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AN ABUSIVE PRIVATISATION? THE IMPACT OF PRIVATISING THE
MEXICAN FEDERAL PENITENTIARY SYSTEM ON THE PROBABILITY THAT
INMATES EXPERIENCE TORTURE ON PRISON

TESINA

QUE PARA OBTENER EL GRADO DE
MAESTRO EN MÉTODOS PARA EL ANÁLISIS EN POLÍTICAS PÚBLICAS

PRESENTA

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Resumen

México adoptó en 2008 una política de privatización parcial del sistema penitenciario federal. A pesar de que la mayor parte de las prisiones del fuero federal tienen una administración conjunta entre autoridades y empresas, la literatura sobre los efectos de este modelo de administración en la vida de las personas privadas de la libertad es limitada. Este artículo analiza el impacto que tienen las prisiones privatizadas en la probabilidad de que las personas privadas de la libertad experimenten tortura durante su tiempo en prisión. Para conocer el efecto causal, utilizo variables instrumentales mediante un modelo probit bivariado recursivo con una base de datos de personas privadas de la libertad del INEGI para el año 2021. Los resultados sugieren que estar en una prisión privatizada incrementa la probabilidad de que las personas privadas de la libertad experimenten tortura durante su estancia en prisión.

Abstract

Mexico adopted in 2011 a partial privatisation policy of the federal penitentiary system. Despite most federal prisons are jointly administrated by public officers and private entities, research on the effects of this administration model on the life of persons deprived of liberty is limited. This article analyses the impact of privatised prisons on the probability that persons deprived of liberty experience torture during their time in prison. To estimate the causal effect, I use instrumental variables through a bivariate recursive probit model, with a survey of persons deprived of liberty gathered by INEGI in 2021. Results suggest that being in a privatised prison increases the probability for persons deprived of liberty to experience torture during their time in prison.

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Introduction

On the early months of 2021, Mexican president Andrés Manuel López Obrador said in his daily news conference that the contracts for privatised prisons in Mexico were bad for the public finances of the country (Gobierno de México, 2021, 55m22s; Lopez, 2021, 35m02s) and suggested that some form of corruption may have been involved when the contracts were granted (Gobierno de México, 2021, 56m40s). Public Security Minister Rosa Icela Rodriguez Vazquez stated that daily per capita expenditure on prisoners located in privatised prisons was as high as expending on a room for a five-star hotel in the country (Lopez, 2021, 23m43s). However, the federal government also closed some of the federal public prisons for austerity reasons and relocated its inmates among the remaining facilities, which redistributed 1522 out of 1529 prisoners from public to privatised prisons (ASF, 2020a). Among this contradictory decisions, one question arises: Are prisoners sent to privatised prisons experiencing an improvement in their quality of life, or are they being tortured within prison walls?

Torture remains a public problem in Mexico. Even after the dissolution of the post-revolutionary authoritarian regime that ruled the country for over 80 years, torture was used as a usual police investigation technique, and it was normalised to a degree that in 2005, inmate Israel Vallarta was subjected to a televised interrogation with physical maltreatment in one of the major news channels of the country. In the scientific literature, torture committed by police and the military in Mexico has been a topic of academic interest, while torture in prison remains relatively understudied. One specific topic that remains unexplored in the literature is the link between privatised prisons in Mexico and torture. Although the privatisation of the penitentiary system was promoted by government officials as a solution to avoid human rights violations, overcrowding and other problems observed in public prisons, NGOs' analysis suggest that privatised prisons may fare worse than public prisons regarding torture committed against inmates (Documenta, 2016) and may have higher operational costs than public prisons (Gomez, 2021).

In this paper, I am interested in analysing the prevalence of torture in the Mexican federal penitentiary system and whether being in a privatised prison increases the probability of being a victim of torture. To do so, I use the *Encuesta Nacional de Personas Privadas de la Libertad* 2021 database and estimate a recursive bivariate probit model with instrumental variables to

control for endogeneity problems caused because the decision of sending inmates to privatised prisons is not random. Then, I can causally infer whether inmates sent to a privatised prison have a greater probability of maltreatment compared to those who were sent to a public prison. My main hypothesis is that privatised prisons' characteristics create incentives for staff to torture prisoners, and so torture are more likely to occur there than in public prisons.

Results show that being in a privatised prison increases the probability of torture against inmates. Results also suggest that, consistently with the literature, some individuals' characteristics increase the probability of being tortured while they are in prison. Decisionmakers should review the existing mechanisms to prevent torture in prison, so they could pay special attention to privatised prisons and develop torture-prevention programs that minimize those risk factors associated with torture.

The paper's main contributions are the following: To my knowledge, this is the first academic paper where the research question is empirically addressed, so I will be analysing a new topic of interest which has relevant policy implications for Mexico. Current evidence suggest that privatised prisons operate at higher costs than public prisons but offer no improvement to the wellbeing of inmates. The causal analysis of the link between privatised prisons and torture in this paper will offer evidence to relevant stakeholders to better evaluate this policy. Second, to my knowledge, this is also the first paper that evaluates privatised prisons in México with an empirical strategy. Future research on privatised prisons in Mexico could use the empirical strategy presented in the paper to address other relevant research questions related to satisfaction with services provided in prison, women rights in privatised prisons, usefulness of reintegration programs from privatised prisons and other topics that are beyond the scope of this paper.

The rest of the paper is structured as follows: Section 1 presents a review of the literature on torture in Mexico and provides context regarding the decision to create privatised prisons in the Mexican penitentiary system. This section also discusses the causal mechanism that justifies the hypothesis. Section 2 introduces the data and the empirical strategy proposed for the article. Section 3 shows the results of the econometric models and section 4 discusses the results of the evaluation, limitations of the study and policy recommendations.

Literature review

Torture in prisons

One conceptualization of the State's main objective is to guarantee the safety of its citizens. However, it is also true that State's bureaucrats and institutions may use violence and torture against citizens as a tool for political persecution, intelligence gathering, procurement of confession statements or just as a punishment against criminals and political enemies (Kelman, 2005, Magaloni, Magaloni and Razu, 2018, Magaloni and Rodriguez, 2020, Trammell et al, 2018). The Convention against Torture and Other Cruel, Inhuman or Degrading Treatment or Punishment (1984) defines torture as follows:

Any act by which severe pain or suffering, whether physical or mental, is intentionally inflicted on a person for such purposes as obtaining from him or a third person information or a confession, punishing him for an act he or a third person has committed or is suspected of having committed, or intimidating or coercing him or a third person, or for any reason based on discrimination of any kind, when such pain or suffering is inflicted by or at the instigation of or with the consent or acquiescence of a public official or other person acting in an official capacity. It does not include pain or suffering arising only from, inherent in or incidental to lawful sanctions.¹

One of the places where torture is likely to occur is in the penitentiary system. Generally, prisons are spaces with characteristics that may facilitate the occurrence of torture, like their weak accountability standards and their concentration of "dangerous" people (Perez et al, 2010, Trajtenberg and Sanchez de Ribera, 2019, Wolff, Shi, and Siegel, 2009). Given that prisons are places where the State holds convicted individuals and people suspected of committing crimes, it is logical to think that torture is instrumentalized as a form of punishment, as a complementary tool for judicial processes, or as a prisoner control tactic. Torture can be also implemented by the prison staff as a mechanism to obtain information from inmates or as an extra-legal

¹ Although this definition of torture excludes actions from Non-State Actors, such as criminal organisations, terrorist groups or others, I believe that it is best suited to contextualise this paper, because the torture in prisons -both in public and privatised facilities- can be considered as a responsibility of the State.

disciplinary measure (Ocampo Alvarado, Gonzalez Cavalli and Doncel de la Colina, 2020, Trammell, 2009).

Torture in prisons is problematic because it imposes costs on the inmates and onto society. Prisoners that are tortured have more problems adjusting to prison life than prisoners who are not (Perez et al, 2010), and have more difficulties with their social reinsertion processes (Byrne and Humme, 2007, Perez et al, 2010, Trajtenberg and Sanchez de Ribera, 2019). Also, prisoners who are tortured carry consequences of their trauma back to their communities, causing a vicious cycle of perpetuation of violence and crime that affects society (Byrne and Humme, 2007). Furthermore, torture is problematic given that it means suffering for human beings, which should be treated with respect no matter the political views hold by wards or society.

The literature on torture against prisoners can be broadly summarised into two main categories: (i) spontaneous torture and (ii) institutionalised torture. On the one hand, spontaneous torture is an opportunistic event that often arises when prison staff tries to enforce its authority over prisoners by violent extra-legal means (Perez et al, 2010, Trammell et al, 2018, Wolff, Shi, and Siegel, 2009). Although being spontaneous, this type of torture may also be part of institutions where violence is usually tolerated or even expected (Huggins, 2011, Jefferson, 2022) and is conducted mainly against vulnerable prisoners (Perez et al, 2010, Wolff, Shi and Siegel, 2009). Institutionalised torture, on the other hand, is a systematic practice that requires expertise, institutional rationalisation of the act and some degree of official endorsement to happen (Huggins, 2011, Kelman, 2005).

Institutionalised torture in prisons may represent the ultimate failure of the State on penitentiary systems because the State foregoes its obligations with the wellbeing of the prisoners as it becomes their tormentor. We observed this type of torture when the State's officials formulate a *raison d'état* that justifies the exercise of violence against groups that are usually defined as dangerous to the State, its officials or society (Kelman, 2005); there is a social context that dehumanises the victims and facilitate the routinisation of torture (Kelman, 2005), and there is some degree of impunity provided by representatives of the State for those that impose, facilitate, or observe torture which guarantees that perpetrators do not face consequences for implementing torture as an institutional policy (Huggins, 2011).

Research on torture in the Mexican justice system shows that both spontaneous and institutionalised torture is widely observed in the investigation phase, where it is used as an investigation technique, a crime deterrent, a punishment mechanism, or a combination of all the above (Magaloni, Magaloni, & Razu, 2018, Magaloni, 2020). Mexico may have the conditions that facilitates the institutionalisation of torture in prison settings, such as a social context that signals acceptance of extra-legal punishments against certain types of crimes (Silva Forné, Padrón Innamorato y Pinta Sierra, 2021); a political discourse of war against organised crime, and a history of judicial impunity which facilitates the torture of detainees (Magaloni, 2020). These characteristics may be facilitators for the institutionalisation of torture in Mexican prisons because prison staff know that torture is socially accepted, and that some individuals belong to a special category of “dangerous others”, so they may assume that exercising torture against such individuals aligns with the objectives of the state, therefore concluding that they may face no consequences for torturing inmates.

To my knowledge, most of the literature that studies torture in the Mexican justice system focuses on the investigation phase of the judicial process (Anaya, 2014, Guy & Chomczyński, 2023, Magaloni, Magaloni, & Razu, 2018, Magaloni, 2020, Rios, 2013, Silva Forné, 2014), while torture against imprisoned population is understudied. The articles that focus on torture against imprisoned population use research designs that does not allow to generalise their findings, which has left us with little understanding of the dynamics of torture inside Mexican prisons. On the following paragraphs, I present a summary of the papers who focused on torture committed against imprisoned population.

Ramirez (2021) summarises the history of the Mexican prison law, in which he recognises that there have been efforts to codify legal protections against torture in prison settings such as the creation of a Commission to Attend Victims of Torture (CEAV), the formulation of a protocol to investigate cases of torture, and a protocol to attend injuries and deaths of inmates. However, the execution of these reforms is questioned because of the lack of political will to implement recommendations from the Mexico’s Human Rights Commission (CNDH) related to torture in prison and to prosecute torture cases. The author argues that, although the CEAV has attended victims of torture, there are no records of compensatory payments to the victims and the case files related to torture have not been solved. Given that the

article only analyses cases of torture that have been taken by the CNDH, the conclusions may not be generalisable to phenomenon of torture against incarcerated population given the bias in the sample.

Torture in prisons have been also explored by analysing the relationship between informal regulations and prisoners' experiences with violence. Palacios Parménes (2019) argues that Mexican prisons can be classified according to levels of self-governance in the facility. Prisons where inmates or staff can establish rules of conduct and governance that supersedes what is defined in the legal framework can be classified as prisons with prevalence of informal regulations. The degree of informal regulations in the prisons deteriorates legal safeguards for the inmate population and, consequently, incentivises torture against prisoners. However, the use of a small sample of cases to draw this study's conclusions, limits its external validity and the generalization of its findings. Moreover, its empirical model does not include other variables, such as the institutional characteristics of prisons, that may be also relevant to explain torture against the imprisoned population.

On the line of violence and prisons, Ocampo Alvarado, Gonzalez Cavalli and Doncel de la Colina (2015) studied the dynamics of prison violence and found that authorities use excessive force against all prisoners to punish collective undesirable behaviour, such as riots. They also found that imprisoned population in Mexico perceive prisons as violent places, where violent behaviours both exercised by staff and other inmates are part of the process of social stratification within prison walls. Nonetheless, they acknowledge that their small sample design does not allow generalisations, and their study does not directly address the dynamics of torture in prison.

Privatisation of the Mexican penitentiary system

The Mexican penitentiary system is composed by prisons administrated by local governments and prisons administrated by the federal government. Inmates from the local jurisdiction are sent to local prisons,² while inmates of the federal jurisdiction, as well as those

² Local jurisdiction crimes include felonies that affect the wellbeing or propriety of other people, like theft, homicides, manslaughter, sexual offenses, etc.

deemed relevant by the General Prosecutor Office are usually sent to federal prisons.³ While local prisons are all public, federal prisons could be either administrated solely by the federal government or by a public-private partnership, which means that prisons can be partially administrated by private actors.

Mexican privatised prisons were proposed in 2008 as a solution to the lack of public funding dedicated to build prisons in Mexico and to solve the overcrowding problems in the existent facilities (SSP, 2008). Between 2010 and 2011, the Mexican government agreed with private enterprises on the construction and operation of eight federal prisons (Documenta, 2016). These prisons were designed and built by private corporations (ASF, 2017) with maximum security specifications (SSP, 2012), on a “Build – Operate – Transfer model” of public-private partnership (ASF, 2017, Documenta, 2016, Espejel, 2015). The “Build- Operate- Transfer Model” means that private enterprises are responsible of the construction of the prison facility and the partial operation of the facility for 22 years (ASF, 2020a). At the end of this period, the ownership and complete operation of the facility is transferred to the State. Recently, these prisons have been subjected to controversy after the Mexican president Lopez Obrador accused them of being more expensive than the public facilities and suggesting corruption practices on the allocation of contracts (Gobierno de México, 2021, 56m40s).

The participation of private enterprises in the operation of the prison is defined under a long-term contract for the provision of comprehensive services (CPS in Spanish), that determines areas of responsibility for public officials and private actors. According to the Mexican Auditor’s Office (ASF, 2020a), the public sector provides security personnel for the prison; the administration and operation of the prison is coordinated by private and public actors; while services like security and communications systems, food, water, electricity and maintenance of the facilities and the technological systems are provided by the private entities. Although the security of the prison is defined legally as a responsibility of the State, the provision and maintenance of auxiliary security services such as communications, cameras, and archway metal detectors is undertaken by private entities (ASF, 2020a, ASF, 2020b) means that private actors share some of the prison’s security responsibilities with public officials.

³ Federal jurisdiction crimes include felonies such as organised crime, kidnapping, human trafficking, torture, drug trafficking, crimes against journalists, crimes committed by public servants, among others.

Privatised prisons face problems that may affect the administration of the facilities and, consequently, the life quality of inmates. First, the Office for Prevention and Social Rehabilitation (PRS in Spanish), which is the public entity who oversees the contracts with private actors, did not take actions on its own to guarantee that infrastructure and auxiliary services' maintenance was provided as specified on the contracts during the audited year of the report (ASF, 2020b, pp. 12). Furthermore, audits over the CPS's financial administration showed that the private enterprises subcontracted some of their obligations to third parties, which were either not authorised by the PRS or did not fulfil the legal requirements to provide services to prison facilities (ASF, 2020b, pp. 8), which shows a faulty oversight from the regulatory body. Also, the CNDH report of Mexican prisons (2021) show that privatised prisons mechanisms to resolve prisoners' complaints related to human's rights violations are on average worse than the public prisons' mechanisms and have less staff personnel than their public counterparts. Lastly, the Mexican Auditor Office's audit over the prison system in 2020 concluded that, on average, privatised federal prison overall score evaluation was slightly worse than the average evaluation score for public prison, even though the evaluation concluded satisfactorily for both modalities (ASF, 2020a, pp. 74).

Some of the characteristics of privatised prisons in Mexico could incentivise torture against inmates. For instance, the private contractors who built the privatised facilities designed them with maximum security features and away from population centres, which are institutional characteristics that literature associates with the prevalence of violence against inmates (Perez et al, 2010). Furthermore, privatised prisons' security and communications systems are provided by private actors, which could be deficient, given the lack of oversight from the PRS, and may facilitate torture against inmates since these incidents are not easily reported or recorded. As Azaola and Perez (2017, pp. 69) found, the security personnel in privatised centres is aware that the systems in the prison facilities is prone to failures and there are anomalies on their operation, a condition that may be exploited by penitentiary staff to torture inmates with impunity.

Moreover, the joint administration and operation of the prison may create spaces where responsibilities are not clearly defined, therefore granting unsupervised locations within the prison to the staff, in which they may engage in violent behaviour against inmates. Finally, the problems on the mechanisms to denounce torture in privatised prisons, compared with public

prisons, may create a situation where the staff does not face consequences for engaging in violent behaviour given that proper channels to report torture are inadequate.

Given that privatised prisons in Mexico appear to have characteristics that may incentivise torture against inmates, my theoretical approach proposes that being in a privatised prisons should increase the probability of being tortured. I test the following hypothesis:

H1: Being in a privatised prison increase the probability of being subjected to torture.

Methodology

Data

The data for this paper comes from the National Survey of Persons Deprived of Liberty⁴ (ENPOL 2021) which is a national survey of inmates in the Mexican penitentiary system. I use two of the questionnaires in the survey that include information related to life in prison to construct my outcome variables, which are torture, ill treatment, brutality, and threats, and the questionnaires about life before prison and experiences while imprisoned to construct my control variables.⁵ Given that privatised prisons are only present at the federal level, I drop all individuals on local jurisdiction prisons, to make the comparison only between people located in federal prisons.

Because torture is a dynamic that can be either spontaneous or institutionalised, I decided to operationalise the concept of torture under four categories of violent behaviours that capture different dimension of torture against inmates. The four categories, which work as outcome variables for the empirical models, are institutional torture, ill treatment, spontaneous torture, and threats. Conceptually, institutionalised torture captures violent actions from prison staff against inmates that require expertise to harm inmates without killing them; ill treatment captures non-physical violence that requires institutional endorsement and is designed to generate suffer on inmates; spontaneous torture captures incidents of violence that does not require expertise to harm inmates, and threats captures coercion dynamics as a form of psychological torture.

To code the variable institutional torture, I follow Magaloni's (2020) operationalisation, creating a dummy variable equal to one if the inmate answers affirmatively to being beaten with an object, being stabbed, electrocuted, suffocated, asphyxiated, or burned by the penitentiary staff and zero otherwise. Ill treatment is operationalized with a dummy variable is equal to one if the inmate answers affirmatively to being in isolation for more than 15 days, being isolated in a cell that is either in complete darkness or permanently illuminated, being subject to reduction of food and water, or being subjected to sleep deprivation, and zero otherwise. Following

⁴ In Spanish: *Encuesta Nacional de Personas Privadas de la Libertad*.

⁵ The databases used are public and stored in <https://www.inegi.org.mx/programas/enpol/2021/#microdatos>

Magaloni (2020), brute force torture is operationalized with a dummy variable equal to one if the inmate was pushed, beat with fists, kicked by prison staff and zero otherwise. Finally, the variable threats is a dummy variable equal to one if the individual was threatened for money or was threatened to do or stop doing some action and zero otherwise. Table 1 summarizes the activities included in each of the categories of abuses previously defined and show the frequency and percentage of prisoners who experienced each type of abuse.

Table 1

Abuses reported by inmates

Type of abuse	Prevalence (frequency)	Prevalence (percentage)	Description
Threats	1337	8.13	Inmate was threatened for money or verbally coerced to stop doing something by prison staff.
Spontaneous torture	1152	7.01	Inmate was pushed, beaten with fists, or kicked by prison staff.
Ill treatment	4738	28.81	Inmate was subjected to sleep deprivation, reduction of food and water, isolation for more than 15 days, or held isolated on a cell with permanent light or permanent darkness.
Institutional torture	788	4.79	Inmate was beat with an object, stabbed, electrocuted, suffocated, asphyxiated, or burned by prison staff.

Source: ENPOL 2021, INEGI.

Table 1 shows the prevalence of the dimensions of torture against federal inmates during their time in prison. The category identified as ill treatment is the most prevalent kind of torture reported by inmates. This could be because the violent behaviours identified in said category may be implemented by penitentiary staff as some sort of corrective measure which is not perceived as illegitimate because it does not leave physical marks. On the other hand, the categories of threats, spontaneous torture and institutional torture may be less prevalent because the prison staff may identify them as violent behaviours, such that they are not as prone to use it as they engage in ill treatment against inmates. Although the variable threats is also a form of

torture that does not leave physical marks on the bodies of inmates, it is possible that threats is not as prevalent as ill treatment because the variable threats captures a dynamic akin to extortion, as it is shown in the column description from table 1.

The treatment variable is a dummy variable equal to 0 when the inmates are in a public prison (defined as *CEFERESO* by Mexican authorities) and 1 when the inmates are in a privatised prison (defined as *CEFERESO CPS* by Mexican authorities).

Table 2

Occupation of facilities by public or privatised condition

Prison type	Inmates (frequency)	Inmates (percentage)
Public	6288	38.24%
Privatised	10156	61.76%

Source: ENPOL 2021, INEGI.

Table 2 shows the percentage of inmates according to the type of prison they are in. Data shows that most of the federal inmates are sent to privatised prisons, which is understandable given that privatised prisons were thought as a solution to the problem of prison overcrowding and that some public prisons were closed during the administration of President Lopez Obrador (Hubert, 2021).

Table 3 describes the variables that are included in the empirical model that are relevant to understand the dynamics of abuses in prison.

Table 3

Covariates of interest

Covariate	Description
Male	Coded 1 if the inmate is a male, 0 otherwise. ⁶

⁶ All female inmates of the federal jurisdiction are imprisoned into the privatised CEFERESO CPS 16 in Morelos, Mexico; while male inmates are imprisoned in both public and privatised federal prisons.

Detention time	Coded 1 if the inmate has been in prison for less than six months; coded 2 if the inmate has been in prison between six months and a year; coded 3 if the inmate has been in prison between a year and a year and six months; coded 4 if the inmate has been in prison between a year and six months and two years; and coded 5 if the inmate has been in prison for longer than two years.
Age	Variable that describes the age of the inmate.
Medical revisions	Coded 1 if the inmate reported periodical medical revisions, 0 otherwise.
Indigenous language speaker	Coded 1 if the inmate reported speaking an indigenous language, 0 otherwise.
LGBTQ+	Coded 1 if the inmate reported a different sexual orientation than heterosexual or a different gender identity than cisgender; coded 0 otherwise.
Disability	Coded 1 if the inmate reported that they have visual impairments, hearing impairments, motor impairments or other type of impairments; 0 otherwise.
Drug use	Coded 1 if the inmate reported consumption of illegal drugs in the last 12 months, 0 otherwise.
Police	Coded 1 if the inmate reported working as a police officer before being incarcerated, 0 otherwise.
Military	Coded 1 if the inmate reported serving in the military before being incarcerated, 0 otherwise.
Denies being guilty	Coded 1 if the inmate reported that they did not commit the crime for which they are accused, 0 otherwise.
Criminal activities as prior income	Coded 1 if the inmate reported that their earnings came from criminal activities before being incarcerated, 0 otherwise.
Recidivism	Coded 1 if the inmate reported being in prison before the current incarceration, 0 otherwise.
Calls from family and friend	Coded 1 if the inmate has permission to make phone calls with friends and family, 0 otherwise.

High impact crimes	Coded 1 if the inmate is charged with a crime defined as serious ⁷ by Mexican law, 0 otherwise.
Corruption experienced in prison	Coded 1 if the inmate reported having paid to access goods and services, such as the use of bathrooms and showers, access to clean water, access to electricity on the cell, access to beds, mattresses and sheets, access to food, medicine, use of visitor's facilities, access to court facilities, paid to be recorded on the roll call, use of intimate visitor's facilities, access to medical and psychological services, access to workshops, access to electronic and communication devices, change of cell, access to telephones or paid for protection; 0 otherwise.
Light brown skin	Coded 1 if the inmate identifies his skin tone in category D in the INEGI skin colour category, 0 otherwise.
Medium brown skin	Coded 1 if the inmate identifies his skin tone in category E in the INEGI skin colour category, 0 otherwise.
Brown skin	Coded 1 if the inmate identifies his skin tone in category F in the INEGI skin colour category, 0 otherwise.
Dark brown skin	Coded 1 if the inmate identifies his skin tone in categories G, H, I, J, K in the INEGI skin colour category, 0 otherwise.
Distance to the nearest privatised prison	Distance from the centroid of the state of residence of the inmate to the centroid of the state where the nearest privatised prison is located.

Source: Data from ENPOL 2021.

Empirical strategy

In my hypotheses, I claim that being in privatised prison in Mexico should increase the probability of being subjected to torture while imprisoned. However, I cannot directly estimate the effect of being in a privatised prison on the outcome variables because inmates are not assigned randomly to prison facilities. According to the Article 18 of the Mexican Constitution and the Article 49 of the Mexican National Law on Penal Procedures, inmates shall serve their sentence in the facility closer to their residence; however, this disposition does not apply to

⁷ Mexican Constitution defines the following crimes as serious: sexual abuse against minors, organised crime, homicide, femicide, rape, kidnapping, human trafficking, burglary, use of social programs with electoral means, corruption, transport robbery, crimes related to hydrocarbons, forced disappearance, violent crimes committed with weapons and explosives and crimes committed with weapons and explosives that belong exclusively to the armed forces.

inmates sentenced for organised crime and other inmates who require special security measures during their time in prison.

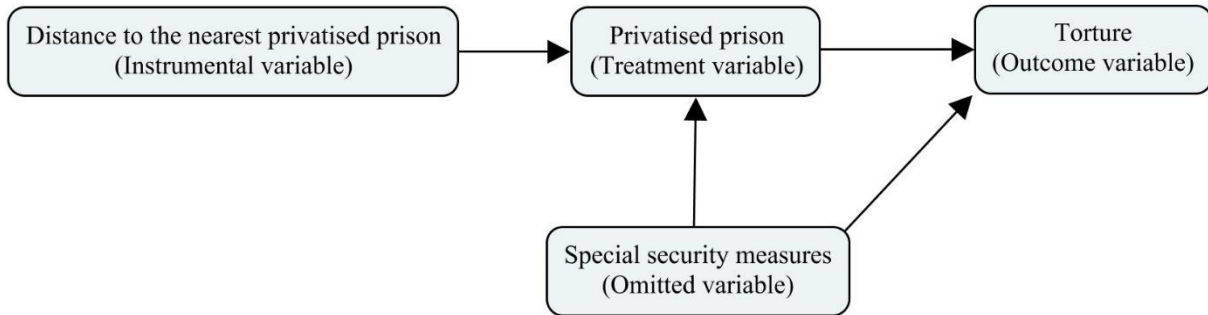
The characteristic named as special security measures is a non-recorded variable in the dataset that may cause endogeneity to the model. When inmates require special security measures, the authorities can decide not to send them to the closest prisons to their home, which implies that there may be some degree of correlation between their characteristics and the treatment. Moreover, these special security measures could influence the staff decisions to commit torture or other abuses against inmates, which reinforces the endogenous nature of the treatment.

Since the treatment variable is endogenous, I propose to use instrumental variables to correct for this endogeneity and to estimate an unbiased impact of being sent to a privatised prison on the probability of being tortured. I consider that the distance from the state of residence of the inmate to the state where the nearest privatised prison is located may fulfil the two conditions of an adequate instrumental variable: first, it must explain the participation of individuals on the treatment (relevance) and, second, it must not be correlated with the unobserved variables included the error term (exogeneity).

Given that the Mexican Law states that prisoners shall serve their sentence in the nearest facility to their residence, inmates who lived close to privatised prisons are more likely to go to privatised prisons than inmates who live far away from such facilities, which means that the instrument is related to the treatment variable. However, there is no logical connection between the distance to the nearest facility and the incidence of torture, so I can claim that the instrument is not correlated with the error term, which fulfils the exogeneity condition.

Figure 1

Instrumental variable approach diagram



Source: Own elaboration.

Figure 1 graphically illustrates the relationship between the instrumental variable, the treatment variable, the outcome variable, and the omitted variables. The relationship between the distance to the nearest privatised prison and the assignment to such prison introduces an exogenous variation to the model, which is used to reduce the bias caused by the endogeneity of the treatment variable.

Probit models are used when the outcome variables are binary because they restrict the predicted probabilities to be between zero and one. However, using an ordinary probit when the main variable of interest is endogenous will yield biased estimates. Denzer (2019) argues that the best possible estimator to model a binary outcome variable and an endogenous dichotomic treatment variable is the recursive bivariate probit estimator, because it has the highest efficiency and calculates better estimates than other methods. Chiburis, Das and Lokshin (2012) posit that the recursive bivariate probit estimator is one of the usual solutions to correct an endogenous relationship between a binary outcome and a binary regressor, and such estimator is asymptotically efficient compared to the regular 2SLS estimator associated with instrumental variables. Therefore, I will use a recursive bivariate probit model to estimate the effect of being in a privatised prison on the probability of being abused.

For the empirical model of this paper, I consider the following set of equations:

$$Y^*_i = 1[X'_i\beta + D_i\delta - \varepsilon_i \geq 0]$$

$$D_i = 1[z_i\gamma - \vartheta_i \geq 0],$$

where X represents a vector with the exogenous regressors described in table 3 for the individual I ; D represents the endogenous treatment variable; z is the instrument variable, and Y is the outcome variable. I assume that the error terms follow a bivariate standard normal distribution independent of z and with a correlation ρ such as:

$$\begin{pmatrix} \varepsilon_i \\ \vartheta_i \end{pmatrix} \sim \mathcal{N} \left(\begin{pmatrix} 0 \\ 0 \end{pmatrix}, \begin{pmatrix} 1 & \rho \\ \rho & 1 \end{pmatrix} \right)$$

As in Coban (2021) and Marra, Papageorgiou, and Radice (2013), I estimate a Local Average Treatment Effect (LATE) as follows:

$$\text{LATE} = \frac{1}{n} \sum_{i=1}^n \frac{\phi_2(x_i'\beta + \delta, z_i'\gamma, \rho)}{\phi(z_i'\gamma)} - \frac{\phi_2(x_i'\beta, -z_i'\gamma, -\rho)}{\phi(-z_i'\gamma)}$$

This estimator is interpreted as the “difference between the conditional (on treatment success) probability of outcome success and the conditional (on treatment failure) probability of outcome success” (Coban, 2022), and it allows to calculate the impact that privatised prisons have on the probability that an inmate suffers torture on prison given that the inmate complies with the treatment according to the selection criteria of the instrumental variable. By relying the estimation on the exogenous variation of the instrumental variable, the bias caused by the endogeneity is minimized. The estimator is considered a Local Average Treatment Effect (LATE) because the difference between treated and controls is conditional over the instrumental variable, thus the results cannot be generalized to a wider population.

Discussion of results

I estimate 4 models of interest for this paper, one for each outcome variable. The results for these models are described in the following paragraphs. Table 4 presents the estimates for the LATE and the controls' marginal effects for models 1 to 4.

Table 4

Estimated effects for treatment and control variables from models 1 to 4

Variable	Institutional Torture	Ill treatment	Spontaneous torture	Threats
LATE	0.0330*** (0.00509)	-0.0247 (0.0172)	0.0465*** (0.00596)	0.0294*** (0.00655)
Males	0.0494*** (0.00512)	0.0591*** (0.00840)	0.0825*** (0.00757)	0.0611*** (0.00600)
Detention time	0.0264*** (0.00341)	0.0426*** (0.00430)	0.0275*** (0.00345)	0.0245*** (0.00332)
Age	-0.00181*** (0.000218)	-0.00356*** (0.000435)	-0.00196*** (0.000249)	-0.00166*** (0.000233)
Periodical medical revisions	0.00387 (0.00382)	-0.0280*** (0.00842)	-0.00785 (0.00429)	-0.0157*** (0.00425)
Indigenous language speaker	-0.0143 (0.00981)	0.0253 (0.0152)	-0.0100 (0.0115)	0.0192* (0.00937)
LBGT+	-0.00334 (0.00711)	-0.0420* (0.0176)	0.00878 (0.0110)	-0.0110 (0.0103)
Disability	0.0120*** (0.00359)	0.0256** (0.00885)	0.0168*** (0.00415)	0.0151** (0.00487)
Drug use	0.0137* (0.00579)	0.0516** (0.0174)	0.0220** (0.00720)	0.0143 (0.0110)
Former police	-0.0103 (0.00649)	0.0106 (0.0173)	-0.0165* (0.00787)	-0.00923 (0.00730)
Former military	0.00517 (0.00674)	-0.00145 (0.0161)	0.0103 (0.00751)	-6.58e-05 (0.00759)
Denies being guilty	0.0153*** (0.00408)	0.0256** (0.00931)	0.0200*** (0.00510)	0.0267*** (0.00483)
Criminal activities prior to prison	0.00880 (0.00923)	0.105*** (0.0309)	0.00932 (0.0117)	-0.0166 (0.0132)
Recidivism	0.0110** (0.00414)	0.0225* (0.0109)	0.0110 (0.00654)	0.000324 (0.00631)
Calls from friends and family	-0.0478*** (0.0112)	-0.0361 (0.0280)	-0.0503*** (0.0140)	-0.0346* (0.0139)
Serious crimes	-9.03e-05 (0.00534)	0.0202 (0.0107)	-0.0106* (0.00449)	-0.00997* (0.00459)
Corruption experienced in prison	0.0474***	0.185***	0.0623***	0.0673***

	(0.00460)	(0.0120)	(0.00529)	(0.00553)
Light brown skin	-0.0106	0.0115	-0.0194	-0.0383
	(0.0162)	(0.0541)	(0.0194)	(0.0201)
Medium brown skin	-0.0224	-0.0881	-0.0217	-0.0362*
	(0.0161)	(0.0473)	(0.0184)	(0.0176)
Brown skin	-0.0218	-0.0303	-0.0240	-0.0361*
	(0.0134)	(0.0458)	(0.0174)	(0.0151)
Dark brown skin	-0.0211	-0.0316	-0.0257	-0.0228
	(0.0127)	(0.0427)	(0.0148)	(0.0142)

Source: Own estimations with STATA's *rbiprobit* package by Coban (2021) and data from INEGI (2021).
Note: *** < 0.001; ** < 0.01; * < 0.05

The treatment variable shows statistical significance (p -value < 0.001) for models that correspond to the outcome variables of institutional torture, spontaneous torture, and threats, which partially confirms the hypothesis proposed in the paper. The results suggest that being in a privatised prison increases the probability for an inmate to experience institutional torture in 3.02 percent, spontaneous torture in 4.21 percent and threats in 2.45 percent compared to those that were sent to public prisons.

The differences between privatised and public prisons management could explain these results. Since privatised prisons are managed both by private and public actors (ASF, 2020a, ASF, 2020b), torture may be a result of the lack of PRS oversight over privatised prison services, given that prison staff may exploit security services deficiencies to enact torture on inmates; and the problems of privatised prison's mechanisms to denounce torture compared with public prisons. Furthermore, privatised prison's locations far from cities and their problems with low personnel may create a situation where inmates feel like they need to implement extra-legal violent control strategies on inmates and that the implementation of such measures may not be subjected to scrutiny by other authorities.

However, the treatment variable is not statistically significant for the model that uses ill treatment as outcome variable. Given that ill treatment corresponds to a series of behaviours that could be considered as harsh, but legal punishments by the prison wards, this phenomenon may be extended among all the Mexican prison system, regardless of the type of prison. Nevertheless, more research is needed to understand why there are no differences between public and privatised prisons in respect to this type of abuse.

Some of the control variables behave similar among all models, which could imply that they are relevant predictors to torture in federal Mexican prisons. Results consistently show people with disabilities and younger people are more likely to experience torture in prison. The literature on violence in Mexico and Latin America agrees that young people are the population group who experiences the highest rates of violence in the region (Rodriguez, 2007, World Bank, 2012). It is possible that the dynamics on violence outside of prisons are transferred to prison's facilities, which would explain the effect on the estimator for males, while being younger increases the probability of suffering torture in prison. Literature on violence in prison shows that vulnerabilities predict violence experience in prison (Wolff, Shi, and Siegel, 2009), so it may be possible that prison staff perceive people with disabilities as vulnerable and exercise more torture against them than other prisoners.

Results also suggest that people who deny being guilty of the crimes they were imprisoned and people who have spent more time in prison have a higher probability of experiencing torture during their time in prison. Prisoners who denied being guilty may be more dissatisfied with their situation, thus being more prone to report torture and other violent practices than prisoners who did not deny their responsibility. Moreover, it is likely that people who have spent more time in prison has a higher probability of suffering torture because they have had more time of exposure to the dynamics of violence in prison. Although one would expect that people who have spent more time imprisoned have a better understanding of the prison dynamics and hence are able to reduce their likelihood of experiencing violence, previous research shows that violence is a common occurrence in Mexican prisons (Perez et al, 2010), so an increase in the time in prison means that the prisoners are more exposed to violent behaviours. Another relevant predictor for experiencing torture in prison is experiencing corruption in prison. Prisoners that experience corruption in prison may be exposed to prison staff that does not respect legal boundaries, whom may also be more prone to torture prisoners than staff who may follow the law.

The control variable of reporting drug consumption has a positive and statistically significant coefficient for three of the four models (institutional torture, ill treatment, and spontaneous torture), suggesting that being people who consume drugs have a higher probability of being tortured in prison. Drug users could be considered as individuals who are socially

undesirable by prison staff, which would why they experience more torture than non-drug users. Given the Mexican social context of the “war on drugs” and the problems associated with drug cartels, prison staff may define prisoners who are drug users as part of the problem of violence in Mexico, and the exercise of abuses would be explained as punishment against troubling members of the society.

Two of the control variables seem to reduce the probability of experiencing torture on prison: receiving calls from acquaintances and having periodical medical revisions. These two variables may be associated with a reduction in the probability of experiencing tortured because they offer inmates an opportunity to communicate what they are facing to outsiders, either doctors who can testify on their favour, or their friends and family, who can try to contact with authorities. However, the effect for these variables is not statistically significant across all models, so more research is needed to establish a causal effect of these variables over the dynamics of torture in prison.

Conclusion

In this paper, I estimated the causal effect of the privatisation of federal prisons in Mexico over the inmates' probability of being victims of torture. Given that the inmates' assignment to prison is not random, I used a non-experimental design to estimate the impact that privatised prisons have on the probability of torture, which I implemented using the distance to the nearest privatised prison as an instrumental variable in a bivariate recursive probit model. Results suggest that being in a privatised prison increased the probability for inmates to be victims of institutional torture, spontaneous torture, and threats compared to being in a public facility. Results also suggest that certain characteristics of inmates also influence the probability of experiencing torture while on prison.

The results of this paper support the notion that the privatisation of federal prisons in Mexico is an unjustified policy analysed from a human rights perspective. Even though NGOs had claimed that the privatised prisons were detrimental to the wellbeing of inmates, this is the first time where it is causally established that privatised prisons increase the probability of torture for inmates in Mexico. The inadequate safeguards against torture and the poor oversight authorities in privatised prisons explain why inmates have a higher probability of victimisation by prison staff when they are allocated to these prisons.

The Mexican government could improve the situation of people in prison by reviewing the safeguard mechanisms and improving training of prison staff. Without adequate mechanisms to denounce torture in prison, inmates are easily victimizable by prison staff, because it is most likely that prison staff face little to no consequences for abusing prisoners. However, mechanisms to denounce torture alone would not be sufficient to prevent abuses in prison, because these mechanisms work after the abuses have taken place. Improving the training of prison staff could decrease the probability of torture for the whole penitentiary system, because it will be addressed to prevent the incidents of torture. Prison staff's training should consider the fact that privatised prisons have characteristics that increase the probability of torture for prisoners; so, its design must consider the differences between public and privatised prisons to be effective.

Torture prevention programmes in Mexico could improve their effectivity if they focused on reviewing the condition of prisoners that have one or more characteristics associate with an increase in the probability of experiencing abuses in prison. Currently, members of the Mexican National Mechanism to Prevent Torture conduct oversight visits to prisons and other facilities where people are detained. However, they could complement their efforts with programmes that focus on reviewing the conditions of prisoners that are more likely to be abused due to their specific characteristics, or they could also conduct survey analyses with stratified samples of individuals with specific characteristics, to try and detect incidents of torture for specific populations.

Results also support the notion that vulnerable populations in prison are more prone to be victims of torture, while people who are accommodated on prisons with corruption problems may experience violence while in prison. Mexican officers should think on how prison management could be modified so it does not victimise certain groups given their characteristics. Moreover, Mexican officers should address corruption problems in prison, not only for improving governability and efficient use of resources, but for their potential effect on the physical and psychological wellbeing of people in prison.

The limitations of this paper are related to the possible strategic behaviour of the survey respondents. On the one hand, some of the respondents- such as people charged with serious crimes or people with longer sentences- could have incentives to report more torture if they consider that reporting abuses would help them getting out of prison sooner. On the other hand, inmates could have incentives to report less abuses, so they avoid confrontation with prison staff, which would affect the results of this paper's estimations. Therefore, it is suggested to interpret the results of this paper taking into consideration that there is a chance of bias induced by strategic behaviour of the respondents. Regarding gender and prisons, it is important to note that the only federal prison for female inmates is a privatised centre, so further research is needed to understand the intersection between gender and prison privatisation in Mexico before making conclusive remarks about the probability that female inmates are subject to torture in prison.

Future research on privatised prisons in Mexico could use the instrumental variables approach proposed on this paper to evaluate other relevant research topics. The methodology of this paper could be used to analyse if there are differences on inmate's satisfaction over services

provided by the prison administration; to analyse if there are differences on inmates' perception over corruption by prison administrators, or to analyse if being in a privatised prison changes the perspective of the inmates regarding their reinsertion to society.

Mexican president López Obrador may have a point when he denounced the privatised prison contracts signed by previous administrations: they are expensive and currently affect the wellbeing of its residents. Instead of closing public facilities, relocating inmates to private prisons and renegotiating contracts, the Mexican government should start investing more in the federal prison system to increase the quality of prison staff training, improve the efficacy of torture prevention mechanisms, and guarantee the wellbeing of people imprisoned.

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