Resource Windfalls and Political Sabotage: Evidence from 5.2 Political Ads

David Lagziel
(Department of Economics,
Ben-Gurion University of the Negev)

Ehud Lehrer
(Department of Economics,
Durham University)

Ohad Raveh
(Department of Environmental Economics and Management,
Hebrew University of Jerusalem)

Resource Windfalls and Sabotage

- **Can resource windfalls induce political sabotage?**
  - Resource windfall: Discovery of an oil field, or an increase in the price oil.
  - Political sabotage: “Costly act of damaging a rival’s likelihood of winning the political contest”

- The political implications of resource windfalls has been the subject of much study
  - Especially within the so-called resource curse hypothesis: Negative impact of resource windfalls / abundance on long term growth.
  - Literature so far highlighted a host of channels: corruption, institutions, conflict, and more.

- Little attention given to their impact on political processes – in particular, **political sabotage** – shown to inflict adverse effects and reduce social welfare.

- We hypothesize that resource windfalls may raise the stakes of political competitions:
  - Help winning candidate implement promised polices / make private gain
  - Intensify competition by increasing incumbent advantage (Petro-Populism)

- Thereby increase the extent of political sabotage – illustrate this theoretically and empirically.

- The notion that competition’s stakes affect the extent of sabotage has been shown in different contexts (co-worker competition and stakes vis-à-vis wages – Lazear, 1989), or sports --- not for political contexts.

Main outcome: Resource windfalls significantly ***increase*** political sabotage – and more so in symmetric and corrupt environments.

- Illustrated theoretically (model of endogenous sabotage), and empirically (via the case of negative campaigning in U.S. gubernatorial elections)

Competition Stakes and Negativity Bias

- Asymmetric and non-linear responses to different types of information.
- Negative information tends to exert a more substantial impact. The impact of positive information diminishes.
- Well documented phenomena across various fields (marketing, psychology, political science).

Within the context of political campaigning:

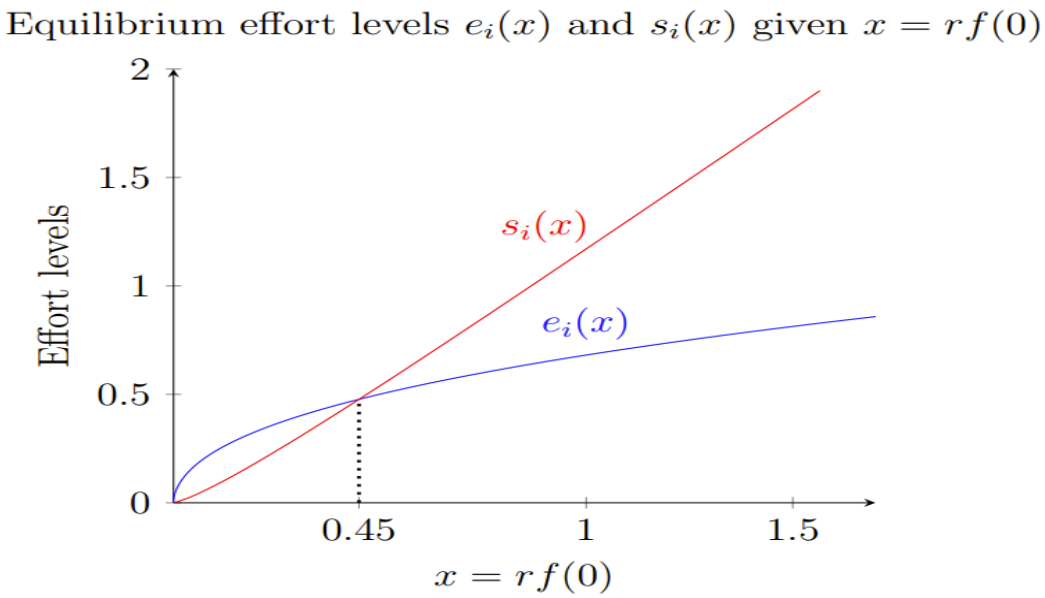
- When competition stakes increase, candidates' incentives become more pronounced, increasing campaign efforts (costs).
- More is invested in negative campaigning due to the negativity bias

Resource windfalls as a payoff-increasing mechanism:

- Yield opportunities to implement promised policies (benevolent approach) / make private gain (rent-seeking approach) / intensify competition (populism).
- Consequently may increase political sabotage

Theory in Brief

- We construct a model of political contests, based on Skarpedas and Grofman (1995).
- Presents a campaign game with two players who compete for public support.
- Competition is via positive campaigning (enhancing their abilities), or negative campaigning (discredit adversary).
- Assuming standard cost structures, with negativity bias.
- Analysis: a shock to the economy that increases candidates' payoffs yields greater divergence between negative and positive campaigning: **relatively more negative campaigning**.
- Effect is stronger in case of:
  - Trailing candidate
  - Symmetric environment



Empirics in Brief

- We undertake an empirical investigation of the effect of (plausibly exogenous) resource booms on the extent of negative campaigning (sabotage).

- Do so via an analysis of 5.2 million political ads related to U.S. gubernatorial elections, over the period 2010-2020.

- Main finding: resource windfalls increase the extent of negative campaigning in an economically meaningful and robust magnitude.

- Baseline magnitudes:
  - A one standard deviation increase in resource windfalls i**ncreases** average campaign negativity by 10%.

- The main result is apparent under a wide array of robustness tests.
  - Battery of controls at the state, ad, candidate, and incumbent levels.
  - Different time intervals, windfall/negativity measures, sample restrictions, specifications, political channels, institutions and controls.

- Main outcome is intensified in corrupt environment and symmetric settings.

Related Literature

- 1) The effects of resource booms on development and growth (van der Ploeg (2011), Venables (2016), van der Ploeg and Poelhekke (2016))
  - A specific channel relates to the political implications: (e.g., Arezki and Bruckner (2011), Tsui (2011), Brollo et al. (2013), Caselli and Michaels (2013), among others).
  - We consider a new potential adverse effect of resource windfalls: political sabotage.
- 2) Empirical literature on sabotage in contests (e.g., Chowdhury and Gurtler (2015), Haselmayer (2019), Maier and Nai (2023a), Del Corral et al. (2010), Harbring and Irlenbusch (2005, 2011), Vandegrift and Yavas (2010),
  - We examine the impact of competition's stakes on sabotage in a political context.
- 3) Contest theory (e.g., Chowdhury and Gurtler (2015), Deutscher et al. (2013), Konrad (2000), Lazear (1989), Baumol (1992), Tullock (1980), Lovett and Shachar (2011), Skaperdas and Grofman (1995)
  - We study the impact of an increase in the players' reward function on the extent of negative campaigns.

EMPIRICAL PART

The U.S. Case

- We undertake an empirical investigation of the effect of resource booms on the extent of negative campaigning (sabotage), via an analysis of political ads related to U.S. gubernatorial elections.

- <u>Why an U.S. gubernatorial elections?</u>

1) Federal structure ensures that gubernatorial elections are undertaken independently across states.

2) It represents a setting where state governments are fiscally autonomous.
   - Benefit from the natural resources located in their territories.

3) Unlike other types of political races, in the gubernatorial case winners receive executive powers, within the state – match between windfalls and competition's stakes.

4) Gubernatorial elections are largely bipartisan, and hence map well to a simplified 2-player setup.

5) It provides a relatively homogenous environment with ample variation in plausibly exogenous variation in natural resource endowments, and other politico-economic factors.

Data

- Use an annual-level panel of TV political ads related to the U.S. gubernatorial elections across the 48 continental U.S. states over the period 2010-2020. The analysis is based on two key measures.

1) Resource windfalls:

- An interaction of two plausibly exogenous measures –
  - The cross-sectional difference in the geologically-based recoverable stocks of crude oil and natural gas (U.S. Geological Survey)
  - The international prices of crude oil and natural gas.
- Ample variation across time and across states
  - Seven states with no natural resource endowments

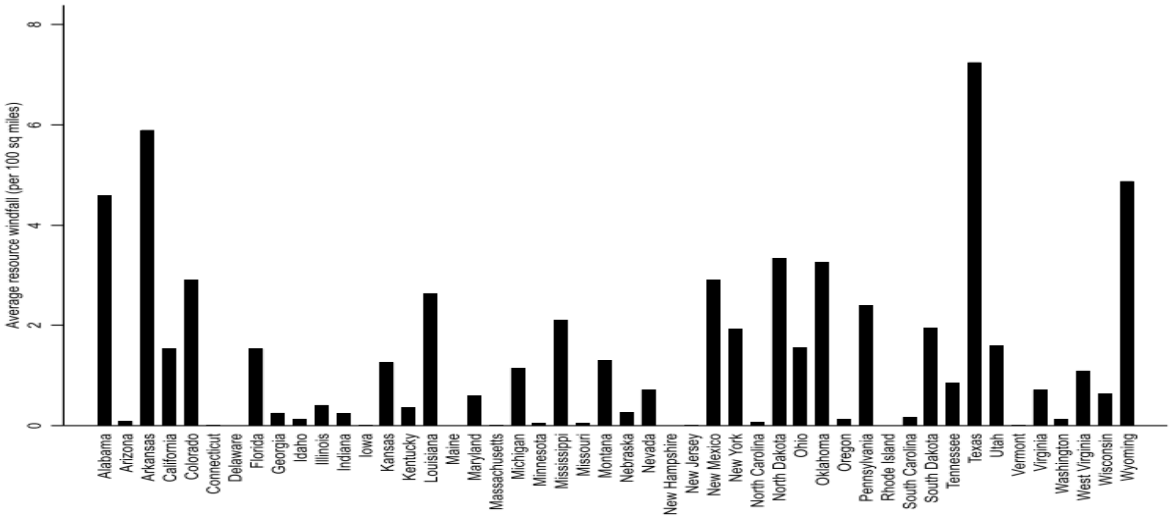


Figure presents the average state resource windfalls per 100 sq miles, 2010-2020 (AK, HI excluded)

Data

3) TV political ads (tone characteristics):

- Data from Wesleyan Media Project on TV political ads related to U.S. gubernatorial elections, aired on the major TV networks, across states and time, since 2010 and up to 2020.
  - This data is based on ad tracking by a commercial firm (Kantar Media / CMAG), which detects and classifies TV ads across a range of characteristics.

- Sample covers 5.2 million TV political ads
  - Observe a host of characteristics for each, ranging from the media market, date, time of day, and type of program in which it was aired, to its length, cost, and sponsor.

- Observe the tone of the ad – promote/contrast/attack – and construct an *Ad Tone Index*, measuring the extent of sabotage – taking values 1-3, respectively.

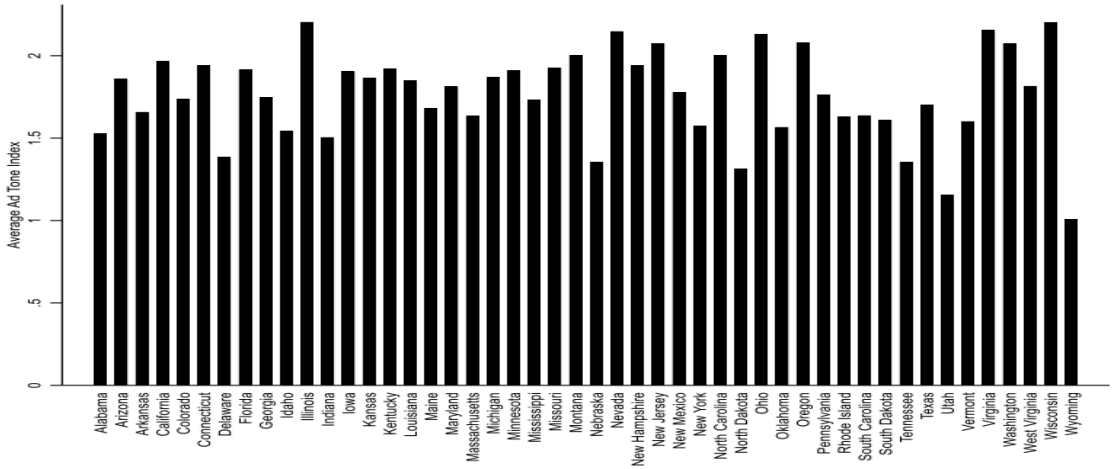


Figure 3: The figure presents the average Ad Tone Index across the 48 continental U.S. states over the period 2010–2020.

Analysis

- Identification strategy is based on the plausibly exogenous variation in resource windfalls: geologically-based endowments, and oil price.

- Baseline analysis estimates the effect of resource windfalls on the Ad Tone Index, using a panel fixed-effects framework.

- We estimate models of the following type, for ad ‘a’, state ‘i’, at date ‘t’, 2010-2020:

$$tone_{a,i,t} = \varphi + \alpha(windfall)_{i,t} + \beta(\mathbf{X})_{a/i,t} + \nu_t + \eta_i + \epsilon_{a,i,t},$$

- X: set of controls at the ad or state level.
- State and date FEs in baseline (due to level of identifying variation); further ad FEs in robustness
- Robust SEs clustered by state and date.
- Focus on the coefficient on *windfall*.

Baseline Results

Dependent variable: Ad Tone Index	(1) Baseline	(2) Politico-economic factors	(3) Candidate features	(4) Ad characteristics	(5) Sectoral composition
Resource windfall	0.11***	0.14***	0.51***	0.13***	0.12***
	(0.01)	(0.03	(0.09)	(0.01)	(0.01)
GSP per capita		-0.07***			
		(0.006)			
Corruption		0.13***			
		(0.02)			
Electoral competition		0.15***			
		(0.05)			
Candidate party			0.02***		
			(0.005)		
Ad sponsor			0.15***		
			(0.003)		
Incumbent			-0.15***		
			(0.003)		
Ad length				-0.01***	
				(0.001)	
Ad cost				0.007***	
				(0.001)	
Manufacturing					0.002
					(0.009)
Services					-0.01***
					(0.003)
Wholesale/retail					-0.05***
					(0.01)
Government					-0.08***
					(0.08)
Governor fixed effects	No	Yes	No	No	No
Candidate fixed effecs	No	No	Yes	No	No
Additional fixed effects	No	No	No	Yes	No
R-squared	0.18	0.21	0.83	0.23	0.19
Observations	5190461	4025499	2656860	3867989	5190461

- Windfall has a positive impact on negativity.
- Magnitude: A 1 SD increase in ‘Windfall’ increases average negativity by 10%.

Political Channels

Dependent variable: Ad Tone Index	(1) GSP	(2) Corruption	(3) Government	(4) Electoral Competition	(5) Party	(6) Sponsor	(7) Length	(8) Cost	(9) Incumbent
Resource windfall	0.28*** (0.03)	0.11*** (0.01)	0.09*** (0.04)	0.1*** (0.01)	0.08*** (0.02)	0.03*** (0.01)	0.05** (0.02)	0.15*** (0.02)	0.15*** (0.01)
GSP per capita	-0.04*** (0.003)								
Corruption		0.06*** (0.01)							
Government			-0.07*** (0.01)						
Electoral competition				0.14*** (0.02)					
Candidate party					0.05*** (0.01)				
Ad sponsor						0.28*** (0.004)			
Ad length							-0.02*** (0.001)		
Ad cost								0.01*** (0.02)	
Incumbent									-0.46*** (0.02)
Resource windfall X GSP per capita	-0.003*** (0.001)								
Resource windfall X Corruption		0.05*** (0.005)							
Resource windfall X Government			0.001 (0.002)						
Resource windfall X Electoral competition				0.09*** (0.01)					
Resource windfall X Candidate party					0.03*** (0.004)				
Resource windfall X Ad sponsor						0.02*** (0.002)			
Resource windfall X Ad length							0.002*** (0.001)		
Resource windfall X Ad cost								-0.01*** (0.003)	
Resource windfall X Incumbent									-0.09*** (0.01)
R-squared	0.19	0.2	0.19	0.18	0.19	0.33	0.19	0.21	0.21
Observations	5190461	4434982	5190461	5154947	5190461	5190461	5190461	3899177	3899177

- Main result holds in all cases.
- Result intensifies corrupt, symmetric environments, and in cases of trailing candidates.

Political Institutions

Dependent variable: Ad Tone Index	(1) Party strength	(2) Baseline budget	(3) BB strictness	(4) Biennial budget	(5) Debt limit	(6) Direct democracy	(7) Legislature term limit	(8) Rainy day fund	(9) Super-majority voting	(10) Tax and spending limits	(11) Chamber size	(12) Combined committees	(13) Gubernatorial term limits
Resource windfall	0.14***	0.06***	0.13***	0.15***	0.14***	0.11***	0.15***	0.07***	0.08***	0.1***	0.45***	0.05***	0.19***
	(0.01)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.01)	(0.02)	(0.06)	(0.02)	(0.02)
ParStrength * Resource windfall	-0.35***												
	(0.04)												
Baseline * Resource windfall		0.23***											
		(0.03)											
Strict * Resource windfall			-0.03										
			(0.02)										
Biennial * Resource windfall				-0.06***									
				(0.02)									
DebtLimit * Resource windfall					-0.04*								
					(0.02)								
DirDem * Resource windfall						-0.0003							
						(0.02)							
LegLimit * Resource windfall							-0.05**						
							(0.02)						
StabFund * Resource windfall								0.06***					
								(0.02)					
Supermajority * Resource windfall									0.62***				
									(0.05)				
TaxLimit * Resource windfall										0.02			
										(0.02)			
Chamber * Resource windfall											-0.01***		
											(0.001)		
Combined * Resource windfall												0.33***	
												(0.03)	
Term limit * Resource windfall													-0.12***
													(0.02)
R-squared	0.19	0.18	0.18	0.18	0.18	0.19	0.18	0.18	0.19	0.18	0.18	0.19	0.18
Observations	5190461	5190461	5190461	5190461	5190461	5190461	5190461	5190461	5190461	5190461	5190461	5190461	5190461

- Channels: Baseline budgeting rules, biennial budget, strict balanced budget, debt limitations, direct democracy, legislator/gubernatorial term limits, party strength, stabilization fund, supermajority vote, tax and expenditure limitations, chamber size, combined committees.

- Main result holds in all cases..

Different Measures

	(1)	(2)	(3)	(4)	(5)	(6)
	Alternative resource measure			Alternative tone index		
Dependent variable:	Ad tone index	Ad tone index	Ad tone index	CMAG tone index	Attack indicator	Target Indicator
Mining per capita	0.14***					
	(0.02)					
RR x Price		0.002**				
		(0.001)				
Natural gas windfall			0.29***			
			(0.04)			
Resource windfall				0.15***	0.06***	0.12***
				(0.02)	0.01	(0.01)
R-squared, within	0.18	0.18	0.18	0.2	0.22	0.63
Observations	5230055	5230055	5190461	3813307	4268212	5190461

- Different windfall measures:
  - Mining per capita / RR x Price / Natural gas windfall
- Different negativity measures:
  - CMAG tone index, Attack indicator, Target indicator
- Main result holds in all cases.

Additional Tests

Dependent variable: Ad Tone Index	(1) AR, TX, and WY excluded	(2) NH, and VT excluded	(3) CA, NY, and TX excluded	(4) Clustering by media market	(5) Clustering by time of day	(6) Clustering by type of program	(7) State time trends	(8) Restricted to December, January, February
Resource windfall	0.04**	0.12***	0.08***	0.11***	0.11***	0.12***	0.13***	0.14***
	(0.015)	(0.01)	(0.014)	(0.04)	(0.02)	(0.01)	(0.01)	(0.03)
R-squared	0.19	0.18	0.2	0.18	0.18	0.19	0.19	0.17
Observations	4968926	5134692	4594119	5190461	5190461	5073584	5190461	849795

- Additional tests:
  - Sample exclusions
  - Different clustering levels
  - State time trends and time exclusions
- Main result is apparent under all cases.

Conclusion

- The paper suggested that resource windfalls affect political sabotage.
- A model of political contests with endogenous sabotage, exogenous payoffs, and a negativity bias indicated that resource windfalls can increase the extent of negativity.
  - Most notably in symmetric settings and trailing candidates.
- An empirical analysis corroborated the model's predictions.
- Analysis of tone characteristics in TV political ads related to U.S. gubernatorial elections illustrated that resource windfalls increase campaign negativity in a robust and economically meaningful magnitude.
- The results shed light on the potential adverse effects of resource windfalls in advanced democracies, and highlights, more generally, the role of incentives in political contests.