

The Intended and Unintended Consequences of the Criminal Procedure Reform in Colombia

(work in progress)

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Outline (work in progress)

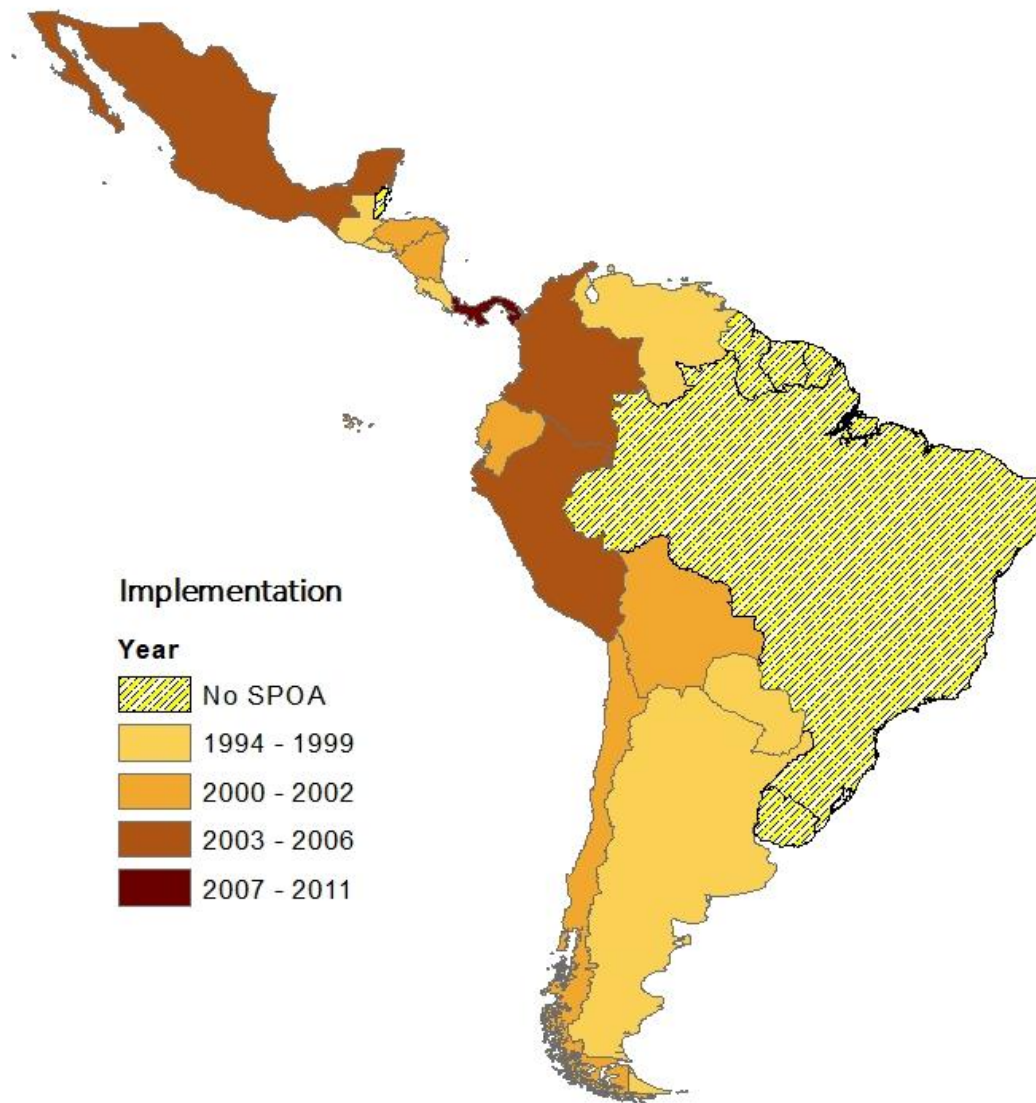
- I. The Criminal Procedure Revolution in Latin America and its implementation in Colombia
- II. Identifying Assumptions
- III. Empirical Model
- IV. Results
- V. Summary and concluding remarks

I. The Criminal Procedure Revolution in Latin America

- During the 1990's Latin America experienced a criminal procedure revolution.
- According to Langer (2007), “these reforms are, arguably, the deepest transformation that Latin American criminal procedures have undergone in nearly two centuries”.
- About eighty percent of the countries in the region reformed their procedural penal codes, transitioning from an inquisitorial or mixed criminal justice system typical of civil law, to an adversarial procedure code, typical of common law (see Map 1).

Criminal procedure reform in Latin America (years of implementation)

- Argentina (1998)
- Bolivia (2001)
- Chile (2000)
- Colombia (2005-2008)
- Costa Rica (1998)
- Ecuador (2001)
- El Salvador (1999)
- Guatemala (1994)
- Honduras (2002)
- Nicaragua (2002)
- México (2008)
- Perú (2006)
- Paraguay (1999)
- Panamá (2011)
- República Dominicana (2004)
- Venezuela (1999)



I. The Criminal Procedure Revolution in Latin America

- The legal reform did not change any substantial penal law or the severity of punishment. Instead, it was focused on the procedural aspects of the system, and led to fundamental changes in the way individuals accused of committing a crime are prosecuted by the criminal justice system.
- The normative transformation implied a change in the role of the institutions involved in processing criminal cases (e.g., the prosecutor, the judge, the public ministry and, to a lesser extent, the police).
- More precisely, while in the inquisitorial system the police used to work alongside inquisitorial judges in the investigation and prosecution of criminal cases, under the new procedural code the judge was removed from the investigative process, which is now the responsibility of a public prosecutor in charge of collecting evidence and building the case.
- The judge's role under the new system is then limited to adjudication, thus ensuring an impartial role on her part.

I. The Criminal Procedure Revolution in Latin America

- While the main objective of the reform was to solve problems such as lack of due process and inefficiencies, the reform also set a clear goal of limiting the use of pre-trial detention and make use of it only in precautionary and exceptional cases.
- Prior to the reform, if the crime for which an individual was charged was on a list specified in the law, the prosecutor could automatically order the pre-trial detention of the accused without prior control by a judge. This discretionary power of the prosecutor meant that, in practice, a very high percentage of individuals charged with offences on the list automatically ended up in pre-trial detention, without an objective evaluation of their dangerousness or their possibility of affecting the investigation if left free.
- Prior to the 2004 reform in Colombia, a July 2001 Constitutional Court ruling had already partially limited the ability of prosecutors to send individuals accused of committing a crime to pre-trial detention, by establishing basic criteria that had to be met before the prosecutor could make this decision. Nonetheless, these decisions did not have the prior control of a judge, and it was only with the 2004 reform that the prosecutor's role in the penal process changed. Now, the decision to send the defendant to pretrial detention is taken by a judge, upon formal request of the prosecutor in a formal hearing.

I. The Criminal Procedure Revolution in Latin America

- The new accusatory procedural code restricted the use of pre-trial detention, where suspects could only now be detained under judicial order and under a very specific set of circumstances:
 - (i) Ensure the defendant's appearance in future hearings,
 - (ii) Protect the integrity of the evidence, and
 - (iii) Prevent the recidivism of the defendant and thereby protect the safety of the community.
- By limiting this discretionary decision and changing the role of the prosecutor and the judge, the reform increased the burden of the proof for the prosecutor to request a pre-trial detention, which must now be endorsed and granted by a judge.
- As a result, under the new system, fewer individuals who were arrested and charged with committing a crime were covered by a pretrial detention decision.

I. The Criminal Procedure Revolution in Latin America

- Another important goal of the reform was to improve the efficiency of the system, reduce congestion and procedural times and increase the possibilities for negotiated solutions and plea bargaining.
- The mechanisms of early termination of the process were streamlined, maintaining the figure of early judgment.
- To the best of our knowledge, ours is the first attempt to carry out a formal impact evaluation of the implementation of the new adversarial penal system.
- In order to carry out this impact evaluation we exploit the (arguably exogenous) roll-out of the implementation of the new system in Colombia in order to estimate its impact on different measures of the system's efficiency in processing criminal cases, the use of plea bargaining, pre-trial detention and other custodial decisions, recidivism and crime rates.

The Criminal Procedure Revolution in Latin America

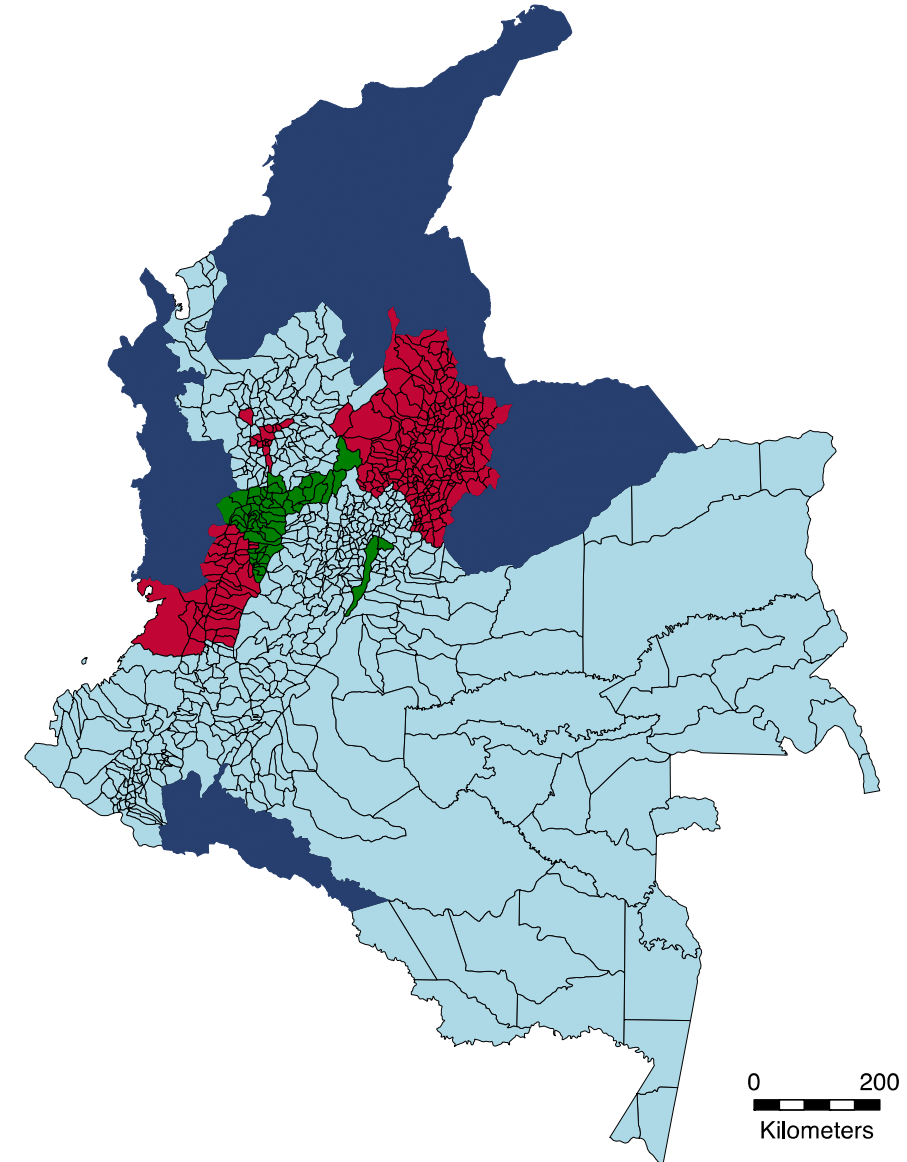
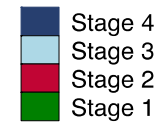
- Justice Studies Center of Americas (CEJA-JSCA)-Reform monitoring project
 - First report (2005): Chile, Argentina (Córdoba, Buenos Aires), Costa Rica, Paraguay, Ecuador, El Salvador, Guatemala, Venezuela, Chile, Bolivia, Honduras.
 - Second report (2005): Argentina, Bolivia, Colombia, Ecuador, Guatemala, Honduras, México, Venezuela.
 - Third report (2005): Bolivia (La Paz)
 - Fourth report (2007): Bolivia, Colombia, Nicaragua, Dominican Rep., Argentina (Mar de Plata), Ecuador (Cuenca), Guatemala (Quetzaltenango).
 - Fifth report (2008): Perú (Huaura), Argentina (Buenos Aires), Costa Rica.
- The reform and pre-trial detention
 - Hartmann (2007), Hartmann, Gómez & Ortiz (2009)
 - CEJA (2004, 2011, 2012, 2015)
- The reform and the change in the system
 - Villadiego, Hartmann & Riego (2015), Arias (2006)

Implementation in Colombia: 2005-2008

Implementation of the SPOA in Colombia

2005-2008

			January 2008
		January 2007	Barranquilla
		Antioquia	Cartagena
January 2005	January 2006	Florencia	Cúcuta
Armenia	Bucaramanga	Ibagué	Montería
Bogotá	Buga	Neiva	Quibdó
Manizalez	Cali	Popayán	Pamplona
Pereira	Medellín	Pasto	Rioacha
	San Gil	Villavicencio	Santa Marta
	Santa Rosa de Viterbo		Sincelejo
	Tunja		Valledupar
22% of Total Population	26% of Total Population	27% of Total Population	25% of Total Population



II. Identifying Assumptions

- Parallel Trends
- No Attrition
- No Spillovers

Parallel Trends Test

$$Y_{mt} = \beta_0 + \sum_{k=-5}^5 \beta_{1k} Treat_{m,t+k} + \beta_2 X_{mt} + \gamma_m + \gamma_t + \epsilon_{mt} \quad (1)$$

- β_{1k} allows determining the assumption of parallel trends:
- If β_{1k} it is not significant before treatment the assumption of parallel trends is fulfilled.
- Y_{mt} = Variable of interest (crime, efficiency indicators, legal actions, etc.) in municipality m at time t
- $Treat_{mt}$ = 1 if municipality m implemented SPOA at time t
- X_{mt} = Control variables
- γ_m = Municipality fixed effects
- γ_t = Year fixed effects
- ϵ_{mt} = Error term

Parallel Trends: crime and recidivism (SIEDCO)

Variables	(1) Crime Index	(2) Violent Crime Index	(3) Homicides rate	(4) Sex crimes rate	(5) Illicit drugs rate	(6) Property crimes rate	(7) Crime rate	(8) Recidivism ratio (0-365 days)	(9) Recidivism ratio (0-730 days)	(10) Recidivism ratio (0-1095 days)
Five months before implementation	-0.279 (0.258)	-0.073 (0.054)	0.045 (0.338)	-0.347 (0.216)	-1.435 (1.131)	-0.073 (0.602)	-1.809 (1.287)	2.184 (2.054)	1.507 (2.477)	2.706 (2.566)
Four months before implementation	0.012 (0.125)	0.072 (0.069)	-0.008 (0.464)	0.213 (0.301)	1.484 (1.009)	-0.259 (0.734)	1.430 (1.258)	-1.439 (2.182)	-1.590 (2.718)	-2.879 (2.885)
Three months before implementation	-0.113 (0.140)	0.069 (0.062)	1.618* (0.827)	-0.074 (0.289)	-2.545** (1.202)	-0.687 (0.723)	-1.688 (1.582)	-2.248 (2.157)	-1.749 (2.679)	-2.608 (2.813)
Two months before implementation	-0.028 (0.157)	-0.009 (0.082)	-1.163 (0.811)	-0.117 (0.250)	1.186 (1.079)	-0.016 (0.631)	-0.110 (1.369)	0.116 (2.248)	0.170 (2.650)	-0.052 (2.725)
One month before implementation	-0.166 (0.115)	-0.107 (0.081)	-0.762 (0.464)	0.051 (0.247)	0.540 (0.933)	-1.178* (0.666)	-1.348 (1.140)	-1.687 (2.630)	-1.535 (2.981)	-1.132 (3.092)
Constant	-25.238** (11.839)	-3.894* (2.125)	-34.317** (13.567)	9.156* (5.180)	115.175** (57.150)	-46.333** (21.143)	43.681 (57.243)	68.517 (72.130)	77.010 (76.688)	96.015 (76.902)
Observations	50,109	50,109	50,109	50,109	50,109	50,109	50,109	38,390	38,390	38,390
R-squared	0.955	0.947	0.202	0.150	0.488	0.421	0.486	0.171	0.164	0.158
Year FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Municipality FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Controls	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Parallel Trends: Court rulings and judicial actions

Variables	(1) Criminal Acquittals	(2) Criminal Acquittals in court	(3) Criminal Settlements (Conciliaciones)	(4) Criminal Convictions	(5) Criminal Convictions in court	(6) Criminal Settlements (Acuerdos)	(7) Pre-Trial Detention- Prison	(8) Pre-Trial Detention- Prison and Domiciliary Detention	(9) Domiciliary Detention
Five months before implementation	-0.048** (0.023)	-0.016 (0.013)	-0.518* (0.303)	-0.713** (0.279)	0.066 (0.104)	-0.582* (0.331)	-0.001 (0.066)	-0.003 (0.066)	-0.003 (0.012)
Four months before implementation	-0.023 (0.019)	-0.017 (0.020)	-0.043 (0.112)	0.061 (0.112)	-0.045 (0.067)	-0.020 (0.104)	-0.022 (0.061)	-0.027 (0.062)	-0.005 (0.012)
Three months before implementation	0.021 (0.014)	0.015 (0.014)	0.075 (0.082)	0.025 (0.060)	0.015 (0.037)	0.064 (0.086)	0.034 (0.074)	0.011 (0.075)	-0.022 (0.016)
Two months before implementation	0.010 (0.010)	0.005 (0.011)	0.118 (0.102)	0.077 (0.063)	0.018 (0.016)	0.137 (0.110)	-0.157 (0.098)	-0.151 (0.097)	0.006 (0.010)
One month before implementation	0.006 (0.019)	0.014 (0.021)	-0.215 (0.156)	-0.062 (0.080)	-0.045 (0.054)	-0.222 (0.157)	-0.015 (0.048)	-0.011 (0.052)	0.004 (0.013)
Constant	-1.735** (0.720)	-1.324*** (0.426)	-26.809** (11.840)	-19.654** (9.403)	-0.144 (1.890)	-29.606** (13.028)	12.977** (6.077)	12.973** (6.230)	-0.004 (0.327)
Observations	72,230	72,230	72,230	72,230	72,230	72,230	72,230	72,230	72,230
R-squared	0.705	0.723	0.760	0.743	0.703	0.763	0.573	0.587	0.491
Year FE	YES	YES	YES	YES	YES	YES	YES	YES	YES
Municipality FE	YES	YES	YES	YES	YES	YES	YES	YES	YES
Controls	YES	YES	YES	YES	YES	YES	YES	YES	YES

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

III. Empirical Model

$$Y_{m,t} = \beta_0 + \beta_1 SPOA_{m,t} + \gamma_{it}' Controls_{m,t} + \delta_i + \mu_t + \varepsilon_{m,t}$$

- β_1 = Effect of SPOA's implementation on the variable of interest (difference between Spoa municipalities and Non-Spoa municipalities after the implementation of SPOA)
- $Y_{m,t}$ = Variable of interest in municipality i at time t
 - Variables of interest: crime, efficiency indicators, court rulings and judicial actions
- $SPOA_{m,t}$ = 1 if SPOA is active in municipality i at time t
- $Controls_{m,t}$ = municipality-year control variables
 - Controls: Investment in education per capita, Tax revenue from industry and trade per capita, population density, Fiscal performance indicator, etc.
- δ_i = Municipality fixed effects
- μ_t = Year fixed effects
- $\varepsilon_{m,t}$ = Error

IV. Results

1. Effect of SPOA on the System's efficiency, due process and judicial decisions
 - Celerity
 - Individual Rights/Due Process
 - Caseload Decongestion

2. Effect of SPOA on Crime Rates and Recidivism
 - Aggregate Crime Rates
 - Violent Crime Rates
 - Property Crime Rates
 - Recidivism

1. Effect of SPOA on the System's efficiency and due process

The Effect of SPOA on Clearance rates

Effect of SPOA on Clearance Rate (12 months)

Variables	(1) Homicide	(2) Homicide	(3) Property crimes	(4) Property crimes	(5) Illicit drugs	(6) Illicit drugs	(7) Sex crimes	(8) Sex crimes	(9) Assaults	(10) Assaults	(11) Crime	(12) Crime
SPOA	-4.095*** (0.707)	-4.076*** (0.706)	-3.161*** (0.532)	-3.139*** (0.533)	-11.239*** (1.671)	-10.990*** (1.677)	-9.548*** (1.214)	-9.536*** (1.220)	-5.869*** (0.539)	-5.877*** (0.543)	-6.984*** (0.493)	-6.938*** (0.481)
Exposure Time SPOA		0.087 (0.058)		0.100** (0.045)		0.353*** (0.132)		0.035 (0.086)		-0.038 (0.051)		0.224*** (0.046)
Constant	50.259 (47.140)	33.458 (48.404)	89.507** (37.963)	70.275* (36.681)	22.696 (123.124)	-53.847 (121.369)	184.339** (81.699)	177.610** (84.595)	51.255 (43.618)	58.676 (45.081)	119.551*** (36.448)	76.315** (34.101)
Observations	31,826	31,826	32,129	32,129	26,321	26,321	31,230	31,230	32,101	32,101	32,195	32,195
R-squared	0.385	0.386	0.484	0.485	0.416	0.417	0.431	0.431	0.604	0.604	0.608	0.615
Year Month & Month- Year FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Municipality FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Controls	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Mean if T==0	17.21	17.21	13.47	13.47	70.76	70.76	38.99	38.99	21.88	21.88	21.19	21.19
Magnitude	-24%		-23%		-16%		-24%		-27%		-33%	

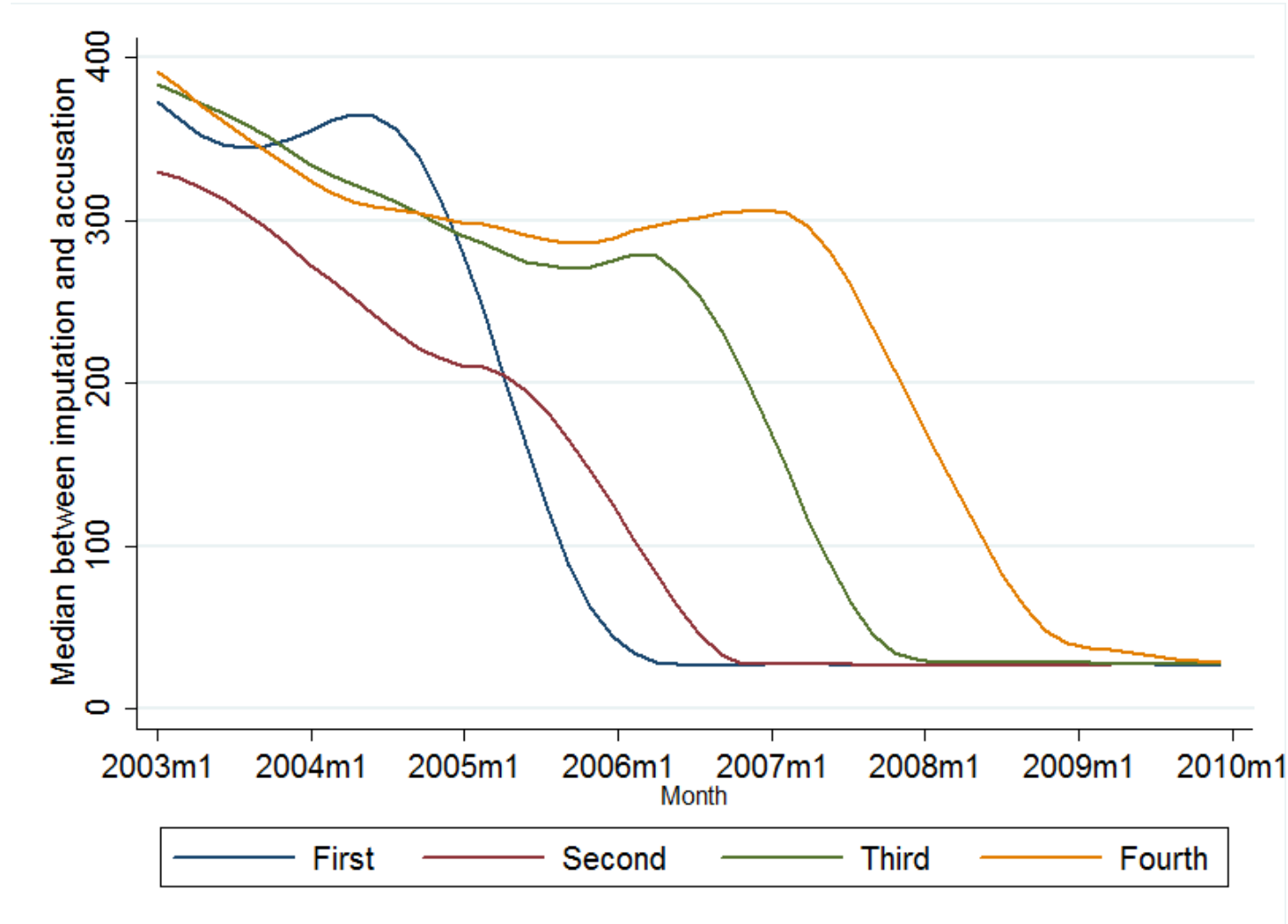
Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

- Clearance rate: Number of cases with imputation of charges over the total number of cases*100

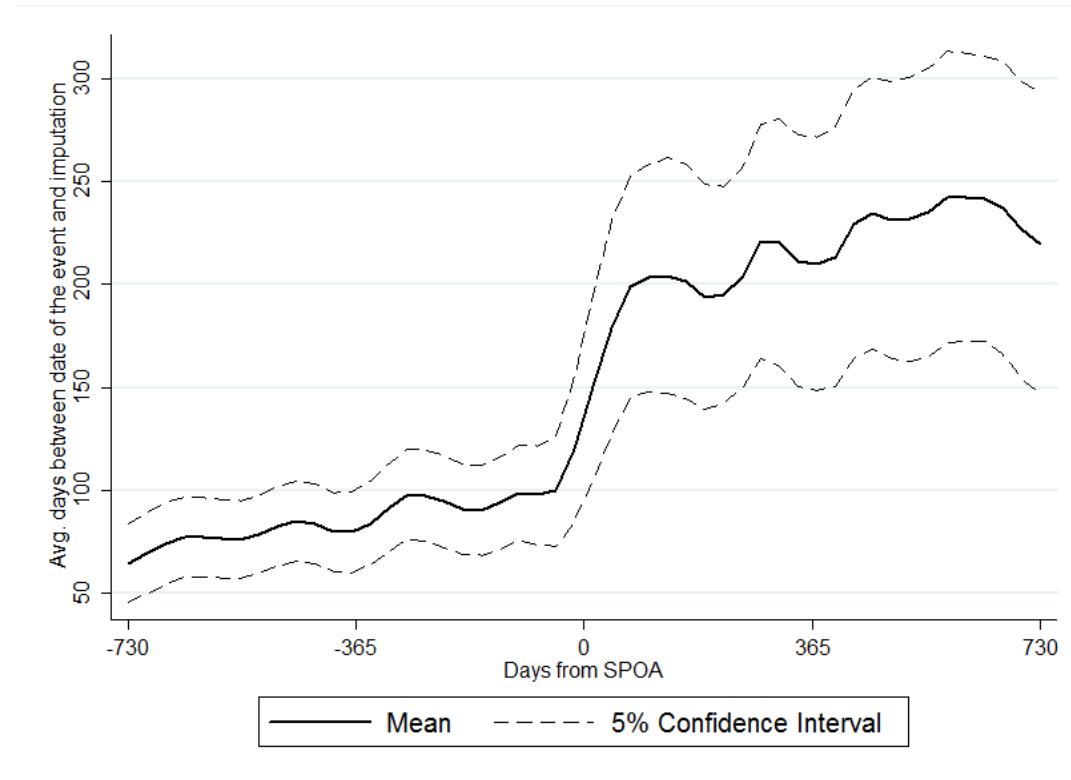
The Effect of SPOA on Procedural Times

Effect of SPOA on Procedural Times

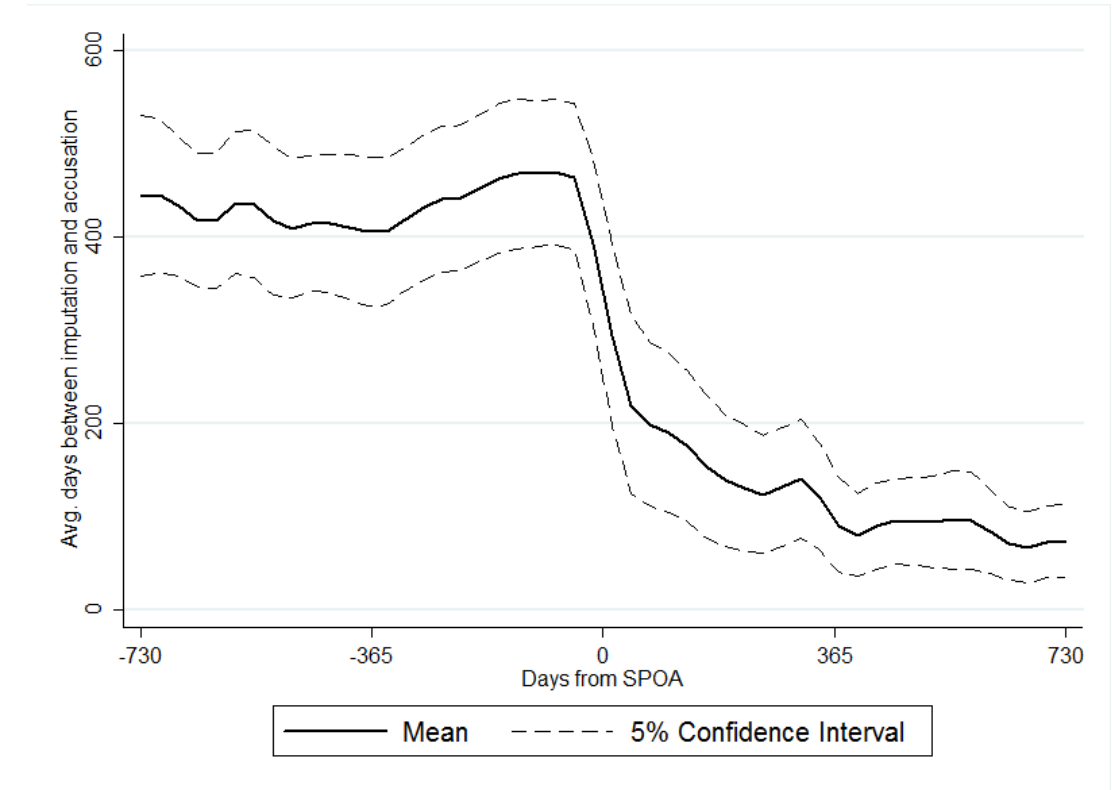


Number of Days between Formulation of Imputation of Charges and Indictment Hearing

Effect of SPOA on Procedural Times

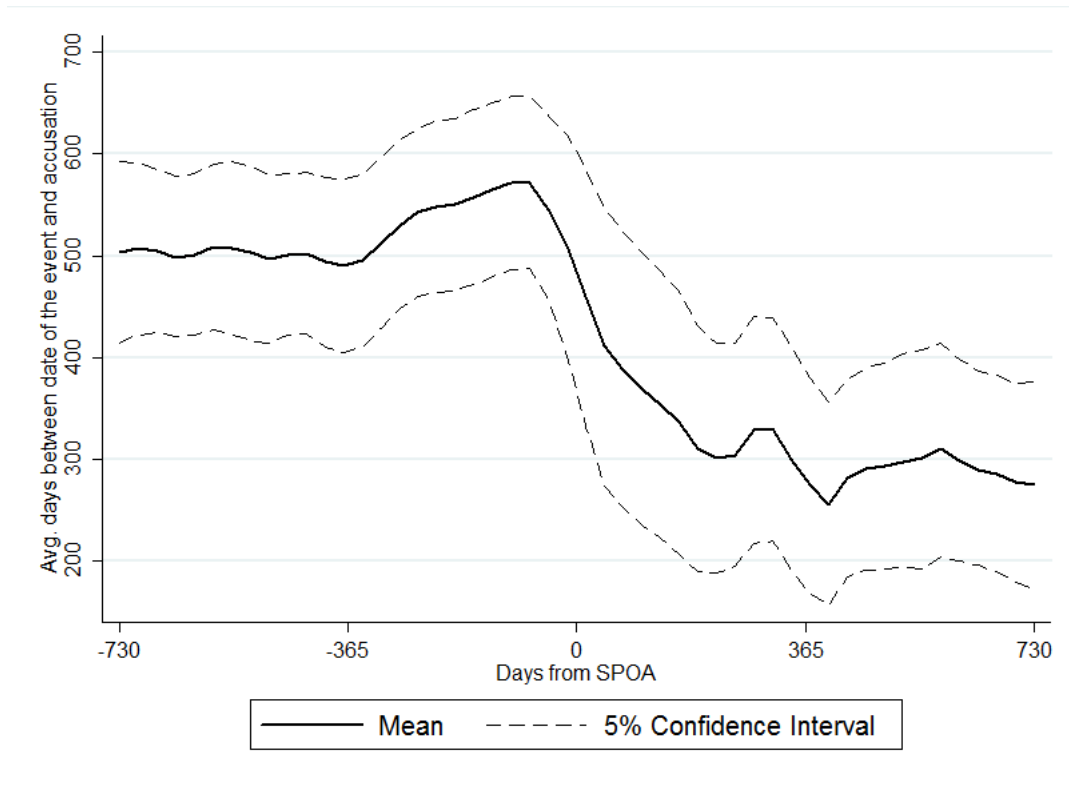


Days between the date of the event and imputation of charges

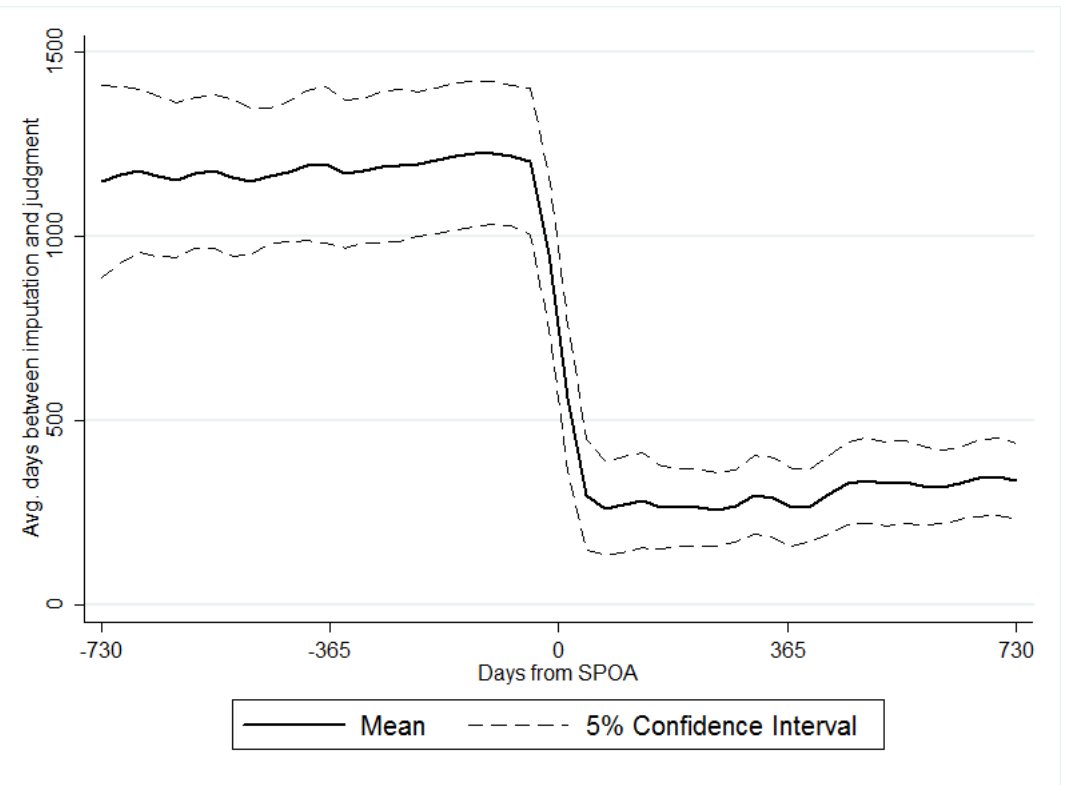


Days between imputation of charges and indictment hearing

Effect of SPOA on Procedural Times

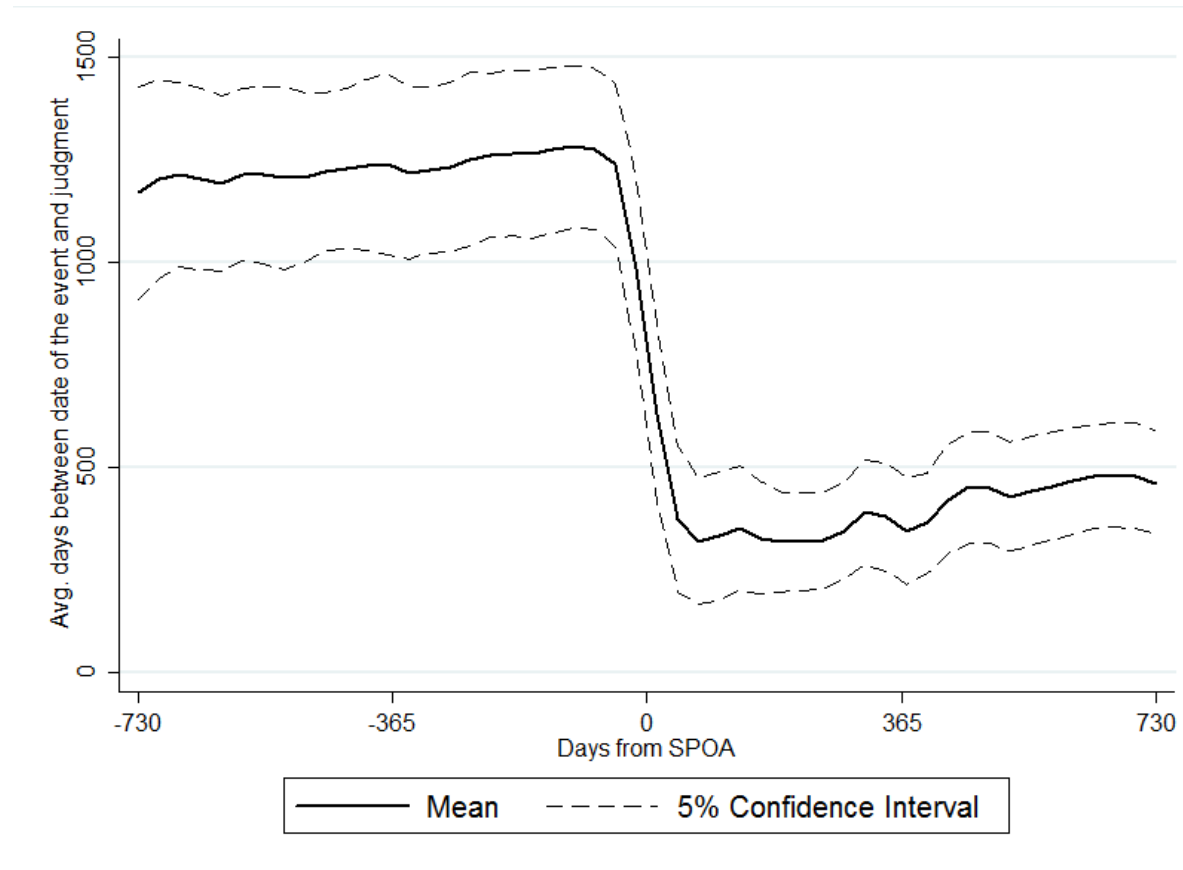


Days between the date of the event and the indictment hearing



Days between the imputation of charges and sentencing (condemnatory or acquittal)

Effect of SPOA on Procedural Times



Days between the date of the event and sentencing
(condemnatory or acquittal)

The Effect of SPOA on the use of custodial measures

Effect of SPOA on Custodial Measures

Variables	(1) Preventive Measures ratio	(2) Domiciliary Detention ratio	(3) Pre-Trial Detention-Prison ratio
SPOA	-1.004*** (0.136)	0.146*** (0.0448)	-1.150*** (0.124)
Constant	6.178*** (1.446)	0.402 (0.328)	5.776*** (1.349)
Observations	61,060	61,060	61,060
R-squared	0.008	0.003	0.010
Year Month & Month-Year FE	YES	YES	YES
Municipality FE	YES	YES	YES
Controls	YES	YES	YES
Mean if T==0	2.476	0.0847	2.391
Magnitude	-41%	172%	-48%

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

- Preventive Measures ratio: Number of cases with Preventive Measures over the total number of cases * 100
 - Domiciliary Detention ratio: Number of cases with Domiciliary Detention over the total number of cases * 100
 - Pre-Trial Detention Prison ratio: Number of cases with Pre-Trial Detention Prison over the total number of cases * 100

Effect of SPOA on Pre-Trial Detention-Prison and Domiciliary Detention

Variables	(1) Homicide	(2) Homicide	(3) Property crimes	(4) Property crimes	(5) Illicit drugs	(6) Illicit drugs	(7) Sex crimes	(8) Sex crimes	(9) Assaults	(10) Assaults
SPOA	-2.121*** (0.273)	-2.160*** (0.269)	-0.475*** (0.138)	-0.513*** (0.133)	-3.618*** (0.752)	-3.626*** (0.738)	-2.547*** (0.472)	-2.600*** (0.467)	-0.124 (0.081)	-0.140* (0.077)
Exposure Time SPOA		0.023 (0.016)		0.022*** (0.007)		0.008 (0.048)		0.072*** (0.026)		0.008 (0.005)
Constant	11.349 (10.681)	8.534 (10.916)	7.846 (6.136)	5.092 (6.093)	16.420 (44.972)	14.524 (45.699)	6.212 (22.537)	-4.859 (22.612)	5.585 (4.605)	4.610 (4.603)
Observations	35,835	35,835	43,171	43,171	18,527	18,527	26,634	26,634	44,221	44,221
R-squared	0.057	0.057	0.043	0.044	0.124	0.124	0.071	0.072	0.046	0.046
Year Month & Month-Year FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Municipality FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Controls	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Mean if T==0	3.503	3.503	1.026	1.026	12.90	12.90	6.731	6.731	0.744	0.744
Magnitude	-61%		-46%		-28%		-38%		-17%	

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

- Preventive Measures ratio: Number of cases with Preventive Measures over the total number of cases * 100

Effect of SPOA on Domiciliary Detention

Variables	(1) Homicidio	(2) Homicidio	(3) Hurto	(4) Hurto	(5) Estupefacien tes	(6) Estupefacien tes	(7) Delitos Sexuales	(8) Delitos Sexuales	(9) Todos los delitos	(10) Todos los delitos
SPOA	0.646*** (0.233)	0.474* (0.260)	1.498*** (0.299)	1.693*** (0.349)	2.920*** (0.518)	3.061*** (0.540)	1.837*** (0.424)	1.861*** (0.442)	1.816*** (0.269)	1.882*** (0.282)
Exposure Time SPOA		0.043** (0.017)		-0.044** (0.020)		-0.076*** (0.028)		-0.008 (0.018)		-0.023* (0.013)
Constant	15.704 (11.932)	8.251 (11.581)	15.441 (12.839)	22.899* (13.018)	-9.231 (28.838)	10.699 (29.662)	17.184 (18.045)	18.797 (17.838)	15.399 (10.258)	18.976* (10.483)
Media	0,665	0,665	0,718	0,718	2,52	2,52	0,914	0,914	1,373	1,373
Observations	14,107	14,107	14,861	14,861	14,019	14,019	12,102	12,102	29,807	29,807
R-squared	0.155	0.156	0.086	0.087	0.095	0.095	0.088	0.088	0.069	0.069
Year Month & Month- Year FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Municipio FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Controls	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

- *Domiciliary Detention ratio: Number of cases with Domiciliary Detention over the total number of **cases with imputation of charges** * 100

Effect of SPOA on Pre-Trial Detention-Prison

Variables	(1) Homicidio	(2) Homicidio	(3) Hurto	(4) Hurto	(5) Estupefacien tes	(6) Estupefacien tes	(7) Delitos Sexuales	(8) Delitos Sexuales	(9) Todos los delitos	(10) Todos los delitos
SPOA	-3.337*** (1.148)	-3.534*** (1.164)	-1.786** (0.847)	-1.745** (0.875)	-6.090*** (1.023)	-6.254*** (1.011)	-1.508 (1.273)	-1.688 (1.320)	-3.276*** (0.654)	-3.097*** (0.666)
Exposure Time SPOA		0.049 (0.069)		-0.009 (0.062)		0.088 (0.069)		0.062 (0.092)		-0.063 (0.047)
Constant	-20.820 (56.449)	-29.304 (57.914)	-6.681 (57.979)	-5.116 (58.555)	-8.609 (75.388)	-31.701 (78.502)	-75.145 (74.867)	-87.393 (75.407)	-41.836 (36.696)	-32.134 (37.571)
Media	13,984	13,984	8,46	8,46	12,337	12,337	16,537	16,537	12,652	12,652
Observations	14,107	14,107	14,861	14,861	14,019	14,019	12,102	12,102	29,807	29,807
R-squared	0.102	0.102	0.109	0.109	0.143	0.143	0.115	0.115	0.072	0.072
Year Month & Month- Year FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Municipio FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Controls	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

- Pre-Trial Detention Prison ratio: Number of cases with Pre-Trial Detention Prison over the total number of **cases with imputation of charges** * 100

The Effect of SPOA on Caseload Decongestion: acuerdos (agreements) and conciliaciones

Effect of SPOA on Criminal Settlements (12 months): *Acuerdos*

Variables	(1) Property crimes	(2) Property crimes	(3) Illicit drugs	(4) Illicit drugs	(5) Sex crimes	(6) Sex crimes	(7) Assaults	(8) Assaults	(9) Crime	(10) Crime
SPOA	31.913*** (4.464)	31.892*** (4.477)	3.598*** (0.720)	3.657*** (0.708)	2.765*** (0.755)	2.802*** (0.749)	254.412*** (26.225)	240.517*** (27.019)	77.427*** (6.308)	77.736*** (6.343)
Exposure Time SPOA		0.435 (0.274)		0.096** (0.045)		0.105** (0.047)		28.057*** (3.700)		1.584*** (0.546)
Constant	66.540 (428.287)	-6.152 (436.476)	321.961*** (94.646)	302.129*** (95.622)	13.435 (45.489)	-7.652 (44.948)	2,092.909 (3,264.639)	-2,344.812 (3,428.379)	1,414.126* (729.119)	1,134.138 (747.272)
Observations	26,394	26,394	23,773	23,773	26,029	26,029	27,587	27,587	31,951	31,951
R-squared	0.303	0.304	0.308	0.308	0.277	0.278	0.364	0.388	0.337	0.338
Year Month & Month-Year FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Municipality FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Controls	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Mean if T==0	27.51	27.51	0.0347	0.0347	0.501	0.501	104.3	104.3	39.72	39.72
Magnitude	116%		10369%		552%		244%		195%	

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

* Criminal settlements ratio: Number of cases-offense with Criminal settlements during the last 12 months over the total **number of cases-offense with imputation of charges** in the last 11 months*100

Effect of SPOA on Criminal Settlements (12 months): *Conciliaciones*

Variables	(1) Property crimes	(2) Property crimes	(3) Illicit drugs	(4) Illicit drugs	(5) Sex crimes	(6) Sex crimes	(7) Assaults	(8) Assaults	(9) Crime	(10) Crime
SPOA	1.105*** (0.216)	1.111*** (0.217)	0.033 (0.046)	0.033 (0.044)	0.036 (0.107)	0.035 (0.107)	10.372*** (0.705)	10.477*** (0.705)	3.870*** (0.275)	3.898*** (0.277)
Exposure Time SPOA		0.024 (0.016)		-0.000 (0.002)		-0.002 (0.006)		0.508*** (0.066)		0.135*** (0.025)
Constant	2.146 (14.041)	-2.126 (14.377)	-2.133 (1.393)	-2.057 (1.592)	4.508 (5.141)	4.855 (5.170)	119.171** (54.686)	29.839 (57.558)	32.080 (22.407)	8.374 (23.911)
Observations	32,129	32,129	26,321	26,321	31,230	31,230	32,101	32,101	32,195	32,195
R-squared	0.402	0.402	0.294	0.294	0.257	0.257	0.590	0.604	0.659	0.664
Year Month & Month-Year FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Municipality FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Controls	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Mean if T==0	2.567	2.567	0.0221	0.0221	0.164	0.164	15.76	15.76	6.306	6.306
Magnitude	43%		149%		22%		66%		61%	

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

* Criminal settlements ratio: Number of cases-offense with Criminal settlements during the last 12 months over the total **number of cases-offense with imputation of charges** in the last 11 months*100

2. Effect of SPOA on Crime Rates and Recidivism

The Effect of SPOA on Crime

- Direct Effect of SPOA on Violent and Property Crimes
 - Aggregate crime, violent crime and property crime
 - Recidivism rates

Effect of SPOA on Crime per 100.000 Inhabitants (SIEDCO)

Variables	(1) Homicides rate	(2) Sex crimes rate	(3) Illicit drugs rate	(4) Property crimes rate
SPOA	1.766*** (0.208)	0.843*** (0.0953)	4.786*** (1.373)	5.241*** (0.612)
Constant	8.882*** (2.586)	3.156*** (0.999)	49.75*** (16.38)	-0.570 (6.063)
Observations	40,971	40,971	40,971	40,971
R-squared	0.045	0.026	0.042	0.136
Year Month & Month-Year FE	YES	YES	YES	YES
Municipality FE	YES	YES	YES	YES
Controls	YES	YES	YES	YES
Mean if T=0	5.022	0.981	15.17	8.608
Magnitude	35%	86%	32%	61%

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

- Crime rate: number of crimes x in SIEDCO over the population per 100,000 inhabitants

Effect of SPOA on Recidivism (SPOA)

Variables	(1) Recidivism ratio (0-365 days)	(2) Recidivism ratio (0-730 days)	(3) Recidivism ratio (0-1095 days)	(4) Recidivism ratio
SPOA	0.388** (0.171)	0.427** (0.200)	0.641*** (0.213)	0.792*** (0.223)
Constant	2.360 (1.686)	2.918 (1.902)	2.554 (2.080)	2.973 (2.189)
Observations	42,639	42,639	42,639	42,639
R-squared	0.003	0.004	0.007	0.015
Year Month & Month-Year FE	YES	YES	YES	YES
Municipality FE	YES	YES	YES	YES
Controls	YES	YES	YES	YES
Mean if T==0	2.356	2.898	3.103	3.162
Magnitude	16%	15%	21%	25%

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

- Recidivism ratio: Number of recurrences (in different periods of time) over the total number of cases per 100

V. Summary and concluding remarks

- The way the implementation of Sistema Penal Acusatorio (SPOA) was rolled-out allows us to do, to the best of our knowledge, the first impact evaluation where we study its effects on different measures of the system's efficiency in processing criminal cases such as clearance rates, procedural times, caseload decongestion and some judicial decisions.
- Also, given the emphasis of the reform on reducing the use of pre-trial detention, we quantify the extent to which the reform reduced the use of this preventive measure.
- Finally, we study the effects of the reform on crime rates and recidivism.

V. Summary and concluding remarks (cont.)

- While the implementation of the reform had some important intended consequences such as a significant reduction in procedural times, caseload decongestion and a significant reduction in the use of pre-trial detention, some unintended consequences are identified.
- First, clearance rates (as measured by the percentage of cases that get to imputation of charges) went down. As said before, the new system is more efficient in processing criminal cases, but fewer cases get resolved or 'cleared'.
- Second, the results show that both, crime rates and recidivism, went up as a result of the implementation of the reform.

V. Summary and concluding remarks (cont.)

- The increase in crime as a result of the implementation of the reform may come from different channels, such as the reduction of clearance rates, the increase in negotiated solutions before the trial stage and the reduction in the incapacitation effect resulting from the lower use of pre-trial detention.