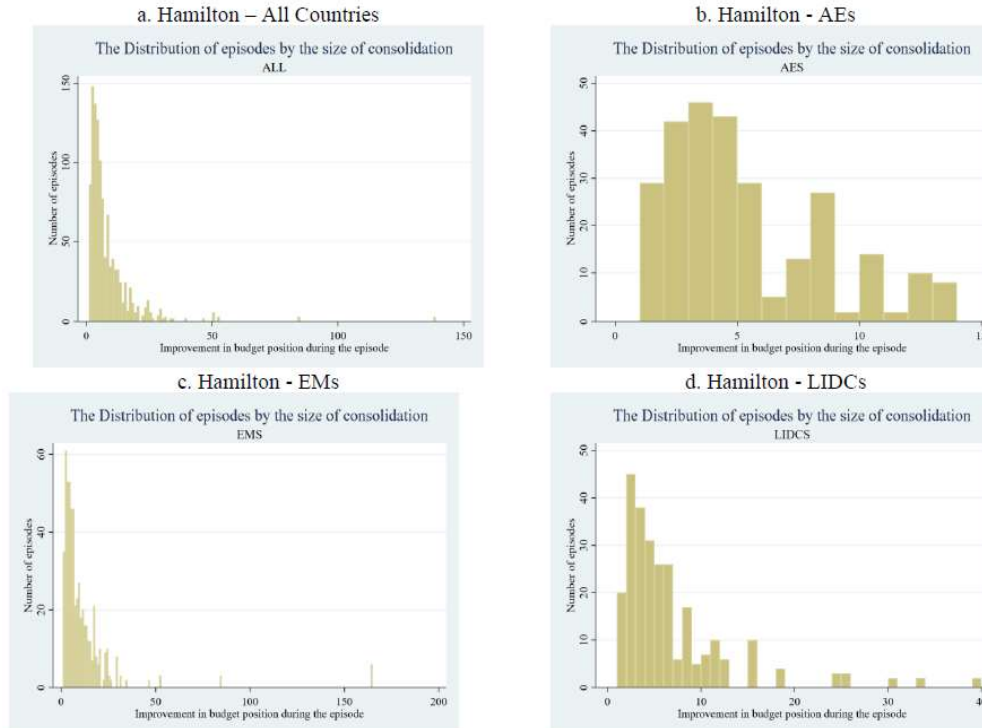
Most FCs of short duration...

Figure 3. Duration of Hamilton-based consolidation episodes by sample
(Number of episodes by episode duration in years)



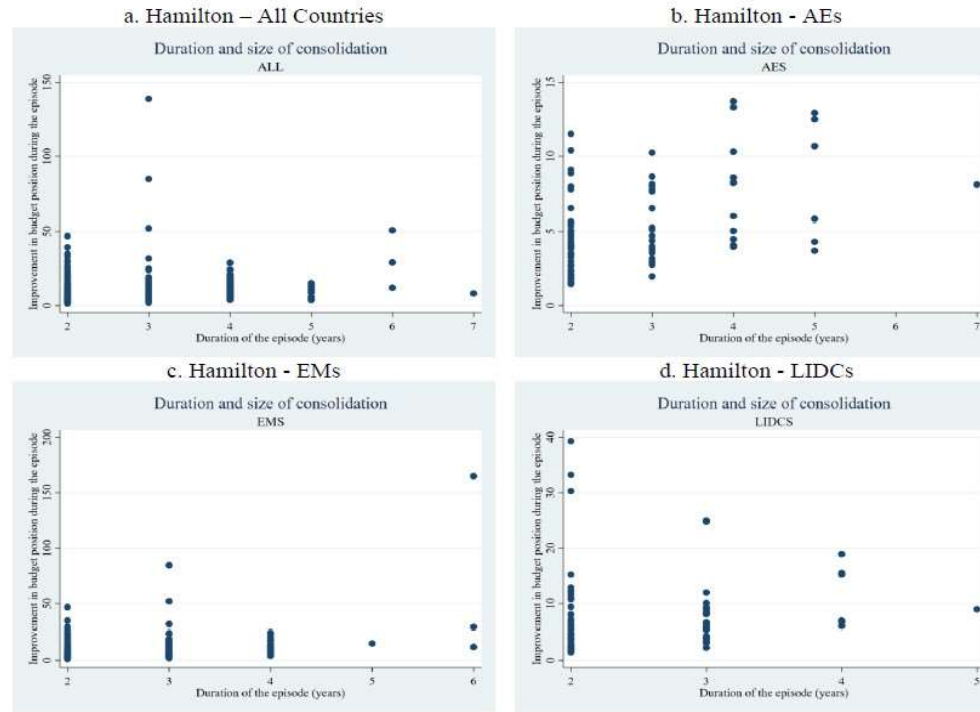
...with substantial gains (in some cases)

Figure 4. Size of Hamilton-based consolidation episodes by sample



Sizeable FCs longer in AEs...

Figure 5. Relationship between duration and size of Hamilton-based consolidation episodes by sample



Macro conditions matter.....

Table 2

Panel analysis: Hamilton-based fiscal consolidations, all countries.

Specification	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Regressors							
Real GDP growth (t-1)	-0.046** (0.020)	0.055** (0.026)	0.005 (0.030)	0.016 (0.032)	0.008 (0.033)	0.017 (0.035)	-0.002 (0.025)
Debt-to-GDP ratio (t-1)	0.003 (0.003)	0.001 (0.003)	0.008* (0.004)	0.009** (0.004)	0.008** (0.004)	0.009** (0.004)	0.004+ (0.003)
Inflation (t-1)	-0.022 (0.025)	0.030 (0.029)	-0.009 (0.036)	0.037 (0.037)	-0.023 (0.044)	0.025 (0.041)	-0.007 (0.039)
REER growth (t-1)	-0.050*** (0.014)	-0.055*** (0.015)	-0.050*** (0.018)	-0.058*** (0.020)	-0.051*** (0.018)	-0.059*** (0.019)	-0.062*** (0.015)
Trade openness (t-1)	0.003** (0.001)	0.004*** (0.001)	0.002 (0.002)	0.001 (0.002)	0.002 (0.002)	0.001 (0.002)	0.001 (0.002)
Terms of trade growth (t-1)	0.002 (0.009)	0.002 (0.009)	-0.016 (0.021)	-0.012 (0.021)	-0.015 (0.020)	-0.012 (0.020)	-0.005 (0.013)
Interest Payments (% GDP) (t-1)		0.042 (0.086)					
CAPB vs. DSPB (% GDP) (t-1)		-0.147*** (0.025)					
Left-wing (t-1)			-0.159 (0.218)	-0.170 (0.240)	-0.187 (0.198)	-0.175 (0.225)	
Party length in office (t-1)					0.003 (0.008)	0.015+ (0.010)	-0.002 (0.009)
Years in office (t-1)					-0.077 (0.056)	-0.076 (0.056)	
Gov. maturity (t-1)					0.133+ (0.086)	0.109 (0.097)	
Margin of majority (t-1)					0.019 (1.212)	-0.212 (1.329)	
Control of All houses (t-1)					-0.365 (0.303)	-0.125 (0.310)	-0.179 (0.228)
Vote share gov.party (t-1)					0.017 (0.012)	0.014 (0.014)	
Horizon pca (t-1)			-0.202 (0.189)	-0.113 (0.185)			
Cohesion pca (t-1)			-0.014 (0.197)	0.005 (0.232)			
Accountability pca (t-1)				0.359*			

FCs less likely in “left-wing” EMLICDs....

Table A5. Panel Analysis: Hamilton-based Fiscal Consolidations, Emerging Markets and Low-Income Developing Countries

Specification	(1)	(2)	(3)	(4)	(5)	(6)
Regressors						
Real GDP growth (t-1)	-0.051* (0.026)	0.063 (0.060)	0.064 (0.059)	0.061 (0.069)	0.052 (0.070)	0.006 (0.039)
Debt-to-GDP ratio (t-1)	-0.007 (0.006)	0.013+ (0.009)	0.016+ (0.010)	0.015 (0.010)	0.019 (0.014)	-0.002 (0.006)
Inflation (t-1)	-0.015 (0.024)	-0.007 (0.049)	0.054 (0.049)	-0.016 (0.062)	0.060 (0.048)	-0.015 (0.043)
REER growth (t-1)	-0.061*** (0.020)	-0.082*** (0.028)	-0.092*** (0.034)	-0.083*** (0.026)	-0.095*** (0.031)	-0.077*** (0.019)
Trade openness (t-1)	0.011*** (0.003)	0.017** (0.007)	0.014** (0.007)	0.019*** (0.007)	0.019* (0.011)	0.014*** (0.004)
Terms of trade growth (t-1)	0.025 (0.018)	-0.002 (0.021)	0.009 (0.022)	0.002 (0.020)	0.014 (0.026)	0.013 (0.022)
Reserves (% GDP)	-0.022+ (0.015)	-0.052* (0.030)	-0.031 (0.026)	-0.060* (0.035)	-0.048 (0.034)	-0.030+ (0.019)
Left-wing (t-1)		-0.443 (0.447)	-0.856+ (0.532)	-0.347 (0.560)	-0.826 (0.672)	
Party length in office (t-1)				0.006 (0.011)	0.023+ (0.016)	-0.000 (0.011)
Years in office (t-1)				-0.059 (0.112)	-0.005 (0.128)	
Gov. maturity (t-1)				-0.027 (0.118)	-0.170 (0.134)	
Margin of majority (t-1)				0.621 (2.277)	0.281 (2.179)	
Control of All houses (t-1)				-0.122 (0.486)	-0.045 (0.749)	-0.197 (0.310)
Vote share gov.party (t-1)				-0.002 (0.019)	-0.014 (0.023)	
Horizon pca (t-1)		-0.076 (0.380)	0.318 (0.358)			
Cohesion pca (t-1)		-0.039 (0.372)	-0.210 (0.340)			
Accountability pca (t-1)			0.711* (0.380)			
WGI gov. effectiveness (t-1)					0.202 (1.175)	
WGI regulatory quality (t-1)					0.496 (1.298)	
WGI voice and accountability (t-1)					0.186 (0.778)	0.176 (0.311)
Observations	670	258	212	258	212	445
Number of countries	34	21	20	21	20	20

Needed FCs more likely during “bad times” during AEs...

Table A6. Panel Analysis: Hamilton-based Fiscal Consolidations, Responsible Consolidations in Advanced Economies

Specification	(1)	(2)	(3)	(4)	(5)	(6)
Regressors						
Real GDP growth (t-1)	-0.151*** (0.048)	-0.107* (0.058)	-0.095+ (0.059)	-0.143** (0.061)	-0.127* (0.067)	-0.138*** (0.049)
Debt-to-GDP ratio (t-1)	0.009+ (0.006)	0.019** (0.008)	0.019** (0.008)	0.021*** (0.008)	0.029*** (0.009)	0.008- (0.006)
Inflation (t-1)	-0.045 (0.065)	-0.031 (0.080)	-0.028 (0.083)	0.011 (0.087)	0.013 (0.102)	-0.036 (0.070)
REER growth (t-1)	-0.070*** (0.023)	-0.038 (0.030)	-0.048+ (0.031)	-0.035 (0.032)	-0.057 (0.041)	-0.075*** (0.026)
Trade openness (t-1)	0.006*** (0.002)	0.009** (0.004)	0.009** (0.004)	0.010** (0.004)	0.009** (0.004)	0.007** (0.003)
Terms of trade growth (t-1)	-0.076** (0.035)	-0.104*** (0.037)	-0.087** (0.036)	-0.140*** (0.045)	-0.139*** (0.045)	-0.060** (0.029)
Left-wing (t-1)		0.275 (0.379)	0.255 (0.392)	0.258 (0.463)	0.220 (0.516)	
Party length in office (t-1)				0.022 (0.038)	0.008 (0.047)	-0.013 (0.039)
Years in office (t-1)				-0.165+ (0.109)	-0.191* (0.106)	
Gov. maturity (t-1)				0.509** (0.232)	0.581** (0.243)	
Margin of majority (t-1)				-6.711* (3.924)	-8.390** (3.638)	
Control of All houses (t-1)				0.297 (0.685)	0.353 (0.688)	-0.173 (0.445)
Vote share gov.party (t-1)				-0.021 (0.039)	-0.038 (0.039)	
Horizon pca (t-1)		-0.022 (0.518)	-0.029 (0.567)			
Cohesion pca (t-1)		-0.526 (0.556)	-0.601 (0.560)			
Accountability pca (t-1)			-0.019 (0.659)			
WGI gov. effectiveness (t-1)					-2.031 (1.445)	
WGI regulatory quality (t-1)					1.801 (1.875)	
WGI voice and accountability (t-1)					1.902 (1.967)	-0.070 (0.769)
Observations	251	195	180	195	180	220
Number of countries	28	26	26	26	26	26
McFadden Pseudo-R2	0.110	0.135	0.131	0.203	0.234	0.105
Log-likelihood	-120.749	-88.977	-85.998	-81.942	-75.769	-110.688

Note: The dependent variable is a dummy taking the value of one in a responsible AE fiscal consolidation year

...while the opposite is the case in EMLIDCs...

Table A7. Panel Analysis: Hamilton-based Fiscal Consolidations, Responsible Consolidations in Emerging Markets and Low-Income Developing Countries

Specification	(1)	(2)	(3)	(4)	(5)	(6)
Regressors						
Real GDP growth (t-1)	-0.084 (0.065)	0.067+ (0.043)	0.060+ (0.040)	-0.031 (0.051)	-0.027 (0.065)	0.011 (0.089)
Debt-to-GDP ratio (t-1)	-0.010 (0.010)	0.022+ (0.014)	0.021 (0.015)	0.047*** (0.011)	0.054** (0.022)	0.010 (0.008)
Inflation (t-1)	-0.226*** (0.078)	-0.326** (0.149)	-0.298* (0.169)	-0.308** (0.127)	-0.341* (0.203)	-0.357*** (0.100)
REER growth (t-1)	-0.010 (0.042)	-0.016 (0.066)	-0.009 (0.065)	0.008 (0.050)	0.016 (0.057)	-0.032 (0.042)
Trade openness (t-1)	0.013** (0.006)	0.036** (0.017)	0.033** (0.017)	0.034** (0.015)	0.034** (0.013)	0.027** (0.010)
Terms of trade growth (t-1)	0.114*** (0.034)	0.107* (0.059)	0.090+ (0.061)	0.120* (0.071)	0.118+ (0.075)	0.102** (0.046)
Reserves (% GDP) (t-1)	-0.030 (0.024)	-0.065+ (0.045)	-0.059 (0.044)	-0.060+ (0.040)	-0.069 (0.063)	-0.048+ (0.033)
Left-wing (t-1)		-0.087 (0.611)	-0.223 (0.750)	0.110 (0.619)	0.075 (0.946)	
Party length in office (t-1)				-0.323*** (0.117)	-0.445*** (0.155)	-0.069** (0.028)
Years in office (t-1)				0.079 (0.159)	0.295+ (0.182)	
Gov. maturity (t-1)				-0.234+ (0.145)	-0.384** (0.161)	
Margin of majority (t-1)				5.875** (2.447)	7.755*** (2.897)	
Control of All houses (t-1)				-2.314*** (0.551)	-2.383*** (0.802)	-0.616 (0.460)
Vote share gov.party (t-1)				0.030 (0.026)	0.024 (0.029)	
Horizon pca (t-1)		-1.341 (1.233)	-0.861 (1.156)			
Cohesion pca (t-1)		-0.179 (0.310)	-0.257 (0.339)			
Accountability pca (t-1)			0.460 (0.399)			
WGI gov. effectiveness (t-1)					-0.070 (1.686)	
WGI regulatory quality (t-1)					1.170 (2.165)	
WGI voice and accountability (t-1)					-0.360 (1.498)	-0.298 (0.528)
Observations	248	103	93	103	93	169
Number of countries	33	15	15	15	15	28
McFadden Pseudo-R2	0.122	0.226	0.187	0.296	0.282	0.209
Log-likelihood	-93.26	-38.093	-37.165	-34.685	-32.794	-60.014

Tax-based FCs more likely w/ political consensus in “mature” governments...

Table 4.b. Panel Analysis: Hamilton-based Fiscal Consolidations, Tax-Based Consolidations

Specification	(1)	(2)	(3)	(4)	(5)	(6)
Regressors						
Real GDP growth (t-1)	-0.003 (0.051)	0.071 (0.073)	0.070 (0.066)	0.097 (0.083)	0.117+ (0.071)	0.041 (0.044)
Debt-to-GDP ratio (t-1)	-0.012 (0.013)	-0.034*** (0.013)	-0.036** (0.014)	-0.036** (0.018)	-0.038** (0.018)	-0.008 (0.016)
Inflation (t-1)	0.034 (0.025)	0.011 (0.042)	-0.020 (0.095)	-0.041 (0.100)	-0.019 (0.156)	-0.004 (0.057)
REER growth (t-1)	-0.000 (0.031)	-0.000 (0.053)	-0.014 (0.061)	-0.013 (0.049)	-0.014 (0.055)	-0.031 (0.027)
Trade openness (t-1)	0.002 (0.003)	0.000 (0.004)	0.001 (0.005)	-0.001 (0.004)	0.001 (0.007)	0.002 (0.005)
Terms of trade growth (t-1)	-0.002 (0.019)	0.033 (0.027)	0.040 (0.029)	0.027 (0.033)	0.046 (0.040)	-0.010 (0.020)
Left-wing (t-1)		-1.313* (0.776)	-1.282 (0.942)	-0.999 (0.900)	-1.331 (1.013)	
Party length in office (t-1)				-0.016 (0.024)	-0.032 (0.037)	-0.067* (0.037)
Years in office (t-1)				-0.079 (0.176)	-0.233 (0.206)	
Gov. maturity (t-1)				-0.381** (0.185)	-0.312+ (0.205)	
Margin of majority (t-1)				-3.557 (4.775)	-2.455 (4.207)	
Control of All houses (t-1)				1.866** (0.775)	1.792* (0.965)	0.285 (0.784)
Vote share gov. party (t-1)				0.022 (0.031)	0.043+ (0.028)	
Horizon pca (t-1)		-0.729 (0.657)	-1.285+ (0.870)			
Cohesion pca (t-1)		1.091* (0.638)	-1.414** (0.568)			
Accountability pca (t-1)			-0.473 (0.598)			
WGI gov. effectiveness (t-1)					0.895 (1.177)	
WGI regulatory quality (t-1)					-0.694 (1.596)	
WGI voice and accountability (t-1)					-0.898 (1.405)	-0.669+ (0.458)
Observations	1,190	651	577	651	577	892
Number of countries	63	47	46	47	46	56
McFadden Pseudo-R2	0.023	0.125	0.18	0.19	0.237	0.06
Log-likelihood	-164.362	-65.721	-54.046	-60.799	-50.259	-113.748

In EMLIDC (relative to AE) FCs, lower debt ratios precede the FC...

Table 6. Cross-Sectional Analysis: Hamilton-based Fiscal Consolidations, Emerging Markets and Low-Income Developing Countries (vs. Advanced Economies)

Specification	(1)	(2)
Income group		
Regressors		
Real GDP growth (t-1)	0.072+ (0.045)	0.129+ (0.084)
Debt-to-GDP ratio (t-1)	-0.032*** (0.012)	-0.045*** (0.019)
Inflation (t-1)	0.237** (0.099)	0.265*** (0.096)
REER growth (t-1)	-0.021 (0.038)	0.012 (0.050)
Trade openness (t-1)	-0.022*** (0.007)	-0.014 (0.012)
Terms of trade growth (t-1)	0.027 (0.057)	-0.010 (0.058)
Reserves (% GDP) (t-1)	0.049** (0.021)	0.088* (0.049)
Left-wing (t-1)		0.369 (0.983)
Horizon pca (t-1)		-0.198 (0.543)
Cohesion pca (t-1)		2.226*** (0.785)
Observations	104	62
Number of countries	53	35
McFadden Pseudo-R2	0.289	0.432
Log-likelihood	-51.26	-22.922

Note: The dependent variable is a dummy taking the value of one if the fiscal consolidation occurs in an EMLIDC (zero otherwise), defined using the Hamilton-based criterion. Standard errors in parentheses. Constant term omitted. +, *, **, *** denote statistical significance at the 15, 10, 5 and 1 percent levels, respectively. Results exclude net commodity-exporting countries as these are defined in IMF (2015).

More needed (relative to unneeded) FCs preceded by “bad times”...

Table 7. Cross-Sectional Analysis: Hamilton-based Fiscal Consolidations, Responsible Consolidations (vs. Frugal Consolidations)

Specification	(1)	(2)	(3)
Type			
Regressors			
Real GDP growth (t-1)	-0.464*** (0.098)	-0.861*** (0.299)	-1.294*** (0.307)
Debt-to-GDP ratio (t-1)	0.026+ (0.016)	0.047** (0.021)	0.045*** (0.016)
Inflation (t-1)	-0.243*** (0.085)	-0.490* (0.252)	-0.540*** (0.190)
REER growth (t-1)	-0.078+ (0.050)	-0.125 (0.122)	0.053 (0.163)
Trade openness (t-1)	0.002 (0.004)	0.005 (0.006)	0.000 (0.010)
Terms of trade growth (t-1)	-0.135** (0.062)	-0.398** (0.175)	-0.623*** (0.213)
Left-wing (t-1)		2.254** (1.085)	3.869*** (1.466)
Horizon pca (t-1)		0.201 (0.480)	-0.733 (0.584)
Cohesion pca (t-1)		-2.066+ (1.336)	-1.458 (1.418)
Accountability pca (t-1)			-0.888 (0.979)
Observations	104	62	60
Number of countries	53	35	35
McFadden Pseudo-R ²	0.443	0.669	0.681
Log-likelihood	-32.578	-10.095	-8.618

Note: The dependent variable is a dummy taking the value of one for responsible fiscal consolidations (zero otherwise), defined using the Hamilton-based criterion. Standard errors in parentheses. Constant term omitted. +, *, **, *** denote statistical significance at the 15, 10, 5 and 1 percent levels, respectively. Results exclude net

More tax-based FCs preceded by low initial public debt, political cohesion...

Table A11. Cross-Sectional Analysis: Hamilton-based Fiscal Consolidations – Expenditure- vs. Tax-based and Mixed

Specification	(1)	(2)	(3)	(4)	(5)	(6)
Composition	Expenditure			Tax		
Regressors						
Real GDP growth (t-1)	-0.016 (0.034)	-0.022 (0.058)	-0.009 (0.061)	0.087* (0.050)	0.173** (0.072)	0.169** (0.075)
Debt-to-GDP ratio (t-1)	-0.000 (0.008)	0.008 (0.011)	0.008 (0.011)	-0.015 (0.020)	-0.067** (0.028)	-0.077** (0.037)
Inflation (t-1)	-0.076* (0.046)	-0.070 (0.070)	-0.042 (0.081)	0.119** (0.055)	0.213* (0.112)	0.169 (0.150)
REER growth (t-1)	-0.055+ (0.036)	-0.074 (0.062)	-0.070 (0.063)	0.079* (0.042)	0.152+ (0.097)	0.166+ (0.111)
Trade openness (t-1)	0.004 (0.005)	0.005 (0.006)	0.004 (0.006)	-0.002 (0.004)	-0.001 (0.008)	0.000 (0.009)
Terms of trade growth (t-1)	0.018 (0.044)	0.210** (0.102)	0.213** (0.089)	-0.007 (0.047)	0.082 (0.081)	0.038 (0.087)
Left-wing (t-1)		0.319 (0.600)	0.296 (0.591)		-2.552+ (1.637)	-1.951* (1.025)
Horizon pca (t-1)		0.464 (0.473)	0.541 (0.518)		-1.571* (0.803)	-2.235 (1.573)
Cohesion pca (t-1)		-0.812* (0.463)	-0.677 (0.578)		2.021*** (0.598)	2.511*** (0.568)
Accountability pca (t-1)			0.336 (0.539)			-0.701 (0.978)
Observations	104	62	60	104	62	60
Number of countries	53	35	35	53	35	35
McFadden Pseudo-R2	0.041	0.152	0.142	0.133	0.408	0.458
Log-likelihood	-65.467	-35.739	-35.223	-42.85	-14.11	-11.704

Note: The dependent variable is the dummy for expenditure- vs. tax-based consolidation defined using the Hamilton-based criterion. Standard errors in parentheses. Constant term omitted. +, *, **, *** denote statistical significance at the 15, 10, 5 and 1 percent levels, respectively. Results exclude net commodity-exporting countries as these are defined in IMF (2015).

More FCs in AEs (relative to EMLIDCs) preceded by fiscal rules (RR/BBR, not DR)

Table 8. Cross-Sectional Analysis: Hamilton-based Fiscal Consolidations – The Role of Fiscal Rules

Specification	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Sample	AE			EMLIDC				
Regressors								
Real GDP growth (t-1)	-0.019 (0.043)	-0.014 (0.041)	0.008 (0.042)	-0.017 (0.050)	-0.042 (0.045)	0.019 (0.043)	0.014 (0.041)	-0.008 (0.042)
Debt-to-GDP ratio (t-1)	0.045** (0.019)	0.045** (0.018)	0.053*** (0.019)	0.045** (0.018)	0.062*** (0.023)	-0.045** (0.019)	-0.045** (0.018)	-0.053*** (0.019)
Inflation (t-1)	-0.157+ (0.097)	-0.197** (0.090)	-0.154* (0.090)	-0.210* (0.108)	-0.309** (0.128)	0.157+ (0.097)	0.197** (0.090)	0.154* (0.090)
REER growth (t-1)	0.040 (0.034)	0.012 (0.032)	0.008 (0.034)	0.022 (0.031)	0.011 (0.045)	-0.040 (0.034)	-0.012 (0.032)	-0.008 (0.034)
Trade openness (t-1)	0.011 (0.010)	0.012 (0.009)	0.009 (0.010)	0.012 (0.009)	0.022*** (0.010)	-0.011 (0.010)	-0.012 (0.009)	-0.009 (0.010)
Terms of trade growth (t-1)	-0.082 (0.074)	-0.073 (0.065)	-0.055 (0.064)	-0.083 (0.069)	-0.084 (0.078)	0.082 (0.074)	0.073 (0.065)	0.055 (0.064)
Reserves (% GDP) (t-1)	-0.086*** (0.029)	-0.086*** (0.029)	-0.084*** (0.030)	-0.090*** (0.033)	-0.112*** (0.034)	0.086*** (0.029)	0.086*** (0.029)	0.084*** (0.030)
Expenditure rule (t-1)	1.797** (0.847)	-	-	-	1.374 (1.064)	-1.797** (0.847)	-	-
Revenue rule (t-1)	-	-	-	-	-	-	-	-
Budget balance rule (t-1)	-	-	1.652* (0.893)	-	4.183*** (1.301)	-	-	-1.652* (0.893)
Debt rule (t-1)	-	-	-	-0.077 (1.076)	-4.022*** (1.464)	-	-	-
Observations	75	71	75	75	71	75	71	75
Number of countries	38	37	38	38	37	38	37	38
McFadden Pseudo-R2	0.385	0.319	0.372	0.324	0.468	0.385	0.319	0.372
Log-likelihood	-30.141	-32.098	-30.769	-33.11	-25.074	-30.141	-32.098	-30.769

Note: The dependent variable is a dummy taking the value of one for responsible fiscal consolidations (zero otherwise), defined using the Hamilton-based errors in parentheses. Constant term omitted. +, *, **, *** denote statistical significance at the 15, 10, 5 and 1 percent levels, respectively. Results excluding exporting countries as these are defined in IMF (2015).

Conclusions

- Novel database w/ more than 450 FC episodes in 185 countries during 1979–2019
- FCs relatively infrequent (occur less than 20% of the time)
- Use discrete choice models to examine (macroeconomic/political) factors motivating FCs:
 - REER depreciation associated w/ more likely FCs
 - Needed AE (EMLIDC) FCs more likely in “bad (good) times” When FCs needed in AEs, new governments have greater chance of implementing them
 - A higher reserves-to-GDP ratio in the pre-consolidation year is associated with a lower likelihood of a FC in EMLIDCs
 - When FCs needed in EMLIDCs: governments in power longer more likely to consolidate; high margin of majority positively associated w/ FCs
 - More tax-based FCs politically challenging—implications for EMLIDCs seeking to raise revenue
 - More FCs in AEs associated w/ fiscal rules