

The economic effects of violence and corruption

A research and action agenda for Mexico

Texas A&M International University's 2016-2017
International Bank of Commerce Keynote Speaker Series

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Outline

1. Violence in Mexico
2. Corruption in Mexico
3. The Costs of Violence and Corruption in Mexico
4. Actionable measures



1.

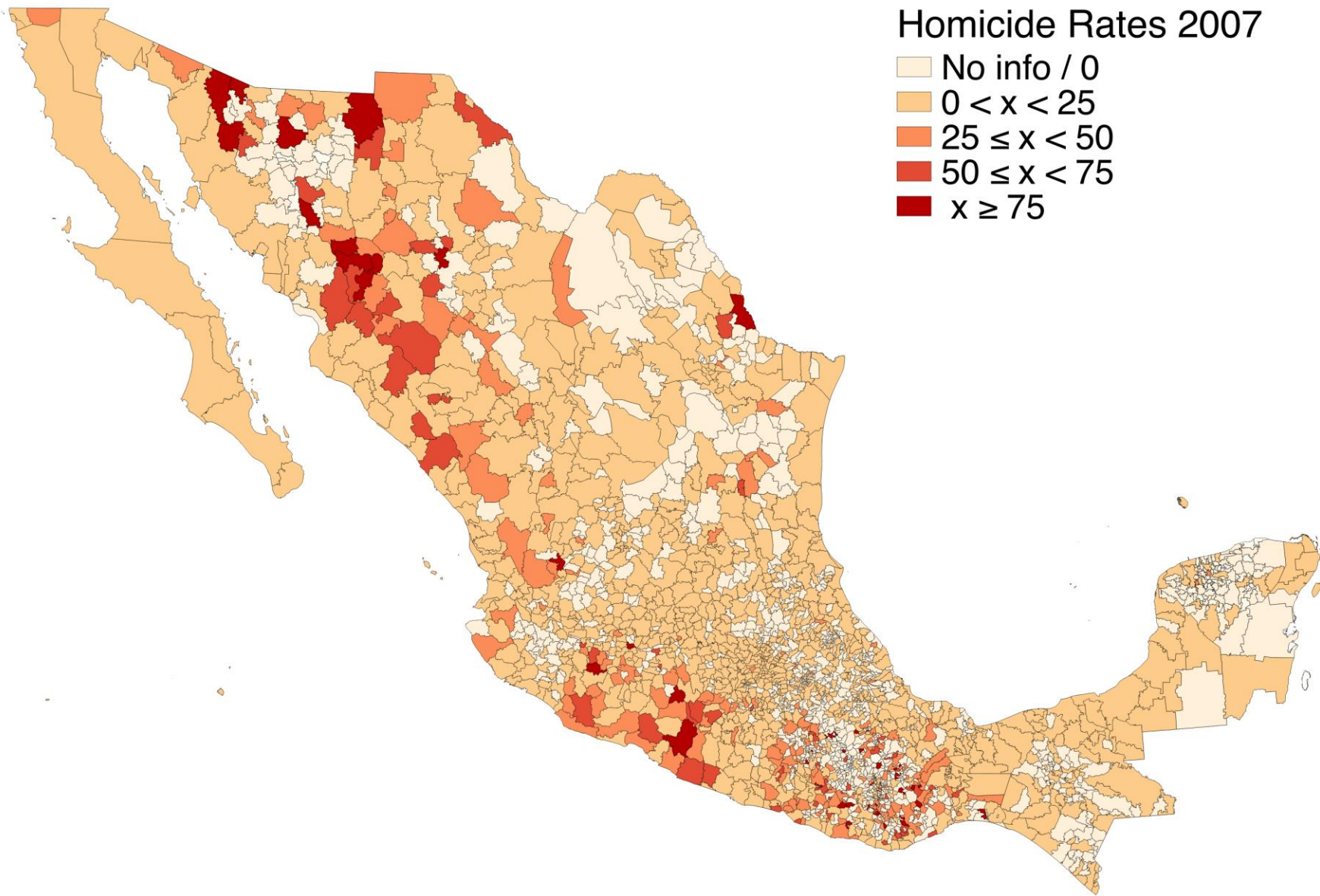
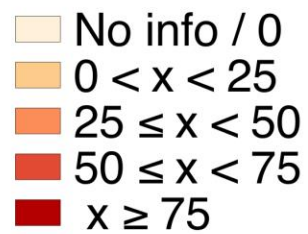
Mexico's Violence

The extent of the problem

An aerial night photograph of Mexico City, showing a dense urban landscape with numerous illuminated buildings and streets. In the background, the city is set against a backdrop of dark, silhouetted mountains under a twilight sky. A prominent feature is a large, brightly lit street on the right side, filled with traffic. A large billboard with a hot air balloon logo is visible on the right. A white text box is overlaid on the upper right portion of the image.

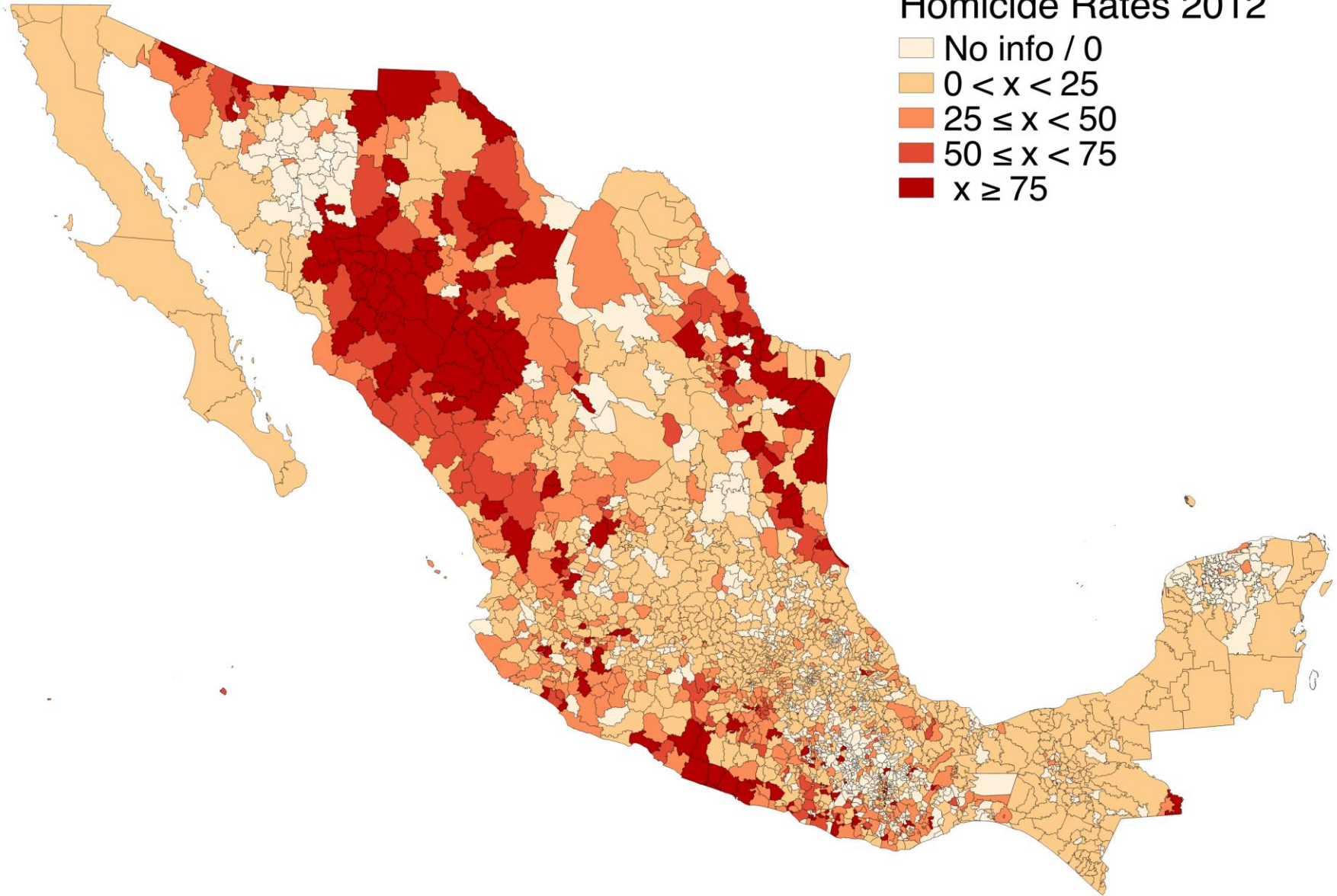
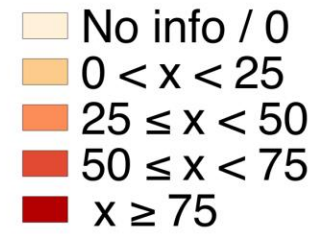
From 2007 to 2010, homicides in Mexico doubled

Homicide Rates 2007



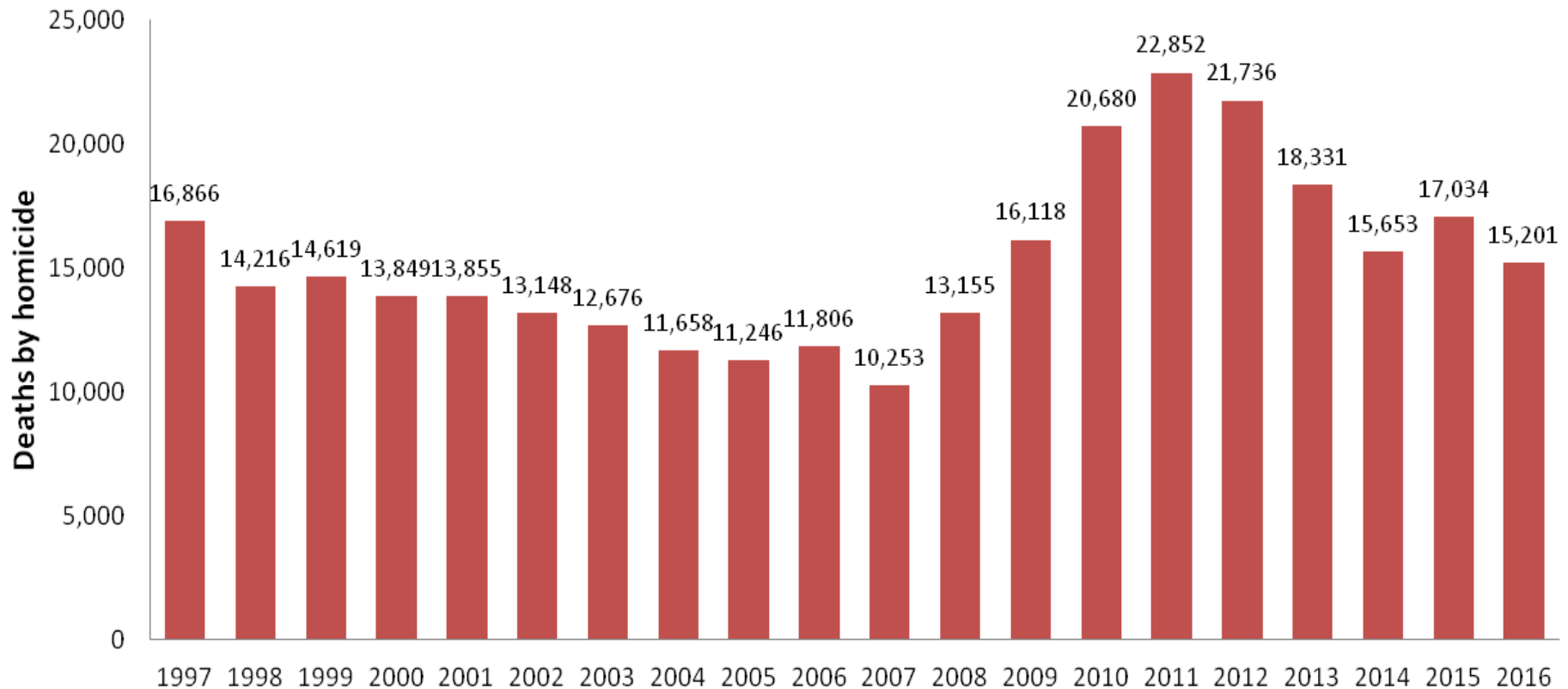
Map shows the distribution homicide rates per a 100,000 inhabitants in 2003. Source: INEGI

Homicide Rates 2012



Map shows the distribution homicide rates per a 100,000 inhabitants in 2003. Source: INEGI

Homicides per year, Mexico 1997-2016



Year 2016 includes only until September. Source: SNSP, Homicidios dolosos del fuero estatal.

Why is Mexico violent?

Sometimes (and sometimes not)

Why is Mexico violent?

Drug cartels

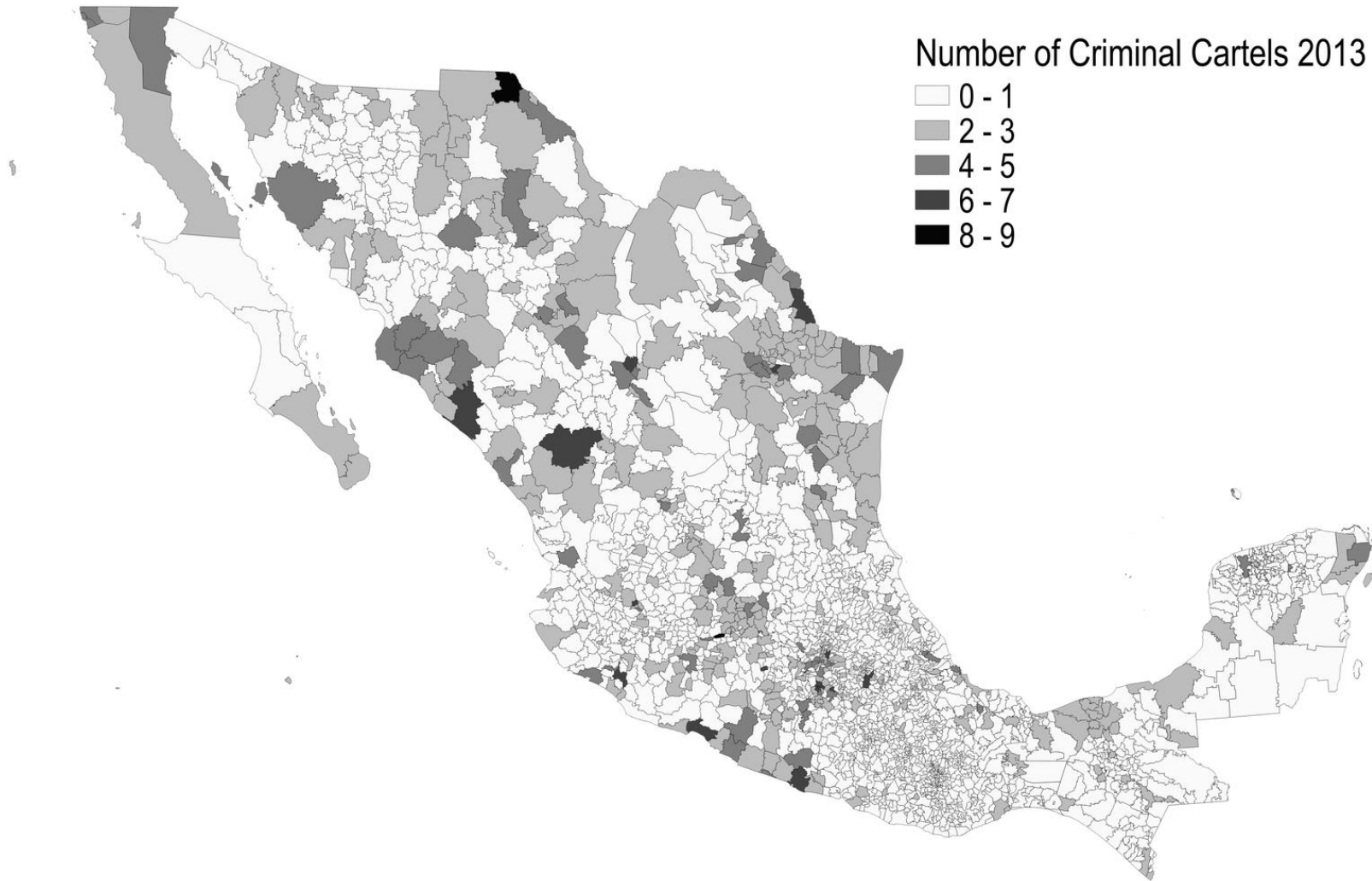
Mexico has extensive presence of criminal groups



Why is Mexico violent?

Drug cartels fighting one another

Presence of criminal organizations



Graph shows the number of municipalities where criminal organizations operate according to whether these are monopolistic (non-rivalry) or competitive (rivalry). See Coscia, Michele, and Viridiana Rios. "Knowing where and how criminal organizations operate using web content." *Proceedings of the 21st ACM international conference on Information and knowledge management*. ACM, 2012.

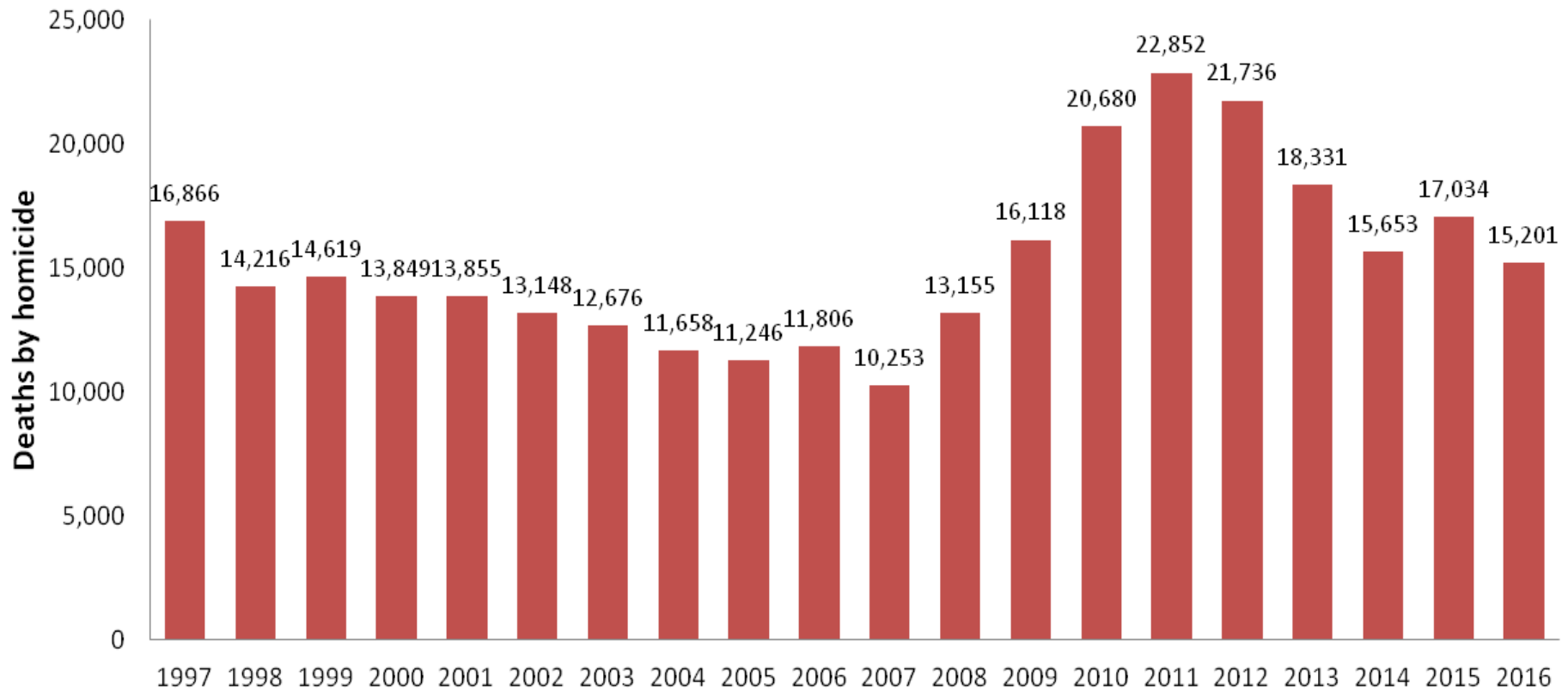
Why is Mexico violent?

Drug cartels fighting one another as a reaction to enforcement operations

PERIODISTA MARTIN LOPEZ DEL 44
TE VAMOS A MOCHAR LA CABEZAS Y TU HERMANO
POR APOYAR AL PATAS CORTAS.

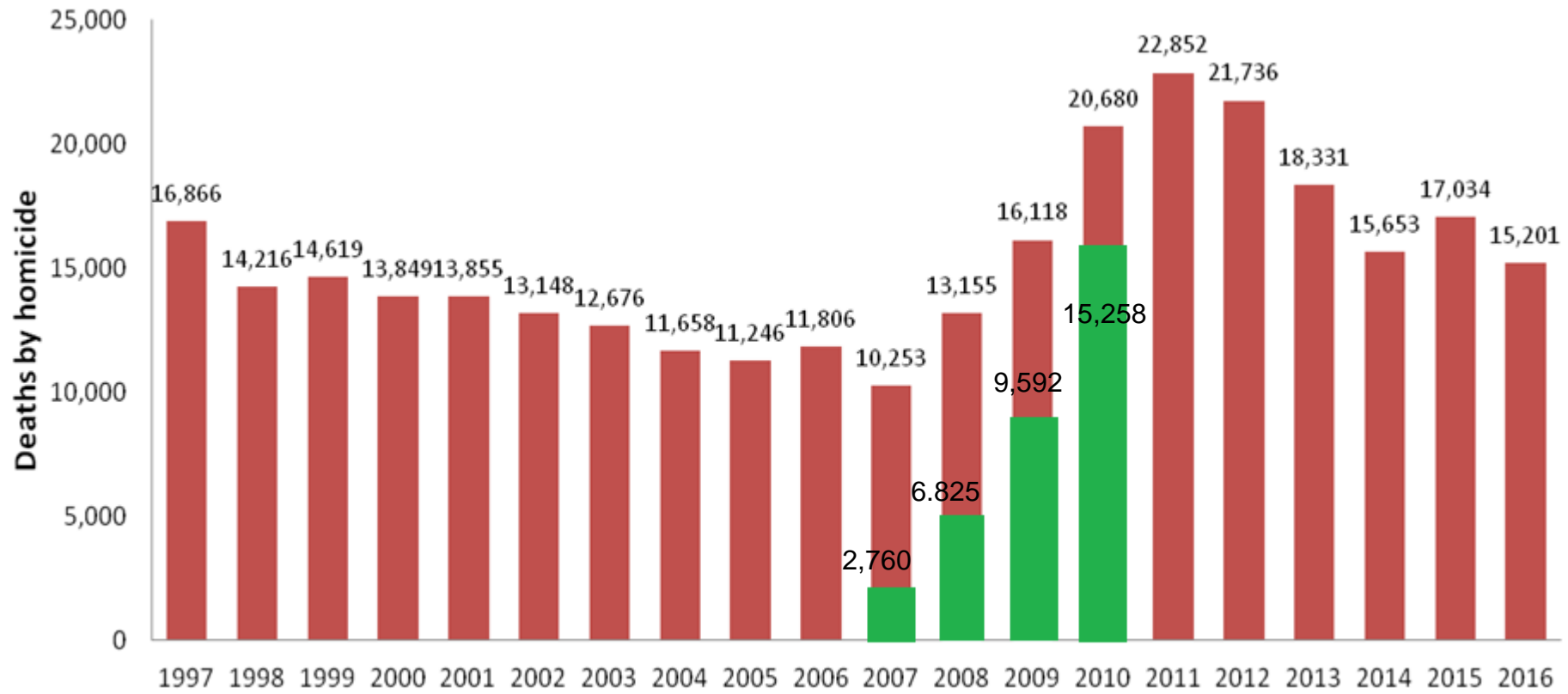


Homicides per year, Mexico 1997-2016



Year 2016 includes only until September. Source: SNSP, Homicidios dolosos del fuero estatal (1997-2016)

And most of this violence can be explained by drug-related homicides



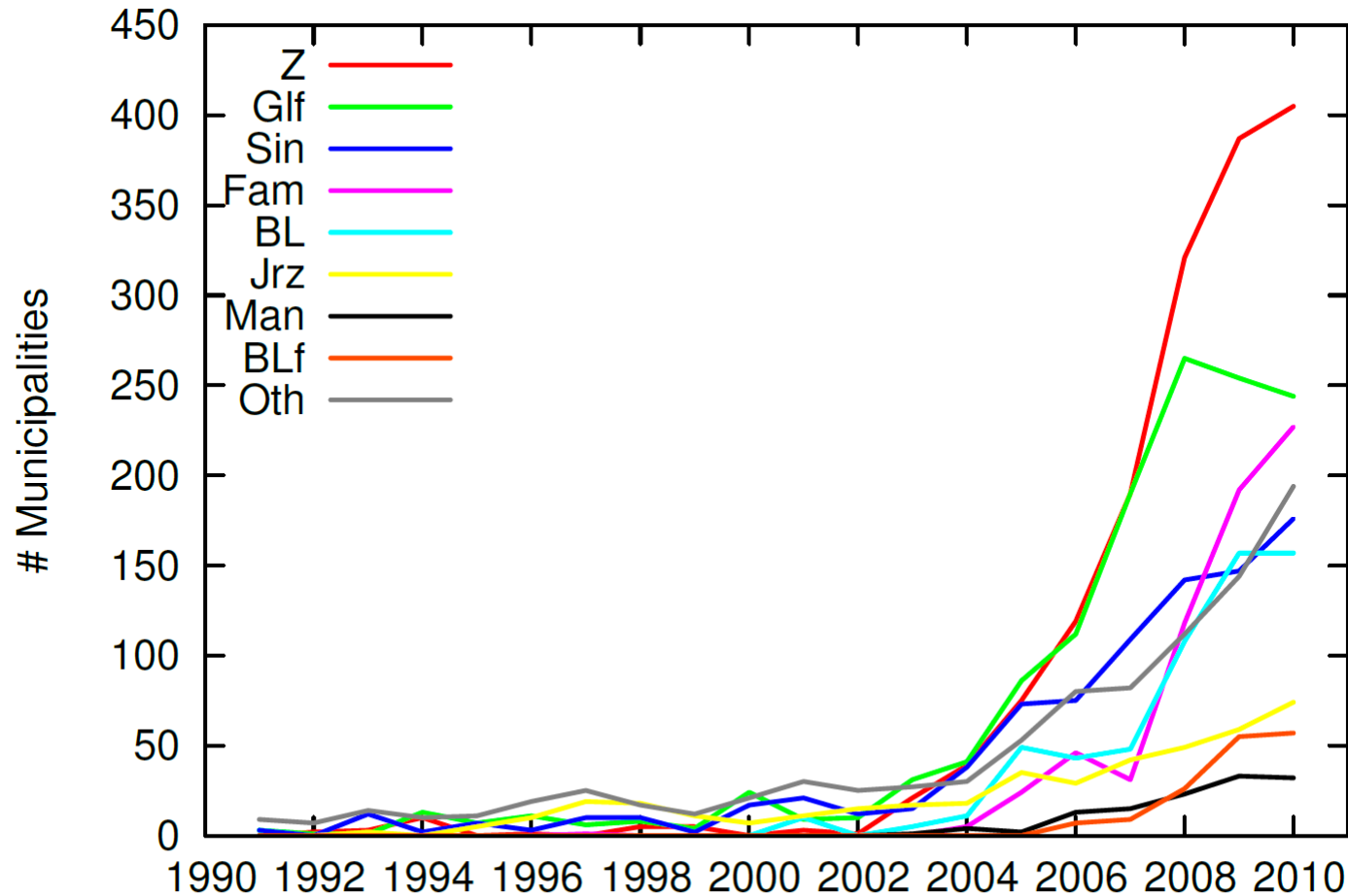
Year 2016 includes only until September. Source: SNSP. Intentional homicides of state jurisdiction (1997-2016). Database for deaths due to alleged criminal rivalry (2006-2010)

Why is Mexico violent?

Drug cartels fighting one another as a reaction to enforcement operations conducted in politically uncoordinated areas (Rios 2012)

Big-Data constructed independent variable

Patterns of expansion differ greatly between cartels.



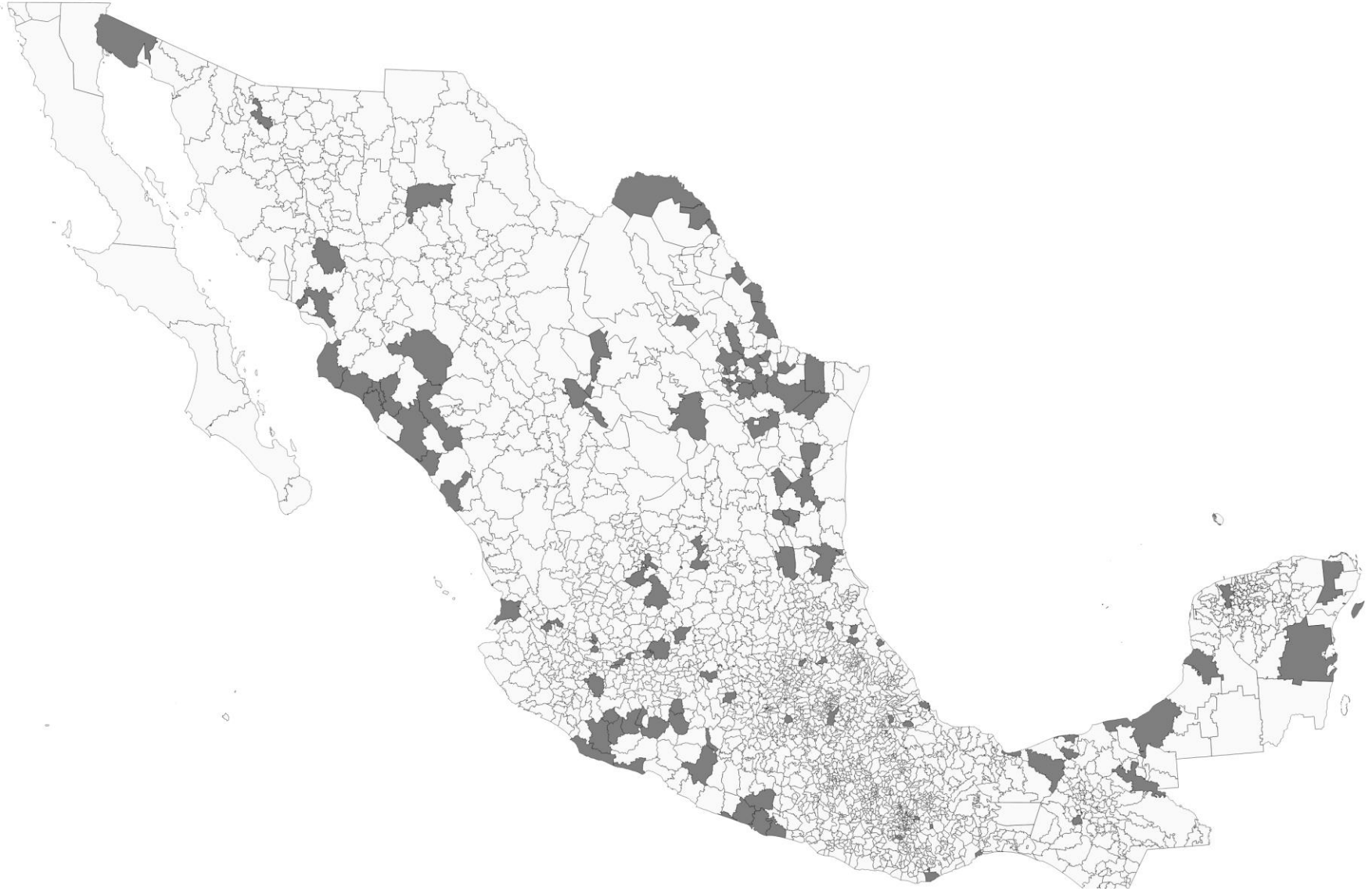
See Coscia, Michele, and Viridiana Rios. "Knowing where and how criminal organizations operate using web content." *Proceedings of the 21st ACM international conference on Information and knowledge management*. ACM, 2012.

Presence of Zeta Cartel 1993



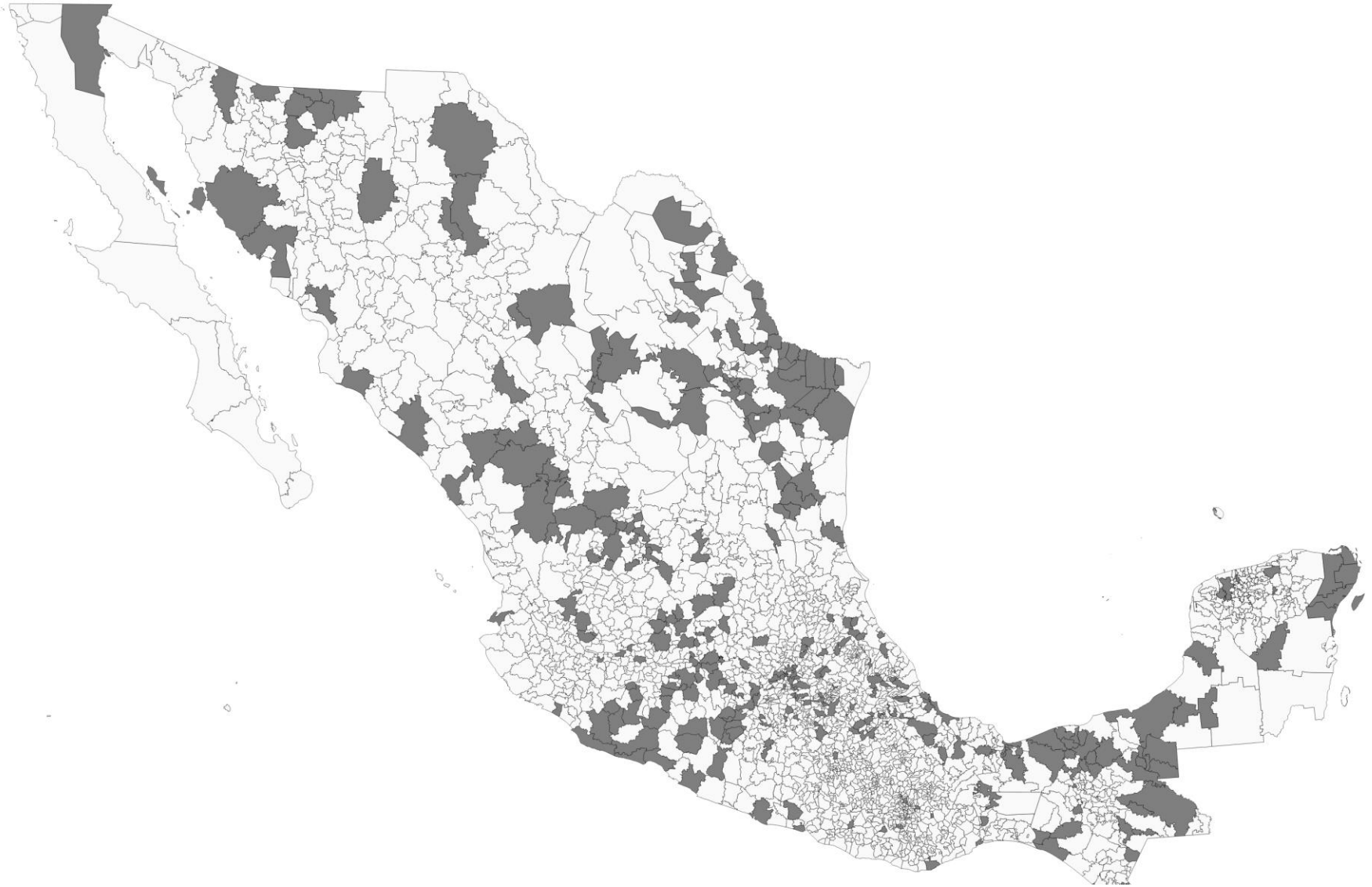
Graph shows the number of municipalities where Zeta Cartel operated in 1993 according to whether these are monopolistic (non-rivalry) or competitive (rivalry). See Coscia, Michele, and Viridiana Rios. "Knowing where and how criminal organizations operate using web content." *Proceedings of the 21st ACM international conference on Information and knowledge management*. ACM, 2012.

Presence of Zeta Cartel 2006



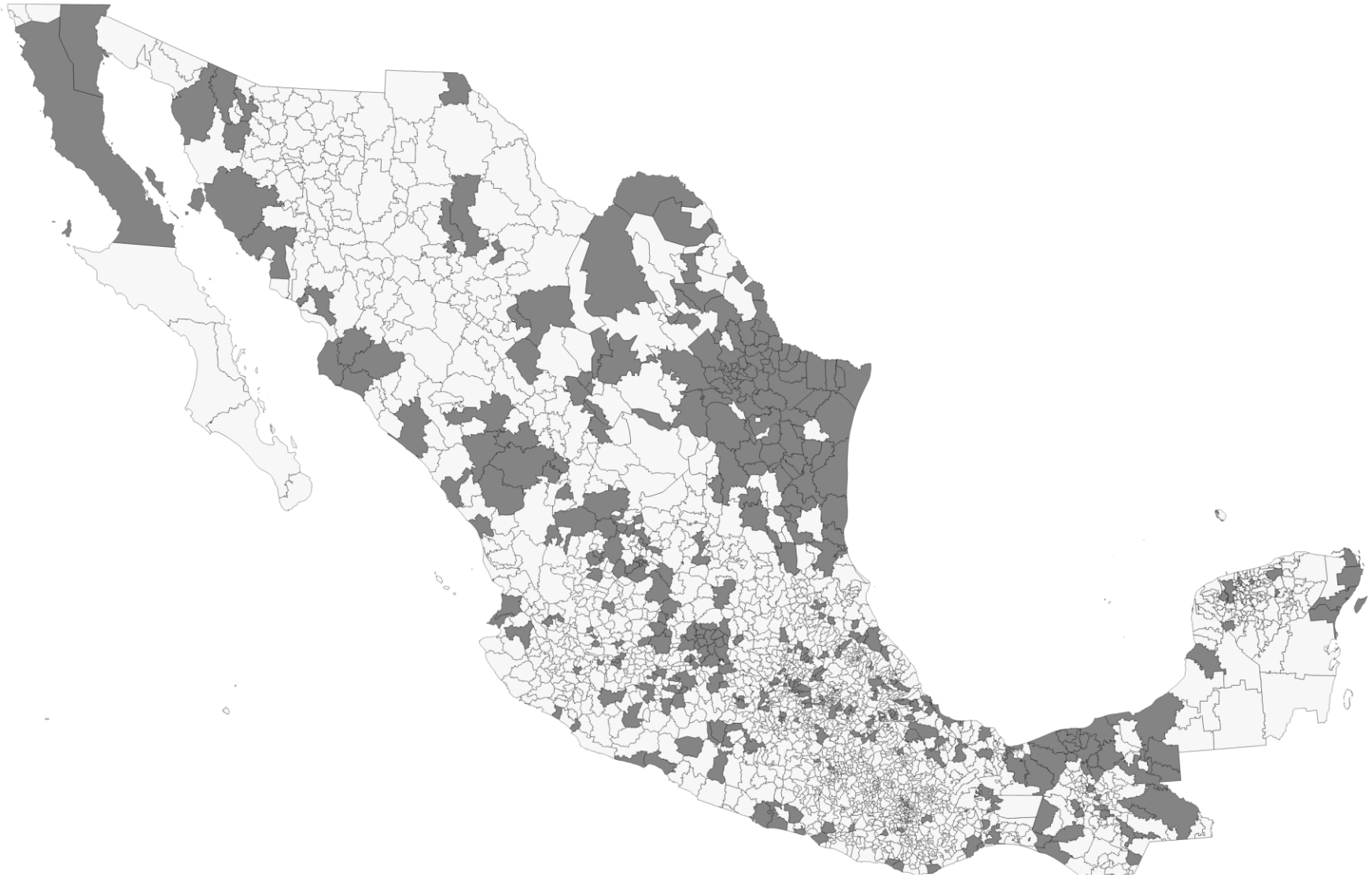
Graph shows the number of municipalities where Zeta Cartel operated in 1993 according to whether these are monopolistic (non-rivalry) or competitive (rivalry). See Coscia, Michele, and Viridiana Rios. "Knowing where and how criminal organizations operate using web content." *Proceedings of the 21st ACM international conference on Information and knowledge management*. ACM, 2012.

Presence of Zeta Cartel 2008



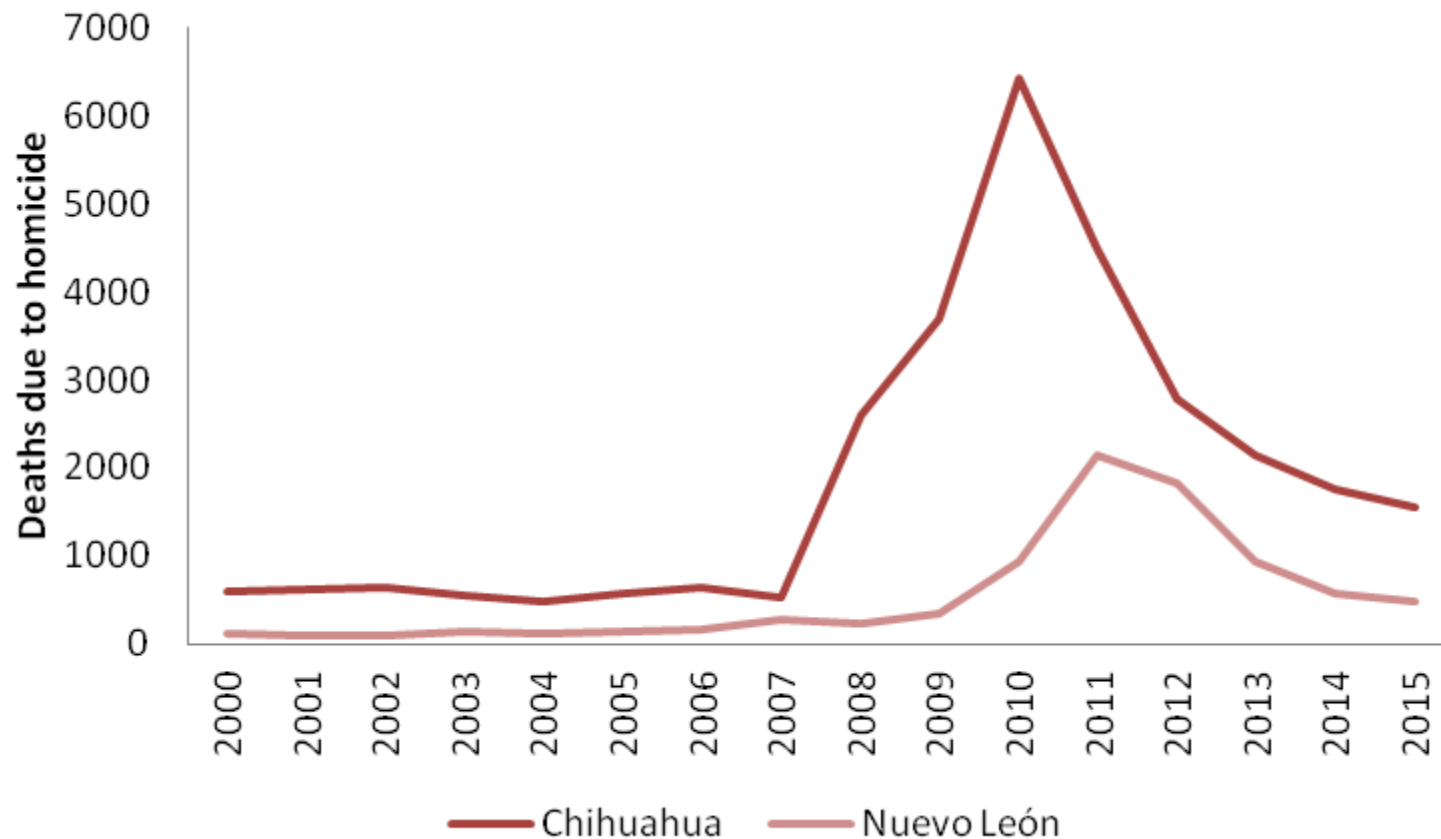
Graph shows the number of municipalities where Zeta Cartel operated in 1993 according to whether these are monopolistic (non-rivalry) or competitive (rivalry). See Coscia, Michele, and Viridiana Rios. "Knowing where and how criminal organizations operate using web content." *Proceedings of the 21st ACM international conference on Information and knowledge management*. ACM, 2012.

Presence of Zeta Cartel 2010



Graph shows the number of municipalities where Zeta Cartel operated in 1993 according to whether these are monopolistic (non-rivalry) or competitive (rivalry). See Coscia, Michele, and Viridiana Rios. "Knowing where and how criminal organizations operate using web content." *Proceedings of the 21st ACM international conference on Information and knowledge management*. ACM, 2012.

Violence diminished in states that managed to coordinate a security strategy with the federation



2.

Mexico's Corruption

The extent of the problem

Corruption is pervasive

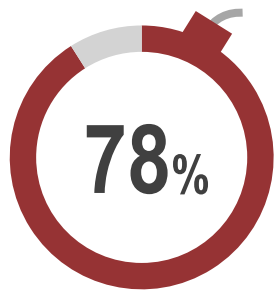
- **44% of Mexican firms** pay bribes
- It is estimated that **200 million cases of corruption** happen every year in Mexico
- **\$1.7B USD** are paid in bribes in Mexico every year
- 4% of the average construction contract value is spent in bribes



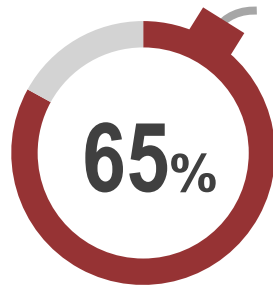
14% of Mexicans' income
is spent in bribes

Mexicans distrust authorities

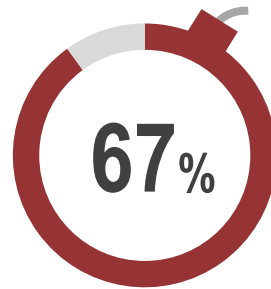
Percentage who believe **authorities are corrupt**:



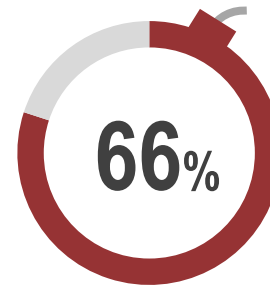
TRANSITE
POLICE



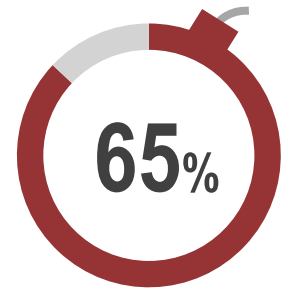
INVESTIGATIVE
POLICE



LOCAL
POLICE



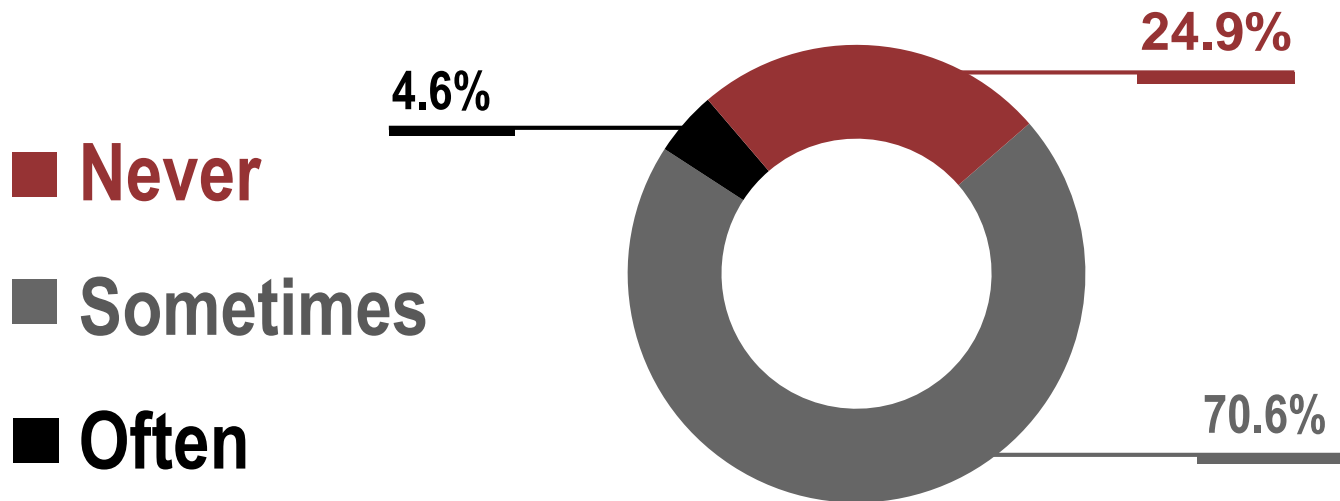
JUDGES



GENERAL
ATTORNEYS

Mexicans distrust authorities

Do you think authorities follow the law?*



*Do not consider 16% who did not answer the question.

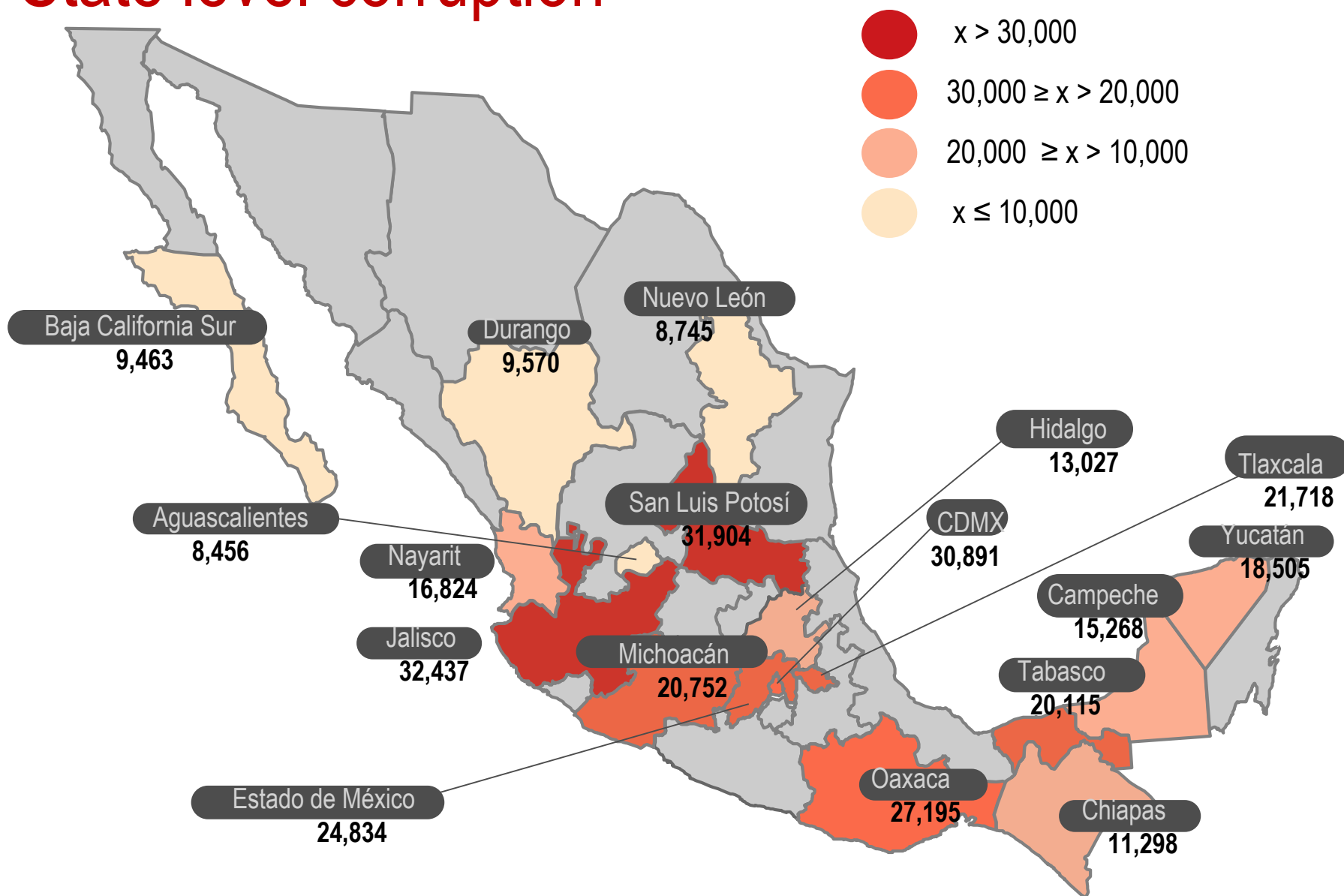
Source: IMCO (2015) "La Corrupción en México: Transamos y no Avanzamos" with data from Encuesta Nacional sobre Cultura y Prácticas Ciudadanas (2012), Ministry of the Interior; slide designed by IMCO.

Where is corruption more common?

ACTION	CORRUPTION INDEX
Avoiding a traffic ticket	68
Parking in a prohibited place	60.9
Avoiding seizure and impounding of motor vehicle	59.6
Introducing merchandise through customs	28.3
Recovering a stolen car	24.6
Avoiding criminal detention	23.2
Performing street vending	22.9
Getting trash collected	21.9
Getting water distributed	15.3
Initiating a judicial process	14.7
Obtaining construction permits	13

State level corruption

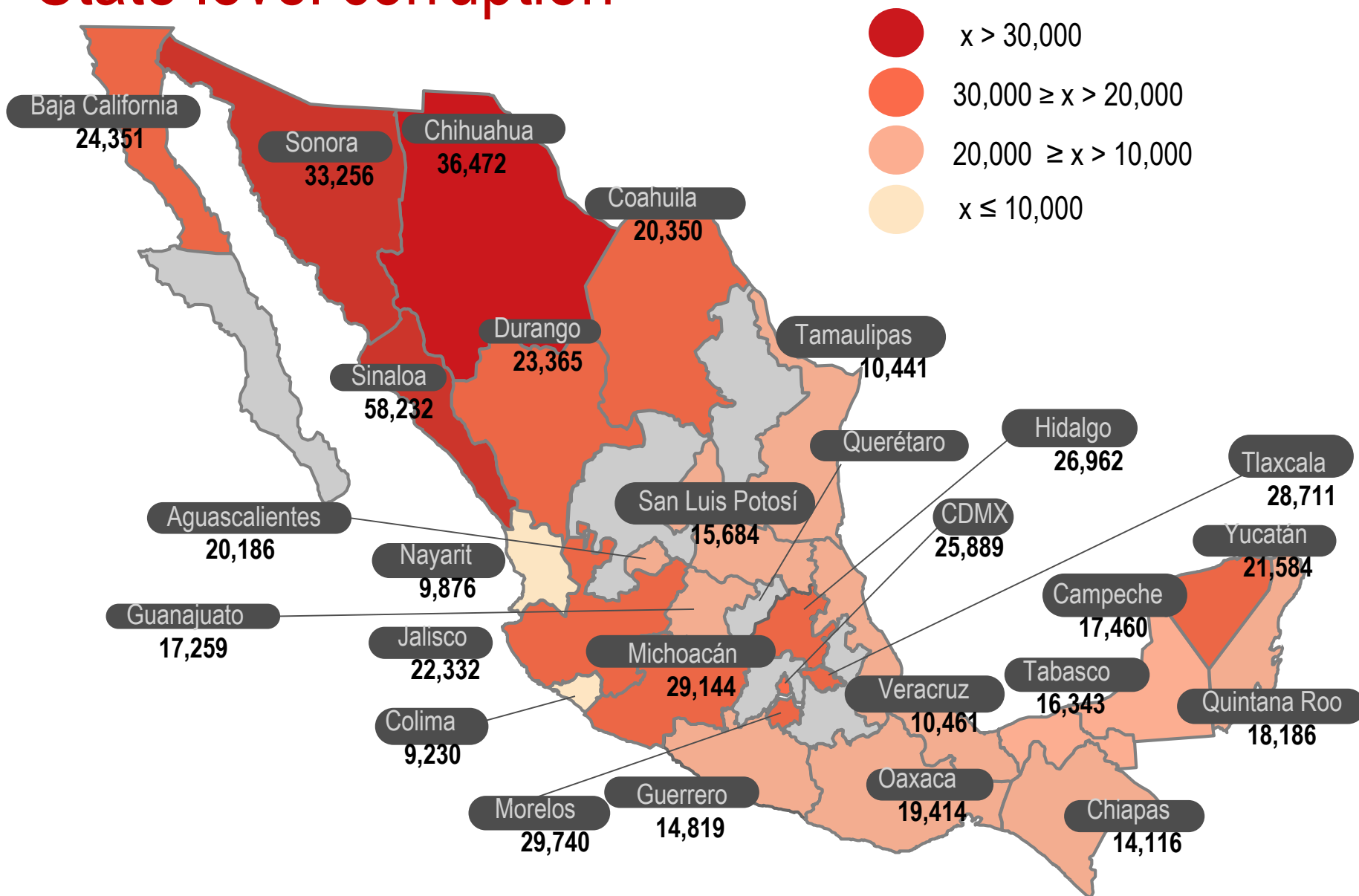
Incidence rate of corruption 2013



The incidence is calculated corruption acts by 100,00 inhabitants (18 years or older that had contact with a public official). Gray if no data.
Source: INEGI (2015) "Encuesta Nacional de Calidad e Impacto Gubernamental".

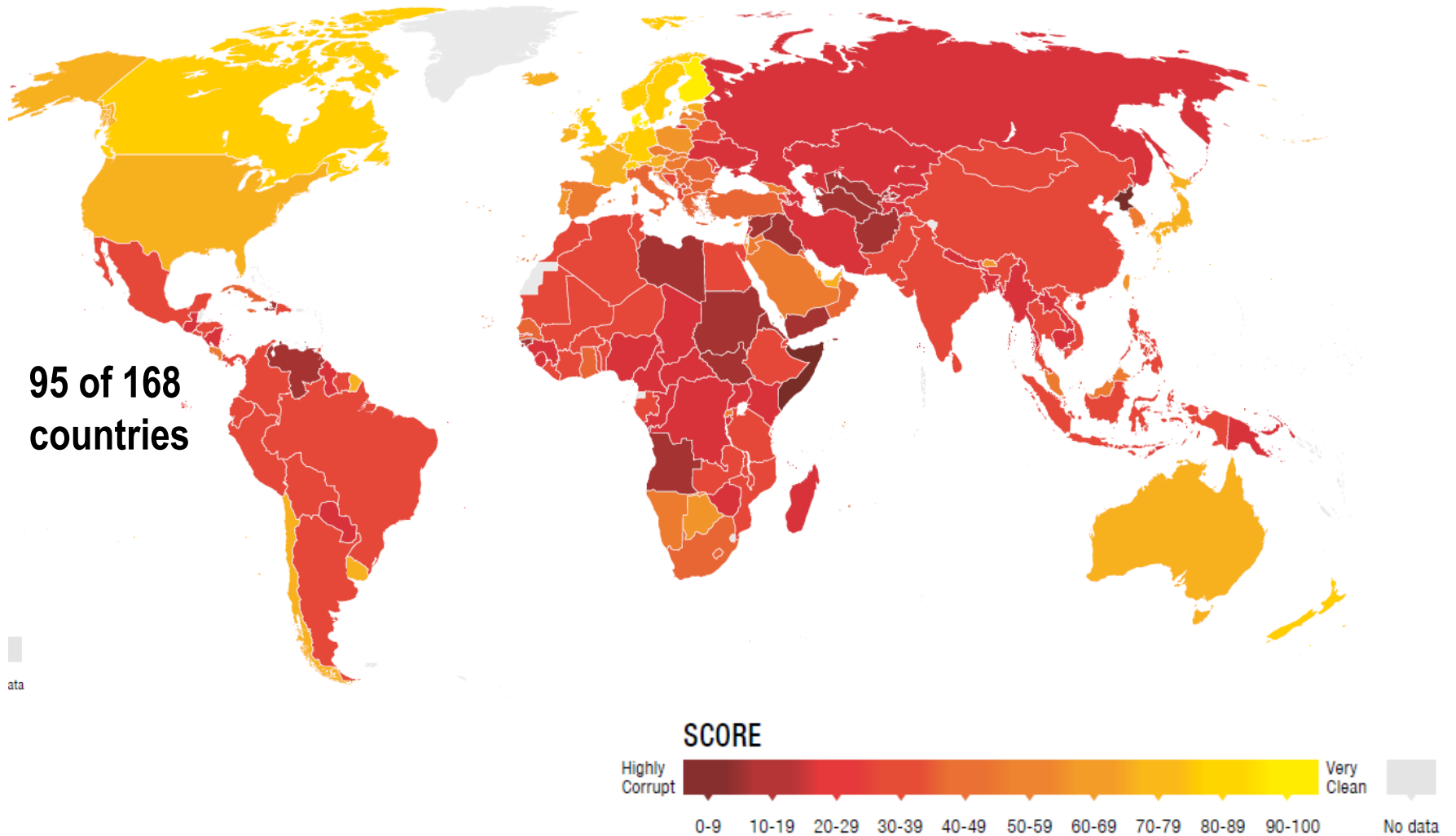
State level corruption

Incidence rate of corruption 2015

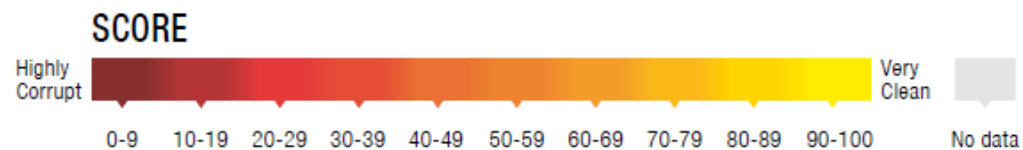
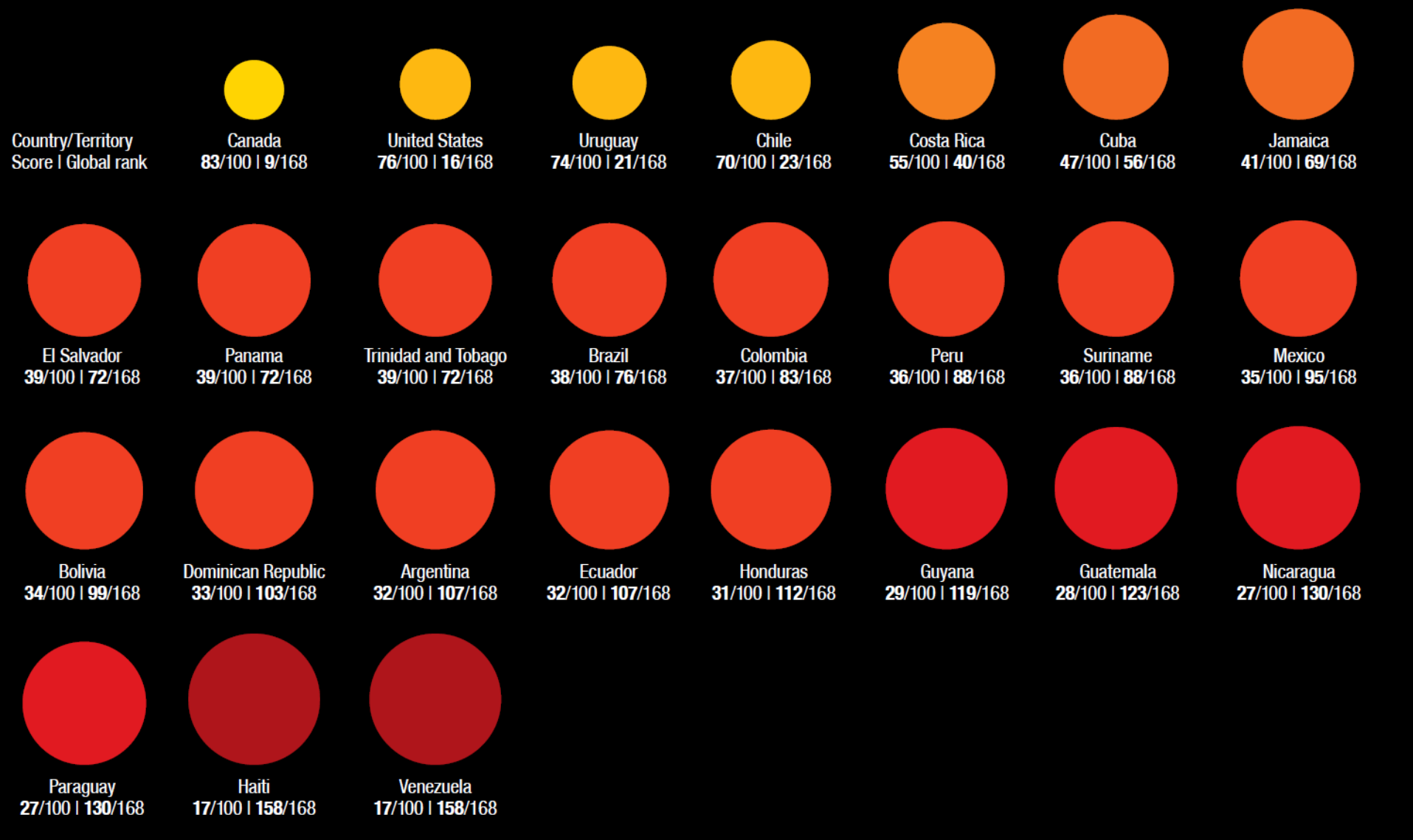


The incidence is calculated corruption acts by 100,00 inhabitants (18 years or older that had contact with a public official). Gray if no data.
Source: INEGI (2015) "Encuesta Nacional de Calidad e Impacto Gubernamental".

Mexico is more corrupt than 57% of the world

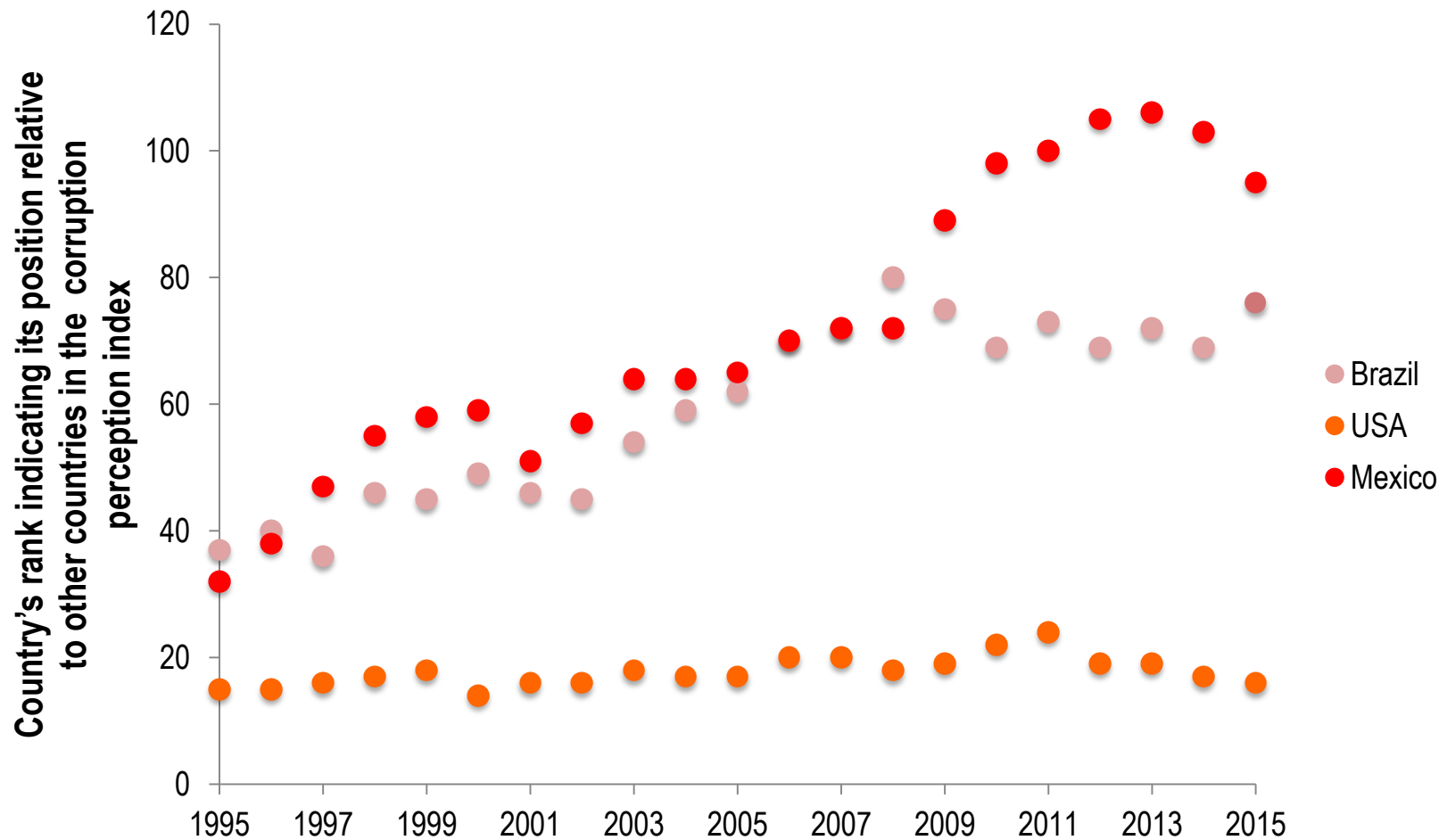


Source: Transparency International (2015) Corruption Perception Index.



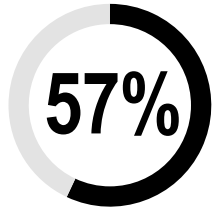
Source: Transparency International (2015)
Corruption Perception Index.

Corruption Perception Index over time



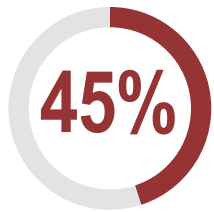
Why Is Mexico Corrupt?

THE “IT IS CONVENIENT” EXCUSE:



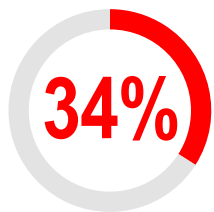
Red Tape

Use “facilitators” to obtain information and privileged access



Opportunity

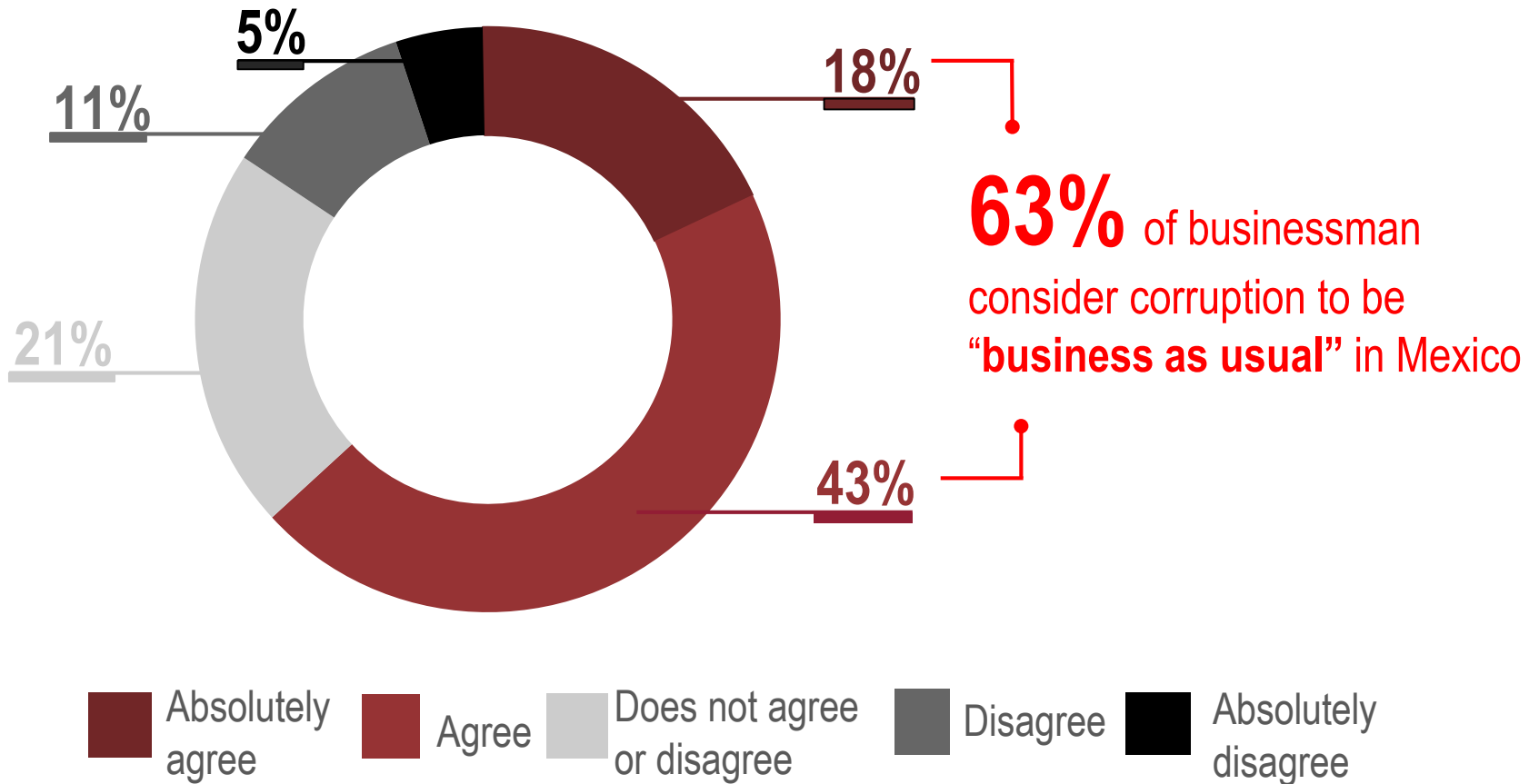
Have given bribes in order to get a government contract



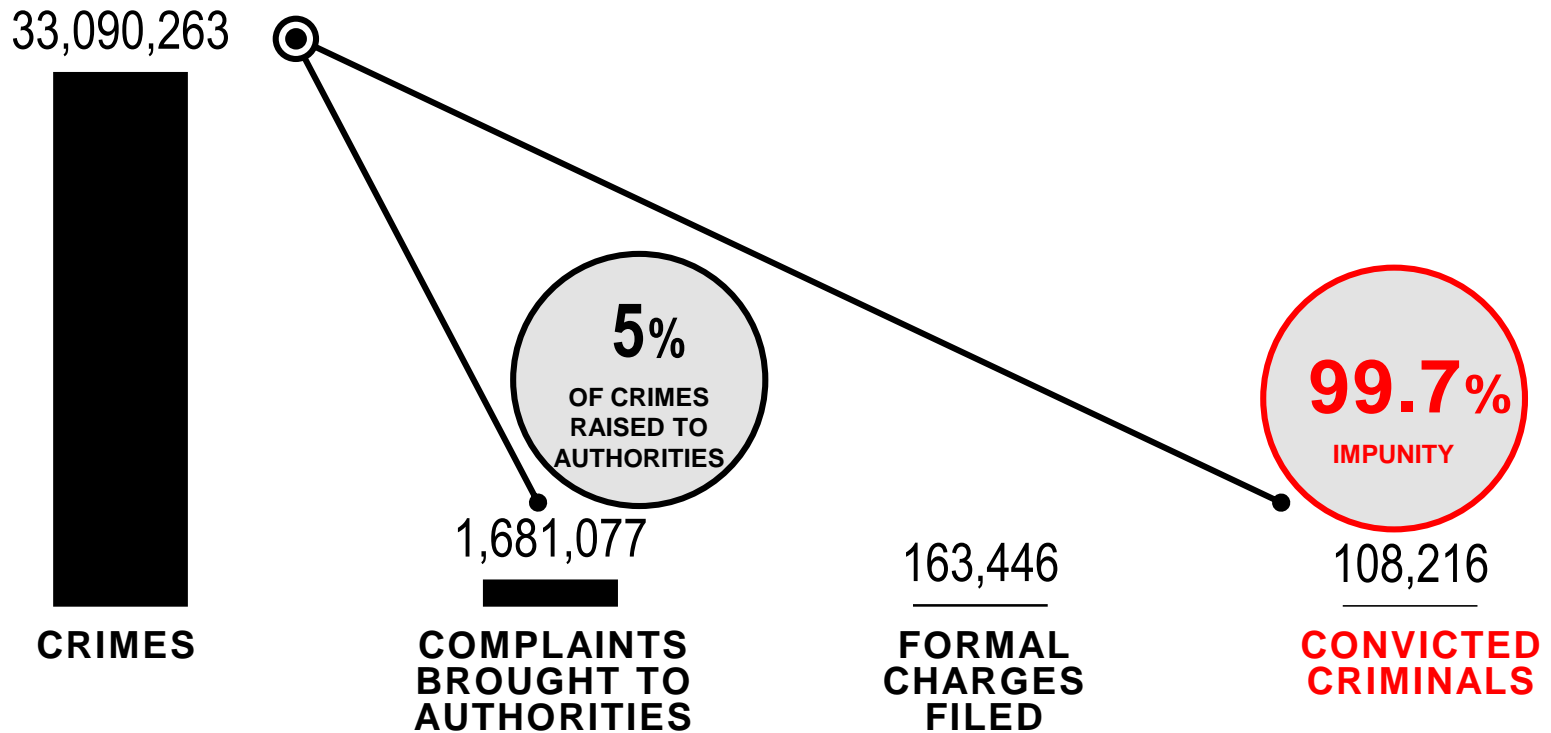
Advantage

Argue it is imposible to have a successful business without political connections.

THE “IT IS BUSINESS AS USUAL” EXCUSE

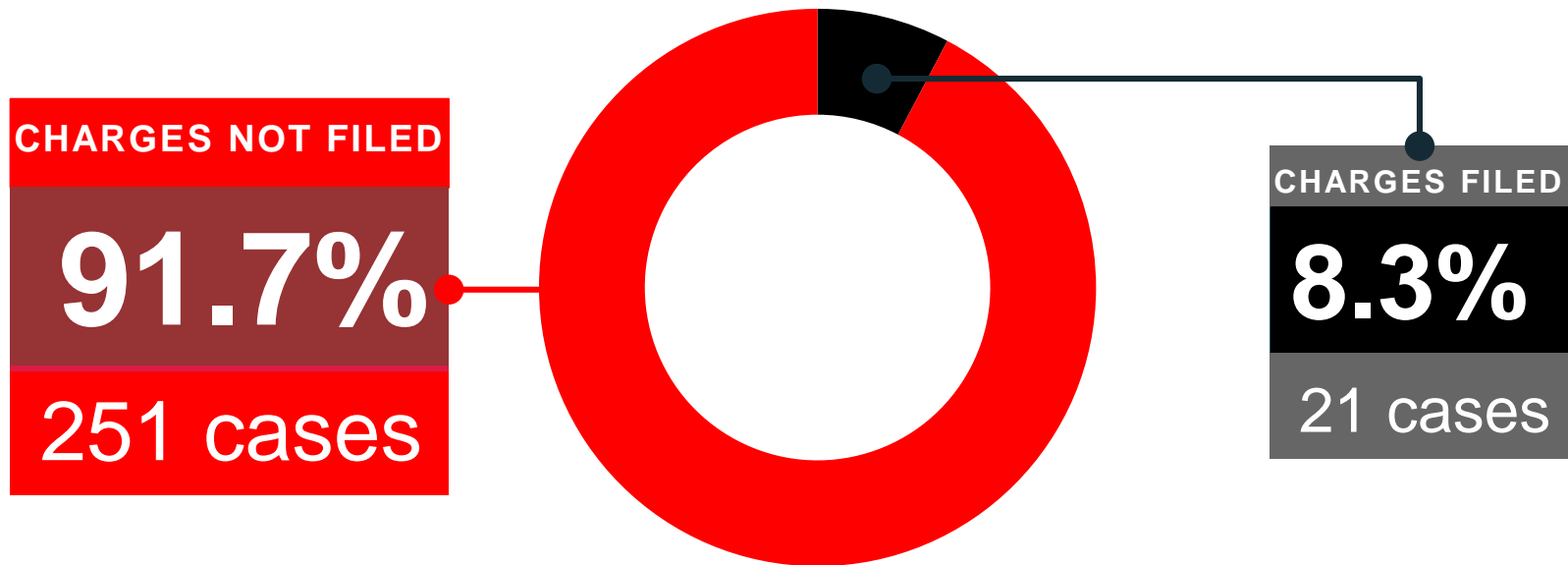


THE “NOTHING WILL HAPPEN” EXCUSE



“NOTHING WILL HAPPEN” IS INDEED AN EXCUSE

In the last 16 years, Mexican press has reported 272 cases of corruption by Mexican governors

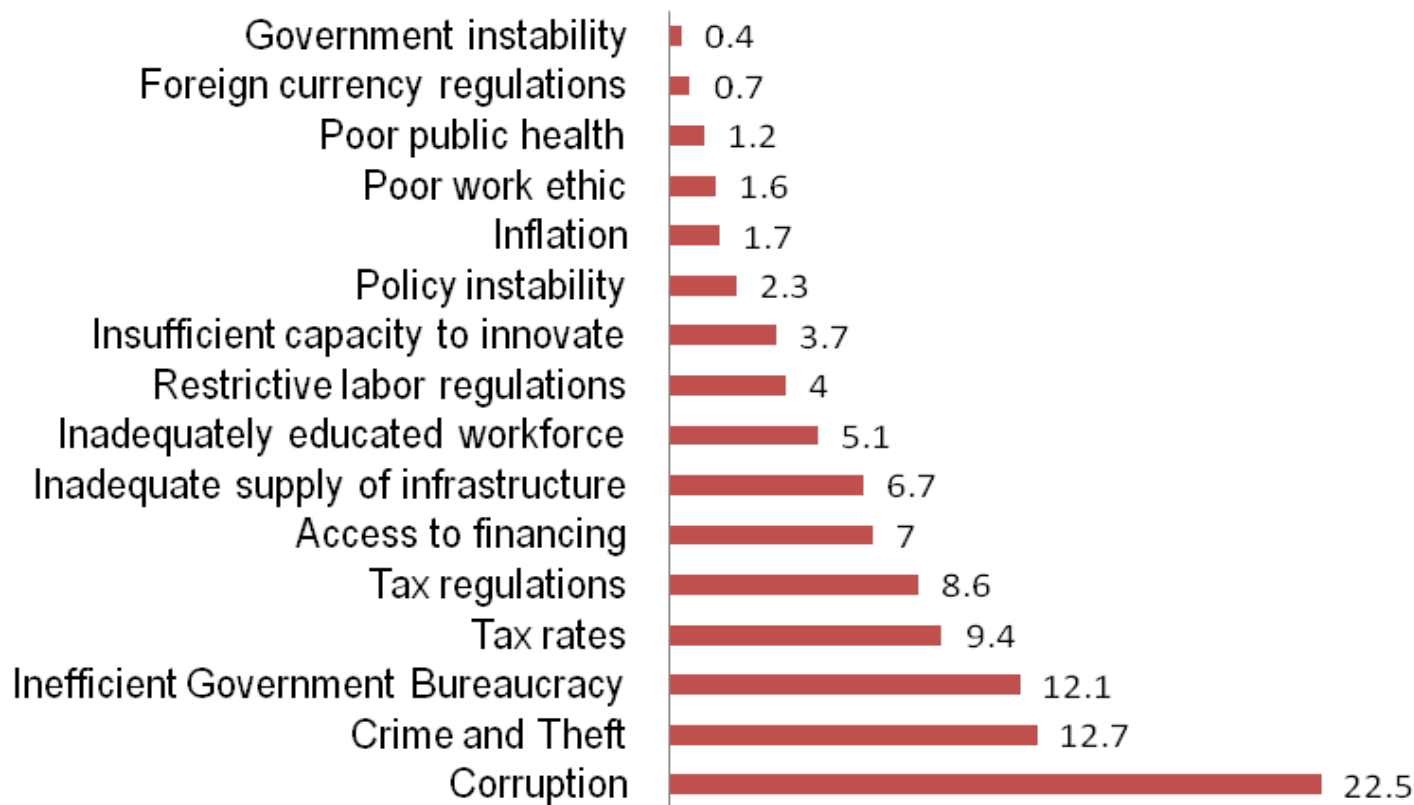


Fuente: Montes, Pesos sin contrapesos: corrupción y gobiernos locales, Índice de Competitividad Internacional 2015 (IMCO)

3.

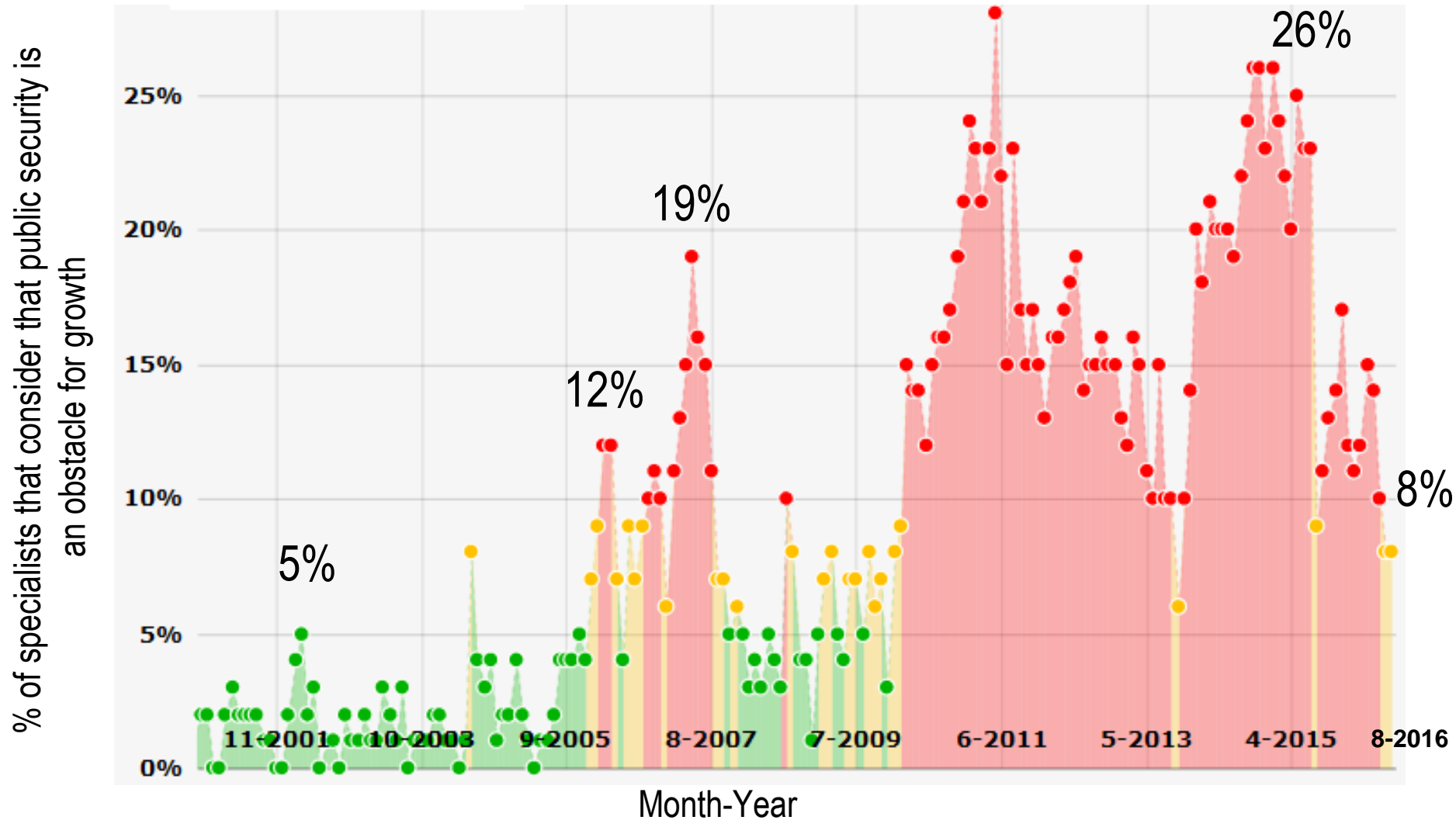
The Costs of Violence and
Corruption

Most problematic factors for doing business



Note: From the list of factors, respondents to the WEF's Executive Opinions Survey were asked to select the five more problematic factors for doing business in their country and to rank them between 1 (most problematic) and 5. The score corresponds to the responses weighted according to their rankings. Source: The Global Competitiveness Report 2016-2017 (WEF)

Public security as an obstacle for growth



Empirical specifications

Independent Variable Regression

$$D_{ij} = \beta_0 + \sum_1^k \beta_k \ln(\widehat{V}_{ijk}) + \sum_1^l \beta_l C_{ijl} + \dots + e_{ij}$$
$$\ln(\widehat{V}_{ijk}) = \alpha_0 + \sum_1^k \alpha_k I_{ijk} + \sum_1^l \alpha_l K_{ijl} + \dots + u_{ij}$$

Following related literature, we instrument with the log of lagged homicides. Robustness tests were conducted having a dummy for drug-producing states as instrument.

Results

Table 5: Instrumental Variables, Several Dependent Variables, Homicidios

	<i>Dependent variable:</i>					
	Concentration A	Concentration B	Diversity A	Diversity B	Complexity A	Complexity B
	(1)	(2)	(3)	(4)	(5)	(6)
Homicide Rate	605.835*** (11.927)	240.560*** (12.844)	-0.914*** (0.017)	-0.549*** (0.018)	-0.242*** (0.007)	-0.220*** (0.007)
Added Value	-11.567*** (2.268)	-5.301** (2.443)	0.001 (0.003)	0.005 (0.003)	0.002* (0.001)	0.0001 (0.001)
Worked Hours	3.638 (7.561)	-12.115 (8.142)	-0.067*** (0.011)	-0.029** (0.011)	0.006 (0.004)	-0.0003 (0.004)
Employment	-89.326*** (8.978)	-47.959*** (9.668)	0.302*** (0.013)	0.196*** (0.013)	0.031*** (0.005)	0.043*** (0.005)
Border Distance	-0.336*** (0.048)	-0.107** (0.052)	0.001*** (0.0001)	0.001*** (0.0001)	-0.0004*** (0.00003)	-0.00004 (0.00003)
Constant	2,727.058*** (82.162)	3,482.636*** (88.479)	6.118*** (0.117)	5.899*** (0.123)	1.317*** (0.046)	0.941*** (0.049)
Observations	109,641	109,641	109,641	109,641	109,641	109,641

Note:

*p<0.1; **p<0.05; ***p<0.01

2SLS specification, fixed effects by state, year and sector. Dependent variable is the rate of homicides logged. Instrument is average homicide rate during the nineties (logged). Dependent variable is (1) herfindahl-hirschman index (HH) of added value, (2) HH of total gross production, (3) diversity as calculated by Haussam & Hidalgo (2014) using added value, (4) diversity using gross production, (5) complexity as calculated by Haussam & Hidalgo (2014) using added value, and (6) complexity using gross production). An increase of 9.3% in the rates of homicides reduces concentration by 57.7, diversity by 0.87 and complexity by 0.23.

Results

Table 6: Instrumental Variables, Several Dependent Variables, Cartels

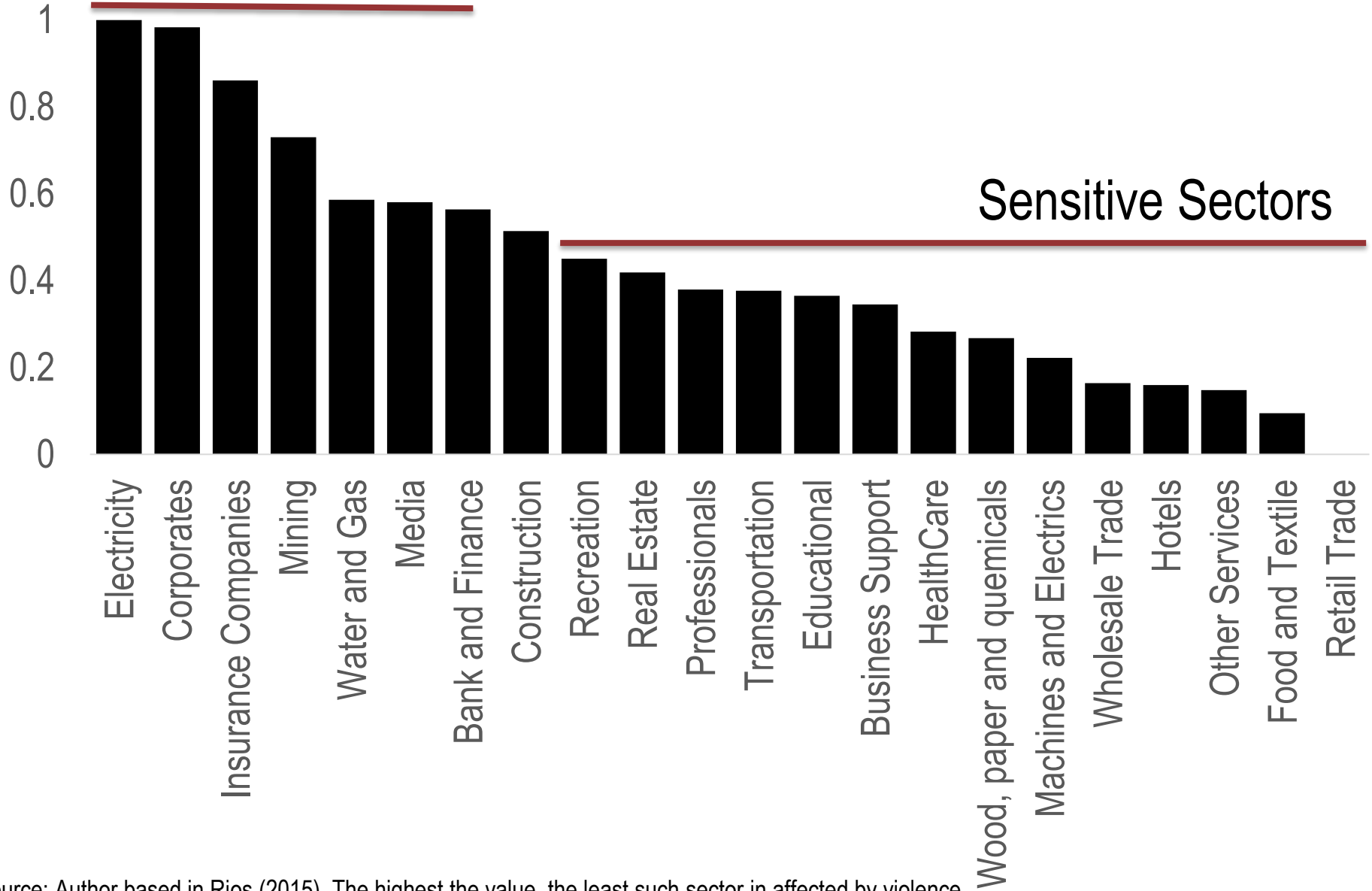
	<i>Dependent variable:</i>					
	Concentration A	Concentration B	Diversity A	Diversity B	Complexity A	Complexity B
	(1)	(2)	(3)	(4)	(5)	(6)
Criminal Org	8,551.101*** (652.076)	4,366.805*** (338.406)	-10.707*** (0.770)	-7.883*** (0.586)	-1.876*** (0.151)	-1.646*** (0.140)
Added Value	76.372*** (11.785)	37.542*** (6.406)	-0.104*** (0.015)	-0.071*** (0.011)	-0.017*** (0.003)	-0.017*** (0.003)
Worked Hours	-373.105*** (38.814)	-224.217*** (21.445)	0.469*** (0.049)	0.375*** (0.037)	0.113*** (0.010)	0.099*** (0.009)
Employment	-1,264.921*** (100.398)	-627.952*** (53.009)	1.769*** (0.121)	1.254*** (0.092)	0.285*** (0.024)	0.266*** (0.022)
Border Distance		0.649*** (0.120)	-0.001*** (0.0003)	-0.001*** (0.0002)	-0.001*** (0.0001)	-0.0004*** (0.00005)
Constant	4,931.417*** (308.487)	3,964.683*** (181.283)	4.222*** (0.412)	4.791*** (0.314)	0.691*** (0.081)	0.428*** (0.075)
Observations	145,820	145,820	145,820	145,820	145,820	145,820

Note:

*p<0.1; **p<0.05; ***p<0.01

2SLS specification, fixed effects by state, year and sector. Dependent variable is number of criminal organizations operating in a municipality. Instrument is average homicide rate during the nineties (logged). Dependent variable is (1) herfindahl-hirschman index (HH) of added value, (2) HH of total gross production, (3) diversity as calculated by Haussam & Hidalgo (2014) using added value, (4) diversity using gross production, (5) complexity as calculated by Haussam & Hidalgo (2014) using added value, and (6) complexity using gross production).

Resilient sectors



Source: Author based in Rios (2015). The highest the value, the least such sector is affected by violence

What we learned?

In addition to the impacts that crime has for the demand/supply of production factors, crime affects the composition of the economy. It reduced the number of sectors that remain on business, the diversity of subnational economies, and its complexity.

How much crime does it takes to make a sector disappear?

- ▷ 22.5% increase in homicide rates
- ▷ 9.8% increase in the number of operating criminal organizations.

Impact is larger if

- ▷ Homicides are caused by organized crime, rather than regular crime.
- ▷ Homicides affect rural areas.

The economic costs of corruption

- **5% less investment** (FMI)
- **Capital is 2% less productive** per each point decrease in Corruption Index (IMCO)
- **5% less annual sales** (Ernst & Young)
- **480,000 less jobs** per year (CEESP)
- **9.7% less informal labor sector jobs** per each point decrease in Corruption Index (Saracho-ICRG 2015)

THE ECONOMIC COSTS OF CORRUPTION

Estimated GDP losses: 2-10%

GDP 2015 = \$18,136 billion pesos*

5% of GDP = \$907 billion pesos

= 5X the benefits of fiscal reform
= 2.5X the expected benefits of the energy reform
= 7X the Federal Budget cut**

*Original serie, GDP at current prices (4Q-2015). If \$17.81 MXN = \$1 USD, Mexico's GDP is \$1,018 billion USD.

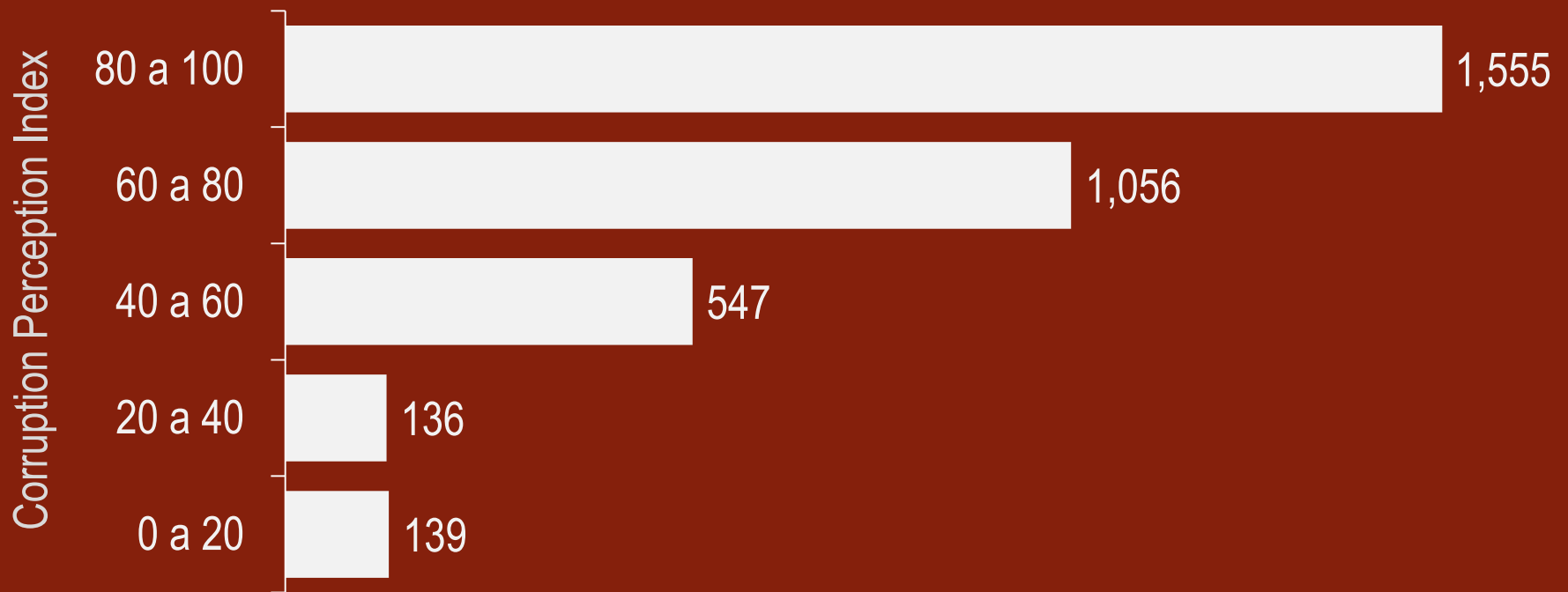
**Federal Budget cuts announced in 2016 were equivalent to 132 billion pesos (SHCP 2015, Press Release).

Source: Banco de Información Económica, INEGI (2015), World Bank & SHCP; slide designed by IMCO.

INFORMALITY AND CORRUPTION REDUCE INNOVATION

Corruption favors big, well-connected firms

Patents per one million economically active individuals



4.

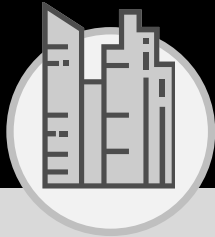
Actionable Measures

Actionable Measures

1. Communicate Strategically

CREATE WELL-ENDOWED INSTITUTIONS

- HONG KONG -



Independent Commission Against Corruption (ICAC)

- SINGAPORE -



Corrupt Practices Investigation Bureau (CPIB)

- MEXICO -



Unidad Especializada en Investigación de Delitos Cometidos por Servidores Públicos y contra Administración de Justicia (PGR)



1,415 employees

88 employees

12 employees



2,006 million MXD

\$406 million MXD

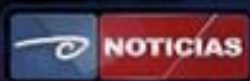
\$26 million MXD



\$120 MXD

\$60 MXD

\$0.05 MXD

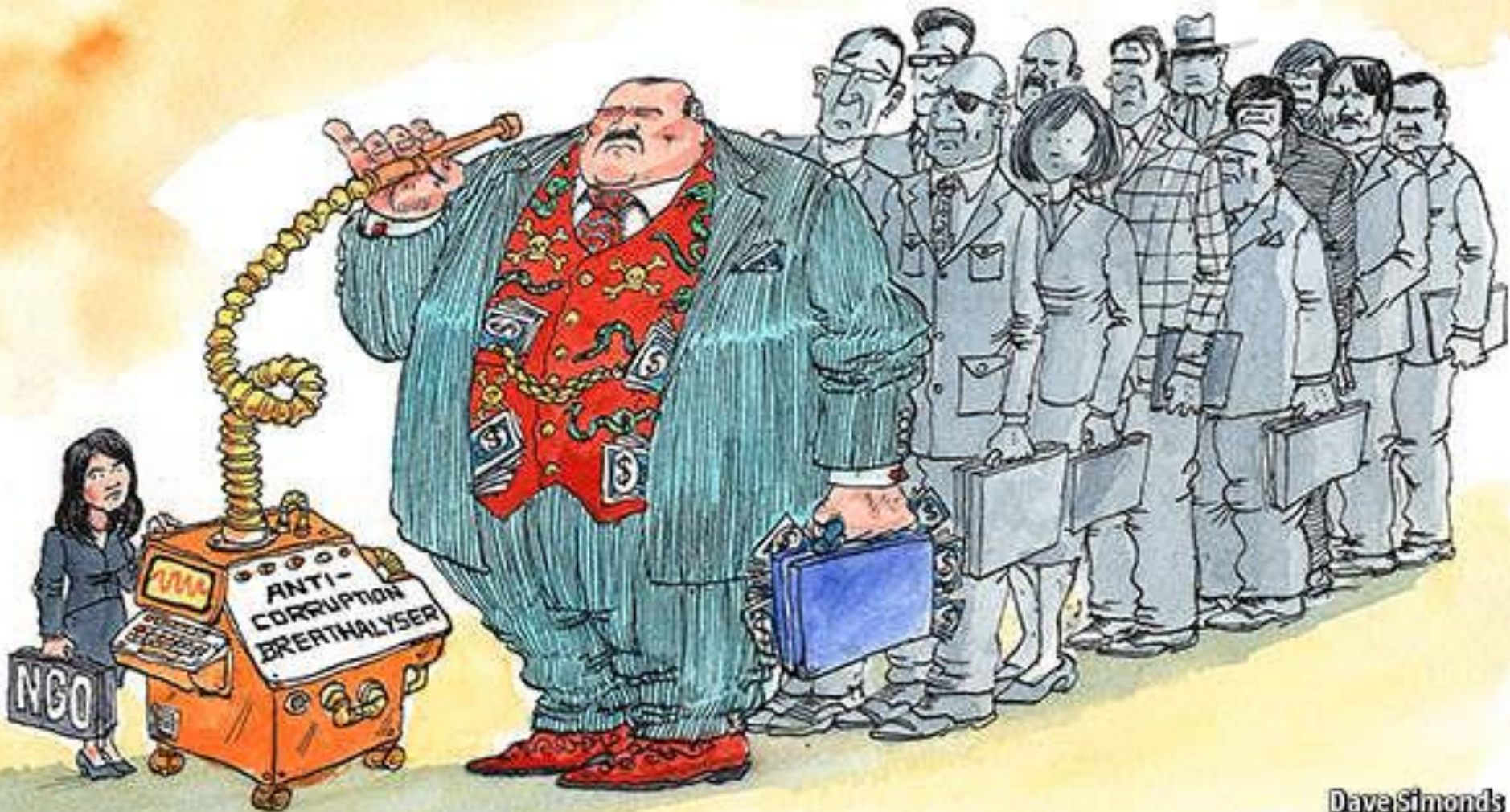


Sociedad civil presenta El Anticorrupómetro
Darán seguimiento a implementación en congresos locales
Ciudad de México

Actionable Measures

- 1. Communicate Strategically**
- 2. Establish Legal Frameworks**

Civil society took over



Dave Simonds

#Ley3de3 is Mexico's civil society war against corruption

TRES

DE-

TRES

10 types of corruption, following United Nations best practices

Protections for whistle blowers and incentives for confessors

Coordinates 96 official authorities that currently exist to fight corruption in Mexico.

Officials must declare assets and conflicts of interest, and make tax records public.

Actionable Measures

- 1. Communicate Strategically**
- 2. Establish Legal Framework**
- 3. Create Institutions**





Thanks!
Questions?

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