

# **Democracies Default Differently:** Regime Type and Sovereign Debt Crisis Resolution

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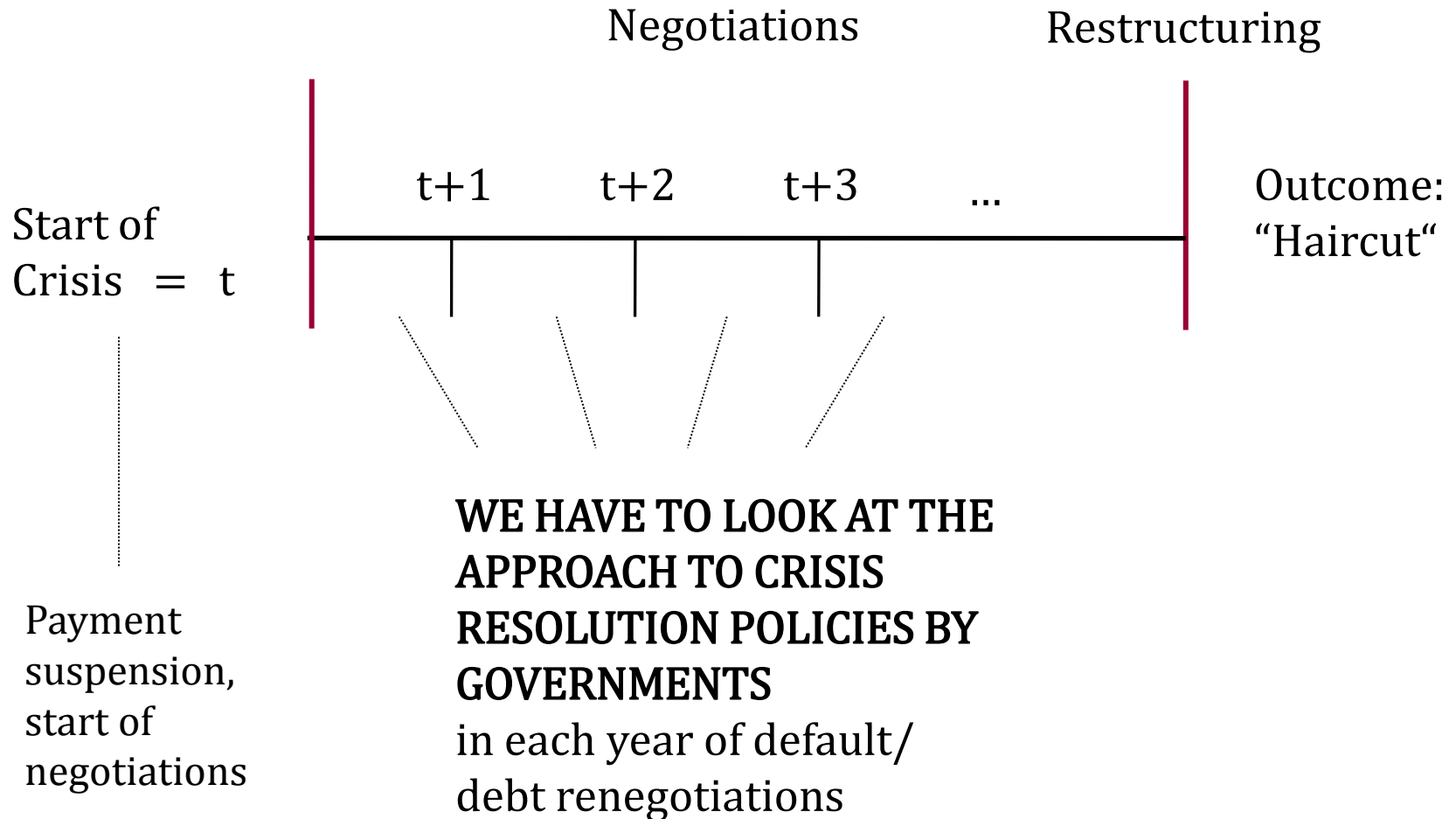
# Introduction

- Question: Does regime type matter for sovereign defaults?
- Big debate: democratic advantage vs. disadvantage
  - Empirical results largely inconclusive
- We show: democracies don't default more often, but differently
- Once insolvent, they are less willing to cooperate with creditors
  - Big difference between pre-default context (austerity to prevent default) and post payment suspension (S&P indicator switches to 1)
  - This is due to asymmetrically higher costs of austerity after insolvency
  - Once default episode has started, regime type matters massively
- Our approach: Look at the right dependent variable
  - Binary distinction default vs. no default is superficial
  - We present a new indicator to detect how countries default
  - Empirical findings very strong

# Background

- Three overlooked aspects in sovereign default analysis
  - Defaults differ largely in both procedure and cost
  - Institutions do matter (largely overlooked in economics)
  - Timeline matters: difference ex-ante vs. ex-post analysis
- Existing empirical toolbox doesn't allow to understand defaults
  - Relies on binary coding (S&P – default vs. non-default)
  - Relies either on ex-ante measures (arrears, spreads) or ex-post measures (NPV haircuts), neither allows to understand story
  - No one has looked into the black box – we seek to fill that gap
- Why does the black box matter so much?
  - Key to the decision on the redistribution of the default costs
  - Will governments “punish” own population or creditors?
  - This has an effect on long-term vs. short-term costs to citizens?

# Inside the black box



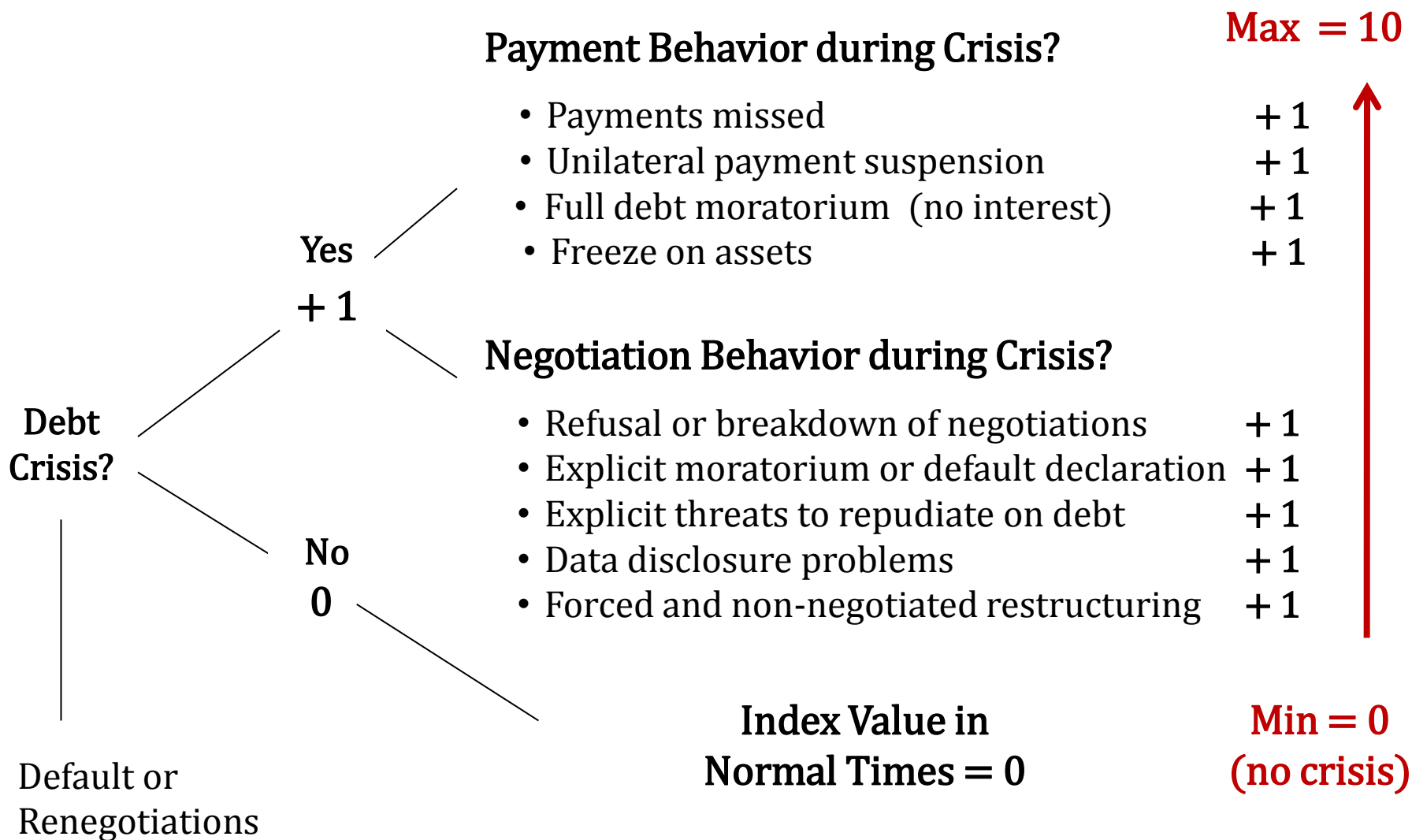
# Our story

- When a government is insolvent it has two basic options
  - (1) minimize reputation costs, i.e. resolve crisis cooperatively with creditors to regain market access soon, but maximize austerity costs
  - (2) minimize debt repayment, i.e. take the hardest possible stance vis-à-vis creditors to keep costs on population low
- Theory tells us democracies should tend to favor (2) over (1)
  - Costs/Benefits in society are asymmetrically distributed
    - (1) benefits large firms, capital, holders of gov debt; population at large loses (>50% of population)
    - (2) benefits population at large, but high costs to large firms, capital, holders of gov debt (<50% of population)
  - Elections and political competition should matter as channels
- If that's true, why don't democracies default more often?
  - The disutility from austerity measures is convex. Money spent on debt service is worth much after a default than in normal times
  - Preferences don't change, but costs change in a context of insolvency
- To confirm our story, we need to be able to measure (1) vs (2)
  - "Coerciveness Index"

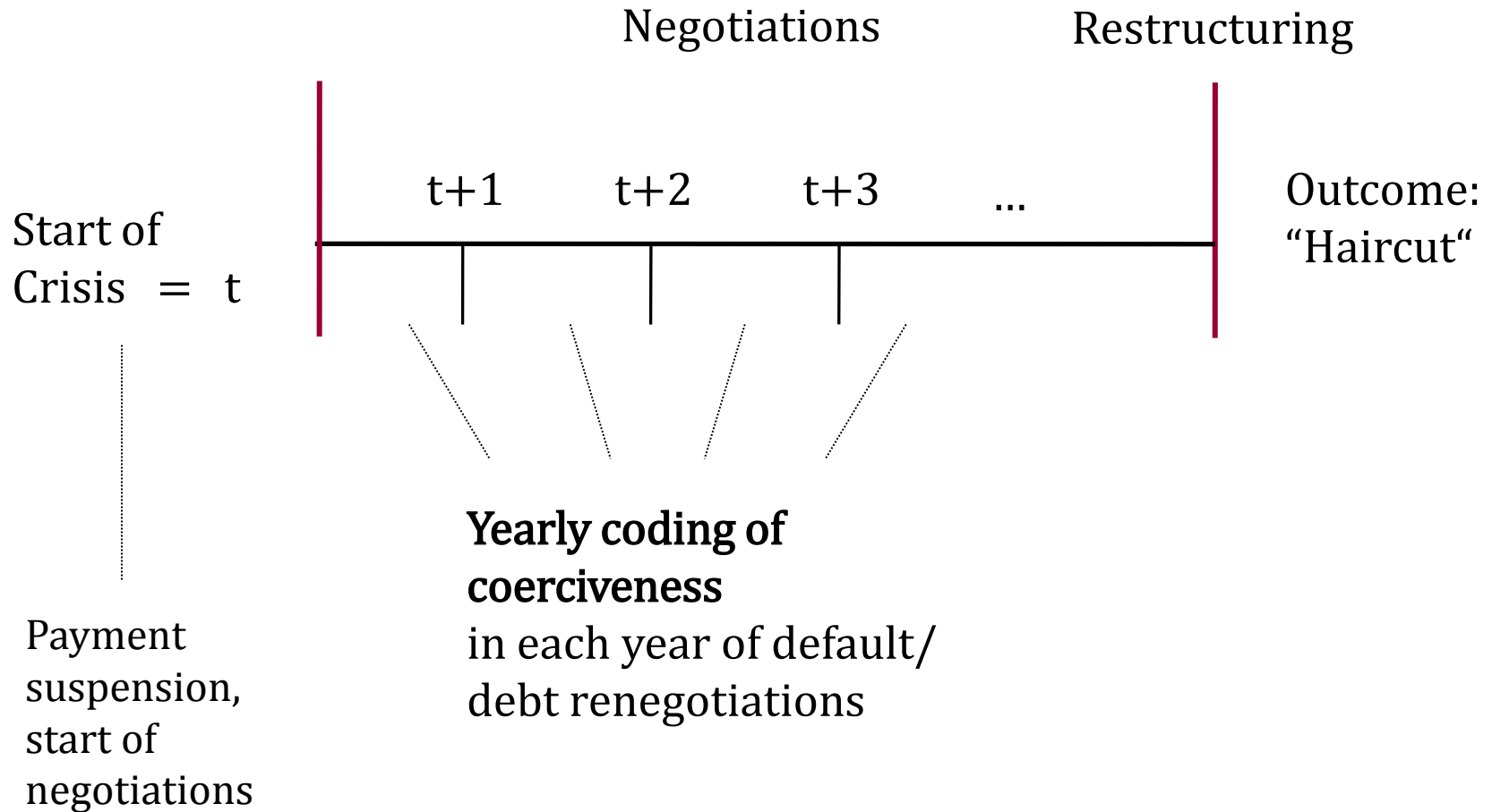
# The Coerciveness Index (Enderlein et al. 2012)

- 9 Sub-Indicators: dummy variables of coercive actions
- Index is additive: from 1 - 10 (10 = very coercive)
- Sample: 1980-2007, all major debt crises, 31 countries
  - 251 crisis-year observations (year-by-year dataset)
  - 101 debt restructurings (agreement based dataset)
- Information basis: 20.000 pages of financial press (Financial Times, Reuters, Wall Street Journal, Dow Jones News Service, the New York Times and Associated Press)
- Additionally: Policy reports, standard literature
- Independent coding by at least 2 persons per case
- ➔ Enderlein, Henrik, Laura von Daniels and Christoph Trebesch: “Sovereign Debt Disputes: A Database of Government Coerciveness in Debt Crises” in *Journal of International Money and Finance*, Volume 31, Issue 2, March 2012, 250-266

# The Coerciveness Index: Construction

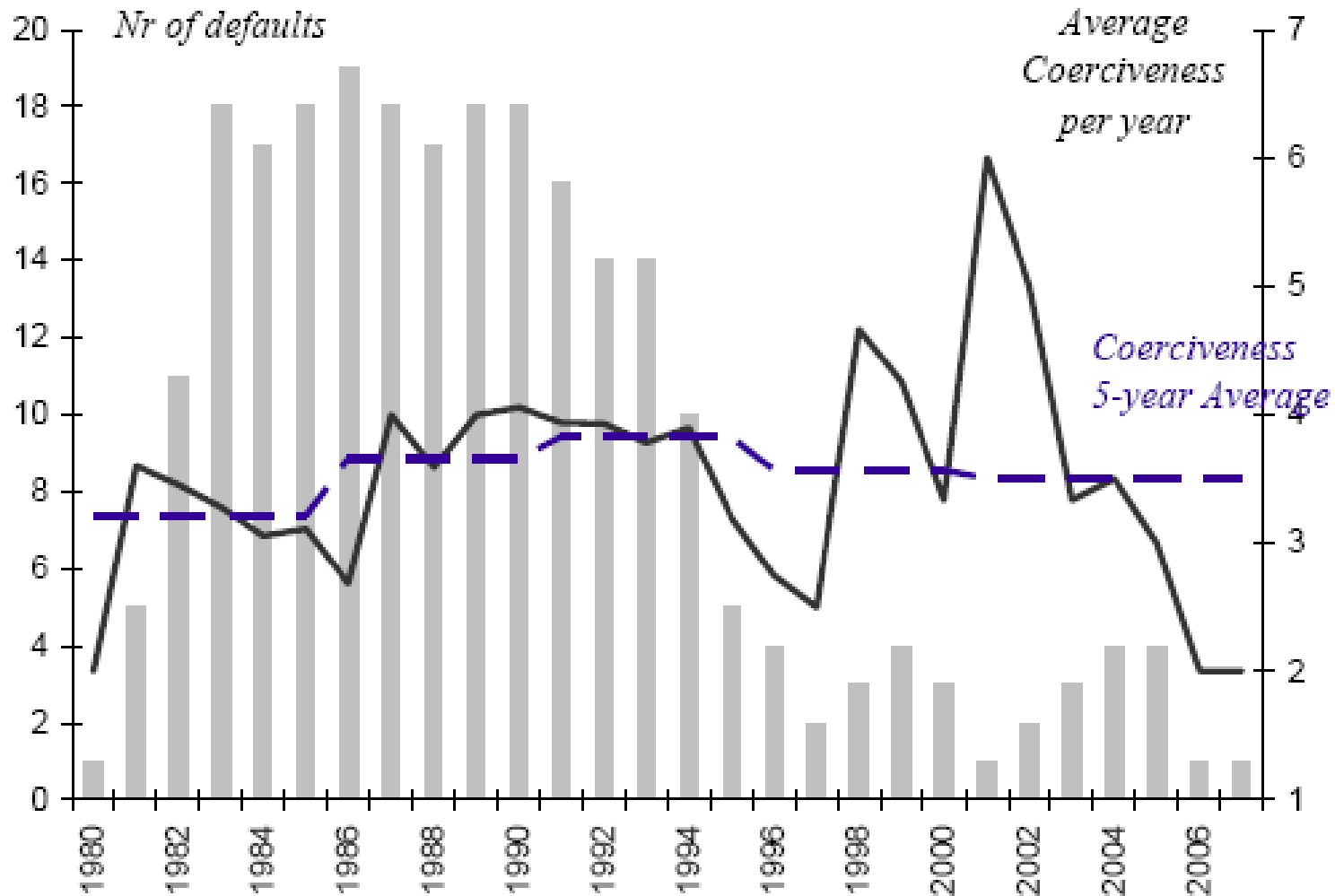


# Timeline

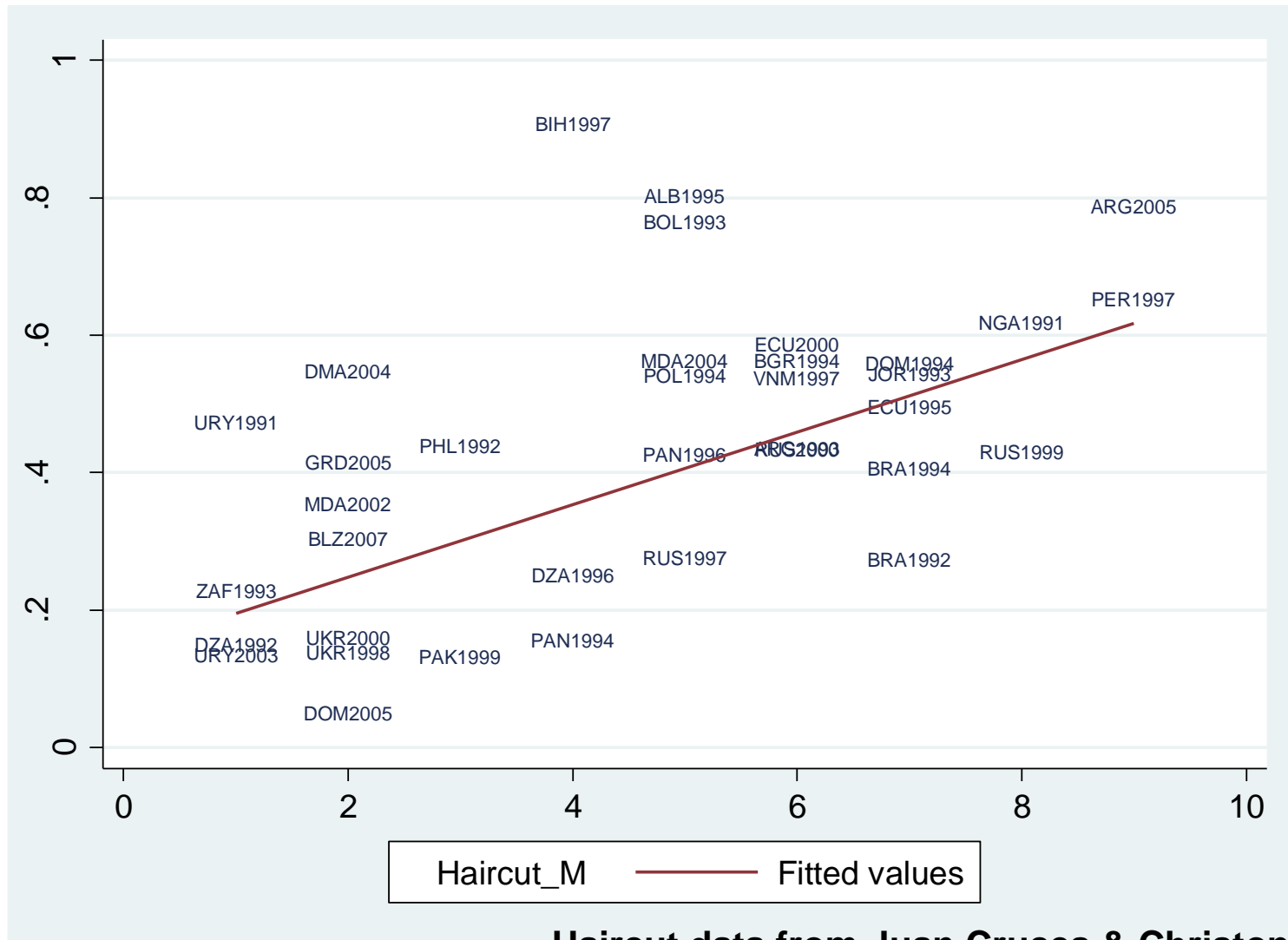




# Index Distribution Over Time



# Coerciveness and Haircuts



Haircut data from Juan Cruces & Christoph Trebesch:  
 “Sovereign Defaults: The Price of Haircuts“, forthcoming, AEJ Macroeconomics

# Econometric Approach

- Baseline: OLS, all crisis-year obs. pooled in a cross-section, all variables lagged by one year, regional dummies
- Validate results with other methods
  - Fixed and random effects
  - Ordered probit
- Democracy Measures
  - Pzeworski, Alvarez, Cheibub and Limongi 2009
  - Polity IV
  - Freedom House (average political rights and civil liberties)
- To detect channel
  - Elections: Database of Political Institutions
- Standard economic control variables (solvency, liquidity, inflation, growth, global credit market conditions)

# Snapshot of Results

- Average polity scores
  - 5.01 for conflictive episodes (79 obs, coded 5 or higher)
  - 1.13 for low levels of disputes (72 obs, coded lower than 3)

Country	Years	Regime Type	> 5 years of democrat. rule	Socioeconomic Pressure
<b><u>Episodes with High Debtor Coerciveness (Index values of 7 or higher)</u></b>				
Argentina	2002 - 2005	Democratic	Yes	Very High
Brazil	1987 and 1989	Democratic	No	High
Dominican Rep.	1989 - 1990	Democratic	Yes	High
Nigeria	1990 - 1991	Autocratic		Intermediate
Peru	1985 - 1989	Democratic	Yes	Very High
Russia	1998	Democratic	Yes	High
<b><u>Episodes with Very Low Debtor Coerciveness (Index values of 2 or lower)</u></b>				
Algeria	1991 - 1993	Autocratic		High
Chile	1984 - 1989	Autocratic		High/Intermediate
Moldova	2002	Democratic	No	High
Morocco	1986 - 1988	Autocratic		High
Uruguay	1985 - 1988	Democratic	No	High/Intermediate
South Africa	1986 - 1987	Autocratic		High

## Finding 1

Democracies  
behave more  
coercively

	(1)	(2)	(3)	(4)
	Democracy Dummy (Przeworski et al.)	Democracy Dummy (Polity)	Pure Democracies	Pure Autocracies
<b>Democracy Dummy (Przeworski)</b>	<b>0,936*** (0,263)</b>			
<b>Polity Dummy (Polity&gt;0)</b>		<b>1,163*** (0,305)</b>		
<b>Pure Democracies Dummy (Polity ? 6)</b>			<b>0,626** (0,286)</b>	
<b>Pure Autocracies Dummy (Polity ? -6)</b>				<b>-0,606 (0,396)</b>
External debt / GNI	0,844** (0,334)	0,696* (0,412)	0,694 (0,432)	0,816* (0,430)
Short-term Debt / Reserves	0,123*** (0,036)	0,111*** (0,038)	0,099*** (0,037)	0,096** (0,039)
Share of Debt to Private Creditors	-1,217*** (0,472)	-0,627 (0,499)	-0,937* (0,493)	-1,000** (0,492)
Inflation (log)	0,087** (0,039)	0,038 (0,038)	0,037 (0,039)	0,035 (0,039)
GDP (% deviation from trend)	-0,261 (0,553)	-0,908 (0,596)	-0,636 (0,593)	-0,460 (0,576)
Global Interest Rate (LIBOR)	-0,861 (1,289)	-0,040 (0,230)	-0,099 (0,235)	-0,099 (0,236)
Total Capital Flows to Developing World	-0,000 (0,000)	0,000 (0,000)	0,000 (0,000)	0,000 (0,000)
Constant	10,050 (19,690)	-1,928 (3,221)	-0,898 (3,289)	-0,278 (3,266)
Year Fixed Effects	YES	YES	YES	YES
Regional Fixed Effects	YES	YES	YES	YES
Observations	198	202	202	202
R <sup>2</sup>	0,293	0,288	0,259	0,250

Note: Pooled OLS Regression. The dependent variable is the index of coercive government behavior weighted through PCA. \*\*\*/\*\*/\* denotes significance at a 1/5/10 % respectively. Robust standard errors in parentheses.

## Finding 2

Higher degrees of democracy imply higher coerciveness

	(1)	(2)	(3)
	Continuous Polity IV Score	Democracy Interaction Term	Continuous Freedom House Score
<b>Poility Score</b>	<b>0,053**</b> <b>(0,023)</b>		
<b>Polity x Dem.Dummy by Przeworski</b>		<b>0,075**</b> <b>(0,032)</b>	
<b>Freedom House</b>			<b>0,222**</b> <b>(0,096)</b>
External debt / GNI	0,684 (0,431)	0,493 (0,405)	0,998** (0,390)
Short-term Debt / Reserves	0,105*** (0,039)	0,132*** (0,038)	0,099*** (0,036)
Share of Debt to Private Creditors	-0,913* (0,495)	-1,385*** (0,488)	-0,735 (0,497)
Inflation (log)	0,037 (0,039)	0,082** (0,041)	0,040 (0,037)
GDP (% deviation from trend)	-0,692 (0,589)	-0,388 (0,551)	-0,418 (0,573)
Global Interest Rate (LIBOR)	-0,077 (0,240)	-0,852 (1,353)	-3,699 (19,316)
Total Capital Flows to Developing World	0,000 (0,000)	-0,000 (0,000)	-0,000 (0,000)
Constant	-0,851 (3,333)	10,142 (20,665)	47,478 (262,986)
Year Fixed Effects	YES	YES	YES
Regional Fixed Effects	YES	YES	YES
Observations	202	192	210
R <sup>2</sup>	0,108	0,157	0,091

Note: Pooled OLS Regression. The dependent variable is the index of coercive government behavior weighted through PCA. \*\*\*/\*\*/\* denotes significance at a 1/5/10 % respectively. Robust standard errors in parentheses.

# Finding 3

## Elections and political competition increase coerciveness

	(1)	(2)	(3)	(4)	(5)	(6)
	<b>Lagged Elections</b> (Presidential/ Legislative)		<b>Electoral Compet.</b> (DPI Index)		<b>Political Competition</b> (Vanhanen Index)	
	Full Sample	Subsample of Democracies	Full Sample	Subsample of Democracies	Full Sample	Subsample of Democracies
<b>Lagged Elections</b>	<b>0,604**</b> <b>(0,267)</b>	<b>0,585*</b> <b>(0,343)</b>				
<b>Elect. Competition DPI Index (LIEC)</b>			<b>0,123*</b> <b>(0,069)</b>	<b>0,189*</b> <b>(0,108)</b>		
<b>Elect. Competition - Vanhanen Index</b>					<b>0,023***</b> <b>(0,007)</b>	<b>0,027*</b> <b>(0,014)</b>
External debt / GNI	1,053*** (0,377)	1,193*** (0,441)	1,137*** (0,378)	1,205*** (0,449)	0,927*** (0,358)	0,999*** (0,474)
Short-term Debt / Reserves	0,065* (0,035)	0,073 (0,050)	0,056 (0,037)	0,065 (0,053)	0,086** (0,034)	0,117** (0,050)
Share of Debt to Private Creditors	-1,043** (0,482)	-0,788 (0,651)	-0,663 (0,503)	-0,467 (0,699)	-0,530 (0,498)	0,193 (0,667)
Inflation (log)	0,035 (0,037)	0,027 (0,042)	0,032 (0,037)	0,025 (0,043)	0,018 (0,037)	0,012 (0,050)
GDP (% deviation from trend)	-0,349 (0,569)	-2,205** (0,972)	-0,557 (0,614)	-2,496** (1,008)	-0,889 (0,622)	-1,225 (0,858)
Global Interest Rate (LIBOR)	-1,599 (18,276)	0,185 (0,168)	-3,997 (18,388)	0,197 (0,163)	-6,340 (30,952)	0,165 (0,171)
Total Capital Flows to Developing World	-0,000 (0,000)	0,000 (0,000)	-0,000 (0,000)	0,000 (0,000)	-0,000 (0,001)	0,000 (0,000)
Constant	18,722 (248,865)	-2,230 (2,877)	51,674 (250,345)	-4,029 (2,965)	103,880 (512,855)	-3,450 (3,030)
Year Fixed Effects	YES	YES	YES	YES	YES	YES
Regional Fixed Effects	YES	YES	YES	YES	YES	NO
Observations	210	131	210	131	209	131
Adj. R <sup>2</sup>	0,248	0,346	0,088	0,138	0,125	-0,016

Note: Pooled OLS Regression. Dependent variable is the index of coercive government behavior weighted through PCA. \*\*\*/\*\*/\* denotes significance at a 1/5/10 % respectively. Robust standard errors in parentheses.

# Conclusions

- Democracies do default differently
  - Behave much more aggressively vis-a-vis private creditors than autocracies
  - Results are solid regardless of database, specification or time
  - The effect is accentuated by elections and political competition – as expected
- This is a major finding for the literature
  - In a default context, procedure and institutions matter a lot
  - Democracies minimize short-term costs at the expense of higher long-term costs (market exclusion): time inconsistency



# Backup

# Indicators of Payment Behaviour

1. **Payment suspension** –any payments missed? Preemptive vs post-default restructuring (Finger and Mecagni 2007)
2. **Unilateral payment suspension** –agreed moratorium? “negotiated default”? (Bulow and Rogoff 1989)
3. **Full debt moratorium (incl. interest)** – all payments halted? Signal on willingness to pay (Cole, Dow and English, 1995)
4. **Freeze on assets of non-residents** – *additional* capital controls introduced? (Cline 2004, IIF 2006)

# Indicators of Negotiation Behavior

5. **Refusal or breakdown of negotiations** – close dialogue?  
Breakdowns of more than 3 months?
6. **Explicit moratorium or default declaration** – analogy to a  
“declaration of war” (Jones et al. 1996)
7. **Explicit threats to repudiate on debt** – analogy to CDS  
credit event. Only threats by key government officials
8. **Data disclosure problems** – lack of transparency,  
information asymmetries (Eaton 2004, Gai et al. 2006)
9. **Forced and non-negotiated restructuring** – did creditors  
have any say in design of exchange offer?

# Coercive Cases

## **Episodes with Very High Index Values (7 or higher)**

Argentina	2002 - 2005
Brazil	1987 and 1989
Dominican Rep.	1989 - 1990
Nigeria	1990 - 1991
Peru	1985 - 1989
Russia	1998

## **Episodes with Very Low Index Values (2 or lower)**

Algeria	1991 - 1993
Chile	1984 - 1989
Moldova	2002
Morocco	1986 - 1988
Uruguay	1985 - 1988
South Africa	1986 - 1987

# Sub-Indicators: Descriptives

Variable	Observations	Frequency of value 1	Mean	Std. Dev.
Payments Missed	251	191	0.76	0.43
Unilateral Suspension	251	145	0.58	0.49
Full Suspension	251	66	0.26	0.44
Freeze on Assets	251	27	0.11	0.31
Negotiation Breakdown	251	107	0.43	0.50
Explicit Declaration	251	30	0.12	0.33
Threats to Repudiate	251	41	0.16	0.37
Data Disputes	251	20	0.08	0.27
Forced Restruct.	251	14	0.06	0.23

# Sub-Indicators: Correlation

	Payments Missed	Unilateral Suspension	Full Suspension	Freeze on Assets	Negotiation Breakdown	Explicit Declaration	Threats to Repudiate	Data Disputes	Forced Restruct.
Payments Missed	1.00								
Unilateral Suspension	0.66	1.00							
Full Suspension	0.33	0.47	1.00						
Freeze on Assets	0.10	0.09	0.08	1.00					
Negotiation Breakdown	0.31	0.48	0.42	0.14	1.00				
Explicit Declaration	0.18	0.27	0.31	0.27	0.28	1.00			
Threats to Repudiate	0.05	0.05	0.13	0.19	0.12	0.24	1.00		
Data Disputes	0.13	0.22	-0.04	0.09	0.13	0.16	-0.05	1.00	
Forced Restruct.	0.10	0.17	0.09	0.14	0.18	0.39	0.17	0.06	1.00