

Ethnic cleavages, institutions and the duration of economic slumps

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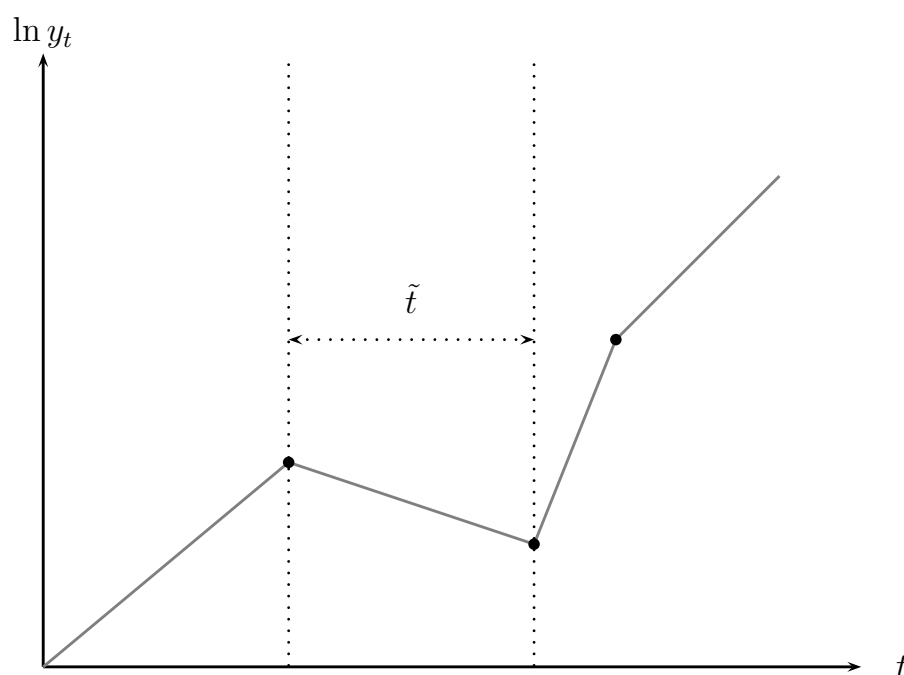
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Why do economic declines in some countries last so much longer than in others?



Duration of declines



Contribution

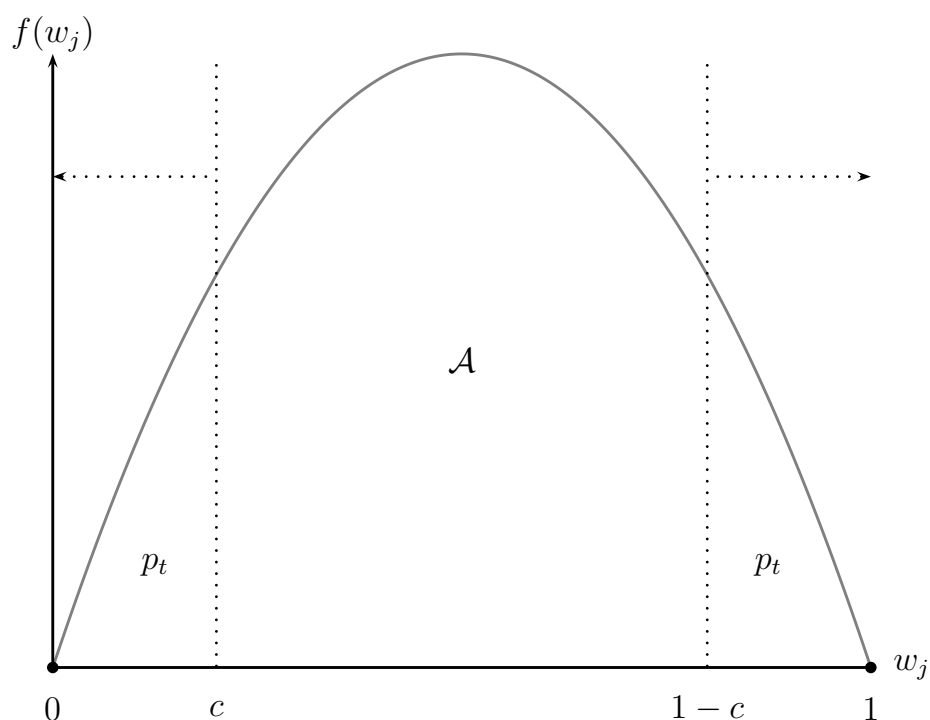
- ▶ Paper *i*) provides a theory of delayed cooperation during slumps and *ii*) tests the implications of this theory.
- ▶ In earlier work, we outline the econometric identification of the duration of the decline phase (Bluhm et al. 2014).
- ▶ Ethnic heterogeneity could be driving prolonged downturns.
- ▶ Ethnic groups could be engaged in 'war of attrition' or are unable to undertake reform (Easterly & Levine 1997, Alesina & Drazen 1991, Fernandez & Rodrik 1991, Spalore 2004).
- ▶ We propose a different mechanism that links ethnic heterogeneity and the powers of the political executive to the failure to agree on a policy response to the shock.
- ▶ Using data on ethnic configurations of the executive, we show that the partial correlations are consistent with our model.

Intuition behind the model

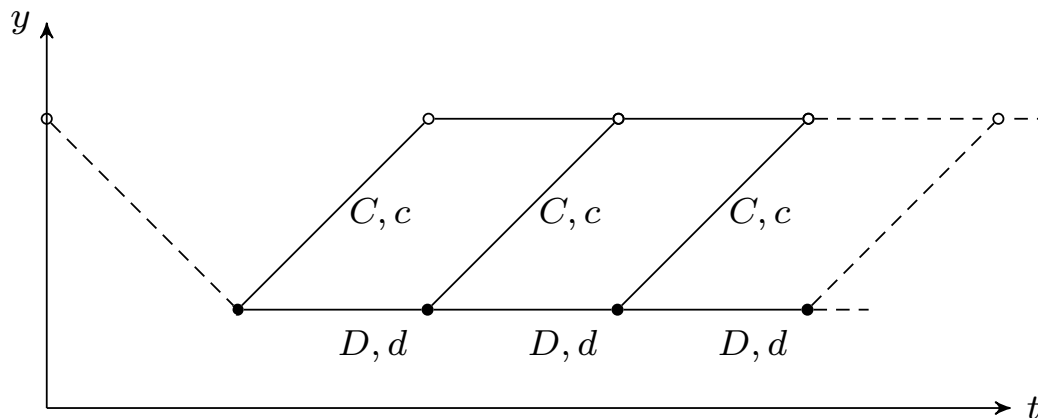
- ▶ An exogenous slump occurs, ethnic groups in the executive need to agree on a policy and economy recovers immediately when they do. It's a cooperation game.
- ▶ However, slump can hit groups unequally (post-recovery outcome is uncertain).
- ▶ Political institutions are modeled as constraints on how much one group can expropriate from the other (e.g. Besley and Persson, 2011).
- ▶ 'Winner-takes-all' effect: if one group becomes too weak, the other group takes the remainder.
- ▶ "Loosing" means political (or even physical) extinction.
- ▶ Groups that are politically relevant today can fortify their position by delaying cooperation.



Threshold effects



A sketch



Cooperating in period t when the other group cooperates in period t :

$$v_j^t(C, c) = \frac{1}{1 - \delta} \left\{ (1 - 2p^t) \mathbb{E}[g(w_j) | w_j \in \mathcal{A}] + p^t (g(0) + g(1)) \right\}$$

Cooperating in period $t + 1$ when the other group cooperates in period t :

$$v_j^t(D, c) = g((1 - \Delta)y_j) + \frac{\delta}{1 - \delta} \left\{ (1 - 2p^{t+1}) \mathbb{E}[g(w_j) | w_j \in \mathcal{A}] + p^{t+1} (g(0) + g(1)) \right\}$$



Theoretical results

Baseline model with two groups:

1. The welfare maximizing outcome involves no delay
2. There exist parameter values, such that all non-cooperative equilibria involve delay.
3. Stronger constraints on the executive shorten the expected time to recovery.

Extensions to J groups and group asymmetries:

4. A decrease in (political) concentration makes delay more likely (under some parameter restrictions).
5. An increase in the number of groups makes delay more likely.



Data and empirical approach

- ▶ Dependent variable is the (log) duration of declines $\equiv \ln \tilde{t}$ (years) from Bluhm et al. (2014). We have 58 episodes.
- ▶ Executive constraints ($XCONST_0$) from Polity IV data proxy for model parameter c . Scaled 1 (lowest) to 7 (highest).
- ▶ *Ethnologue data* (Desmet et al. 2012) and *Ethnic Power Relations* (EPR) data from Wimmer et al. (2009) for diversity.
 - ▶ Fractionalization: $ELF_i = 100 \times \left[1 - \sum_{j=1}^J \left(\frac{n_{ij}}{N_i} \right)^2 \right]$
 - ▶ Polarization: $POL_i = 100 \times 4 \sum_{j=1}^J \left(\frac{n_{ij}}{N_i} \right)^2 \left(1 - \frac{n_{ij}}{N_i} \right)$
 - ▶ Asymmetries: $ELA_i = 100 \times \frac{N_i}{N_i - 1} \left[\sum_{j=1}^J \left(\frac{n_{ij}}{N_i} \right)^2 - \frac{1}{N_i} \right]$
- ▶ Approach: Examine partial correlations with duration models ensuring temporal exogeneity; no claim of causality.



Baseline predictions

VARIABLES	Dependent Variable: $\ln \tilde{t}$					
	(1)	(2)	(3)	(4)	(5)	(6)
	<i>Ethnologue</i>			<i>Ethnic Power Relations</i>		
Executive Constraints ($XCONST_0$)	-0.187*** (0.063)	-0.291*** (0.092)	-0.171*** (0.064)	-0.187*** (0.067)	-0.262*** (0.085)	-0.170** (0.067)
Fractionalization (ELF)	0.017*** (0.004)	0.019*** (0.004)	0.023*** (0.006)			
Fractionalization (ELF_0)				0.020*** (0.007)	0.023*** (0.007)	0.025*** (0.007)
Interaction ($XCONST_0 \times ELF_{15}$)		-0.004** (0.002)				
Polarization (POL)			-0.011 (0.007)			
Interaction ($XCONST_0 \times ELF_0$)					-0.004* (0.002)	
Polarization (POL_0)						0.012 (0.009)
	<i>Control sets</i>					
GDP per capita	Yes	Yes	Yes	Yes	Yes	Yes
	<i>Summary stats</i>					
Exits	47	47	47	47	47	47
Spells	57	57	57	57	57	57
Years of Decline	346	346	346	346	346	346
Pseudo-R ²	0.149	0.173	0.161	0.119	0.134	0.127

All ethno-political variables based on EPR, version 3.01 and EPR-ETH version 2. Constant not shown. SEs clustered at the country level. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.



Extended predictions

VARIABLES	Dependent Variable: $\ln \tilde{t}$					
	(1)	(2)	(3)	(4)	(5)	(6)
Executive Constraints ($XCONST_0$)	-0.225*** (0.070)	-0.241*** (0.063)	-0.215*** (0.065)	-0.179*** (0.066)	-0.210*** (0.070)	-0.200*** (0.073)
Number of Groups ($GROUPS_0$)	-0.008 (0.018)			-0.031** (0.014)		
Included Groups ($EGIPGRPS_0$)		0.426*** (0.095)			0.290** (0.124)	0.300*** (0.111)
Excluded Groups ($EXCLGRPS_0$)		-0.012 (0.013)			-0.021* (0.012)	-0.014 (0.012)
Dominant Pop. ($DOMPOP_0$)			-0.702* (0.361)			
Monopoly Pop. ($MONPOP_0$)			-1.140** (0.484)			
Fractionalization (ELF_0)				0.022*** (0.007)	0.013 (0.009)	
Assymetries (ELA_0)						-0.013** (0.006)
<i>Control sets</i>						
GDP per capita	Yes	Yes	Yes	Yes	Yes	Yes
<i>Summary stats</i>						
Exits	47	47	47	47	47	43
Spells	57	57	57	57	57	53
Years of Decline	346	346	346	346	346	334
Pseudo-R ²	0.064	0.133	0.103	0.129	0.154	0.166

All ethno-political variables based on EPR, version 3.01 and EPR-ETH version 2. Constant not shown. SEs clustered at the country level. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.



Robustness

Main results are robust to many perturbations:

- ▶ Regional and decade FEs. No “Africa effect”: Africa dummy is always significant but we still find comparable effects.
- ▶ Other measures of fractionalization: Alesina et al. (2003), Fearon (2003) and the *Atlas Narodov Mira*.
- ▶ Changing the measure of executive constraints to variants of Henisz’s (2000) “political constraints” index.
- ▶ Extending the sample to 83 declines by using a more lenient significance criterion for the structural break algorithm.
- ▶ Altering the functional form linking durations to the covariates: log-logistic, Weibull or semi-parametric Cox.



Concluding remarks

- ▶ Outcomes with delay occur in equilibrium but are not the social optimum. Groups are not able to commit to compensating the losers; that is, give back their potential post-recovery gains. No such enforceable contracts.
- ▶ Results are particularly relevant for understanding declines in Africa where political divisions are mostly ethnic and power is shared (Francois et al. 2015, ECTA).
- ▶ Effective coordination and policy responses to slumps are difficult with weak institutions and group heterogeneity.
- ▶ Stronger, more cohesive, institutions help to resolve these issues, at any level of heterogeneity.



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