The Perils of Top-down State Building

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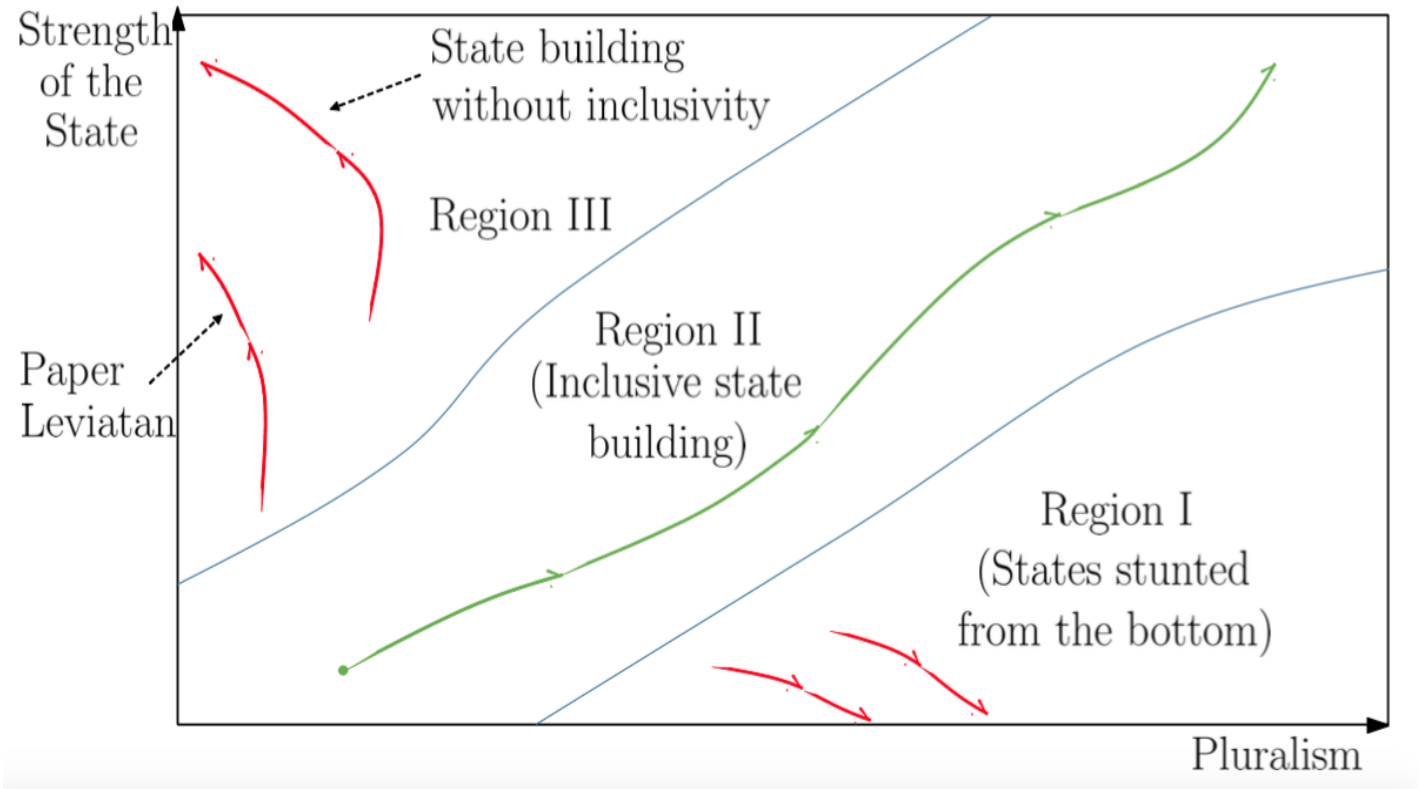
Understanding Paper Leviathans

- In the first lecture, I proposed the following schematic representation of the process of state building:



- Today, we will investigate the problems of "Paper Leviathans" in Region III.

The Story of Region III

- *State capacity losers:* those controlling the state may not want to build state capacity because they are worried that this process will reduce their political power (e.g., because it will destabilize the coalitions supporting them or lead to the formation of new coalitions against them).
- *Resistance from local elites:* local elites will often undermine the process of state capacity building, because this might undermine their privileged position.
- *Multidimensionality:* state capacity is multidimensional (military control, public good provision, ability to regulate economic activity, legal structure, bureaucratic meritocracy). Most state building projects are single-dimensional and focus or start with military control, but the process of forceful establishment of military control might further undermine or at the very least not addressed at all the other dimensions.

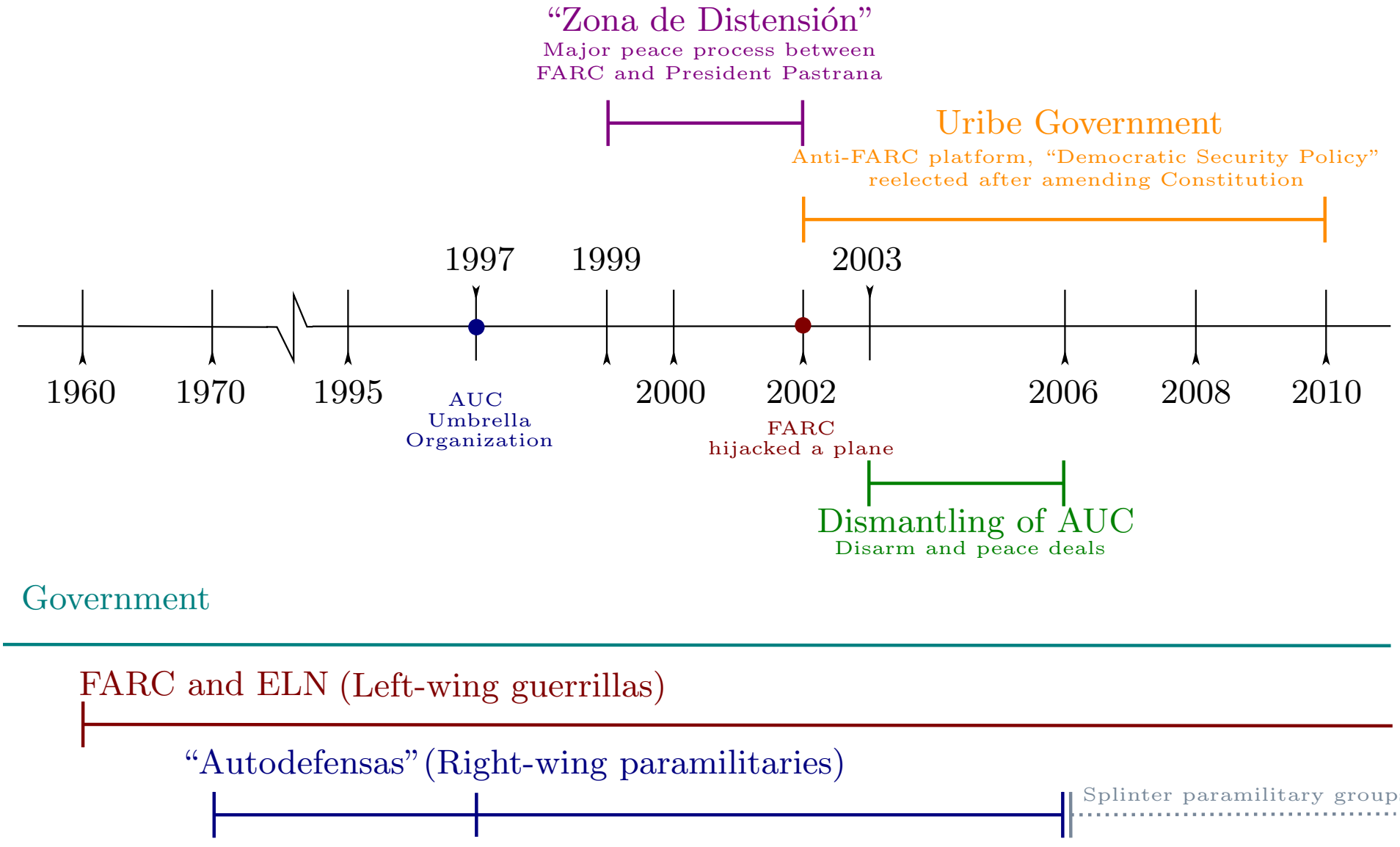
Today

- Acemoglu, Ferguson, Robinson, Romero and Vargas (2015): case study of failure of state building due to multidimensionality from Colombia's "false positives"
- The efforts of Pres. Uribe after 2002 to strengthen the state in the context of the fight against the left-wing guerrillas provides an example of this type of top-down state building.
- We have already seen Colombia as an example of "Paper Leviathan," as a society with a strong state at the center, with very limited control in many of the peripheral areas.
- We will now see how single-dimensional top-down state building in this context can (and did) backfire.

Post-2002 Colombia:

A Case Study in Political Multitasking

- Alvaro Uribe elected to presidency in May 2002 with the mandate to fight the left-wing guerrillas and establish something approaching the monopoly of violence in Colombia.
- Among the many strategies Uribe used two were central:
  1. Increase the size of the military fighting the guerrillas.
  2. Increase the incentives of the military to fight the guerrillas.
- Major increase in **false positives:** murder of civilians who were then portrayed as guerrilla.
- **Main results of our paper:**
  - This was more likely where:
    - agents' incentives were stronger (brigades commanded by colonels motivated by career concerns, transmitting these incentives to soldiers).
    - Institutional checks (in the form of judicial efficiency) were weaker.
  - And when this happened it also led to a persistent future worsening in judicial quality and the strength of the guerrillas and the paramilitary.


"Zona de Distensión"
Major peace process between
FARC and President Pastrana
Uribe Government
Anti-FARC platform, "Democratic Security Policy"
reelected after amending Constitution
1997
1999
2003
1960
1970
1995
AUC
Umbrella
Organization
2000
2002
FARC
hijacked a plane
2006
2008
2010
Dismantling of AUC
Disarm and peace deals
Government
FARC and ELN (Left-wing guerrillas)
"Autodefensas" (Right-wing paramilitaries)
Splinter paramilitary groups

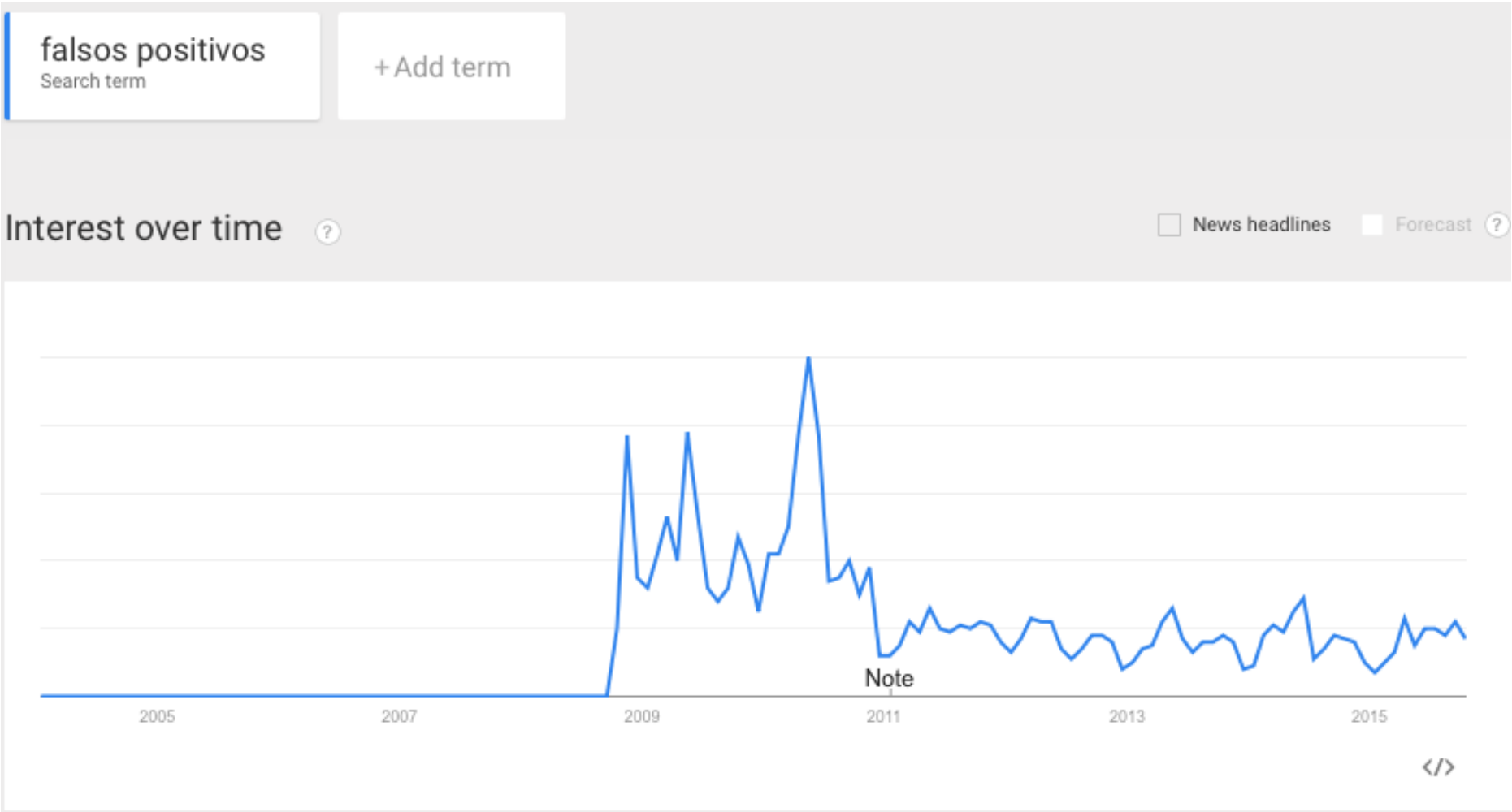
Introducing incentives

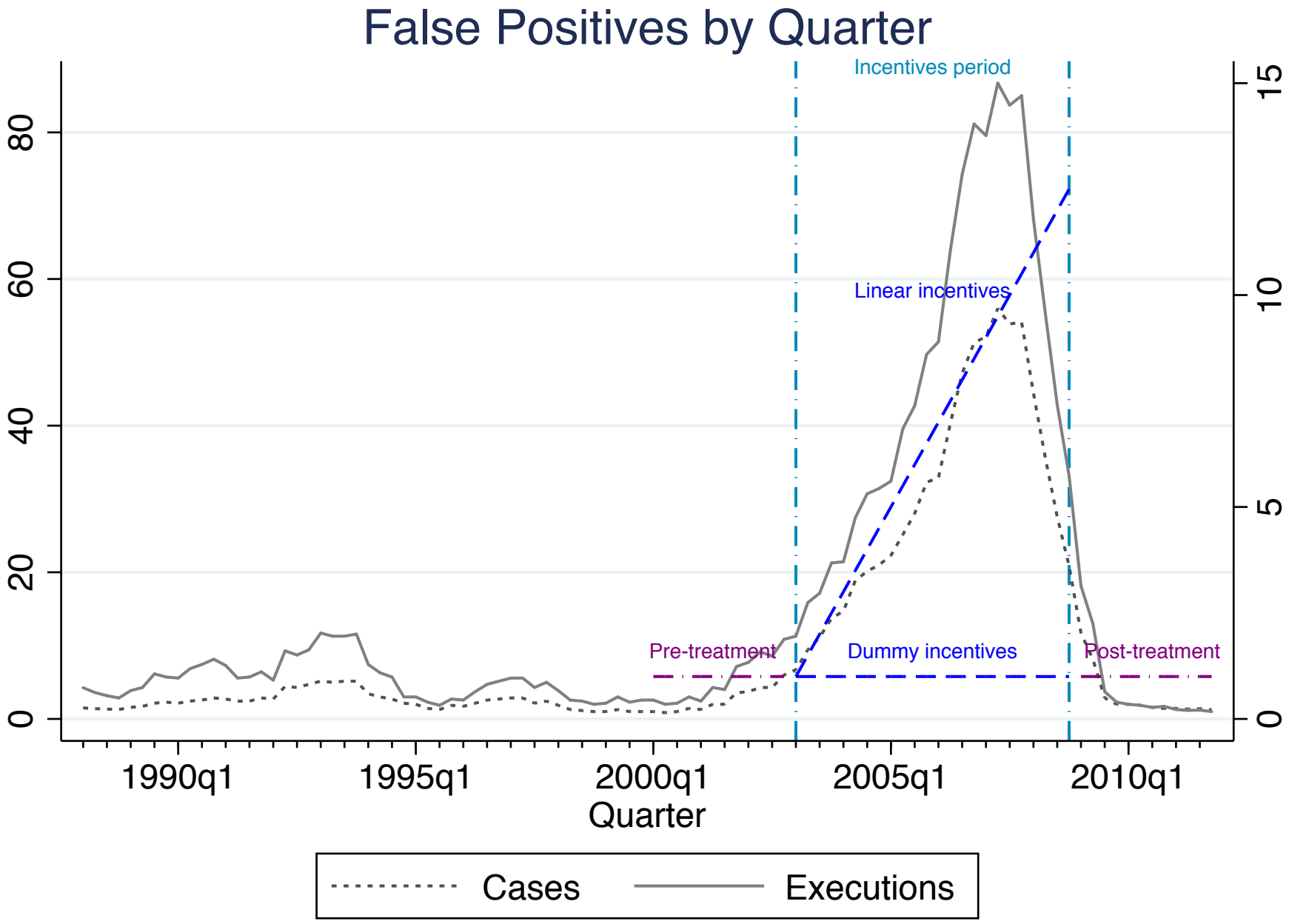
Trends and regulation

- FP had long existed in Colombia, but more common in 2000s.
  - Figure
- Increase coincided with incentives to fight insurgents:
  - 2002: Law 782.
    - Fund for intelligence operations and rewards to demobilized rebels.
  - 2003: Democratic Security plan announces rewards for information
    - Regulated by decrees 128 of 2003 and 2767 of 2004.
  - 2005-2007: Other directives and decrees:
    - Directives 029 of 2005, 015 and 016 de 2007:
      Incentive scheme for informants leading to captures or killings.
      ('Secret' documents not so secret - see Figure).
    - Decree 1400 of 2006 (*Boina* or Beret).

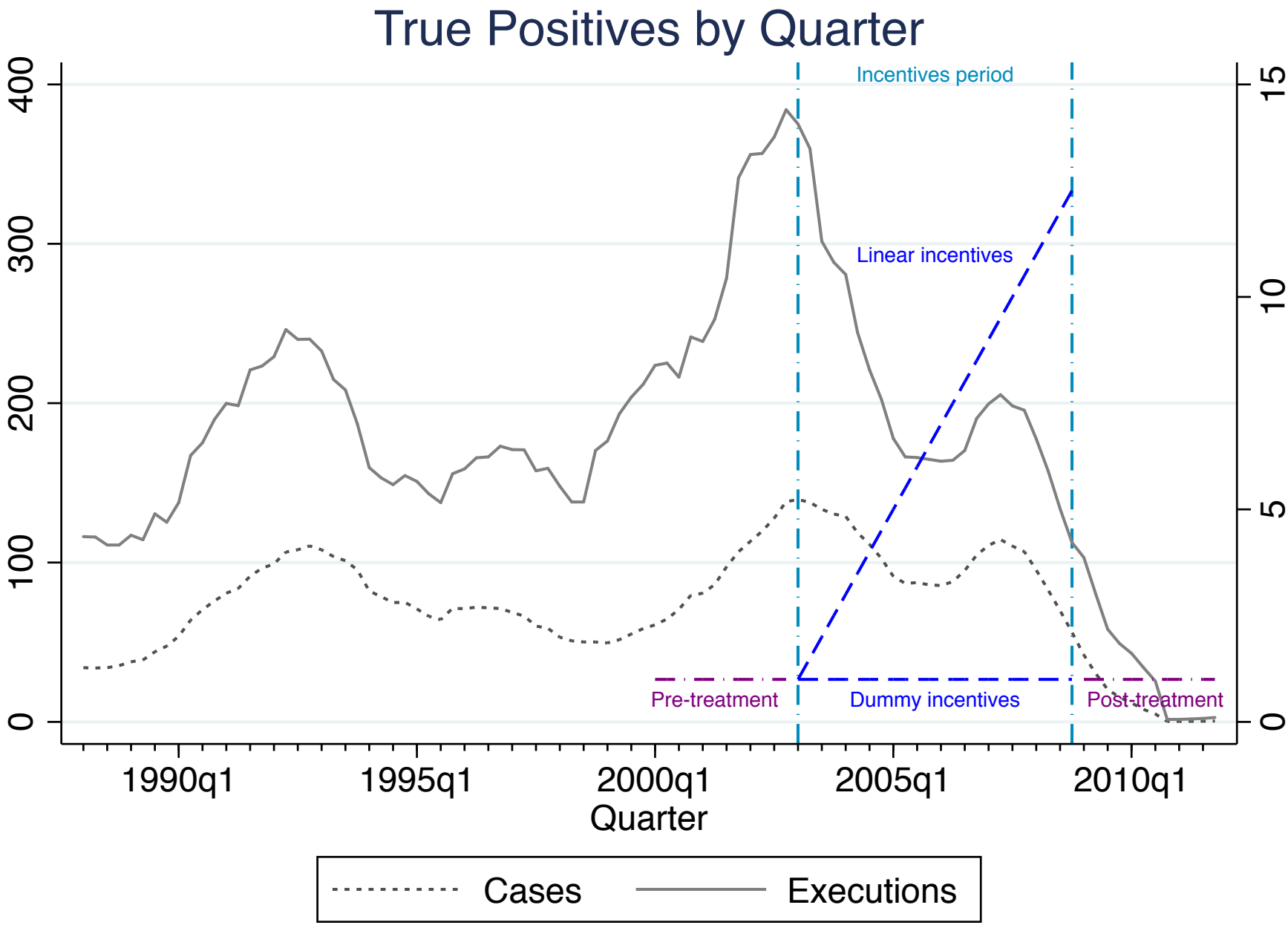
Google trends report of 'falsos positivos' in Colombia

Scale: search interest relative to the highest point in the chart





Note: 6-quarter moving average



Note: 6-quarter moving average

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SECRETO

REPÚBLICA DE COLOMBIA

Pago
Recompensa

MINISTERIO DE DEFENSA NACIONAL

COPIA No 12 DE 16 COPIAS
MINISTERIO DE DEFENSA NACIONAL
BOGOTÁ, D.C. 17 NOV. 2005

DIRECTIVA MINISTERIAL PERMANENTE

No 29 /2005

ASUNTO : Politica ministerial que desarrolla criterios para el pago de recompensas por la captura o abatimiento en combate de cabecillas de las organizaciones armadas al margen de la ley, material de guerra, intendencia o comunicaciones e información sobre actividades relacionadas con el narcotráfico y pago de información que sirva de fundamento para la continuación de labores de inteligencia y el posterior planeamiento de operaciones.

Introducing incentives

Features of incentives: formal and informal

- Formally set a reward schedule for killings and capturing insurgents, seizing weapons and sharing information:
  1. Military personnel was not explicitly excluded (also not explicitly included, except in *Boina*: up to one year salary),
  2. No authorization ex ante by a superior officer required for operation,
  3. *Posterior* intelligence could be used to justify the killings.
- Informal and unregulated incentives (see, e.g. UN Special Rapporteur):
  - Days off when holidays approached, send to platoon on Sinai (foot soldiers).
  - Medals, and promotions (commanders).
- These incentives were maintained, until...

Removing incentives

- FP fall substantially in late 2008.
  - Media scandal after killing of several men from Soacha, near Bogotá.
  - Government claimed victims were *guerrillas killed in combat*.
  - Judicial investigations:
    - This was not the case - See Figure.
    - FP were widespread.
- Government issued new directives changing incentive structure:
  1. Explicitly exclude rewards to military personnel.
  2. Prioritize rewards to successful operations without killings (demobilizations, captures).
  3. Require first investigation of combat-related deaths by judiciary.
  4. Require *prior* intelligence for operations.

  - Also ousted high-ranked officials involved.
  - Created special unit for FPs at Office of Attorney General.

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False positives and career concerns

The case of colonels

- Colombian army nearly tripled during 2000s as part of the failure of Pastrana's peace dealing and, especially, Uribe's policies to take the initiative against the FARC
  $\rightarrow$ some brigades commanded by colonels, not generals.
- Career concerns attached to new incentives more likely to affect colonels:
  - Still can go up the military ladder.
  - Hardest step in the hierarchy.

False positives and career concerns

The case of colonels: testimonies

- Captain Rozo Valbuena testimony against other officer (former commander of the Brigade, then promoted to general):

  > His only objective was to gather enough "statistics" to be able to be promoted to General.

- 27 soldiers expelled by platoon commander (a colonel) for not killing two people (dressed as civilians). Soldier description:

  > **"When my colonel came in he started insulting us and scolding us, and told us that we were good for nothing, that we did not understand that a guerrilla member alive was useless for him, and that what mattered were killings because he was going to be promoted to general and that is how his performance was measured. He told us he was going to have us all expelled."**

False positives and institutional weakness

The case of weak (judicial) institutions

- In Colombia, these crimes must be investigated by an independent civilian judge.
- A weak local judiciary (cannot collect enough proofs, or is corrupted) may lead to no or soft sentences.
- The difficulty in controlling abuses reflects, and promotes, institutional weakness.
  - Of 1,056 cases of killings by armed forces assigned to Attorney General through April 2009: 16 resulted in convictions (Alston, 2010, p. 13).
- Testimony from witnesses in case against Colonel Mejía

  "Mejía had no trouble doing it because the local director of the Attorney General Office helped him with the setup"

Evidence from Human Rights Watch Report

Judicial sentences and interviews of judges, perpetrators and victims

- "There is abundant evidence that perpetrators ... had two principal motives...: showing "results" and being rewarded for supposed combat kills."
- "Some of the commanders of those 11 brigades subsequently rose to the top of the military command."
- "Colonel Ramírez ... told us: each company commander should give me one combat killing"
- "A former officer from the Pedro Justo Berrío Battalion (4th Brigade) said that after his unit committed several false positives in 2005, soldiers got 35 days off."
- "After the killings, commanders would make official payments from army funds to supposed civilian informants...They were all fake payments."
- Retired officer declared: "false positives by the unit were 'like a policy because that's where the commander, soldiers, and I derived our benefits."'

Not just in Colombia

- Ferguson, Missouri[1]

  > Officer evaluations and promotions depend to an inordinate degree on "productivity," meaning the number of citations issued (...) many officers appear to see some residents, especially those who live in Ferguson's predominantly African-American neighborhoods, less as constituents to be protected than as potential offenders and sources of revenue.

- Vietnam body count.
- Colombian case especially relevant: state-building at stake.

[1] Investigation of Ferguson Police Department

True and false positives

- A principal sets a linear incentive scheme for agent.
- Agent exerts good and bad effort: a_T and a_F.
- Produces true and false positives: q_T and q_F.

$$q_T = a_T + \varepsilon_T, \tag{1}$$

$$q_F = \underbrace{\chi(a_T + \varepsilon_T)}_{\text{Collateral damage}} + \underbrace{(a_F + \varepsilon_F)}_{\text{Intentional}} \tag{2}$$

$$a_T \rightarrow \begin{cases} q_T & \text{true positives} \\ q_F & \textit{unintentional} \text{ false positives} \end{cases}$$

$$a_F \rightarrow q_F \quad \textit{intentional} \text{ false positives}$$

- $\varepsilon_J \sim \mathcal{N}(0, \sigma_J^2)$ and independent and:
- $\chi \in [0, \infty)$: fixed (for tractability) share of collateral damage.

Reported killings, wage, effort and agent's payoff

- Salary and effort cost:

$$w = t + \pi s \underbrace{(q_T + \alpha q_F)}_{\text{Reported true positives}} \left[\begin{array}{l} \text{Institutions } (\alpha)\text{: more false positives disguised.} \\ \text{Incentives } (\pi)\text{: colonels depend more on output.} \end{array}\right]$$

$$\Psi(a_T, a_F) = \frac{1}{2}(c_T a_T^2 + c_F a_F^2) + \delta a_T a_F \left[\begin{array}{l} \delta > 0 \text{ effort substitution,} \\ \delta < 0 \text{ complements,} \\ \text{Assume } |\delta| < \sqrt{c_T c_A}. \end{array}\right]$$

- CARA preferences $E\left[-e^{-\eta(w-\Psi)}\right]$ simplify to:

$$\text{Expected wage} - \text{effort cost} - \text{risk premium}.$$

- Maximize to find optimal a_T^* and a_F^*.

Solution and implications

- From (unobserved) efforts to observed true and false positives:

$$E[q_T^*] = E[a_T^* + \varepsilon_T] = a_T^*, \tag{3}$$

$$E[\alpha q_F^*] = \alpha\left[\chi a_T^* + a_F^*\right] \tag{4}$$

- Study effects of a marginal increase in incentives s.
- Direct effects useful to evaluate time series pattern:
  - For example, relatively constant true positives and increasing false positives suggest bad effort.
- But too many confounders

  $\rightarrow$ study interaction with incentives and institutions.

  $+$ more nuanced implications to investigate role of bad effort.

Direct effect and interaction with colonels

- A marginal $\uparrow s$:
  1. Weakly $\uparrow$ true and false positives,

$$\frac{\partial E[q_T^*]}{\partial s} \geq 0 \text{ and } \frac{\partial E[q_T^*]}{\partial s} = 0 \text{ if and only if } a_T^* = 0,$$
$$\frac{\partial E[\alpha q_F^*]}{\partial s} \geq 0 \text{ and } \frac{\partial E[\alpha q_F^*]}{\partial s} = 0 \text{ if and only if } a_F^* = 0 \text{ and } \chi = 0$$

  2. Where higher π: Weakly larger $\uparrow$ in false and true positives,

$$\frac{\partial^2 E[q_T^*]}{\partial s \partial \pi} \geq 0 \text{ and } \frac{\partial^2 E[q_T^*]}{\partial s \partial \pi} = 0 \text{ if and only if } a_T^* = 0,$$
$$\frac{\partial^2 E[\alpha q_F^*]}{\partial s \partial \pi} \geq 0 \text{ and } \frac{\partial^2 E[\alpha q_F^*]}{\partial s \partial \pi} = 0 \text{ if and only if } a_F^* = 0 \text{ and } \chi = 0.$$

Interaction with institutions

- A marginal $\uparrow s$, where higher α:
  3. False positives: weakly larger $\uparrow$,

$$\frac{\partial^2 E[\alpha q_F^*]}{\partial s \partial \alpha} \geq 0 \text{ with } \frac{\partial^2 E[\alpha q_F^*]}{\partial s \partial \alpha} = 0 \text{ if and only if } a_F^* = 0 \text{ and } \chi = 0.$$

  4. True positives: Larger or smaller $\uparrow$:

$$\frac{\partial^2 E[q_T^*]}{\partial \alpha \partial s} \begin{cases} 0 & \text{if } a_T^* = 0 \\ \lesseqgtr 0 & \text{if } (a_T^*, a_F^*) > 0 \text{ and } \chi \lesseqgtr \frac{\delta}{c_F} \\ > 0 & \text{if } a_F^* = 0 \end{cases}$$

Note:
Larger $\uparrow$ if complementarity ($\delta \leq 0$) or full collateral damage ($\chi \to \infty$),
Smaller $\uparrow$ if substitutes and small collateral damage relative to intentional.

Remarks

- Complements: exert both efforts to save costs.
  - Simple: $\uparrow s \Rightarrow$ both outputs and especially with high π or α.
  - Not helpful: $\sim$ pure collateral damage.
- Substitutes: May specialize

  $\rightarrow$ Zero effects on other output
  (but in false positives also need zero accidents).

  $\star$ Depending on how intentional are false positives, true positives may respond less where weak institutions.
    - Large χ: akin to pure collateral, (mostly) good effort producing bad output to disguise.
    - Small χ: largely intentional, respond less to focus on bad effort and save costs.

Why not study ratio of false to true positives?

Because it is not indicative of the role of bad effort

- Ratio r of false to true positives could $\uparrow$ or $\downarrow$ following incentives.

$$\text{Our model: } r(s) = \frac{[\chi(a_T^*(s) + \varepsilon_T)] + (a_F^*(s) + \varepsilon_F)}{a_T^*(s) + \varepsilon_T}$$

- Consider $\varepsilon_T = \varepsilon$ and $\varepsilon_F = \zeta\varepsilon$.
- Then, taking the derivative and using $a_J^{*\prime}(s) = a_J^*(s)/s$,

$$r'(s) = \alpha \frac{a_F^*(s) - \zeta a_T^*(s)}{s(a_T^*(s) + \varepsilon)^2}\varepsilon \Rightarrow \text{ For } \varepsilon > 0: \quad r'(s) > 0 \Leftrightarrow \frac{a_F^*}{a_T^*} > \zeta$$

- Suppose mean of ε is positive and not too small:
  - Noise added to a_F in numerator relative to a_T in denominator must be small for $r(s)$ to increase.
- $+$: collateral damage may be nonlinear: other reason $r(s)$ may $\uparrow$ or $\downarrow$

Impact on quality of institutions

- Consider the agents equilibrium payoff $u(a_T^*, a_F^*)$. Suppose that the interior solutions holds. We have:

$$\frac{\partial u}{\partial \alpha} = \pi s \left[\chi a_T^* + a_F^* - \eta \pi s \left((1+\alpha\chi)\chi\sigma_T^2 + \alpha\sigma_F^2\right)\right] \leqslant 0$$

$$\frac{\partial^2 u}{\partial \alpha \partial s} = 2\pi \left[\chi a_T^* + a_F^* - \eta \pi s \left((1+\alpha\chi)\chi\sigma_T^2 + \alpha\sigma_F^2\right)\right] \leqslant 0$$

$$\frac{\partial^3 u}{\partial \alpha \partial s \partial \pi} = 4 \left[\chi a_T^* + a_F^* - \eta \pi s \left((1+\alpha\chi)\chi\sigma_T^2 + \alpha\sigma_F^2\right)\right] \leqslant 0$$

- Positive if and only if $\chi a_T^* + a_F^* > \eta \pi s \left((1+\alpha\chi)\chi\sigma_T^2 + \alpha\sigma_F^2\right)$
- Agents may prefer worse institutions, and if so, especially when incentives are introduced (s) and they depend more on these incentives –colonels, high π.
- Provided risk aversion is sufficiently low or noise is sufficiently small, they prefer the greater payoff than the added noise to compensation.

Measuring FP

- Source: Colombian Human Rights NGO *CINEP*.
- Compiles list of events of arbitrary executions of alleged rebels.
- Information on:
  - date and place of recruitment and execution; victim presented as guerrilla or paramilitary; perpetrators from Army, Police, or Navy; battalion or brigade responsible.
- Alternative datasets are likely to be less accurate:
  - Official counts based on investigations: underreporting or geographic bias related to state capacity.
  - Counts from victims' associations: criticized as overstating FP.
- Our data: 925 cases of FP involving 1,513 victims from 1988 to 2011.

Identifying army ranks

- Reconstructed historical organizational structure of the army:
  - Current structure (number, position, jurisdiction and commanders of Divisions, Battalions and Brigades) available from the army website.
  - For previous:
    - Expired versions of the website (available since 2000 from the "Way Back Machine").
    - Other online sources (notably news stories in media archives, especially *El Tiempo*, Colombia's main newspaper)
- For each semester in our sample period (officers typically at the beginning or middle of the year):
  - Create a dummy variable that equals 1 if a brigade operating in the municipality is led by a colonel.

Measuring quality of institutions

Judicial inefficiency

- Judicial inefficiency index at baseline ($t_0 = 1995 - 1999$):

$$\frac{\text{Complaints against judicial functionaries}_{m,t_0}}{\text{All complaints}_{m,t_0}}$$

- Advantages:
  - *Specifically* about weakness of the judiciary.
  - Control for municipality-specific reporting rate (θ_m).

$$\frac{\cancel{\theta_m} \times \text{Judicial functionaries abuses}_{m,t_0}}{\cancel{\theta_m} \times \text{All abuses}_{m,t_0}}$$

  - Time variation (2000-2010) $\rightarrow$ use it to verify impact on institutions.

$$\frac{\text{Complaints against judicial functionaries}_{m,t}}{\text{All complaints}_{m,t}}$$

- Source: Inspector General (*Procuraduría*): disciplinary oversight of public servants.

False and true positives, institutions, and army ranks

- Key estimation equation:

$$
\begin{aligned}
y_{m,t} &= \delta_{2002:1} C_{m,t} + \delta_{2002:2} C_{m,t} + \delta_{2002:1} I_{m,0} + \delta_{2002:1} I_{m,0} \left\{ \text{Pretrends} \right. \\
&+ \beta_1 \left(HP_t C_{m,t} \right) + \beta_2 \left(HP_t I_{m,0} \right) \left\{ HP_t = \begin{cases} 1 \\ \text{linear trend} \end{cases} \right. \\
&+ \delta_{2009:1} C_{m,t} + \delta_{2009:2} C_{m,t} + \delta_{2009:1} I_{m,0} + \delta_{2009:2} I_{m,0} \left\{ \text{Persistence} \right. \\
&+ \beta_0 C_{m,t} + \delta_m + \delta_t + \sum_{x \in \mathbf{X_m}} \Phi_x x \cdot \delta_t + \varepsilon_{m,t}, \left\{ \begin{array}{l} \text{time and mun. effects} \\ \text{differential trends} \end{array} \right.
\end{aligned}
$$

- $y_{m,t}$: true and false positives.
- $C_{m,t}$: Colonel Dummy.
- $I_{m,0}$: Initial inefficiency of institutions.
- HP_t: High-powered incentive period, $t \in \{2002:1 - 2008:2\}$.
- Sample period: $t \in \{2000:1 - 2010:2\}$.

Remarks on empirical specification

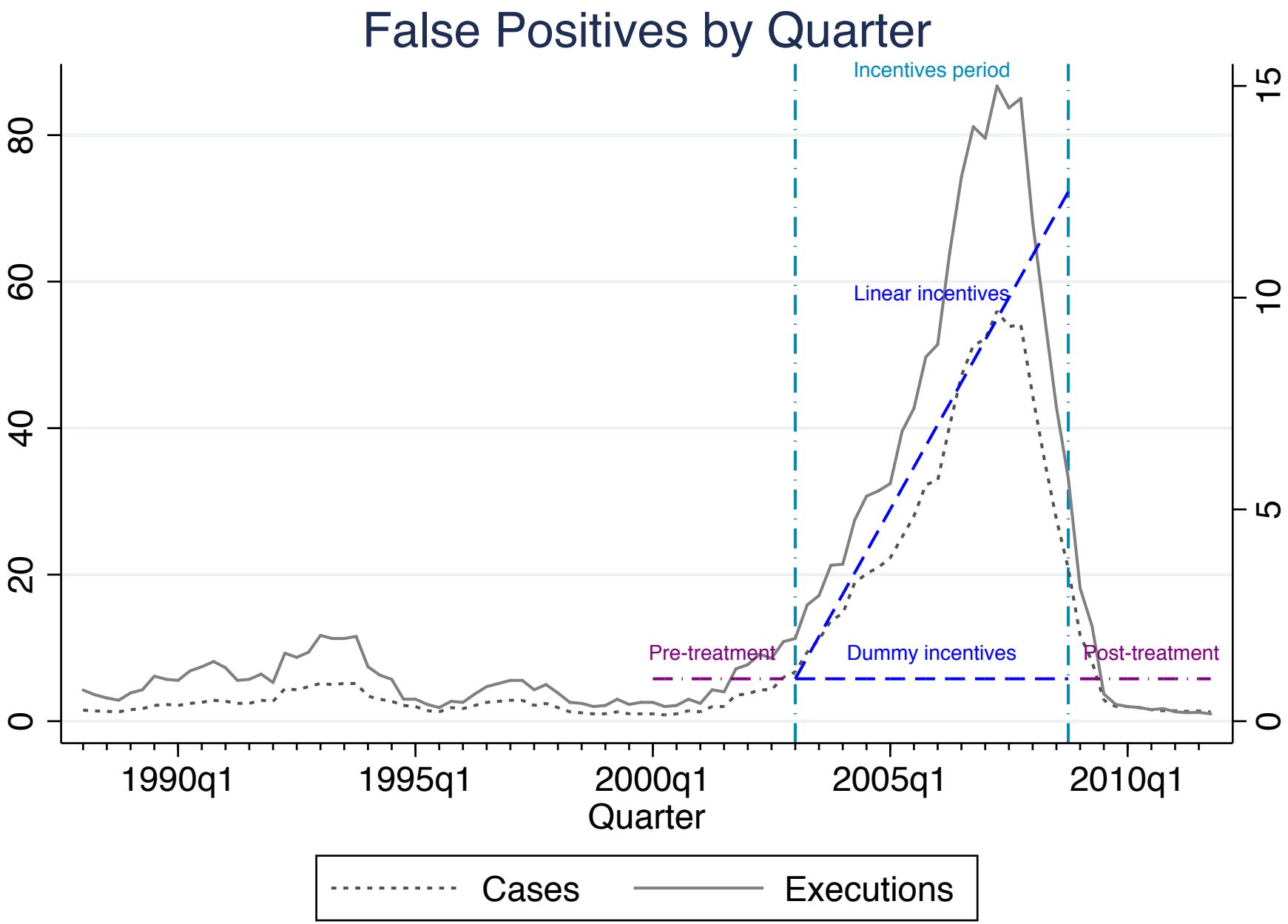
- Main threat to identification: if places with colonels or poor judicial inefficiency would have trended differently even absent the incentive policies implemented from 2003 to 2008.
  - → Verify pre-trends.
  - → Allow flexible trends as function of rich set of observable geographic and (predetermined) socioeconomic characteristics (full list below).
  - → In robustness checks, allow for municipality specific time trends.
- Throughout, allow spatial and time correlation following Conley's GMM procedure.
- Report results for $\log(1 + FP)$ and $\log(1 + TP)$
  - FP and TP are either counts of cases or number killed.
  - Results $\approx$ percentage changes.
  - Very similar results with inverse sine hyberbolic transformation, where derivative is percent change for small y.

Table 1: Descriptive Statistics: Time-invariant variables

Variable	Mean	Std. Dev.	Min	Max	Obs
		Judicial Inefficiency Index			
Judicial Inefficiency, 1995-1999	0.076	0.079	0.000	0.538	900
		Controls (interacted with time dummies in regressions)			
ln (Total population, 2000)	9.661	1.053	7.144	15.657	900
Rainfall	1969.745	1062.404	160.000	9200.000	900
Dist. to capital	130.579	107.021	0.000	790.000	900
Soil quality	2.670	1.213	0.000	8.000	900
Soil erosion	1.970	1.024	0.000	5.000	900
Water availability	3.4e+06	5.4e+05	0.000	5.6e+06	900
Altitude (Km)	1.139	1.175	0.002	25.221	900
ln (Municipal area)	10.516	1.153	7.313	15.698	900
Math level, 2000	42.496	1.090	37.083	46.750	900
Language level, 2000	44.577	1.943	35.750	50.563	900
Science level, 2000	44.198	1.068	40.886	49.000	900
ln (Tax income per cap, 2000)	6.628	2.442	0.000	10.518	900
Poverty index 2000	45.886	21.736	7.220	104.530	900
Paramilitar attacks, 1991-1999	0.218	0.481	0.000	4.461	900
Unemployment rate 2005	0.049	0.044	0.000	0.430	900

Table 2: Descriptive Statistics: Time-Varying Variables

Variable	Mean	Std. Dev.	Min	Max	Mean	Std. Dev.	Min	Max
		Pre-2003				Post-2003		
False positives								
Cases	0.005	0.091	0.000	3.000	0.057	0.352	0.000	14.000
Killed	0.011	0.198	0.000	5.000	0.089	0.586	0.000	14.000
True positives								
Cases	0.205	0.618	0.000	8.000	0.197	0.689	0.000	17.000
Killed	0.632	4.154	0.000	260.000	0.398	1.704	0.000	45.000
Judicial inefficiency	0.063	0.161	0.000	1.000	0.056	0.154	0.000	1.000
Colonel	0.110	0.312	0.000	1.000	0.282	0.450	0.000	1.000
Guerrilla attacks	0.476	1.244	0.000	16.000	0.159	0.611	0.000	10.000
Paramilitary attacks	0.105	0.440	0.000	6.000	0.041	0.332	0.000	15.000
Government attacks	0.056	0.283	0.000	6.000	0.069	0.476	0.000	30.000



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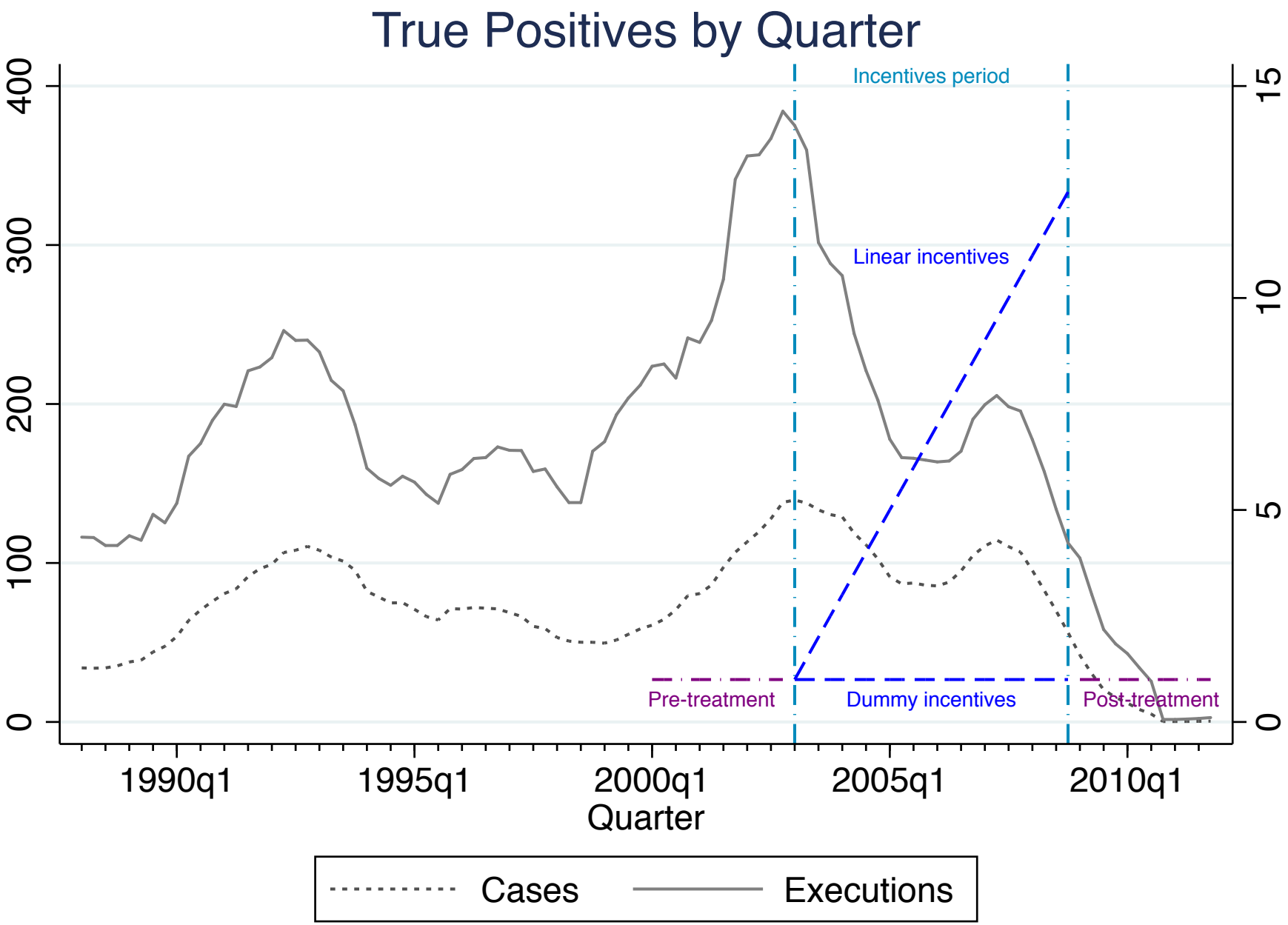

Note: 6-quarter moving average

Table 3: False Positives, Colonels and Judicial Inefficiency (2000-2010)

	Incentives Dummy		Incentives Linear		Incentives Dummy		Incentives Linear	
	Cases	Casualties	Cases	Casualties	Cases	Casualties	Cases	Casualties
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Judicial Inefficiency								
... x 2002:1	−0.0042	0.0161	−0.0137	0.0035	−0.0033	0.0158	−0.0153	0.0001
	(0.0337)	(0.0512)	(0.0341)	(0.0520)	(0.0342)	(0.0519)	(0.0349)	(0.0529)
... x 2002:2	0.0092	0.0279	−0.0003	0.0152	0.0101	0.0276	−0.0019	0.0119
	(0.0540)	(0.0787)	(0.0543)	(0.0792)	(0.0544)	(0.0792)	(0.0547)	(0.0798)
... x Incentives (2003:1-2008:2)	0.1103***	0.1481***	0.0270***	0.0363***	0.1112***	0.1477***	0.0267***	0.0356***
	(0.0251)	(0.0331)	(0.0073)	(0.0104)	(0.0258)	(0.0341)	(0.0076)	(0.0108)
... x 2009:1					−0.0040	0.0004	−0.0155	−0.0147
					(0.0272)	(0.0323)	(0.0280)	(0.0339)
... x 2009:2					0.0115	−0.0031	−0.0001	−0.0182
					(0.0367)	(0.0346)	(0.0373)	(0.0361)
Colonel								
... x 2002:1	−0.0046	−0.0103	−0.0016	−0.0072	−0.0044	−0.0096	0.0005	−0.0045
	(0.0078)	(0.0099)	(0.0076)	(0.0095)	(0.0079)	(0.0100)	(0.0077)	(0.0096)
... x 2002:2	−0.0117	−0.0231*	−0.0087	−0.0200	−0.0115	−0.0224*	−0.0066	−0.0173
	(0.0084)	(0.0133)	(0.0082)	(0.0129)	(0.0085)	(0.0134)	(0.0083)	(0.0130)
... x Incentives (2003:1-2008:2)	0.0197***	0.0263***	0.0063***	0.0080***	0.0199***	0.0271***	0.0068***	0.0087***
	(0.0071)	(0.0093)	(0.0016)	(0.0021)	(0.0072)	(0.0095)	(0.0017)	(0.0022)
... x 2009:1					0.0009	0.0039	0.0078	0.0116
					(0.0076)	(0.0096)	(0.0079)	(0.0100)
... x 2009:2					0.0003	0.0005	0.0071	0.0081
					(0.0084)	(0.0096)	(0.0087)	(0.0101)
Controls x time effects	✓	✓	✓	✓	✓	✓	✓	✓
Observations	19800	19800	19800	19800	19800	19800	19800	19800
Municipalities	900	900	900	900	900	900	900	900
R-Squared	0.040	0.037	0.041	0.038	0.040	0.037	0.041	0.038

Table 4: True Positives, Colonels and Judicial Inefficiency (2000-2010)

	Incentives Dummy		Incentives Linear		Incentives Dummy		Incentives Linear	
	Cases	Casualties	Cases	Casualties	Cases	Casualties	Cases	Casualties
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Judicial Inefficiency								
... x 2002:1	0.1769	0.3454	0.1521	0.3309	0.1642	0.3228	0.1368	0.3107
	(0.1230)	(0.2353)	(0.1229)	(0.2340)	(0.1250)	(0.2391)	(0.1244)	(0.2363)
... x 2002:2	0.0651	−0.1346	0.0403	−0.1491	0.0524	−0.1572	0.0250	−0.1693
	(0.1335)	(0.2276)	(0.1335)	(0.2263)	(0.1354)	(0.2314)	(0.1349)	(0.2286)
... x Incentives (2003:1-2008:2)	−0.0103	−0.0448	−0.0148	−0.0199	−0.0230	−0.0673	−0.0183	−0.0244
	(0.0459)	(0.0741)	(0.0106)	(0.0163)	(0.0511)	(0.0854)	(0.0115)	(0.0179)
... x 2009:1					−0.0029	−0.0092	−0.0298	−0.0204
					(0.0799)	(0.1278)	(0.0790)	(0.1226)
... x 2009:2					−0.0992	−0.1708	−0.1261*	−0.1821
					(0.0772)	(0.1406)	(0.0763)	(0.1359)
Colonel								
... x 2002:1	0.0093	−0.0337	0.0131	−0.0268	0.0134	−0.0230	0.0188	−0.0143
	(0.0461)	(0.0665)	(0.0460)	(0.0664)	(0.0463)	(0.0671)	(0.0462)	(0.0667)
... x 2002:2	−0.0456	−0.1258**	−0.0418	−0.1188**	−0.0415	−0.1150*	−0.0362	−0.1063*
	(0.0414)	(0.0593)	(0.0413)	(0.0591)	(0.0417)	(0.0599)	(0.0416)	(0.0596)
... x Incentives (2003:1-2008:2)	0.0203**	0.0271*	0.0068***	0.0099***	0.0248**	0.0388**	0.0082***	0.0129***
	(0.0098)	(0.0148)	(0.0021)	(0.0031)	(0.0112)	(0.0173)	(0.0023)	(0.0035)
... x 2009:1					0.0220	0.0488*	0.0299*	0.0615**
					(0.0164)	(0.0253)	(0.0162)	(0.0248)
... x 2009:2					0.0022	0.0153	0.0100	0.0278
					(0.0165)	(0.0286)	(0.0163)	(0.0282)
Controls x time effects	✓	✓	✓	✓	✓	✓	✓	✓
N	19800	19800	19800	19800	19800	19800	19800	19800
Municipalities	900	900	900	900	900	900	900	900
R-Squared	0.029	0.030	0.030	0.030	0.029	0.030	0.030	0.031

Size of the effects: False positives

What would happen if there were no colonels and judicial inefficiency is at its minimum?

Table 5: Size of the Effect on False Positives (2000-2010)

	Without Post Trend				With Post Trend			
	Incentives Dummy		Incentives Linear		Incentives Dummy		Incentives Linear	
	Cases	Casualties	Cases	Casualties	Cases	Casualties	Cases	Casualties
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Observed	752	1185	752	1185	752	1185	752	1185
Judicial Inefficiency to minimum value (0)								
Predicted	655	1048	667	1065	654	1049	668	1067
Percent Change	−12.90	−11.56	−11.30	−10.13	−13.03	−11.48	−11.17	−9.96
Colonel to Generals								
Predicted	661	1067	658	1063	661	1069	664	1071
Percent Change	−12.10	−9.96	−12.50	−10.30	−12.10	−9.79	−11.70	−9.62

Size of the effects: True positives

What would happen if there were no colonels and judicial inefficiency is at its minimum?

Table 6: Size of the Effect on True Positives (2000-2010)

	Without Post Trend				With Post Trend			
	Incentives Dummy		Incentives Linear		Incentives Dummy		Incentives Linear	
	Cases	Casualties	Cases	Casualties	Cases	Casualties	Cases	Casualties
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Observed	3592	8426	3592	8426	3592	8426	3592	8426
Judicial Inefficiency to minimum value (0)								
Predicted	3602	8479	3643	8506	3615	8506	3655	8524
Percent Change	0.28	0.63	1.42	0.95	0.64	0.95	1.75	1.16
Colonel to Generals								
Predicted	3484	8229	3482	8225	3494	8257	3499	8267
Percent Change	−3.01	−2.34	−3.06	−2.39	−2.73	−2.01	−2.59	−1.89

Table 7: False Positives, Colonels and Judicial Inefficiency (2000-2010): Inverse hyperbolic sine transformation

	Incentives Dummy		Incentives Linear		Incentives Dummy		Incentives Linear	
	Cases	Casualties	Cases	Casualties	Cases	Casualties	Cases	Casualties
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Judicial Inefficiency								
... x 2002:1	−0.0062	0.0208	−0.0185	0.0042	−0.0050	0.0204	−0.0206	−0.0001
	(0.0430)	(0.0664)	(0.0436)	(0.0674)	(0.0437)	(0.0672)	(0.0446)	(0.0686)
... x 2002:2	0.0121	0.0376	−0.0001	0.0210	0.0133	0.0372	−0.0023	0.0167
	(0.0699)	(0.1020)	(0.0703)	(0.1025)	(0.0703)	(0.1025)	(0.0708)	(0.1033)
... x Incentives (2003:1-2008:2)	0.1430***	0.1915***	0.0350***	0.0469***	0.1442***	0.1912***	0.0346***	0.0459***
	(0.0324)	(0.0427)	(0.0095)	(0.0134)	(0.0333)	(0.0440)	(0.0098)	(0.0140)
... x 2009:1					−0.0051	0.0007	−0.0201	−0.0191
					(0.0349)	(0.0415)	(0.0360)	(0.0437)
... x 2009:2					0.0146	−0.0035	−0.0003	−0.0233
					(0.0469)	(0.0444)	(0.0477)	(0.0464)
Colonel								
... x 2002:1	−0.0061	−0.0139	−0.0022	−0.0099	−0.0059	−0.0129	0.0004	−0.0064
	(0.0101)	(0.0128)	(0.0098)	(0.0123)	(0.0102)	(0.0129)	(0.0099)	(0.0124)
... x 2002:2	−0.0152	−0.0302*	−0.0114	−0.0262	−0.0150	−0.0292*	−0.0087	−0.0227
	(0.0108)	(0.0171)	(0.0105)	(0.0167)	(0.0109)	(0.0172)	(0.0107)	(0.0168)
... x Incentives (2003:1-2008:2)	0.0252***	0.0335***	0.0081***	0.0103***	0.0254***	0.0346***	0.0087***	0.0111***
	(0.0092)	(0.0120)	(0.0021)	(0.0027)	(0.0093)	(0.0123)	(0.0022)	(0.0028)
... x 2009:1					0.0010	0.0051	0.0099	0.0149
					(0.0098)	(0.0124)	(0.0102)	(0.0130)
... x 2009:2					0.0004	0.0007	0.0092	0.0104
					(0.0108)	(0.0124)	(0.0113)	(0.0131)
Controls x time effects	✓	✓	✓	✓	✓	✓	✓	✓
N	19800	19800	19800	19800	19800	19800	19800	19800
Municipalities	900	900	900	900	900	900	900	900
R-Squared	0.040	0.037	0.041	0.038	0.040	0.037	0.041	0.038

Table 8: True Positives, Colonels and Judicial Inefficiency (2000-2010): Inverse hyperbolic sine transformation

	Incentives Dummy		Incentives Linear		Incentives Dummy		Incentives Linear	
	Cases	Casualties	Cases	Casualties	Cases	Casualties	Cases	Casualties
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Judicial Inefficiency								
... x 2002:1	0.2262	0.4276	0.1942	0.4088	0.2096	0.4010	0.1744	0.3846
	(0.1960)	(0.3659)	(0.1951)	(0.3635)	(0.1984)	(0.3701)	(0.1965)	(0.3656)
... x 2002:2	0.0867	−0.1596	0.0547	−0.1784	0.0701	−0.1862	0.0348	−0.2026
	(0.1541)	(0.2533)	(0.1530)	(0.2502)	(0.1571)	(0.2595)	(0.1548)	(0.2533)
... x Incentives (2003:1-2008:2)	−0.0139	−0.0544	−0.0193	−0.0247	−0.0305	−0.0808	−0.0238*	−0.0301
	(0.0581)	(0.0948)	(0.0128)	(0.0203)	(0.0659)	(0.1106)	(0.0139)	(0.0223)
... x 2009:1					−0.0036	−0.0053	−0.0382	−0.0206
					(0.0937)	(0.1506)	(0.0901)	(0.1403)
... x 2009:2					−0.1298	−0.2063	−0.1644	−0.2216
					(0.1050)	(0.1925)	(0.1017)	(0.1844)
Colonel								
... x 2002:1	0.0130	−0.0389	0.0179	−0.0297	0.0184	−0.0253	0.0252	−0.0136
	(0.0499)	(0.0609)	(0.0496)	(0.0606)	(0.0502)	(0.0617)	(0.0498)	(0.0611)
... x 2002:2	−0.0588	−0.1560**	−0.0539	−0.1468**	−0.0534	−0.1424*	−0.0466	−0.1307*
	(0.0439)	(0.0745)	(0.0438)	(0.0744)	(0.0443)	(0.0751)	(0.0441)	(0.0749)
... x Incentives (2003:1-2008:2)	0.0267*	0.0338	0.0089***	0.0126***	0.0326*	0.0487*	0.0107***	0.0165***
	(0.0157)	(0.0231)	(0.0031)	(0.0046)	(0.0176)	(0.0263)	(0.0035)	(0.0052)
... x 2009:1					0.0287	0.0623*	0.0388*	0.0791**
					(0.0216)	(0.0350)	(0.0215)	(0.0347)
... x 2009:2					0.0030	0.0193	0.0129	0.0358
					(0.0216)	(0.0356)	(0.0216)	(0.0356)
Controls x time effects	✓	✓	✓	✓	✓	✓	✓	✓
N	19800	19800	19800	19800	19800	19800	19800	19800
Municipalities	900	900	900	900	900	900	900	900
R-Squared	0.029	0.030	0.030	0.030	0.029	0.030	0.030	0.030

Table 9: False Positives, Colonels and Judicial Inefficiency (2000-2010): Quartic Population Polynomial

	Incentives Dummy		Incentives Linear		Incentives Dummy		Incentives Linear	
	Cases	Casualties	Cases	Casualties	Cases	Casualties	Cases	Casualties
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Judicial Inefficiency								
... x 2002:1	−0.0009	0.0226	−0.0085	0.0132	0.0001	0.0222	−0.0095	0.0106
	(0.0396)	(0.0597)	(0.0402)	(0.0607)	(0.0401)	(0.0603)	(0.0409)	(0.0616)
... x 2002:2	−0.0076	0.0071	−0.0151	−0.0023	−0.0066	0.0067	−0.0162	−0.0049
	(0.0548)	(0.0860)	(0.0552)	(0.0866)	(0.0552)	(0.0864)	(0.0558)	(0.0873)
... x Incentives (2003:1-2008:2)	0.1051***	0.1409***	0.0264***	0.0358***	0.1061***	0.1405***	0.0262***	0.0353***
	(0.0258)	(0.0352)	(0.0078)	(0.0113)	(0.0265)	(0.0362)	(0.0081)	(0.0117)
... x 2009:1					−0.0042	−0.0002	−0.0134	−0.0112
					(0.0298)	(0.0369)	(0.0309)	(0.0390)
... x 2009:2					0.0124	−0.0032	0.0032	−0.0142
					(0.0360)	(0.0368)	(0.0368)	(0.0389)
Colonel								
... x 2002:1	−0.0032	−0.0081	−0.0004	−0.0053	−0.0031	−0.0075	0.0015	−0.0027
	(0.0091)	(0.0120)	(0.0090)	(0.0118)	(0.0091)	(0.0120)	(0.0090)	(0.0119)
... x 2002:2	−0.0058	−0.0154	−0.0030	−0.0126	−0.0057	−0.0147	−0.0011	−0.0100
	(0.0106)	(0.0170)	(0.0105)	(0.0169)	(0.0106)	(0.0170)	(0.0105)	(0.0169)
... x Incentives (2003:1-2008:2)	0.0195***	0.0257***	0.0062***	0.0078***	0.0196***	0.0264***	0.0067***	0.0084***
	(0.0056)	(0.0073)	(0.0013)	(0.0017)	(0.0058)	(0.0076)	(0.0014)	(0.0018)
... x 2009:1					0.0009	0.0039	0.0075	0.0113
					(0.0051)	(0.0067)	(0.0053)	(0.0070)
... x 2009:2					−0.0003	0.0001	0.0062	0.0072
					(0.0052)	(0.0061)	(0.0054)	(0.0065)
Controls x time effects	✓	✓	✓	✓	✓	✓	✓	✓
N	19800	19800	19800	19800	19800	19800	19800	19800
Municipalities	900	900	900	900	900	900	900	900
R-Squared	0.048	0.047	0.050	0.048	0.048	0.047	0.050	0.048

Table 10: True Positives, Colonels and Judicial Inefficiency (2000-2010): Quartic Population Polynomial

	Incentives Dummy		Incentives Linear		Incentives Dummy		Incentives Linear	
	Cases	Casualties	Cases	Casualties	Cases	Casualties	Cases	Casualties
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Judicial Inefficiency								
... x 2002:1	0.1142	0.2514	0.0876	0.2330	0.1033	0.2352	0.0732	0.2167
	(0.1143)	(0.2309)	(0.1142)	(0.2296)	(0.1165)	(0.2348)	(0.1159)	(0.2319)
... x 2002:2	0.0817	−0.0887	0.0551	−0.1070	0.0708	−0.1049	0.0407	−0.1234
	(0.1290)	(0.2221)	(0.1290)	(0.2208)	(0.1310)	(0.2261)	(0.1305)	(0.2232)
... x Incentives (2003:1-2008:2)	0.0083	−0.0140	−0.0104	−0.0129	−0.0025	−0.0301	−0.0136	−0.0165
	(0.0461)	(0.0744)	(0.0107)	(0.0164)	(0.0513)	(0.0857)	(0.0116)	(0.0180)
... x 2009:1					0.0029	0.0138	−0.0267	−0.0039
					(0.0804)	(0.1287)	(0.0796)	(0.1235)
... x 2009:2					−0.0904	−0.1430	−0.1199	−0.1607
					(0.0783)	(0.1418)	(0.0774)	(0.1371)
Colonel								
... x 2002:1	0.0153	−0.0253	0.0197	−0.0176	0.0191	−0.0156	0.0253	−0.0057
	(0.0465)	(0.0671)	(0.0464)	(0.0670)	(0.0468)	(0.0677)	(0.0466)	(0.0673)
... x 2002:2	−0.0418	−0.1216**	−0.0374	−0.1139*	−0.0380	−0.1119*	−0.0318	−0.1020*
	(0.0418)	(0.0601)	(0.0417)	(0.0600)	(0.0421)	(0.0607)	(0.0420)	(0.0604)
... x Incentives (2003:1-2008:2)	0.0173*	0.0223	0.0063***	0.0090***	0.0215*	0.0329*	0.0077***	0.0119***
	(0.0099)	(0.0149)	(0.0021)	(0.0031)	(0.0112)	(0.0173)	(0.0023)	(0.0035)
... x 2009:1					0.0211	0.0460*	0.0296*	0.0597**
					(0.0164)	(0.0255)	(0.0163)	(0.0250)
... x 2009:2					0.0015	0.0120	0.0099	0.0255
					(0.0166)	(0.0287)	(0.0164)	(0.0283)
Controls x time effects	✓	✓	✓	✓	✓	✓	✓	✓
N	19800	19800	19800	19800	19800	19800	19800	19800
Municipalities	900	900	900	900	900	900	900	900
R-Squared	0.035	0.037	0.036	0.037	0.035	0.037	0.036	0.037

Table 11: False Positives of Colonel and Judicial Inefficiency (2000-2010): Without outliers (without top and bottom 5% residuals)

	Incentives Dummy		Incentives Linear		Incentives Dummy		Incentives Linear	
	Cases	Casualties	Cases	Casualties	Cases	Casualties	Cases	Casualties
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Judicial Inefficiency								
... x 2002:1	−0.0041	−0.0001	0.0124	0.0140	−0.0024	−0.0008	0.0181*	0.0179
	(0.0077)	(0.0122)	(0.0096)	(0.0139)	(0.0077)	(0.0123)	(0.0107)	(0.0150)
... x 2002:2	0.0010	0.0011	0.0184**	0.0150	0.0008	0.0005	0.0227**	0.0189
	(0.0059)	(0.0119)	(0.0080)	(0.0137)	(0.0060)	(0.0120)	(0.0091)	(0.0148)
... x Incentives (2003:1-2008:2)	0.0471***	0.0618***	0.0261***	0.0289***	0.0470***	0.0613***	0.0273***	0.0299***
	(0.0161)	(0.0221)	(0.0073)	(0.0099)	(0.0161)	(0.0222)	(0.0076)	(0.0103)
... x 2009:1					−0.0007	−0.0025	0.0218**	0.0166
					(0.0064)	(0.0128)	(0.0092)	(0.0152)
... x 2009:2					−0.0026	−0.0037	0.0241**	0.0154
					(0.0077)	(0.0161)	(0.0107)	(0.0180)
Colonel								
... x 2002:1	−0.0011	0.0017	−0.0011	0.0036	−0.0012	0.0008	−0.0004	0.0037
	(0.0035)	(0.0037)	(0.0040)	(0.0039)	(0.0035)	(0.0037)	(0.0040)	(0.0040)
... x 2002:2	−0.0012	0.0019	−0.0004	0.0038	−0.0013	0.0009	0.0007	0.0039
	(0.0033)	(0.0038)	(0.0037)	(0.0039)	(0.0033)	(0.0037)	(0.0037)	(0.0040)
... x Incentives (2003:1-2008:2)	0.0158***	0.0143***	0.0061***	0.0051***	0.0158***	0.0132***	0.0064***	0.0052***
	(0.0043)	(0.0046)	(0.0015)	(0.0014)	(0.0043)	(0.0044)	(0.0016)	(0.0015)
... x 2009:1					−0.0006	−0.0024	0.0047**	0.0015
					(0.0013)	(0.0017)	(0.0022)	(0.0021)
... x 2009:2					0.0004	−0.0036	0.0063***	0.0003
					(0.0013)	(0.0027)	(0.0023)	(0.0029)
Controls x time effects	✓	✓	✓	✓	✓	✓	✓	✓
N	17820	17820	17820	17820	17820	17820	17820	17820
Municipalities	810	810	810	810	810	810	810	810
R-Squared	0.352	0.166	0.329	0.195	0.352	0.166	0.327	0.201

Table 12: True Positives of Colonel and Judicial Inefficiency (2000-2010): Without outliers (without top and bottom 5% residuals)

	Incentives Dummy		Incentives Linear		Incentives Dummy		Incentives Linear	
	Cases	Casualties	Cases	Casualties	Cases	Casualties	Cases	Casualties
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Judicial Inefficiency								
... x 2002:1	0.0247	0.4581	−0.0055	0.4304	−0.0046	0.4515	−0.0192	0.4109
	(0.0969)	(0.2958)	(0.0968)	(0.2947)	(0.0973)	(0.2987)	(0.0982)	(0.2945)
... x 2002:2	−0.1293	0.0265	−0.1355	−0.0017	−0.1461	0.0191	−0.1495*	−0.0161
	(0.0912)	(0.1231)	(0.0893)	(0.1211)	(0.0923)	(0.1299)	(0.0905)	(0.1236)
... x Incentives (2003:1-2008:2)	−0.0021	0.0207	−0.0058	−0.0086	−0.0182	0.0122	−0.0097	−0.0111
	(0.0376)	(0.0672)	(0.0091)	(0.0151)	(0.0420)	(0.0793)	(0.0098)	(0.0159)
... x 2009:1					−0.0218	0.0101	−0.0283	−0.0231
					(0.0555)	(0.0950)	(0.0529)	(0.0859)
... x 2009:2					−0.0926	−0.0726	−0.0980	−0.1044
					(0.0695)	(0.1158)	(0.0684)	(0.1082)
Colonel								
... x 2002:1	0.0147	−0.0201	0.0141	−0.0109	0.0132	−0.0140	0.0203	0.0013
	(0.0365)	(0.0466)	(0.0354)	(0.0466)	(0.0358)	(0.0470)	(0.0355)	(0.0469)
... x 2002:2	−0.0229	−0.0573	−0.0247	−0.0480	−0.0260	−0.0514	−0.0183	−0.0357
	(0.0319)	(0.0432)	(0.0319)	(0.0432)	(0.0317)	(0.0436)	(0.0319)	(0.0436)
... x Incentives (2003:1-2008:2)	0.0249**	0.0224	0.0090***	0.0098***	0.0261**	0.0272	0.0104***	0.0123***
	(0.0106)	(0.0153)	(0.0026)	(0.0035)	(0.0113)	(0.0173)	(0.0028)	(0.0039)
... x 2009:1					0.0084	0.0232	0.0204*	0.0397**
					(0.0118)	(0.0192)	(0.0123)	(0.0192)
... x 2009:2					−0.0030	0.0081	0.0089	0.0252
					(0.0130)	(0.0217)	(0.0138)	(0.0220)
Controls x time effects	✓	✓	✓	✓	✓	✓	✓	✓
N	17820	17820	17820	17820	17820	17820	17820	17820
Municipalities	810	810	810	810	810	810	810	810
R-Squared	0.055	0.054	0.054	0.054	0.054	0.054	0.054	0.054

Table 13: False Positives, Colonel and Judicial Inefficiency (2000-2010): Paramilitary and guerilla, and unemployment trends

	Additional Control: Paramilitary and Guerilla Attacks 1990-1999				Additional Control: Unemployment 2005			
	Incentives Dummy		Incentives Linear		Incentives Dummy		Incentives Linear	
	Cases	Casualties	Cases	Casualties	Cases	Casualties	Cases	Casualties
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Judicial Inefficiency								
... x 2002:1	−0.0136	0.0015	−0.0177	−0.0039	−0.0071	0.0111	−0.0160	−0.0011
	(0.0403)	(0.0560)	(0.0409)	(0.0569)	(0.0396)	(0.0587)	(0.0402)	(0.0596)
... x 2002:2	−0.0060	0.0022	−0.0101	−0.0032	0.0046	0.0210	−0.0044	0.0088
	(0.0671)	(0.1011)	(0.0674)	(0.1016)	(0.0651)	(0.0986)	(0.0655)	(0.0991)
... x Incentives (2003:1-2008:2)	0.0856***	0.1169***	0.0227***	0.0310***	0.1057***	0.1427***	0.0259***	0.0350***
	(0.0259)	(0.0352)	(0.0078)	(0.0112)	(0.0260)	(0.0354)	(0.0079)	(0.0113)
Colonel								
... x 2002:1	−0.0020	−0.0062	−0.0004	−0.0049	−0.0042	−0.0101	−0.0014	−0.0072
	(0.0087)	(0.0117)	(0.0086)	(0.0116)	(0.0091)	(0.0121)	(0.0091)	(0.0119)
... x 2002:2	−0.0081	−0.0172	−0.0065	−0.0158	−0.0115	−0.0232	−0.0087	−0.0202
	(0.0101)	(0.0160)	(0.0100)	(0.0159)	(0.0106)	(0.0168)	(0.0105)	(0.0167)
... x Incentives (2003:1-2008:2)	0.0264***	0.0347***	0.0074***	0.0094***	0.0208***	0.0274***	0.0065***	0.0083***
	(0.0056)	(0.0073)	(0.0013)	(0.0017)	(0.0057)	(0.0074)	(0.0013)	(0.0017)
Controls x time effects	✓	✓	✓	✓	✓	✓	✓	✓
N	19800	19800	19800	19800	19800	19800	19800	19800
Municipalities	900	900	900	900	900	900	900	900
R-Squared	0.058	0.053	0.059	0.054	0.041	0.038	0.042	0.039

Table 14: True Positives, Colonel and Judicial Inefficiency (2000-2010): Paramilitary and guerilla, and unemployment trends

	Additional Control: Paramilitary and Guerilla Attacks 1990-1999				Additional Control: Unemployment 2005			
	Incentives Dummy		Incentives Linear		Incentives Dummy		Incentives Linear	
	Cases	Casualties	Cases	Casualties	Cases	Casualties	Cases	Casualties
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Judicial Inefficiency								
... x 2002:1	0.1147	0.2515	0.1099	0.2632	0.1742	0.3432	0.1547	0.3366
	(0.1208)	(0.2320)	(0.1207)	(0.2308)	(0.1230)	(0.2350)	(0.1229)	(0.2338)
... x 2002:2	0.0173	−0.2316	0.0125	−0.2199	0.0464	−0.1655	0.0268	−0.1721
	(0.1299)	(0.2260)	(0.1298)	(0.2247)	(0.1343)	(0.2313)	(0.1342)	(0.2300)
... x Incentives (2003:1-2008:2)	−0.0478	−0.0875	−0.0158	−0.0193	−0.0260	−0.0672	−0.0168	−0.0225
	(0.0460)	(0.0745)	(0.0106)	(0.0163)	(0.0461)	(0.0743)	(0.0107)	(0.0164)
Colonel								
... x 2002:1	0.0274	−0.0061	0.0285	−0.0028	0.0111	−0.0310	0.0148	−0.0243
	(0.0467)	(0.0674)	(0.0466)	(0.0672)	(0.0463)	(0.0670)	(0.0462)	(0.0668)
... x 2002:2	−0.0291	−0.0965	−0.0280	−0.0933	−0.0461	−0.1270**	−0.0424	−0.1203**
	(0.0411)	(0.0591)	(0.0411)	(0.0590)	(0.0417)	(0.0599)	(0.0417)	(0.0597)
... x Incentives (2003:1-2008:2)	0.0305***	0.0400***	0.0082***	0.0115***	0.0220**	0.0294**	0.0072***	0.0103***
	(0.0096)	(0.0144)	(0.0020)	(0.0030)	(0.0099)	(0.0149)	(0.0021)	(0.0031)
Controls x time effects	✓	✓	✓	✓	✓	✓	✓	✓
N	19800	19800	19800	19800	19800	19800	19800	19800
Municipalities	900	900	900	900	900	900	900	900
R-Squared	0.051	0.050	0.051	0.050	0.031	0.032	0.031	0.032

Table 15: False Positives and True Positives, Colonels and Judicial Inefficiency (2000-2010): Municipality-specific Trends

	False Positives				True Positives			
	Incentives Dummy		Incentives Linear		Incentives Dummy		Incentives Linear	
	Cases	Casualties	Cases	Casualties	Cases	Casualties	Cases	Casualties
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Judicial Inefficiency								
... x 2002:1	0.0002	0.0225	−0.0220	−0.0073	0.1521	0.3115	0.1391	0.3121
	(0.0403)	(0.0598)	(0.0405)	(0.0603)	(0.1201)	(0.2307)	(0.1190)	(0.2271)
... x 2002:2	0.0126	0.0329	−0.0072	0.0063	0.0443	−0.1631	0.0301	−0.1640
	(0.0600)	(0.0899)	(0.0603)	(0.0903)	(0.1301)	(0.2251)	(0.1292)	(0.2218)
... x Incentives (2003:1-2008:2)	0.1074***	0.1439***	0.0280***	0.0376***	−0.0050	−0.0383	−0.0119	−0.0159
	(0.0257)	(0.0349)	(0.0076)	(0.0108)	(0.0439)	(0.0694)	(0.0095)	(0.0141)
Colonel								
... x 2002:1	−0.0004	−0.0037	−0.0000	−0.0037	0.0478	0.0299	0.0471	0.0302
	(0.0065)	(0.0084)	(0.0063)	(0.0082)	(0.0465)	(0.0692)	(0.0464)	(0.0690)
... x 2002:2	−0.0087	−0.0183	−0.0078	−0.0177	−0.0125	−0.0713	−0.0127	−0.0702
	(0.0084)	(0.0139)	(0.0083)	(0.0138)	(0.0397)	(0.0569)	(0.0396)	(0.0567)
... x Incentives (2003:1-2008:2)	0.0141**	0.0187**	0.0053***	0.0067***	0.0178*	0.0203	0.0058***	0.0075**
	(0.0057)	(0.0073)	(0.0013)	(0.0017)	(0.0099)	(0.0147)	(0.0020)	(0.0030)
Controls x time effects	✓	✓	✓	✓	✓	✓	✓	✓
N	19800	19800	19800	19800	19800	19800	19800	19800
Municipalities	900	900	900	900	900	900	900	900
R-Squared	0.072	0.070	0.073	0.071	0.101	0.109	0.101	0.109

Partialling out collateral damage

- Total FP include potentially unintentional collateral damage.
- Collateral damage is an (unknown) function of TP.

$\rightarrow$ Control flexibly for TP.

- "Bad control", but if FP behavior is fully explained by effect of incentives on TP, including a flexible polynomial of TP in the regression should reduce magnitudes of coefficients of interest.
- Include polynomial of degree 4 $\rightarrow$ almost identical results.

Table 16: Effect on False Positives of Colonel and Judicial Inefficiency (2000-2010): Control Quartic of True Positives x Time Dummies

	Incentives Dummy		Incentives Linear		Incentives Dummy		Incentives Linear	
	Cases	Casualties	Cases	Casualties	Cases	Casualties	Cases	Casualties
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Judicial Inefficiency								
... x 2002:1	−0.0155	0.0015	−0.0245	−0.0106	−0.0140	0.0019	−0.0256	−0.0132
	(0.0414)	(0.0603)	(0.0419)	(0.0612)	(0.0418)	(0.0608)	(0.0426)	(0.0622)
... x 2002:2	0.0084	0.0279	−0.0007	0.0157	0.0099	0.0282	−0.0019	0.0131
	(0.0640)	(0.0973)	(0.0643)	(0.0978)	(0.0643)	(0.0977)	(0.0647)	(0.0984)
... x Incentives (2003:1-2008:2)	0.1122***	0.1504***	0.0277***	0.0372***	0.1137***	0.1507***	0.0275***	0.0366***
	(0.0259)	(0.0353)	(0.0078)	(0.0112)	(0.0267)	(0.0363)	(0.0081)	(0.0117)
... x 2009:1					−0.0036	0.0006	−0.0149	−0.0140
					(0.0300)	(0.0365)	(0.0311)	(0.0385)
... x 2009:2					0.0156	0.0023	0.0043	−0.0123
					(0.0359)	(0.0365)	(0.0368)	(0.0385)
Colonel								
... x 2002:1	−0.0034	−0.0089	−0.0006	−0.0061	−0.0035	−0.0087	0.0011	−0.0039
	(0.0094)	(0.0124)	(0.0094)	(0.0122)	(0.0094)	(0.0124)	(0.0094)	(0.0123)
... x 2002:2	−0.0088	−0.0193	−0.0061	−0.0165	−0.0090	−0.0190	−0.0044	−0.0143
	(0.0108)	(0.0169)	(0.0107)	(0.0167)	(0.0108)	(0.0169)	(0.0107)	(0.0167)
... x Incentives (2003:1-2008:2)	0.0189***	0.0252***	0.0060***	0.0076***	0.0188***	0.0255***	0.0064***	0.0082***
	(0.0056)	(0.0072)	(0.0013)	(0.0017)	(0.0057)	(0.0075)	(0.0014)	(0.0018)
... x 2009:1					−0.0006	0.0019	0.0060	0.0092
					(0.0049)	(0.0064)	(0.0052)	(0.0068)
... x 2009:2					−0.0002	−0.0002	0.0062	0.0068
					(0.0051)	(0.0060)	(0.0053)	(0.0064)
Controls x time effects	✓	✓	✓	✓	✓	✓	✓	✓
N	19800	19800	19800	19800	19800	19800	19800	19800
Municipalities	900	900	900	900	900	900	900	900
R-Squared	0.047	0.044	0.048	0.045	0.047	0.044	0.048	0.045

The perils: deterioration of the institutional environment

- Army members now have incentives to corrupt institutions
  - Corrupt the judiciary
  - Forge alliances with paramilitaries and criminal bands to deliver corpses.
  - Extensive case-studies from available sentences suggests this is exactly what happened.
- Is it apparent systematically? Check 3 outcomes and response to colonel interactions:
  1. Variation in our judicial inefficiency index over time.
  2. **One-sided** attacks by the guerrilla.
  3. **One-sided** attacks by the paramilitaries.
  4. For 2 and 3, report linear probability model with dummy for any attack. Similar results with attacks per capita.
  5. Also check on government attacks: no comprable increase.

Table 17: Judicial Inefficiency and colonels (2000-2010)

	Baseline		Municipal Trends		Post Trends	
	Dummy	Linear	Dummy	Linear	Dummy	Linear
	(1)	(2)	(3)	(4)	(5)	(6)
Colonel						
... x 2002:1	−0.0303	−0.0339*	−0.0314	−0.0355*	−0.0270	−0.0324*
	(0.0187)	(0.0188)	(0.0196)	(0.0196)	(0.0189)	(0.0189)
... x 2002:2	−0.0025	−0.0061	−0.0033	−0.0074	−0.0074	0.0008
	(0.0182)	(0.0182)	(0.0183)	(0.0183)	(0.0184)	(0.0184)
... x Incentives (2003:1-2008:2)	0.0150***	0.0023**	0.0158***	0.0023**	0.0187***	0.0026**
	(0.0052)	(0.0011)	(0.0053)	(0.0011)	(0.0059)	(0.0012)
... x 2009:1					0.0088	0.0041
					(0.0074)	(0.0075)
... x 2009:2					0.0115**	0.0067
					(0.0053)	(0.0054)
Controls x time effects	✓	✓	✓	✓	✓	✓
N	19800	19800	19800	19800	19800	19800
Municipalities	900	900	900	900	900	900
R-Squared	0.018	0.018	0.063	0.063	0.018	0.018

Table 18: Guerrilla presence (dummy attacks) and colonels (2000-2010)

	Baseline		Municipal Trends		Post Trends	
	Dummy	Linear	Dummy	Linear	Dummy	Linear
	(1)	(2)	(3)	(4)	(5)	(6)
Colonel						
... x 2002:1	−0.0496	−0.0500	0.0088	0.0024	−0.0305	−0.0343
	(0.0730)	(0.0729)	(0.0624)	(0.0624)	(0.0734)	(0.0731)
... x 2002:2	−0.0231	−0.0235	0.0282	0.0219	0.0219	−0.0040
	(0.0539)	(0.0537)	(0.0494)	(0.0493)	(0.0544)	(0.0540)
... x Incentives (2003:1-2008:2)	0.0277***	0.0068***	0.0299***	0.0054***	0.0486***	0.0107***
	(0.0106)	(0.0021)	(0.0095)	(0.0018)	(0.0134)	(0.0026)
... x 2009:1					0.0599***	0.0590***
					(0.0192)	(0.0185)
... x 2009:2					0.0564***	0.0555***
					(0.0194)	(0.0187)
Controls x time effects	✓	✓	✓	✓	✓	✓
N	19800	19800	19800	19800	19800	19800
Municipalities	900	900	900	900	900	900
R-Squared	0.048	0.048	0.218	0.217	0.048	0.049

Table 19: Paramilitary presence (dummy attacks) and colonels (2000-2010)

	Baseline		Municipal Trends		Post Trends	
	Dummy	Linear	Dummy	Linear	Dummy	Linear
	(1)	(2)	(3)	(4)	(5)	(6)
Colonel						
... x 2002:1	0.0058	0.0013	0.0430	0.0352	0.0226	0.0134
	(0.0310)	(0.0309)	(0.0310)	(0.0309)	(0.0315)	(0.0312)
... x 2002:2	0.0114	0.0069	0.0442	0.0364	0.0364	0.0282
	(0.0237)	(0.0235)	(0.0271)	(0.0269)	(0.0243)	(0.0239)
... x Incentives (2003:1-2008:2)	0.0269***	0.0048***	0.0304***	0.0045***	0.0453***	0.0078***
	(0.0067)	(0.0013)	(0.0067)	(0.0013)	(0.0090)	(0.0016)
... x 2009:1					0.0488***	0.0416***
					(0.0104)	(0.0098)
... x 2009:2					0.0533***	0.0460***
					(0.0107)	(0.0101)
Controls x time effects	✓	✓	✓	✓	✓	✓
N	19800	19800	19800	19800	19800	19800
Municipalities	900	900	900	900	900	900
R-Squared	0.052	0.052	0.159	0.159	0.053	0.053

Table 20: Government (dummy attacks) and Colonels (2000-2010)

	Baseline		Municipal Trends		Post Trends	
	Dummy	Linear	Dummy	Linear	Dummy	Linear
	(1)	(2)	(3)	(4)	(5)	(6)
Colonel						
... x 2002:1	−0.0139	−0.0154	0.0014	0.0008	−0.0149	−0.0170
	(0.0300)	(0.0299)	(0.0300)	(0.0300)	(0.0303)	(0.0302)
... x 2002:2	−0.0271	−0.0286	−0.0141	−0.0150	−0.0150	−0.0281
	(0.0237)	(0.0236)	(0.0236)	(0.0236)	(0.0241)	(0.0239)
... x Incentives (2003:1-2008:2)	−0.0044	−0.0018	−0.0066	−0.0028**	−0.0055	−0.0022
	(0.0069)	(0.0013)	(0.0069)	(0.0013)	(0.0083)	(0.0016)
... x 2009:1					−0.0064	−0.0092
					(0.0114)	(0.0112)
... x 2009:2					0.0005	−0.0023
					(0.0120)	(0.0118)
Controls x time effects	✓	✓	✓	✓	✓	✓
N	19800	19800	19800	19800	19800	19800
Municipalities	900	900	900	900	900	900
R-Squared	0.036	0.036	0.099	0.099	0.036	0.036

Conclusion: How Not to Build a State

How does a State lacking the monopoly of violence acquire it?

- High-powered incentives to army members in the fight against the insurgency in Colombia:
  - Are systematically related to 'false positives'.
  - Specially for military officers with career concerns & where state judicial institutions are weak.
  - Created an incentive to corrupt other institutions.
- What do we learn from this?
  - $\rightarrow$ Building state capacity in one dimension is difficult, even counterproductive, when state is generally weak.
  - $\rightarrow$ High-powered incentives in this context can have very perverse effects.
  - $\rightarrow$ Complementary efforts in several dimensions at the same time are required.

Thank you!